

Special Meeting and Work Session
Tuesday, June 24, 2025 6:45 PM

Dr. Matthew Prophet Education Center - Board
Auditorium
501 N. Dixon St
Portland, OR 97227

Agenda

1. 6:45 pm - Call to Order
2. 6:50 pm - Consent Agenda (Resolutions 7130 through 7135)
 - 2.(a) Resolution 7130: Expenditure Contracts
 - 2.(b) Resolution 7131: Authorization of Off-campus activities
 - 2.(c) Resolution 7132: Adoption of the Minutes
 - 2.(d) Resolution 7133: Approving Climate Crisis Committee Chair
 - 2.(e) Resolution 7134: Resolution Accepting Certification from Multnomah, Clackamas, and Washington Counties for May 20, 2025 Voter Approval of Authorizing Portland Public Schools to Issue up to \$1.83 billion of General Obligation Bonds to repair, modernize schools; increase health, and safety
 - 2.(f) Resolution 7135: Revenue Contracts
3. 7:00 pm - Climate Crisis Response Policy Annual Report
4. 7:20 pm - Staff Engagement Plan for the Relocation of the Dr. Prophet Education Center
5. 7:40 pm - Recognizing Departing Board Members
6. 7:55 pm - Adjourn

RESOLUTION No. 7130

Expenditure Contracts that Exceed \$150,000 for Delegation of Authority

RECITAL

Portland Public Schools (“District”) Public Contracting Rules PPS-45-0200 (“Authority to Approve District Contracts; Delegation of Authority to Superintendent”) requires the Board of Education (“Board”) enter into contracts and approve payment for products, materials, supplies, capital outlay, equipment, and services whenever the total amount exceeds \$150,000 per contract, excepting settlement or real property agreements. Contracts meeting this criterion are listed below.

RESOLUTION

The Superintendent recommends that the Board approve these contracts. The Board accepts this recommendation and by this resolution authorizes the Deputy Clerk to enter into the following agreements.

NEW CONTRACTS

| Contractor | Contract Term | Contract Type | Description of Services | Contract Amount | Responsible Admin, Funding Source | Certified Business |
|-------------------------------|---|-------------------------------|---|---|--|---------------------------|
| Brown Contracting, Inc. | 6/25/25 through 12/31/25 | Construction C 96662 | Portland Bureau of Transportation improvements at Duniway School. Invitation to Bid – Construction 2025-013 | \$274,888 | J. Franco Fund 459 Dept. 5511 Project DS017 | No |
| First Response, Inc. | 6/25/25 through 6/24/26 Option to renew for up to four additional one-year terms through 6/24/30 | Services S 96679 | Patrol and alarm response services for District-wide use on an as-needed basis. Request for Proposals 2025-010 | Original Term: \$175,000 Total through all renewals: \$875,000 | J. Franco Fund 101 Dept. 5530 | No |
| Jigsaw Learning dba TeachTown | | Digital Resource DR 96680 | Online curriculum and professional development for Special Education classrooms Districtwide. Special Class Procurement – Copyrighted Materials and Creative Works PPS-47-0288(4) | \$806,630 | J. Buno Fund 101 Dept. 5414 | No |
| Reading Results | 7/1/25 through 6/30/26 | Personal Services PS 96685 | In-person reading tutoring to grades K-4 students at 30 District schools. Direct Negotiation – Unique Knowledge and/or Expertise PPS-46-0525(4) | \$754,000 | K. Howard Funding Source Varies | No |
| Recology Portland, Inc. | 7/1/25 through 6/30/27 Option to renew for up to three additional one-year terms through 6/30/30 | Services S 96631 | Waste hauling services District-wide. Request for Proposals 2024-043 | Original Term: \$1,027,207 Total through all renewals: \$2,568,018 | J. Franco Fund 101 Dept. 5596 | No |
| Republic Services, Inc. | 7/1/25 through 6/30/27 Option to renew for | Services S 96633 | Waste hauling services District-wide. Request for Proposals 2024-043 | Original Term: \$1,027,207 | J. Franco Fund 101 Dept. 5596 | No |

| | | | | | | |
|--|---|--|--|---|--|--|
| | up to three additional one-year terms through 6/30/30 | | | Total through all renewals: \$2,568,018 | | |
|--|---|--|--|---|--|--|

*A Certified Business is a for-profit business certified as a Minority-Owned Businesses (MBE), Women-Owned Businesses (WBE), Emerging Small Businesses (ESB), and/or Service-Disabled Veteran Businesses (SDV) by the State of Oregon Certification Office for Business Inclusion and Diversity.

NEW COOPERATIVE PURCHASING AGREEMENTS

| Contractor | Contract Term, Renewal Options | Administering Contracting Agency | Description of Goods or Services | Estimated Spend During Contract Term | Responsible Administrator, Funding Source |
|-------------------|--|--|---|--------------------------------------|---|
| Staples | 6/25/25 through 2/2/29 Option to renew for up to three additional one-year terms through 2/2/32 | State of Minnesota / Sourcewell COA 96557 | School and office supplies on an as-needed basis. | \$1,500,000 | M. Morrison Funding Source Varies |
| SHI International | 7/1/25 through 7/1/28 Option to renew for up to six additional one-year terms through 7/1/34 | City of Mesa / OMNIA Partners COA 96599 | Information technology solutions products and services. | \$2,000,000 | D. Giles Funding Source Varies |

NEW INTERGOVERNMENTAL AGREEMENTS ("IGAs")

| Contractor | Contract Term | Contract Type | Description of Services | Contract Amount | Responsible Administrator, Funding Source |
|---------------------------|------------------------|--|--|-----------------|---|
| Hillsboro School District | 7/1/25 through 6/30/26 | Intergovernmental Agreement IGA 96665 | Printing services on an as-needed basis. | \$1,000,000 | D. Giles Funding Source Varies |

AMENDMENTS TO EXISTING CONTRACTS

| Contractor | Amendment Term | Contract Type | Description of Services | Amendment Amount; New Contract Amount | Responsible Administrator, Funding Source | Certified Business |
|-----------------|--------------------------|--|--|---------------------------------------|--|--------------------|
| Bora Architects | 6/25/25 through 12/31/28 | Architectural Services ARCH 91616 Amendment 21 | Design services for the Jefferson High School Modernization Project. This amendment adds fees for revised design scope. Request for Proposals 2021-3051 | \$5,329,789 \$40,081,408 | J. Franco Fund 459 Dept. 5511 Project DA011 | No |

RESOLUTION No. 7131

Authorization for Off-Campus Activities

RECITAL

Portland Public Schools (“District”) Policy 6.50.010-P (“Off-Campus Activities”) requires the Board of Education (“Board”) consent to student out-of-state travel.

RESOLUTION

The Board has reviewed the request for out-of-state travel. All required documents have been submitted to the Risk Management Department. The Superintendent recommends that the Board consent to the student out-of-state travel for the below request:

AUTHORIZATION FOR OFF-CAMPUS ACTIVITIES

| Date(s) | School, Course, & Number of Students | Purpose of Travel | Travel Destination | Estimated Cost | Equitable Field Trip Fund; % |
|----------------|---|--|-----------------------------------|-----------------------|-------------------------------------|
| 6/28-6/29/25 | Roosevelt HS M Basketball, 12 | WIBCA June Scholastic Recruiting event | Bellevue HS | \$256.53 | N/A |
| 6/28-6/29/25 | Grant HS M Basketball, 12 | WIBCA June Scholastic Recruiting event | Bellevue HS | \$125 | N/A |
| 7/19-7/24/25 | Franklin HS, Student Success & Health, 2 | Expose students to substance use prevention activities, increase youth leadership skills | CADCA Conference in Nashville, TN | \$2118 | N/A |

RESOLUTION No. 7132

Adoption of the Minutes

The Following Minutes are offered for Adoption:

- June 10, 2025 – Regular Meeting



Meeting Minutes

(Draft for Approval)

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| | |
|--|----|
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Pursuant to notice made by posting to the Board's public notices webpage and emailed to persons on the mailing list, a Regular Meeting of the Portland Public Schools Board of Education was held at Dr. Matthew Prophet Education Center - Board Auditorium, 501 N. Dixon St, Portland, OR 97227 and streamed live at: <https://www.youtube.com/@ppsboardofeducation/live>

Attendance

Chair Eddie Wang; Vice-Chair Michelle DePass; Directors Julia Brim-Edwards, Herman Greene, Gary Hollands, Christy Splitt, and Patte Sullivan

Absent: Student Representative JJ Kunsevi

Call to Order / Opening

The meeting was called to order at 6:12 pm by Chair Wang.

Resolution Recognizing June as LGBTQ+ Pride Month in Portland Public Schools (Resolution 7118)

Time: 6:15 pm

Staff: Dr. Renard Adams – Chief Accountability and Equity Officer

Staff highlighted the importance of celebrating Pride month, noting the current climate of increased hate for LGBTQIA+ people, calling everyone to continue the commitment to support LGBTQIA+ students and staff. Board members provided comments.

Actions Taken:

- Director Split moved and Brim-Edwards seconded the motion to adopt Resolution 7118, Resolution Recognizing June as LGBTQ+ Pride Month in Portland Public Schools. The motion was put to voice vote and passed (7 yes - 0 no).

Brim-Edwards: Yes; DePass: Yes; Greene: Yes; Hollands: Yes; Splitt: Yes; Sullivan: Yes; Wang: Yes; Student Representative Kunsevi: Absent

Board Leadership Intent

Time: 6:25 pm

Chair Wang announced that Vice-Chair DePass and himself have submitted their names for consideration to continue in their roles as Chair and Vice-Chair.

Superintendent's Report

Time: 6:27 pm

Superintendent Armstrong highlighted recent celebrations and accomplishments, including student graduations, the Teachers of the Year award, National Merit Scholars, and the Portland Public Schools Jazz Band's success at the state competition. She also shared a video from the Lifting Literacy campaign and provided an update on the Dr. Matthew Prophet Center relocation. Discussion followed regarding the timeline of the relocation, the content of the current update, and when the next update will be shared.

Student Comment

Time: 6:42 pm

- Scar Dickerson: Lack of access to gender-neutral changing facilities at Franklin High School; impacted participation in gym.
- Lydia Cooley: Limited availability and accessibility of gender-neutral restrooms; insufficient options during passing time.

Public Comment

Time: 6:50 pm

- Ellen Whatmore & Charlie Dishman: Advocacy for expanded gender-neutral bathroom access at Franklin; request for updates on prior proposals.
- Viktoriya Savitskiy: Concerns about lack of support for Russian Dual Language Immersion; calls for leadership accountability and program staffing.
- John Coney: Shared information about the Trimet Summer Pass program for students.

Board Committee and Conference Reports

Time: 7:03 pm

- Audit Committee: The next meeting is scheduled on Monday, June 23, 2025. The meeting will be held virtually and the agenda will include the bond performance audit.
- School Facilities Improvement Oversight Committee: The Committee received a report from the Bond Accountability Committee (BAC), an update on modernizations, and an update on the seismic upgrades report.

Second Reading of a Policy: Ethics and Conflicts of Interests Policy 5.10.066-P (Resolution 7104)

Time: 7:05 pm

Director Brim-Edwards provided an overview of the proposed policy revisions which would establish a post-service cooling-off period before former board members can take district positions, with an exception for school-based roles. Board members discussed the intent and language of the policy, with some expressing support for the concept but raising concerns about the impact on those seeking teaching roles. The policy was referred back to the committee for further discussion, with Director Brim-Edwards stating she would share suggested edits with the Board.

Actions Taken:

- Director Brim-Edwards moved and Director Splitt seconded a motion to send the policy back to the policy committee. The motion was put to voice vote and passed (7 yes - 0 no) with Student Representative Kunsevi absent.

Brim-Edwards: Yes; DePass: Yes; Greene: Yes; Hollands: Yes; Splitt: Yes; Sullivan: Yes; Wang: Yes; Student Representative Kunsevi: Absent

Second Reading of a Policy: Student Representative and District Student Council Policy 1.20.012-P (Resolution 7119)

Time: 7:32 pm

Director Julia Brim-Edwards summarized proposed revisions to the Student Representative and District Student Council Policy, indicating that revisions replace the alternate role with two representatives per school and lower the attendance requirement for elective credit. Board members expressed support for the changes and appreciation for Student Representative JJ Kunsevi's leadership. No public comment was received.

Actions Taken:

- Director DePass moved and Director Sullivan seconded the motion to adopt Resolution 7119, Resolution to Adopt Revised Student Representative and District Student Council Policy 1.20.012-P. The motion was put to voice vote and passed (7 yes - 0 no).

Brim-Edwards: Yes; DePass: Yes; Greene: Yes; Hollands: Yes; Splitt: Yes; Sullivan: Yes; Wang: Yes; Student Representative Kunsevi: Absent

Amendment No. 1 to the Fiscal Year 2024-25 Budget for School District No. 1J, Multnomah County, Oregon (Resolution 7120)

Time: 7:36 pm

Staff: Michelle Morrison – Chief Financial Officer

Staff indicated they are proposing amendments to the current year's budget to balance the funds that have been used, noting that the funds have already been spent this way, and this is a transparency disclosure. Board members asked questions about the proposed amendment.

Actions Taken:

- Director Splitt moved and Director Sullivan seconded the motion to adopt Resolution 7120, Amendment No. 1 to the Fiscal Year 2024-25 Budget for School District No. 1J, Multnomah County, Oregon. The motion was put to voice vote and passed (7 yes - 0 no).

Brim-Edwards: Yes; DePass: Yes; Greene: Yes; Hollands: Yes; Splitt: Yes; Sullivan: Yes; Wang: Yes; Student Representative Kunsevi: Absent

Impose Taxes and Adoption of the 2025-26 Budget for School District No. 1J Multnomah County, Oregon (Resolution 7121)

Time: 7:47 pm

Staff: Michelle Morrison – Chief Financial Officer; Dr. Renard Adams – Chief Accountability and Equity Officer; Nichole Watson – Senior Director of Family and Community Engagement; Dr. Jon Franco – Chief of Schools

Board members shared comments on the budget, expressing concern that continued state underfunding has forced difficult trade-offs and a budget that does not fully reflect the district's values. There was discussion about potential reductions to Outdoor School due to cost, and staff confirmed that a Director of Tribal Relations position will be created for the 2025–26 school year following community engagement. Questions were raised regarding staffing allocations, the absence of a College and Career Coordinator at certain schools, lack of access to the Health and Welfare Trust audit, and concerns about the operational costs of the Center for Black Student Excellence.

Public Comment:

- Aryn Frazier - Center for Black Student Excellence and the lack of a physical space

Actions Taken:

- Director DePass moved and Director Sullivan seconded the motion to adopt Resolution 7121, Impose Taxes and Adoption of the 2025-26 Budget for School District No. 1J, Multnomah County, Oregon. The motion was put to voice vote and passed (5 yes – 2 no).

Brim-Edwards: No; DePass: Yes; Greene: Yes; Hollands: No; Splitt: Yes; Sullivan: Yes; Wang: Yes; Student Representative Kunsevi: Absent

Superintendent's Evaluation Adoption (Resolution 7122)

Time: 8:46 pm

Chair Wang provided an overview of the Superintendent's evaluation process, noting the focus for this year was on the core competencies that were part of the superintendent search criteria. Superintendent Armstrong provided comments. Board Members provided comments.

Actions Taken:

- Director DePass moved and Director Brim-Edwards seconded the motion to adopt Resolution 7104. The motion was put to voice vote and passed (7 yes - 0 no) with Student Representative Kunsevi absent.

Brim-Edwards: Yes; DePass: Yes; Greene: Yes; Hollands: Yes; Splitt: Yes; Sullivan: Yes; Wang: Yes.

Update - Jefferson Enrollment Strategy

Time: 8:55 pm

Staff: Dr. Jon Franco – Chief of Schools; Dr. Renard Adams – Chief Accountability and Equity Officer; Margaret Calvert – Assistant Superintendent of School Improvement & Modernization; Candice Grose – Chief of Communications

Staff presented a preliminary proposal in response to the Board's directive to increase enrollment, which includes the intent to sunset dual assignment and reestablish Jefferson High School as a Comprehensive Neighborhood school. The presentation included historical context, enrollment trends, modernization timelines, and plans for marketing and community engagement. Dr. Kimberlee Armstrong invited Board input, and members discussed the timeline, potential strategies for engagement and emphasized the importance of equity and bold decision-making to strengthen Jefferson's future. A detailed recommendation is expected in Winter 2026.

High School Science Instructional Resource Recommendation

Time: 9:49 pm

Staff: Kristina Howard – Chief Academic Officer; and Dr. Filip Hristić – Senior Director 9-12 Core Academics

Staff provided an overview of the curriculum selection process for the high school science curriculum adoption. Board Members asked questions and provided comments, including whether the curriculum adoption timelines can be adjusted to reflect actual need.

Expenditure Contracts (Resolution 7129)

Time: 9:58 pm

Director Brim-Edwards stated that she will abstain from the vote because the contracts are intergovernmental agreements with the organization that she works with.

Actions Taken:

- Director Splitt moved and Director DePass seconded the motion to adopt Resolution 7129. The motion was put to voice vote and passed (6 yes - 0 no - 1 abstain).

Brim-Edwards: Abstain; DePass: Yes; Greene: Yes; Hollands: Yes; Splitt: Yes; Sullivan: Yes; Wang: Yes; Student Representative Kunsevi: Absent

Consent Agenda: Resolutions 7123 through 7128

Time: 9:59 pm

There was a question about the change of responsible administrator for a contract, with staff noting that it was due to a potential appearance of a conflict of interest.

Actions Taken:

- Director DePass moved and Director Sullivan seconded the motion to adopt the consent agenda, including Resolutions 7123 through 7128. The motion was put to voice vote and passed (7 yes - 0 no).

Brim-Edwards: Yes; DePass: Yes; Greene: Yes; Hollands: Yes; Splitt: Yes; Sullivan: Yes; Wang: Yes; Student Representative Kunsevi: Absent

Adjourn

Time: 10:04 pm

The meeting was adjourned by Board Chair Eddie Wang at 10:04 pm.

Resolutions As Adopted

| No. | Title | Page |
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| 7118 | Resolution Recognizing June as LGBTQ+ Pride Month in Portland Public Schools | 08 |
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| 7120 | Amendment No. 1 to the Fiscal Year 2024-25 Budget for School District No. 1J, Multnomah County, Oregon | 10 |
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Submitted by:

Kara Bradshaw
Executive Assistant/Board Clerk
Portland Public Schools

RESOLUTION No. 7104

Withdrawn

RESOLUTION No. 7118

Resolution Recognizing June as LGBTQ+ Pride Month in Portland Public Schools

RECITALS

- A. Portland Public Schools is committed to fostering a safe, inclusive, and equitable environment for all students, staff, and families.
- B. June is nationally recognized as LGBTQ+ Pride Month in commemoration of the Stonewall Uprising of June 1969, which was a pivotal moment in the movement for LGBTQ+ rights in the United States.
- C. Portland Public Schools, the largest school district in the state of Oregon, is home to a proud community of LGBTQ+ staff, students, and families.
- D. LGBTQ+ students, families, and staff continue to face challenges related to discrimination, exclusion, and marginalization that can impact their mental health, safety, and educational outcomes.
- E. It is the responsibility of the Portland Public Schools to affirm the dignity and worth of all individuals and to promote a learning environment where every student feels valued, respected, and supported.
- F. The recognition of Pride Month offers an opportunity to celebrate the diversity of our school community and to educate students and staff about the history, achievements, and ongoing struggles of LGBTQ+ individuals.

RESOLVED

- 1. The Portland Public Schools Board of Education hereby proclaims June as LGBTQ+ Pride Month and encourages all schools within the district to engage in appropriate activities, discussions, and learning opportunities to recognize and support LGBTQ+ students, families, and staff.
- 2. The Portland Public Schools Board of Education reaffirms its commitment to policies and practices that ensure equity, safety, and belonging for LGBTQ+ individuals throughout our schools and the wider community.

RESOLUTION No. 7119

Resolution to Adopt Revised Student Representative and District Student Council Policy 1.20.012-P

RECITALS

- A. On May 12, 2025, the Board Policy Committee reviewed and considered the proposed revisions of the Student Representative and District Student Council Policy 1.20.012-P.
- B. On May 19, 2025, the Board presented the first reading of the revised District Student Council Policy .
- C. Pursuant to District policy, the public comment was open for at least 21 days, and there was no public comment received during the comment period.

RESOLUTION

The Board hereby adopts the revised Student Representative and District Student Council Policy 1.20.012-P and instructs the Superintendent to amend any relevant administrative directives to conform to this adopted policy.

RESOLUTION No. 7120

Amendment No. 1 to the Fiscal Year 2024-25 Budget for School District No. 1J, Multnomah County, Oregon

RECITALS

- A. On June 11, 2024, the Board of Education (“Board”), by way of Resolution No. 6920, voted to adopt an annual budget for the Fiscal Year 2024-25 as required under Local Budget Law; and
- B. Board Policy 8.10.030-AD, “Budget Reallocations - Post Budget Adoption,” establishes the guidelines to ensure consistent and detailed communication on fiscal issues between the Superintendent and the Board; and
- C. Oregon Local Budget Law, ORS 294.471, allows budget changes after adoption under prescribed guidelines; and
- D. This Amendment No. 1 amends the budget to align with current projections. Budget changes are summarized in Attachment A and include the following major components:
 - i. General Fund (Fund 100) - Inter-function appropriation change
 - 1. Decrease requirements for Instruction by 4,000,000.
 - 2. Increase requirement for Support Services by 2,000,000
 - 3. Increase requirements in Enterprise and Community Services by 2,000,000.
 - ii. Special Revenue Fund (Fund 200)- Inter-function appropriation change
 - 1. Decrease requirements for Instruction by \$4,000,000.
 - 2. Increase requirements for Support Services by \$4,000,000.
 - iii. Debt Service Fund (Fund 300)- Inter-function appropriation change
 - 1. Decrease requirements for Contingency by \$165,000.
 - 2. Increase requirements for Unappropriated Ending Fund Balance by \$164,000.
 - 3. Increase requirements for Debt Service by 1,000.
- E. This resolution is to enable the Board to approve Amendment No. 1 to the annual budget for Fiscal Year 2024-25, and is allowed under ORS 294.471(a) (b) (c) (d) & (h), which states that the budget may be amended at a regular meeting of the governing body; and
- F. The Superintendent recommends approval of this resolution.

RESOLUTION

BE IT RESOLVED that the Board of Directors of Portland Public Schools hereby amends budgeted expenditure appropriation levels as summarized by Fund and Appropriation Level in Attachment A for the fiscal year beginning July 1, 2024.

Attachment A
Portland Public Schools
Adjustments to the 2024-25 Adopted Budget
June 10, 2025
(in thousands)

| | Adopted Budget | Adjustment | Amended Budget |
|---|----------------|------------|----------------|
| 100 - General Funds | | | |
| Resources | | | |
| Beginning Fund Balance | 87,138 | - | 87,138 |
| Local Property and Other Taxes | 351,964 | - | 351,964 |
| Local Option Taxes | 104,608 | - | 104,608 |
| Other Local Sources | 26,749 | - | 26,749 |
| County and Intermediate Sources | 12,306 | - | 12,306 |
| State Sources | 271,565 | - | 271,565 |
| Federal Sources | 15 | - | 15 |
| Other | 50 | - | 50 |
| Total | 854,394 | - | 854,394 |
| Requirements | | | |
| Instruction | 439,084 | (4,000) | 435,084 |
| Support Services | 354,962 | 2,000 | 356,962 |
| Enterprise and Community Svcs | 3,257 | 2,000 | 5,257 |
| Debt Service | 339 | - | 339 |
| Transfers of Funds | 15,895 | - | 15,895 |
| Contingency | 40,856 | - | 40,856 |
| Total | 854,394 | - | 854,394 |
| 200 - Special Revenue Funds | | | |
| Resources | | | |
| Beginning Fund Balance | 33,904 | - | 33,904 |
| Property and Other Taxes | 364 | - | 364 |
| Other Revenue from Local Sources | 11,510 | - | 11,510 |
| Intermediate Sources | 21,660 | - | 21,660 |
| State Sources | 86,273 | - | 86,273 |
| Federal Sources | 68,661 | - | 68,661 |
| Interfund Transfers | 1,946 | - | 1,946 |
| All Other Resources | - | - | - |
| Total | 224,318 | - | 224,318 |
| Requirements | | | |
| Instruction | 99,014 | (4,000) | 95,014 |
| Support Services | 72,810 | 4,000 | 76,810 |
| Enterprise and Community Svcs | 30,055 | - | 30,055 |
| Facilities Acquisition and Construction | 15 | - | 15 |
| Debt Service | - | - | - |
| Contingency | - | - | - |
| Unappropriated Ending Fund Balance | 22,423 | - | 22,423 |
| Total | 224,318 | - | 224,318 |

300 - Debt Service Funds**Resources**

| | | | |
|----------------------------------|----------------|----------|----------------|
| Beginning Fund Balance | 5,798 | - | 5,798 |
| Property and Other Taxes | 159,334 | - | 159,334 |
| Other Revenue from Local Sources | 93,513 | - | 93,513 |
| Interfund Transfers | 619 | - | 619 |
| Total | <u>259,264</u> | <u>-</u> | <u>259,264</u> |

Requirements

| | | | |
|------------------------------------|----------------|----------|----------------|
| Debt Service | 259,099 | 1 | 259,100 |
| Contingency | 165 | (165) | - |
| Unappropriated Ending Fund Balance | - | 164 | 164 |
| Total | <u>259,264</u> | <u>-</u> | <u>259,264</u> |

400 - Capital Projects Funds**Resources**

| | | | |
|----------------------------------|------------------|----------|------------------|
| Beginning Fund Balance | 560,552 | - | 560,552 |
| Other Revenue from Local Sources | 18,845 | - | 18,845 |
| Intermediate Sources | 20,000 | - | 20,000 |
| State Sources | 650 | - | 650 |
| Bond Proceeds & Premiums | 429,346 | - | 429,346 |
| Interfund Transfers | 1,000 | - | 1,000 |
| Total | <u>1,030,393</u> | <u>-</u> | <u>1,030,394</u> |

Requirements

| | | | |
|---|------------------|----------|------------------|
| Instruction | - | - | - |
| Support Services | 1,954 | - | 1,954 |
| Enterprise and Community Svcs | - | - | - |
| Facilities Acquisition and Construction | 1,027,821 | - | 1,027,821 |
| Debt Service | - | - | - |
| Transfers of Funds | 619 | - | 619 |
| Total | <u>1,030,393</u> | <u>-</u> | <u>1,030,395</u> |

600 - Internal Service Funds**Resources**

| | | | |
|----------------------------------|---------------|----------|---------------|
| Beginning Fund Balance | 4,351 | - | 4,351 |
| Other Revenue from Local Sources | 8,207 | - | 8,207 |
| Transfers of Funds | 12,951 | - | 12,951 |
| Total | <u>25,509</u> | <u>-</u> | <u>25,509</u> |

Requirements

| | | | |
|------------------|---------------|----------|---------------|
| Support Services | 24,009 | - | 24,009 |
| Debt Service | - | - | - |
| Contingency | 1,500 | - | 1,500 |
| Total | <u>25,509</u> | <u>-</u> | <u>25,509</u> |

All Funds Total

| | | |
|------------------|----------|------------------|
| <u>2,393,878</u> | <u>-</u> | <u>2,393,880</u> |
|------------------|----------|------------------|

RESOLUTION No. 7121

Impose Taxes and Adoption of the 2025-26 Budget for School District No. 1J, Multnomah County, Oregon

RECITALS

- A. Oregon Local Budget Law, Oregon Revised Statute (ORS) 294.428 requires that each legal jurisdiction's Budget Committee approves a budget and specifies the *ad valorem* property tax amount or rate for all funds.
- B. The Board of Education (Board) serves as the Budget Committee for the school district. The Board appointed a Community Budget Review Committee (CBRC) to review the Proposed Budget and current year expenditures of the existing Local Option Levy. The CBRC acts in an advisory capacity to the Board.
- C. On April 29, 2025 the Board held a public comment session on the Proposed Budget.
- D. On May 6, 2025, the Board, acting in its capacity as the Budget Committee, received testimony and a report on the current year Local Option Levy expenditures and testimony and recommendations from the CBRC.
- E. On May 19, 2025, by way of Resolution No.7116, and under the provisions of Oregon Local Budget Law (ORS Chapter 294), the Budget Committee for School District No. 1J, Multnomah County, Oregon ("District"), approved the 2025-26 budget, tax for Bonded Debt Levy and tax rates.
- F. Oregon Budget Law, ORS 294.431, requires submission of the budget document to the Tax Supervising Commission (TSCC) by May 15 of each year. ORS 294.431 allows taxing jurisdictions to request an extension of the submission date. Portland Public Schools ("PPS") applied for, and was granted an extension to this deadline, and submitted the PPS budget to TSCC as required.
- G. The TSCC held a public hearing on the Approved Budget on June 10, 2025.
- H. ORS 457.445 (6) (d) provides the opportunity for a school district to be excluded from urban renewal division of tax calculations with a statutory rate limit on July 1, 2003 that is greater than \$4.50 per \$1,000 of assessed value. To the extent that the rate limit was increased under section 11 (5) (d), Article XI, of the Oregon Constitution, property tax revenue from said increase is excluded from local revenues. The District will notify the county assessors of the rate to be excluded for the current fiscal year no later than July 15.
- I. Portland Public Schools has a statutory rate limit that is in excess of the \$4.50 limitation that includes an increase under section 11 (5)(d), Article XI, of the Oregon Constitution.

RESOLUTION

- 1. The Board of Directors of School District 1J, Multnomah County, Oregon, hereby adopts the budget for fiscal year 2025-26 in the total amount of \$2,035,116,552. This budget is on file at Portland Public Schools central office, 501 N Dixon St, Portland, Oregon 97227.
- 2. The Board of Directors of School District 1J, Multnomah County, Oregon, hereby appropriates for the fiscal year beginning July 1, 2025, the amounts summarized by fund and function in Attachment A for the fiscal year 2025-26.
- 3. The Board resolves that the District hereby imposes the taxes provided for in the adopted budget and that these taxes are hereby imposed and categorized for purposes of Article XI, section 11 (b), for tax year 2025-26 upon the assessed value of all taxable property in the District, as follows:

| Type | Education Limitation | Excluded from Limitation |
|----------------------------|--|---------------------------------|
| Permanent Rate Tax Levy | \$5.2781/\$1,000 of assessed valuation | |
| Local Option Rate tax Levy | \$1.9900/\$1,000 of assessed valuation | |
| Bonded Debt Levy | | \$181,000,000 |

4. The Board further resolves that \$0.5038 per \$1,000 of taxable assessed value is excluded from the division of tax calculations, as the Permanent Rate Tax Levy attributable to the increase provided in section 11 (5)(d), Article XI, of the Oregon Constitution (such increase is a result of the expiring Gap Tax Levy). The District will notify the county assessors that, for the 2025-26 fiscal year, \$0.5038 of the District's permanent tax rate levy is to be excluded from the urban division of tax calculations under the provisions of ORS 457.445 (6) (d).

Portland Public Schools
Adjustments to the 2025-26 Proposed Budget

May 19, 2025

(in thousands)

| | <u>Proposed Budget</u> | <u>Adjustment</u> | <u>Recommended Approved Budget</u> |
|---|------------------------|-------------------|--|
| 100 - General Funds | | | |
| Resources | | | |
| Beginning Fund Balance | 45,000 | - | 45,000 |
| Local Property and Other Taxes | 359,464 | - | 359,464 |
| Local Option Taxes | 109,222 | - | 109,222 |
| Other Local Sources | 25,831 | - | 25,831 |
| County and Intermediate Sources | 7,847 | - | 7,847 |
| State Sources | 297,191 | - | 297,191 |
| Federal Sources | 15 | - | 15 |
| Transfers In | 23,962 | - | 23,962 |
| Other | 50 | - | 50 |
| Total | <u>868,580</u> | <u>0</u> | <u>868,580</u> |
| Requirements | | | |
| Instruction | 458,417 | - | 458,417 |
| Support Services | 347,191 | - | 347,191 |
| Enterprise and Community Svcs | 4,617 | - | 4,617 |
| Debt Service | 0 | - | 0 |
| Transfers of Funds | 17,176 | - | 17,176 |
| Contingency | 41,179 | - | 41,179 |
| Total | <u>868,580</u> | <u>0</u> | <u>868,580</u> |
| 200 - Special Revenue Funds | | | |
| Resources | | | |
| Beginning Fund Balance | 39,008 | - | 39,008 |
| Property and Other Taxes | 373 | - | 373 |
| Other Revenue from Local Sources | 15,497 | - | 15,497 |
| Intermediate Sources | 2,468 | - | 2,468 |
| State Sources | 95,383 | - | 95,383 |
| Federal Sources | 70,460 | - | 70,460 |
| Interfund Transfers | 1,616 | - | 1,616 |
| All Other Resources | - | - | - |
| Total | <u>224,805</u> | <u>0</u> | <u>224,805</u> |
| Requirements | | | |
| Instruction | 86,733 | - | 86,733 |
| Support Services | 77,509 | - | 77,509 |
| Enterprise and Community Svcs | 36,551 | - | 36,551 |
| Facilities Acquisition and Construction | 50 | - | 50 |
| Transfer of Funds | 23,962 | - | 23,962 |
| Contingency | - | - | - |
| Unappropriated Ending Fund Balance | - | - | - |
| Total | <u>224,805</u> | <u>0</u> | <u>224,805</u> |
| 300 - Debt Service Funds | | | |
| Resources | | | |

| | | | |
|----------------------------------|----------------|----------|----------------|
| Beginning Fund Balance | 3,242 | - | 3,242 |
| Property and Other Taxes | 171,552 | - | 171,552 |
| Other Revenue from Local Sources | 97,277 | - | 97,277 |
| Interfund Transfers | 619 | - | 619 |
| Total | <u>272,690</u> | <u>0</u> | <u>272,690</u> |

Requirements

| | | | |
|------------------------------------|----------------|----------|----------------|
| Debt Service | 272,690 | - | 272,690 |
| Contingency | - | - | - |
| Unappropriated Ending Fund Balance | - | - | - |
| Total | <u>272,690</u> | <u>0</u> | <u>272,690</u> |

400 - Capital Projects Funds

Resources

| | | | |
|----------------------------------|----------------|----------|----------------|
| Beginning Fund Balance | 514,705 | - | 514,705 |
| Other Revenue from Local Sources | 11,477 | - | 11,477 |
| Intermediate Sources | - | - | - |
| State Sources | 2,000 | - | 2,000 |
| Bond Proceeds & Premiums | - | - | - |
| Interfund Transfers | 1,000 | - | 1,000 |
| All Other Resources | 114,591 | - | 114,591 |
| Total | <u>643,773</u> | <u>0</u> | <u>643,773</u> |

Requirements

| | | | |
|---|----------------|----------|----------------|
| Support Services | 1,995 | - | 1,995 |
| Enterprise and Community Svcs | 1,301 | - | 1,301 |
| Facilities Acquisition and Construction | 639,859 | - | 639,859 |
| Debt Service | 0 | - | 0 |
| Transfers of Funds | 619 | - | 619 |
| Total | <u>643,773</u> | <u>0</u> | <u>643,773</u> |

600 - Internal Service Funds

Resources

| | | | |
|----------------------------------|---------------|----------|---------------|
| Beginning Fund Balance | 6,500 | - | 6,500 |
| Other Revenue from Local Sources | 4,209 | - | 4,209 |
| Transfers of Funds | 14,560 | - | 14,560 |
| Total | <u>25,269</u> | <u>0</u> | <u>25,269</u> |

Requirements

| | | | |
|------------------|---------------|----------|---------------|
| Support Services | 24,769 | - | 24,769 |
| Contingency | 500 | - | 500 |
| Total | <u>25,269</u> | <u>0</u> | <u>25,269</u> |

All Funds Total

| | | | |
|--|------------------|----------|------------------|
| | <u>2,035,117</u> | <u>0</u> | <u>2,035,117</u> |
|--|------------------|----------|------------------|

RESOLUTION No. 7122

Superintendent's Performance Evaluation 2024-25

RECITALS

- A. In November of 2024, the Board of Education adopted an evaluation tool that acknowledges the complexity of the role of the Superintendent and establishes performance expectations for the Superintendent of Portland Public Schools.
- B. The 2024-25 evaluation will be based on the demonstration of the core values and competencies required in the role. The core competencies come directly from the criteria identified by the community for the recruitment of a new Superintendent.
- C. The Board has reviewed the Superintendent's performance against the performance standards and the progress of the District, and has reviewed this evaluation with the Superintendent.

RESOLUTION

The Board hereby adopts the 2024-25 Superintendent performance evaluation, a copy of which is on file in the District office.

RESOLUTION No. 7123

Adoption of the Minutes

The Following Minutes are offered for Adoption:

- May 19, 2025 – Special Meeting

RESOLUTION No. 7124

Expenditure Contracts that Exceed \$150,000 for Delegation of Authority

RECITAL

Portland Public Schools (“District”) Public Contracting Rules PPS-45-0200 (“Authority to Approve District Contracts; Delegation of Authority to Superintendent”) requires the Board of Education (“Board”) enter into contracts and approve payment for products, materials, supplies, capital outlay, equipment, and services whenever the total amount exceeds \$150,000 per contract, excepting settlement or real property agreements. Contracts meeting this criterion are listed below.

RESOLUTION

The Superintendent recommends that the Board approve these contracts. The Board accepts this recommendation and by this resolution authorizes the Deputy Clerk to enter into the following agreements.

NEW CONTRACTS

| Contractor | Contract Term | Contract Type | Description of Services | Contract Amount | Responsible Admin, Funding Source | Certified Business |
|-------------------|---------------------------|-------------------------------|--|------------------------|--|---------------------------|
| SHI International | 6/11/25 | Purchase Order PO 172780 | Smartsheet Advanced Work Management – 250 user licenses Special Class Procurement – Copyrighted Materials & Creative Works PPS-47-0288(11) | \$202,723 | D. Giles Fund 101 Dept. 5581 | No |
| FMLA Source | 7/1/25 through 6/30/30 | Personal Services PS 96640 | Administration of PPS Leave Administration Program for FMLA, OFLA, and other statutory leave programs. Direct Negotiation – Unique Knowledge and/or Expertise PPS-46-0525(4) | \$1,272,420 | S. Reese Fund 101 Dept. 5441 | No |

*A Certified Business is a for-profit business certified as a Minority-Owned Businesses (MBE), Women-Owned Businesses (WBE), Emerging Small Businesses (ESB), and/or Service-Disabled Veteran Businesses (SDV) by the State of Oregon Certification Office for Business Inclusion and Diversity.

NEW COOPERATIVE PURCHASING AGREEMENTS

| Contractor | Contract Term, Renewal Options | Administering Contracting Agency | Description of Goods or Services | Estimated Spend During Contract Term | Responsible Administrator, Funding Source |
|-----------------------|--|---|---|---|--|
| Waxie Sanitary Supply | 6/11/25 through 5/31/27 Option to renew for up to two additional one-year terms through 5/31/29 | OMNIA Partners Cooperative Contract COA 96595 | Provide custodial cleaning supplies, equipment, and related services on an as-needed basis. | \$5,000,000 | D. Jung Funding Source Varies |

| Contractor | Contract Term, Renewal Options | Administering Contracting Agency | Description of Goods or Services | Estimated Spend During Contract Term | Responsible Administrator, Funding Source |
|--------------------|--|--|--|---|---|
| Parentsquare, Inc. | 6/11/25 through 12/31/25 Option to renew upon mutual agreement. | Washington Schools Information Processing Cooperative (WSIPC) Cooperative Contract COA 96570 | Provides ParentSquare notification system for District-wide use. | \$650,000 | D. Giles Fund 299 Dept. 5581 Grant S0351 |

NEW INTERGOVERNMENTAL AGREEMENTS (“IGAs”)

NO NEW IGAS

AMENDMENTS TO EXISTING CONTRACTS

| Contractor | Amendment Term | Contract Type | Description of Services | Amendment Amount; New Contract Amount | Responsible Administrator, Funding Source | Certified Business |
|--------------------------------|-------------------------|--|--|--|--|---------------------------|
| Lewis & Clark College | 6/11/25 through 6/30/25 | Personal Services PS 95438 Amendment 1 | Wallace Foundation Equity Centered Pipeline Initiative (ECPI). This amendment adds funds to cover principal stipends, tuition support for PPS employees enrolled in L&C's Leadership Preparation Program, and continues the work from Year 4 as addressed in the original contract. Direct Negotiation - | \$354,940 \$654,940 | K. Howard Fund 299 Dept. 5449 Grant S0455 | No |
| Vocovision LLC dba Blazerworks | 6/11/25 through 6/13/25 | Personal Services PS 95529 Amendment 1 | Providing a school psychologist. This amendment adds funds and extends the end date to match the last day of school. Direct Negotiation – Unique Knowledge and/or Expertise PPS-46-0525(4) | \$8,400 \$157,080 | J. Buno Fund 101 Dept. 5414 | No |

RESOLUTION No. 7125

Revenue Contracts that Exceed \$150,000 for Delegation of Authority

RECITAL

Portland Public Schools (“District”) Public Contracting Rules PPS-45-0200 (“Authority to Approve District Contracts; Delegation of Authority to Superintendent”) requires the Board of Education (“Board”) enter into contracts, except as otherwise expressly authorized. Contracts exceeding \$150,000 per contractor are listed below.

RESOLUTION

The Superintendent recommends that the Board approve these contracts. The Board accepts this recommendation and by this resolution authorizes the Deputy Clerk to enter into the following agreements.

NEW REVENUE CONTRACTS

No new Revenue Contracts

NEW INTERGOVERNMENTAL AGREEMENTS (“IGAs”)

No New Intergovernmental Agreements

AMENDMENTS TO EXISTING CONTRACTS

| Contractor | Amendment Term | Contract Type | Description of Services | Amendment Amount; New Contract Amount | Responsible Admin, Funding Source |
|-------------------|------------------------|---|---|--|--|
| State of Oregon | 7/1/23 through 6/30/25 | Intergovernmental Agreement / Revenue IGA/R 9 | Funding for Menstrual Dignity Program. This amendment updates the funding amount through FY 2025. | \$141,332 \$340,253 | D. Jung |

RESOLUTION No. 7126

Authorization for Off-Campus Activities

RECITAL

Portland Public Schools (“District”) Policy 6.50.010-P (“Off-Campus Activities”) requires the Board of Education (“Board”) consent to student out-of-state travel.

RESOLUTION

The Board has reviewed the request for out-of-state travel. All required documents have been submitted to the Risk Management Department. The Superintendent recommends that the Board consent to the student out-of-state travel for the below request:

AUTHORIZATION FOR OFF-CAMPUS ACTIVITIES

| Date(s) | School, Course, & Number of Students | Purpose of Travel | Travel Destination | Estimated Cost | Equitable Field Trip Fund; % |
|----------------|---|--|---------------------------|-----------------------|-------------------------------------|
| 6/15-6/20/25 | McDaniel HS Speech, 4 | National Speech & Debate Tournament | Des Moines, IA | \$1900 | \$669 STEF |
| 6/18-6/22/25 | Lincoln HS HOSA, 3 | International competition | Nashville, TN | \$1473 | N/A |

Resolution No. 7127

Resolution to Establish a Charter Committee for the 2024-25 School Year

RECITALS

- A. Board Policy 1.20.014-P Board Committees states that Board committees may be formed to consider actions or issues in detail that would otherwise monopolize the Board agenda and provide policy advice for the Board's action or consideration, as appropriate.
- B. Board committees serve in a fact-finding, deliberative and advisory role rather than as a legislative or administrative body and will make recommendations directly to the Board as a whole, which alone may take action.
- C. It is the responsibility of the Board Chair to appoint members to those committees established by the Board.

RESOLVED

For the 2024-25 school year, The Board of Education approves the Charter Committee.

RESOLUTION No. 7128

Settlement Agreement

The Board authorizes the General Counsel to enter into a settlement agreement of certain worker's compensation claims brought against the District in a form approved by the General Counsel.

RESOLUTION No. 7129

Expenditure Contracts that Exceed \$150,000 for Delegation of Authority

RECITAL

Portland Public Schools (“District”) Public Contracting Rules PPS-45-0200 (“Authority to Approve District Contracts; Delegation of Authority to Superintendent”) requires the Board of Education (“Board”) enter into contracts and approve payment for products, materials, supplies, capital outlay, equipment, and services whenever the total amount exceeds \$150,000 per contract, excepting settlement or real property agreements. Contracts meeting this criterion are listed below.

RESOLUTION

The Superintendent recommends that the Board approve these contracts. The Board accepts this recommendation and by this resolution authorizes the Deputy Clerk to enter into the following agreements.

NEW CONTRACTS

No New Contracts

*A Certified Business is a for-profit business certified as a Minority-Owned Businesses (MBE), Women-Owned Businesses (WBE), Emerging Small Businesses (ESB), and/or Service-Disabled Veteran Businesses (SDV) by the State of Oregon Certification Office for Business Inclusion and Diversity.

NEW COOPERATIVE PURCHASING AGREEMENTS

No New Cooperative Purchasing Agreements

NEW INTERGOVERNMENTAL AGREEMENTS (“IGAs”)

| Contractor | Contract Term | Contract Type | Description of Services | Contract Amount | Responsible Administrator, Funding Source |
|-------------------|-------------------------|--|---|------------------------|---|
| Multnomah County | 6/11/25 through 6/30/30 | Intergovernmental Agreement IGA 96632 | Semi-annual health and food safety inspections at all food preparation and serving sites. | \$375,000 | D. Jung Fund 202 Dept. 5570 |
| Multnomah County | 7/1/25 through 6/30/30 | Intergovernmental Agreement IGA XXXXX** | Multnomah County will provide Schools Uniting Neighborhoods (SUN) services District-wide. | \$1,238,425 | R. Adams Fund 251 Dept. 5432 Grant W0104 |

** Contracts are in negotiation and not finalized at this time. Staff seeks advanced authorization for these contracts pursuant to the Purchasing & Contracting Delegation of Authority Administrative Directive, 8.50.105-AD, Section X(4): “The District may seek an ‘advanced authorization’ from the PPS Board of Education for any contract upon the approval of the Director of Purchasing & Contracting. The cost of the contract shall be a ‘Not to Exceed’ amount. Once the Board has approved it, no further authorization for the contract is required, providing the contract value remains at or below the ‘Not to Exceed’ amount.”

AMENDMENTS TO EXISTING CONTRACTS

No New Amendments

RESOLUTION No. 7133

Resolution to Appoint the Chair of the Climate Crisis Response Committee

RECITALS

- A. On March 1, 2022, the Portland Public Schools Board of Education adopted the Climate Crisis Response, Climate Justice and Sustainable Practices Policy–3.30.080-P .
- B. The Climate Crisis Response, Climate Justice and Sustainable Practices Policy requires the establishment of a committee to monitor effective implementation, transparency, and tracking of progress.
- C. On October 22, 2024 the Board of Education approved the 2024-2025 Committee appointments.
- D. The Climate Crisis Response Committee Charter requires that a Committee chairperson be appointed annually by the Board and will not hold that position for more than three years.
- E. On June 5, 2025 the Committee voted to appoint Alyssa Koomas as Committee Chair for the 2025-2026 school year.
- F. The Chair will work with the appointed district staff and Committee members to create the Committee's agendas, facilitate the meetings, and serve as the point of contact between the Committee and District staff between meetings.

RESOLUTION

The Board of Education appoints Alyssa Koomas as the Chair of the Climate Crisis Response Committee for a one year term.

RESOLUTION No. 7134

Resolution Accepting Certification from Multnomah, Clackamas, and Washington Counties for May 20, 2025 Voter Approval of Authorizing Portland Public Schools to Issue up to \$1.83 billion of General Obligation Bonds to repair, modernize schools; increase health, and safety

RECITALS

The District has canvassed results of the Election held May 20, 2025 received from Tim Scott, Director of Elections, Multnomah County; Catherine McMullen, County Clerk, Clackamas County Elections Division; and Dan Forester, Elections Division Manager and designee of the Ex-Officio County Clerk, Washington County. Which read as follows:

| 26-259 Portland Public Schools Bond Measure | | | | |
|--|---------------|---------------|-------------------|--------------------|
| County | Yes | No | Over votes | Under votes |
| Multnomah | 67,983 | 46,194 | 15 | 2,249 |
| Washington | 361 | 313 | 0 | 11 |
| Clackamas | 38 | 39 | 0 | 0 |
| TOTAL | 68,382 | 46,546 | 15 | 2,260 |

RESOLUTION

Pursuant to ORS 255.295, the Board of Education for School District No. 1J, Multnomah County, Oregon (Portland Public Schools) accepts the certification from the abstract of votes prepared and furnished by the Elections Officers of Multnomah, Clackamas, and Washington Counties, and hereby determines that the voters of the District authorized Portland Public Schools to issue up to \$1.83 billion of general obligation bonds to repair, modernize schools; increase health, and safety.

RESOLUTION No. 7135

Revenue Contracts that Exceed \$150,000 for Delegation of Authority

RECITAL

Portland Public Schools (“District”) Public Contracting Rules PPS-45-0200 (“Authority to Approve District Contracts; Delegation of Authority to Superintendent”) requires the Board of Education (“Board”) enter into contracts, except as otherwise expressly authorized. Contracts exceeding \$150,000 per contractor are listed below.

RESOLUTION

The Superintendent recommends that the Board approve these contracts. The Board accepts this recommendation and by this resolution authorizes the Deputy Clerk to enter into the following agreements.

NEW INTERGOVERNMENTAL AGREEMENTS (“IGAs”)

| Contractor | Contract Term | Contract Type | Description of Services | Contract Amount | Responsible Admin, Funding Source |
|-------------------|-------------------------|---|--|------------------------|--|
| State of Oregon | 7/1/25 through 10/31/25 | Intergovernmental Agreement – Revenue IGA/R 96748 | Summer Learning Programs Grant to support summer 2025 programming. | \$786,941 | Kristina Howard Fund 205 |



Date: June 24, 2025
To: PPS Board of Education
From: Deborah Kafoury, Chief of Staff
Kat Davis, Advisor for Climate Justice
Subject: **Climate Crisis Response Policy Annual Update and Recommendations**

Introduction

The purpose of this memo is to provide an annual update on the implementation of the Climate Crisis Response, Climate Justice and Sustainable Practices Policy (CCRP) (APPENDIX A). This memo will review high-level progress made on policy implementation, successes, challenges, and recommendations to meet the ambitious goals in our commitment to the community. A comprehensive annual report will be provided in the Fall, including comprehensive data from the 24-25 school year, emissions reduction metrics, and a strategic plan for 25-26 reflecting community needs and Board priorities.

Context

In March 2022, the Portland Public Schools Board of Education (the Board) unanimously adopted the Climate Crisis Response, Climate Justice, and Sustainable Practices Policy. This policy commits PPS to immediately mobilize resources to reduce the impact of climate change. Beyond responsibility for greenhouse gas (GHG) emissions, the policy centers frontline communities¹ in advancing climate resilience, developing a climate justice education, and to connect students, parents, teachers, staff, and community partners as leaders in climate solutions. This policy requires the advancement of District planning to consider the disproportionate impacts of climate change on the vulnerable members of our community, and recognizes our responsibility to attend to our students' mental health, wellness and emotional challenges that come from anticipating and experiencing extreme climate events. With this commitment, PPS can show our students what a future of climate solutions looks like, creating opportunities for excellence despite a changing climate.

To advance the CCRP objectives, PPS continued to strengthen an intentional and focused strategic approach, with particular attention to the Climate Crisis Response Committee 2023-

¹ Communities that experience the 'first and worst' impacts of climate change: those experiencing systemic injustice—including people of color, people with disabilities, immigrants, people with lower incomes, those in rural areas, and indigenous people—and face a legacy of systemic inequity that impacts their living and working places, the quality of their air and water, and their economic opportunities.



2024 Annual Report recommendations:

- I. Make CCRP Dashboard publicly available on the PPS website by Fall 2024 to **enhance transparency and community engagement**.
- II. **Increase capacity** for Policy implementation
- III. Pursue **additional funding sources** to advance implementation of the Policy.
- IV. More effectively **reach students about climate related opportunities** and **expand pathways** for students to get involved.

Given limited resources, prioritization of the 75+ objectives within the Climate Crisis Response Policy (CCRP) is critical to ensure alignment with leadership's vision and operational capacity. To support these priorities, the Climate Justice Advisor created a high-level framework to prioritize the implementation of systems-wide policy scopes and to establish a district-wide process for tracking progress. The strategic priorities for 2024-25 included:

- Develop a Roadmap for Decarbonization
- Increase accessibility to climate action and student empowerment
- Enhance climate literacy

With the budget reductions for FY26, policy advancement will need to be even more carefully aligned with district-wide initiatives to continue making towards our goals.

Major Milestones Achieved in 2024–2025

In 2024-2025, PPS achieved the following milestones towards strategic implementation of policy scopes:

- Completion of the [Decarbonization Prioritization Tool](#) (APPENDIX II)
 - Advances CCRP Objectives: 1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.1.7
 - In progress: systemic operationalization of utilizing tool
- Published the [Climate Action Design Team Report](#) (APPENDIX III)
 - Advances CCRP Objectives: 3.3.1, 3.3.2, 3.3.3, 3.3.4
 - In progress: Climate Justice Engagement, Empowerment Best Practices
- Published the [PPS Climate Literacy Assessment](#) (APPENDIX IV)
 - Advances CCRP Objectives: 3.1.1, 3.2.1, 3.2.2, 3.3.3
 - In progress: Mapping K-12 Climate Literacy Arc

Concurrently, PPS has made progress towards the following CCRC Recommendations:

- I. **Enhance transparency and community engagement** by making Policy Dashboard publicly available



- Complete: accessible at pps.net/climatejustice

- II. **Increase capacity** for Policy implementation
 - Utilized Portland Clean Energy Funds (PCEF) grant funding to hire a Climate Justice Student Projects Coordinator
 - Strategic prioritization allows increased capacity for focused progress on student engagement and empowerment

- III. Pursue **additional funding sources** more aggressively
 - \$25.8M - PCEF Collaborating for Climate Action grant for infrastructure (result is \$40M from PCEF for infrastructure total)
 - \$99,075.48 - Oregon Dept of Land Conservation and Development, Community Green Infrastructure grant for Green Schoolyards
 - \$100,000 - Oregon Dept of Ed, Farm to Child Nutrition Program
 - Continued advocacy at legislative level

- IV. More effectively **reach students about climate related opportunities** and **expand pathways** for students to get involved.
 - Increased support and engagement of Climate Justice Youth Advisory
 - With PCEF Student-Led Projects Funds, nearly 700 students across 34 schools are now leading climate projects. These student-led efforts— ranging from clean air advocacy to creating climate-focused children’s books—highlight the power of youth-driven action and learning.

Moving Forward

As we refine our focus to advance student excellence, we are building on the strategic priorities identified during the foundational year of policy implementation (2022–2023): Coordinated and Effective Leadership, Inclusive, Collaborative and Data-Driven Decision-Making, and Strategic Advocacy and Allocation of Resources. In FY25, these priorities are more vital than ever, guiding us as we thoughtfully align our resources and strengthen our administrative capacity to ensure continued progress and equitable outcomes for all students.

Moving forward, the PPS Climate Justice Advisor will compile the comprehensive 2024-2025 annual report and take the Climate Crisis Response Committee recommendations into consideration to develop a strategic implementation proposal for PPS leadership for the 2025-2026 school year.

Climate Crisis Response Committee

Portland Public Schools FY 2024 - 2025 - CCRC Annual

School Board Meeting - June 24, 2025

The Climate Crisis Response Committee (CRCC) advises the Portland Public Schools Board of Education on implementation of the Climate Crisis Response, Climate Justice and Sustainable Practices Policy.

Committee Members

Barbi Alexander (Chair)

Isaac Barrow

Jane Comeault

Charity Fain

Alyssa Koomas

Angela Long

Tess Nestel (Student)

Erik Opsahl

Alma Valls (Student)

PORTLAND PUBLIC SCHOOLS CLIMATE CRISIS RESPONSE COMMITTEE (CCRC) ANNUAL REPORT TO THE BOARD OF EDUCATION

JUNE 24, 2025

EXECUTIVE SUMMARY

Since the adoption of the Climate Crisis Response, Climate Justice, and Sustainable Practices Policy by the PPS Board in 2022, the district has demonstrated measurable commitment toward climate resilience and climate justice in alignment with its Vision 2025 priorities. The Climate Crisis Response Committee (CCRC) is tasked with monitoring and supporting the district’s progress in meeting these goals and issuing annual recommendations based on data, transparency, and frontline community impact.

This year’s progress reflects both accomplishments and challenges—particularly in the face of significant budget constraints. Nonetheless, PPS has maintained forward momentum through targeted partnerships, student engagement, and transparent data tracking.

Key Successes (2024-25):

- **Transparency:** Public launch of the [PPS Climate Policy Dashboard](#), providing visual, real-time progress updates aligned with Key Performance Indicators.
- **Student Engagement:** Broad reach of Portland Clean Energy Fund (PCEF)–supported student projects across 34 of 36 eligible schools, plus publication of the Climate Awareness Student Survey with over 700 student respondents.
- **Infrastructure Funding:** Secured over \$40 million in funding from PCEF and other sources to modernize and decarbonize facilities, launch electrified transportation, and expand green schoolyard efforts.
- **Policy Alignment:** PPS Board upheld electrification standards in high school modernization, reinforcing PPS’s alignment with both the Climate Policy and community-supported Bond Measure 26-259.

ALIGNMENT WITH PPS STRATEGIC GOALS AND POLICIES

This work directly supports PPS’s [Vision, Mission, and Core Values](#) as well as the Graduate Portrait and Educator Essentials by preparing climate-literate, engaged students and ensuring safe, equitable learning environments.

The CCRC’s recommendations and oversight specifically advance the district’s stated goals of:

- Educational equity and racial justice
- Community partnership and engagement
- Environmental and fiscal sustainability
- Academic excellence and whole-student development

STUDENT ENGAGEMENT & PARTICIPATION

Student involvement has become a signature strength of climate policy implementation. This year:

- The first year of the Portland Clean Energy Funds student-led climate projects launched, with projects at 34 schools involving nearly 700 students.
- PPS Published the Climate Action Design Team report featuring prototypes of co-created student pathways with students, educators and community members.
- Student members of the Committee conducted and analyzed a district-wide climate attitudes survey, showing broad concern over school climate impacts (e.g., classroom overheating) and eagerness for involvement.

To institutionalize this, the Climate Awareness Student Survey should become an annual PPS-administered metric, embedded into the broader student feedback ecosystem alongside the Successful Schools Survey and School Climate Survey.

DASHBOARD, EVALUATION, AND DATA SYSTEMS

Following the Committee’s recommendations, PPS has:

- Launched a public-facing Climate Dashboard, updated with data on carbon emissions, HVAC upgrades, transportation, and green infrastructure.
- Utilized the Evaluation Plan developed in 23-24 with ECONorthwest, to develop performance metrics tailored to track both environmental outcomes and equity-centered impacts on frontline communities.

The Dashboard and associated reports are consistent with PPS’s accountability efforts under the [Racial Equity and Social Justice Framework](#).

FUNDING & PARTNERSHIPS

Notable funding achievements include:

-
- \$25.8M from the PCEF Collaborating for Climate Action grant for infrastructure
 - \$99K from the Oregon Dept. of Land Conservation for Green Schoolyards
 - \$100K from the Oregon Dept. of Education for Farm to School programs
 - Support for grant writing and implementation was enhanced by hiring a Climate Justice Student Projects Coordinator (PCEF-funded)

These funding wins align with PPS’s Climate Policy Directive to “leverage community and agency partnerships” and maximize available climate investment resources. However, more staff capacity is still needed for project management and long-term strategic fundraising.

CHALLENGES AND OPPORTUNITIES

Despite progress, budget constraints threaten continued implementation. Committee concerns include:

- Reduced staffing across central departments may hinder ongoing climate-related project management.
- Student and community awareness of climate initiatives is still uneven; additional communications efforts are needed.
- Volunteer engagement, including community grant writers and Green Team support, remains an untapped opportunity.

2024–25 RECOMMENDATIONS

In alignment with PPS’s Strategic Plan, Community-Informed Policy, and the current financial context, the Committee offers the following five recommendations for the 2025–26 school year:

1. **Align Climate Work with PPS Priority Goals**
 - Focus on strategies that align with PPS’s broader priorities, including electrification and energy efficiency in school modernization, HVAC upgrades for student comfort and safety, and embedding student-designed climate initiatives (e.g., PCEF-funded projects, Climate Action Design Team recommendations) into ongoing school improvement efforts.
2. **Embed Transparency and Engagement Tools**
 - Continue to use the Climate Policy Dashboard as a central transparency and accountability tool. Ensure its use is extended into student curricula, parent communications, and community updates, and track engagement metrics (e.g., unique visitors, stakeholder awareness, and use in classrooms and site-based decision-making).

3. Preserve and Scale Climate Programs

- Prevent erosion of climate action gains due to budget cuts by mobilizing a broad base of support. Explore non-traditional strategies to sustain efforts, such as recruiting community volunteers to assist with climate-focused projects like grant writing, storytelling, schoolyard maintenance, and school-based climate advocacy teams.

4. Institutionalize Student Voice

- Make the Climate Awareness Student Survey a recurring annual measure, supported by the district through equitable outreach, classroom engagement, and integration of results into school and district-level planning. Continue to cultivate student representation on advisory committees and leadership teams.

5. Expand and Redesign the PPS Volunteer Program to Include Climate Policy Implementation Support

- The Committee recommends that PPS expand its existing volunteer infrastructure to include roles aligned with implementation of the Climate Policy. This includes but is not limited to:
 - Grant writing and development support
 - Planning and research assistance for infrastructure and curriculum teams
 - Communications and outreach coordination in partnership with school-based staff
 - Support roles for teachers and administrators to relieve burden on staff capacity
 - The expansion of the volunteer program should include clear pathways and onboarding for parents, students, alumni, and community members to contribute to district-wide and school-level climate initiatives. Establishing a district-supported “Climate Volunteer Corps” or integrating this track into the existing PPS Volunteer Services Program will ensure equitable access, accountability, and sustainability. This approach reflects the community’s willingness to contribute and addresses capacity shortfalls that otherwise risk stalling progress.

CLOSING

In a year marked by difficult budget decisions, PPS has demonstrated that climate leadership can remain bold and visionary while being pragmatic. The CCRC commends PPS for continuing to prioritize climate justice and sustainability amidst competing demands and urges the district to protect this momentum through 2025 and beyond.

2024 - 2025



PORTLAND
Public Schools

Climate Crisis Response Policy
June 24, 2025 Board Update

Climate Crisis Response Committee

2023 - 2024 Recommendations

1. Make Dashboard publicly available on the PPS website by Fall 2024 to enhance transparency and community engagement.
2. Add fundraising and project management staff to increase capacity for Policy implementation.
3. Pursue additional funding sources more aggressively to enable more rapid implementation of the Policy.
4. More effectively reach students about climate related opportunities and evidence of PPS efforts to address climate change, while expanding the pre-existing pathways for students to get involved.

2024-2025 Progress - Staff Update

1. Make Dashboard publicly available

- Dashboard launched !

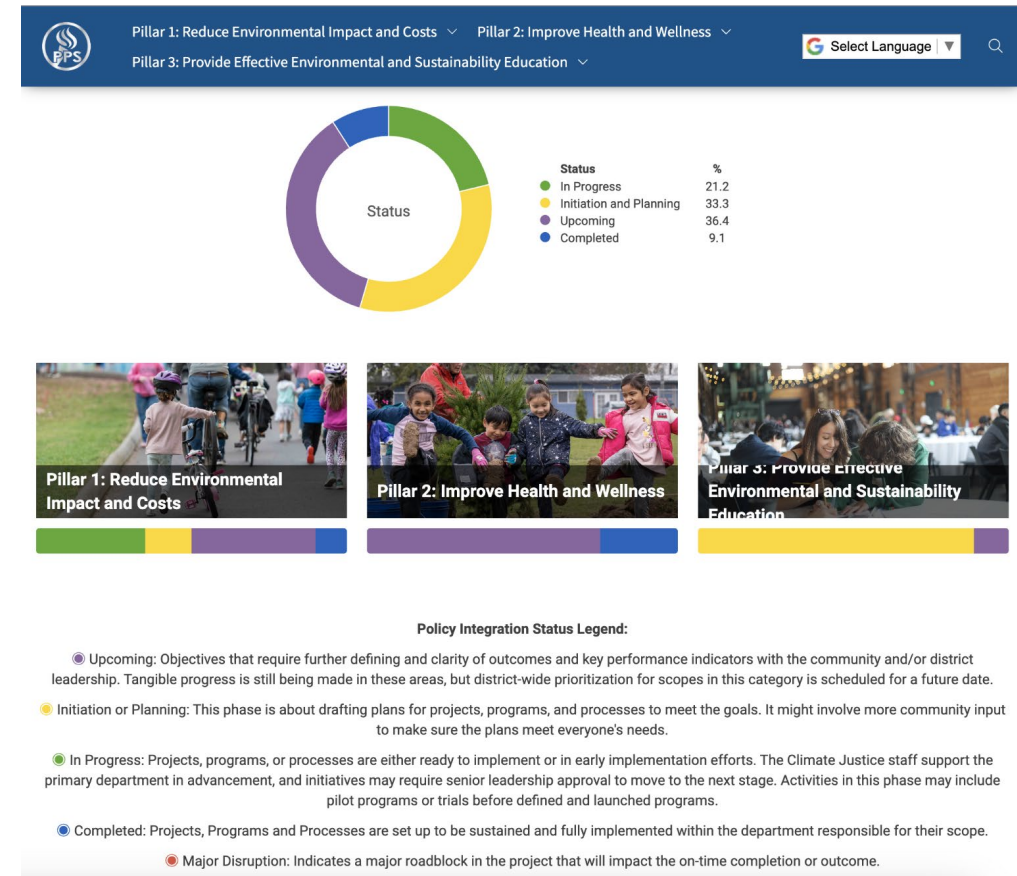
<https://www.pps.net/climatejustice>

2. Add fundraising and project management staff

- Climate Justice Student Projects Coordinator hired ! Funded by PCEF grants

3. Pursue additional funding sources more aggressively

- \$25.8M - PCEF Collaborating for Climate Action grant for infrastructure (\$40M from PCEF for infrastructure total)
- \$99,075.48 - Oregon Dept of Land Conservation and Development, Community Green Infrastructure grant for Green Schoolyards
- \$100,000 - Oregon Dept of Ed, Farm to Child Nutrition Program
- Continued advocacy at legislative level



2024-2025 Progress

4. More effectively reach students

- Published the **Community -Centered Climate Action** design team recommendations
- **Expanded support** for the Climate Justice Youth Advisory
- **Over 700 students engaged** in the PCEF Student-led Climate Projects, participation at 34 of the 36 eligible schools



CLIMATE CRISIS RESPONSE, CLIMATE JUSTICE & SUSTAINABLE PRACTICES POLICY

PPS DEPARTMENTS THAT OVERSEE POLICY GOALS

PILLAR 1

MAINTENANCE +
OPERATIONS

PROCUREMENT +
CONTRACTING

FACILITIES + ASSET
MGMT

PILLAR 2

OFFICE OF SCHOOL
MODERNIZATION

NUTRITION SERVICES

STUDENT
TRANSPORTATION

REAL ESTATE

RISK MANAGEMENT

ENVIRONMENTAL
HEALTH + SAFETY

EMERGENCY
MANAGEMENT

WORKFORCE
TRAINING +
DEVELOPMENT

STUDENT SUCCESS +
HEALTH

PILLAR 3

CAREER + TECHNICAL
EDUCATION

COLLEGE + CAREER
READING

TEACHER +
PROFESSIONAL
LEARNING

OFFICE OF STUDENT
SUPPORT SERVICES

SPECIAL EDUCATION

ACADEMIC
PROGRAMS

EMPLOYEE
RELATIONS

CENTRAL SUPPORT

CLIMATE JUSTICE

ENERGY +
SUSTAINABILITY

STRATEGIC
PARTNERSHIPS

COMMUNICATIONS

RESEARCH &
EVALUATION

GOVERNMENT
RELATIONS

FAMILY + COMMUNITY
ENGAGEMENT

RACIAL EQUITY +
SOCIAL JUSTICE

More comprehensive annual policy report and action plan coming early Fall 2025!

Climate Crisis Response Committee

Quarterly Meetings

Quarterly Meeting :11/14/24

- PPS Update: Dashboard Feedback

Quarterly Meeting: 2/13/25

- Decarbonization Tool Update
- Discussion on funding pathways, opportunities pursued / in progress

Quarterly Meeting: 4/10/25

- 24-25 Strategic Implementation Update,
- CCRC Recruitment Plan

Quarterly Meeting: 6/5

- 25-26 Progress Goals for CCRP Advancement
- 24 - 25 PCEF Student Projects Reflection

Special Meetings

Orientation: 10/24/25

Special Meeting: 3/13/25

- Budget Presentation from Chief of Staff and Chief Financial Officer
- CCRC Letter to the Superintendent RE: PPS Budget Cut Priorities

Special meeting: 5/8/25

- Continued discussion of budget impact

Climate Crisis Response Committee

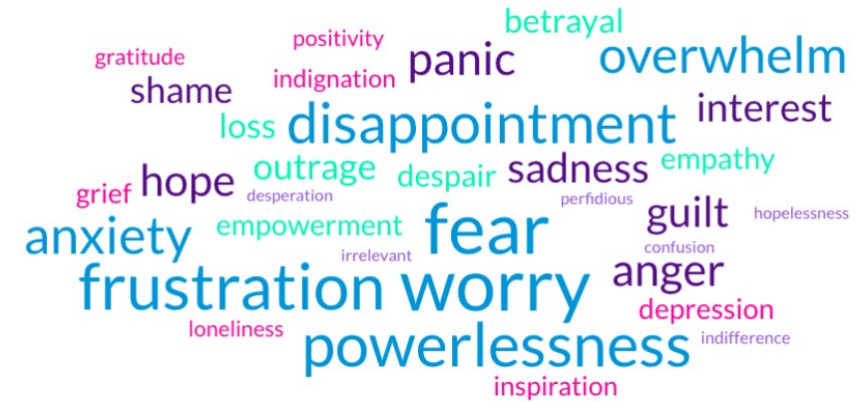
2024-2025 Key Successes

- Student Report - Climate Awareness Survey
- Continued support for electrification of schools
- Increased transparency, communication and responsiveness from District-level staff
- Significant Deliverable wins:
 - Climate Policy Public Dashboard
 - Public Digital Showcase of Student Projects
 - Community-Centered Climate Action Design Team Report
 - Decarbonization Prioritization Tool

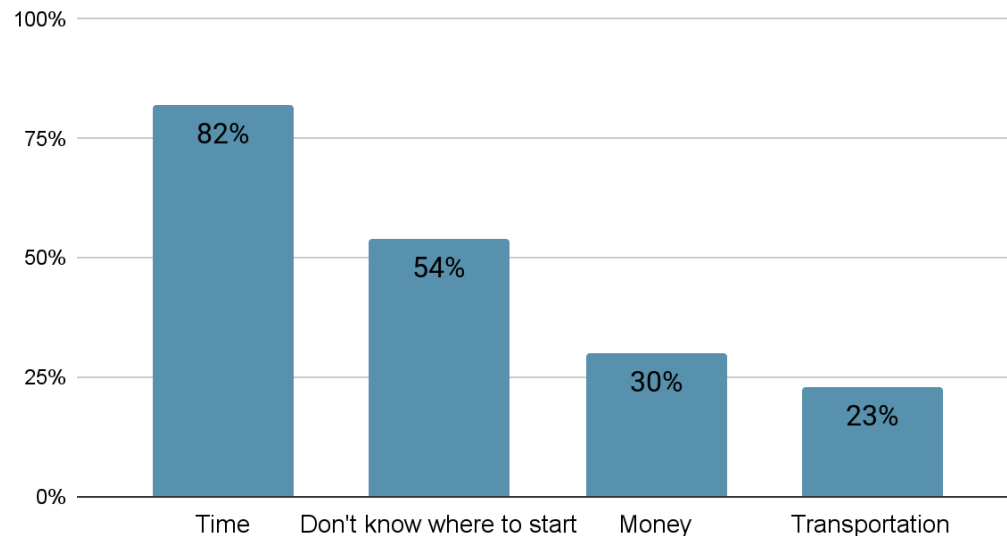


Student Survey Findings

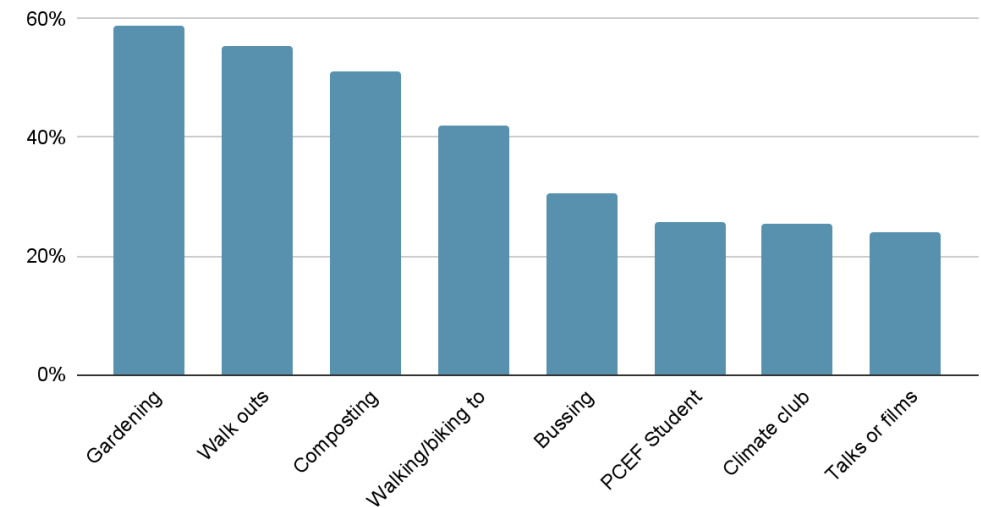
- 276 total responses to this survey.
- Distributed to all PPS high school students via teachers and Trivory.
- It was open for much of the Month of May



What barriers might prevent you from being more involved in climate action?



Which of these climate actions would you be interested in:



Climate Crisis Response Committee

2024-2025 Recommendations for Continue Progress

1. Align Climate Work with PPS Priority Goals
2. Embed Transparency and Engagement Tools
3. Preserve and Scale Climate Programs
4. Institutionalize Student Voice
5. Expand and Redesign the PPS Volunteer Program to Include Climate Policy Implementation Support



PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy

In response to the human-caused climate crisis currently underway and the direct harm being done to our District, society, and planet, Portland Public Schools (PPS) is committing to immediately mobilize resources for climate action. To this end, the District commits to reducing greenhouse gas (GHG) emissions and minimizing other negative environmental impacts; improving our school communities' health and wellness; and building a culture of learning, responsibility, and sustainability centered on our values of racial equity and climate justice.

Climate change disproportionately impacts the vulnerable members of our community. Implementation of this policy will prioritize serving people with disabilities, communities of color, and other vulnerable populations.

The District aims to educate and empower students as leaders in the just transition to a sustainable city and restorative society. Our goal is for all students to be environmentally literate, and to understand the connections between their daily actions and the natural world by using community-based learning and civic action as a context for meeting academic goals described in the [Graduate Portrait](#).

The District shall prioritize investments that achieve the greatest emissions reduction, while integrating climate action into our curriculum and developing a culture of environmental stewardship and climate justice throughout our organization. Other efforts which have a lower impact on emissions and require major changes in infrastructure can be implemented over the longer term.

Our two overarching objectives are:

Emissions Reduction: PPS will reduce its greenhouse gas emissions by 50 percent by 2030, using the 2018-2019 school year baseline, and reach net zero emissions by 2040.

For the sake of emissions tracking, PPS will use a Scope 1 and Scope 2 analysis, which includes all emissions associated with the following: district-operated buses and fleet vehicles, and building energy use from both natural gas and electricity. In addition to Scope 1 and Scope 2, PPS will also track emissions associated with waste disposal (food waste, recycling, and landfill-bound garbage), which is defined as part of a Scope 3 analysis.



PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy

Engagement, Resilience, and Wellness: The District will take steps to prepare schools for the effects of climate change, and will ensure staff and students learn about and engage in climate solutions, climate resiliency, and climate justice practices.

As the District works to meet these climate and sustainability goals and targets, it will maximize, minimize, and take other actions to reduce carbon emissions and increase sustainable practices when alternatives exist that meet District standards, are aligned with carbon-reduction targets, are cost competitive over time, and available technology exists.

It should be noted that these goals are based on the following assumptions: technology in the electric vehicle market will advance significantly; the cost of electric school buses will come down significantly over the next 10-20 years; the District will continue to pass voter-approved bonds on a regular cycle to support infrastructure investment; and the District will allocate general fund budget to help reach these goals.

We will align our work with the U.S. Department of Education's Green Ribbon School Pillars. In accordance with those pillars, PPS is adopting the following goals:

Pillar 1: Reduce Environmental Impact and Costs

Goal 1.1: PPS will design and construct new low-carbon schools and renovations that are energy-efficient, resilient, and adaptable.

1. Use appropriate industry standards (e.g. LEED Gold, Net-Zero ready, Oregon's Energy Ready Commercial Code) when designing new and modernized buildings.
2. Prohibit the installation of fossil fuel infrastructure (gas-fired equipment) in all new buildings.
3. Phase out fossil fuel infrastructure (gas-fired equipment) in all existing buildings by 2050.
4. Increase energy efficiency, maximize the use of renewable energy sources, and minimize the use of fossil fuels.
5. Limit the amount of refrigerants used. Manage existing refrigerants with best available technology.
6. Transition to building materials produced with less carbon and that are more sustainable.
7. Design, renovate, and construct new facilities to improve resiliency to climate-related emergencies.



PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy

Goal 1.2: PPS will maximize reductions in Green House Gas emissions from district operations, maintenance, and facilities management.

1. Maximize efficiency in fuel, electricity, and water use.
2. Establish standardized systems for waste prevention practices, including recycling and food waste reduction at campuses.
3. Minimize disposable materials.

Goal 1.3: PPS will maximize the carbon sequestration potential and other environmental benefits of green school yards and increase the ability of school grounds to adapt to climate extremes.

1. Increase shade trees, green spaces, and de-pave projects, with highest priority in low-canopy neighborhoods.
2. Maximize onsite stormwater management in compliance with city code.
3. Establish green school yard plans to care for school grounds.
4. Phase out gas-powered equipment used for grounds maintenance.

Goal 1.4: PPS will minimize greenhouse gas emissions from student and staff transportation, including transitioning to electric or low-emission vehicles.

1. Establish school-based infrastructure and support for staff and students to walk, bike, bus or telecommute, in order to reduce single-occupant car commuting.
2. Transition PPS and contracted vehicle fleet to electric or low emissions or renewable fuels. Work with industry, utilities, and the state and federal governments to reduce the costs of shifting towards electric or low-emission vehicles.
3. Educate and communicate to students, parents and staff about benefits of and opportunities to reduce single-occupant car commuting and idling.

Goal 1.5: PPS will reduce the demand for new materials and resources, and procure materials, products, and services in a manner that integrates climate considerations, fiscal responsibility, and equity priorities.

1. Where applicable, use best practices related to Environmentally Preferable Purchasing for centralized, formally solicited purchases, and provide tools and guidance to schools to support sustainable, climate-preferred product and services purchasing.
2. Transition to increased electronic communication and reduce paper copying and maximize recycled content in paper used.



PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy

3. PPS will produce a report at least annually of PPS investments in fossil fuels with information that, in light of state-mandated investments, is reasonably accessible and available to it. Investments in state investment funds will be reported, recognizing that the Oregon State Treasury controls the decision-making for state investment funds.

Pillar 2: Improve Health and Wellness

Goal 2.1: PPS will address climate-based impacts on health, safety, and wellness of its students and employees.

1. Include climate change impacts, such as flooding, landslides, and wildfires, as risks in district real property asset assessment and management.
2. Where possible, prioritize foods that are local, organic, seasonal, plant-based, minimally processed and/or minimally packaged, while meeting requirements of the USDA Child Nutrition Programs.

Goal 2.2: PPS will support frontline student communities to build resilience from climate change induced stresses and support preparation for and recovery from these events.

1. PPS will coordinate with state, regional, and local jurisdictions and community-based organizations to communicate with and support PPS students and families during climate-related events and natural disasters, such as wildfires, flooding, drought, heat waves, extreme winter storms, extreme wind events. The District will make available its facilities, as appropriate, during community response efforts to climate events.
2. Incorporate climate justice priorities and climate resiliency design to inform long-term facility planning. Plans should prioritize serving people with disabilities and frontline communities.

Pillar 3: Provide Effective Environmental and Sustainability Education

Goal 3.1: PPS will empower staff as allies for a healthy climate.

1. Provide learning opportunities for staff on climate science/climate justice.
2. Continuously collaborate with staff to utilize sustainability practices in the performance of their work and provide information, support, and tools to help implement those practices.

Goal 3.2: With guidance from frontline students and communities, PPS will develop curricular learning opportunities, so PPS graduates know the causes and consequences of climate change, understand climate justice, and have



PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy

opportunities to practice climate solutions.

1. Develop and deliver curriculum and resources to help students understand, prepare for, and respond to climate change impacts.
2. Teaching and learning about climate change will recognize and support the emotional and other impacts of climate change on individuals.
3. Provide opportunities for students to probe the underlying causes of the climate crisis and the structural racism embedded in climate change due to actions by majority white countries with disproportionate negative burdens and impacts on people of color, and to understand the dynamic nature of complex systems and how they change, and opportunities for them to practice using systems thinking to inform their choices.

Goal 3.3: PPS staff will collaborate with students to create opportunities to engage youth in hands-on climate learning, preparation, and practice on a regular basis at all PPS schools.

1. Support development of youth leadership and engagement opportunities around climate solutions, prioritizing opportunities for students from frontline communities.
2. Support student-led climate justice, climate action, and climate resiliency initiatives.
3. Treat the grounds and garden of each school as a learning space and involve students in nature-based grounds improvements and design. Support opportunities for students in every PPS elementary school to learn in a designated outdoor learning space.
4. Support students in their ongoing and critical role as climate response, climate justice, and sustainability advocates.

CLIMATE CRISIS RESPONSE COMMITTEE

To monitor effective implementation, transparency, and tracking of progress, PPS will establish a committee of no more than nine persons that is made up of a majority of members who identify as people of color, and two members who are current PPS students. The Board shall approve the Charter for and members of the Committee. The Committee will convene no less than quarterly and will report to the Board on an annual basis the progress the District is making under the policy directives. The Committee informs and advises the Board but does not have decision-making authority.



PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy

Glossary of Definitions

Scope 1 Emissions: direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, water heaters, vehicles).

Scope 2 Emissions: indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Although scope 2 emissions physically occur at the facility where they are generated, they are accounted for in an organization’s GHG inventory because they are a result of the organization’s energy use.

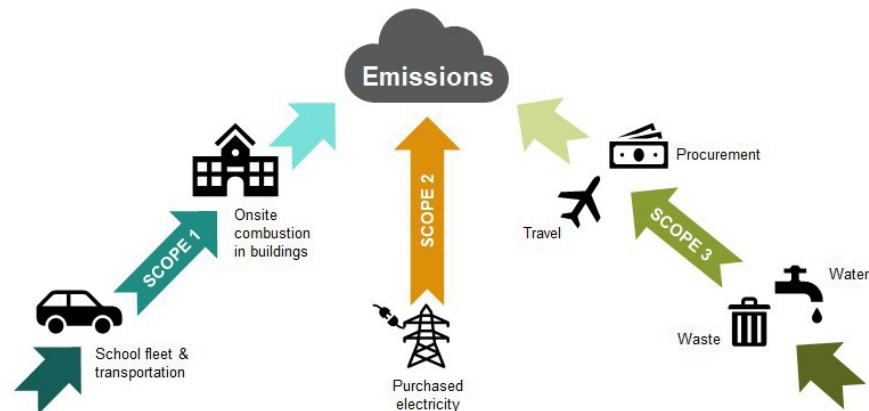
Scope 3 Emissions: the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly impacts in its value chain. Scope 3 emissions include all sources not within an organization’s scope 1 and 2 boundary. The scope 3 emissions for one organization are the scope 1 and 2 emissions of another organization. Scope 3 emission sources include emissions both upstream and downstream of the organization’s activities.

(Scope emissions defined by [EPA Center for Corporate Climate Leadership Home](#))

Feasible: capable of being done or carried out. Feasibility will include the following factors: economics/available funding and appropriate trade-offs (i.e. the district will not spend general funds on energy efficiency if it is in lieu of incremental staffing in schools).

Frontline Communities: Communities that experience continuing injustice—including people of color, immigrants, people with lower incomes, those in rural areas, and

Scopes of Emissions in Schools





**PPS Climate Crisis Response,
Climate Justice and Sustainable
Practices Policy**

indigenous people—and face a legacy of systemic, largely racialized, inequity that influences their living and working places, the quality of their air and water, and their economic opportunities.

Systems Thinking: a holistic approach to analysis that focuses on the way that a system's constituent parts interrelate and how systems work over time.

Adopted: 3/2022



Portland Public Schools Decarbonization Roadmap

DECARBONIZATION IMPLEMENTATION PLAN



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Executive Summary





THE DECARBONIZATION ROADMAP

The Decarbonization Roadmap is a living guide that is designed to be updated regularly by Portland Public Schools (PPS) stakeholders to assist with their emission reductions planning efforts. It's a standardized list of improvements that can be made at every PPS facility. Each improvement listed in this roadmap includes an estimated cost and estimated impact on emissions reductions. The district can select the year of implementation for each improvement at each facility and the Roadmap projects out the impact those improvements have on the greenhouse gas emissions of the district.

This project has identified initial paths of implementing defined improvements in a particular order across all PPS buildings to meet the climate policy goals, but PPS will need to refine this roadmap over time as projects are funded and implemented.

TAKE-AWAYS

Through the process of developing the roadmap, four important takeaways became apparent to meet their goals:

-  PPS must electrify its buildings.
-  Utilities must meet the state mandated emissions target of 100% fossil fuel free by 2040.
-  PPS is on track to achieve the 2030 - 50% emissions reductions by modernizing and electrifying the last three high school buildings.
-  Significant continued investment in decarbonization will be required for PPS to meet its 2040 goals.



STAKEHOLDER ENGAGEMENT

Engaging internal stakeholders within the school district, such as administrators, facilities managers, teachers, and students, was crucial for the successful development of the PPS Decarbonization Plan. These stakeholders provided valuable insights into the district's infrastructure challenges and operational needs, ensuring that the plan is both practical and actionable. Their involvement fostered collaboration, secures future buy-in, and will help ensure continuity between teams as these projects are implemented.



COMMUNITY ENGAGEMENT

While subject matter experts (SME) were being consulted about how to achieve decarbonized buildings, PPS also reached out to the community for how they would like to see the improvements implemented into the buildings. PPS held a series of meetings around the district to provide each high school cluster a platform to be heard. The goal of these engagements was to answer the question, "how can PPS most effectively implement GHG emissions reduction measures to give us the best chance of meeting our emissions goals, given financial, industry, and facility constraints, while considering historic inequities in the distribution of resources across PPS?"



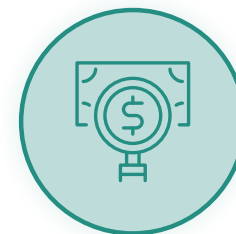
PRIORITIZATION TOOL

To help PPS plan what order facilities should receive decarbonization related upgrades, the Decarb Team built a tool that includes 25 characteristics for each facility to calculate a prioritization score for each one. The higher the score, the higher the priority for receiving upgrades related to decarbonization. The school district can use the scores to compare the differing needs of the buildings and make decisions on what order to implement improvements. The tool can be updated at any time to recalculate the prioritization scores and update the rankings to inform new decision-making processes.



MEASURE DEVELOPMENT

By establishing a list of decarbonization measures and existing energy end-use breakdown estimates, the team developed measure specific energy impact estimates for each building in the district. The team also established an Indoor Environmental Quality impact weighting based on industry best practices for all of the measures that impact thermal comfort and indoor air quality. Measure emissions impacts have been applied to projects within the year they are expected to be operational, and each measure builds upon any prior implementation.



COST ESTIMATING

Knowing that budgeting is a critical component for planning future upgrades to facilities, the Decarb Team has provided cost estimates for each improvement measure at each facility. These costs are meant to provide a rough order of magnitude for budgeting purposes and are based on industry averages and costs from recent projects at Portland Public Schools and other similar entities. The intent is not to identify an accurate cost for a specific measure at a specific location, but to provide an average cost that when aggregated with all projects across all facilities will provide a reasonable total cost for high-level budgeting. The estimating is for turnkey projects, so it includes labor and material as well as soft costs such as design and construction management.



STORYTELLING

Originally, the decarbonization team planned an in-person storytelling roadshow to showcase the outcomes of the PPS Decarbonization Roadmap, featuring educational activities and speaker sessions. Due to low attendance at stakeholder events and limited interest in-person engagement, the team shifted strategy. The first pivot was to host a community webinar. Following further feedback from the Climate Crisis Response Committee (CCRC), the team ultimately decided to produce a series of three short informational videos showcasing the roadmap and what it means for the community. The videos will launch in spring 2025 and be promoted across multiple platforms to maximize community outreach.



Introduction

What Is Decarbonization At PPS?

To understand what decarbonization means for PPS, we'll start with the PPS climate policy, which states:

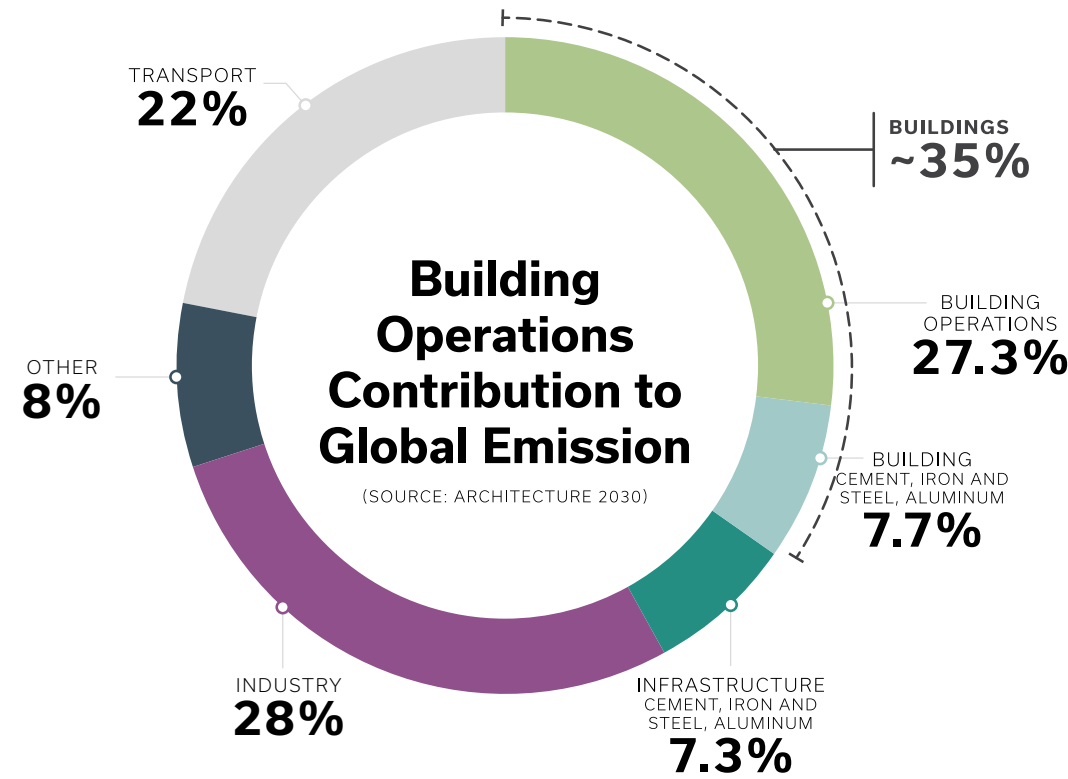
"In response to the human-caused climate crisis currently underway and the direct harm being done to our District, society, and planet, Portland Public Schools (PPS) is committing to immediately mobilize resources for climate action. To this end, the District commits to reducing greenhouse gas (GHG) emissions and minimizing other negative environmental impacts; improving our school communities' health and wellness; and building a culture of learning, responsibility, and sustainability centered on our values of racial equity and climate justice.

Climate change disproportionately impacts the vulnerable members of our community. Implementation of this policy will prioritize serving people with disabilities, communities of color, and other vulnerable populations.

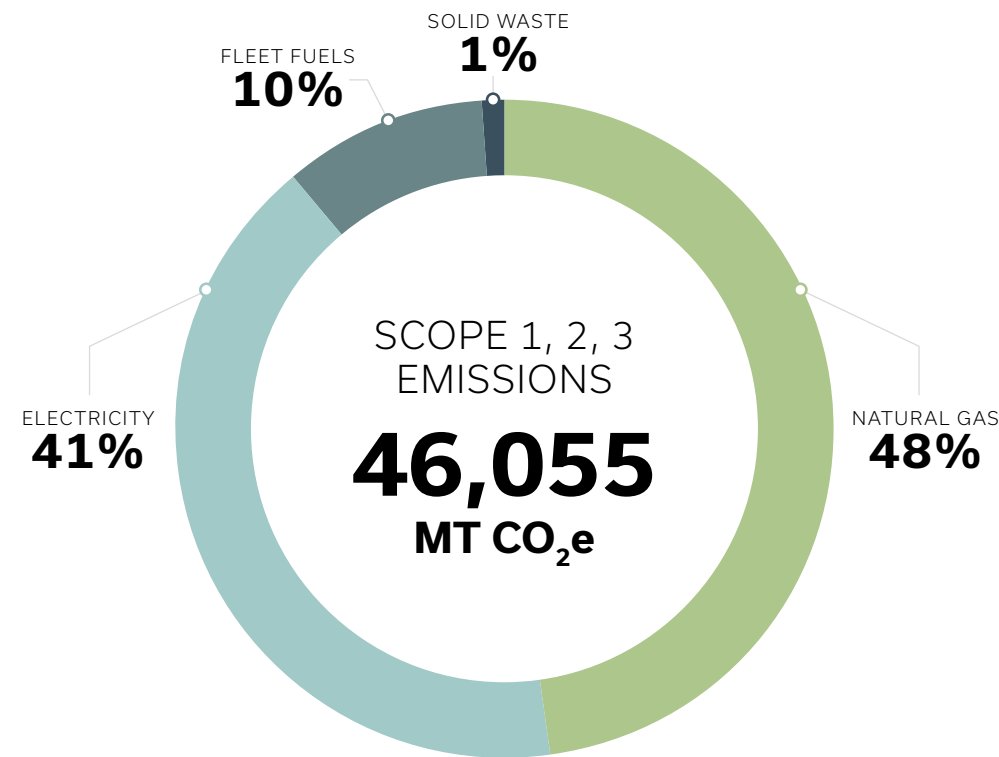
The District aims to educate and empower students as leaders in the just transition to a sustainable city and restorative society. Our goal is for all students to be environmentally literate, and to understand the connections between their daily actions and the natural world by using community-based learning and civic action as a context for meeting academic goals described in the Graduate Portrait.

The District shall prioritize investments that achieve the greatest emissions reduction, while integrating climate action into our curriculum and developing a culture of environmental stewardship and climate justice throughout our organization. Other efforts which have a lower impact on emissions and require major changes in infrastructure can be implemented over the longer term."

As a measurable objective, the climate policy states that PPS will reduce its greenhouse gas emissions by 50 percent by 2030, using the 2018-2019 school year baseline, and reach net zero emissions by 2040.



Building Operations Contribution to Global Emission (Source: Architecture 2030)



PPS Operation Emissions Baseline from the 2019 GHG Inventory

Understanding how to decarbonize buildings starts with an understanding of where carbon emissions are within PPS operations.

Based on the 2018-2019 school year GHG inventory shown in the lower donut chart, within PPS, almost 90% of current operational emissions come from building electricity and gas use.

Therefore, the decarbonization roadmap focuses on the elimination of these emissions.

This starts with eliminating the majority of onsite emissions by replacing fossil-fuel burning systems with efficient electric alternatives. These systems include:

- Gas fired heating equipment (boiler and furnaces)
- Gas fired hot water heaters
- Gas fired cooking equipment

Note that the impact of these strategies is contingent upon electricity becoming a clean energy resource, with PPS installing onsite renewable energy generation where feasible, and the utility decarbonizing to meet the Oregon HB2021 mandates.

Managing system costs, operating costs, and grid energy demands requires buildings to operate more efficiently.

Therefore, this should be done in conjunction with efforts aimed at reducing and eliminating indirect electricity emission by addressing inefficiencies in the primary building systems:

- Heat loss and gain through building enclosure and windows
- Ventilation systems
- Heating and cooling systems
- Lighting
- Water heating
- Cooking and refrigeration equipment
- Computers and appliances

This can be accomplished by targeting measures that :

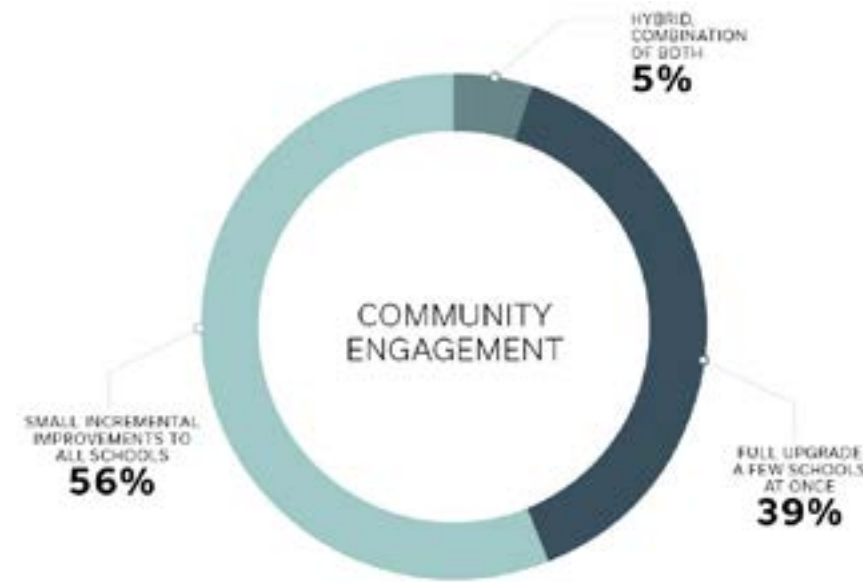
- Reduce building heating and cooling loads
- Utilize energy efficient systems (lighting, HVAC, water heating, and appliances).

Refinement of these measures and identification of the implementation approach all started with the stakeholder engagement discussions outlined in the following sections.

Community Engagement

While subject matter experts were being consulted about how to achieve decarbonized buildings, PPS also reached out to the community for how they would like to see the improvements implemented into the buildings. PPS held a series of meetings around the district to provide each high school cluster a platform to be heard. The goal of these engagements was to answer the question, “how can PPS most effectively implement GHG emissions reduction measures to give us the best chance of meeting our emissions goals, given financial, industry, and facility constraints, while considering historic inequities in the distribution of resources across PPS?”. The final approach to engagement was refined through conversations with PPS staff and community organizations.

The team wanted to ensure that a range of opportunities was provided for community members to provide feedback. Three main opportunities were provided: an online survey, in-person meetings, and a virtual meeting. Additionally, classroom engagement and a presentation at the All-City PTA meeting were conducted. This approach was chosen to ensure as much diverse participation as possible – extending to all corners of the district. To inform community members, a flyer was developed and translated into five different languages in addition to English (Spanish, Somali, Vietnamese, Russian, and Chinese). Communications were sent out to the community via community-based organizations, industry professionals, and schools. Communication platforms utilized include email, community forums, social media, and list serves. A version of this flyer can be found in Appendix: Community Outreach Assets.



RANKING RESULTS

| | |
|--------------------|---------------------------------------|
| 1 HIGHEST PRIORITY | Improve Thermal Comfort |
| 2 | Reduce Energy and Carbon Emissions |
| 3 | Improve Indoor Air Quality |
| 4 | Add Energy Resilience |
| 5 | Reduce Operating Cost and Maintenance |
| 6 | Improve outdoor environment |
| 7 LOWEST PRIORITY | Improve visual comfort |

SURVEY

The survey included only four questions to ensure that those responding did not feel as if the survey was a burden and could provide thoughtful answers. A summary of the survey and the responses can be found in Appendix: Decarb Recap – Online Questionnaire.

MEETINGS

There were four in-person meetings for the different high school clusters: Roosevelt/Jefferson, McDaniel/Grant, Franklin/Cleveland, and Lincoln/Wells. These meetings were held in the evenings at these schools to offer flexibility for working families. An online presentation was also offered during the day to provide additional flexibility on timing and attendance. The attendance for these meetings is listed on the following page.

Each meeting had the same planned agenda where PPS and the subject matter experts discussed decarbonization and its effects on the schools and community as well as climate justice. Two main activities were implemented to best understand priorities. A dot polling activity to prompt discussion so that the team could best understand how to implement these decarbonization improvements in the school buildings:

The first question asked whether the community would prefer small incremental projects simultaneously on all the buildings or holistic building upgrades for a group of buildings until all the buildings have been completed.

- The general consensus across multiple meetings was that the community was split on the approach to implementing improvements, with a small majority preferring the small incremental improvement approach.

The other question asked participants to rank their priorities to be addressed by the decarbonization work, from thermal comfort, to improved indoor air quality, and cost reduction.

- The highest priority identified by participants was improving thermal comfort, followed by reducing energy and carbon emissions.



Community Engagement

Building performance and emissions comparison data was provided for each cluster and each individual school in each cluster. Participants reviewed these reports and discussed the trends and concerns identified. Each meeting had great discussion around how PPS will use this data to prioritize upgrades and aired any additional concerns.

Some of the additional outgoing comments from participants included that it is important to provide a viable and implementable plan for future generations, reducing greenhouse gas emissions in PPS provides an example for other school districts, and that deferred maintenance should be addressed simultaneously. A final thought from a participant highlighted that, "equity should inform all choices."

A summary of the slides, polling activity responses, and cluster emissions data can be found in Appendix: Decarb Recap – Combined Results. A list of the frequently asked questions from the engagement sessions can be found in Appendix: PPS Decarbonization FAQ. Attendance at each meeting can be found below:

| EVENT | NUMBER OF PARTICIPANTS | DATE | LOCATION |
|--------------------------------------|------------------------|------------------------------------|---|
| Online Survey | 45 | Open during duration of engagement | Online at pps.net/energy |
| Roosevelt/ Jefferson Cluster Meeting | 8 | January 31, 2024 | Jefferson High School |
| Franklin/ Cleveland Cluster Meeting | 8 | February 7, 2024 | Franklin High School |
| McDaniel/Grant Cluster Meeting | 6 | February 1, 2024 | McDaniel High School |
| Lincoln/Wells Cluster Meeting | 3 | February 15, 2024 | Lincoln High School |
| Virtual Meeting | 18 | February 21, 2024 | Zoom |

ADDITIONAL ENGAGEMENTS

Classroom engagement: PPS staff also engaged several of the Climate Justice High School classrooms to get their feedback on their priorities for decarbonization. This process was less formal and more anecdotal, but general feedback from students was excitement for this plan and implementation of the policy. Equity was a prime concern for them as was indoor air quality.

All-City PTA engagement: An opportunity arose for the team to speak at the All-City PTA meeting in October. This was a unique opportunity to speak to those passionate about PPS schools and who can be strong advocates for future bonds and implementing the work. The discussion was lively and addressed technical approaches, indoor air quality, prioritization of projects, and how to advocate for success. Twenty-four PTA representatives from across the city attended this meeting.

PPS INTERNAL ENGAGEMENT

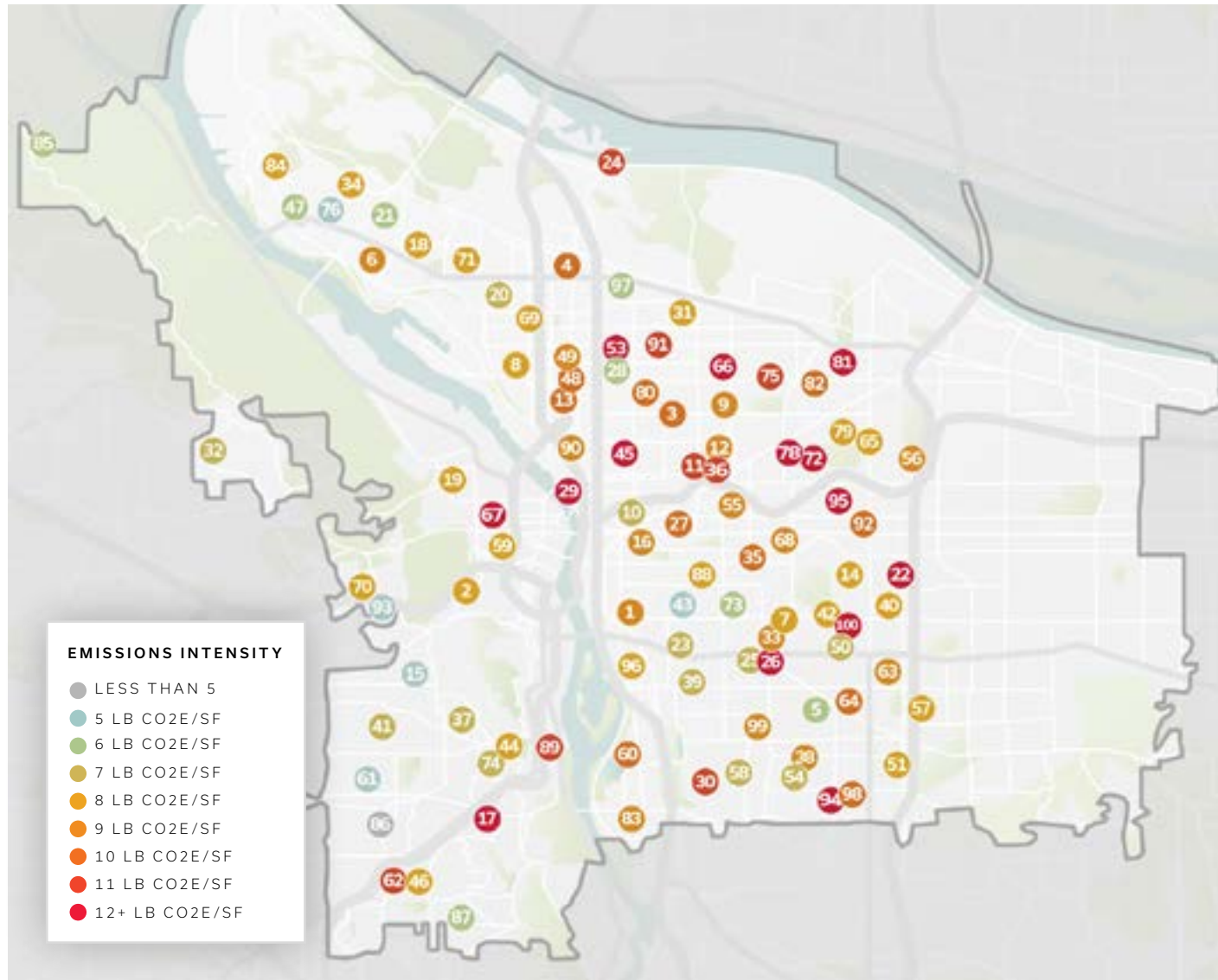
Engaging internal stakeholders within a school district, such as administrators, facilities managers, teachers, and students, was crucial for the successful development of the PPS Decarbonization Plan. These stakeholders provided valuable insights into the district's infrastructure challenges and operational needs, ensuring that the plan is both practical and actionable. Their involvement fostered collaboration, secures future buy-in, and will help ensure continuity between teams as these projects begin to be implemented.

The decarbonization team met regularly with the PPS Energy & Sustainability Team to ensure the plan took shape in a way the district envisioned. Several additional group meetings at key points in the development process took place that included cross functional teams at PPS. Those in attendance at these meetings or other small group meetings included:

- Chief Operating Officer
- Office of School Modernization
- Planning and Real Estate Management
- Maintenance Services
- Climate Justice
- Energy and Sustainability
- Design & Planning

Finally, the decarbonization team met twice with the Climate Crisis Response Committee (CCRC). Once at the beginning of the process to discuss any initial thoughts to incorporate into the stakeholder engagement and planning process. Once more in February 2025 to share results and gather more feedback on the storytelling aspect of the process ([CCRC Recording](#)). The CCRC received the plan well and seemed excited to be able to share out once the storytelling process is complete.





Decarbonization Roadmap

In a previous project, PPS identified their greenhouse gas emission baseline, but the decarbonization roadmap project estimates greenhouse gas emissions going forward based on those numbers. The challenge is identifying how and when to upgrade all of the 100+ facilities that PPS manages, particularly when so many of the facilities are on the high end of the emissions intensity spectrum, as highlighted in the map above.

To help PPS answer the question in what order should the improvements be made, the decarbonization team created a Prioritization Matrix that takes into account 25 characteristics in 4 categories: General Building Information, Facility Condition Assessment, Indoor Environmental Quality,

and Equity. This provides a data-driven method to sort the numerous locations by priority.

The Decarbonization Roadmap is a standardized list of improvements that can be made at every PPS facility in which, for each improvement, the associated energy and greenhouse gas impact is identified and the associated cost is estimated. A year is selected for each improvement to be implemented at each facility and the Roadmap projects out the impact those improvements have on the greenhouse gas emissions of the district.

It also accounts for improvements that have been recently completed or are planned to be completed soon.

FACILITY

| | | | | | |
|----|--------------------------------------|----|------------------------------|-----|--------------------------------|
| 1 | Abernethy | 35 | Glencoe | 69 | Ockley Green |
| 2 | Ainsworth | 36 | Grant | 70 | Odyssey Program at East Sylvan |
| 3 | Alameda | 37 | Gray | 71 | Peninsula |
| 4 | Applegate | 38 | Green Thumb | 72 | Rice |
| 5 | Arleta | 39 | Grout | 73 | Richmond |
| 6 | Astor | 40 | Harrison Park | 74 | Rieke |
| 7 | Atkinson | 41 | Hayhurst | 75 | Rigler |
| 8 | Beach | 42 | Holladay Annex | 76 | Roosevelt |
| 9 | Beaumont | 43 | Hosford | 77 | Rosa Parks |
| 10 | Benson | 44 | Ida B. Wells | 78 | Rose City Park |
| 11 | Fernwood | 45 | Irvington | 79 | Roseway Heights |
| 12 | Hollyrood | 46 | Jackson | 80 | Sabin |
| 13 | Boise-Eliot | 47 | James John | 81 | Sacajawea |
| 14 | Bridger | 48 | Jefferson | 82 | Scott |
| 15 | Bridlemile | 49 | KairosPDX at Humboldt | 83 | Sellwood |
| 16 | Buckman | 50 | Kellogg | 84 | Sitton |
| 17 | Capitol Hill | 51 | Kelly | 85 | Skyline |
| 18 | Cesar Chavez | 52 | Kenton | 86 | Smith |
| 19 | Chapman | 53 | King Neighborhood Facility | 87 | Stephenson |
| 20 | Chief Joseph | 54 | Lane | 88 | Sunnyside |
| 21 | Clarendon | 55 | Laurelhurst | 89 | Terwilliger |
| 22 | Clark | 56 | Lee | 90 | Tubman |
| 23 | Cleveland | 57 | Lent | 91 | Vernon |
| 24 | Columbia | 58 | Lewis | 92 | Vestal |
| 25 | Creston | 59 | Lincoln | 93 | West Sylvan |
| 26 | Creston Annex | 60 | Llewellyn | 94 | Whitman |
| 27 | da Vinci | 61 | Maplewood | 95 | Wilcox |
| 28 | Dr. Martin Luther King, Jr. | 62 | Markham | 96 | Winterhaven |
| 29 | Dr. Matthew Prophet Education Center | 63 | Marshall | 97 | Woodlawn |
| 30 | Duniway | 64 | Marysville | 98 | Woodmere |
| 31 | Faubion | 65 | McDaniel | 99 | Woodstock |
| 32 | Forest Park | 66 | Meek | 100 | Youngson/Holladay Center |
| 33 | Franklin | 67 | Metropolitan Learning Center | | |
| 34 | George | 68 | Mt. Tabor | | |

PPS Decarbonization Measures

To determine a path to decarbonizing all of the PPS buildings, the team, in collaboration with PPS, developed a set of 17 decarbonization measures that can be applied to any of the buildings as part of a decarbonization project. The measures address a broad range of improvement opportunities that are representative of PPS sustainability standards.

The associated electricity and natural gas impacts of each measure are calculated based on existing conditions and estimated impact factors. The associated emissions reductions are then assessed based on the estimated grid emissions at the time of implementation.

Certain measures also have Indoor Environmental Quality benefits which are tracked in parallel with the emissions reductions.

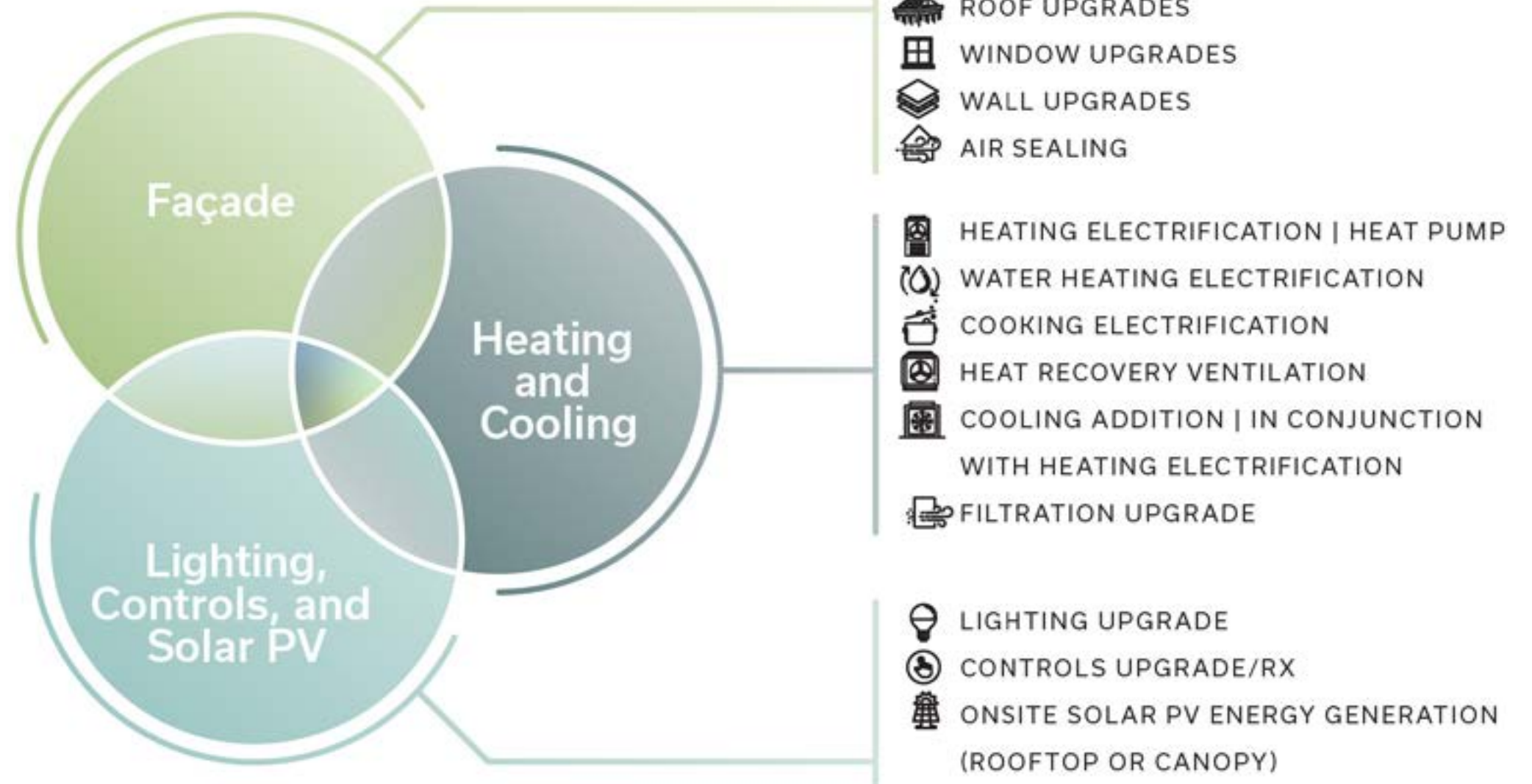
Implementation Scenarios

The project includes a flexible tool to build different scenarios to compare different approaches to the improvements.

As a demonstration of some of the potential pathways available to PPS in getting to the 2040 decarbonization goals, a set of scenarios were developed around the two implementation pathways discussed in the stakeholder engagement (by School or by Measure). Projects were lined out based on currently planned implementations followed by staged implementations in other facilities. The prioritization scoring was used to inform the sequencing of these scenarios and provides an example of how PPS can use this process moving forward.

The following two sections show the details of these scenarios and the path to zero carbon for PPS. However, it is not the expectation that either of these show the set path for PPS. The project planning teams can build off these scenarios or build new scenarios to map out the actual implementation of projects over time.

As with past efforts at PPS, the likely approach to implementation will be a blend of both measure level and full decarbonization/modernization projects.



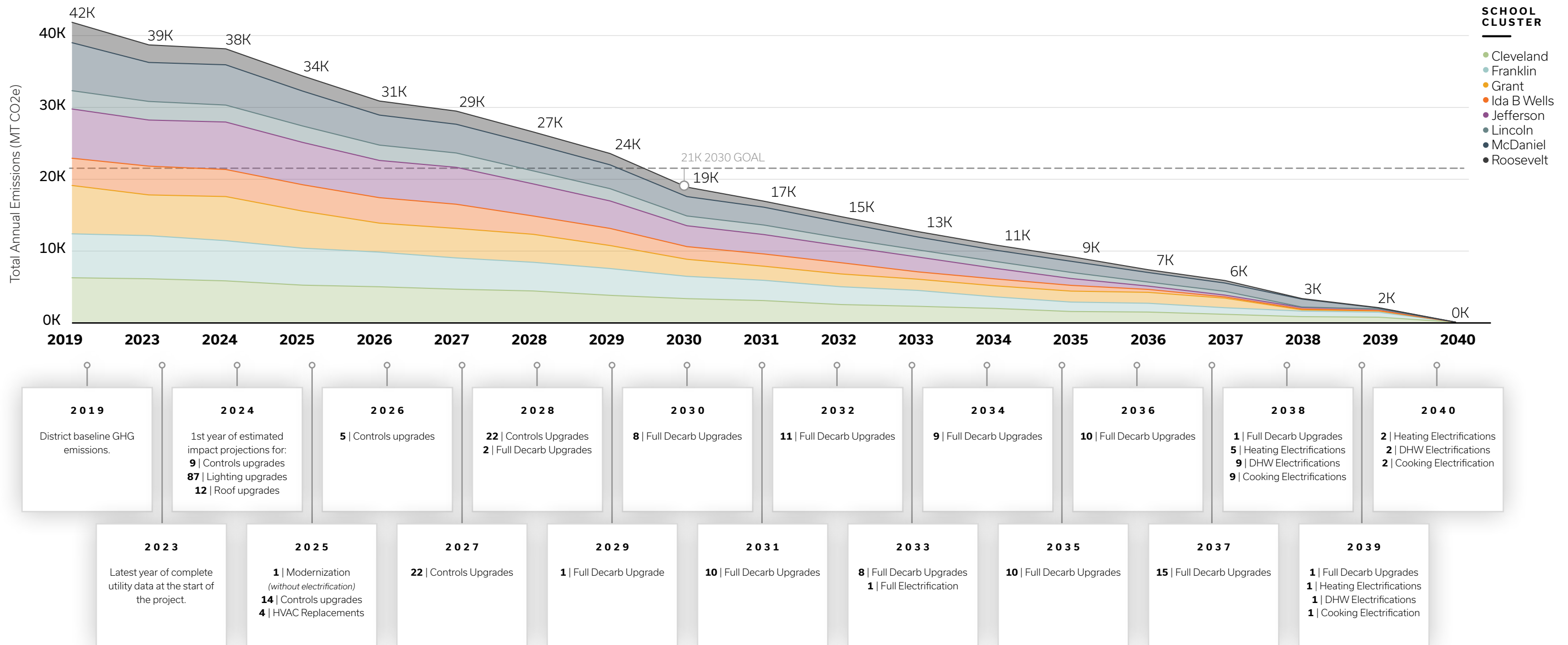
Roadmap Development

SCENARIO 1 (BY SCHOOL)

SCENARIO APPROACH

In this scenario, projects were lined out based on currently planned implementations followed by staged implementations of Full Decarbonization Upgrades in all the middle schools, elementary schools, and admin facilities. This was followed by heating electrification projects at recently modernized high schools. The prioritization scoring was used to inform the sequencing of Full Decarbonization Upgrades and provides an example of how PPS can use this process moving forward.

Projected emissions are displayed as the total of all buildings in each district cluster.



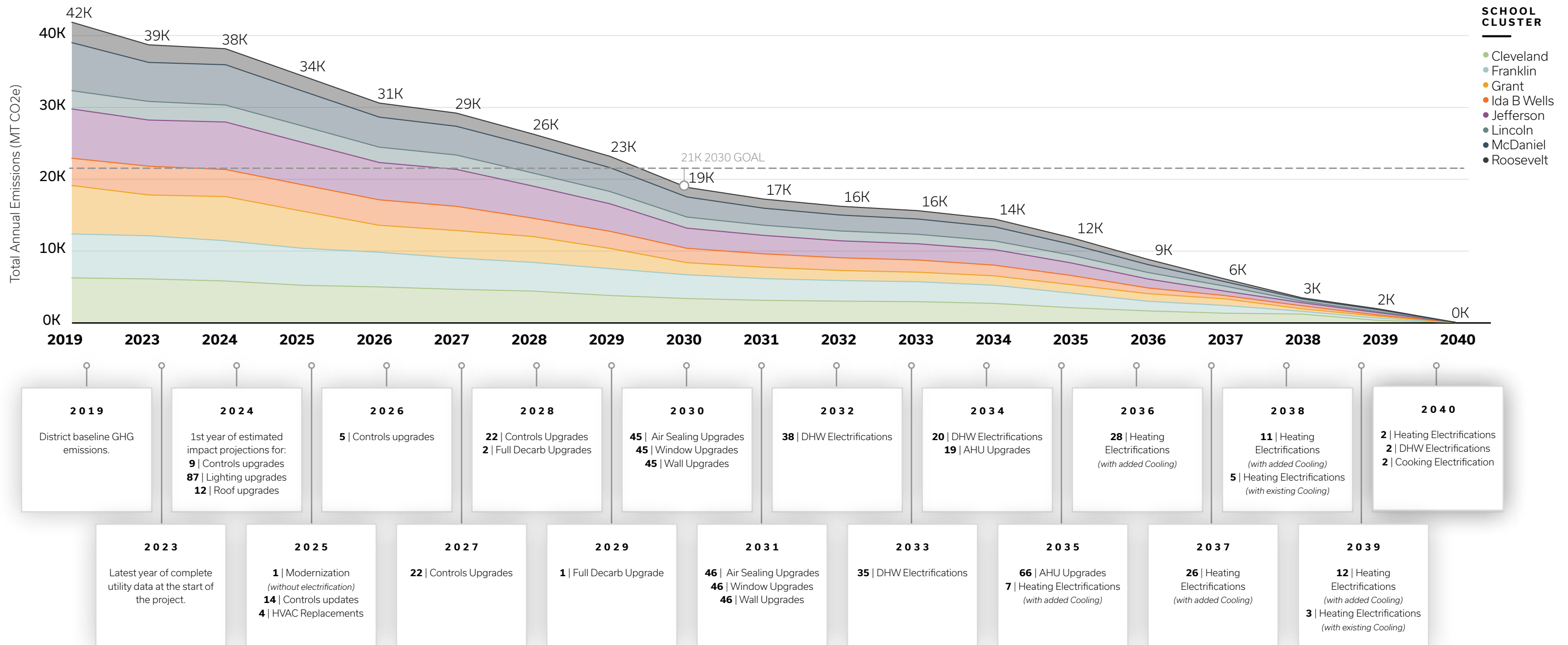
Roadmap Development

SCENARIO 2 (BY MEASURE)

SCENARIO APPROACH

In this scenario, projects were lined out based on currently planned implementations followed by staged implementations of district wide Measure Level Upgrades in all the middle schools, elementary schools, and admin facilities. This was followed by heating electrification projects at recently modernized high schools. The sequencing of the measures in this scenario was based on stakeholder feedback that thermal comfort improvements should be a high priority for PPS. The prioritization scoring was used to inform the sequencing of Measure Level Upgrades and provides an example of how PPS can use this process moving forward.

Projected emissions are displayed as the total of all buildings in each district cluster.



Methodology

The following sections outline the data sources used and calculation methodologies employed in developing the decarbonization calculation and implementation prioritization tools.

DATA COMPILATION

The team reviewed and organized district provided data from the following sources to establish the various benchmarks needed for the prioritization development.

- Monthly utility data for 2018, 2019, 2022, 2023 and 2024
- Facility Conditions Assessments (FCA) data
- Priority school (Title 1, CSI, TSI) designations, and other equity related metrics
- Indoor air quality data from the district wide study
- GHG baseline data and background data that went into the GHG Baseline report (list of sites and their baseline electricity and natural gas use)
- The list of which sites are served by PGE and which by Pacific Power
- A list of projects that impact GHG emissions that have occurred since the baseline was calculated
- A list of projects that are already planned/funded and impact GHG emissions
- Age of roofs for each site and all planned roof replacements
- Details on all the Solar PV arrays and their production numbers

During this process the team identified minor gaps in data and worked with relevant stakeholder to collect additional quantitative and qualitative information.

PRIORITIZATION

The prioritization tool provides a way to score sites and rank their need for projects related to decarbonization. Sites are scored on 25 characteristics in 4 categories based on data from a variety of sources, including enrollment reports, Tririga work order records, facility condition assessment data, utility bills, construction records, airflow testing reports, Justice 40 information, and Multnomah County’s heat vulnerability data. The higher the score, the higher the priority for receiving upgrades related to decarbonization.

EXISTING ENERGY END-USE ESTIMATIONS

PPS has monthly building level utility tracking for all the properties throughout the district, which was the basis for establishing operational energy and carbon benchmarks as well as current utility cost estimates. However, the process of identifying energy and carbon impact estimates from future projects requires a more detailed understanding of how the building is using energy and this is generally accomplished through an accounting of major end-use energy categories, such as heating, ventilation, lighting, water heating, receptacles, etc.

Most PPS properties do not currently have any energy end-use submetering in place and the establishment of direct submetering data for the roadmap development was beyond the scope of this effort.

Therefore, the team used proxy data from national and regional energy end-use surveys (CBECS and CBSA) to establish the approximate end-use breakdown for the different building types within the district. This was then calibrated against facility conditions data to come up with property specific estimates for all the buildings within the district.

MEASURE IMPACT CALCULATIONS

Building off the established list of decarbonization measures and the existing energy end-use breakdown estimates, the team developed measure specific end-use energy impact estimates for each building in the district. These estimates used a combination of prototypical energy modeling, recent project modeling data, and engineering judgment. The team also established an Indoor Environmental Quality impact weighting based on industry best practices for all of the measures that impact thermal comfort and indoor air quality. Measure impacts have been applied to projects within the year they are expected to be operational, and each measure builds upon any prior implementation.

COST ESTIMATION

To estimate the total cost of each scenario, the team utilized a combination of database construction estimates (from RS Means) and recently completed construction costs from PPS or similar K-12 environments. RS Means is a web-based service that provides cost data on construction materials, equipment and labor for various building types and locations nationwide. Primarily, hard cost estimates were derived from recently completed construction data, if feasible.

All measures were then adjusted using a soft cost multiplier of 1.4 to represent a fully loaded measure estimate in current year dollars. This soft cost includes architecture and engineering design and legal fees (e.g., new drawings, schedules, permits, contingency, etc.). Additionally, the scenario model applies an annual escalation rate of 3% to account for inflation.

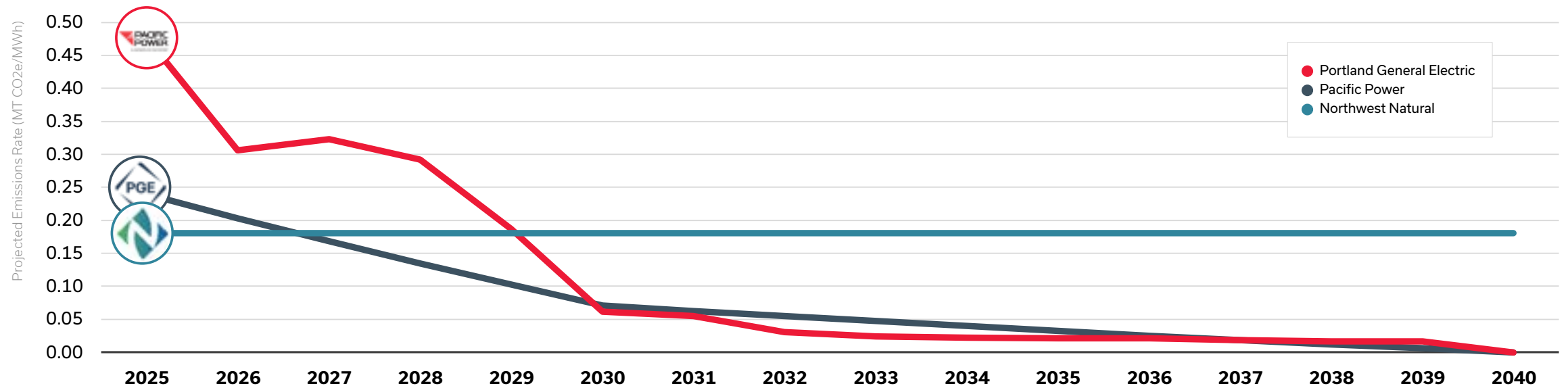
See Appendix B for measure level costing details.

ENERGY COST AND CARBON PROJECTIONS

Energy cost escalations have been accounted for based on the 2024 Annual Supplement to NIST Handbook 135 -Table Ca-4 Commercial Projected Fuel Price Indices (excluding general inflation).

Carbon emissions projections associated with the electrical utilities have been included based on the latest Clean Energy Plans from Portland General Electric and PacifiCorp, which show their path reducing greenhouse gas emissions from the electricity they provide. Below is the 2023 projections currently included in the tool.

PROJECTED EMISSIONS OF UTILITY ENERGY



Results and Conclusions

WHAT DOES THE ROADMAP ACCOMPLISH?

The Decarbonization Roadmap and tool establish process with which PPS can use real data and strategic planning to guide decarbonization upgrades across the district. This roadmap ensures each step is intentional and maximizes impact. The roadmap is an actionable tool that realizes the policy commitment set forth as opposed to a policy sitting on a shelf.

This is a tool to achieve the Climate Crisis Response Policy GHG reduction goals:

“PPS will reduce its greenhouse gas emissions by 50 percent by 2030, using the 2018-2019 school year baseline, and reach net zero emissions by 2040.”

The roadmap benefits the community by offering a verification of this Climate Crisis Response policy’s progress.

This initiative is more than just upgrades to our facilities: it’s a commitment to a sustainable, comfortable, and forward-thinking future for our students, staff, and community. Together, we’re building smarter, healthier schools—one step at a time.

DECARBONIZATION UPGRADES HELP PROVIDE:

- Better indoor air quality (HVAC)
- Added cooling and envelope improvements for better thermal comfort
- Better lighting from use of upgraded lighting systems
- Reduced air pollution by eliminating fossil fuel emissions from the air
- Allow for simultaneous work to address deferred maintenance
- Uphold values of equity and climate justice at PPS by giving priority to schools that serve low-income families and communities that have been historically underserved.

A healthier, more efficient future for PPS is within reach. The roadmap provides attainable goals for PPS to provide a healthier learning environment for students, teachers and the community. Our district is taking a holistic, data-driven approach to decarbonization—ensuring our buildings are not only reducing greenhouse gas emissions but also improving the learning environment for students and staff.

PPS assembled subject matter experts, stakeholders, and engaged community members to shape this plan. Not until after listening to these participants did the roadmap take shape. Incorporating community comments builds trust that PPS is after a goal that benefits the whole community. The roadmap then can be used to verify comments are included.

STORYTELLING

In the original proposal for the decarb plan, the decarbonization team had proposed to do a storytelling roadshow that moved around the district and showcased the outcomes of the plan. This included hands-on educational opportunities and short speaking engagements. However, with the low turnout of the in-person stakeholder engagement sessions, the team decided to pivot. The first pivot was to hold a webinar to show the community the outcomes and benefits of the plan. However, after that second meeting with the CCRC, it was recommended that the team develop a series of short informational videos instead. These videos show the three main parts of the roadmap process:

- What is decarbonization at PPS?
- What is the PPS Decarbonization Roadmap?
- What does the Decarbonization Roadmap mean for the PPS community?

The videos are meant to be watched consecutively but also can stand alone to explain the single concept highlighted in each video. These videos will be released in spring 2025 and promotion will be done across several platforms to disseminate them into the community.

TAKE-AWAYS

Through the process of developing the roadmap, four important takeaways became apparent:



PPS must electrify its building



Utilities must meet the state mandated emissions target of 100% fossil fuel free by 2040 for PPS to meet their targets.



PPS is on track to achieve the 2030 50% emissions reductions by modernizing the last three high school buildings.



Significant continued investment in decarbonization will be required for PPS to meet its 2040 goals.

By addressing these school sites, we can have a positive impact on the environment by reducing the emissions equivalent to annual operation of 6000 homes.

Schools are built to last for decades in communities – they are the pillars of our communities. These decarbonization approaches help maintain the unique historic school structures that are part of Portland’s culture while bringing them up to a modern standard that will last decades.

Upgrades of these schools provide tangible examples of how decarbonized spaces can positively impact communities, making these spaces accessible to all.

This approach showcases the leadership of the district to help lead the charge to decarbonize an entire community, city, or state. This roadmap also shows leadership in other school districts how they can improve their school buildings for better learning environments.



Appendix



Appendix: Roadmap Tool User Manual

Prioritization Tool Guide

OVERVIEW

The prioritization tool provides a way to score sites and rank their need for projects related to decarbonization. Sites are scored on 25 characteristics in 4 categories based on data from a variety of sources, including enrollment reports, Tririga work order records, facility condition assessment data, utility bills, construction records, airflow testing reports, Justice 40 information, and Multnomah County's heat vulnerability data. The higher the score, the higher the priority for receiving upgrades related to decarbonization.

CHARACTERISTIC SCORING

The following is a list of all the characteristics that are included in the prioritization scoring and how they are scored.

Facility Type: The score is based on what type of facility each site is.

- Closed = 0
- Leased = 1
- Admin = 3
- Alternative = 4
- School = 5

Building Area: The score is based on the area of the building(s) at the site.

- 0 to 65,248 square feet = 3
- 65,249 square feet and up = 5

of Students: The score is based on enrollment data from the '23-'24 school year.

- 0 = 0
- 1 to 300 = 2
- 301 to 350 = 4
- 351 to 500 = 6

- 501 to 900 = 8
- 901 and up = 10

Active Work Orders: The score is based on the number of active work orders in the Tririga system on 6/14/2024.

- 0 to 6 = 0
- 7 to 13 = 1
- 14 to 19 = 2
- 20 to 24 = 3
- 25 to 30 = 4
- 31 and up = 5

Cumulative Work Orders: The score is based on the number of cumulative work orders in the Tririga system from 1/1/22 to 6/14/2024.

- 0 to 150 = 1
- 151 to 240 = 3
- 241 to 320 = 5
- 321 to 375 = 7
- 376 to 425 = 8
- 426 to 550 = 9
- 551 and up = 10

Facility Condition Characteristics – Air Handler Condition, Central Plant Condition, Domestic Hot Water Condition, HVAC Controls Condition, Lighting Condition, Roof Condition, Window Condition, Other Envelope Condition: These 8 characteristics were all scored the same way. A baseline ranking was set from the most recent Facility Condition Assessment report and then modifications were made by staff and contractor knowledgeable of the current state of the facilities. The rankings were set from 0 to 5 with the following logic:

- 0 = modernized (or is planned for modernization soon)
- 2 = not modernized and not beyond its useful life
- 3 = a mix of some components being beyond and some not beyond their useful lives and in good condition
- 4 = beyond its useful life and in okay condition
- 5 = beyond its useful life and in bad condition

These rankings were converted to scores based on the maximum points for each characteristic. Air Handlers and Central Plants both have a maximum score of 10 points, so their ranking is multiplied by 2 to get the score. The rest have a maximum score of 5, so their ranking is the score.

Fiscal Year '22-'23 Greenhouse Gas Emissions: The score is based on the site's tons of CO2 equivalent emissions calculated from the FY '22-'23 annual electrical and natural gas use at the site. Emission coefficients from the site's utilities were used to convert from kWh and therms to CO2 equivalent.

- 0 to 115 = 2
- 116 to 190 = 6
- 191 to 250 = 10
- 251 to 300 = 14
- 301 to 400 = 16
- 401 to 600 = 18
- 601 and up = 20

Change in Emissions: The score is based on the change in emissions from Fiscal Year '21-'22 to Fiscal Year '22-'23 (as calculated per the above process).

- -100% to -25% = 2
- -25% to -10% = 4
- -10% to 10% = 6
- 10% to 50% = 8
- 50% and up = 10

Infiltration Factor: The score is based on a Low, Mid, to High ranking of how tight the building envelope is. If the site has been modernized, it is Low. If the site was constructed after 1965, it is Mid. All other sites are High.

- Low = 0
- Mid = 3
- High = 5

Airflow: The score is based on data from the 2021 airflow reports. It uses the percentage of zones that were measured and received an Equivalent Air Changes per Hour greater than 0 but less than 3.

- 0% to 20% = 1
- 20% to 40% = 2
- 40% to 60% = 3
- 60% to 80% = 4
- 80% to 100% = 5

HVAC Filtration Level: The score is based on known information about the HVAC equipment and the installed air filters. If the HVAC system has been modernized, it is identified as New Equipment. If it is not new but the filters have been replaced with MERV

13 filters, it is identified as Retrofitted. All other equipment is identified as having less than MERV 13 filtration.

- New Equipment = 0
- Retrofitted = 3
- Less than MERV 13 = 5

Has Mechanical Cooling: The score is based on known information about which sites have mechanical cooling systems. A site is considered to have mechanical cooling only if a majority of the facility has it. Localized cooling for server rooms or other individual spaces does not count as the site having cooling.

Yes = 0 | No = 5

Has Gas Cooking: The score is based on known information about which sites have a kitchen that has been fully electrified.

Yes = 0 | No = 5

CSI, TSI, Title 1: The score for each of these characteristics is based on whether the site meets the criteria to be classified as a CSI, TSI, or Title 1 school.

No = 0 | Yes = 10

Justice 40: The score is based on whether or not the site is located within a Disadvantaged Community census tract. This is identified by entering the address for each site into the Climate and Economic Justice Screening Tool located at: <https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>. Disadvantaged communities are those that "...are economically disadvantaged and overburdened by pollution and underinvestment in housing, transportation, water and wastewater infrastructure, and health care. A community qualifies as 'disadvantaged' if the census tract is above the threshold for one or more environmental or climate indicators and the tract is above the threshold for the socioeconomic indicators."

No = 0 | Yes = 5

Heat Island Impact: The score is based on whether or not the site is located within a heat vulnerable area according to the Multnomah County Heat Index assessment:

<https://multco.us/news/heat-vulnerability-index-released-multnomah-county-health-department>

- 0 to 20% = 2
- 20% to 40% = 4
- 40% to 60% = 6
- 60% to 80% = 8
- 80% to 100% = 10

CATEGORY SCORING

The individual characteristics are combined into the categories of General, Facility Condition Assessment (FCA), Health, and Equity. The following table shows the characteristics, the categories, and the maximum score for each characteristic.

| CHARACTERISTIC | CATEGORY | MAX SCORE |
|--------------------------|----------|-----------|
| Facility Type | General | 5 |
| Building Area | General | 5 |
| Number of Students | General | 5 |
| Active Work Orders | General | 10 |
| Cumulative Work Orders | General | 10 |
| AHU Conditions | FCA | 10 |
| General Plant Condition | FCA | 10 |
| DHW Condition | FCA | 5 |
| HVAC Control Condition | FCA | 5 |
| Lighting Condition | FCA | 5 |
| Roof Condition | FCA | 5 |
| Window Condition | FCA | 5 |
| Other Envelope Condition | FCA | 5 |
| FY'22-'23 Emissions | FCA | 10 |
| Change in Emissions | FCA | 5 |
| Infiltration Factor | IEQ | 10 |
| Airflow | IEQ | 5 |
| HVAC Filtration Level | IEQ | 5 |
| Has Mechanical Cooling | IEQ | 10 |
| Has Gas Cooking | IEQ | 5 |
| CSI | Equity | 5 |
| TSI | Equity | 5 |
| Title 1 | Equity | 5 |
| Justice 40 | Equity | 5 |
| Heat Island Impact | Equity | 5 |

The raw score of the characteristics in each category are totaled and then a weighting factor is applied to produce each site's category score, so that the maximum score of all the categories together is 100. The weighting factors for each category are:

- General = 10
- FCA = 45
- Health = 30
- Equity = 15

The following is an example for the General category given the following characteristic scores:

- Facility Type = 5
- Building Area = 3
- # of Students = 6
- Active Work Orders = 4
- Cumulative Work Orders = 5
- Unweighted General Score: $5 + 3 + 6 + 4 + 5 = 23$
- Weighted General Score: $23 \div 35 \times 10 = 6.6$

OVER ALL SCORING

All the weighted category scores for each site are added together to get the site's overall score.

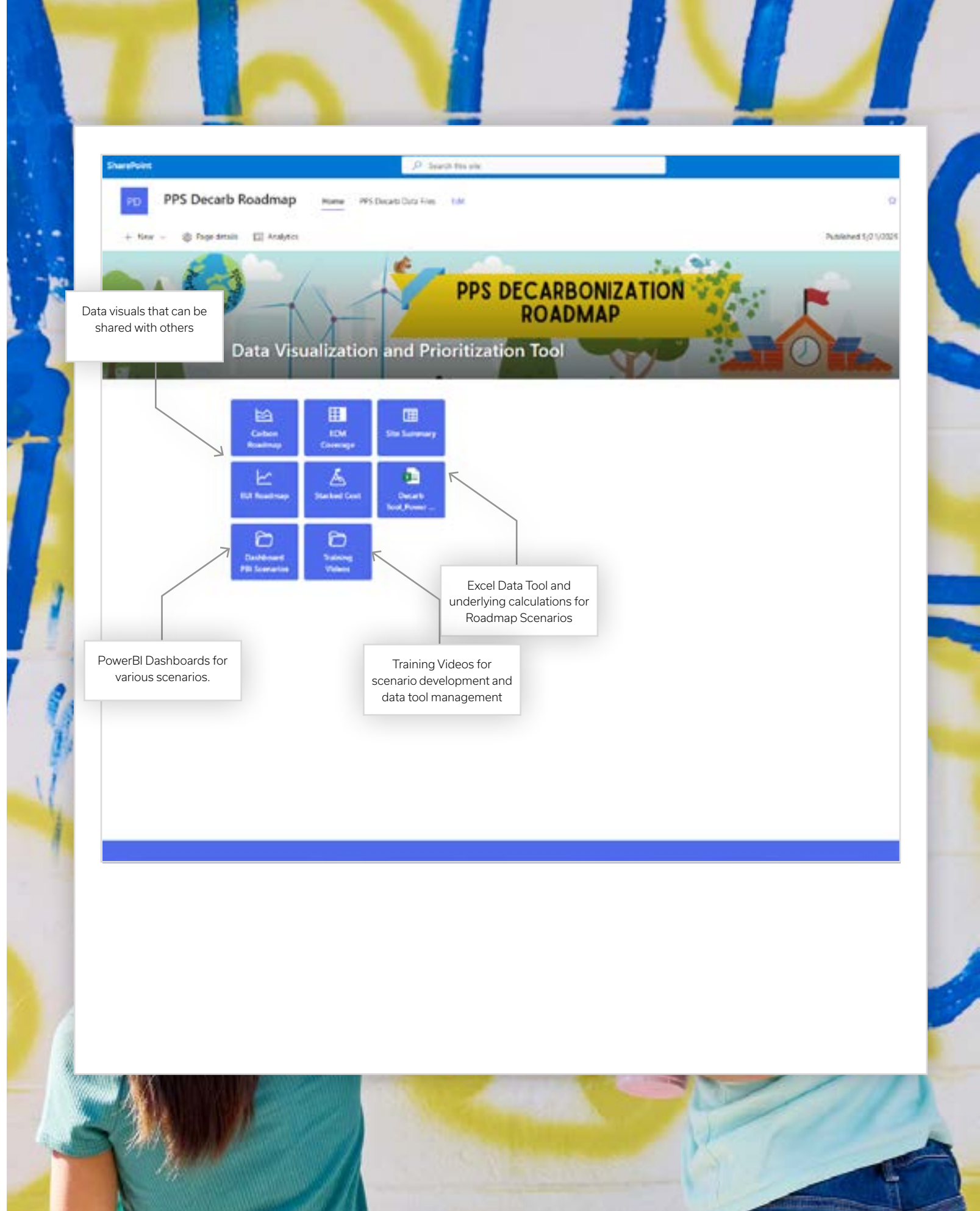
Roadmap Tool Guide

The Roadmap Tool is currently housed on a PPS SharePoint with access provided to key stakeholders.

Training for the basic tool functions and routine update processes have been conducted via teams calls with the design team and PPS.

Recordings of these training have been saved to the PPS SharePoint site for future reference.

The following infographic provides a reference to the key SharePoint site links.



Appendix: Measure Details

ROOF UPGRADE

- Insulating existing roof to current code minimum (R-30 c.i. above deck or R-49 batt in attic)
- Emissions impact estimate based on level of existing insulation
- Does not apply to modernized buildings

WINDOW UPGRADE

- Upgrading windows to current code minimum (U-0.36 | SHGC-0.33)
- Emissions impact estimate based on existing window conditions
- Does not apply to modernized buildings

WALL UPGRADE

- Upgrading walls to current code minimum (U-0.064)
- Emissions impact estimate based on existing wall conditions
- Does not apply to modernized buildings

AIR SEALING

- Air pressurization testing and smoke tracing to identify problem areas. Likely remediation includes new weatherstripping for windows and doors. Caulking and sealing joints and penetrations (where feasible)
- Emissions impact estimate based on level of existing infiltration
- Does not apply to modernized buildings

LIGHTING UPGRADE

- Base measure is retrofitting existing fixture with LED bulbs (already complete for most schools). Advanced measure is for modernizations with new lighting fixtures and controls.
- Emissions impact estimate depends on retrofit versus replacement (currently planned measures are for retrofit, holistic decarb implementations will include replacement)
- Does not apply to modernized buildings

HEATING ELECTRIFICATION - HYBRID HP-ER

- New air-source VAV AHUs with electric reheat terminal units
- Emissions impact estimate based on average estimated efficiency of 2 COP
- Inclusive of Cooling addition and filtration
- Can be applied with heat recovery ventilation

HEATING ELECTRIFICATION - AIR-SOURCE

- New hydronic air-source heating and cooling plant and VAV distribution system
- Emissions impact estimate based on average estimated efficiency of 3 COP
- Inclusive of Cooling addition and filtration
- Can be applied with heat recovery ventilation

HEATING ELECTRIFICATION - WATER-SOURCE

- New hydronic ground-source heating and cooling plant and VAV distribution system
- Emissions impact estimate based on average estimated efficiency of 4 COP
- Inclusive of Cooling addition and filtration
- Can be applied with heat recovery ventilation

WATER HEATING ELECTRIFICATION - ER

- New electric tank water heating system
- Emissions impact estimate based on (1) COP efficiency

WATER HEATING ELECTRIFICATION - HP

- New remote condenser central heat pump water heating
- Emissions impact estimate based on (3) COP efficiency

COOKING ELECTRIFICATION

- Replacing all existing gas cooking equipment with all electric alternatives
- Emissions impact estimate based on efficiency difference between standard gas and standard electric cooking equipment (measure does not assume induction cooktops)

CONTROLS UPGRADE/RCX

- Existing Ameresco scope for upgrading pneumatic controls to DDC and commissioning of control systems.
- Emissions impact estimate based on typical heating and fan system reductions associated with this type of upgrade.

HEAT RECOVERY VENTILATION

- Heat recovery added-on for new AHUs
- Emissions impact estimate based on typical heating load reduction in a school building
- Does not apply to modernized buildings

COOLING ADDITION

- Addition of air-cooled (DX) cooling equipment
- Emissions impact estimate based on typical cooling EUI for schools with AC
- Zero cost when applied with heating electrification (inclusive of those costs)

FILTRATION UPGRADE

- Increased filtration level up to MERV-13
- Emissions impact estimate based on additional fan energy estimate

NEW ROOFTOP PV

- New rooftop PV system sized to meet 1.5% Green Energy Technology allocation for any project estimated at \$5M or greater.
- Array sized based on \$3.5/W cost
- Emissions impact estimate based on average Portland area solar energy production rate of 1050 kWh/kW.

NEW PV CANOPY

- New parking or covered play PV canopy system
- Array sized based on \$6/W cost (inclusive of canopy structure)
- Emissions impact estimate based on average Portland area solar energy production rate of 1050 kWh/kW.

Appendix: Measure Costing Details

COST ASSUMPTIONS BY MEASURE

ROOF UPGRADE:

- The ROM cost estimate was prepared leaning on recent construction experience at PPS (Lent Elementary School), where \$/SF values were broken out in the detailed pricing estimates for the VRF upgrade project.
- The basis of this measure assumes insulating the existing roof to the current code minimum (R-30 c.i. above deck or R-49 in attic).
- We carried an estimated hard cost of \$6.55/SF and a soft cost multiplier of 1.4 to arrive at a \$9.17/SF cost estimate for scenario modeling.

WINDOW UPGRADE:

- The ROM cost estimate was prepared leaning on recent construction experience at PPS (Lent Elementary School), where the window replacement costs were broken out in detail as part of the VRF upgrade project.
- The basis of this measure assumes upgrading windows to current code minimum (U-0.36 | SHGC-0.33).
- We carried an estimated hard cost of \$11.58/SF and a soft cost multiplier of 1.4 to arrive at a \$16.21/SF cost estimate for scenario modeling.

WALL UPGRADE:

- The ROM cost estimate was prepared using RS Means.
- The basis of this measure assumes installing additional insulation throughout to ensure walls are upgraded to the current code minimum (R-21).
- We carried an estimated hard cost of \$25.50/SF and a soft cost multiplier of 1.4 to arrive at a \$35.70/SF cost estimate for scenario modeling.

AIR SEALING:

- The ROM cost estimate was prepared using RS Means.
- The basis of this measure assumes remediation of any identified problem areas including weatherstripping for windows and doors, as well as caulking and sealing joints and penetrations where feasible. Studies suggest that most air leaks in K-12 schools are from roofs, walls, and doors (84%). While there may be some small efficiencies gained from upgrades to each of those items, we produced pricing as a standalone measure at this time.
- We carried an estimated hard cost of \$2.29/SF and a soft cost multiplier of 1.4 to arrive at a \$3.21/SF cost estimate for scenario modeling.

LIGHTING UPGRADE (BASE):

- The ROM cost estimate was prepared leaning on recent Ameresco construction experience across the PPS School District, where audits or construction has taken place accounting for over 60% of all gross floor area.
- The basis of this measure is to retrofit existing fixtures with T-LED bulbs (or similar). For all sites audited or upgraded, the average cost has been \$1.32/SF. Whereas, the most recent 15-20 sites have come in closer to \$1.58/SF.
- We carried an estimated hard cost of \$1.50/SF and a soft cost multiplier of 1.4 to arrive at a \$2.10/SF cost estimate for scenario modeling.

LIGHTING UPGRADE (ADVANCED):

- The ROM cost estimate was prepared leaning on Ameresco's significant construction experience with LED Lighting Replacements in other K-12 School Districts, both locally and nationally.
- The basis of this measure is to replace fixtures with new LED fixtures and controls.
- We carried an estimated hard cost of \$3.50/SF and a soft cost multiplier of 1.4 to arrive at a \$4.90/SF cost estimate for scenario modeling.

HEATING ELECTRIFICATION - HYBRID HP-ER:

- The ROM cost estimate was prepared leaning on Ameresco's significant construction experience with HVAC equipment upgrades in other K-12 School Districts, both locally and nationally. For reference, Ameresco also received budgetary pricing from Trane regarding air source heat pump RTUs (10 Ton Budget: \$18,000 and 3 Ton Budget: \$8,520) for PPS's recent Harrison Park project.
- The basis for this measure is to install air-source VAV AHUs with electric reheat terminal units, inclusive of cooling addition and filtration.
- We carried an estimated hard cost of \$42.00/SF and a soft cost multiplier of 1.4 to arrive at a \$58.80/SF cost estimate for scenario modeling.

HEATING ELECTRIFICATION - AIR-SOURCE:

- The ROM cost estimate was prepared leaning on recent Ameresco construction experience at PPS, where \$/SF values were broken out in line-item detail for Bridger and Kelly HVAC equipment upgrade projects. Additionally, the estimates were further refined using the 'Pay App' submittals.
- The basis for this measure is to install new air-to-water heat pumps and a heat recovery chiller to supply heated and cooled water to new DOAS units and/or AHUs, as well as the new fan coil units (FCUs) or variable air volume (VAV) systems installed throughout the schools.
- We carried an estimated hard cost of \$51.14/SF and a soft cost multiplier of 1.4 to arrive at a \$71.60/SF cost estimate for scenario modeling.

HEATING ELECTRIFICATION - WATER-SOURCE:

- The ROM cost estimate was prepared leaning on Ameresco's and PAE's collective experience where \$/SF values were estimated to account for the additional complexity of installing ground-source, water-to-water, systems.
- The basis for this measure is to install a new hydronic ground-source heating and cooling plant with a VAV distribution system, inclusive of cooling and filtration.
- We carried an estimated hard cost of \$61.37/SF and a soft cost multiplier of 1.4 to arrive at a \$85.92/SF cost estimate for scenario modeling.

WATER HEATING ELECTRIFICATION - ER:

- The ROM cost estimate was prepared using RS Means and Industry Sources including Energy Star and the Advanced Water Heating Initiative (AWHI).
- The basis for this measure is to install new electric resistance water heaters with tanks to satisfy domestic hot water requirements within schools and decouple from the air-side heating systems. Estimates were prepared based on a high school assuming 3-4 gallons per occupant per day (source: engineering toolbox).
- We carried an estimated hard cost of \$2.06/SF and a soft cost multiplier of 1.4 to arrive at a \$2.88/SF cost estimate for scenario modeling.

WATER HEATING ELECTRIFICATION - HP:

- The ROM cost estimate was prepared using RS Means and Industry Sources including Energy Star and the Advanced Water Heating Initiative (AWHI).
- The basis for this measure is to install new heat pump water heaters with tanks to satisfy domestic hot water requirements within schools and decouple from the air-side heating systems. Estimates were prepared based on a high school assuming 3-4 gallons per occupant per day (source: engineering toolbox).
- We carried an estimated hard cost of \$5.14/SF and a soft cost multiplier of 1.4 to arrive at a \$7.20/SF cost estimate for scenario modeling.

COOKING ELECTRIFICATION:

- The ROM cost estimate was prepared leaning on Ameresco's and PAE's collective experience, including recent design work at PPS Benson Polytechnic High School, and extensive research online of equipment.
- The basis for this measure is to replace all existing gas cooking, heating, and storage equipment with all electric alternatives. This included costs for hot plates, combo ovens with steamers, an electric range, steam kettle with full jacket, tilt skillet, convection ovens, insulated proofing cabinets, drop-in food wells and warming shelves, and a rapid cook oven. For more details, see Benson Design.

Appendix: Measure Costing Details

- Cost estimates for labor assume the installation of new electrical equipment and branch wiring estimated at a 1:1 ratio with material costs.
- We carried an estimated hard cost of \$2.19/SF and a soft cost multiplier of 1.4 to arrive at a \$3.06/SF cost estimate for scenario modeling.

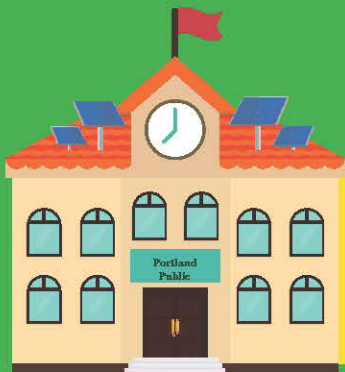
CONTROLS UPGRADE/RCX:

- The ROM cost estimate was prepared leaning on Ameresco's significant construction experience in upgrading pneumatic controls to DDC and performing retro-commissioning in several PPS schools. Fees have ranged from \$6-15 per SF based on school size and complexity of the upgrade.
- We carried an estimated hard cost of \$10.64/SF and a soft cost multiplier of 1.4 to arrive at a \$14.90/SF cost estimate for scenario modeling.

HEAT RECOVERY VENTILATION: HEAT RECOVERY ADDED ON FOR NEW AHUS

- The ROM cost estimate was prepared leaning on recent construction experience at PPS (Lent Elementary School), where \$/SF values were broken out in the detailed pricing estimates for the VRF upgrade project.
- The basis of this measure is to install new AHUs with heat recovery systems.
- We carried an estimated hard cost of \$3.17/SF and a soft cost multiplier of 1.4 to arrive at a \$4.44/SF cost estimate for scenario modeling.

| MEASURE | ESTIMATE | SOURCE | COST SUMMARY |
|--|----------|----------|--|
| Roof Upgrade | \$9.17 | AMRC_K12 | ROM estimate using recent Ameresco construction experience at PPS (Lent) |
| Window Upgrade | \$16.21 | AMRC_K12 | ROM estimate using recent Ameresco construction experience at PPS (Lent) |
| Wall Upgrade | \$38.50 | RS Means | ROM estimate using RS Means |
| Air Sealing | \$3.21 | RS Means | ROM estimate using RS Means |
| Lighting Upgrade (Base) | \$2.10 | AMRC_K12 | ROM estimate using recent Ameresco construction experience at PPS (Multiple) |
| Lighting Upgrade (Advanced) | \$4.90 | AMRC_K12 | ROM estimate using recent construction experience in K-12 (local, national) |
| Heating Electrification Opt. 1 Hybrid HP-ER | \$58.80 | RS Means | ROM estimate using recent construction experience in K-12 (local, national) |
| Heating Electrification Opt. 2 Air-Source HP | \$71.60 | AMRC_K12 | ROM estimate using recent Ameresco construction experience at PPS (Bridger, Kelly) |
| Heating Electrification Opt. 3 Water-Source HP | \$85.92 | | ROM estimate using recent construction experience in K-12 (local, national) |
| HW Electrification - ER | \$2.88 | RS Means | ROM estimate using RS Means, Energy Star, and the AWHI |
| HW Electrification - HP | \$7.20 | RS Means | ROM estimate using RS Means, Energy Star, and the AWHI |
| Cooking Electrification | \$3.06 | Internet | ROM estimate utilizing Benson Polytechnic High School for reference (Benson) |
| Controls Upgrade / RCx | \$14.90 | AMRC_K12 | ROM estimate using recent Ameresco construction experience at PPS (Multiple) |
| Heat Recovery Ventilation | \$4.44 | AMRC_K12 | ROM estimate using recent Ameresco construction experience at PPS (Lent) |



PPS DECARBONIZATION ROADMAP

Be a part of PPS's decarbonization roadmap planning meetings!

During these sessions, attendees will be asked to provide their insights into how PPS can best reduce carbon emissions across the district.

We'll tackle questions together like:

- What does decarbonization at the district and these sites mean to you?
- How should PPS balance things like equity, cost, and efficiency?
- What parts of schools should we prioritize for upgrades first?

These questions will help PPS create a decarbonization plan that meets the needs of the community.



Energy
Efficiency



Building
Electrification



Renewable
Energy



Scan the QR code or go
to [PPS.net/energy](https://pps.net/energy) for
more information

*Translation available with virtual meeting,
please RSVP for service.*

Roosevelt and Jefferson Cluster

*Jefferson HS Cafeteria: 5210 N Kerby Ave
January 31, 5:30 - 6:30 PM*

Grant and McDaniel Cluster

*McDaniel HS: 2735 NE 82nd Ave
February 1, 5:30 - 6:30 PM*

Franklin Cluster

*Franklin HS Cafeteria: 5405 SE Woodward St
February 7, 5:30 - 6:30 PM*

Cleveland Cluster

*Cleveland HS Auditorium: 3400 SE 26th Ave
February 8, 5:30 - 6:30 PM*

Lincoln and Wells Cluster

*Lincoln HS Cafeteria: 1750 SW Salmon St
February 15, 5:30 - 6:30 PM*

Virtual Event

February 21, 12:00 - 1:00 PM

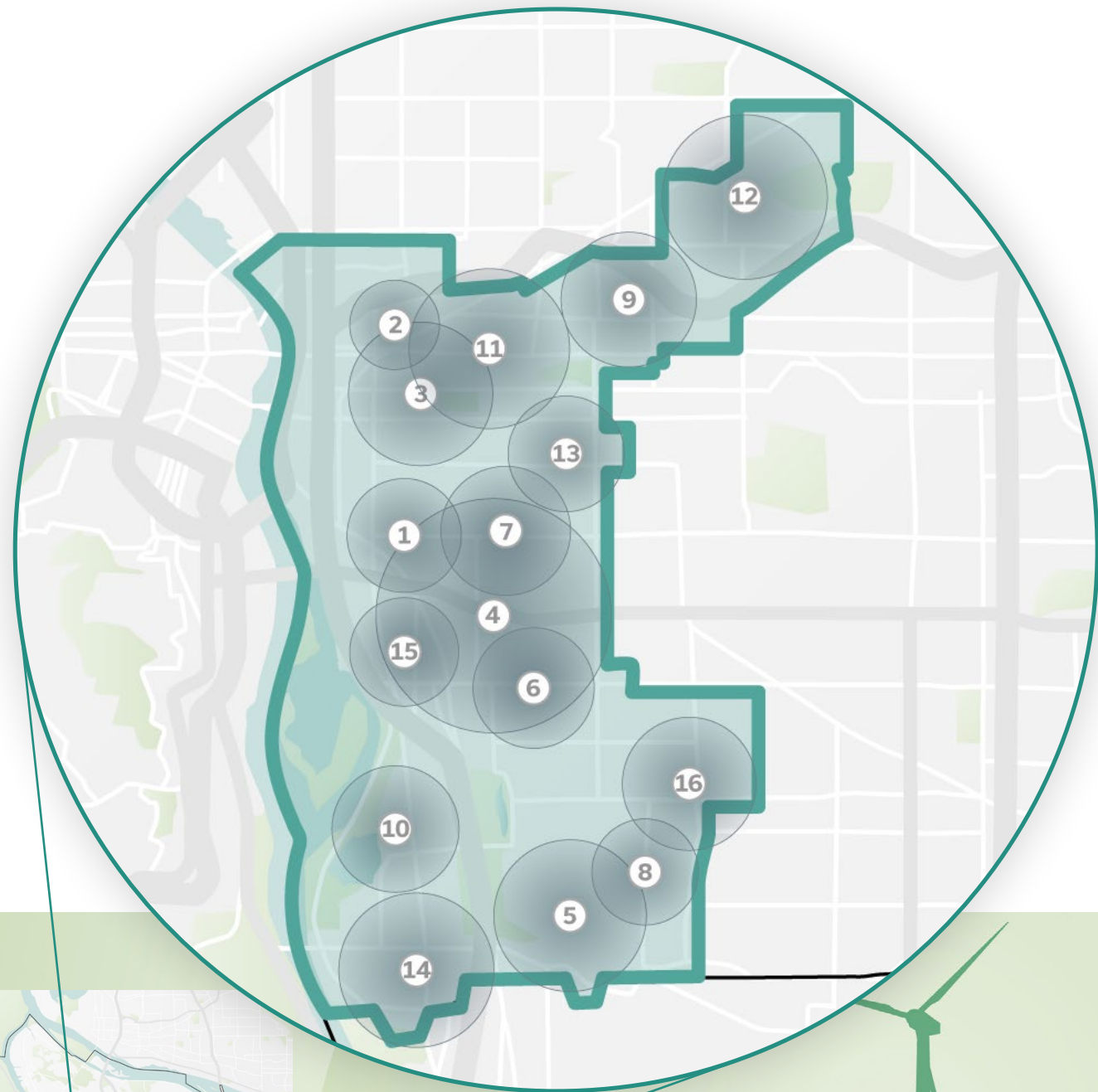
For more information, feedback,
or questions please email:
decarbonization@pps.net



Building our future together

Building Performance for Cleveland Cluster

PORTLAND PUBLIC SCHOOLS | 2022



| FACILITY | AREA (SF) | EUI (kBtu/SF/YR) | ENERGY COST (\$) | GAS EMISSIONS (MTCO ₂ E) | ELECTRIC EMISSIONS (MTCO ₂ E) | TOTAL EMISSIONS (MTCO ₂ E) | EMISSIONS INTENSITY (LBS CO ₂ E/SF) | WATER USE INTENSITY (GAL/SF) |
|-------------------------|-----------|------------------|------------------|-------------------------------------|--|---------------------------------------|--|------------------------------|
| 1 Abernethy | 48,246 | 73 | \$86,065 | 148 | 61 | 209 | 9.6 | 11.5 |
| 2 Benson (incl. KBPS)* | 445,656 | 60 | \$417,117 | 1,139 | 459 | 1,598 | 7.9 | 8.4 |
| 3 Buckman | 74,161 | 79 | \$96,680 | 278 | 55 | 333 | 9.9 | 5.4 |
| 4 Cleveland | 256,984 | 57 | \$295,847 | 586 | 300 | 886 | 7.6 | 5.2 |
| 5 Duniway | 68,775 | 96 | \$113,819 | 315 | 56 | 372 | 11.9 | 8.8 |
| 6 Grout | 73,066 | 56 | \$86,357 | 183 | 53 | 235 | 7.1 | 9.8 |
| 7 Hosford** | 88,532 | 53 | \$89,347 | 216 | 53 | 269 | 6.7 | 3.8 |
| 8 Lewis | 47,389 | 66 | \$73,209 | 138 | 44 | 182 | 8.5 | 6.4 |
| 9 Laurelhurst** | 59,239 | 86 | \$103,096 | 235 | 58 | 293 | 10.9 | 14.3 |
| 10 Llewellyn | 52,204 | 86 | \$86,309 | 204 | 53 | 258 | 10.9 | 9.2 |
| 11 da Vinci/Monroe | 88,659 | 83 | \$120,770 | 352 | 61 | 413 | 10.3 | 7.8 |
| 12 Rose City Park | 73,719 | 73 | \$91,052 | 238 | 198 | 437 | 13.1 | 3.8 |
| 13 Sunnyside | 56,245 | 66 | \$72,812 | 163 | 53 | 216 | 8.5 | 6.2 |
| 14 Sellwood | 87,364 | 75 | \$134,260 | 279 | 106 | 385 | 9.7 | 7.9 |
| 15 Winterhaven/Brooklyn | 41,345 | 80 | \$66,345 | 149 | 41 | 190 | 10.1 | 7.1 |
| 16 Woodstock | 65,221 | 77 | \$89,627 | 238 | 48 | 286 | 9.7 | 6.1 |
| Cluster Total | 1,626,805 | | \$2,022,712 | 4,861 | 1,701 | 6,561 | N/A | N/A |
| District Total | 9,065,846 | | \$12,197,485 | 22,581 | 18,113 | 40,694 | N/A | N/A |
| Cluster Average | 101,675 | 68 | \$107,040 | 248 | 83 | 331 | 9.3 | 7.0 |
| District Average | 88,018 | 62 | \$118,422 | 219 | 176 | 395 | 9.9 | 8.4 |

MAP KEY

- City of Portland Boundary
- Cluster Boundary
- Total Emissions MTCO₂E

* Energy and emissions calculated using 2018 AY data
 ** Electric emissions include offset from on-site PV

16

TOTAL BUILDINGS

6,561
MTCO₂E

TOTAL EMISSIONS

9.3

LBS CO₂E/SF

AVERAGE EMISSIONS INTENSITY

7.0

GAL/SF

AVERAGE WATER USE INTENSITY

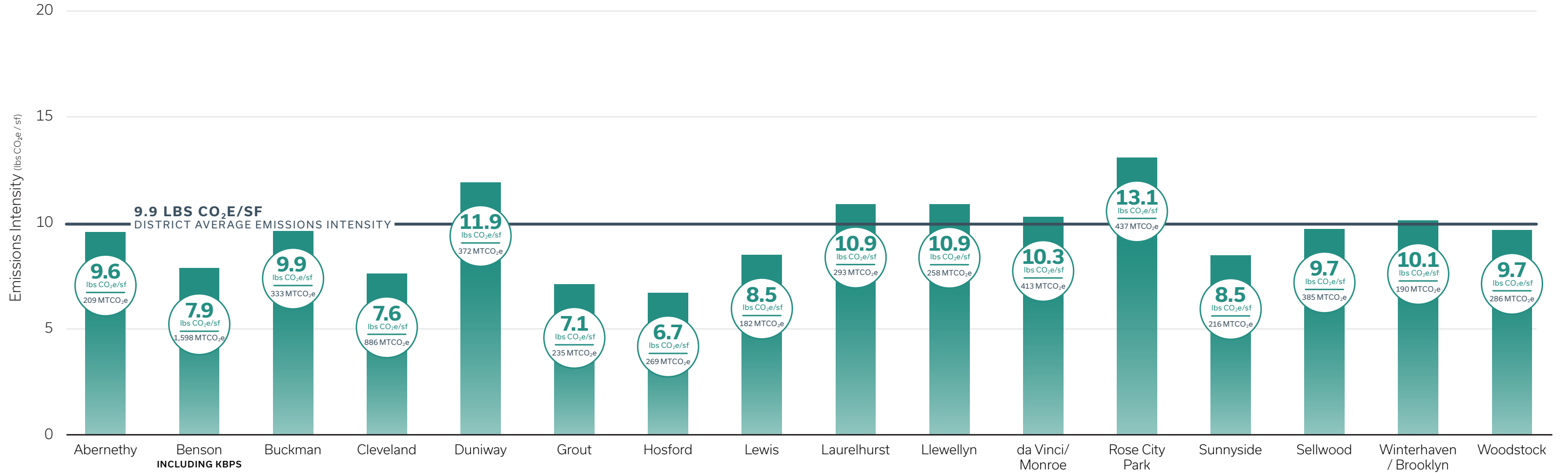
- The total emissions from these clusters account for roughly 16% of the total emissions for the district, with the average emissions intensities being roughly 10% lower than the district average.
- The school with the highest total emissions (Cleveland High School) is currently in the planning phase of a modernization project.
- Gas emissions account for the majority of emissions in 16/16 schools and electrifying gas equipment will have a significant impact in reducing these emissions, particularly as the electrical grid decarbonizes

KEY ABBREVIATIONS

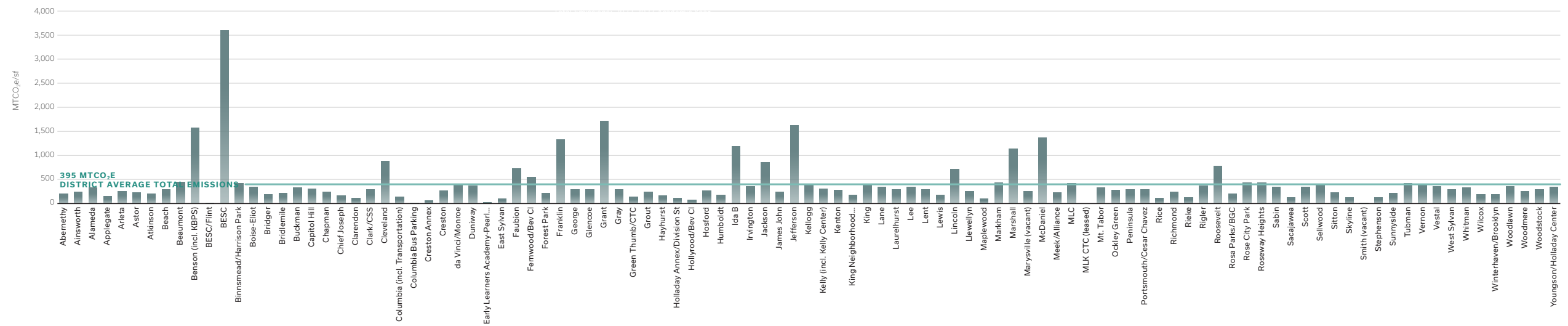
- EUI | Energy Use Intensity
- KBtu | Thousand British thermal units
- SF | square feet
- CO₂E | CO₂ equivalent
- MT | Metric Ton
- LBS | Pounds

Emissions Comparison for Cleveland Cluster

PORTLAND PUBLIC SCHOOLS



PORTLAND PUBLIC SCHOOL TOTAL EMISSIONS: 2022-2023 ACADEMIC YEAR





CLEVELAND CLUSTER



Abernethy Elementary School

BUILDING CONSTRUCTED: 1925

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

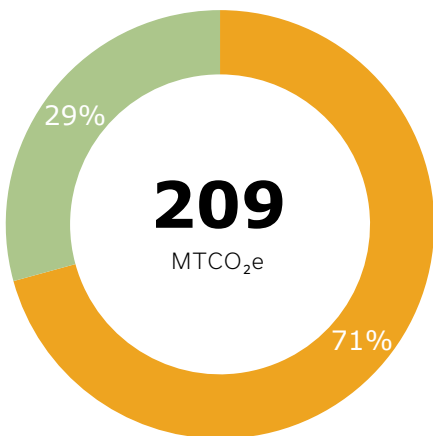
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

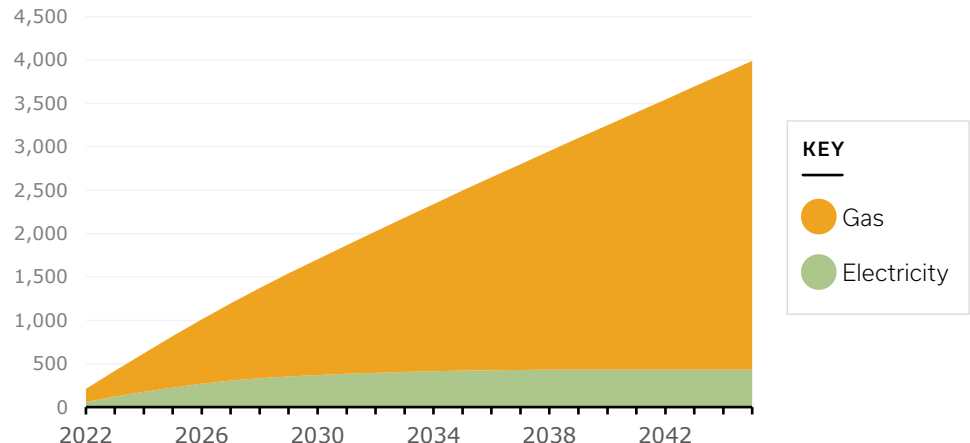
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 16) |
|----------------------------|--|-------------------------------|
| AREA | 48,246 SQUARE FEET | 14 |
| EUI | 73 kBTU/SF | 10 |
| ENERGY COSTS | \$86,065 | 13 |
| EMISSIONS | 209 MTCO ₂ e | 14 |
| EMISSIONS INTENSITY | 9.6 LBS-CO ₂ e/SF | 10 |
| WATER-USE INTENSITY | 11.5 GAL/SF | 2 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER

Benson Polytechnic High School

INCLUDING KBPS



BUILDING CONSTRUCTED: 1916 | MODERNIZATION CURRENTLY UNDERWAY

SUMMARY OF EXISTING CONDITIONS

- Large historic building with significantly aged equipment
- Space and DHW heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures

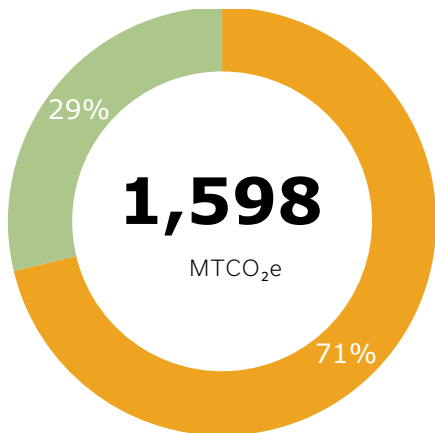
POTENTIAL OPPORTUNITIES

- Electrify all heating systems within the building
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
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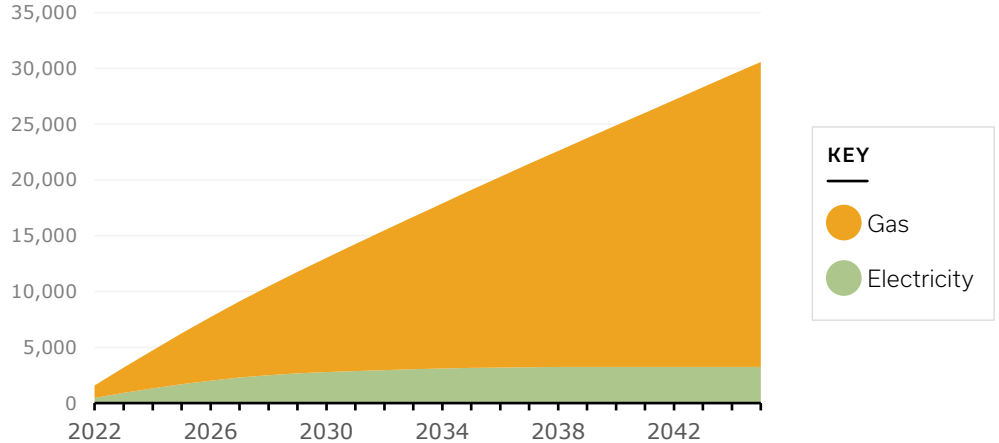
| | | RANKING* (OUT OF 16) |
|----------------------------|--|--------------------------------|
| AREA | 445,656 SQUARE FEET | 1 |
| EUI | 60 kBTU/SF | 13 |
| ENERGY COSTS | \$417,117 | 1 |
| EMISSIONS | 1,598 MTCO ₂ e | 1 |
| EMISSIONS INTENSITY | 7.9 LBS-CO ₂ e/SF | 13 |
| WATER-USE INTENSITY | 8.4 GAL/SF | 6 |

*Energy and emissions calculated using 2018 AY data

PROJECTED EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Buckman Elementary School

BUILDING CONSTRUCTED: 1922

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

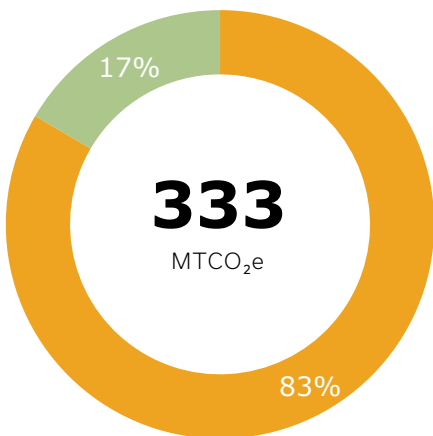
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
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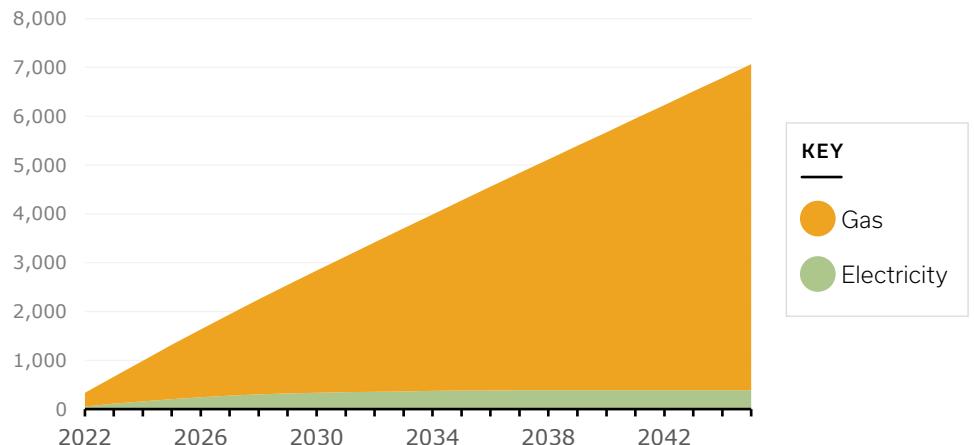
RANKING
(OUT OF 16)

| | | |
|----------------------------|--|-----------|
| AREA | 74,161 SQUARE FEET | 6 |
| EUI | 79 kBTU/SF | 6 |
| ENERGY COSTS | \$96,680 | 7 |
| EMISSIONS | 333 MTCO ₂ e | 7 |
| EMISSIONS INTENSITY | 9.9 LBS-CO ₂ e/SF | 7 |
| WATER-USE INTENSITY | 5.4 GAL/SF | 13 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Cleveland High School

BUILDING CONSTRUCTED: 1957

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

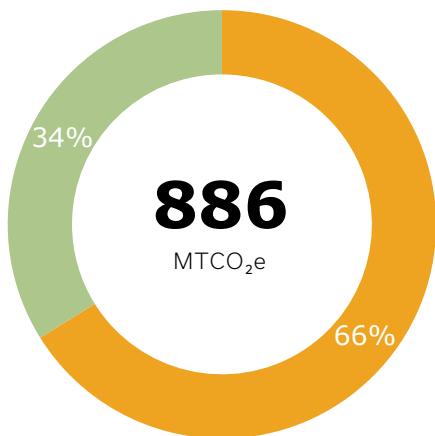
- Modernization design currently underway

POTENTIAL OPPORTUNITIES

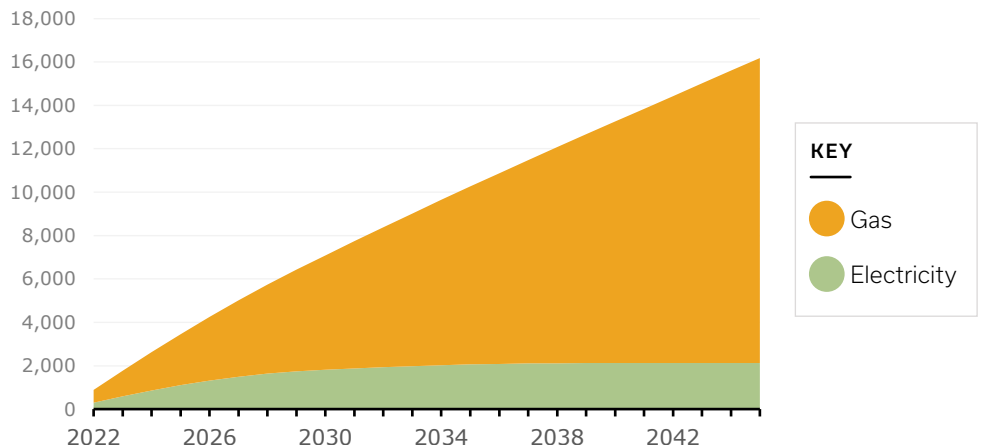
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
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| | | RANKING (OUT OF 16) |
|----------------------------|--|-------------------------------|
| AREA | 256,984 SQUARE FEET | 2 |
| EUI | 57 kBTU/SF | 14 |
| ENERGY COSTS | \$295,847 | 2 |
| EMISSIONS | 886 MTCO ₂ e | 2 |
| EMISSIONS INTENSITY | 7.6 LBS-CO ₂ e/SF | 14 |
| WATER-USE INTENSITY | 5.2 GAL/SF | 14 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLIMATE JUSTICE AND ENERGY & SUSTAINABILITY

CLEVELAND CLUSTER



Duniway Elementary School

BUILDING CONSTRUCTED: 1926

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

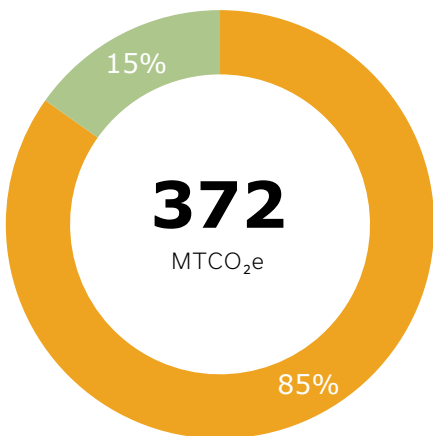
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

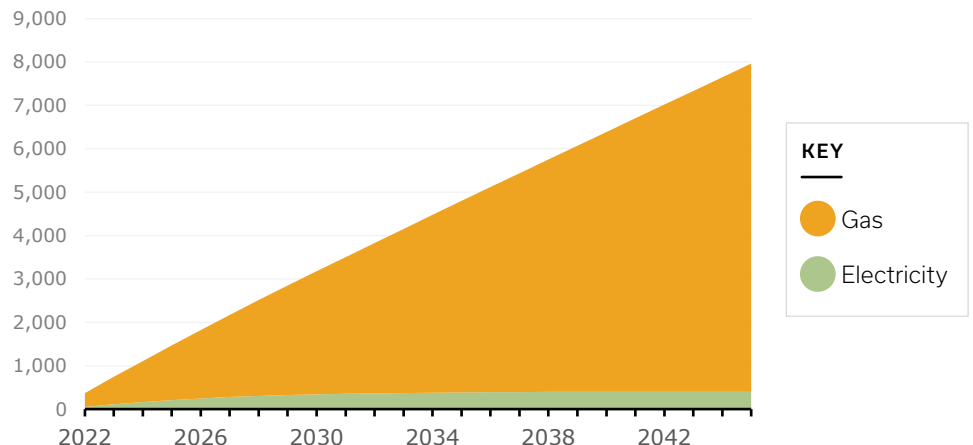
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 16) |
|----------------------------|---|-------------------------------|
| AREA | 68,775 SQUARE FEET | 9 |
| EUI | 96 kBTU/SF | 1 |
| ENERGY COSTS | \$113,819 | 5 |
| EMISSIONS | 372 MTCO ₂ e | 6 |
| EMISSIONS INTENSITY | 11.9 LBS-CO ₂ e/SF | 2 |
| WATER-USE INTENSITY | 8.8 GAL/SF | 5 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Grout Elementary School

BUILDING CONSTRUCTED: 1927

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

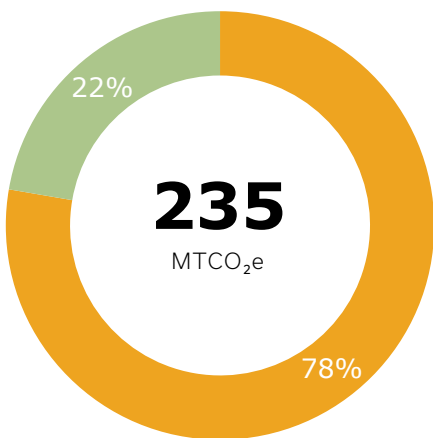
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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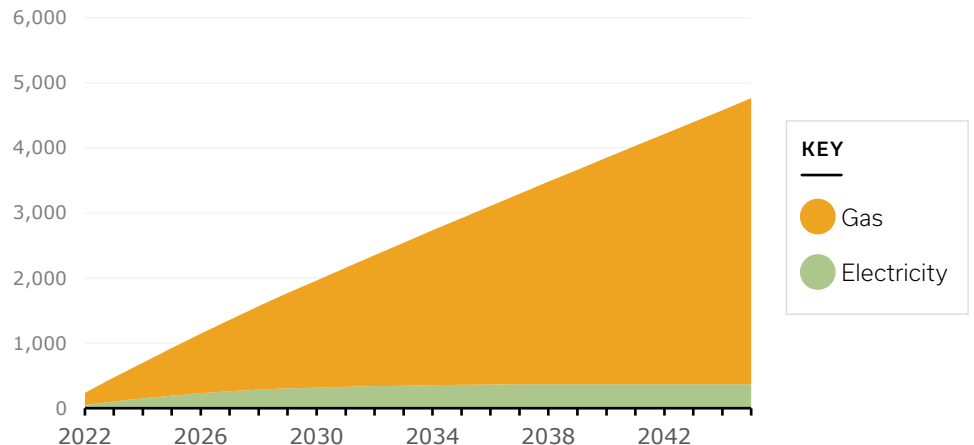
RANKING
(OUT OF 16)

| | | |
|----------------------------|--|-----------|
| AREA | 73,066 SQUARE FEET | 8 |
| EUI | 56 kBTU/SF | 15 |
| ENERGY COSTS | \$86,357 | 11 |
| EMISSIONS | 235 MTCO ₂ e | 12 |
| EMISSIONS INTENSITY | 7.1 LBS-CO ₂ e/SF | 15 |
| WATER-USE INTENSITY | 9.8 GAL/SF | 3 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Hosford Middle School

BUILDING CONSTRUCTED: 1925

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded
- On-site PV offsets electricity consumption

CURRENTLY PLANNED IMPROVEMENTS

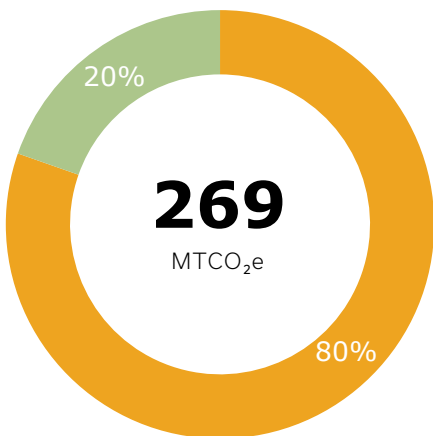
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

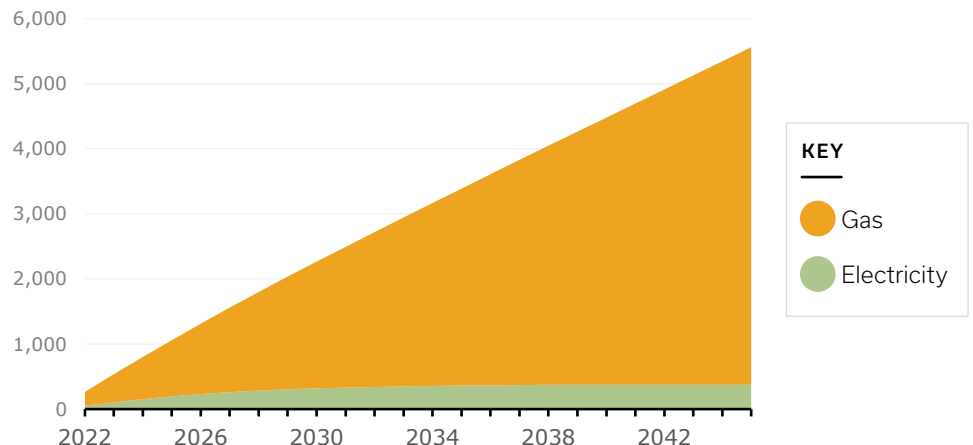
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Increased tree canopy and green space
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| AREA | VALUE | RANKING (OUT OF 16) |
|---------------------|---------------------------------|------------------------|
| AREA | 88,532 SQUARE FEET | 4 |
| EUI | 53 kBTU/SF | 16 |
| ENERGY COSTS | \$89,347 | 10 |
| EMISSIONS | 269 MTCO ₂ e | 10 |
| EMISSIONS INTENSITY | 6.7 LBS-CO ₂ e/SF | 16 |
| WATER-USE INTENSITY | 3.8 GAL/SF | 16 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Lewis Elementary School

BUILDING CONSTRUCTED: 1952

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

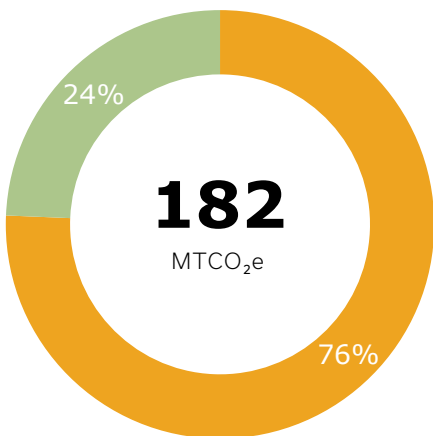
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

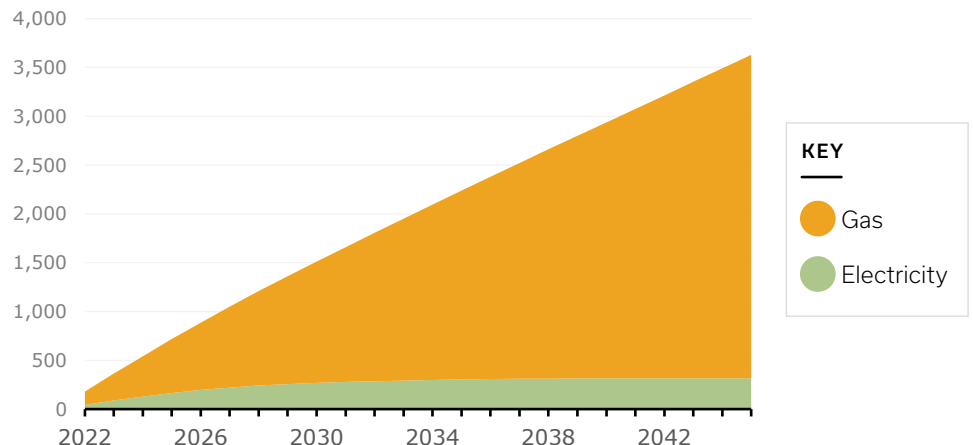
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 16) |
|----------------------------|--|-------------------------------|
| AREA | 47,389 SQUARE FEET | 15 |
| EUI | 66 kBTU/SF | 11 |
| ENERGY COSTS | \$73,209 | 14 |
| EMISSIONS | 182 MTCO ₂ e | 16 |
| EMISSIONS INTENSITY | 8.5 LBS-CO ₂ e/SF | 11 |
| WATER-USE INTENSITY | 6.4 GAL/SF | 10 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Laurelhurst Elementary School

BUILDING CONSTRUCTED: 1951

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded
- On-site PV offsets electricity consumption

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

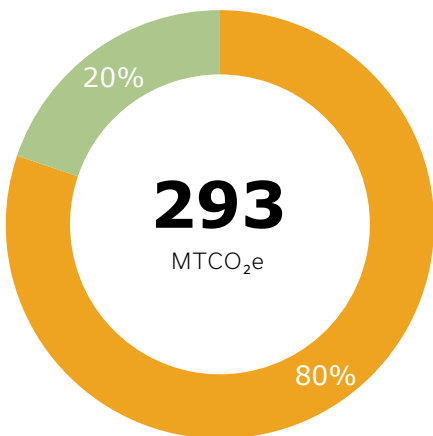
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Increased tree canopy and green space
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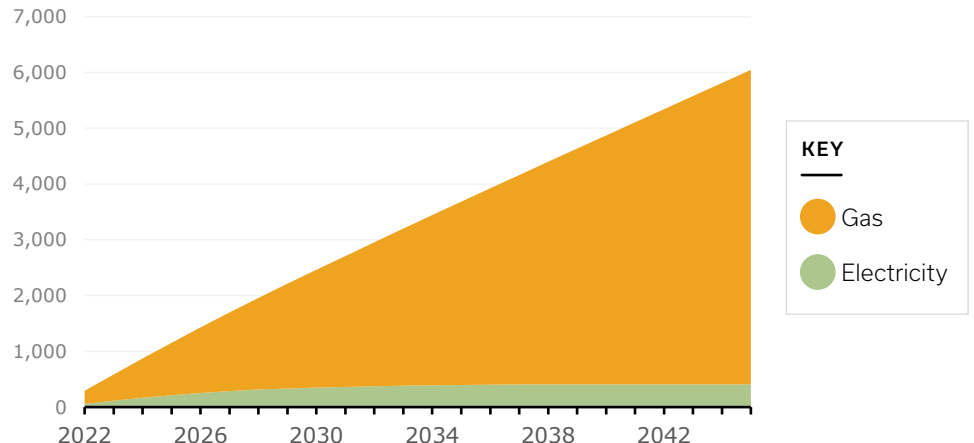
RANKING
(OUT OF 16)

| | | |
|----------------------------|---|-----------|
| AREA | 59,239 SQUARE FEET | 11 |
| EUI | 86 kBTU/SF | 2 |
| ENERGY COSTS | \$103,096 | 6 |
| EMISSIONS | 293 MTCO ₂ e | 8 |
| EMISSIONS INTENSITY | 10.9 LBS-CO ₂ e/SF | 3 |
| WATER-USE INTENSITY | 14.3 GAL/SF | 1 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Llewellyn Elementary School

BUILDING CONSTRUCTED: 1928

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

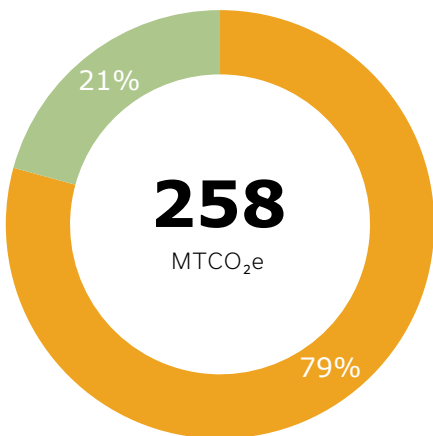
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

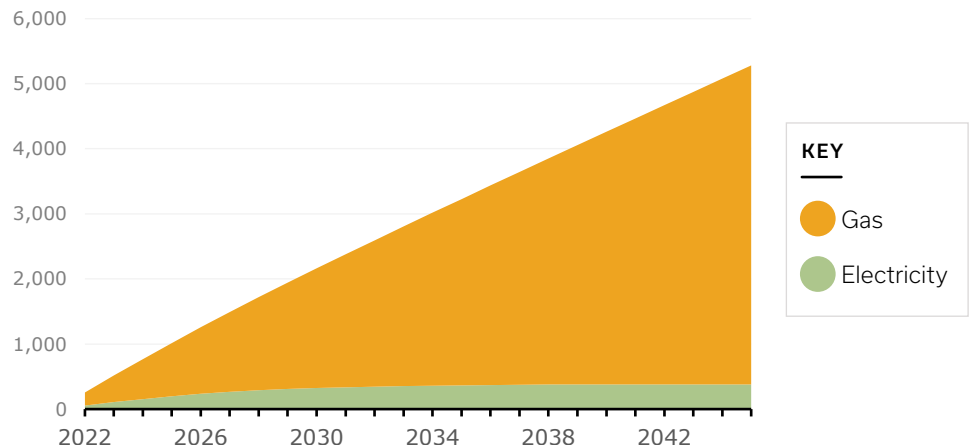
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 16) |
|----------------------------|---|-------------------------------|
| AREA | 52,204 SQUARE FEET | 13 |
| EUI | 86 kBTU/SF | 3 |
| ENERGY COSTS | \$86,309 | 12 |
| EMISSIONS | 258 MTCO ₂ e | 11 |
| EMISSIONS INTENSITY | 10.9 LBS-CO ₂ e/SF | 4 |
| WATER-USE INTENSITY | 9.2 GAL/SF | 4 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



da Vinci Arts Middle School

BUILDING CONSTRUCTED: 1928

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

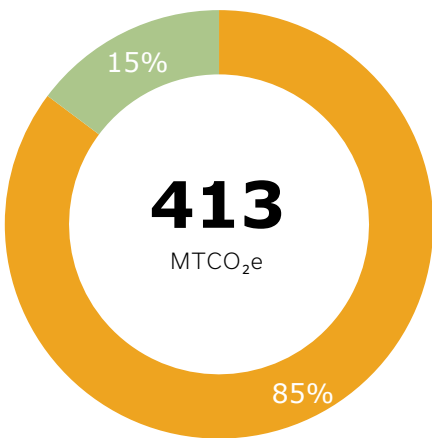
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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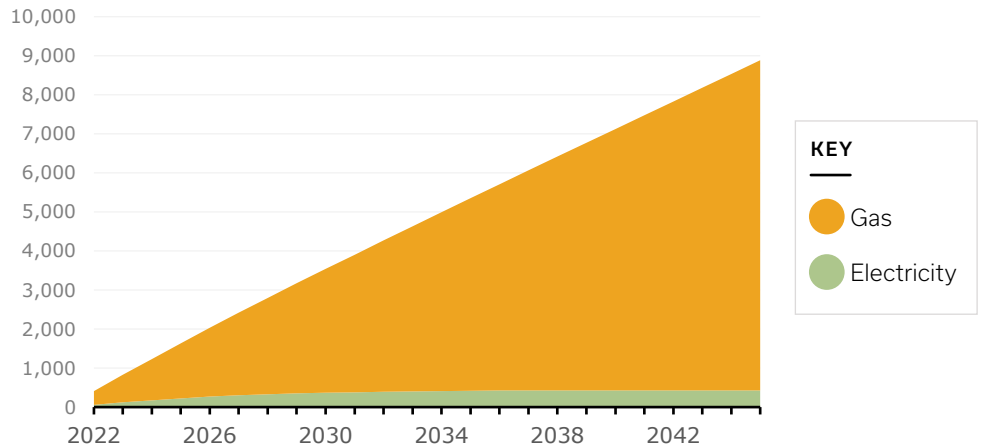
RANKING
(OUT OF 16)

| | | |
|----------------------------|---|----------|
| AREA | 88,659 SQUARE FEET | 3 |
| EUI | 83 kBTU/SF | 4 |
| ENERGY COSTS | \$120,770 | 4 |
| EMISSIONS | 413 MTCO ₂ e | 4 |
| EMISSIONS INTENSITY | 10.3 LBS-CO ₂ e/SF | 5 |
| WATER-USE INTENSITY | 7.8 GAL/SF | 8 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Rose City Park Elementary School

BUILDING CONSTRUCTED: 1912

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

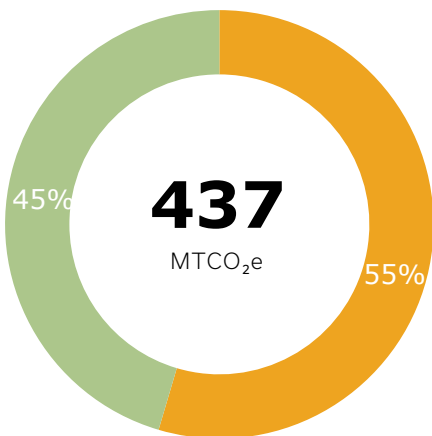
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

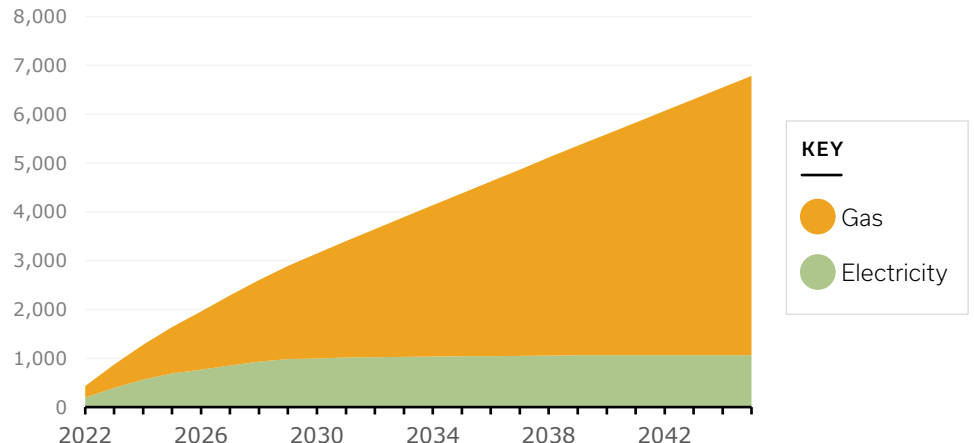
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-

| | | RANKING (OUT OF 16) |
|----------------------------|---|-------------------------------|
| AREA | 73,719 SQUARE FEET | 7 |
| EUI | 73 kBTU/SF | 9 |
| ENERGY COSTS | \$91,052 | 8 |
| EMISSIONS | 437 MTCO ₂ e | 3 |
| EMISSIONS INTENSITY | 13.1 LBS-CO ₂ e/SF | 1 |
| WATER-USE INTENSITY | 3.8 GAL/SF | 15 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



CLEVELAND CLUSTER



Sunnyside Environmental School

BUILDING CONSTRUCTED: 1925

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

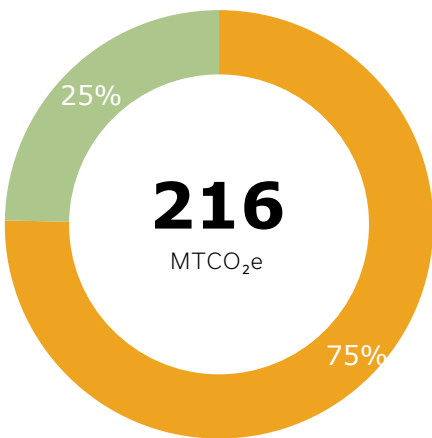
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

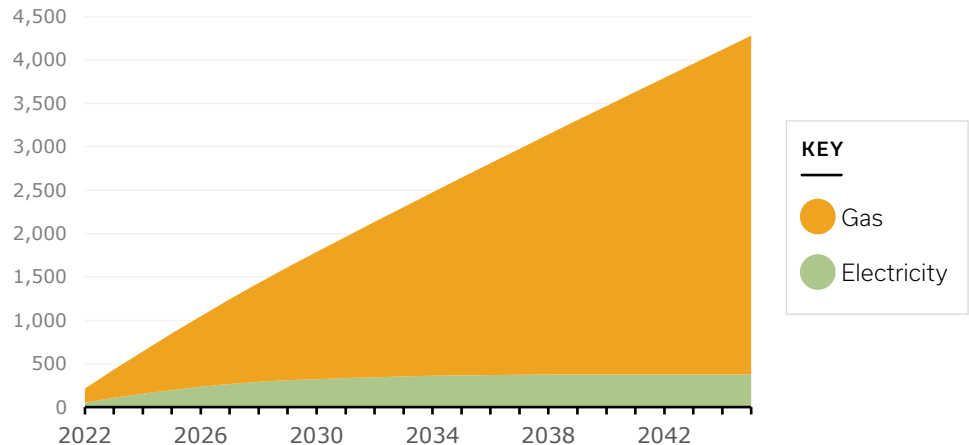
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | VALUE | RANKING (OUT OF 16) |
|---------------------|---------------------------------|------------------------|
| AREA | 56,245 SQUARE FEET | 12 |
| EUI | 66 kBTU/SF | 12 |
| ENERGY COSTS | \$72,812 | 15 |
| EMISSIONS | 216 MTCO ₂ e | 13 |
| EMISSIONS INTENSITY | 8.5 LBS-CO ₂ e/SF | 12 |
| WATER-USE INTENSITY | 6.2 GAL/SF | 11 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Sellwood Middle School

BUILDING CONSTRUCTED: 1914

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

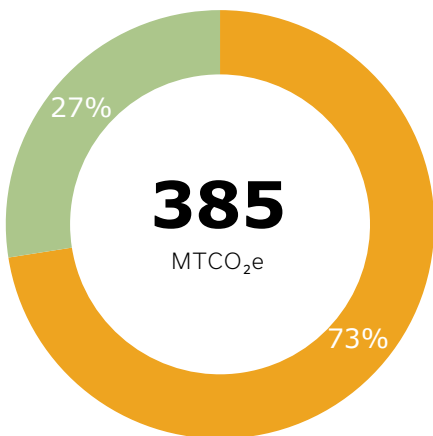
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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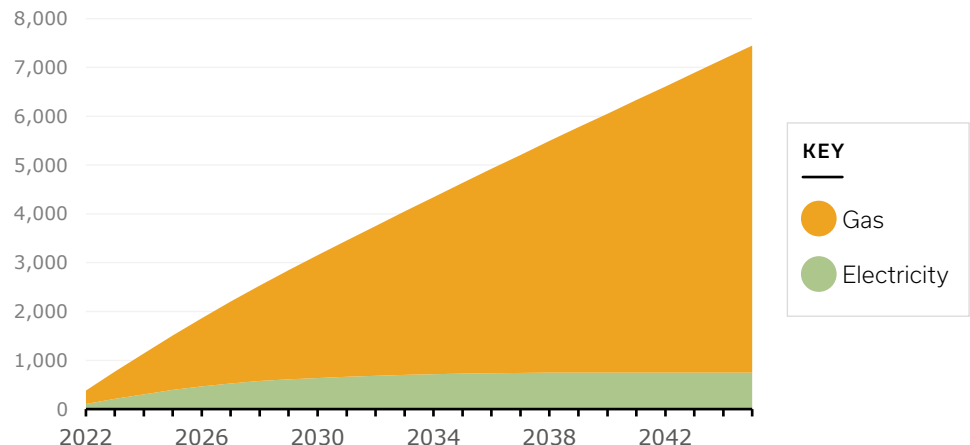
RANKING
(OUT OF 16)

| | | |
|----------------------------|--|----------|
| AREA | 87,364 SQUARE FEET | 5 |
| EUI | 75 kBTU/SF | 8 |
| ENERGY COSTS | \$134,260 | 3 |
| EMISSIONS | 385 MTCO ₂ e | 5 |
| EMISSIONS INTENSITY | 9.7 LBS-CO ₂ e/SF | 8 |
| WATER-USE INTENSITY | 7.9 GAL/SF | 7 |

ANNUAL EMISSIONS FOR 2022



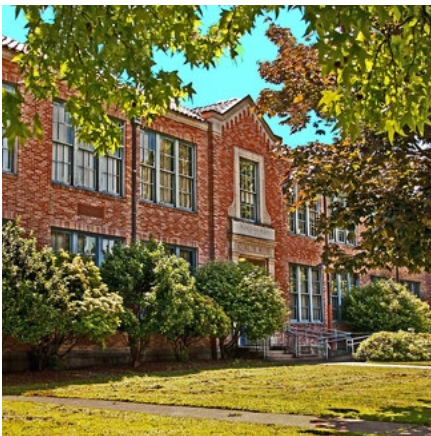
PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Winterhaven/Brooklyn Elementary School

BUILDING CONSTRUCTED: 1930

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

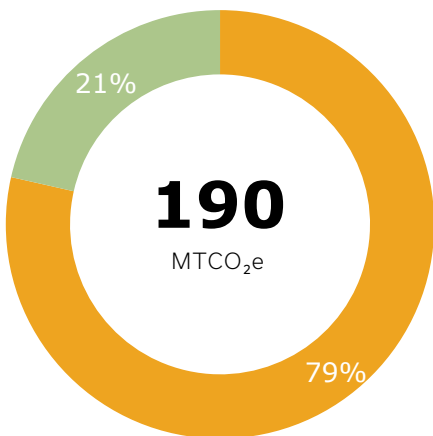
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

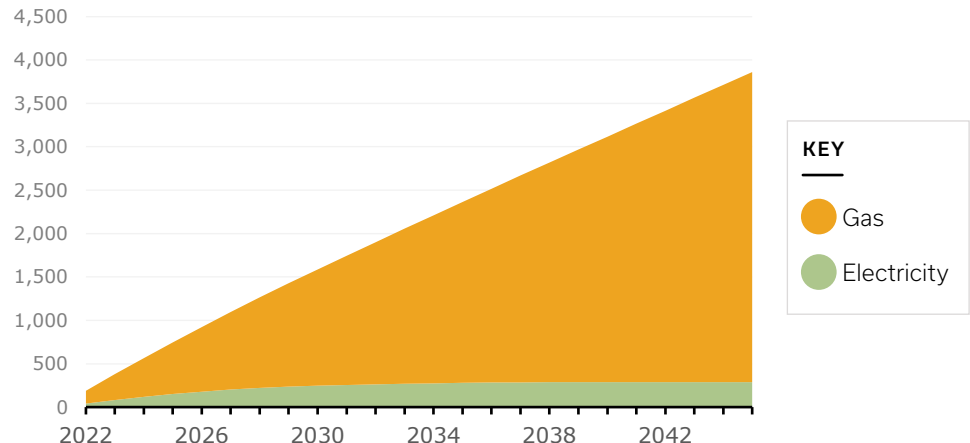
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 16) |
|---------------------|---|------------------------|
| AREA | 41,345 SQUARE FEET | 16 |
| EUI | 80 kBTU/SF | 5 |
| ENERGY COSTS | \$66,345 | 16 |
| EMISSIONS | 190 MTCO ₂ e | 15 |
| EMISSIONS INTENSITY | 10.1 LBS-CO ₂ e/SF | 6 |
| WATER-USE INTENSITY | 7.1 GAL/SF | 9 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLEVELAND CLUSTER



Woodstock Elementary School

BUILDING CONSTRUCTED: 1911

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

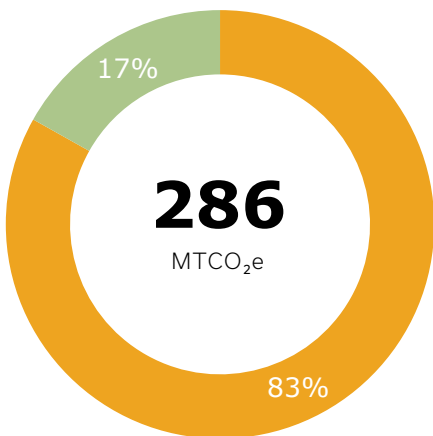
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

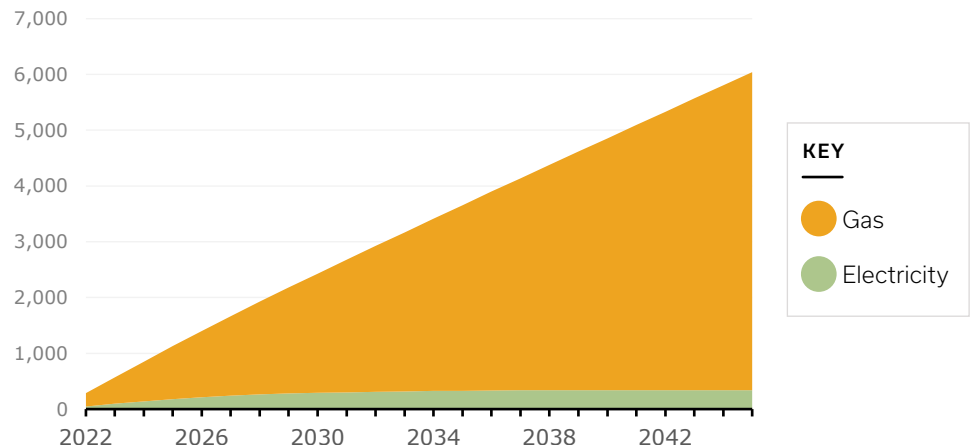
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | VALUE | RANKING (OUT OF 16) |
|---------------------|---------------------------------|------------------------|
| AREA | 65,221 SQUARE FEET | 10 |
| EUI | 77 kBTU/SF | 7 |
| ENERGY COSTS | \$89,627 | 9 |
| EMISSIONS | 286 MTCO ₂ e | 9 |
| EMISSIONS INTENSITY | 9.7 LBS-CO ₂ e/SF | 9 |
| WATER-USE INTENSITY | 6.1 GAL/SF | 12 |

ANNUAL EMISSIONS FOR 2022



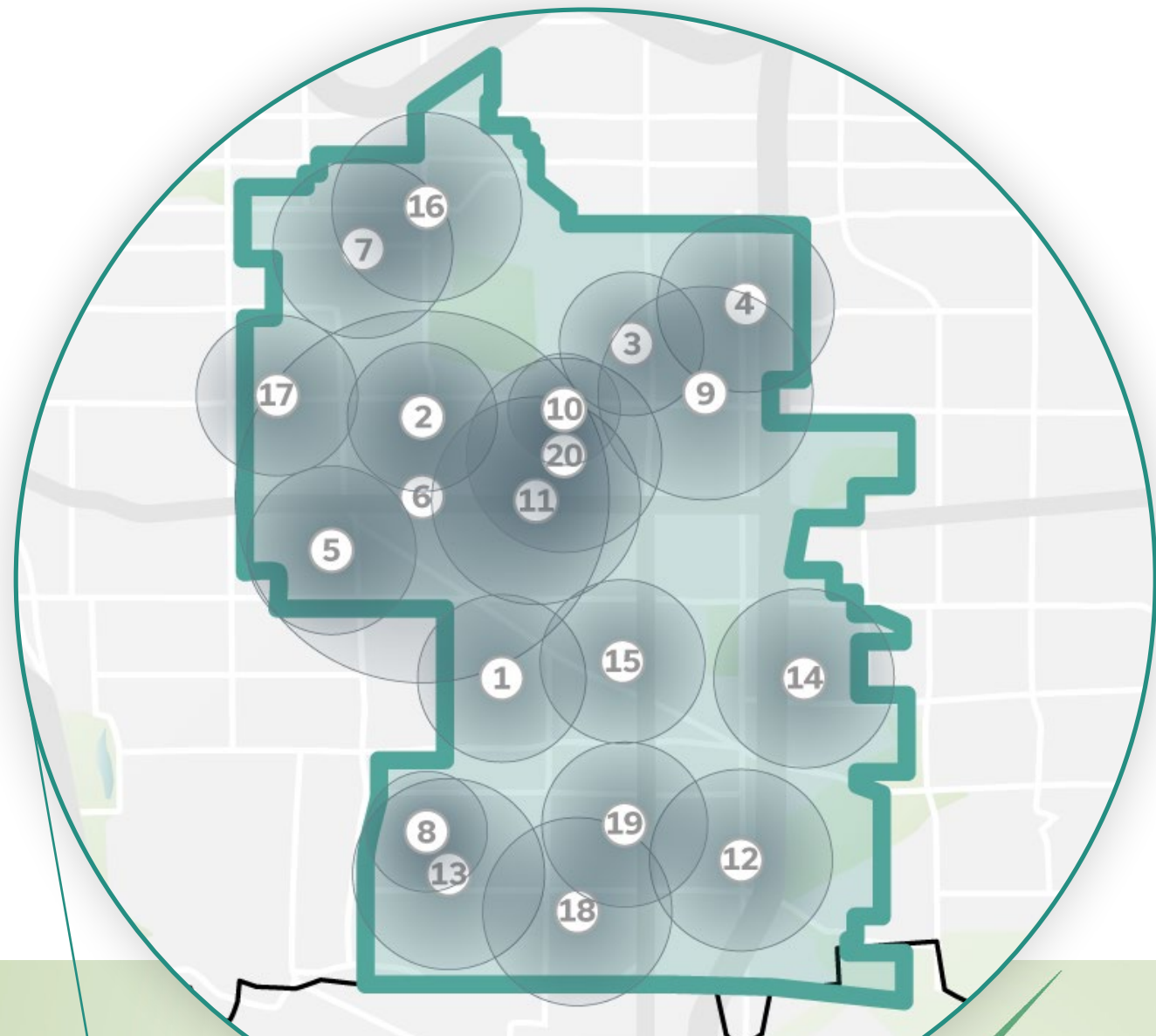
PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE

Building Performance for Franklin Cluster

PORTLAND PUBLIC SCHOOLS | 2022



| FACILITY | AREA (SF) | EUI (kBtu/SF/YR) | ENERGY COST (\$) | GAS EMISSIONS (MTCO ₂ E) | ELECTRIC EMISSIONS (MTCO ₂ E) | TOTAL EMISSIONS (MTCO ₂ E) | EMISSIONS INTENSITY (LBS CO ₂ E/SF) | WATER USE INTENSITY (GAL/SF) |
|-------------------------------|-----------|------------------|------------------|-------------------------------------|--|---------------------------------------|--|------------------------------|
| 1 Arleta* | 71,185 | 63 | \$93,912 | 206 | 53 | 259 | 8.0 | 9.7 |
| 2 Atkinson | 54,472 | 65 | \$71,542 | 161 | 44 | 205 | 8.3 | 4.4 |
| 3 Bridger | 48,948 | 64 | \$86,930 | 127 | 64 | 191 | 8.6 | 12.8 |
| 4 Clark/CSS | 50,227 | 100 | \$103,232 | 229 | 58 | 287 | 12.6 | 9.6 |
| 5 Creston | 79,978 | 58 | \$84,017 | 222 | 40 | 262 | 7.2 | 3.8 |
| 6 Franklin* | 218,574 | 92 | \$439,623 | 616 | 719 | 1,335 | 13.5 | 5.6 |
| 7 Glencoe | 60,094 | 87 | \$89,700 | 246 | 50 | 296 | 10.9 | 5.5 |
| 8 Green Thumb/CTC | 31,907 | 70 | \$75,388 | 93 | 41 | 134 | 9.2 | 30.3 |
| 9 Binnsmead/Harrison Park | 110,775 | 64 | \$152,110 | 308 | 113 | 421 | 8.4 | 8.2 |
| 10 Holladay Annex/Division St | 29,800 | 60 | \$57,253 | 60 | 55 | 115 | 8.5 | 3.9 |
| 11 Kellogg | 105,647 | 44 | \$188,539 | 0 | 398 | 398 | 8.3 | 12.5 |
| 12 Kelly (incl. Kelly Center) | 77,995 | 63 | \$130,764 | 185 | 120 | 305 | 8.6 | 9.0 |
| 13 Lane | 94,753 | 60 | \$123,354 | 244 | 93 | 337 | 7.8 | 7.5 |
| 14 Lent | 78,100 | 66 | \$104,546 | 233 | 64 | 297 | 8.4 | 5.9 |
| 15 Marysville (vacant) | 52,724 | 82 | \$89,759 | 198 | 50 | 248 | 10.4 | 25.9 |
| 16 Mt. Tabor | 79,477 | 71 | \$106,291 | 253 | 77 | 329 | 9.1 | 5.0 |
| 17 Richmond | 79,894 | 51 | \$89,970 | 177 | 61 | 238 | 6.6 | 6.4 |
| 18 Whitman | 57,244 | 101 | \$91,318 | 271 | 56 | 327 | 12.6 | 3.6 |
| 19 Woodmere | 51,900 | 81 | \$85,870 | 180 | 71 | 251 | 10.7 | 7.3 |
| 20 Youngson/Holladay Center | 62,918 | 93 | \$122,806 | 245 | 104 | 349 | 12.2 | 9.5 |
| Cluster Total | 1,496,612 | | \$2,378,980 | 4,254 | 2,330 | 6,584 | N/A | N/A |
| District Total | 9,065,846 | | \$12,197,485 | 22,581 | 18,113 | 40,694 | N/A | N/A |
| Cluster Average | 73,274 | 72 | \$119,346 | 213 | 116 | 329 | 9.7 | 8.4 |
| District Average | 88,018 | 62 | \$118,422 | 219 | 176 | 395 | 9.9 | 8.4 |

MAP KEY

- City of Portland Boundary
 - Cluster Boundary
 - Total Emissions MTCO₂E
- * Electric emissions include offset from on-site PV

20

TOTAL BUILDINGS

6,584

MTCO₂E
TOTAL EMISSIONS

9.7

LBS CO₂E/SF
AVERAGE EMISSIONS INTENSITY

8.4

GAL/SF
AVERAGE WATER USE INTENSITY

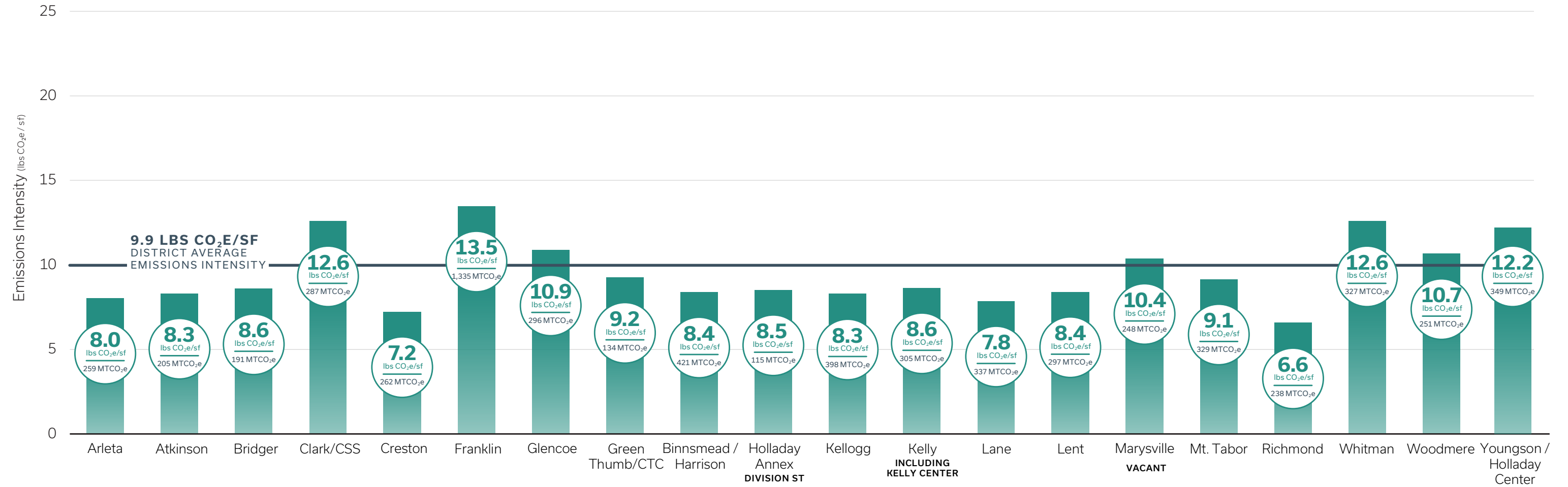
- The total emissions from these clusters account for roughly 16% of the total emissions for the district, with the average emissions intensities being roughly 2% lower than the district average.
- The school with the highest total emissions (Franklin High School) was recently modernized.
- Gas emissions account for the majority of emissions in 18/20 schools and electrifying gas equipment will have a significant impact in reducing these emissions, particularly as the electrical grid decarbonizes

KEY ABBREVIATIONS

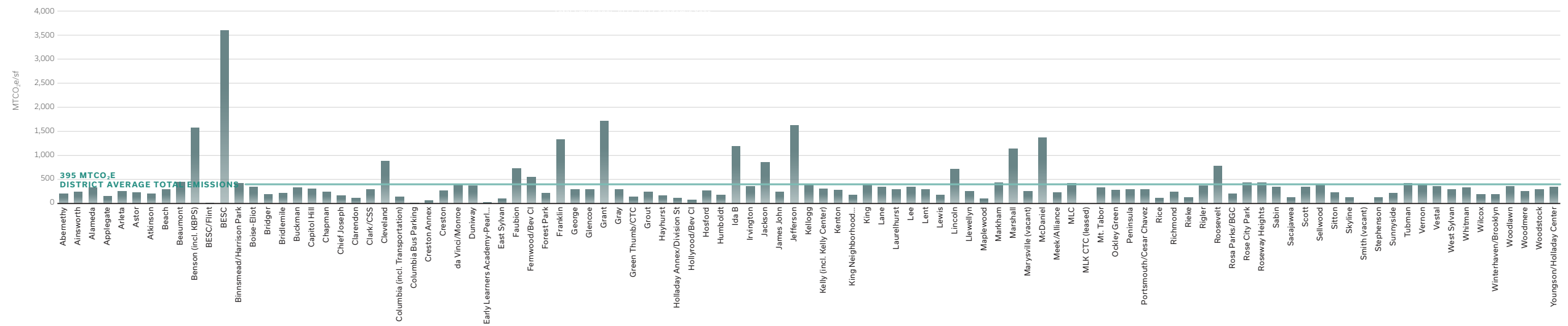
- EUI | Energy Use Intensity
- kBTU | Thousand British thermal units
- SF | square feet
- CO₂E | CO₂ equivalent
- MT | Metric Ton
- LBS | Pounds

Emissions Comparison for Franklin Cluster

PORTLAND PUBLIC SCHOOLS



PORTLAND PUBLIC SCHOOL TOTAL EMISSIONS: 2022-2023 ACADEMIC YEAR





FRANKLIN CLUSTER



Arleta Elementary School

BUILDING CONSTRUCTED: 1929

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded
- On-site PV offsets electricity consumption

CURRENTLY PLANNED IMPROVEMENTS

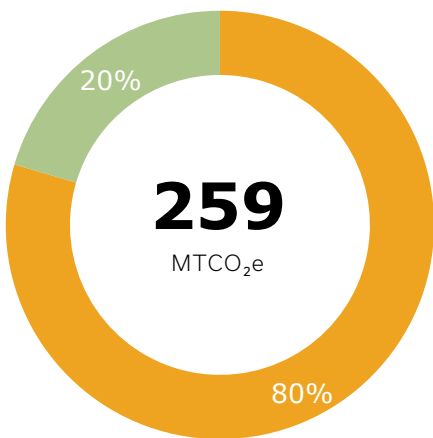
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

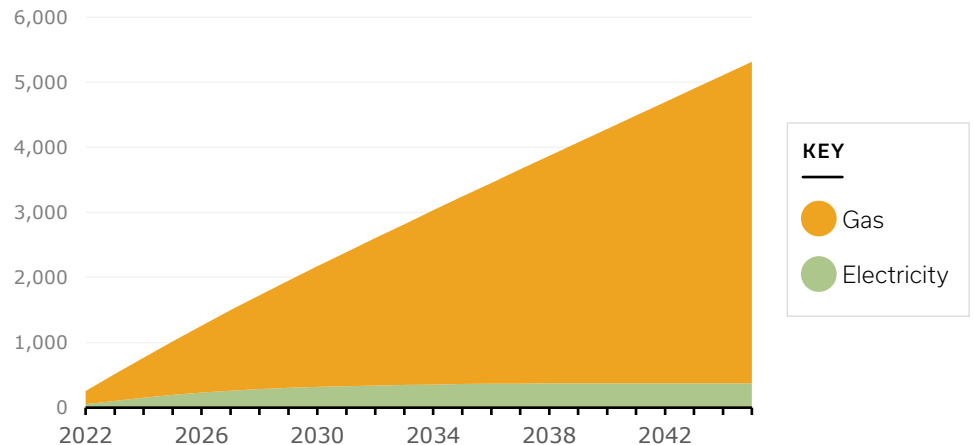
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 71,185 SQUARE FEET | 10 |
| EUI | 63 kBTU/SF | 14 |
| ENERGY COSTS | \$93,912 | 10 |
| EMISSIONS | 259 MTCO ₂ e | 13 |
| EMISSIONS INTENSITY | 8.0 LBS-CO ₂ e/SF | 17 |
| WATER-USE INTENSITY | 9.7 GAL/SF | 5 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER

Clark/CSS Elementary School

BUILDING CONSTRUCTED: 1955

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

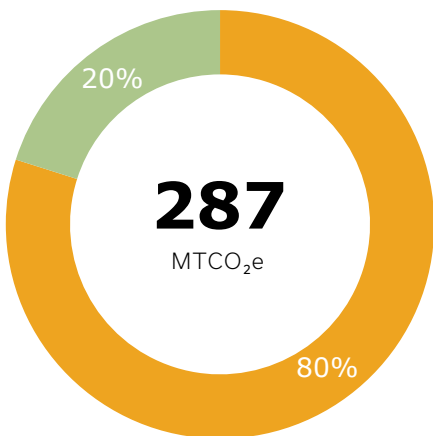
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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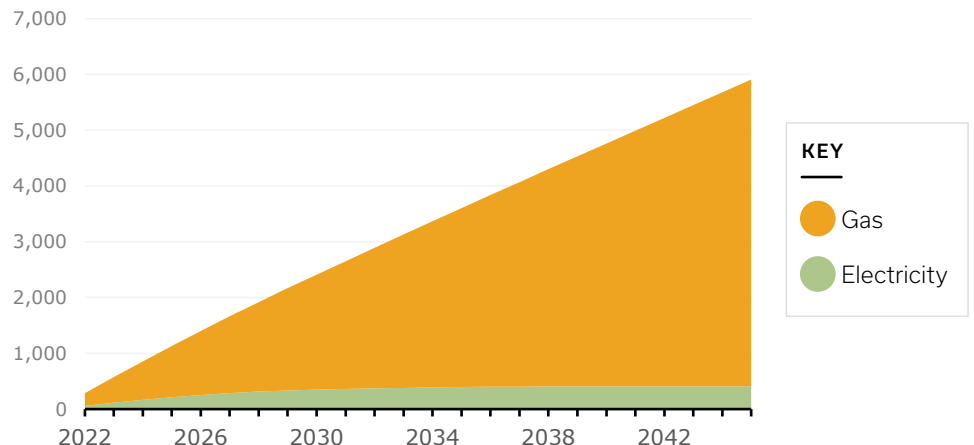
RANKING
(OUT OF 20)

| | | |
|----------------------------|---|-----------|
| AREA | 50,227 SQUARE FEET | 17 |
| EUI | 100 kBTU/SF | 2 |
| ENERGY COSTS | \$103,232 | 9 |
| EMISSIONS | 287 MTCO ₂ e | 11 |
| EMISSIONS INTENSITY | 12.6 LBS-CO ₂ e/SF | 3 |
| WATER-USE INTENSITY | 9.6 GAL/SF | 6 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Glencoe Elementary School

BUILDING CONSTRUCTED: 1923

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

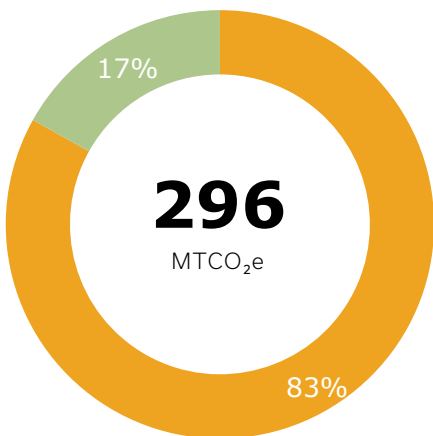
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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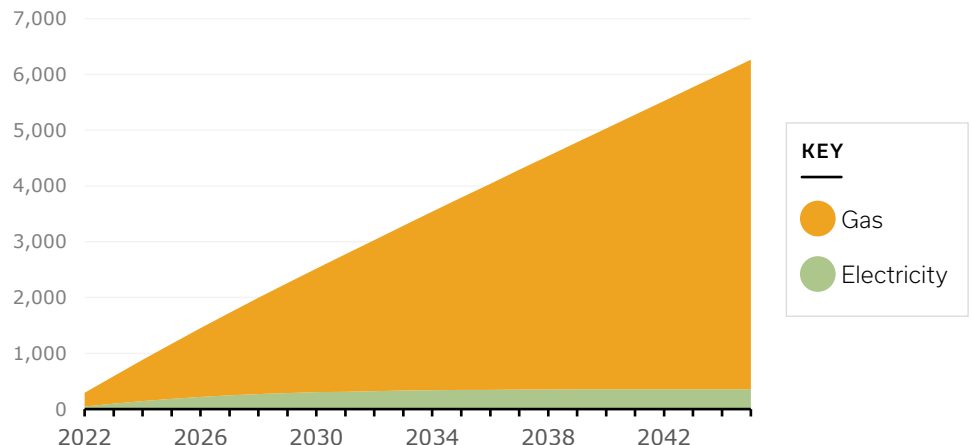
RANKING
(OUT OF 20)

| | | |
|----------------------------|---|-----------|
| AREA | 60,094 SQUARE FEET | 12 |
| EUI | 87 kBTU/SF | 5 |
| ENERGY COSTS | \$89,700 | 14 |
| EMISSIONS | 296 MTCO ₂ e | 10 |
| EMISSIONS INTENSITY | 10.9 LBS-CO ₂ e/SF | 5 |
| WATER-USE INTENSITY | 5.5 GAL/SF | 15 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Holladay Annex/Division St Elementary School

BUILDING CONSTRUCTED: 1961

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

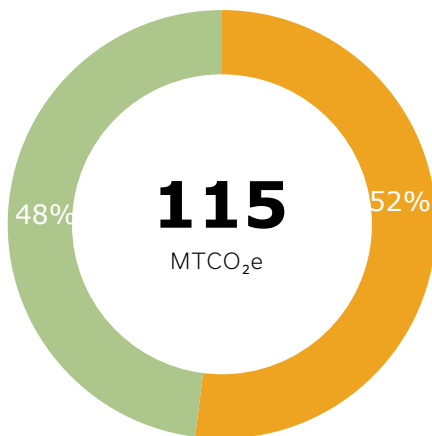
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

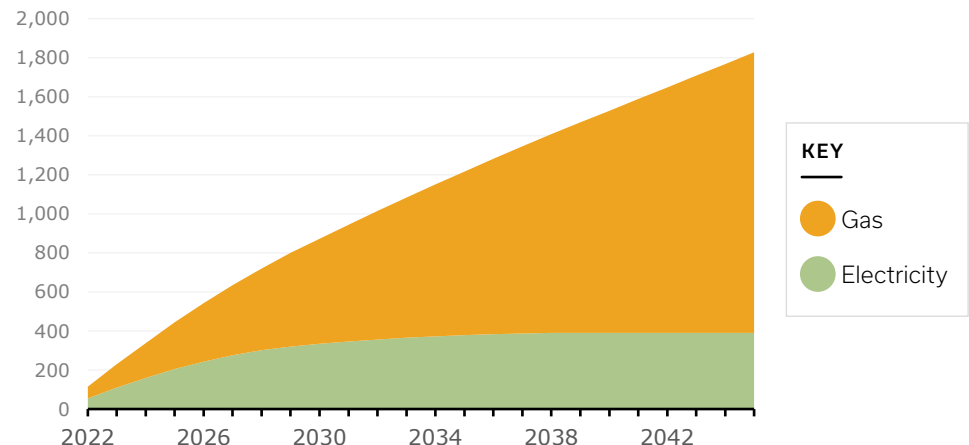
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 29,800 SQUARE FEET | 20 |
| EUI | 60 kBTU/SF | 17 |
| ENERGY COSTS | \$57,253 | 20 |
| EMISSIONS | 115 MTCO ₂ e | 20 |
| EMISSIONS INTENSITY | 8.5 LBS-CO ₂ e/SF | 12 |
| WATER-USE INTENSITY | 3.9 GAL/SF | 18 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Atkinson Elementary School

BUILDING CONSTRUCTED: 1953

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

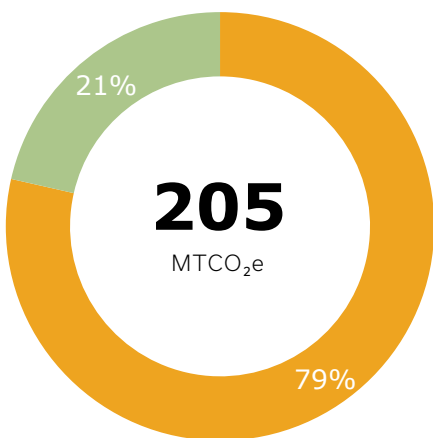
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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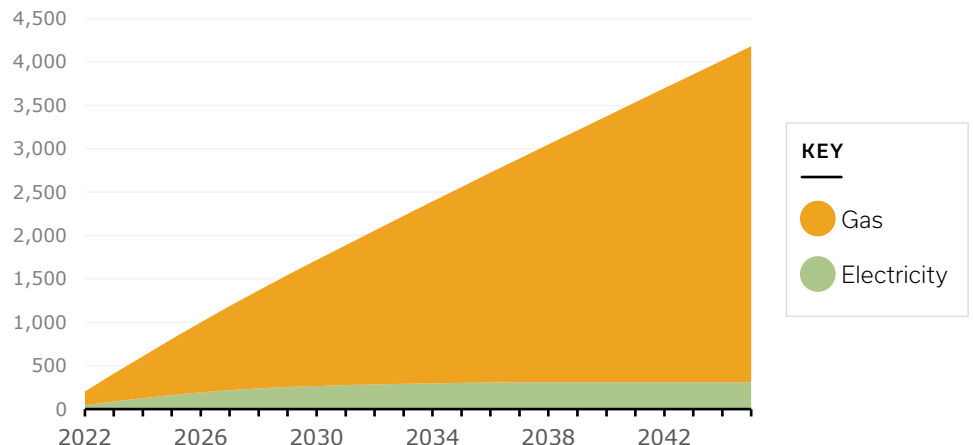
RANKING
(OUT OF 20)

| | | |
|----------------------------|--|-----------|
| AREA | 54,472 SQUARE FEET | 14 |
| EUI | 65 kBTU/SF | 11 |
| ENERGY COSTS | \$71,542 | 19 |
| EMISSIONS | 205 MTCO ₂ e | 17 |
| EMISSIONS INTENSITY | 8.3 LBS-CO ₂ e/SF | 15 |
| WATER-USE INTENSITY | 4.4 GAL/SF | 17 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Creston Elementary School

BUILDING CONSTRUCTED: 1946

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

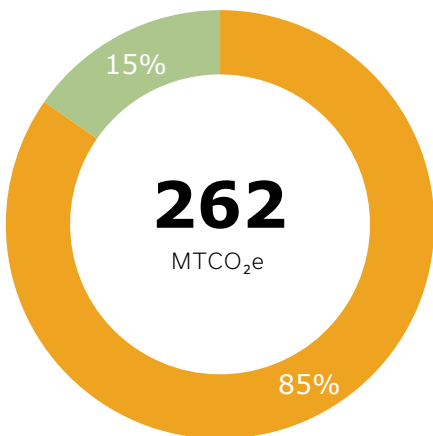
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

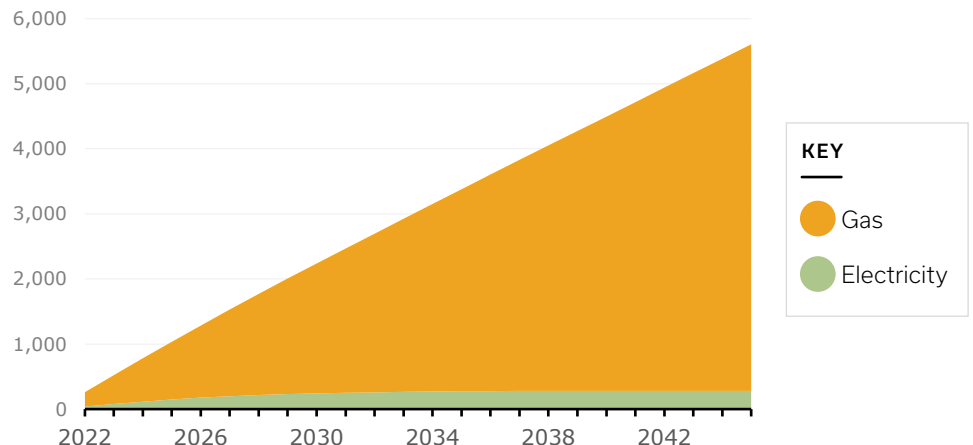
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 79,978 SQUARE FEET | 5 |
| EUI | 58 kBTU/SF | 18 |
| ENERGY COSTS | \$84,017 | 17 |
| EMISSIONS | 262 MTCO ₂ e | 12 |
| EMISSIONS INTENSITY | 7.2 LBS-CO ₂ e/SF | 19 |
| WATER-USE INTENSITY | 3.8 GAL/SF | 19 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Green Thumb/CTC

BUILDING CONSTRUCTED: 1975

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

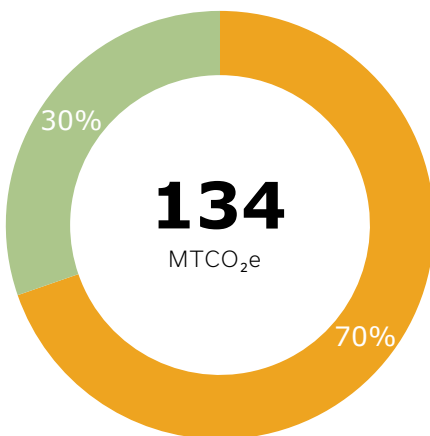
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

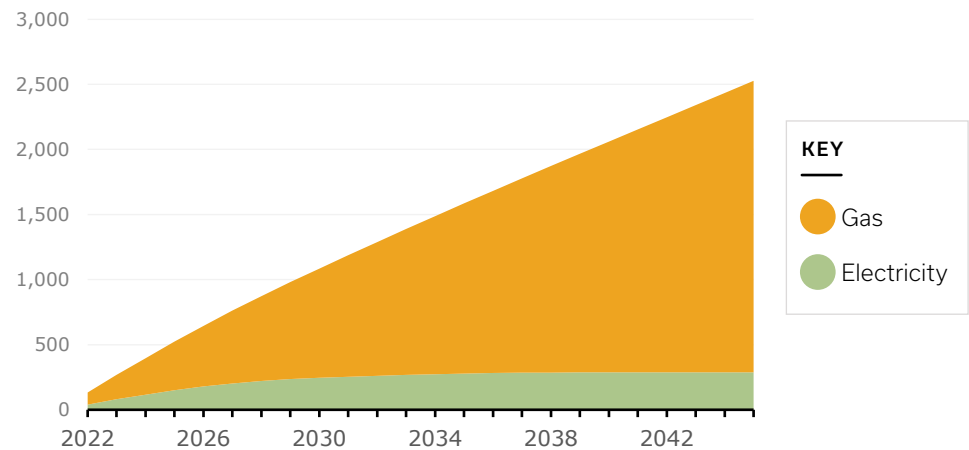
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| RANKING (OUT OF 20) | | |
|------------------------|--|-----------|
| AREA | 31,907 SQUARE FEET | 19 |
| EUI | 70 kBTU/SF | 9 |
| ENERGY COSTS | \$75,388 | 18 |
| EMISSIONS | 134 MTCO ₂ e | 19 |
| EMISSIONS INTENSITY | 9.2 LBS-CO ₂ e/SF | 8 |
| WATER-USE INTENSITY | 30.3 GAL/SF | 1 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Kellogg Middle School

BUILDING CONSTRUCTED: 2021

SUMMARY OF EXISTING CONDITIONS

- Recent modernization
- Updated envelope, lighting, and mechanical systems
-

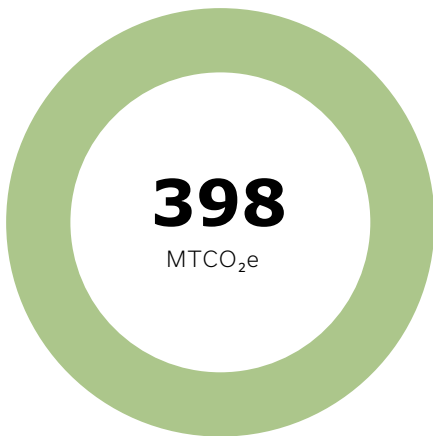
POTENTIAL OPPORTUNITIES

- Incorporate additional renewable energy systems to offset operational emissions

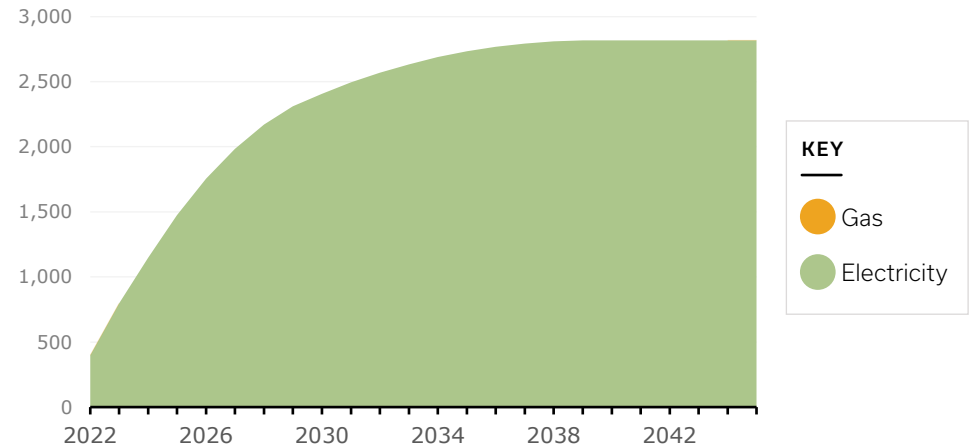
RANKING
(OUT OF 20)

| | | |
|---------------------|--|-----------|
| AREA | 105,647 SQUARE FEET | 3 |
| EUI | 44 kBTU/SF | 20 |
| ENERGY COSTS | \$180,594 | 2 |
| EMISSIONS | 398 MTCO ₂ e | 3 |
| EMISSIONS INTENSITY | 8.3 LBS-CO ₂ e/SF | 16 |
| WATER-USE INTENSITY | 12.5 GAL/SF | 4 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Bridger Elementary School

BUILDING CONSTRUCTED: 1951

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

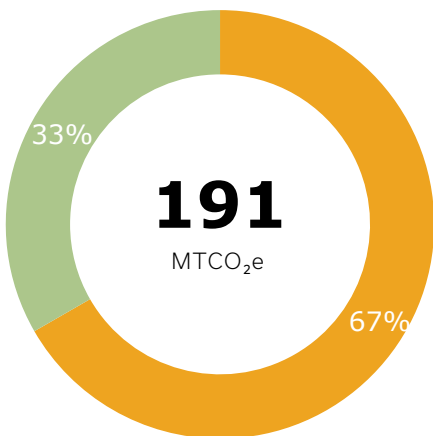
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

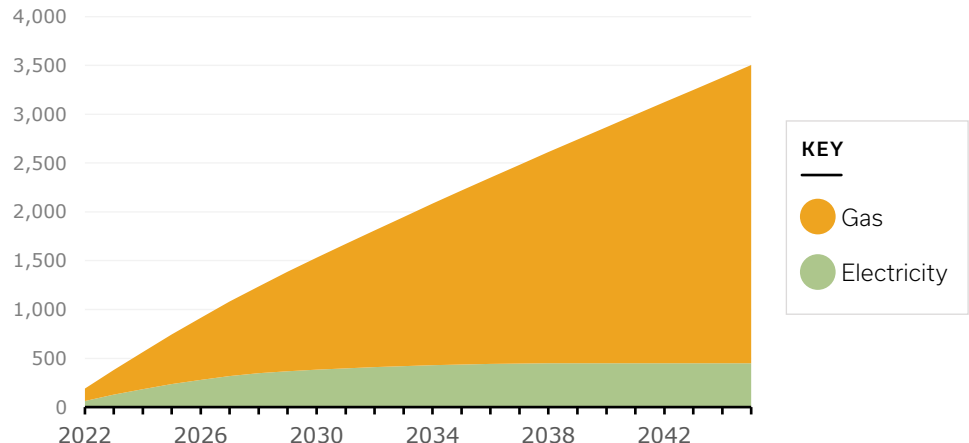
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 48,948 SQUARE FEET | 18 |
| EUI | 64 kBTU/SF | 13 |
| ENERGY COSTS | \$86,930 | 15 |
| EMISSIONS | 191 MTCO ₂ e | 18 |
| EMISSIONS INTENSITY | 8.6 LBS-CO ₂ e/SF | 11 |
| WATER-USE INTENSITY | 12.8 GAL/SF | 3 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Franklin High School

BUILDING CONSTRUCTED: 1914 | MODERNIZED: 2017

SUMMARY OF EXISTING CONDITIONS

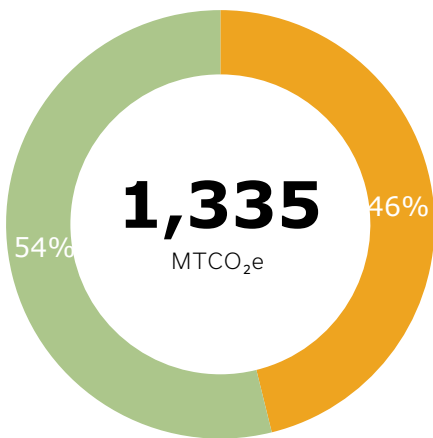
- Recent modernization
- Updated envelope, lighting, and mechanical systems
- Gas is still used for space and domestic water heating
- On-site PV offsets electricity consumption

POTENTIAL OPPORTUNITIES

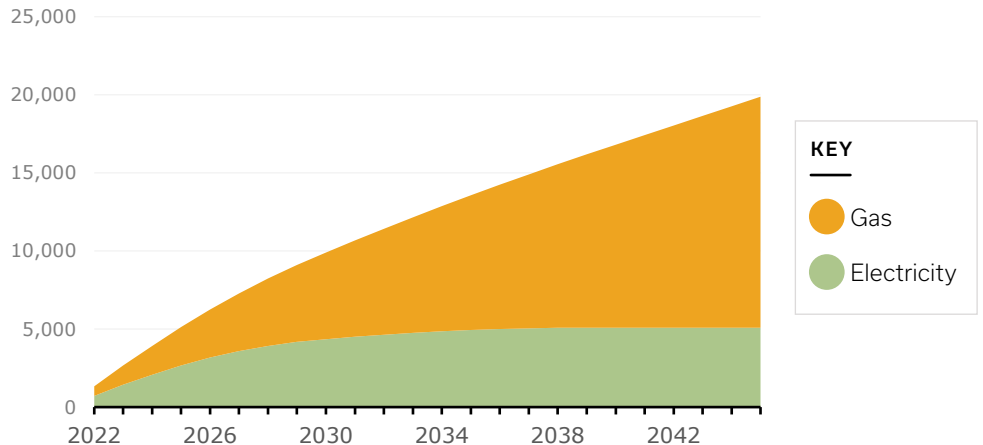
- Electrify all heating systems within the building
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 218,574 SQUARE FEET | 1 |
| EUI | 92 kBTU/SF | 4 |
| ENERGY COSTS | \$439,623 | 1 |
| EMISSIONS | 1,335 MTCO ₂ e | 1 |
| EMISSIONS INTENSITY | 13.5 LBS-CO ₂ e/SF | 1 |
| WATER-USE INTENSITY | 5.6 GAL/SF | 14 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Binnsmead/Harrison Park Middle School

BUILDING CONSTRUCTED: 1949

SUMMARY OF EXISTING CONDITIONS

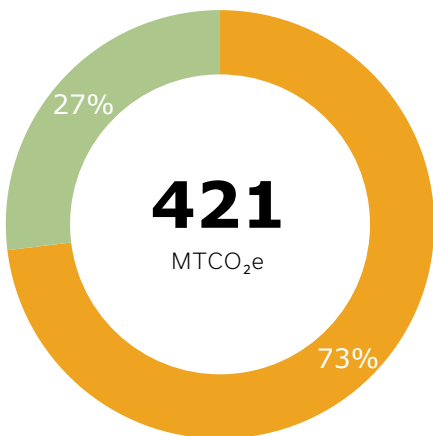
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

POTENTIAL OPPORTUNITIES

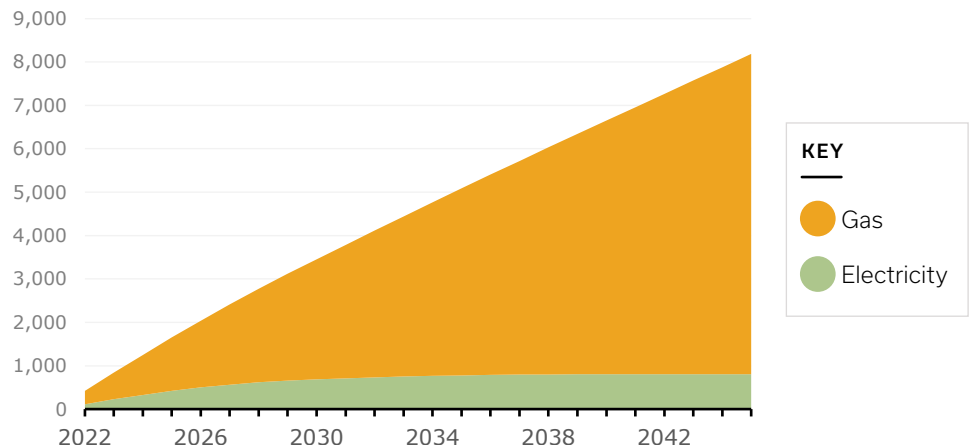
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 110,775 SQUARE FEET | 2 |
| EUI | 64 kBTU/SF | 12 |
| ENERGY COSTS | \$152,110 | 3 |
| EMISSIONS | 421 MTCO ₂ e | 2 |
| EMISSIONS INTENSITY | 8.4 LBS-CO ₂ e/SF | 14 |
| WATER-USE INTENSITY | 8.2 GAL/SF | 9 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Kelly Elementary School

INCLUDING KELLY CENTER

BUILDING CONSTRUCTED: 1952

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

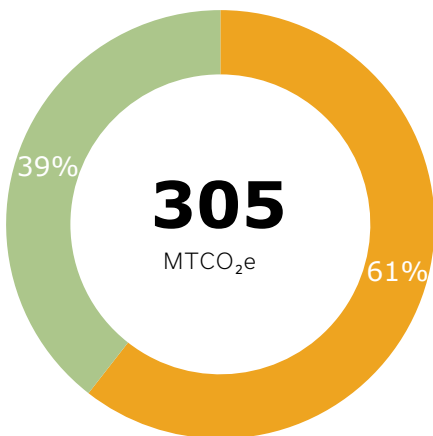
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

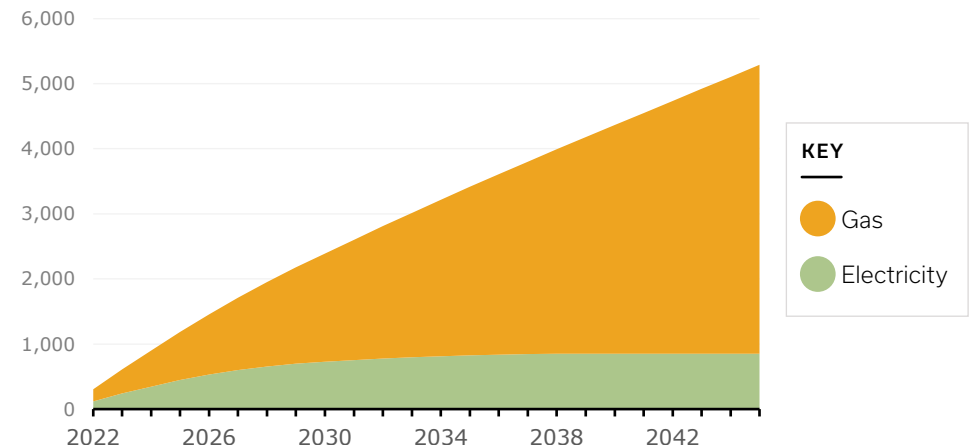
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 77,995 SQUARE FEET | 9 |
| EUI | 63 kBTU/SF | 15 |
| ENERGY COSTS | \$320,160 | 4 |
| EMISSIONS | 305 MTCO ₂ e | 8 |
| EMISSIONS INTENSITY | 8.6 LBS-CO ₂ e/SF | 10 |
| WATER-USE INTENSITY | 9.0 GAL/SF | 8 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Lane Middle School

BUILDING CONSTRUCTED: 1927

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

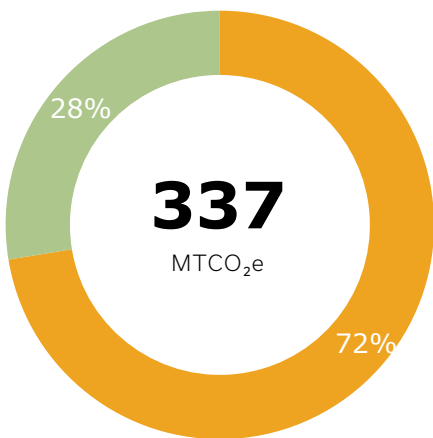
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

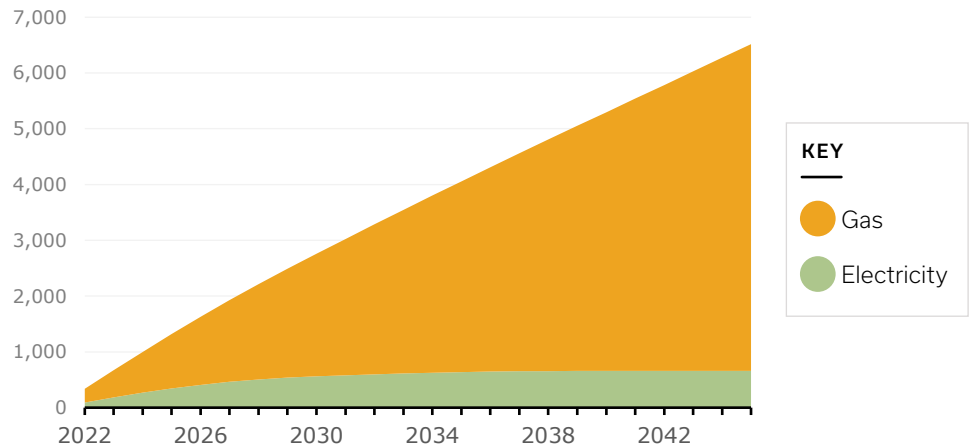
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 94,753 SQUARE FEET | 4 |
| EUI | 60 kBTU/SF | 16 |
| ENERGY COSTS | \$123,354 | 5 |
| EMISSIONS | 337 MTCO ₂ e | 5 |
| EMISSIONS INTENSITY | 7.8 LBS-CO ₂ e/SF | 18 |
| WATER-USE INTENSITY | 7.5 GAL/SF | 10 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Marysville Elementary School

(VACANT)

BUILDING CONSTRUCTED: 1921

SUMMARY OF EXISTING CONDITIONS

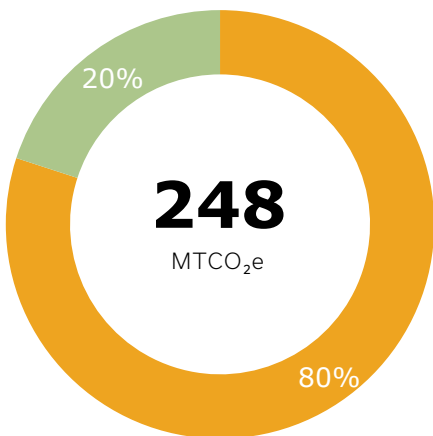
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

POTENTIAL OPPORTUNITIES

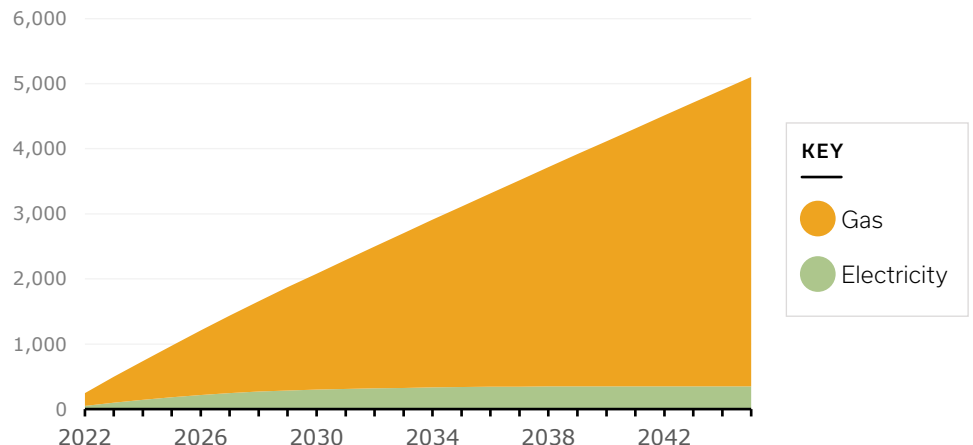
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 52,724 SQUARE FEET | 15 |
| EUI | 82 kBTU/SF | 6 |
| ENERGY COSTS | \$89,759 | 13 |
| EMISSIONS | 248 MTCO ₂ e | 15 |
| EMISSIONS INTENSITY | 10.4 LBS-CO ₂ e/SF | 7 |
| WATER-USE INTENSITY | 25.9 GAL/SF | 2 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Richmond Elementary School

BUILDING CONSTRUCTED: 1908

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

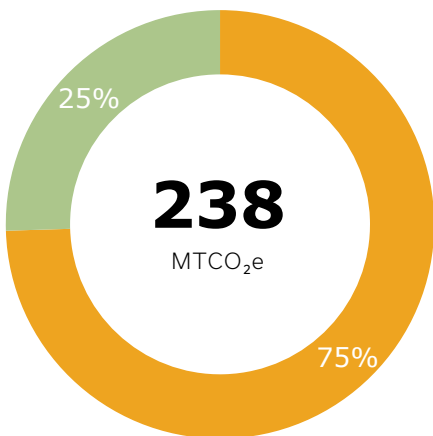
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

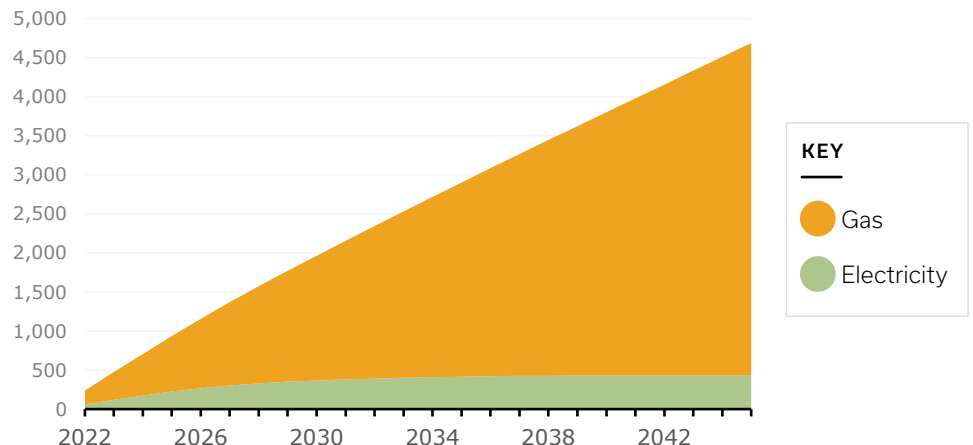
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 79,894 SQUARE FEET | 6 |
| EUI | 51 kBTU/SF | 19 |
| ENERGY COSTS | \$89,970 | 12 |
| EMISSIONS | 238 MTCO ₂ e | 16 |
| EMISSIONS INTENSITY | 6.6 LBS-CO ₂ e/SF | 20 |
| WATER-USE INTENSITY | 6.4 GAL/SF | 12 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER

Woodmere Elementary School

BUILDING CONSTRUCTED: 1954

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

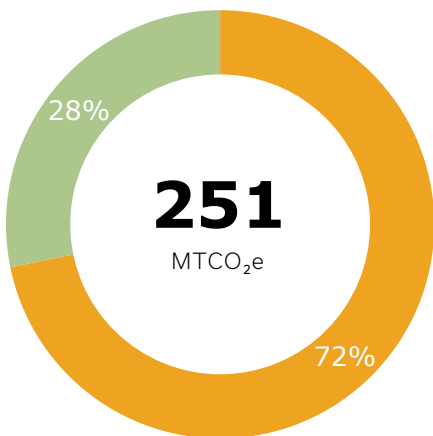
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
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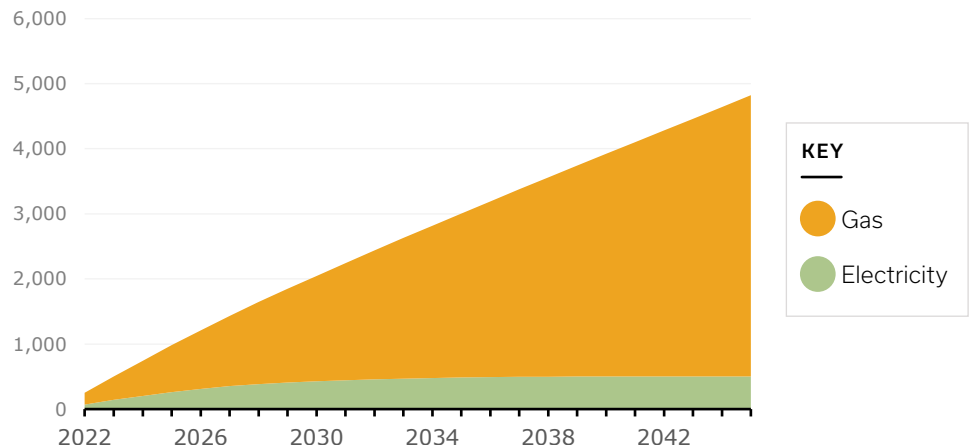
RANKING
(OUT OF 20)

| | | |
|----------------------------|---|-----------|
| AREA | 51,900 SQUARE FEET | 16 |
| EUI | 81 kBTU/SF | 7 |
| ENERGY COSTS | \$85,870 | 16 |
| EMISSIONS | 251 MTCO ₂ e | 14 |
| EMISSIONS INTENSITY | 10.7 LBS-CO ₂ e/SF | 6 |
| WATER-USE INTENSITY | 7.3 GAL/SF | 11 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER

Lent Elementary School

BUILDING CONSTRUCTED: 1949

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

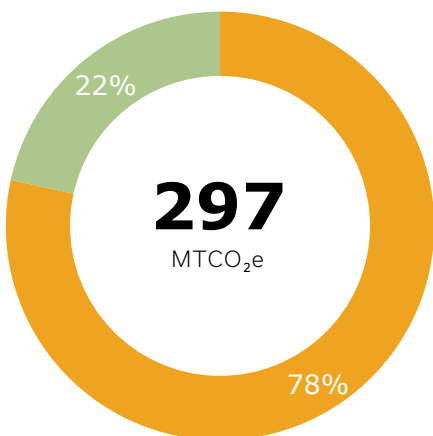
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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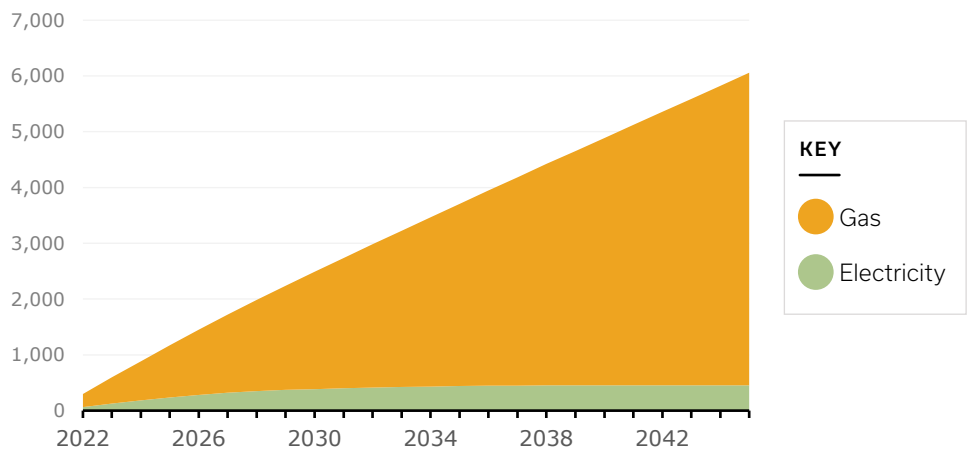


| | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 78,100 SQUARE FEET | 8 |
| EUI | 66 kBTU/SF | 10 |
| ENERGY COSTS | \$104,546 | 8 |
| EMISSIONS | 297 MTCO ₂ e | 9 |
| EMISSIONS INTENSITY | 8.4 LBS-CO ₂ e/SF | 13 |
| WATER-USE INTENSITY | 5.9 GAL/SF | 13 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER

Mt. Tabor Middle School

BUILDING CONSTRUCTED: 1952

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

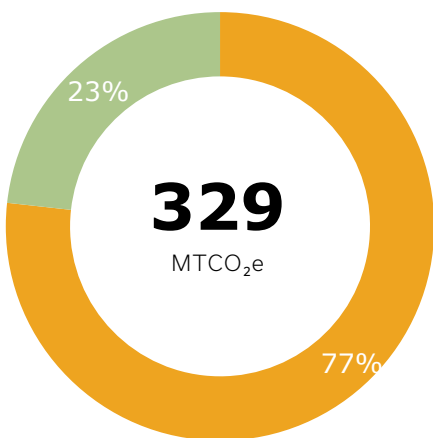
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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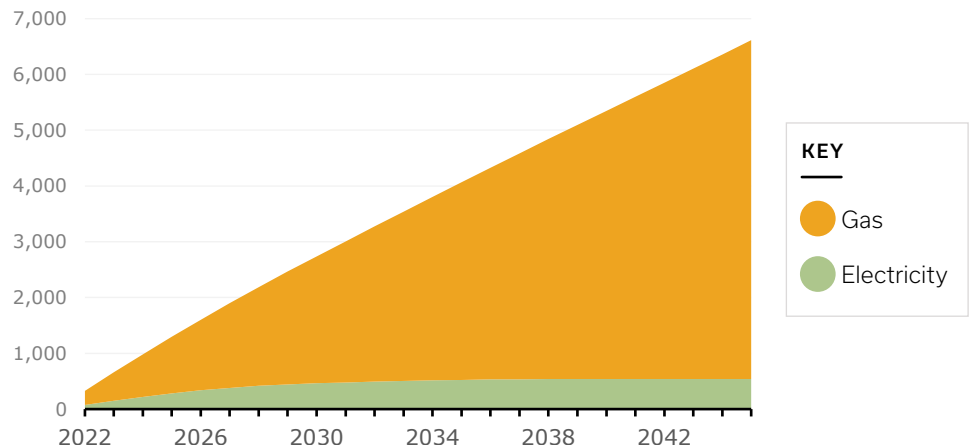


| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 79,477 SQUARE FEET | 7 |
| EUI | 71 kBTU/SF | 8 |
| ENERGY COSTS | \$106,291 | 7 |
| EMISSIONS | 329 MTCO ₂ e | 6 |
| EMISSIONS INTENSITY | 9.1 LBS-CO ₂ e/SF | 9 |
| WATER-USE INTENSITY | 5.0 GAL/SF | 16 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER



Whitman Elementary School

BUILDING CONSTRUCTED: 1954

SUMMARY OF EXISTING CONDITIONS

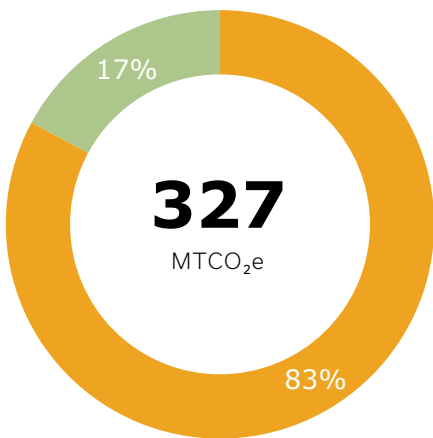
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

POTENTIAL OPPORTUNITIES

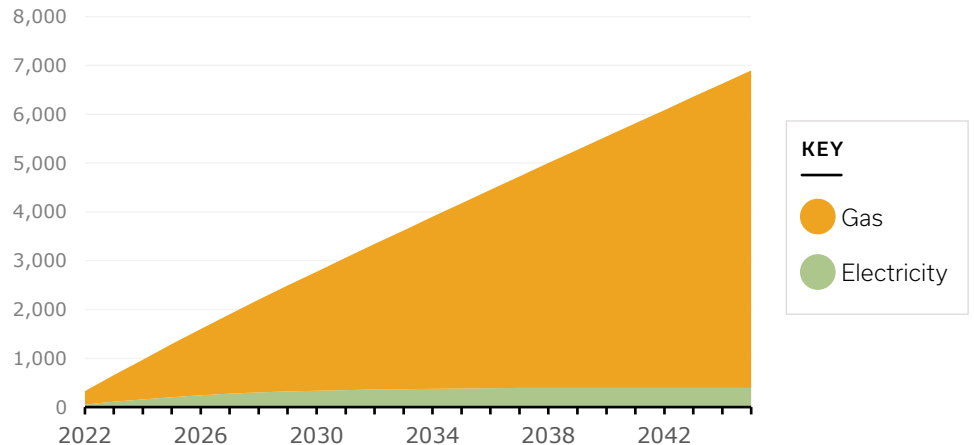
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
-
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-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 57,244 SQUARE FEET | 12 |
| EUI | 101 kBTU/SF | 1 |
| ENERGY COSTS | \$91,318 | 11 |
| EMISSIONS | 327 MTCO ₂ e | 7 |
| EMISSIONS INTENSITY | 12.6 LBS-CO ₂ e/SF | 2 |
| WATER-USE INTENSITY | 3.6 GAL/SF | 20 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



FRANKLIN CLUSTER

Youngson/Holladay Center K-8 School

BUILDING CONSTRUCTED: 1955

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

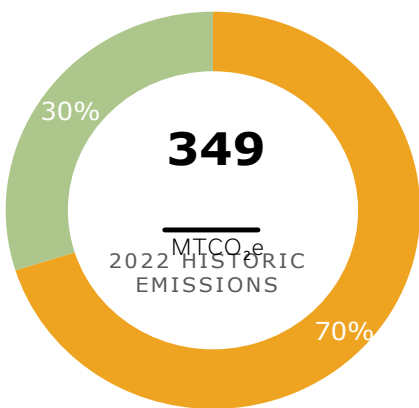
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-

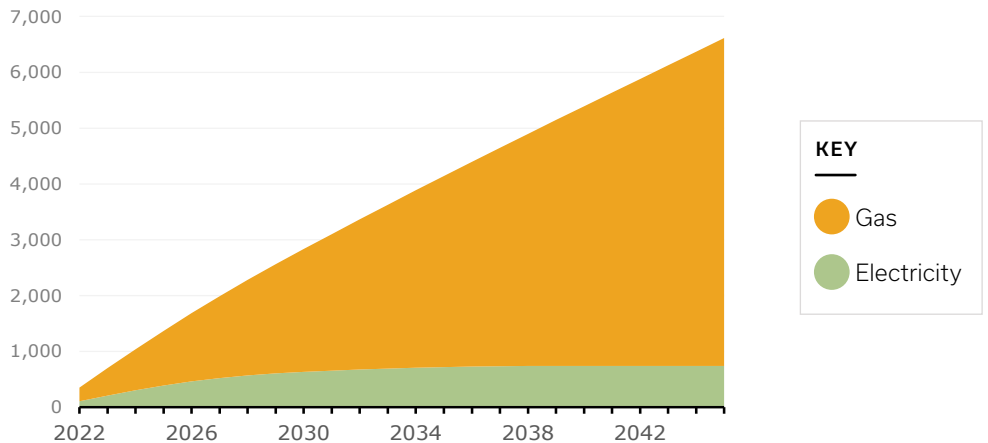


| | | RANKING (OUT OF 20) |
|----------------------------|---|------------------------|
| AREA | 62,918 SQUARE FEET | 11 |
| EUI | 93 kBTU/SF | 3 |
| ENERGY COSTS | \$122,806 | 6 |
| EMISSIONS | 349 MTCO ₂ e | 4 |
| EMISSIONS INTENSITY | 12.2 LBS-CO ₂ e/SF | 4 |
| WATER-USE INTENSITY | 9.5 GAL/SF | 7 |

ANNUAL EMISSIONS FOR 2022



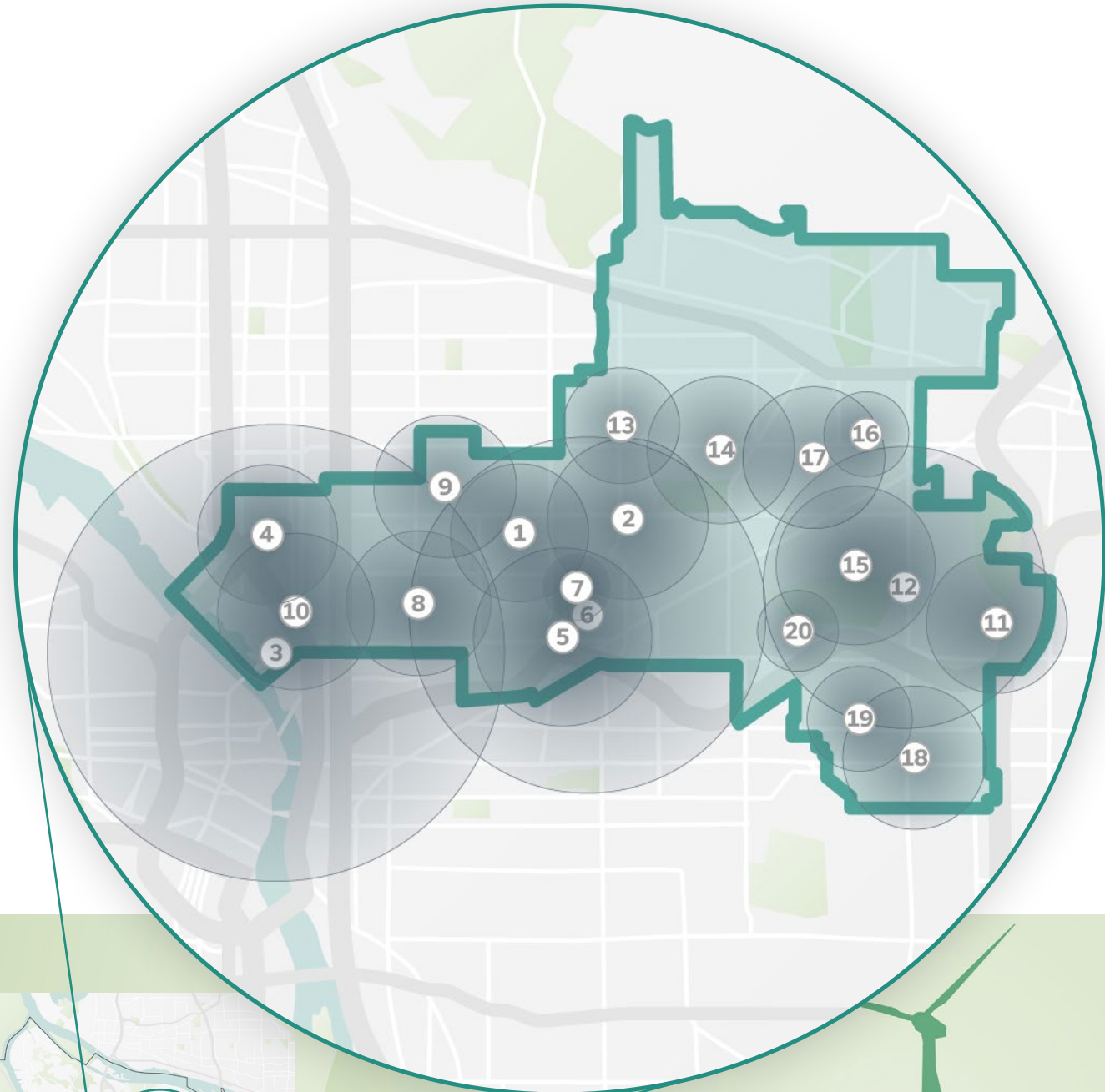
PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE

Building Performance for Grant-McDaniels Clusters

PORTLAND PUBLIC SCHOOLS | 2022



| FACILITY | AREA (SF) | EUI (kBtu/SF/YR) | ENERGY COST (\$) | GAS EMISSIONS (MTCO ₂ E) | ELECTRIC EMISSIONS (MTCO ₂ E) | TOTAL EMISSIONS (MTCO ₂ E) | EMISSIONS INTENSITY (LBS CO ₂ E/SF) | WATER USE INTENSITY (GAL/SF) |
|--------------------|-----------|------------------|------------------|-------------------------------------|--|---------------------------------------|--|------------------------------|
| 1 Alameda | 65,765 | 59 | \$88,152 | 168 | 160 | 328 | 11.0 | 14.4 |
| 2 Beaumont | 91,294 | 61 | \$99,458 | 248 | 198 | 445 | 10.8 | 4.3 |
| 3 BESC/PEC | 419,802 | 58 | \$526,135 | 544 | 3,048 | 3,592 | 18.9 | 6.2 |
| 4 Boise-Eliot | 65,248 | 52 | \$76,645 | 135 | 202 | 337 | 11.4 | 5.5 |
| 5 Fernwood/Bev Cl | 88,815 | 61 | \$130,593 | 210 | 337 | 547 | 13.6 | 15.3 |
| 6 Grant | 319,715 | 53 | \$346,412 | 641 | 1,075 | 1,715 | 11.8 | 11.2 |
| 7 Hollyrood/Bev Cl | 15,541 | 45 | \$20,787 | 26 | 50 | 76 | 10.8 | 7.7 |
| 8 Irvington | 59,874 | 81 | \$83,763 | 229 | 133 | 361 | 13.3 | 7.3 |
| 9 Sabin | 65,769 | 61 | \$85,469 | 172 | 179 | 350 | 11.7 | 5.3 |
| 10 Tubman | 87,610 | 42 | \$108,463 | 120 | 302 | 422 | 10.6 | 6.7 |
| 11 Lee | 63,170 | 65 | \$81,489 | 188 | 153 | 340 | 11.9 | 5.5 |
| 12 McDaniel | 333,441 | 33 | \$336,868 | 293 | 1,074 | 1,367 | 9.0 | 3.2 |
| 13 Meek/Alliance | 35,945 | 64 | \$53,592 | 88 | 144 | 232 | 14.2 | 6.6 |
| 14 Rigler | 69,143 | 69 | \$97,942 | 221 | 153 | 373 | 11.9 | 12.6 |
| 15 Roseway Heights | 103,610 | 44 | \$90,417 | 180 | 255 | 434 | 9.2 | 3.1 |
| 16 Sacajawea | 18,862 | 78 | \$38,307 | 65 | 59 | 124 | 14.5 | 19.5 |
| 17 Scott | 68,805 | 67 | \$86,642 | 214 | 132 | 346 | 11.1 | 6.9 |
| 18 Vestal | 72,906 | 68 | \$88,616 | 231 | 123 | 354 | 10.7 | 7.8 |
| 19 Wilcox | 20,432 | 64 | \$35,449 | 29 | 162 | 190 | 20.5 | 7.2 |
| 20 Rice | 16,136 | 80 | \$30,193 | 55 | 58 | 113 | 15.5 | 12.5 |
| Cluster Total | 2,081,883 | | \$2,505,392 | 4,054 | 7,995 | 12,048 | N/A | N/A |
| District Total | 9,065,846 | | \$12,197,485 | 22,581 | 18,113 | 40,694 | N/A | N/A |
| Clusters Average | 104,094 | 55 | \$125,270 | 203 | 400 | 602 | 12.8 | 7.4 |
| District Average | 88,018 | 62 | \$118,422 | 219 | 176 | 395 | 9.9 | 8.4 |

MAP KEY

- City of Portland Boundary
- Cluster Boundary
- Total Emissions MTCO₂E

20

TOTAL BUILDINGS

12,048

MTCO₂E
TOTAL EMISSIONS

12.8

LBS CO₂E/SF
AVERAGE EMISSIONS INTENSITY

7.4

GAL/SF
AVERAGE WATER USE INTENSITY

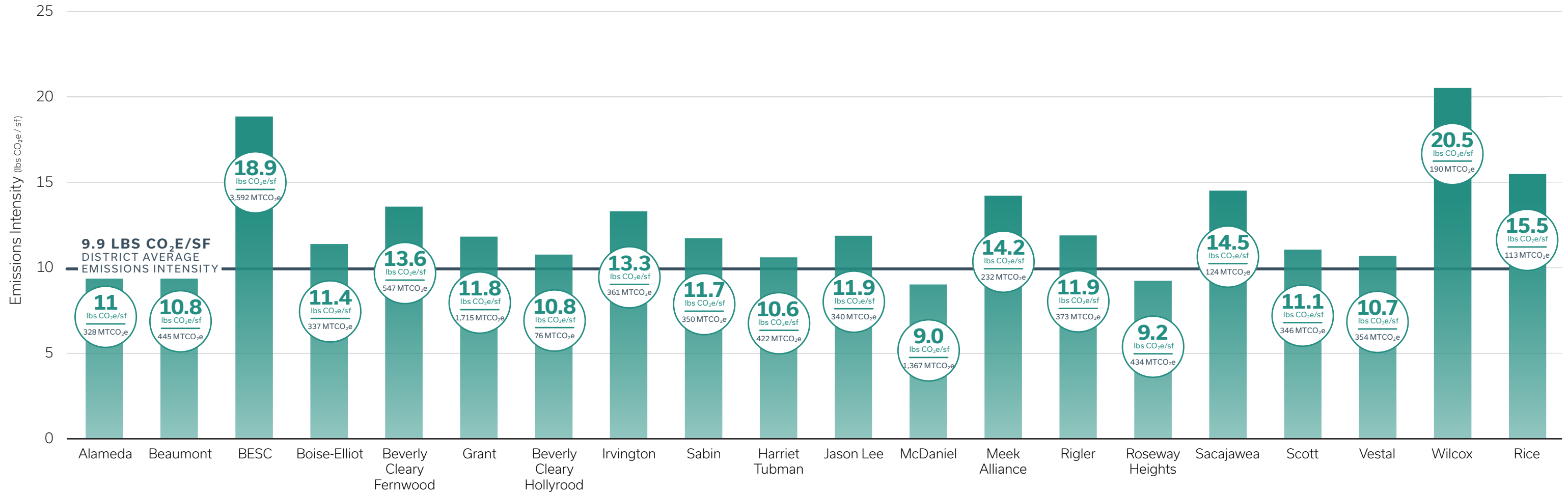
- The total emissions from these clusters account for roughly 30% of the total emissions for the district, with the average emissions intensities being roughly 29% higher than the district average.
- The building with the highest total emissions is district admin facility (BESC) which includes the district server facility and operates 24/7
- Electric emissions account for the majority of emissions in 12/20 building and the electrical grid decarbonization will have a significant impact on the future emissions of these facilities

KEY ABBREVIATIONS

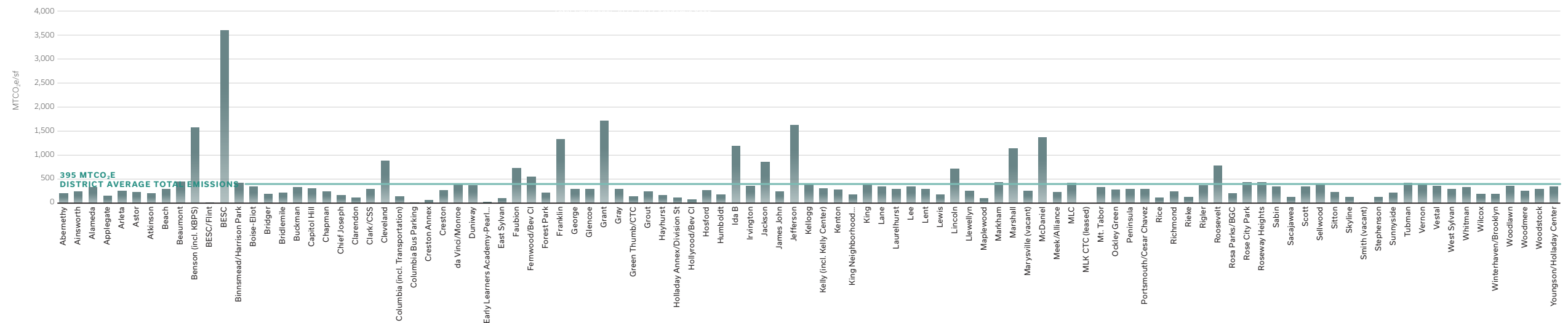
- EUI | Energy Use Intensity
- KBTU | Thousand British thermal units
- SF | square feet
- CO₂E | CO₂ equivalent
- MT | Metric Ton
- LBS | Pounds

Emissions Comparison for Grant-McDaniels Clusters

PORTLAND PUBLIC SCHOOLS



PORTLAND PUBLIC SCHOOL TOTAL EMISSIONS: 2022-2023 ACADEMIC YEAR





GRANT-MCDANIEL CLUSTERS



Alameda Elementary School

BUILDING CONSTRUCTED: 1921

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

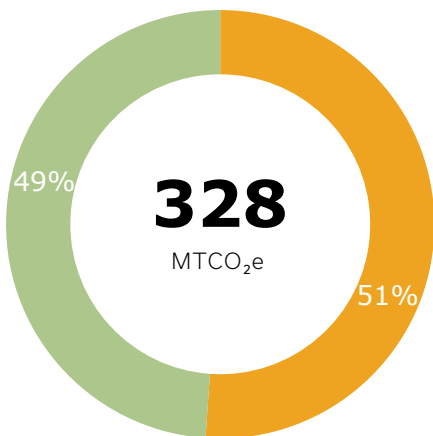
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

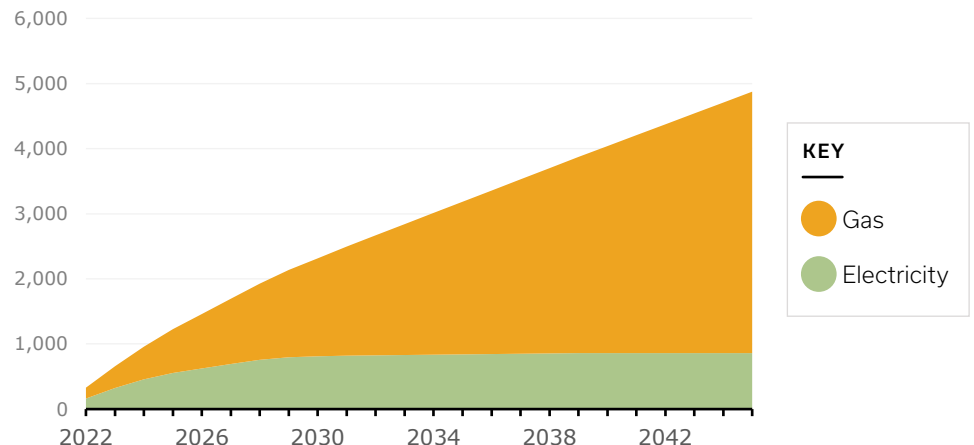
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---------------------------------------|-------------------------------|
| AREA | 65,765 SQUARE FEET | 12 |
| EUI | 59 kBTU/SF | 13 |
| ENERGY COSTS | \$88,152 | 10 |
| EMISSIONS | 328 MTCO ₂ e | 15 |
| EMISSIONS INTENSITY | 11 LBS-CO ₂ e/SF | 14 |
| WATER-USE INTENSITY | 14.4 GAL/SF | 3 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Beaumont Middle School

BUILDING CONSTRUCTED: 1989

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

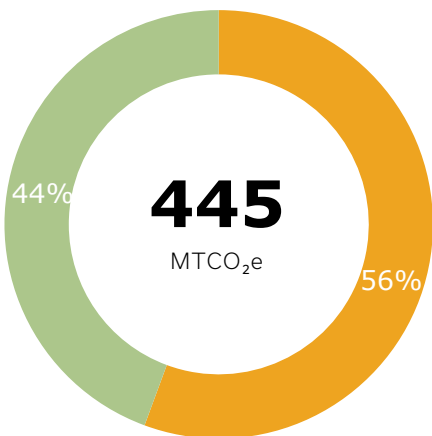
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

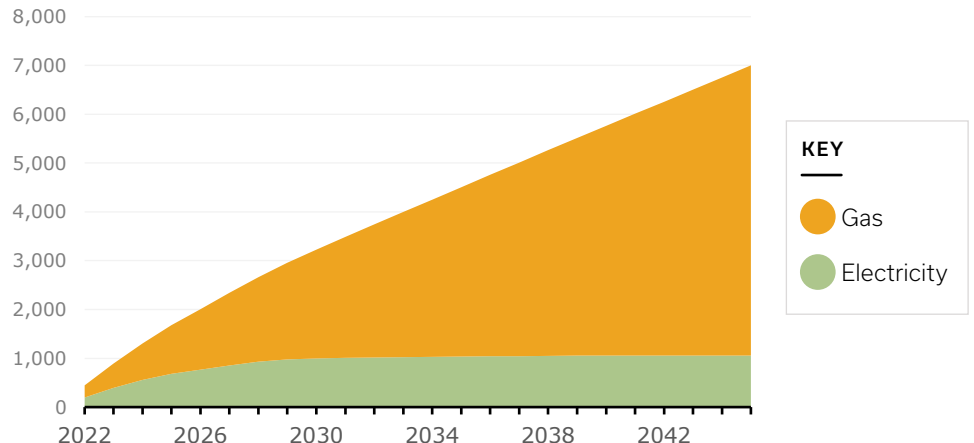
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 91,294 SQUARE FEET | 5 |
| EUI | 61 kBTU/SF | 12 |
| ENERGY COSTS | \$99,458 | 6 |
| EMISSIONS | 445 MTCO ₂ e | 5 |
| EMISSIONS INTENSITY | 10.8 LBS-CO ₂ e/SF | 16 |
| WATER-USE INTENSITY | 4.3 GAL/SF | 18 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



BESC/PEC - Dr. Matthew Prophet Education Center

BUILDING CONSTRUCTED: 1978

SUMMARY OF EXISTING CONDITIONS

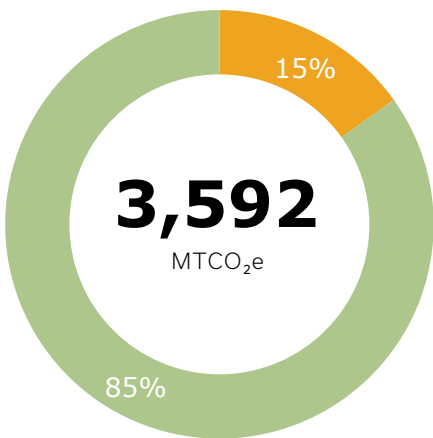
- Aging HVAC equipment with existing cooling systems
- Space and domestic water heating provided by gas boiler systems
- 24/7 facility with significant district Data Center load
- Limited insulation in existing envelope
- Recently updated LED lighting

POTENTIAL OPPORTUNITIES

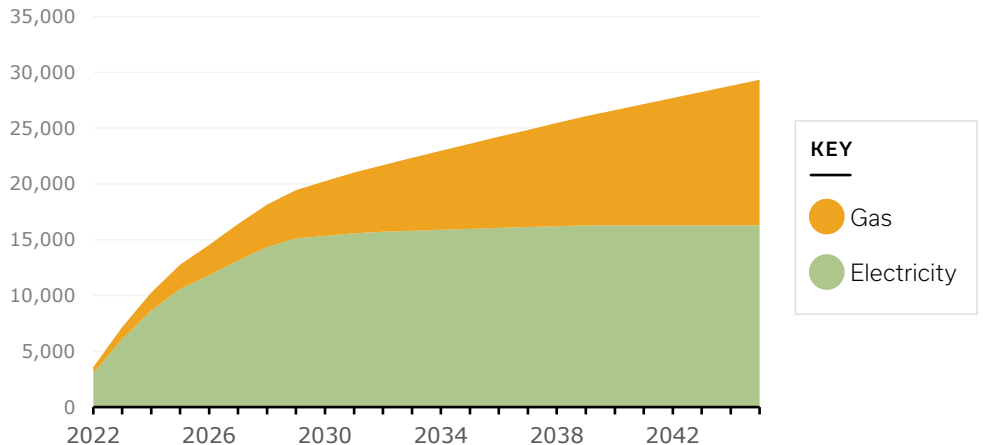
- Electrify all heating systems within the building
- Data Center optimization and server visualization
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 20) |
|---------------------|---|------------------------|
| AREA | 419,802 SQUARE FEET | 1 |
| EUI | 58 kBTU/SF | 14 |
| ENERGY COSTS | \$526,135 | 1 |
| EMISSIONS | 3,592 MTCO ₂ e | 1 |
| EMISSIONS INTENSITY | 18.9 LBS-CO ₂ e/SF | 2 |
| WATER-USE INTENSITY | 6.2 GAL/SF | 14 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Boise-Eliot Elementary School

BUILDING CONSTRUCTED: 1926

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

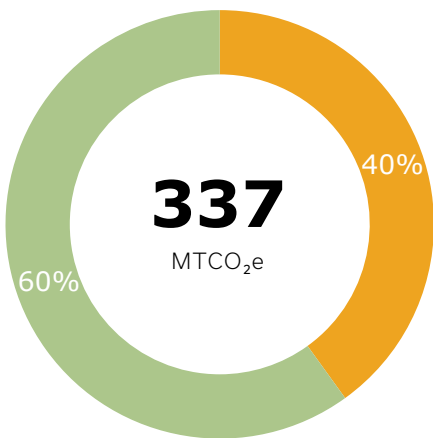
POTENTIAL OPPORTUNITIES

- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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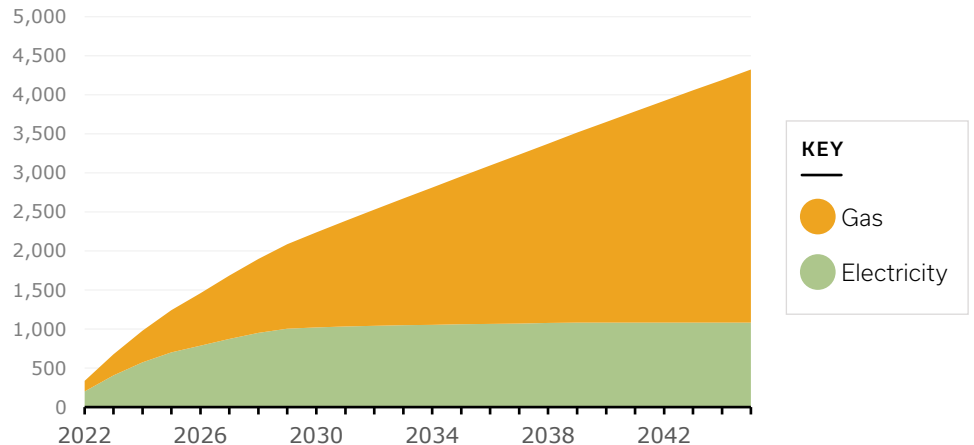
**RANKING
(OUT OF 20)**

| | | |
|---------------------|---|-----------|
| AREA | 65,248 SQUARE FEET | 13 |
| EUI | 53 kBTU/SF | 15 |
| ENERGY COSTS | \$76,645 | 15 |
| EMISSIONS | 337 MTCO ₂ e | 14 |
| EMISSIONS INTENSITY | 11.4 LBS-CO ₂ e/SF | 12 |
| WATER-USE INTENSITY | 5.5 GAL/SF | 15 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Beverly Cleary Fernwood Elementary School

BUILDING CONSTRUCTED: 1911

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

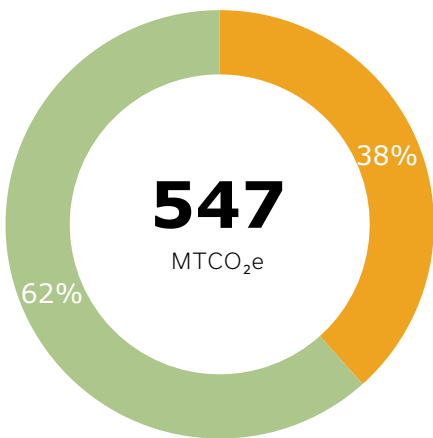
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

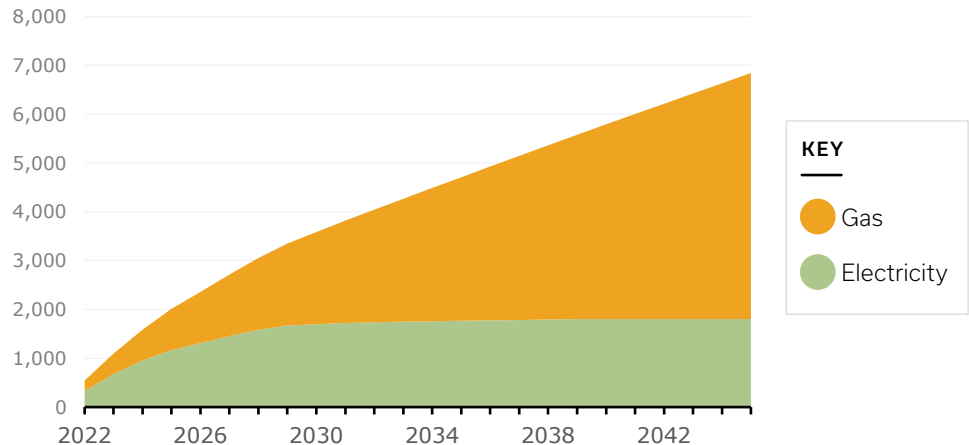
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 88,815 SQUARE FEET | 6 |
| EUI | 62 kBTU/SF | 10 |
| ENERGY COSTS | \$130,593 | 4 |
| EMISSIONS | 547 MTCO ₂ e | 4 |
| EMISSIONS INTENSITY | 13.6 LBS-CO ₂ e/SF | 6 |
| WATER-USE INTENSITY | 15.3 GAL/SF | 2 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Grant High School

BUILDING CONSTRUCTED: 1923 | MODERNIZED: 2019

SUMMARY OF EXISTING CONDITIONS

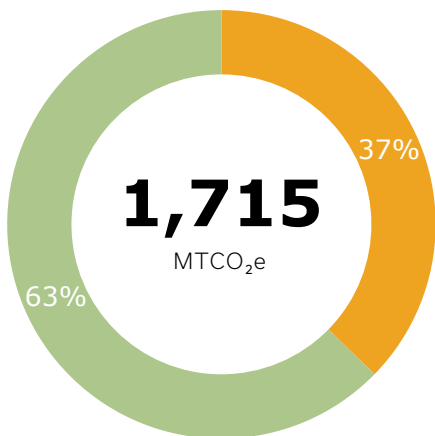
- Recent modernization
- Updated envelope, lighting, and mechanical systems
- Gas is still used for space and domestic water heating

POTENTIAL OPPORTUNITIES

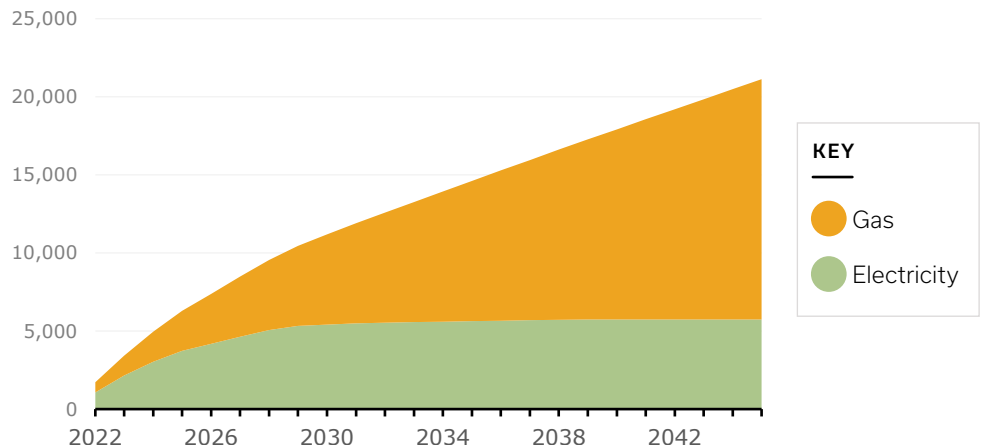
- Electrify all heating systems within the building
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
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-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 319,715 SQUARE FEET | 3 |
| EUI | 53 kBTU/SF | 16 |
| ENERGY COSTS | \$346,412 | 2 |
| EMISSIONS | 1,715 MTCO ₂ e | 2 |
| EMISSIONS INTENSITY | 11.8 LBS-CO ₂ e/SF | 10 |
| WATER-USE INTENSITY | 11.2 GAL/SF | 6 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Hollyrood Elementary School

BUILDING CONSTRUCTED: 1959

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

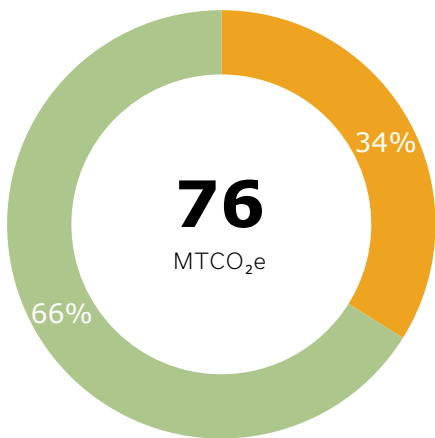
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

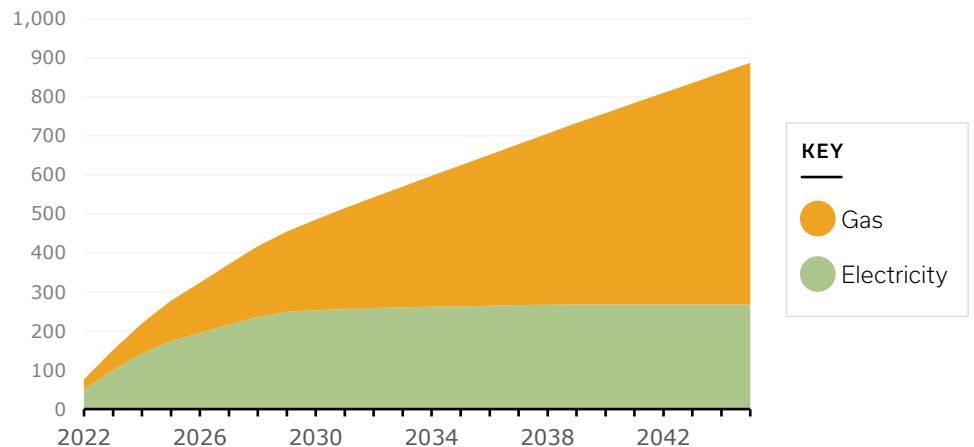
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 15,541 SQUARE FEET | 20 |
| EUI | 46 kBTU/SF | 17 |
| ENERGY COSTS | \$20,787 | 20 |
| EMISSIONS | 76 MTCO ₂ e | 20 |
| EMISSIONS INTENSITY | 10.8 LBS-CO ₂ e/SF | 15 |
| WATER-USE INTENSITY | 7.7 GAL/SF | 8 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Irvington Elementary School

BUILDING CONSTRUCTED: 1932

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

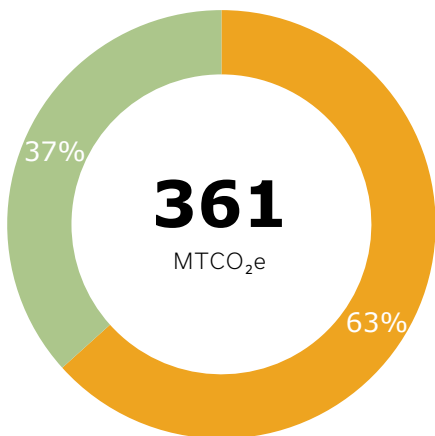
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

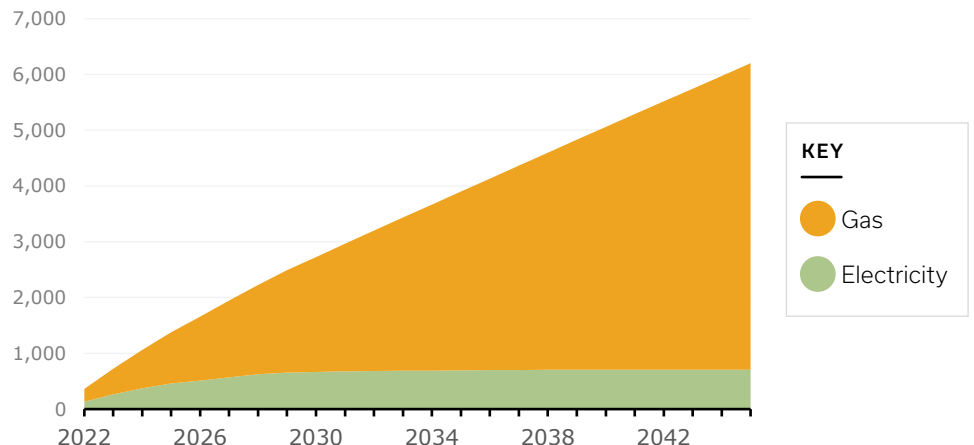
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
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| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 59,874 SQUARE FEET | 15 |
| EUI | 82 kBTU/SF | 1 |
| ENERGY COSTS | \$83,763 | 13 |
| EMISSIONS | 361 MTCO ₂ e | 9 |
| EMISSIONS INTENSITY | 13.3 LBS-CO ₂ e/SF | 7 |
| WATER-USE INTENSITY | 7.3 GAL/SF | 9 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Jason Lee Elementary School

BUILDING CONSTRUCTED: 1953

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

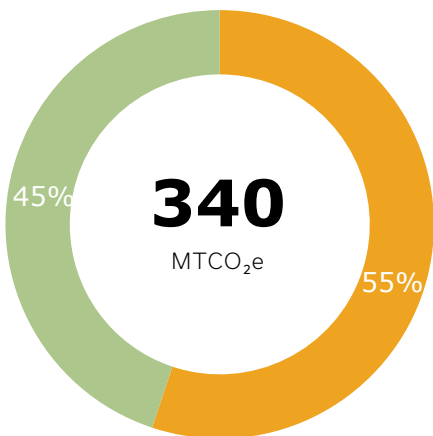
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

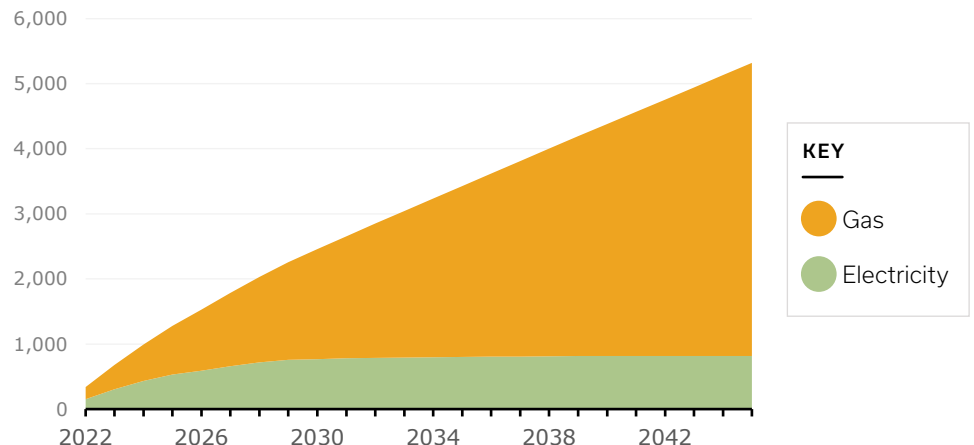
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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-

| | | RANKING (OUT OF 20) |
|---------------------|---|------------------------|
| AREA | 63,170 SQUARE FEET | 14 |
| EUI | 67 kBTU/SF | 7 |
| ENERGY COSTS | \$81,489 | 14 |
| EMISSIONS | 340 MTCO ₂ e | 13 |
| EMISSIONS INTENSITY | 11.9 LBS-CO ₂ e/SF | 9 |
| WATER-USE INTENSITY | 5.5 GAL/SF | 16 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



McDaniel High School

BUILDING CONSTRUCTED: 1955 | MODERNIZED: 2021

SUMMARY OF EXISTING CONDITIONS

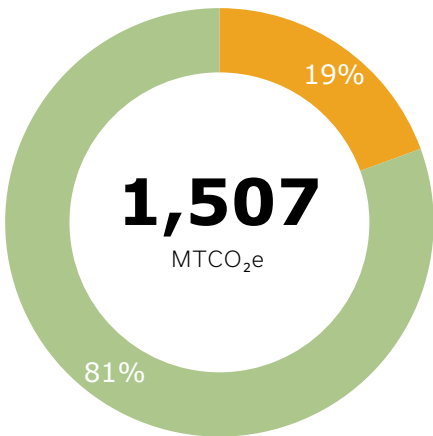
- Updated envelope, lighting, and mechanical systems
- Gas is still used for space and domestic water heating

POTENTIAL OPPORTUNITIES

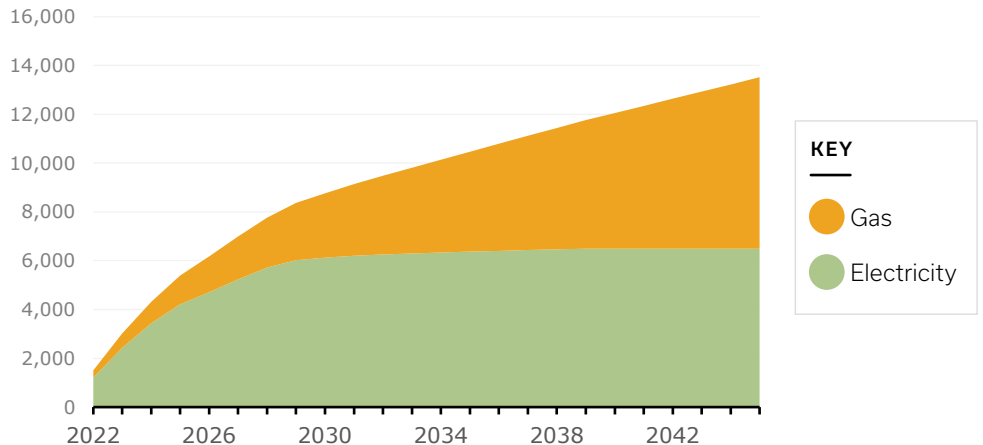
- Electrify all heating systems within the building
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|---------------------|--------------------------------------|------------------------|
| AREA | 333,441 SQUARE FEET | 2 |
| EUI | 31 kBTU/SF | 20 |
| ENERGY COSTS | \$320,160 | 3 |
| EMISSIONS | 1,507 MTCO ₂ e | 3 |
| EMISSIONS INTENSITY | 9 LBS-CO ₂ e/SF | 20 |
| WATER-USE INTENSITY | 3.2 GAL/SF | 19 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Alliance High School at Meek

BUILDING CONSTRUCTED: 1953

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

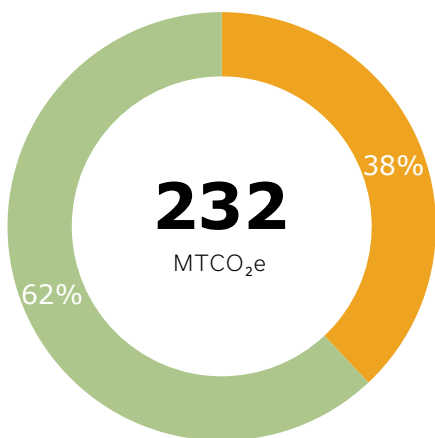
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

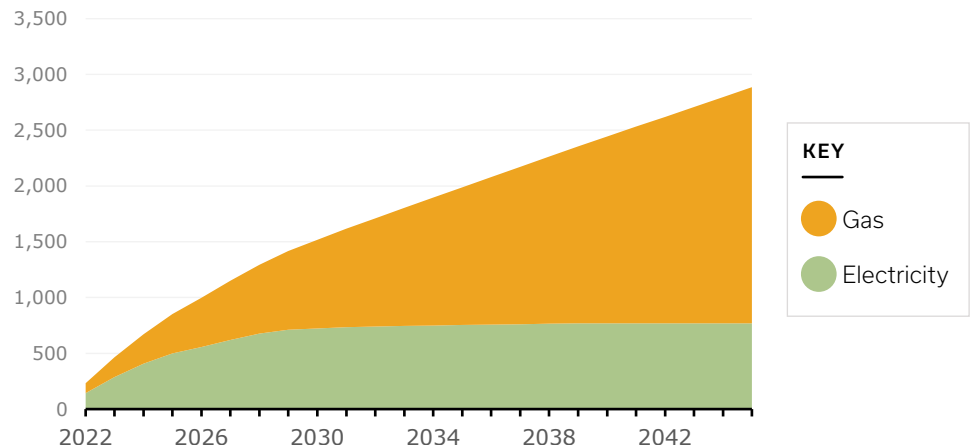
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 35,945 SQUARE FEET | 16 |
| EUI | 65 kBTU/SF | 8 |
| ENERGY COSTS | \$53,592 | 16 |
| EMISSIONS | 232 MTCO ₂ e | 16 |
| EMISSIONS INTENSITY | 14.2 LBS-CO ₂ e/SF | 5 |
| WATER-USE INTENSITY | 6.6 GAL/SF | 13 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Rice Admin Building

BUILDING CONSTRUCTED: 1956

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

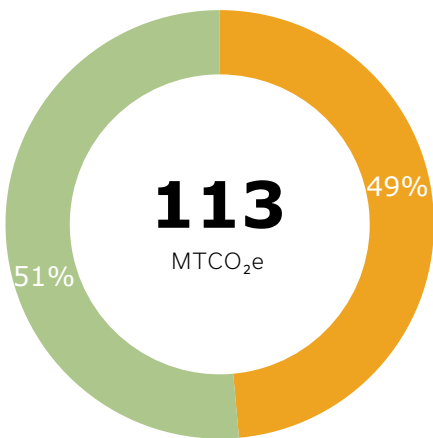
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

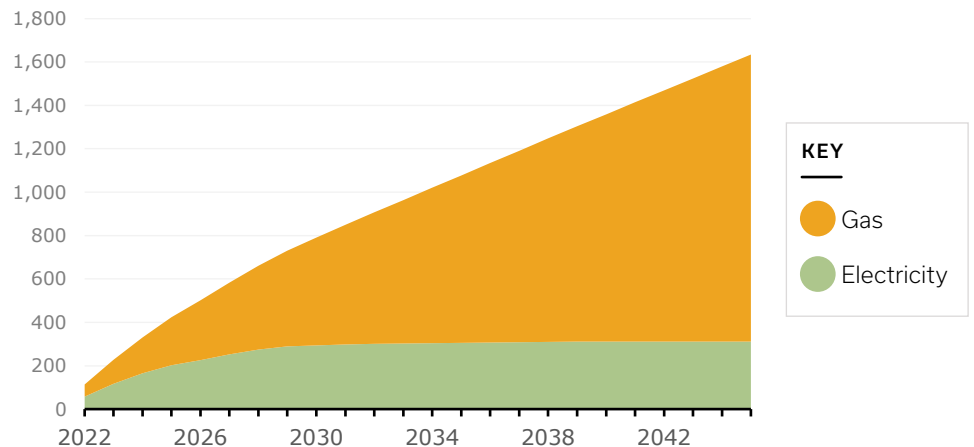
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 16,136 SQUARE FEET | 19 |
| EUI | 81 kBTU/SF | 2 |
| ENERGY COSTS | \$30,193 | 19 |
| EMISSIONS | 113 MTCO ₂ e | 19 |
| EMISSIONS INTENSITY | 15.5 LBS-CO ₂ e/SF | 3 |
| WATER-USE INTENSITY | 12.5 GAL/SF | 5 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Rigler Elementary School

BUILDING CONSTRUCTED: 1931

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

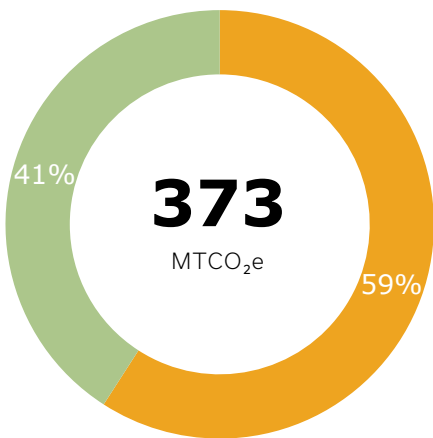
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

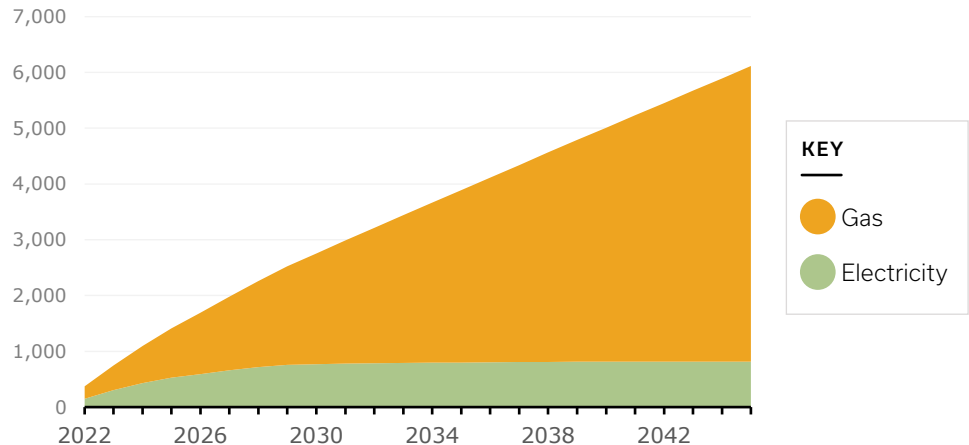
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 69,143 SQUARE FEET | 9 |
| EUI | 70 kBTU/SF | 4 |
| ENERGY COSTS | \$97,942 | 7 |
| EMISSIONS | 373 MTCO ₂ e | 8 |
| EMISSIONS INTENSITY | 11.9 LBS-CO ₂ e/SF | 8 |
| WATER-USE INTENSITY | 12.6 GAL/SF | 4 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Roseway Heights Middle School

BUILDING CONSTRUCTED: 1923

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

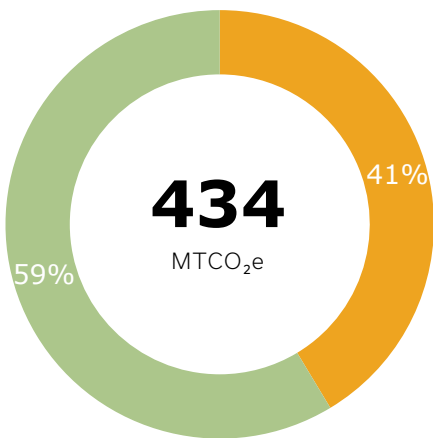
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

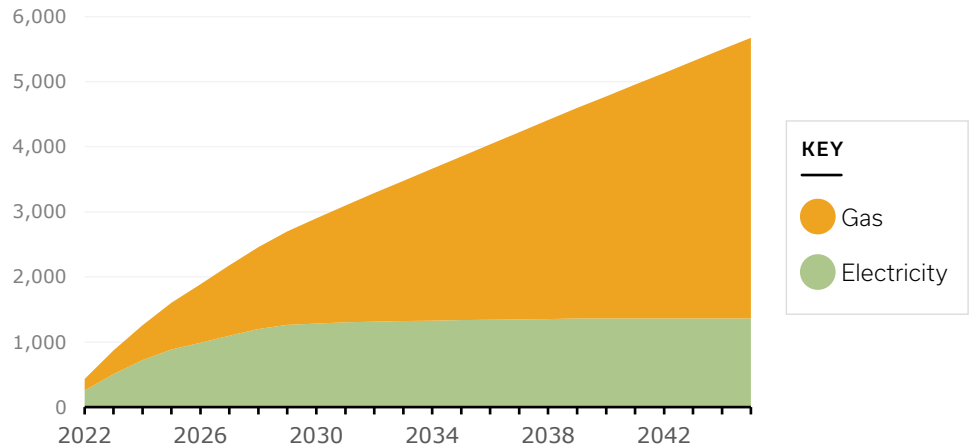
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 103,610 SQUARE FEET | 4 |
| EUI | 44 kBTU/SF | 18 |
| ENERGY COSTS | \$90,417 | 8 |
| EMISSIONS | 434 MTCO ₂ e | 6 |
| EMISSIONS INTENSITY | 9.2 LBS-CO ₂ e/SF | 19 |
| WATER-USE INTENSITY | 3.1 GAL/SF | 20 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Sabin Elementary School

BUILDING CONSTRUCTED: 1965

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

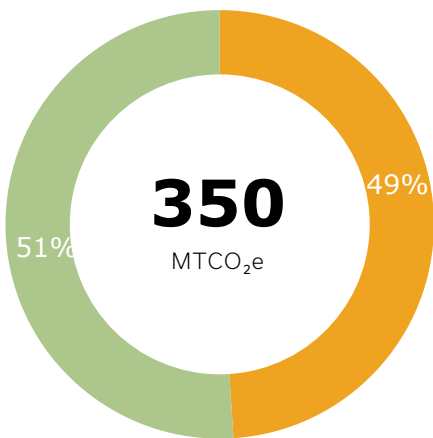
POTENTIAL OPPORTUNITIES

- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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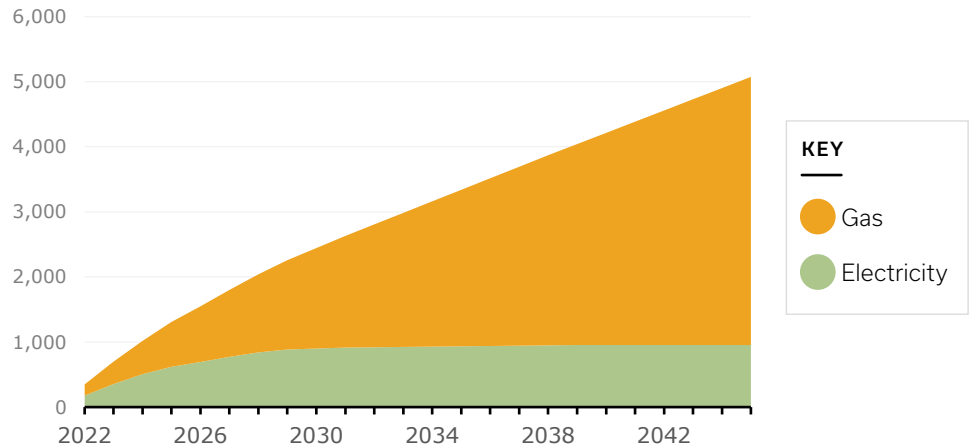
RANKING
(OUT OF 20)

| | | |
|----------------------------|---|-----------|
| AREA | 65,769 SQUARE FEET | 11 |
| EUI | 62 kBTU/SF | 10 |
| ENERGY COSTS | \$85,469 | 12 |
| EMISSIONS | 350 MTCO ₂ e | 11 |
| EMISSIONS INTENSITY | 11.7 LBS-CO ₂ e/SF | 11 |
| WATER-USE INTENSITY | 5.3 GAL/SF | 17 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Sacajawea Head Start

BUILDING CONSTRUCTED: 1952

SUMMARY OF EXISTING CONDITIONS

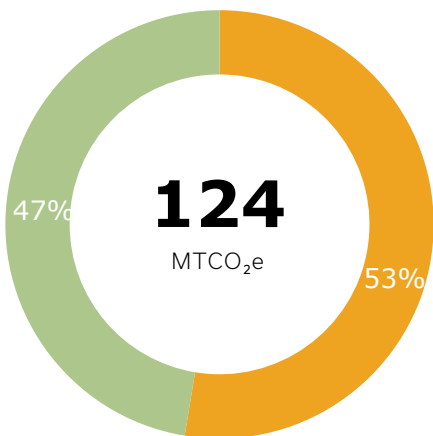
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

POTENTIAL OPPORTUNITIES

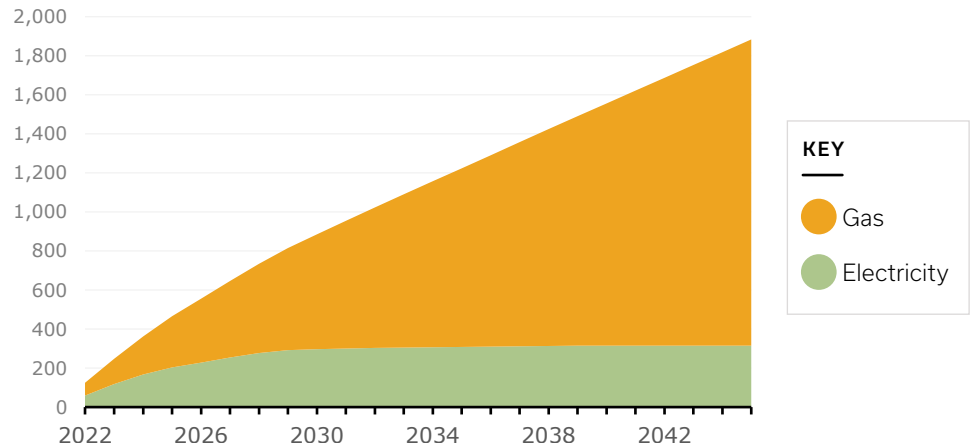
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | | RANKING (OUT OF 20) |
|---------------------|---|------------------------|
| AREA | 18,862 SQUARE FEET | 18 |
| EUI | 80 KBTU/SF | 3 |
| ENERGY COSTS | \$38,307 | 17 |
| EMISSIONS | 124 MTCO ₂ e | 18 |
| EMISSIONS INTENSITY | 14.5 LBS-CO ₂ e/SF | 4 |
| WATER-USE INTENSITY | 19.5 GAL/SF | 1 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Scott Elementary School

BUILDING CONSTRUCTED: 1951

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

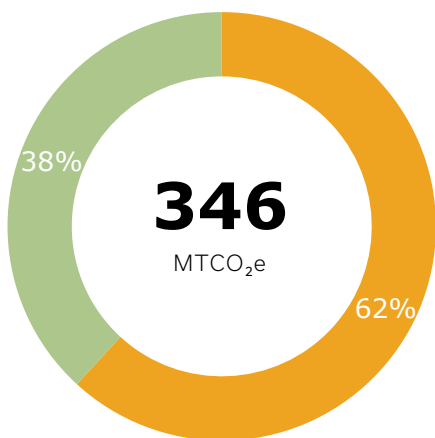
POTENTIAL OPPORTUNITIES

- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
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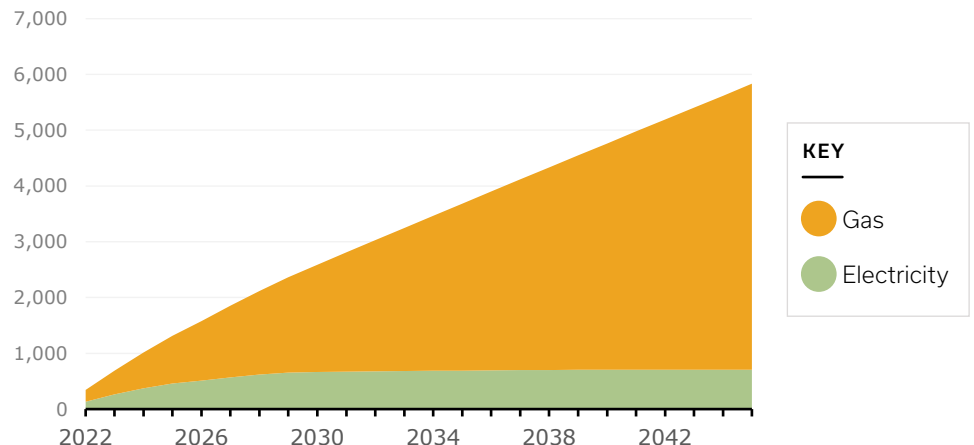
RANKING
(OUT OF 20)

| | | |
|----------------------------|---|-----------|
| AREA | 68,805 SQUARE FEET | 10 |
| EUI | 67 kBTU/SF | 6 |
| ENERGY COSTS | \$86,642 | 11 |
| EMISSIONS | 346 MTCO ₂ e | 12 |
| EMISSIONS INTENSITY | 11.1 LBS-CO ₂ e/SF | 13 |
| WATER-USE INTENSITY | 6.9 GAL/SF | 11 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Harriet Tubman Middle School

BUILDING CONSTRUCTED: 1986 | PARTIAL MODERNIZATION: 2018

NOTE: SCHOOL RELOCATION PLANS UNDER CONSIDERATION

SUMMARY OF EXISTING CONDITIONS

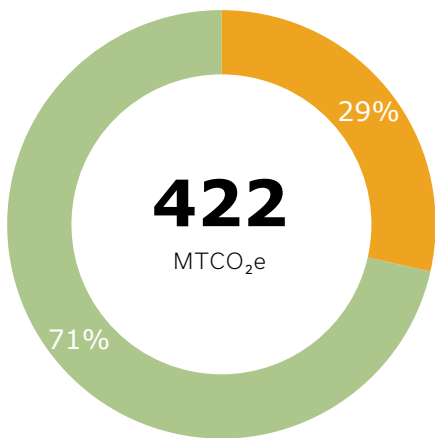
- Renovated or new envelope elements
- Updated lighting systems
- New mechanical systems still use gas for space and domestic water heating

POTENTIAL OPPORTUNITIES

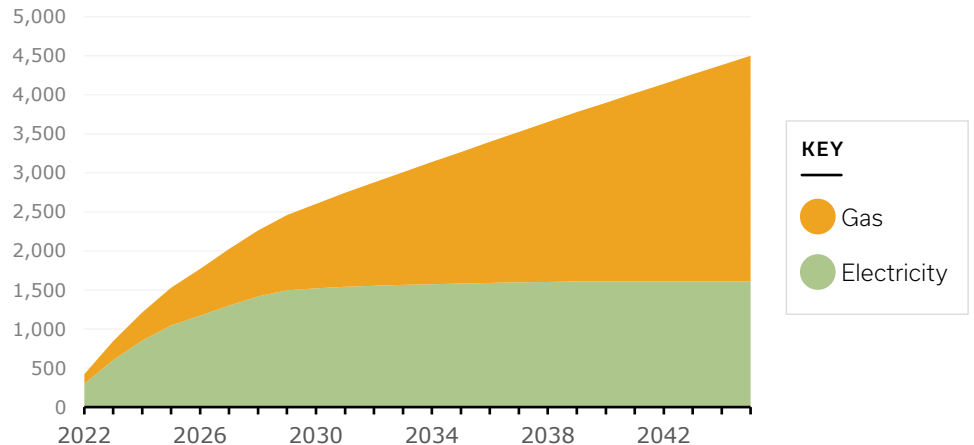
- Electrify all heating systems within the building
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 87,610 SQUARE FEET | 7 |
| EUI | 42 kBTU/SF | 19 |
| ENERGY COSTS | \$108,463 | 5 |
| EMISSIONS | 422 MTCO ₂ e | 7 |
| EMISSIONS INTENSITY | 10.6 LBS-CO ₂ e/SF | 18 |
| WATER-USE INTENSITY | 6.7 GAL/SF | 12 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Vestal Elementary School

BUILDING CONSTRUCTED: 1931

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

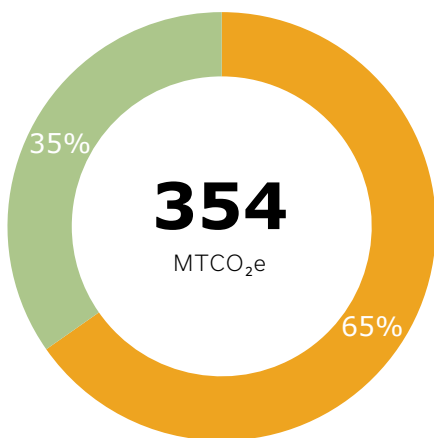
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

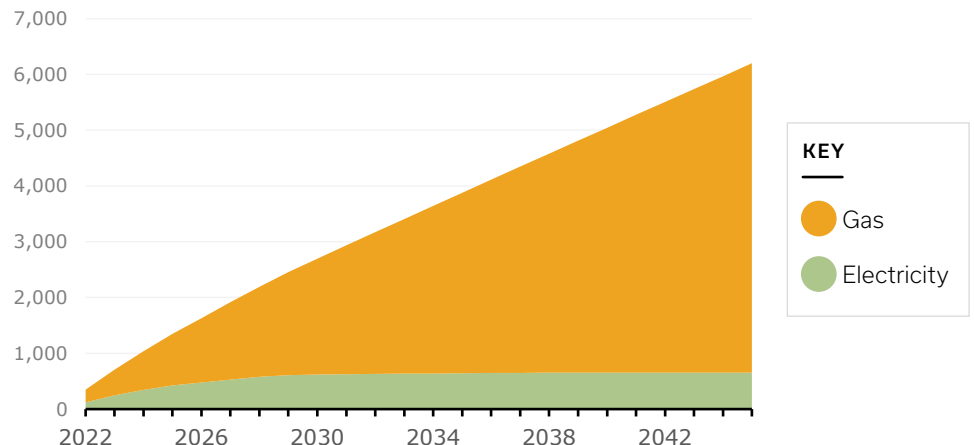
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 72,906 SQUARE FEET | 8 |
| EUI | 67 kBTU/SF | 5 |
| ENERGY COSTS | \$88,616 | 9 |
| EMISSIONS | 354 MTCO ₂ e | 10 |
| EMISSIONS INTENSITY | 10.7 LBS-CO ₂ e/SF | 17 |
| WATER-USE INTENSITY | 7.8 GAL/SF | 7 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



GRANT-MCDANIEL CLUSTERS



Wilcox Admin Building

BUILDING CONSTRUCTED: 1959

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Some space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

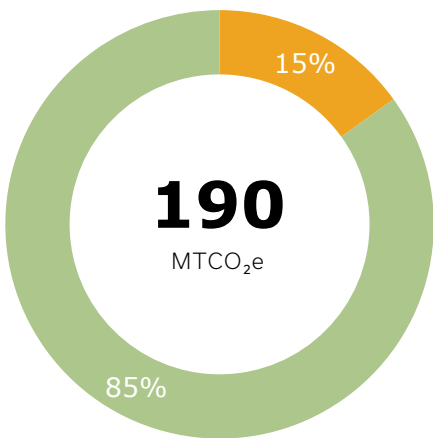
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

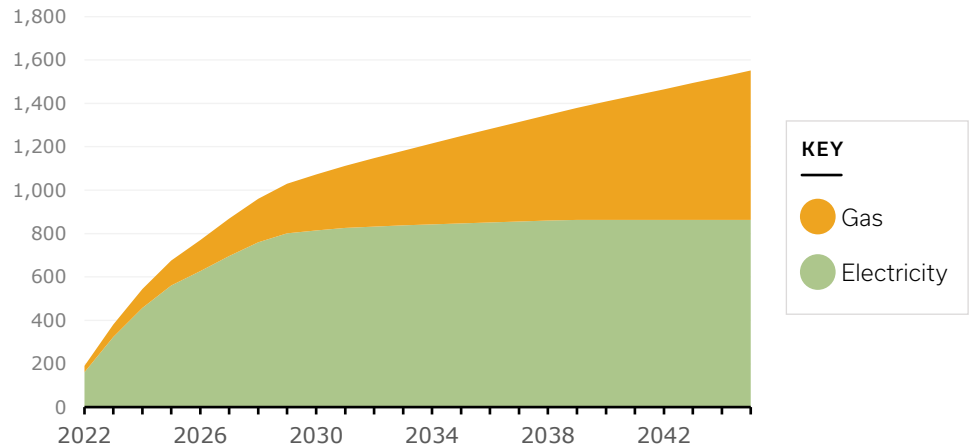
- Electrify all heating systems within the building
- Incorporate heat pump systems for heating and cooling
- Improve ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporate renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-

| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 20,432 SQUARE FEET | 17 |
| EUI | 63 kBTU/SF | 9 |
| ENERGY COSTS | \$35,449 | 18 |
| EMISSIONS | 190 MTCO ₂ e | 17 |
| EMISSIONS INTENSITY | 20.5 LBS-CO ₂ e/SF | 1 |
| WATER-USE INTENSITY | 7.2 GAL/SF | 10 |

ANNUAL EMISSIONS FOR 2022



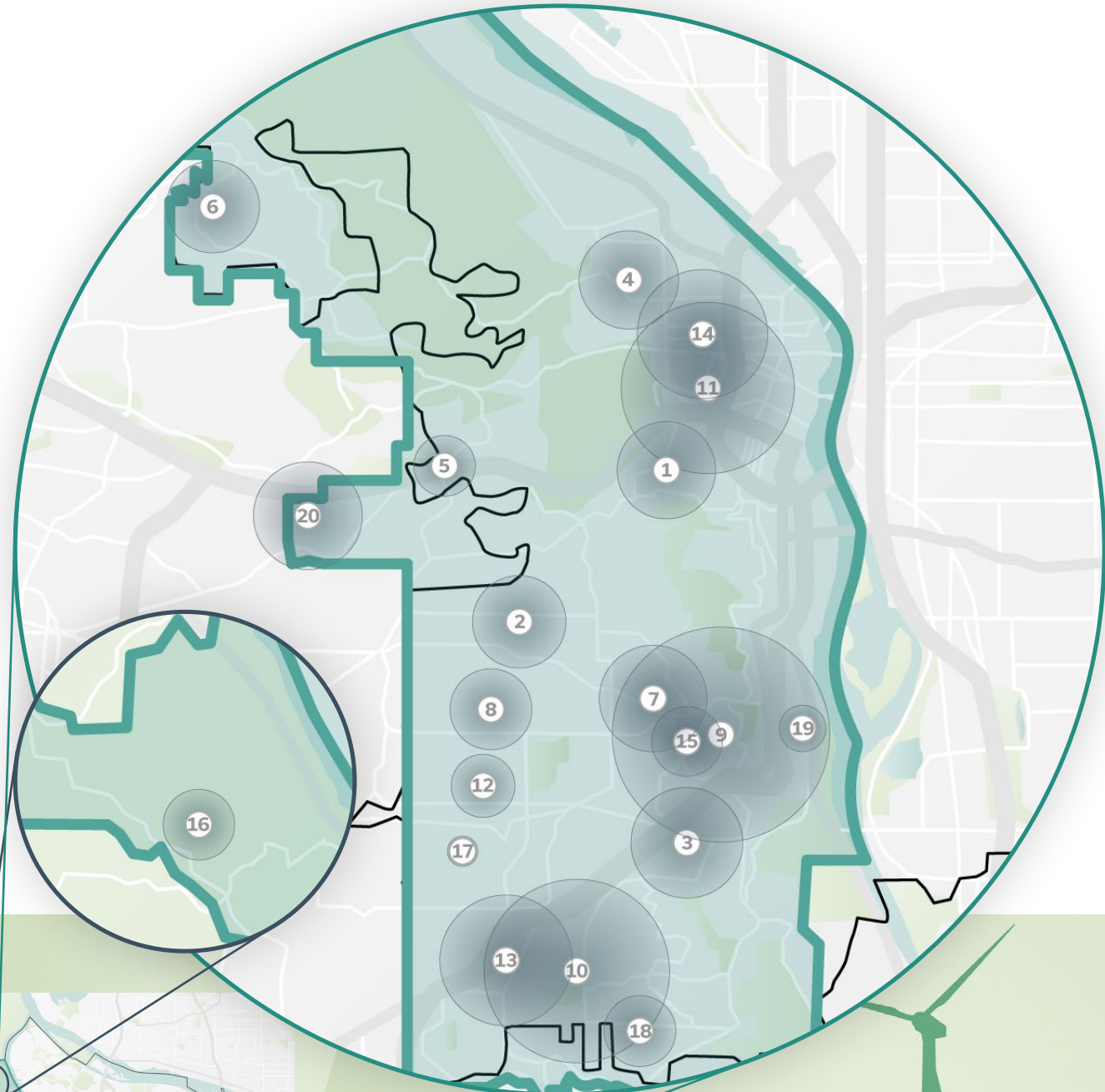
PROJECTED EMISSIONS 2022 - 2045



*Electric emissions projection based on 2023 emissions outlook from Pacific Power

Building Performance for Lincoln + Ida B Wells Clusters

PORTLAND PUBLIC SCHOOLS | 2022



| FACILITY | AREA (SF) | EUI (kBtu/SF/YR) | ENERGY COST (\$) | GAS EMISSIONS (MTCO ₂ E) | ELECTRIC EMISSIONS (MTCO ₂ E) | TOTAL EMISSIONS (MTCO ₂ E) | EMISSIONS INTENSITY (LBS CO ₂ E/SF) | WATER USE INTENSITY (GAL/SF) |
|-------------------|-----------|------------------|------------------|-------------------------------------|--|---------------------------------------|--|------------------------------|
| 1 Ainsworth | 57,188 | 64 | \$102,633 | 126 | 115 | 241 | 9.3 | 9.2 |
| 2 Bridlemile* | 56,220 | 63 | \$101,574 | 144 | 74 | 218 | 8.6 | 13.0 |
| 3 Capitol Hill | 51,812 | 104 | \$96,191 | 249 | 60 | 310 | 13.2 | 5.9 |
| 4 Chapman | 64,385 | 64 | \$92,224 | 176 | 68 | 243 | 8.3 | 7.9 |
| 5 East Sylvan | 24,875 | 62 | \$40,576 | 67 | 27 | 94 | 8.4 | 4.8 |
| 6 Forest Park | 62,833 | 50 | \$99,669 | 87 | 128 | 215 | 7.6 | 15.3 |
| 7 Gray | 74,614 | 67 | \$98,451 | 231 | 58 | 290 | 8.6 | 7.5 |
| 8 Hayhurst | 50,314 | 56 | \$71,557 | 128 | 40 | 167 | 7.3 | 5.7 |
| 9 Ida B* | 290,246 | 68 | \$410,436 | 868 | 325 | 1,193 | 9.1 | 8.2 |
| 10 Jackson* | 219,281 | 65 | \$317,203 | 607 | 247 | 854 | 8.6 | 13.4 |
| 11 Lincoln* | 205,809 | 51 | \$330,911 | 285 | 430 | 715 | 7.7 | 13.2 |
| 12 Maplewood | 40,636 | 37 | \$62,600 | 45 | 55 | 100 | 5.4 | 47.8 |
| 13 Markham | 79,714 | 94 | \$138,629 | 349 | 85 | 434 | 12.0 | 10.9 |
| 14 MLC | 70,349 | 106 | \$136,021 | 357 | 67 | 424 | 13.3 | 19.0 |
| 15 Rieke | 34,272 | 59 | \$61,843 | 81 | 43 | 124 | 8.0 | 15.1 |
| 16 Skyline | 38,327 | 56 | \$36,516 | 94 | 32 | 126 | 7.2 | 0.0 |
| 17 Smith (vacant) | 53,460 | 1 | \$12,860 | 0 | 2 | 2 | 0.1 | 2.0 |
| 18 Stephenson | 40,460 | 49 | \$58,030 | 69 | 60 | 129 | 7.0 | 6.7 |
| 19 Terwilliger | 26,365 | 86 | \$53,551 | 101 | 32 | 133 | 11.1 | 5.6 |
| 20 West Sylvan | 108,187 | 44 | \$132,991 | 193 | 99 | 292 | 6.0 | 14.4 |
| Cluster Total | 1,649,347 | | \$2,321,476 | 4,257 | 2,048 | 6,305 | N/A | N/A |
| District Total | 9,065,846 | | \$12,197,485 | 22,581 | 18,113 | 40,694 | N/A | N/A |
| Cluster Average | 82,467 | 63 | \$122,723 | 213 | 102 | 316 | 8.4 | 11.4 |
| District Average | 88,018 | 62 | \$118,422 | 219 | 176 | 395 | 9.9 | 8.4 |

MAP KEY

- City of Portland Boundary
 - Cluster Boundary
 - Total Emissions MTCO₂E
- * Electric emissions include offset from on-site PV

20

TOTAL BUILDINGS

6,305

MTCO₂E
TOTAL EMISSIONS

8.4

LBS CO₂E/SF
AVERAGE EMISSIONS INTENSITY

11.4

GAL/SF
AVERAGE WATER USE INTENSITY

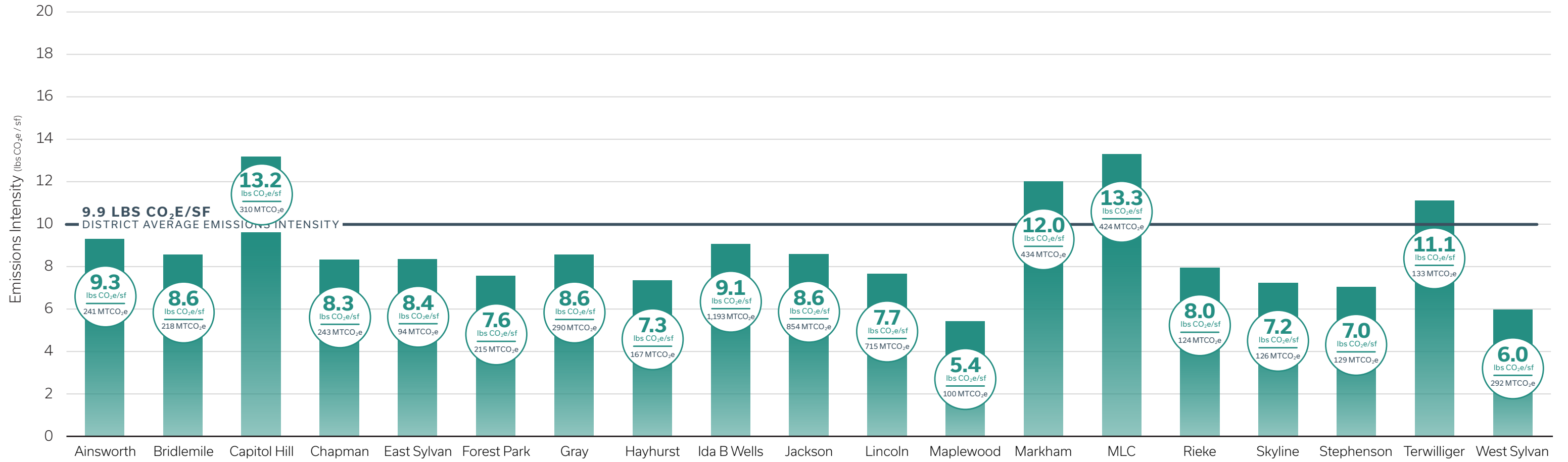
- The total emissions from these clusters account for roughly 15% of the total emissions for the district, with the average emissions intensities being roughly 15% lower than the district average.
- The school with the highest total emissions (Cleveland High School) is currently in the planning phase of a modernization project.
- Gas emissions account for the majority of emissions in 16/20 schools and electrifying gas equipment will have a significant impact in reducing these emissions, particularly as the electrical grid decarbonizes.

KEY ABBREVIATIONS

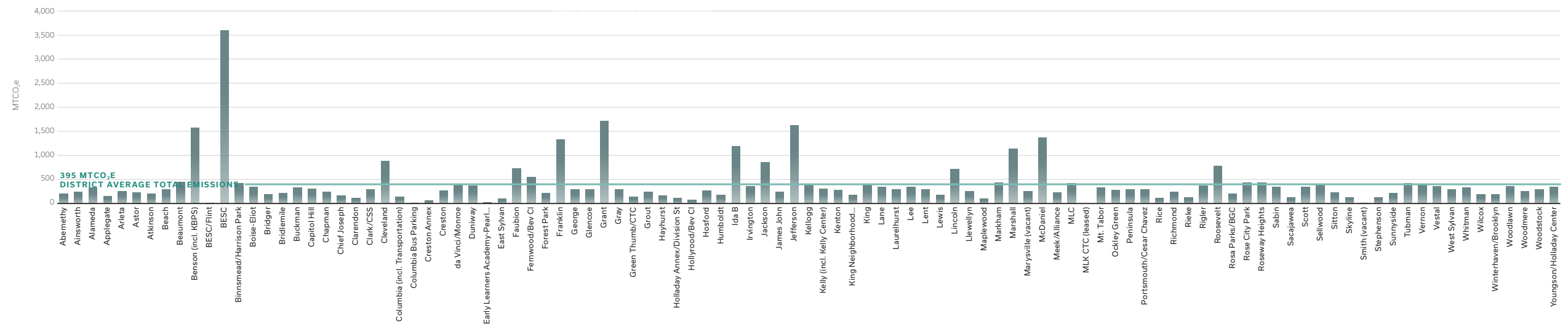
- EUI | Energy Use Intensity
- KBTU | Thousand British thermal units
- SF | square feet
- CO₂E | CO₂ equivalent
- MT | Metric Ton
- LBS | Pounds

Building Performance for Lincoln + Ida B Wells Clusters

PORTLAND PUBLIC SCHOOLS | 2022



PORTLAND PUBLIC SCHOOL TOTAL EMISSIONS: 2022-2023 ACADEMIC YEAR





LINCOLN - IDA B WELLS CLUSTERS



Ainsworth Elementary School

BUILDING CONSTRUCTED: 1962

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

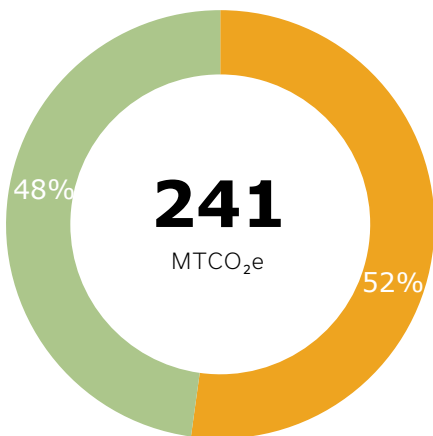
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

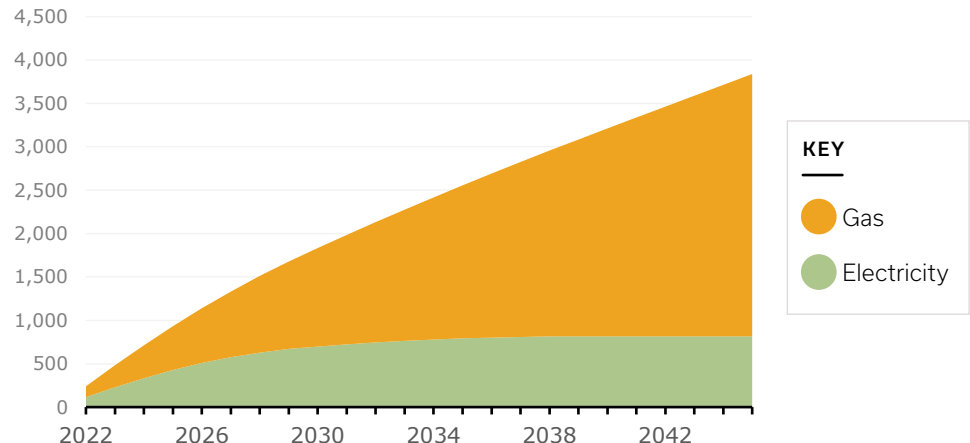
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 57,188 SQUARE FEET | 10 |
| EUI | 65 kBTU/SF | 8 |
| ENERGY COSTS | \$102,633 | 7 |
| EMISSIONS | 241 MTCO ₂ e | 10 |
| EMISSIONS INTENSITY | 9.3 LBS-CO ₂ e/SF | 5.0 |
| WATER-USE INTENSITY | 9.2 GAL/SF | 10 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS

Bridlemile Elementary School

BUILDING CONSTRUCTED: 1958

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology
- On-site PV offsets electricity consumption

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

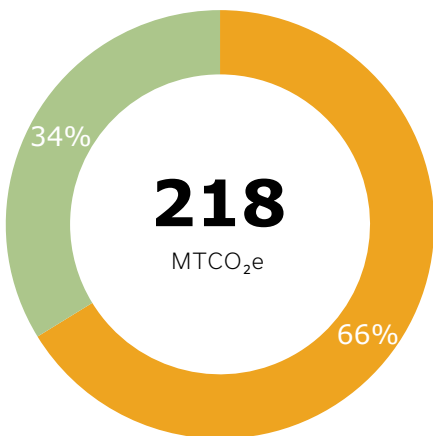
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Increased tree canopy and green space
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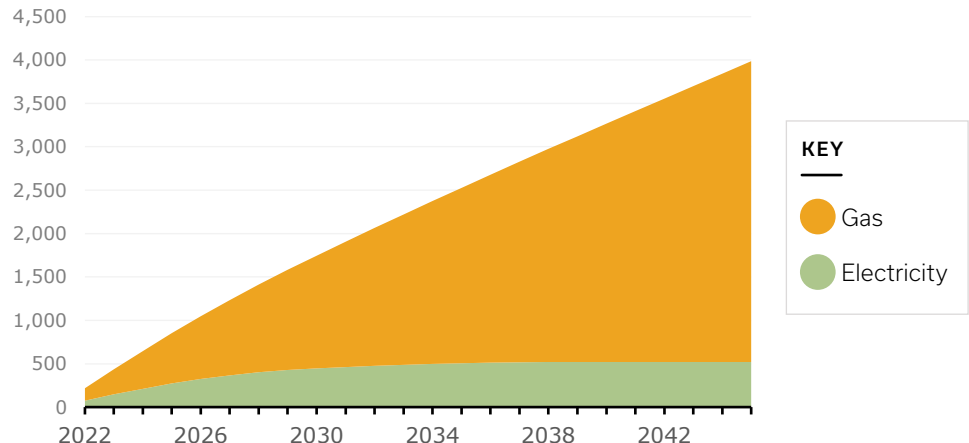


| AREA | VALUE | RANKING (OUT OF 20) |
|---------------------|---------------------------------|------------------------|
| AREA | 56,220 SQUARE FEET | 11 |
| EUI | 64 kBTU/SF | 9 |
| ENERGY COSTS | \$101,574 | 8 |
| EMISSIONS | 218 MTCO ₂ e | 11 |
| EMISSIONS INTENSITY | 8.6 LBS-CO ₂ e/SF | 9.0 |
| WATER-USE INTENSITY | 13.0 GAL/SF | 8 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*





LINCOLN - IDA B WELLS CLUSTERS



Capitol Hill Elementary School

BUILDING CONSTRUCTED: 1958

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

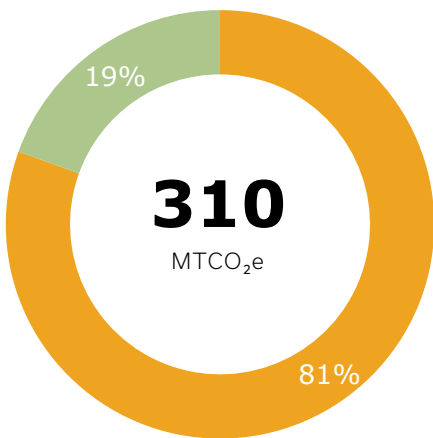
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

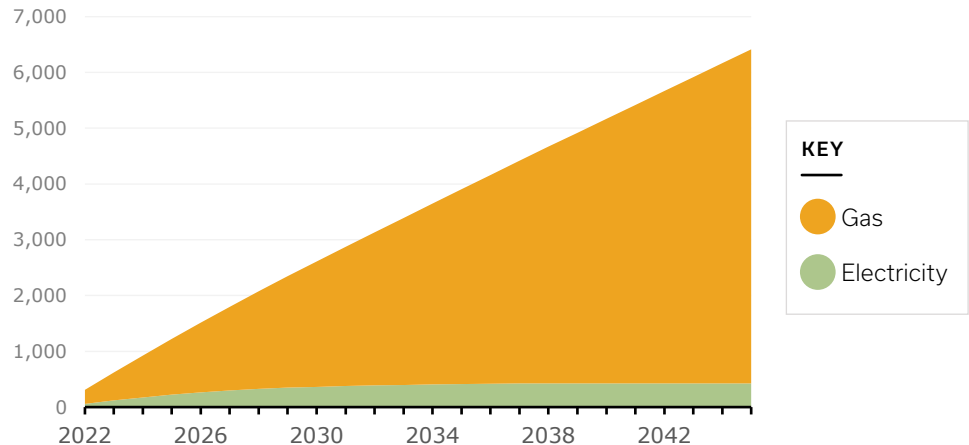
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|---|-------------------------------|
| AREA | 51,812 SQUARE FEET | 13 |
| EUI | 105 kBTU/SF | 2 |
| ENERGY COSTS | \$96,191 | 11 |
| EMISSIONS | 310 MTCO ₂ e | 6 |
| EMISSIONS INTENSITY | 13.2 LBS-CO ₂ e/SF | 2.0 |
| WATER-USE INTENSITY | 5.9 GAL/SF | 15 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS

Chapman Elementary School

BUILDING CONSTRUCTED: 1923

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

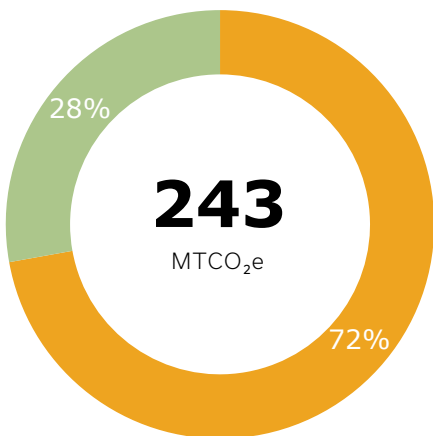
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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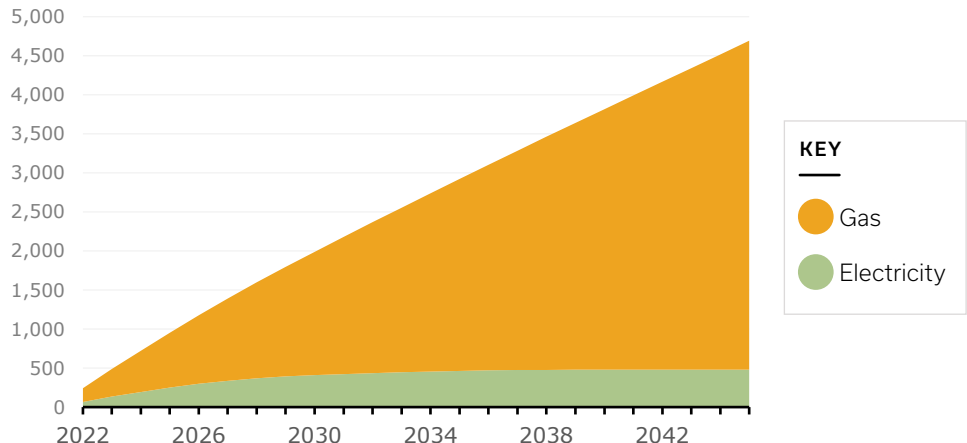


| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 64,385 SQUARE FEET | 8 |
| EUI | 64 kBTU/SF | 10 |
| ENERGY COSTS | \$92,224 | 12 |
| EMISSIONS | 243 MTCO ₂ e | 9 |
| EMISSIONS INTENSITY | 8.3 LBS-CO ₂ e/SF | 11.0 |
| WATER-USE INTENSITY | 7.9 GAL/SF | 12 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



East Sylvan Elementary School

BUILDING CONSTRUCTED: 1933

SUMMARY OF EXISTING CONDITIONS

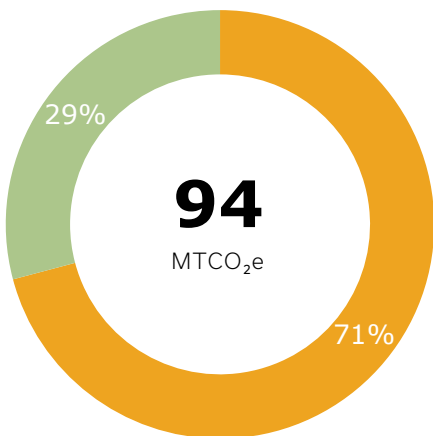
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

POTENTIAL OPPORTUNITIES

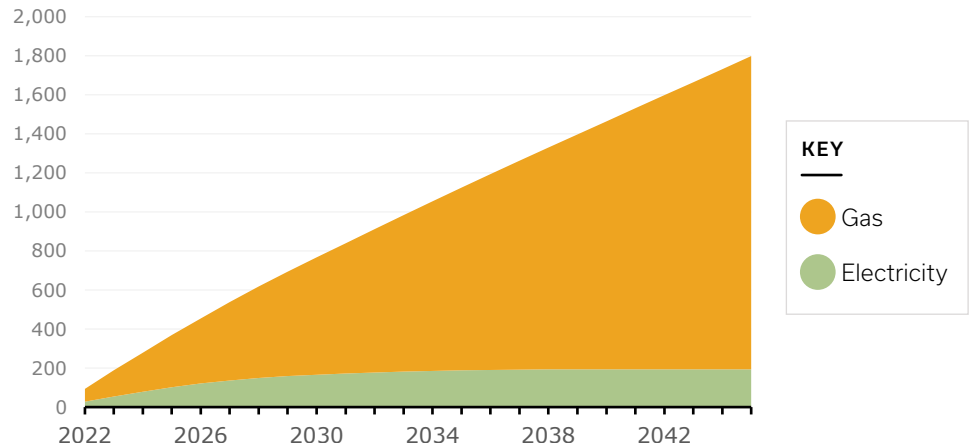
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 24,875 SQUARE FEET | 20 |
| EUI | 64 kBTU/SF | 11 |
| ENERGY COSTS | \$40,576 | 18 |
| EMISSIONS | 94 MTCO ₂ e | 19 |
| EMISSIONS INTENSITY | 8.4 LBS-CO ₂ e/SF | 10.0 |
| WATER-USE INTENSITY | 4.8 GAL/SF | 18 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Forest Park Elementary School

BUILDING CONSTRUCTED: 1998

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

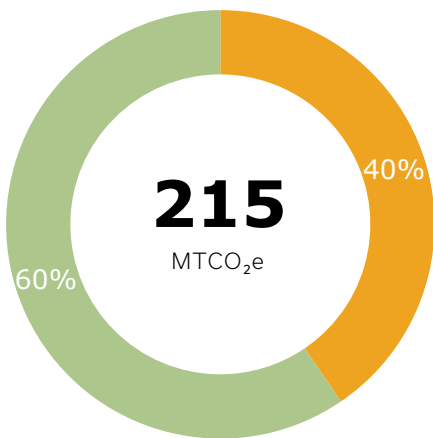
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

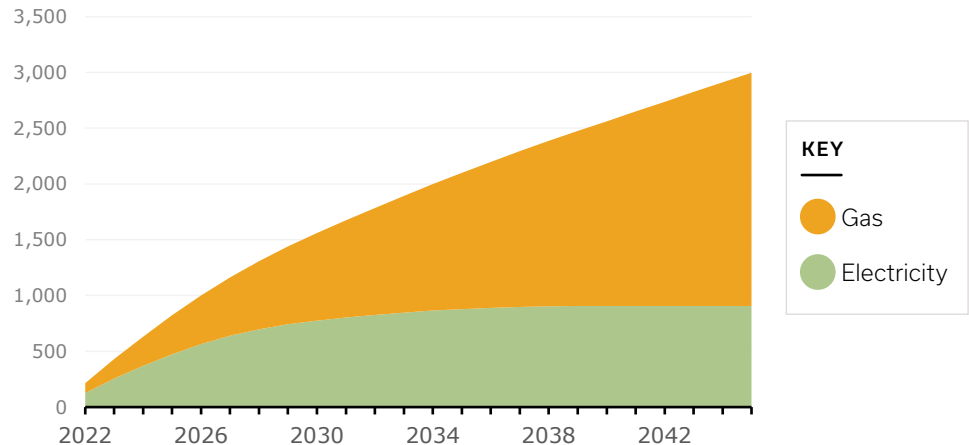
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 62,833 SQUARE FEET | 9 |
| EUI | 50 kBTU/SF | 16 |
| ENERGY COSTS | \$99,669 | 9 |
| EMISSIONS | 215 MTCO ₂ e | 12 |
| EMISSIONS INTENSITY | 7.6 LBS-CO ₂ e/SF | 14.0 |
| WATER-USE INTENSITY | 15.3 GAL/SF | 3 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Gray Middle School

BUILDING CONSTRUCTED: 1952

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

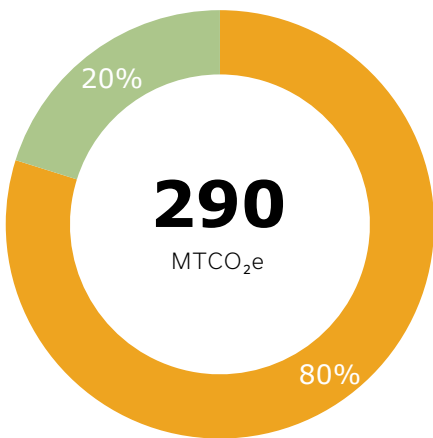
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

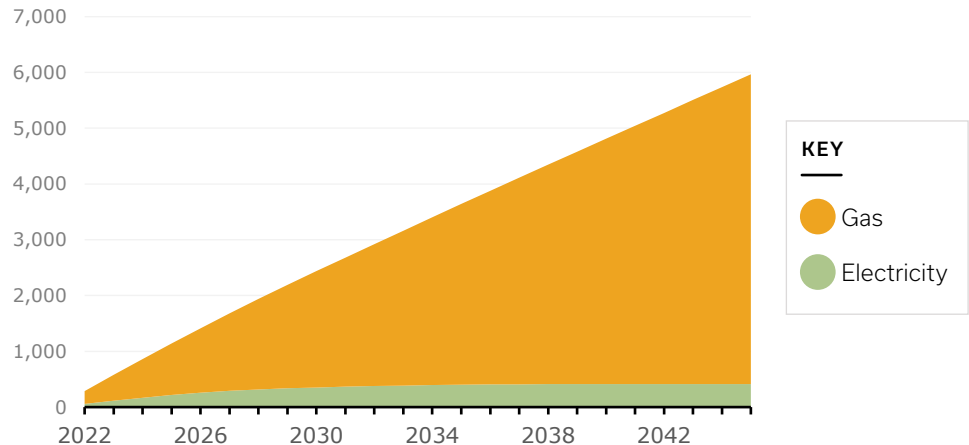
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 74,614 SQUARE FEET | 6 |
| EUI | 68 kBTU/SF | 6 |
| ENERGY COSTS | \$98,451 | 10 |
| EMISSIONS | 290 MTCO ₂ e | 8 |
| EMISSIONS INTENSITY | 8.6 LBS-CO ₂ e/SF | 8.0 |
| WATER-USE INTENSITY | 7.5 GAL/SF | 13 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Hayhurst Elementary School

BUILDING CONSTRUCTED: 1954

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

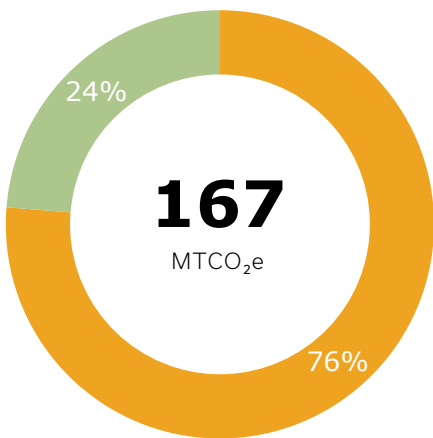
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

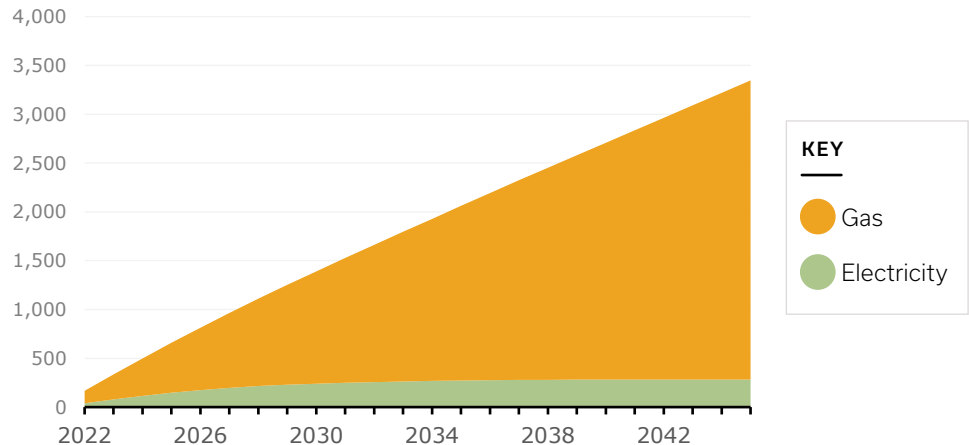
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 50,314 SQUARE FEET | 14 |
| EUI | 57 kBTU/SF | 13 |
| ENERGY COSTS | \$71,557 | 13 |
| EMISSIONS | 167 MTCO ₂ e | 13 |
| EMISSIONS INTENSITY | 7.3 LBS-CO ₂ e/SF | 15.0 |
| WATER-USE INTENSITY | 5.7 GAL/SF | 16 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Ida B Wells High School

BUILDING CONSTRUCTED: 1954

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded
- On-site PV offsets electricity consumption

CURRENTLY PLANNED IMPROVEMENTS

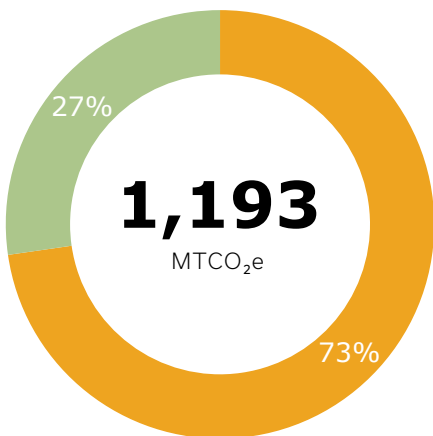
- Modernization design currently in development

POTENTIAL OPPORTUNITIES

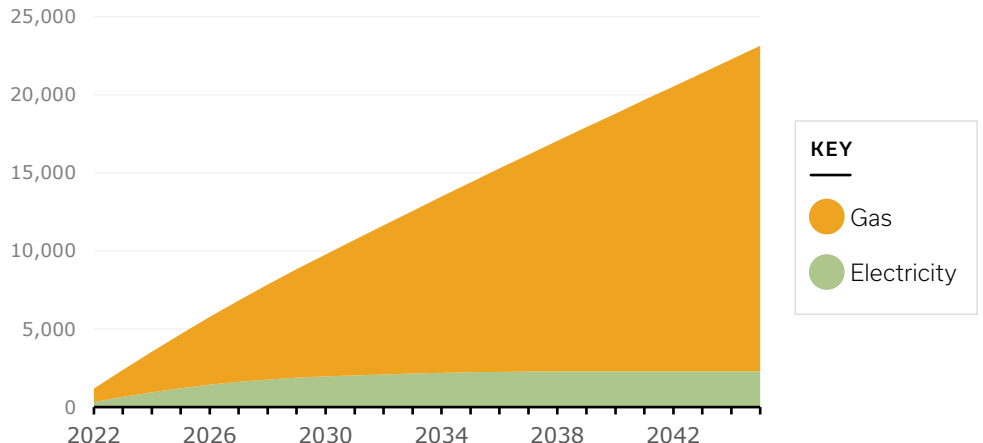
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 290,246 SQUARE FEET | 1 |
| EUI | 70 kBTU/SF | 5 |
| ENERGY COSTS | \$410,436 | 1 |
| EMISSIONS | 1,193 MTCO ₂ e | 1 |
| EMISSIONS INTENSITY | 9.1 LBS-CO ₂ e/SF | 6.0 |
| WATER-USE INTENSITY | 8.2 GAL/SF | 11 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS

Jackson Middle School

BUILDING CONSTRUCTED: 1966

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

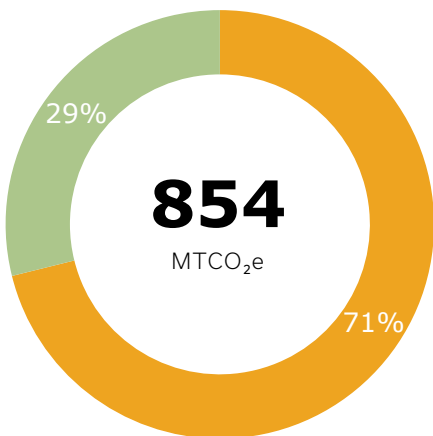
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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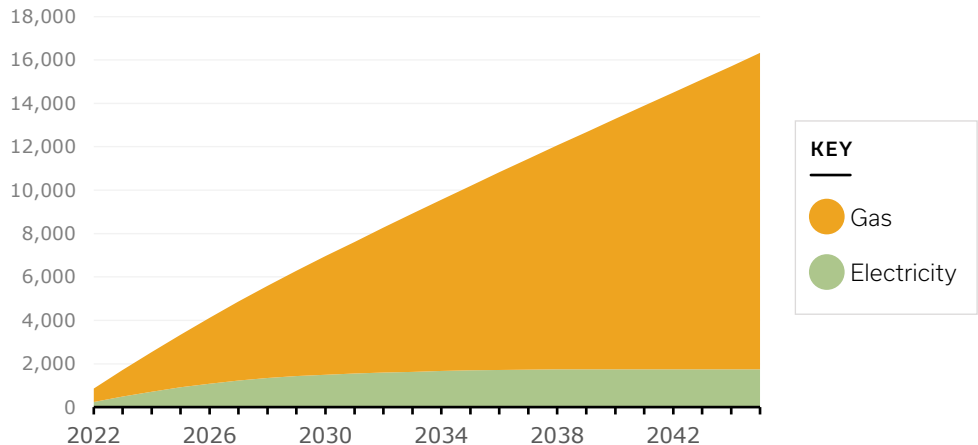


| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 219,281 SQUARE FEET | 2 |
| EUI | 65 kBTU/SF | 7 |
| ENERGY COSTS | \$317,203 | 3 |
| EMISSIONS | 854 MTCO ₂ e | 2 |
| EMISSIONS INTENSITY | 8.6 LBS-CO ₂ e/SF | 7.0 |
| WATER-USE INTENSITY | 13.4 GAL/SF | 6 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*





LINCOLN - IDA B WELLS CLUSTERS



Lincoln High School

BUILDING CONSTRUCTED: 2023

NOTE

Lincoln High School was recently replaced with a new structure that incorporates many of the improvements recommended for other schools in the district.

SUMMARY OF EXISTING CONDITIONS

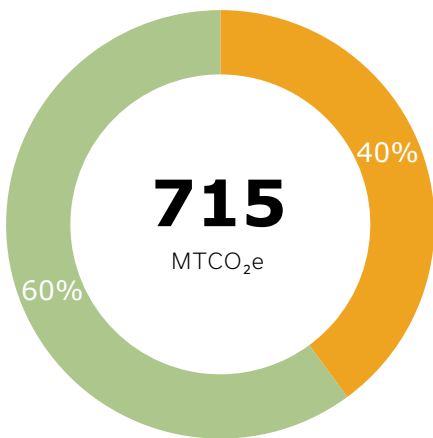
- New building, including envelope, lighting, and mechanical systems
- New equipment still uses gas for space heating

POTENTIAL OPPORTUNITIES

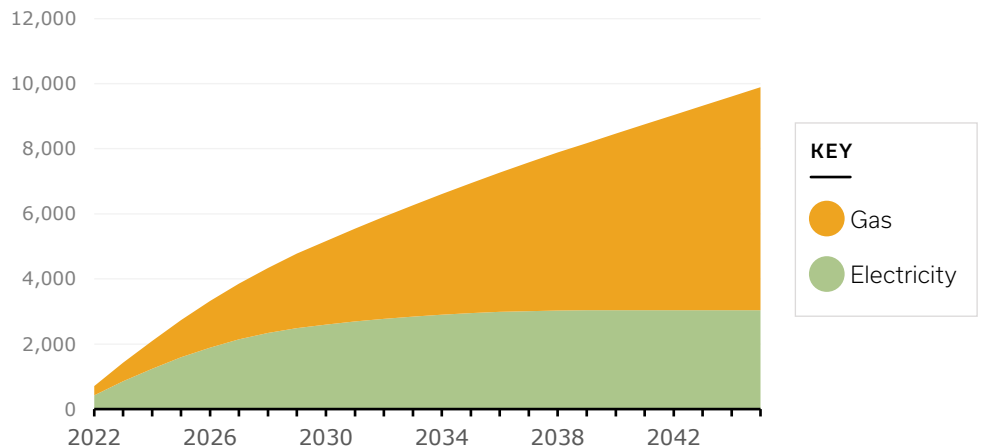
- Electrification of all heating systems within the building
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | | RANKING (OUT OF 20) |
|---------------------|--|------------------------|
| AREA | 205,809 SQUARE FEET | 3 |
| EUI | 51 kBTU/SF | 15 |
| ENERGY COSTS | \$330,911 | \$2 |
| EMISSIONS | 715 MTCO ₂ e | 3 |
| EMISSIONS INTENSITY | 7.7 LBS-CO ₂ e/SF | 13.0 |
| WATER-USE INTENSITY | 13.2 GAL/SF | 7 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Maplewood Elementary School

BUILDING CONSTRUCTED: 1948

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Limited existing cooling in building
- Space and domestic water heating provided by gas boiler systems
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

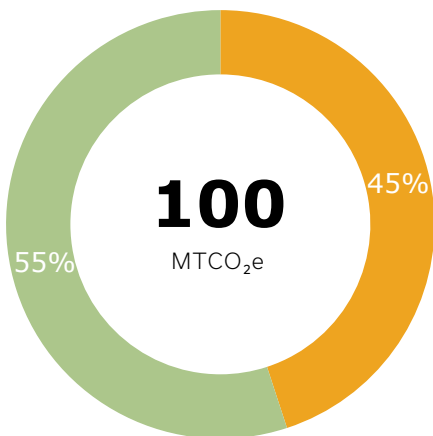
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

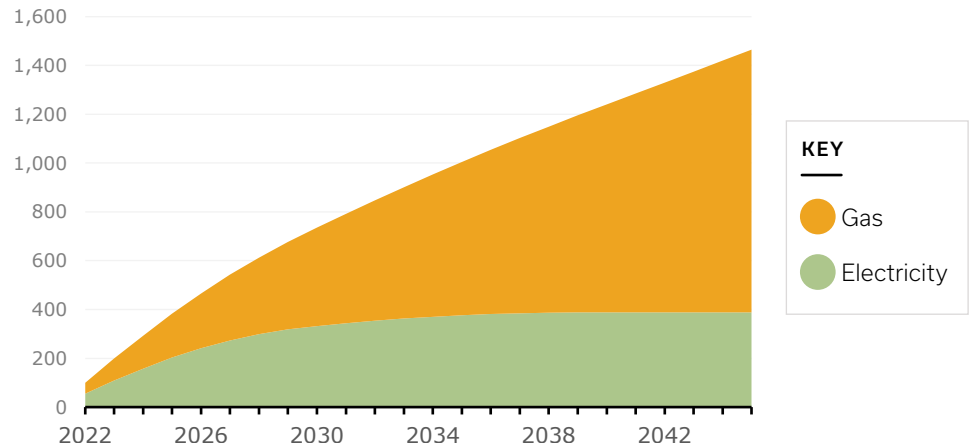
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | VALUE | RANKING (OUT OF 20) |
|---------------------|---------------------------------|------------------------|
| AREA | 40,636 SQUARE FEET | 15 |
| EUI | 37 kBTU/SF | 19 |
| ENERGY COSTS | \$62,600 | 14 |
| EMISSIONS | 100 MTCO ₂ e | 18 |
| EMISSIONS INTENSITY | 5.4 LBS-CO ₂ e/SF | 19.0 |
| WATER-USE INTENSITY | 47.8 GAL/SF | 1 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Markham Elementary School

BUILDING CONSTRUCTED: 1951

SUMMARY OF EXISTING CONDITIONS

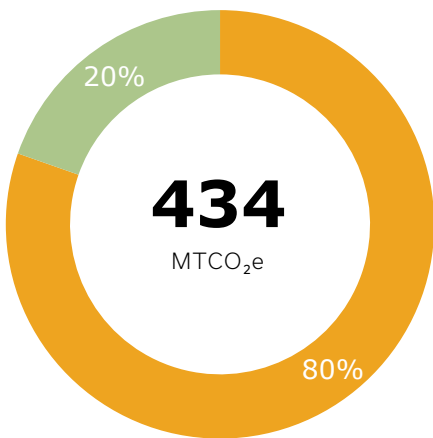
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded
- Central HVAC equipment upgraded relatively recently

POTENTIAL OPPORTUNITIES

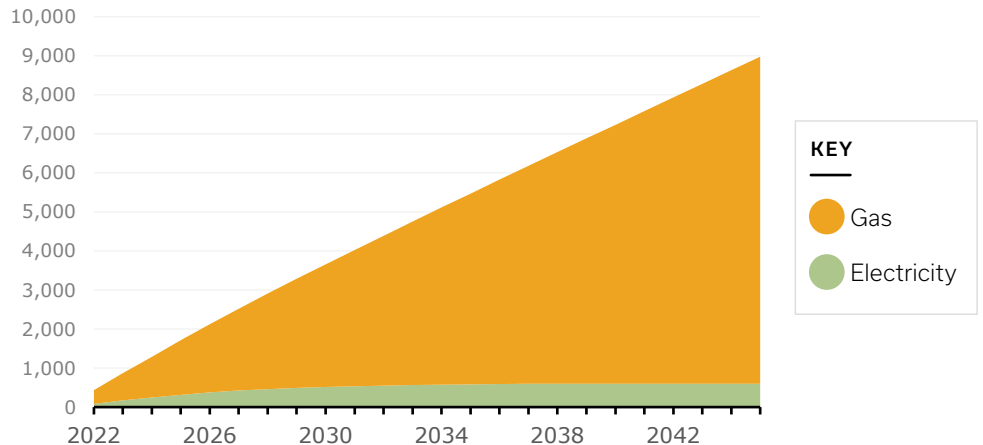
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | VALUE | RANKING (OUT OF 20) |
|---------------------|----------------------------------|------------------------|
| AREA | 79,714 SQUARE FEET | 5 |
| EUI | 95 kBTU/SF | 3 |
| ENERGY COSTS | \$138,629 | 4 |
| EMISSIONS | 434 MTCO ₂ e | 4 |
| EMISSIONS INTENSITY | 12.0 LBS-CO ₂ e/SF | 3.0 |
| WATER-USE INTENSITY | 10.9 GAL/SF | 9 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



MLC Metropolitan Learning Center (K-12)

BUILDING CONSTRUCTED: 1926

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Limited existing cooling in building
- Space and domestic water heating provided by gas boiler systems
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

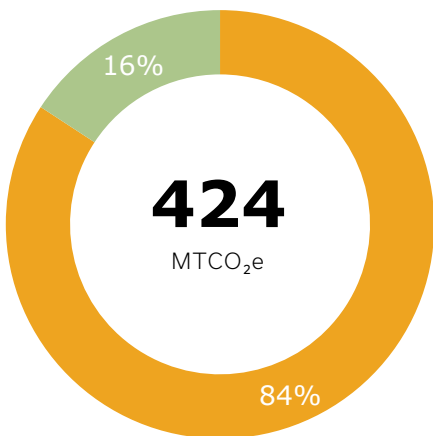
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

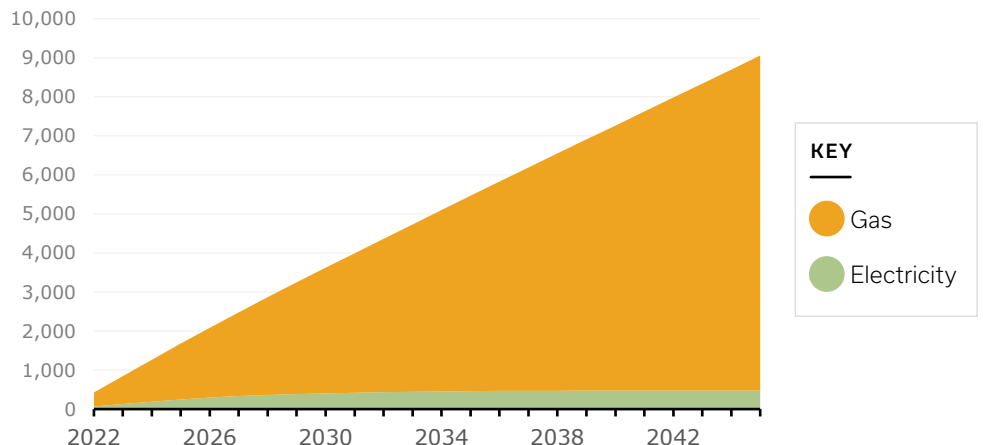
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | VALUE | RANKING (OUT OF 20) |
|---------------------|----------------------------------|------------------------|
| AREA | 70,349 SQUARE FEET | 7 |
| EUI | 107 kBTU/SF | 1 |
| ENERGY COSTS | \$136,021 | 5 |
| EMISSIONS | 424 MTCO ₂ e | 5 |
| EMISSIONS INTENSITY | 13.3 LBS-CO ₂ e/SF | 1.0 |
| WATER-USE INTENSITY | 19.0 GAL/SF | 2 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Rieke Elementary School

BUILDING CONSTRUCTED: 1961

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Limited existing cooling in building
- Space and domestic water heating provided by gas boiler systems
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

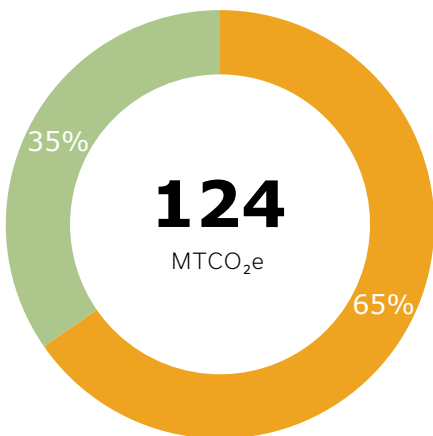
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

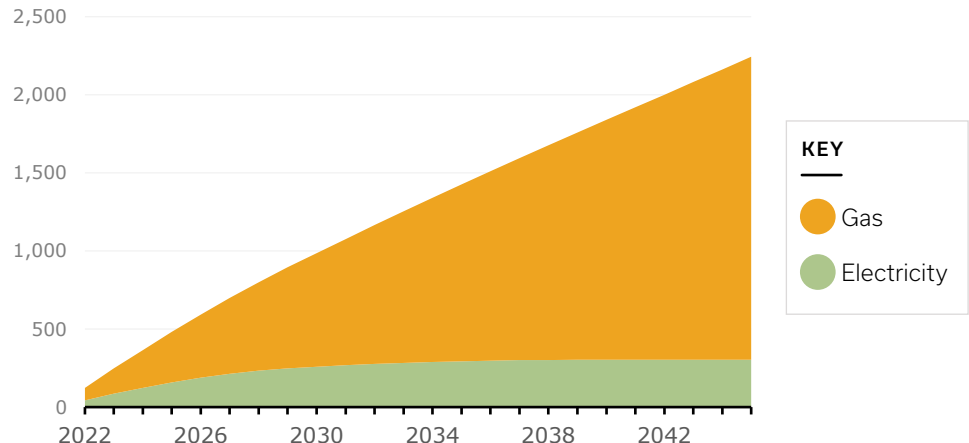
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 34,272 SQUARE FEET | 18 |
| EUI | 59 kBTU/SF | 12 |
| ENERGY COSTS | \$61,843 | 15 |
| EMISSIONS | 124 MTCO ₂ e | 17 |
| EMISSIONS INTENSITY | 8.0 LBS-CO ₂ e/SF | 12.0 |
| WATER-USE INTENSITY | 15.1 GAL/SF | 4 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Skyline Elementary School

BUILDING CONSTRUCTED: 1939

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Limited existing cooling in building
- Space and domestic water heating provided by gas boiler systems
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

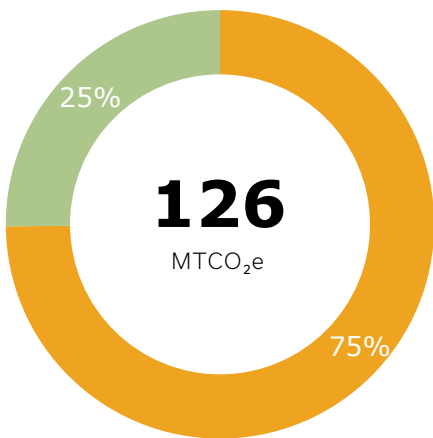
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

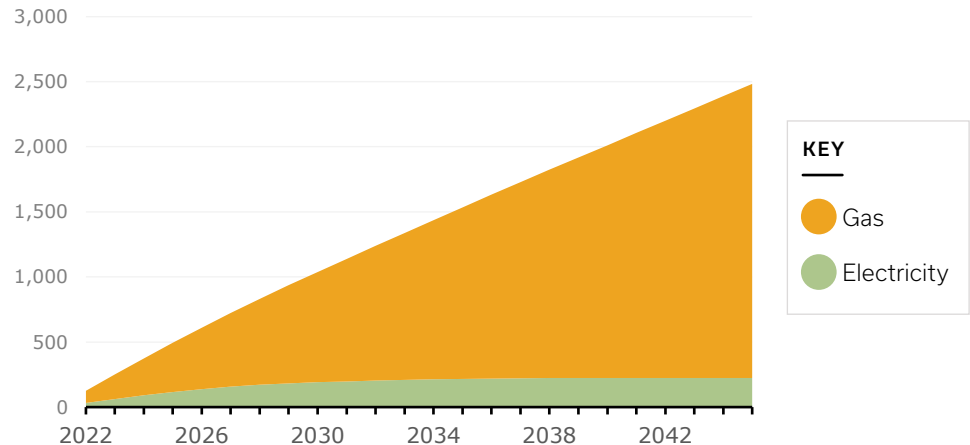
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 38,327 SQUARE FEET | 17 |
| EUI | 56 kBTU/SF | 14 |
| ENERGY COSTS | \$36,516 | 19 |
| EMISSIONS | 126 MTCO ₂ e | 16 |
| EMISSIONS INTENSITY | 7.2 LBS-CO ₂ e/SF | 16.0 |
| WATER-USE INTENSITY | 0.0 GAL/SF | 20 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLIMATE JUSTICE AND ENERGY & SUSTAINABILITY

LINCOLN - IDA B WELLS CLUSTERS

Smith Elementary School

VACANT

BUILDING CONSTRUCTED: 1958

NOTE

Smith Elementary has been closed since 2006 and currently serves as storage space for the district.

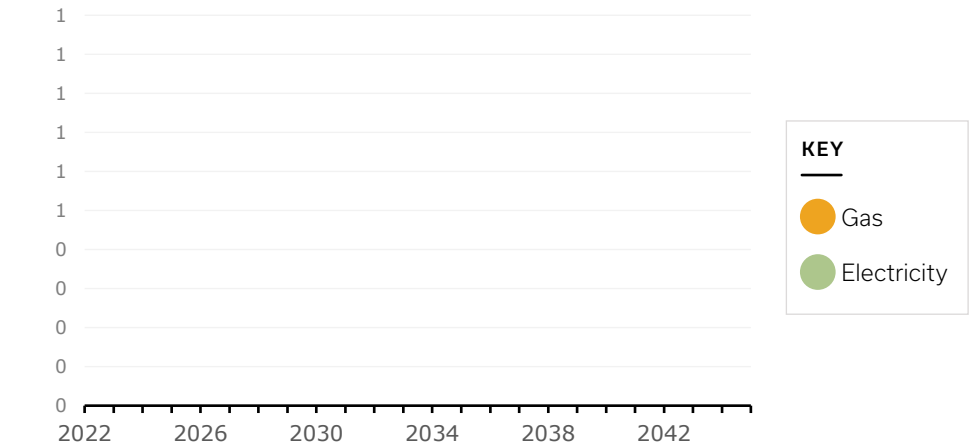


| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 53,460 SQUARE FEET | 12 |
| EUI | 1 kBTU/SF | 20 |
| ENERGY COSTS | \$12,949 | 20 |
| EMISSIONS | 2 MTCO ₂ e | 20 |
| EMISSIONS INTENSITY | 0.1 LBS-CO ₂ e/SF | 20.0 |
| WATER-USE INTENSITY | 2.0 GAL/SF | 19 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Stephenson Elementary School

BUILDING CONSTRUCTED: 1964

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Limited existing cooling in building
- Space and domestic water heating provided by gas boiler systems
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

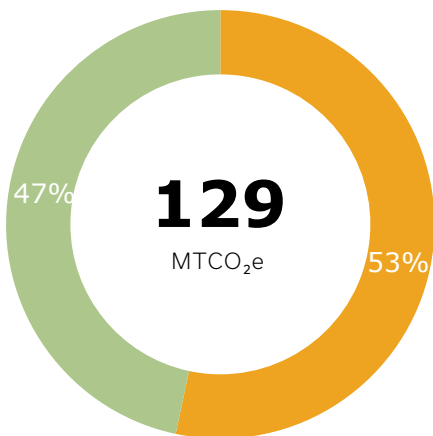
- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

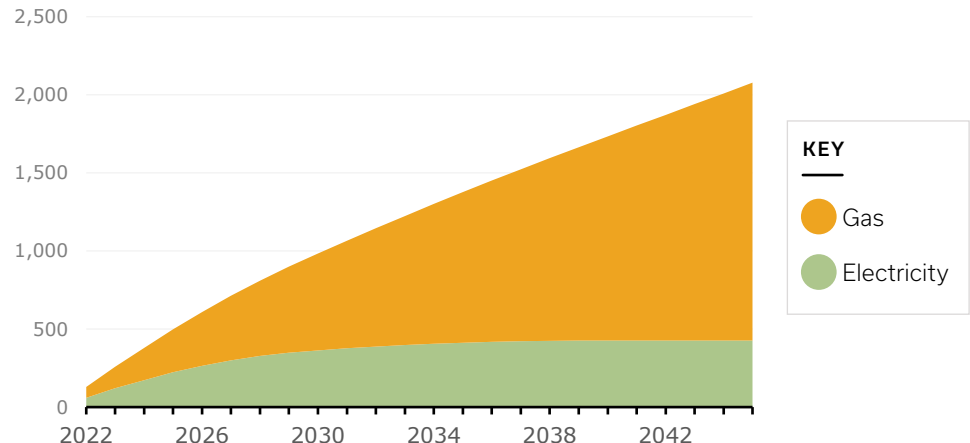
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 40,460 SQUARE FEET | 16 |
| EUI | 50 kBTU/SF | 17 |
| ENERGY COSTS | \$58,030 | 16 |
| EMISSIONS | 129 MTCO ₂ e | 15 |
| EMISSIONS INTENSITY | 7.0 LBS-CO ₂ e/SF | 17.0 |
| WATER-USE INTENSITY | 6.7 GAL/SF | 14 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



Terwilliger ACCESS Academy Alternative

BUILDING CONSTRUCTED: 1917

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Limited existing cooling in building
- Space and domestic water heating provided by gas boiler systems
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

- Upgrading lighting systems to high-efficiency LED fixtures

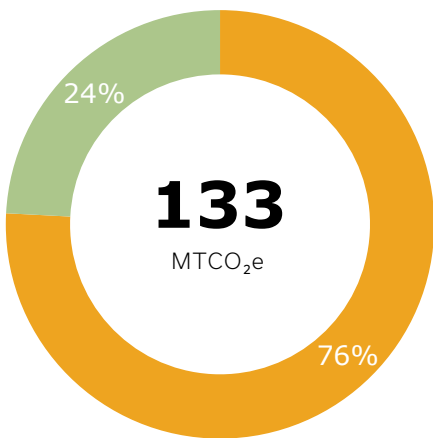
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
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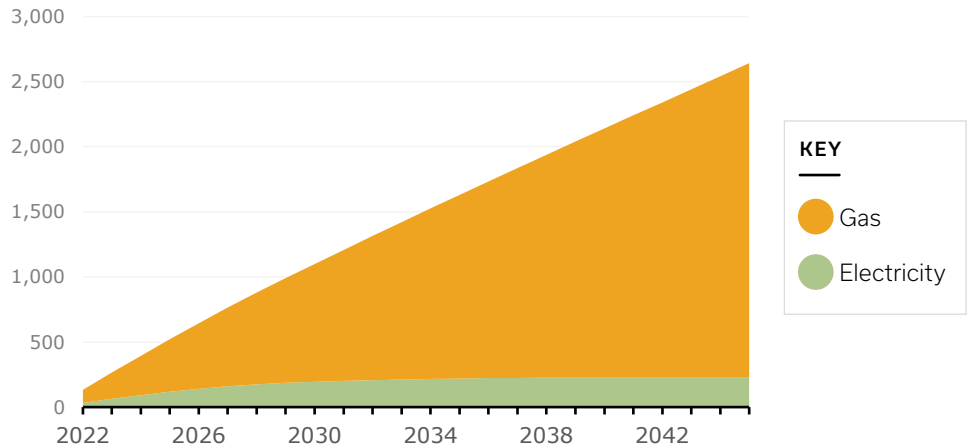
RANKING
(OUT OF 20)

| | | |
|----------------------------|---|------------|
| AREA | 26,365 SQUARE FEET | 19 |
| EUI | 86 kBTU/SF | 4 |
| ENERGY COSTS | \$53,551 | 17 |
| EMISSIONS | 133 MTCO ₂ e | 14 |
| EMISSIONS INTENSITY | 11.1 LBS-CO ₂ e/SF | 4.0 |
| WATER-USE INTENSITY | 5.6 GAL/SF | 17 |

2022 HISTORIC EMISSIONS



CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE



LINCOLN - IDA B WELLS CLUSTERS



West Sylvan Middle School

BUILDING CONSTRUCTED: 1953

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

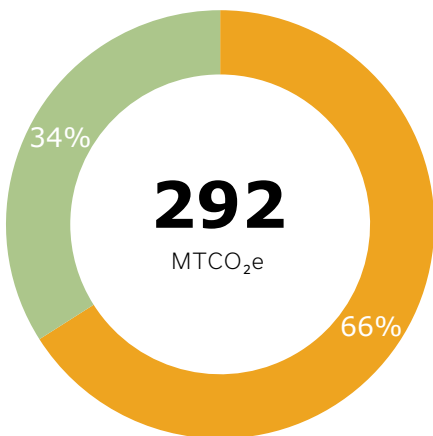
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

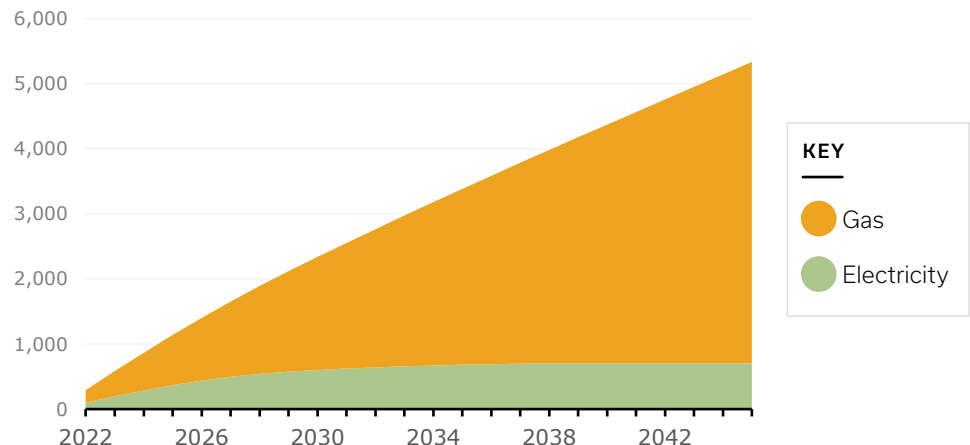
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 20) |
|----------------------------|--|-------------------------------|
| AREA | 108,187 SQUARE FEET | 4 |
| EUI | 44 kBTU/SF | 18 |
| ENERGY COSTS | \$132,991 | 6 |
| EMISSIONS | 292 MTCO ₂ e | 7 |
| EMISSIONS INTENSITY | 6.0 LBS-CO ₂ e/SF | 18.0 |
| WATER-USE INTENSITY | 14.4 GAL/SF | 5 |

2022 HISTORIC EMISSIONS



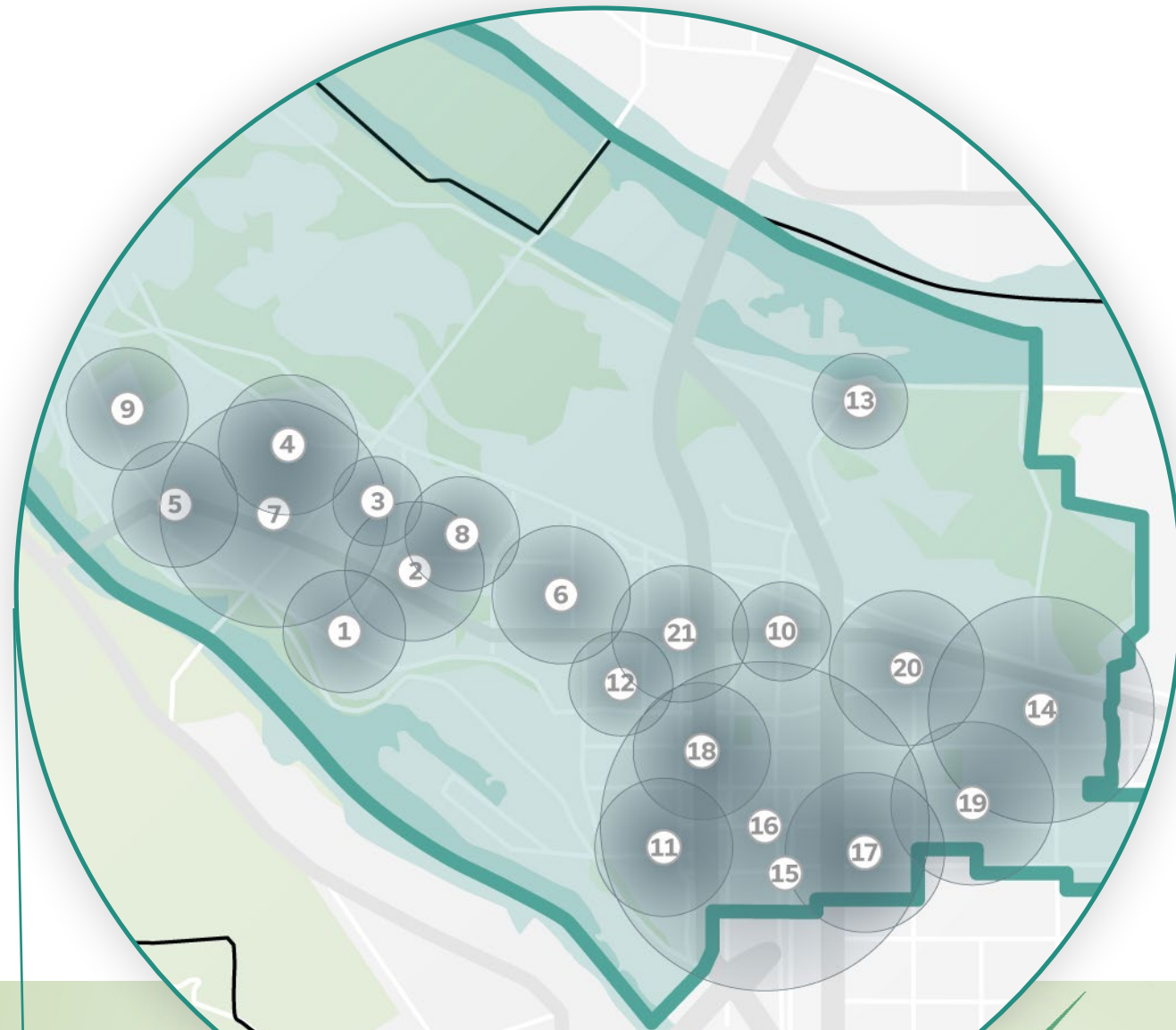
CUMULATIVE EMISSIONS OUTLOOK*



*Electric emissions projection based on 2023 emissions outlook from PGE

Building Performance for Roosevelt-Jefferson Clusters

PORTLAND PUBLIC SCHOOLS | 2022



| FACILITY | AREA (SF) | EUI (kBtu/SF/YR) | ENERGY COST (\$) | GAS EMISSIONS (MTCO ₂ E) | ELECTRIC EMISSIONS (MTCO ₂ E) | TOTAL EMISSIONS (MTCO ₂ E) | EMISSIONS INTENSITY (LBS CO ₂ E/SF) | WATER USE INTENSITY (GAL/SF) |
|------------------|-----------|------------------|------------------|-------------------------------------|--|---------------------------------------|--|------------------------------|
| 1 Astor | 49,434 | 75 | \$82,614 | 152 | 72 | 225 | 10.0 | 6.6 |
| 2 Cesar Chavez | 78,061 | 63 | \$104,739 | 209 | 82 | 291 | 8.2 | 4.7 |
| 3 Clarendon | 40,723 | 42 | \$69,940 | 45 | 75 | 119 | 6.5 | 17.4 |
| 4 George | 76,142 | 65 | \$134,104 | 214 | 80 | 294 | 8.5 | 15.4 |
| 5 James John* | 64,285 | 63 | \$93,200 | 183 | 53 | 236 | 8.1 | 10.3 |
| 6 Peninsula | 62,231 | 79 | \$92,548 | 222 | 64 | 286 | 10.1 | 4.8 |
| 7 Roosevelt* | 271,306 | 40 | \$338,055 | 244 | 533 | 777 | 6.3 | 13.0 |
| 8 Rosa Parks/BGC | 68,176 | 44 | \$100,030 | 101 | 95 | 196 | 6.3 | 11.9 |
| 9 Sitton | 58,487 | 62 | \$86,999 | 144 | 79 | 223 | 8.4 | 6.9 |
| 10 Applegate | 27,785 | 57 | \$37,876 | 65 | 81 | 146 | 11.6 | 7.9 |
| 11 Beach | 70,498 | 69 | \$100,532 | 210 | 77 | 286 | 9.0 | 5.8 |
| 12 Chief Joseph | 44,859 | 60 | \$67,403 | 108 | 55 | 163 | 8.0 | 6.2 |
| 13 Columbia | 41,075 | 24 | \$58,050 | 25 | 113 | 137 | 7.4 | 8.7 |
| 14 Faubion* | 170,638 | 40 | \$150,754 | 240 | 492 | 732 | 9.5 | 2.6 |
| 15 Humboldt** | 43,489 | 43 | \$44,285 | 71 | 111 | 182 | 9.2 | 8.1 |
| 16 Jefferson | 318,790 | 70 | \$352,983 | 1,046 | 577 | 1,623 | 11.2 | 8.0 |
| 17 King | 108,598 | 46 | \$82,202 | 226 | 157 | 383 | 7.8 | 3.5 |
| 18 Ockley Green | 74,018 | 65 | \$97,108 | 210 | 72 | 282 | 8.4 | 5.5 |
| 19 Vernon | 70,833 | 69 | \$88,457 | 215 | 184 | 399 | 12.4 | 4.1 |
| 20 Woodlawn | 106,432 | 43 | \$82,729 | 205 | 156 | 361 | 7.5 | 2.8 |
| 21 Kenton | 52,433 | 93 | \$88,960 | 226 | 54 | 280 | 11.8 | 7.2 |
| Cluster Total | 1,898,293 | NA | \$2,359,324 | 4,366 | 3,272 | 7,637 | NA | NA |
| District Total | 9,065,846 | | \$12,197,485 | 22,581 | 18,113 | 40,694 | NA | NA |
| Clusters Average | 90,395 | 57 | \$112,349 | 208 | 156 | 364 | 8.9 | 7.7 |
| District Average | 88,018 | 62 | \$118,422 | 219 | 176 | 395 | 9.9 | 8.4 |

MAP KEY

- City of Portland Boundary
- Cluster Boundary
- Total Emissions MTCO₂E

* Electric emissions include offset from on-site PV
 ** Energy and emissions calculated using 2020 AY data

21

TOTAL BUILDINGS

7,637

MTCO₂E

TOTAL EMISSIONS

8.9

LBS CO₂E/SF

AVERAGE EMISSIONS INTENSITY

7.7

GAL/SF

AVERAGE WATER USE INTENSITY

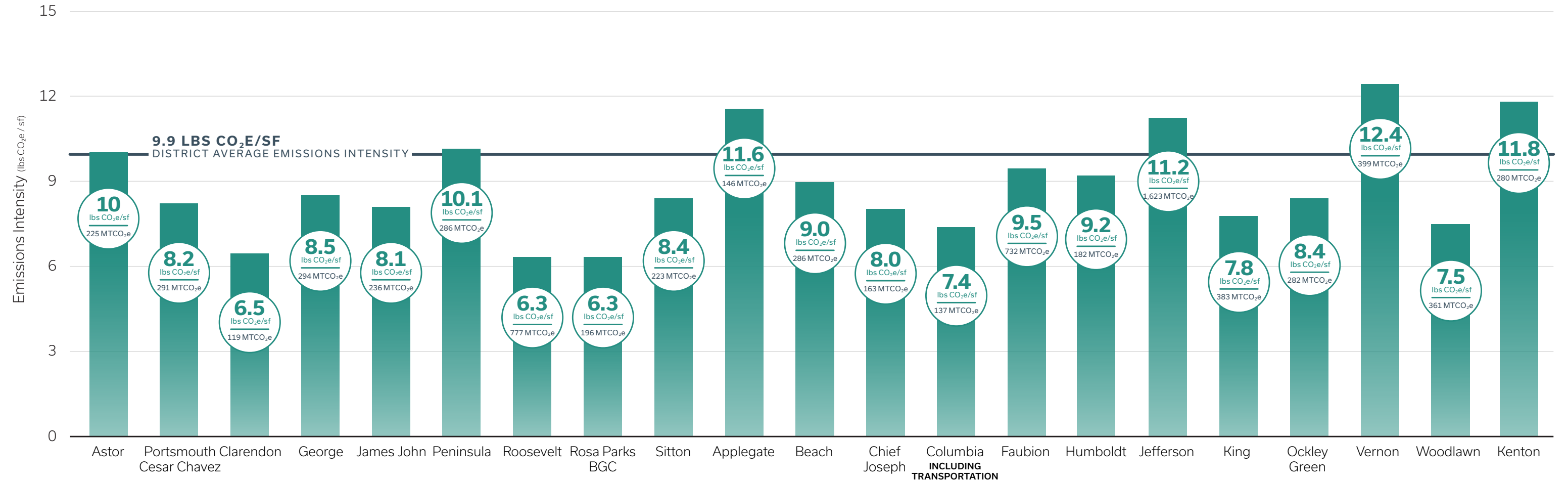
- The total emissions from these clusters account for roughly 19% of the total emissions for the district, with the average emissions intensities being roughly 10% lower than the district average.
- The school with the highest total emissions (Jefferson High School) is currently undergoing a modernization project
- Gas emissions account for the majority of emissions in 15/21 schools and electrifying gas equipment will have a significant impact in reducing these emissions, particularly as the electrical grid decarbonizes

KEY ABBREVIATIONS

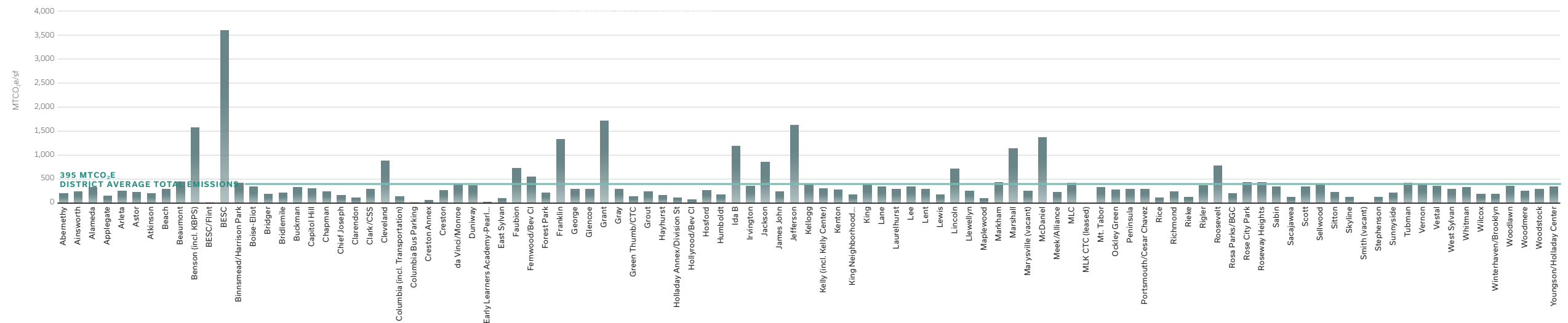
EUI | Energy Use Intensity
 KBTU | Thousand British thermal units
 SF | square feet
 CO₂E | CO₂ equivalent
 MT | Metric Ton
 LBS | Pounds

Emissions Comparison for Roosevelt-Jefferson Clusters

PORTLAND PUBLIC SCHOOLS



PORTLAND PUBLIC SCHOOL TOTAL EMISSIONS: 2022-2023 ACADEMIC YEAR





ROOSEVELT-JEFFERSON CLUSTER

Applegate Elementary School



BUILDING CONSTRUCTED: 1954

SUMMARY OF EXISTING CONDITIONS

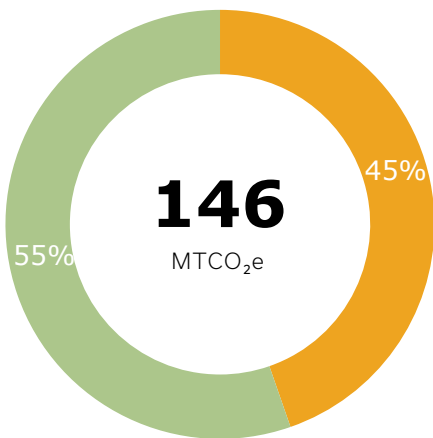
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

POTENTIAL OPPORTUNITIES

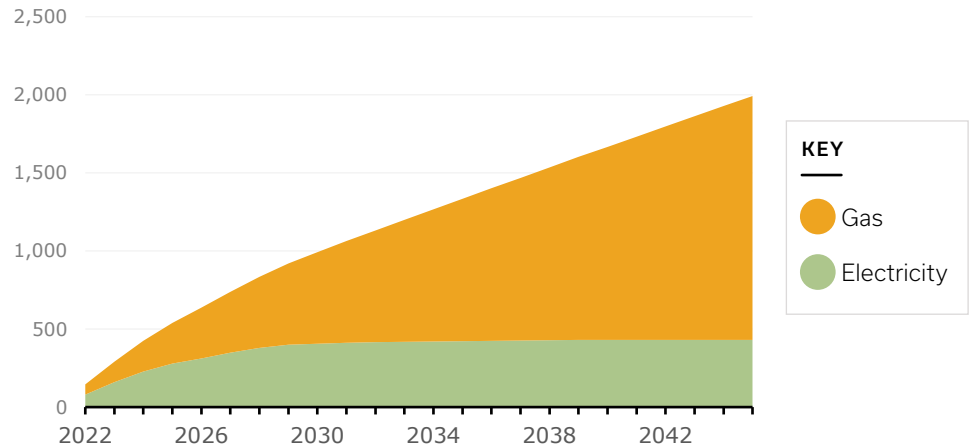
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 21) |
|---------------------|---|------------------------|
| AREA | 27,785 SQUARE FEET | 21 |
| EUI | 57 kBTU/SF | 13 |
| ENERGY COSTS | \$37,876 | 21 |
| EMISSIONS | 146 MTCO ₂ e | 19 |
| EMISSIONS INTENSITY | 11.6 LBS-CO ₂ e/SF | 3 |
| WATER-USE INTENSITY | 7.9 GAL/SF | 9 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



ROOSEVELT-JEFFERSON CLUSTER



Astor Elementary School

BUILDING CONSTRUCTED: 1949

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

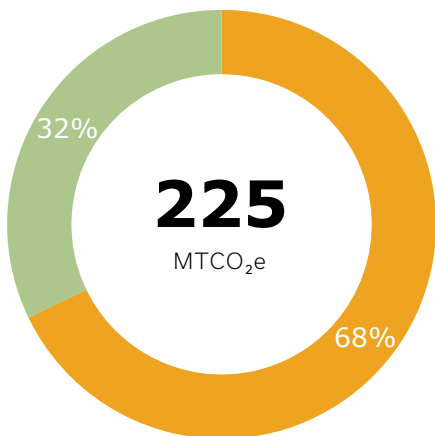
- Upgrade lighting to high-efficiency LED fixtures
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

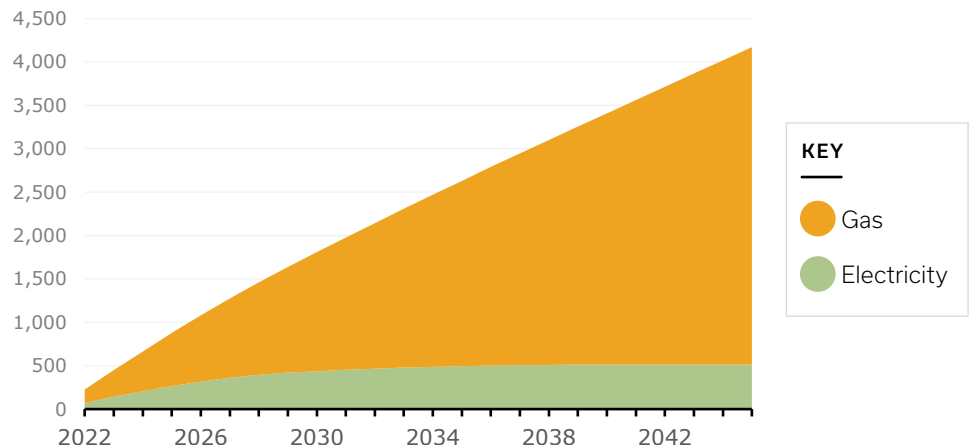
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-

| | | RANKING (OUT OF 21) |
|----------------------------|---|-------------------------------|
| AREA | 49,434 SQUARE FEET | 16 |
| EUI | 75 kBTU/SF | 3 |
| ENERGY COSTS | \$82,614 | 15 |
| EMISSIONS | 225 MTCO ₂ e | 14 |
| EMISSIONS INTENSITY | 10.0 LBS-CO ₂ e/SF | 6 |
| WATER-USE INTENSITY | 6.6 GAL/SF | 12 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER

Beach Elementary School



BUILDING CONSTRUCTED: 1928

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

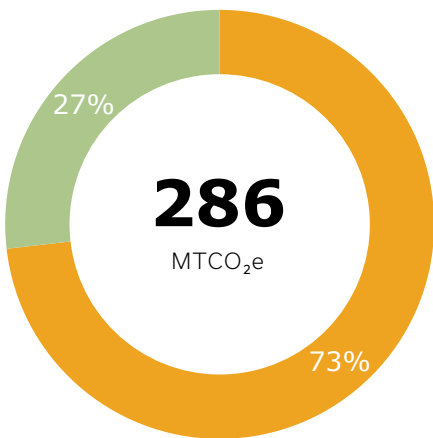
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

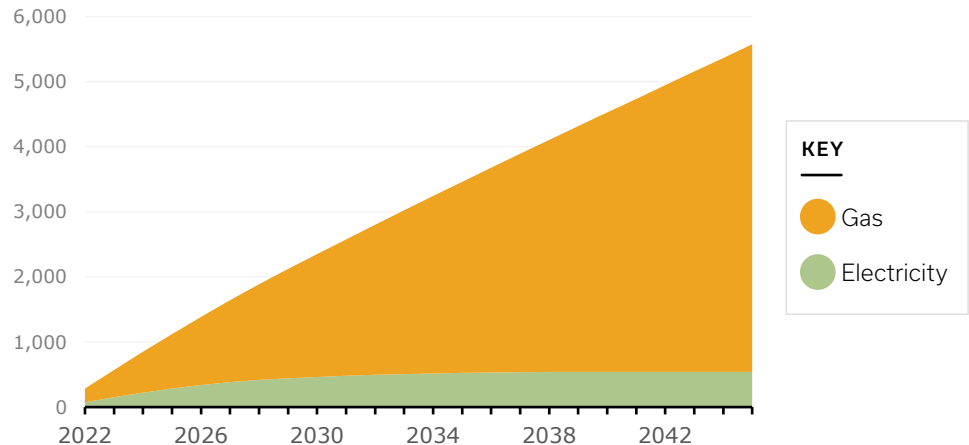
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 70,498 SQUARE FEET | 10 |
| EUI | 69 kBTU/SF | 6 |
| ENERGY COSTS | \$100,532 | 6 |
| EMISSIONS | 286 MTCO ₂ e | 9 |
| EMISSIONS INTENSITY | 9.0 LBS-CO ₂ e/SF | 8 |
| WATER-USE INTENSITY | 5.8 GAL/SF | 14 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER

Chief Joseph Elementary School



BUILDING CONSTRUCTED: 1949

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Existing envelope includes aging windows and limited insulation
- Aging and inefficient lighting technology

CURRENTLY PLANNED IMPROVEMENTS

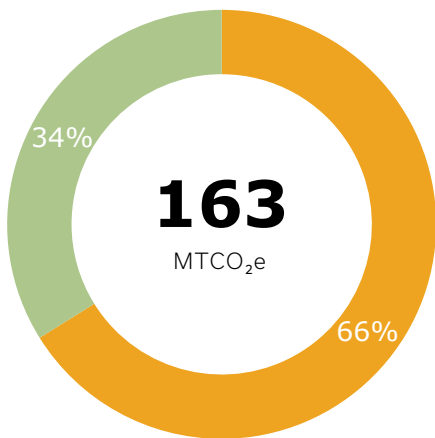
- Upgrade lighting to high-efficiency LED fixtures
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

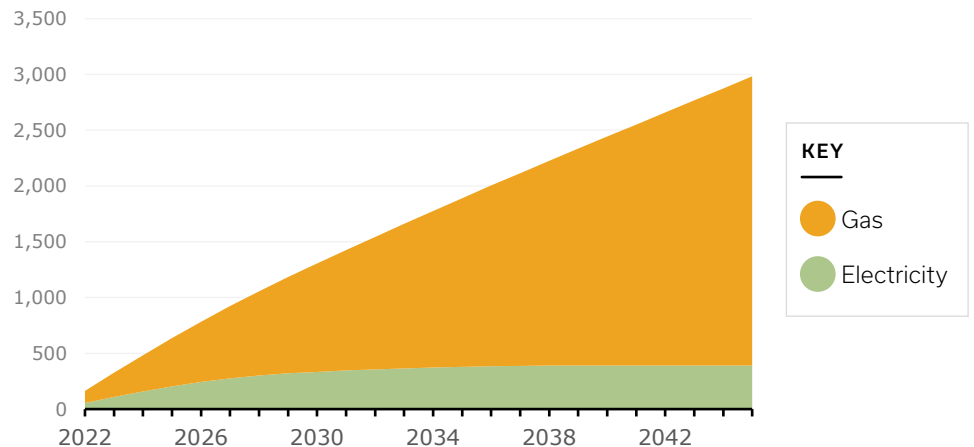
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-

| AREA | VALUE | RANKING (OUT OF 21) |
|---------------------|--|------------------------|
| AREA | 44,859 SQUARE FEET | 17 |
| EUI | 60 kBTU/SF | 12 |
| ENERGY COSTS | \$67,403 | 18 |
| EMISSIONS | 163 MTCO ₂ e | 17 |
| EMISSIONS INTENSITY | 8.0 LBS-CO ₂ e/SF | 15 |
| WATER-USE INTENSITY | 6.2 GAL/SF | 13 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER



Clarendon School

BUILDING CONSTRUCTED: 1970

SUMMARY OF EXISTING CONDITIONS

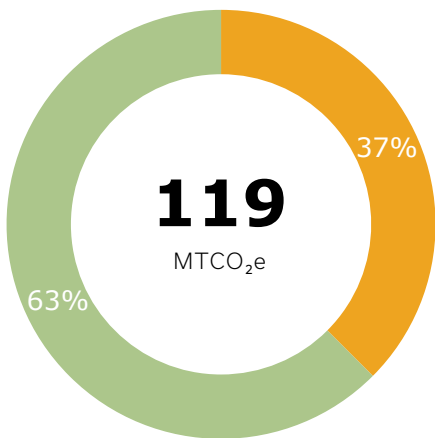
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited insulation in existing envelope
- Aging and inefficient lighting technology

POTENTIAL OPPORTUNITIES

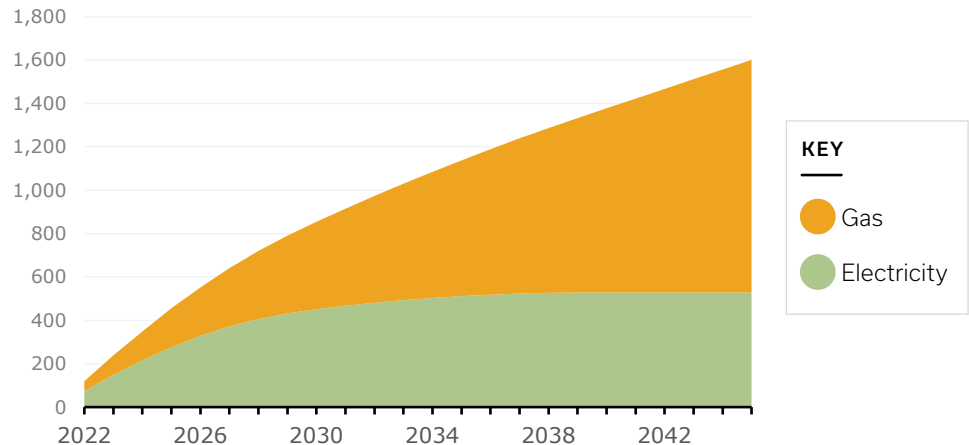
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 40,723 SQUARE FEET | 20 |
| EUI | 42 kBTU/SF | 18 |
| ENERGY COSTS | \$69,940 | 17 |
| EMISSIONS | 119 MTCO ₂ e | 21 |
| EMISSIONS INTENSITY | 6.5 LBS-CO ₂ e/SF | 19 |
| WATER-USE INTENSITY | 17.4 GAL/SF | 1 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER

Columbia (incl. Transportation)



BUILDING CONSTRUCTED: 1937

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

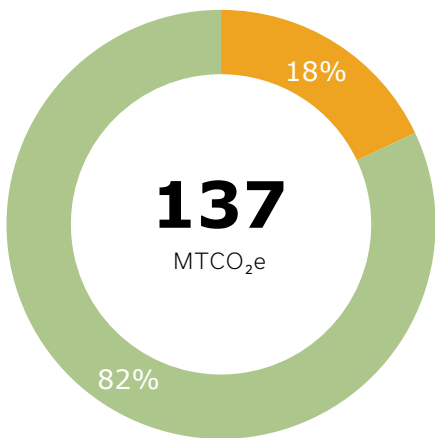
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

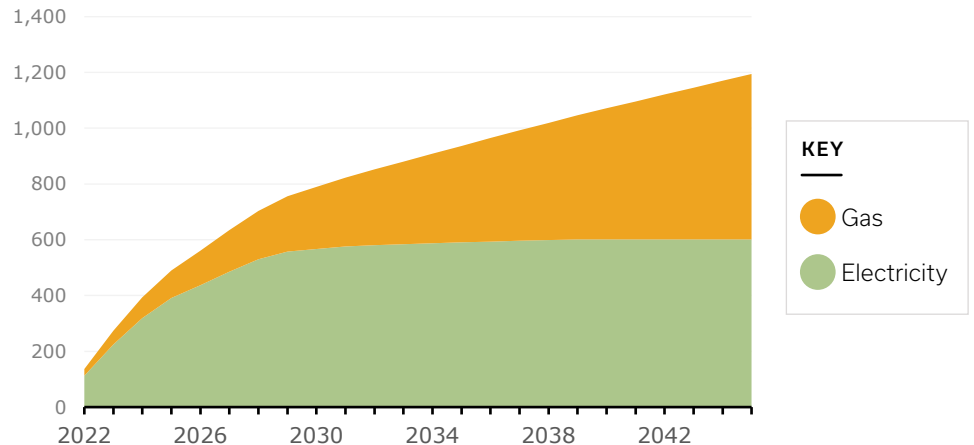
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
-
-
-

| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 41,075 SQUARE FEET | 19 |
| EUI | 24 kBTU/SF | 21 |
| ENERGY COSTS | \$58,050 | 19 |
| EMISSIONS | 137 MTCO ₂ e | 20 |
| EMISSIONS INTENSITY | 7.4 LBS-CO ₂ e/SF | 18 |
| WATER-USE INTENSITY | 8.7 GAL/SF | 6 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



ROOSEVELT-JEFFERSON CLUSTER



Faubion Elementary School

BUILDING CONSTRUCTED: 2016

NOTE

Faubion has recently undergone a modernization project in which the existing building was demolished and replaced with a new structure that incorporates many of the improvements recommended for other schools in the district.

SUMMARY OF EXISTING CONDITIONS

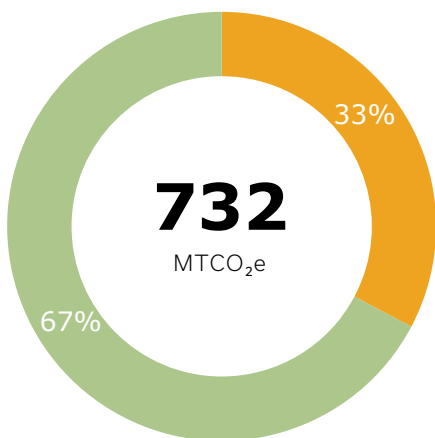
- New building, including envelope, lighting, and mechanical systems
- New equipment still uses gas for space and domestic water heating

POTENTIAL OPPORTUNITIES

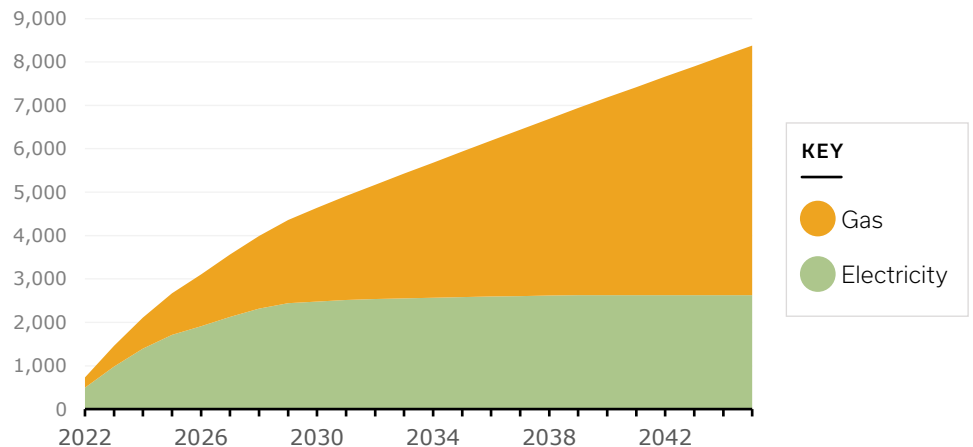
- Electrification of all heating systems within the building
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 170,638 SQUARE FEET | 3 |
| EUI | 40 kBTU/SF | 20 |
| ENERGY COSTS | \$150,754 | 3 |
| EMISSIONS | 732 MTCO ₂ e | 3 |
| EMISSIONS INTENSITY | 9.5 LBS-CO ₂ e/SF | 7 |
| WATER-USE INTENSITY | 2.6 GAL/SF | 21 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



ROOSEVELT-JEFFERSON CLUSTER



George Middle School

BUILDING CONSTRUCTED: 1950

SUMMARY OF EXISTING CONDITIONS

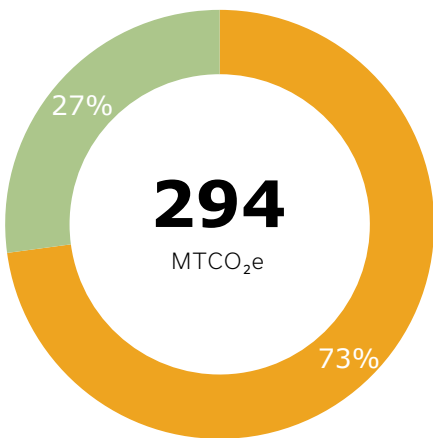
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- HVAC controls system was recently upgraded
- Lighting systems were recently upgraded

POTENTIAL OPPORTUNITIES

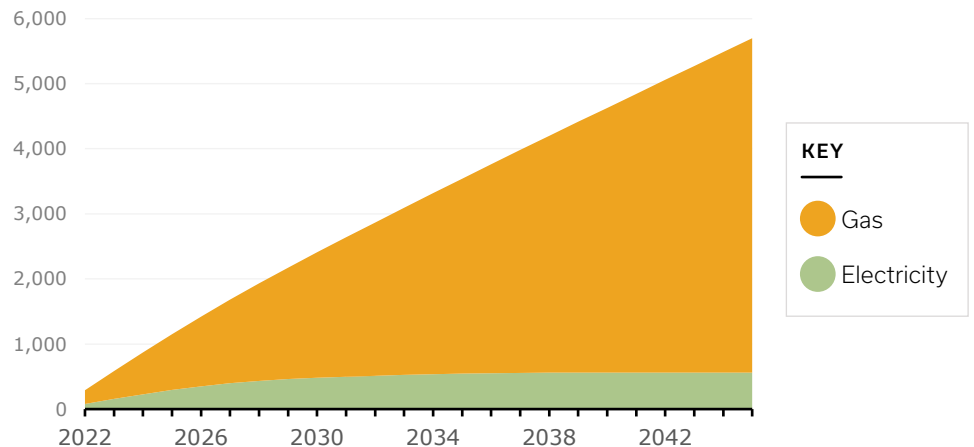
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 21) |
|---------------------|--|------------------------|
| AREA | 76,142 SQUARE FEET | 7 |
| EUI | 65 kBTU/SF | 7 |
| ENERGY COSTS | \$134,104 | 4 |
| EMISSIONS | 294 MTCO ₂ e | 7 |
| EMISSIONS INTENSITY | 8.5 LBS-CO ₂ e/SF | 9 |
| WATER-USE INTENSITY | 15.4 GAL/SF | 2 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER

Humboldt Elementary School



BUILDING CONSTRUCTED: 1959

NOTE

Utility data from 2020-2021

SUMMARY OF EXISTING CONDITIONS

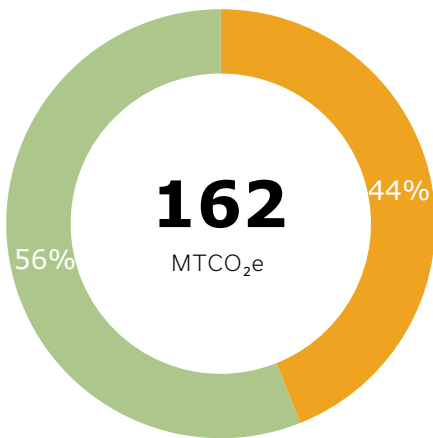
- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

POTENTIAL OPPORTUNITIES

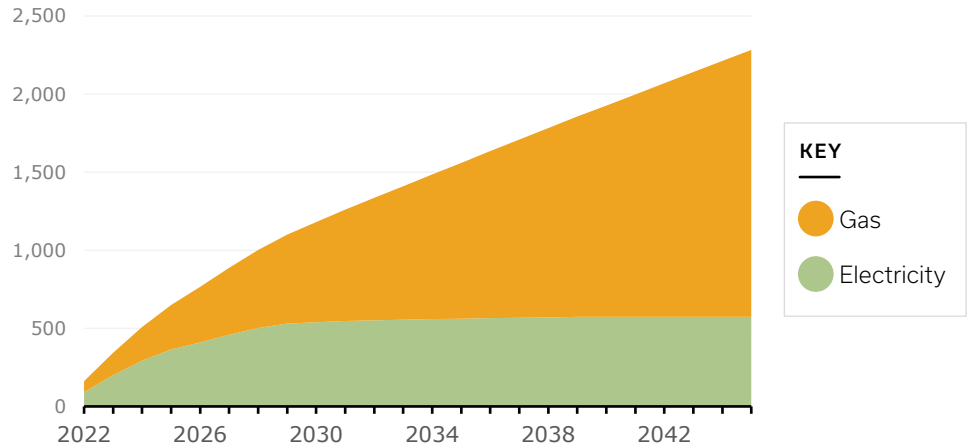
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 43,489 SQUARE FEET | 18 |
| EUI | 43 kBTU/SF | 17 |
| ENERGY COSTS | \$44,285 | 20 |
| EMISSIONS | 162 MTCO ₂ e | 18 |
| EMISSIONS INTENSITY | 8.2 LBS-CO ₂ e/SF | 13 |
| WATER-USE INTENSITY | 8.1 GAL/SF | 7 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



ROOSEVELT-JEFFERSON CLUSTER

James John Elementary School



BUILDING CONSTRUCTED: 1929

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

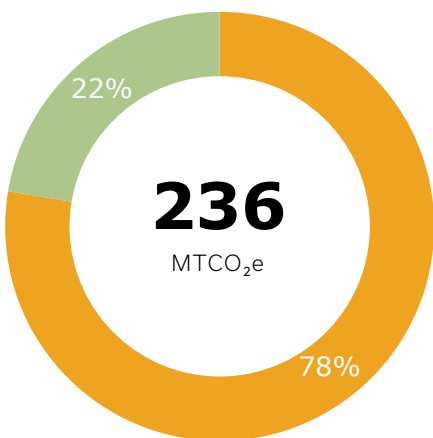
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

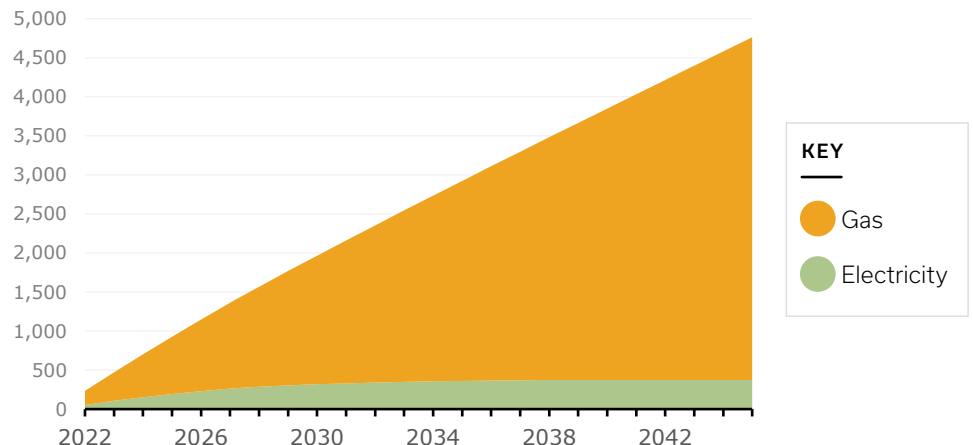
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 64,285 SQUARE FEET | 12 |
| EUI | 63 kBTU/SF | 9 |
| ENERGY COSTS | \$93,200 | 9 |
| EMISSIONS | 236 MTCO ₂ e | 13 |
| EMISSIONS INTENSITY | 8.1 LBS-CO ₂ e/SF | 14 |
| WATER-USE INTENSITY | 10.3 GAL/SF | 5 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



CLIMATE JUSTICE AND ENERGY & SUSTAINABILITY

ROOSEVELT-JEFFERSON CLUSTER



Jefferson High School

BUILDING CONSTRUCTED: 1969

NOTE

This building is currently in the planning phase of a modernization effort.

SUMMARY OF EXISTING CONDITIONS

- Large historic building with significantly aged equipment
- Space and DHW heating provided by gas boiler systems
- Limited existing cooling in building
- Existing lighting includes inefficient fluorescent and incandescent fixtures
- Existing envelope includes single-pane glazing and limited insulation

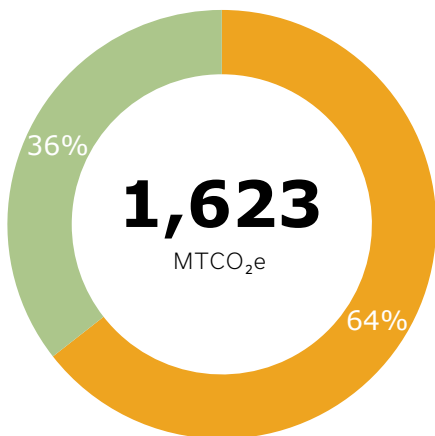
CURRENTLY PLANNED IMPROVEMENTS

- Electrification of all heating and cooking systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Enhanced daylighting to improve occupant experience and reduce energy consumption
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of mass timber to reduce embodied carbon impact of the modernization
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space

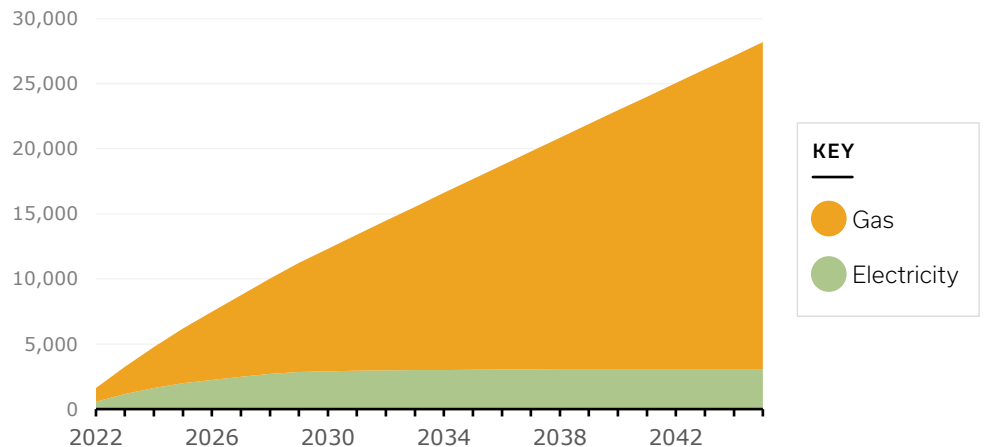
RANKING
(OUT OF 21)

| | | |
|----------------------------|---|----------|
| AREA | 318,790 SQUARE FEET | 1 |
| EUI | 70 kBTU/SF | 4 |
| ENERGY COSTS | \$352,983 | 1 |
| EMISSIONS | 1,623 MTCO ₂ e | 1 |
| EMISSIONS INTENSITY | 11.2 LBS-CO ₂ e/SF | 4 |
| WATER-USE INTENSITY | 8.0 GAL/SF | 8 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



ROOSEVELT-JEFFERSON CLUSTER

Kenton Elementary School

BUILDING CONSTRUCTED: 1913

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Aging envelope with limited insulation
- Aging and inefficient lighting technology

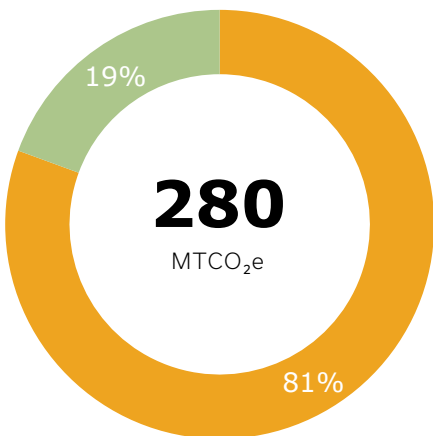
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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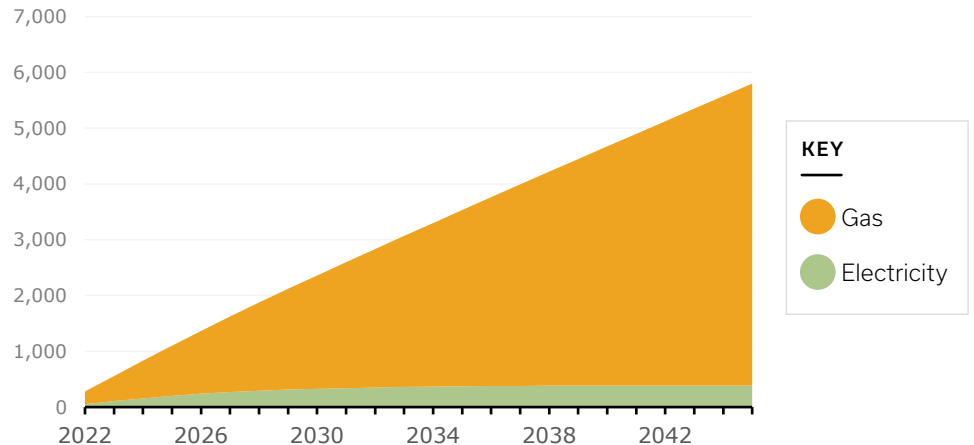


| AREA | VALUE | RANKING (OUT OF 21) |
|---------------------|----------------------------------|------------------------|
| AREA | 52,433 SQUARE FEET | 15 |
| EUI | 93 kBTU/SF | 1 |
| ENERGY COSTS | \$88,960 | 11 |
| EMISSIONS | 280 MTCO ₂ e | 12 |
| EMISSIONS INTENSITY | 11.8 LBS-CO ₂ e/SF | 2 |
| WATER-USE INTENSITY | 7.2 GAL/SF | 10 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER

King Elementary School

BUILDING CONSTRUCTED: 1913

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

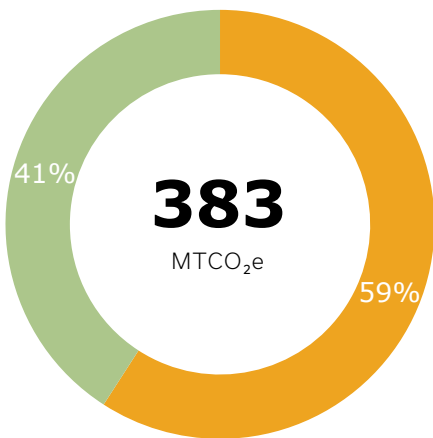
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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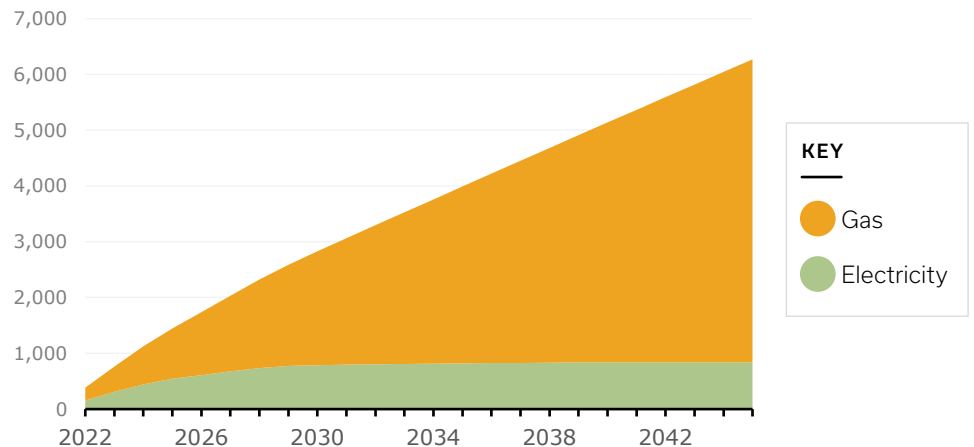


| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 108,598 SQUARE FEET | 4 |
| EUI | 46 kBTU/SF | 14 |
| ENERGY COSTS | \$82,202 | 16 |
| EMISSIONS | 383 MTCO ₂ e | 5 |
| EMISSIONS INTENSITY | 7.8 LBS-CO ₂ e/SF | 16 |
| WATER-USE INTENSITY | 3.5 GAL/SF | 19 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



ROOSEVELT-JEFFERSON CLUSTER

Ockley Green Middle School

BUILDING CONSTRUCTED: 1925

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

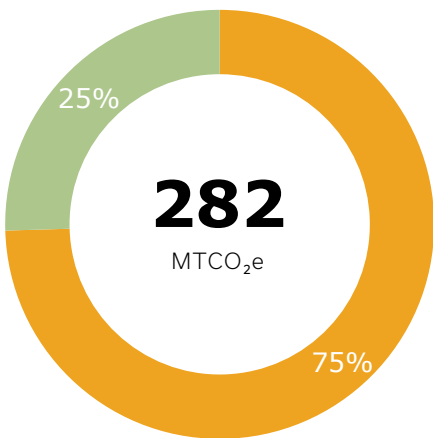
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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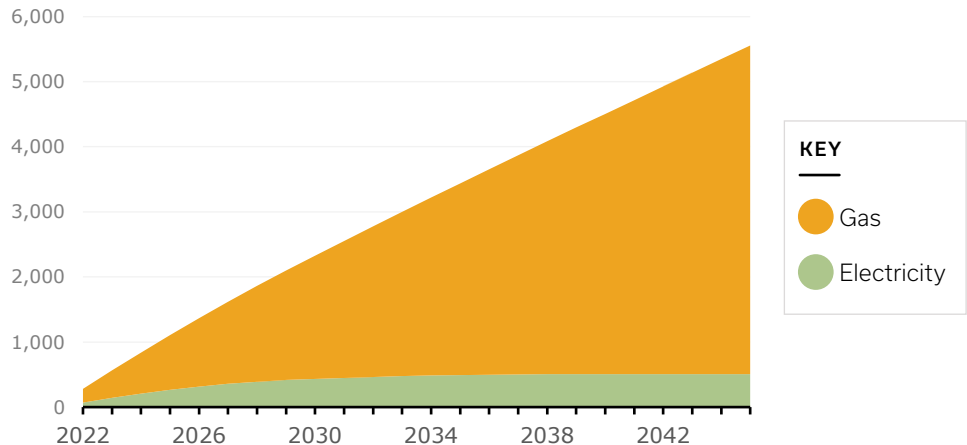


| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 74,018 SQUARE FEET | 8 |
| EUI | 65 kBTU/SF | 8 |
| ENERGY COSTS | \$97,108 | 8 |
| EMISSIONS | 282 MTCO ₂ e | 11 |
| EMISSIONS INTENSITY | 8.4 LBS-CO ₂ e/SF | 10 |
| WATER-USE INTENSITY | 5.5 GAL/SF | 15 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER



Peninsula Elementary School

BUILDING CONSTRUCTED: 1952

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance
- Upgrading lighting systems to high-efficiency LED fixtures

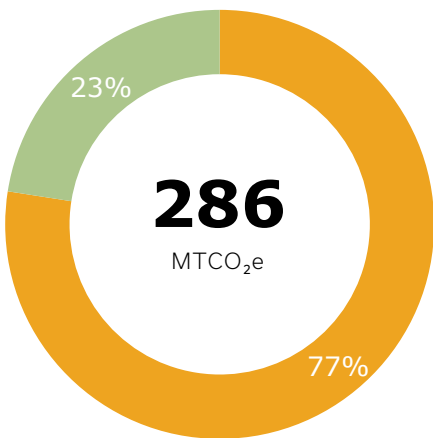
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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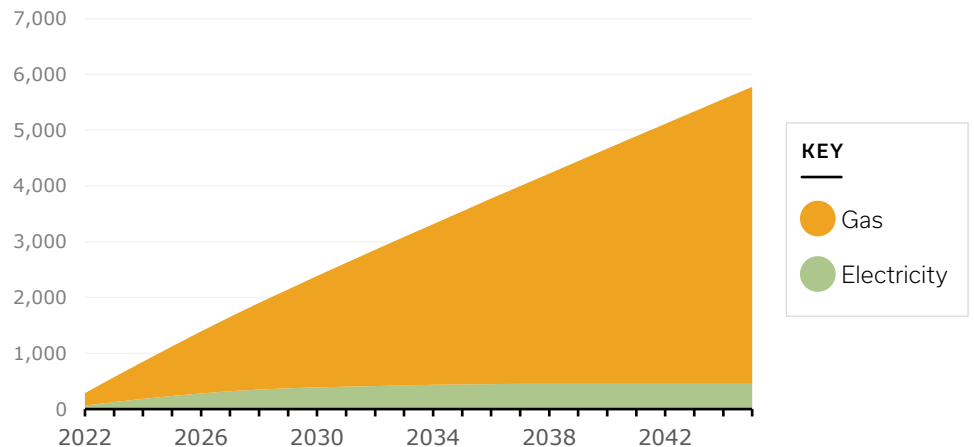
RANKING
(OUT OF 21)

| | | |
|----------------------------|---|-----------|
| AREA | 62,231 SQUARE FEET | 13 |
| EUI | 79 kBTU/SF | 2 |
| ENERGY COSTS | \$92,548 | 10 |
| EMISSIONS | 286 MTCO ₂ e | 10 |
| EMISSIONS INTENSITY | 10.1 LBS-CO ₂ e/SF | 5 |
| WATER-USE INTENSITY | 4.8 GAL/SF | 16 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER

Portsmouth/Cesar Chavez Middle School

BUILDING CONSTRUCTED: 1927

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

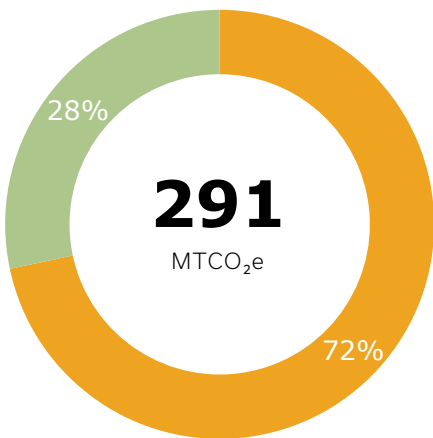
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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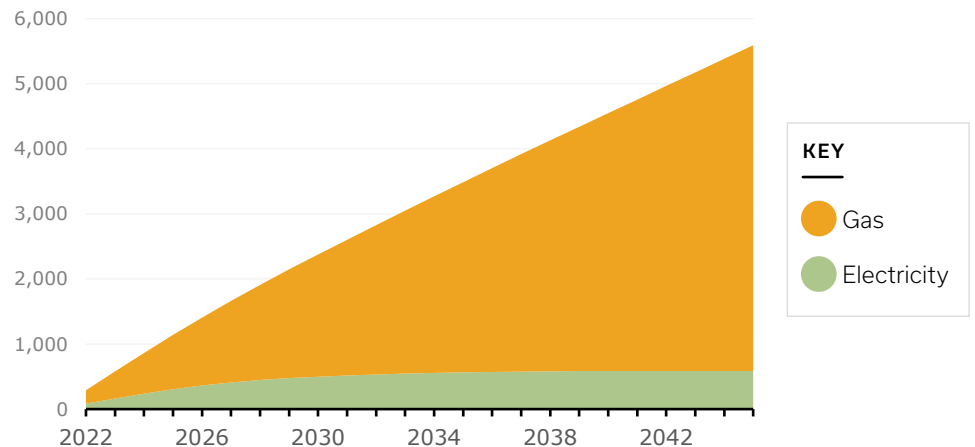


| AREA | VALUE | RANKING (OUT OF 21) |
|---------------------|------------------------------|---------------------|
| AREA | 78,061 SQUARE FEET | 6 |
| EUI | 63 kBTU/SF | 10 |
| ENERGY COSTS | \$104,739 | 5 |
| EMISSIONS | 291 MTCO ₂ e | 8 |
| EMISSIONS INTENSITY | 8.2 LBS-CO ₂ e/SF | 12 |
| WATER-USE INTENSITY | 4.7 GAL/SF | 17 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER



Roosevelt High School

BUILDING CONSTRUCTED: 1921 | MODERNIZED: 2016

NOTE

The recently completed Roosevelt modernization project included many of the typically recommended improvements

SUMMARY OF EXISTING CONDITIONS

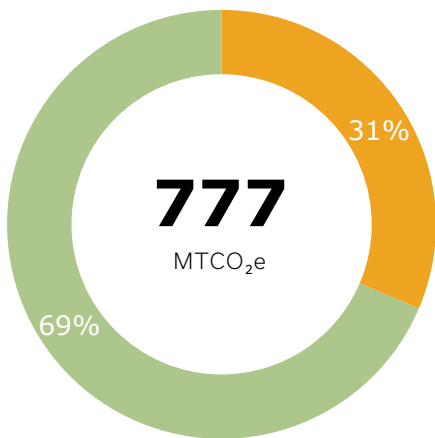
- Modernized envelope, mechanical systems, and lighting
- Upgraded equipment still uses gas for space and domestic water heating

POTENTIAL OPPORTUNITIES

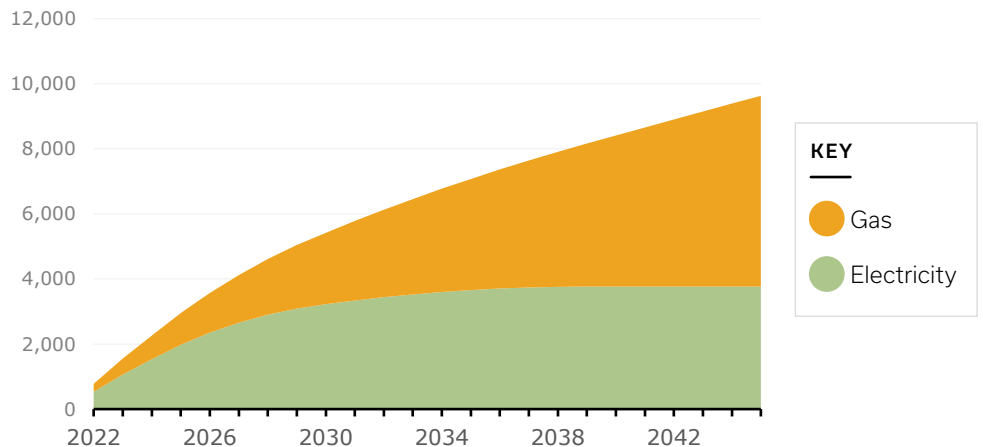
- Electrification of all heating systems within the building
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| AREA | VALUE | RANKING (OUT OF 21) |
|---------------------|---------------------------------|------------------------|
| AREA | 271,306 SQUARE FEET | 2 |
| EUI | 40 kBTU/SF | 19 |
| ENERGY COSTS | \$338,055 | 2 |
| EMISSIONS | 777 MTCO ₂ e | 2 |
| EMISSIONS INTENSITY | 6.3 LBS-CO ₂ e/SF | 21 |
| WATER-USE INTENSITY | 13.0 GAL/SF | 3 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER



Rosa Parks/BGC Elementary School

BUILDING CONSTRUCTED: 2006

SUMMARY OF EXISTING CONDITIONS

- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope

CURRENTLY PLANNED IMPROVEMENTS

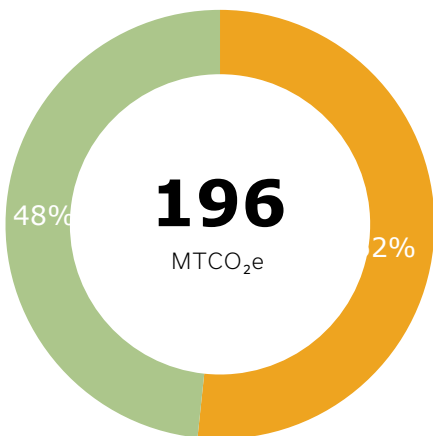
- Upgrading lighting systems to high-efficiency LED fixtures

POTENTIAL OPPORTUNITIES

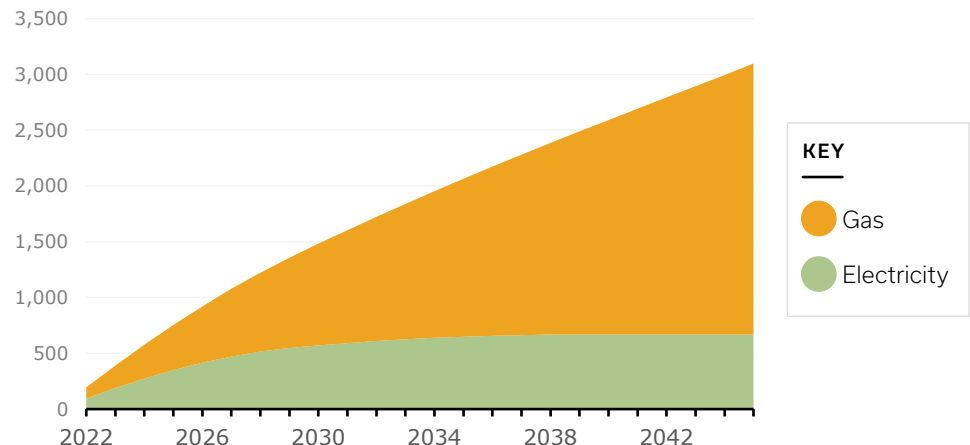
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 68,176 SQUARE FEET | 11 |
| EUI | 44 kBTU/SF | 15 |
| ENERGY COSTS | \$100,030 | 7 |
| EMISSIONS | 196 MTCO ₂ e | 16 |
| EMISSIONS INTENSITY | 6.3 LBS-CO ₂ e/SF | 20 |
| WATER-USE INTENSITY | 11.9 GAL/SF | 4 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER

Sitton Elementary School



BUILDING CONSTRUCTED: 1949

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation

CURRENTLY PLANNED IMPROVEMENTS

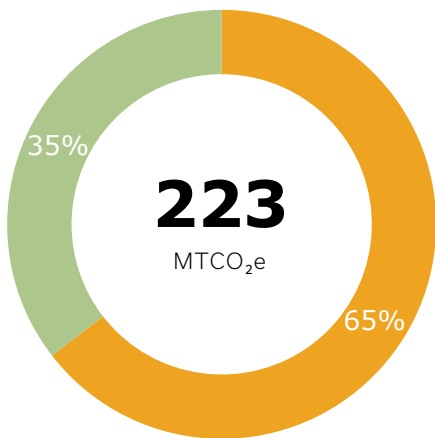
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

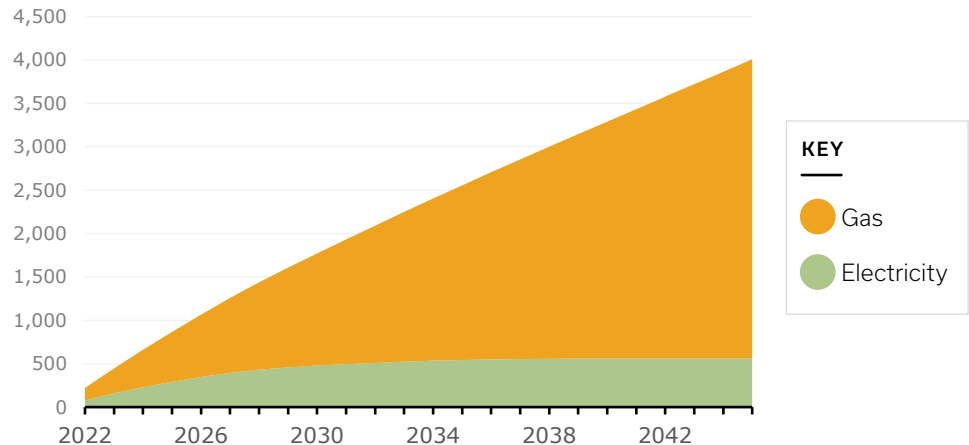
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Upgrading lighting systems to high-efficiency LED fixtures
- Incorporation of renewable energy systems to offset operational emissions
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| | | RANKING (OUT OF 21) |
|---------------------|--|------------------------|
| AREA | 58,487 SQUARE FEET | 14 |
| EUI | 62 kBTU/SF | 11 |
| ENERGY COSTS | \$86,999 | 13 |
| EMISSIONS | 223 MTCO ₂ e | 15 |
| EMISSIONS INTENSITY | 8.4 LBS-CO ₂ e/SF | 11 |
| WATER-USE INTENSITY | 6.9 GAL/SF | 11 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from PGE



ROOSEVELT-JEFFERSON CLUSTER



Vernon Elementary School

BUILDING CONSTRUCTED: 1931

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Limited insulation in existing envelope
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

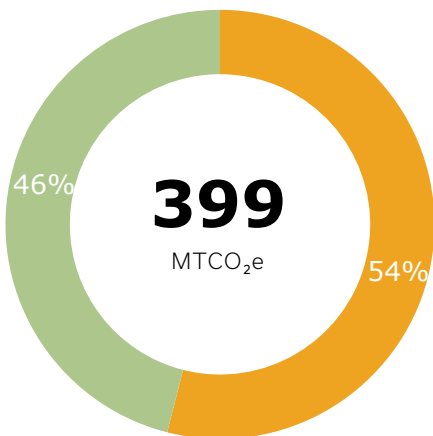
- Upgrades to HVAC controls to improve efficiency and performance

POTENTIAL OPPORTUNITIES

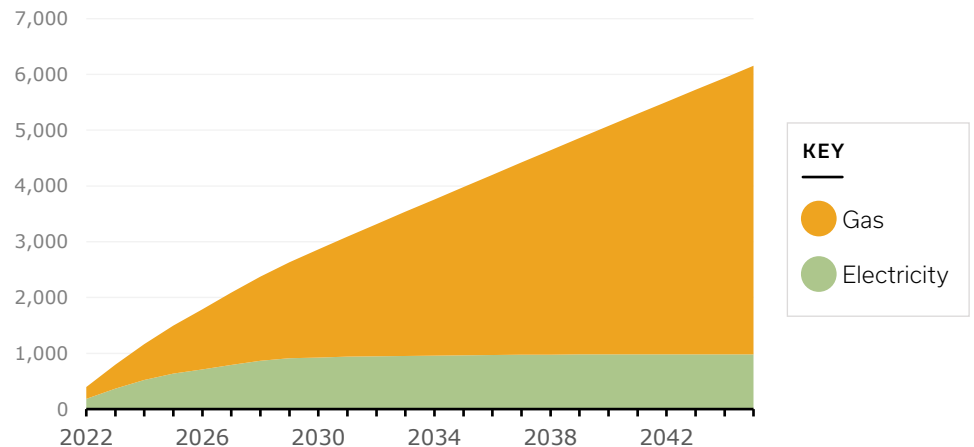
- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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| | | RANKING (OUT OF 21) |
|----------------------------|---|-------------------------------|
| AREA | 70,833 SQUARE FEET | 9 |
| EUI | 69 kBTU/SF | 5 |
| ENERGY COSTS | \$88,457 | 12 |
| EMISSIONS | 399 MTCO ₂ e | 4 |
| EMISSIONS INTENSITY | 12.4 LBS-CO ₂ e/SF | 1 |
| WATER-USE INTENSITY | 4.1 GAL/SF | 18 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power



ROOSEVELT-JEFFERSON CLUSTER

Woodlawn Elementary School

BUILDING CONSTRUCTED: 1966

SUMMARY OF EXISTING CONDITIONS

- Aging HVAC equipment
- Space and domestic water heating provided by gas boiler systems
- Limited existing cooling in building
- Aging envelope with limited insulation
- Lighting systems recently upgraded

CURRENTLY PLANNED IMPROVEMENTS

- Upgrades to HVAC controls to improve efficiency and performance

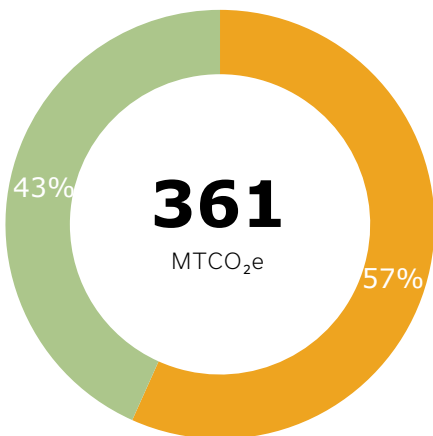
POTENTIAL OPPORTUNITIES

- Electrification of all heating systems within the building
- Incorporation of heat pump systems for heating and cooling
- Improved ventilation systems to provide enhanced filtration and maintain healthy indoor air quality
- Envelope enhancement to reduce conditioning loads and improve thermal comfort
- Incorporation of renewable energy systems to offset operational emissions
- Increased tree canopy and green space
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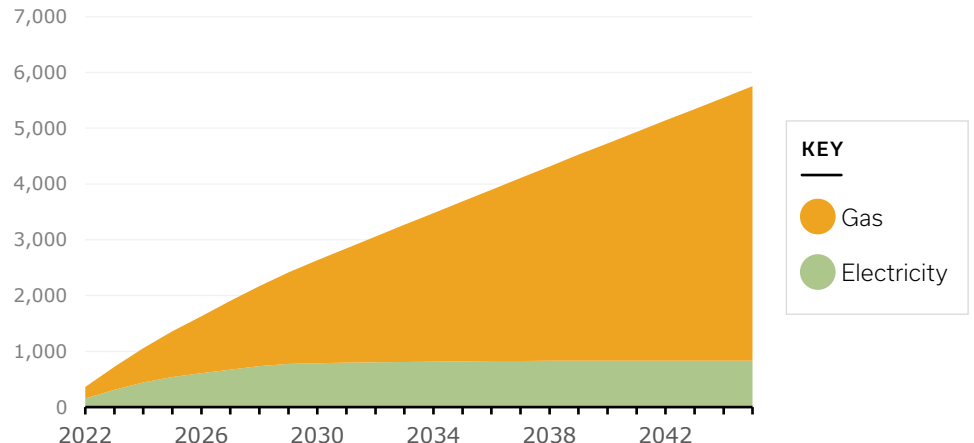


| | | RANKING (OUT OF 21) |
|----------------------------|--|-------------------------------|
| AREA | 106,432 SQUARE FEET | 5 |
| EUI | 43 kBTU/SF | 16 |
| ENERGY COSTS | \$82,729 | 14 |
| EMISSIONS | 361 MTCO ₂ e | 6 |
| EMISSIONS INTENSITY | 7.5 LBS-CO ₂ e/SF | 17 |
| WATER-USE INTENSITY | 2.8 GAL/SF | 20 |

ANNUAL EMISSIONS FOR 2022



PROJECTED EMISSIONS FROM 2022-2045*



*Electric emissions projection based on 2023 emissions outlook from Pacific Power

PPS Decarbonization

When and Where

Ongoing - Online Questionnaire

How Many Attended

Not applicable

Purpose

The purpose of this document is to share the results of our engagement meetings towards Decarbonization with the community.

Ranking Results

1 (most important)... Efficiency

2..... Equity

3..... Comfort

4..... Scale

5 (least important).... Cost

Equity: prioritizing schools in front-line communities

Cost: prioritizing lowest cost option

Efficiency: prioritizing measures that save the most carbon emissions per dollar

Scale: prioritizing small changes at many schools over large changes at few schools



PPS Decarbonization: Survey

Session 4: Online Questionnaire, Ongoing

Q1: Are there any schools you are affiliated with?

- James John Elementary
- Da Vinci Middle
- The Emerson School (K-5)
- Jefferson HS
- MLK Elementary
- Harriet Tubman Middle
- Roosevelt HS - 3
- Sunnyside (K-8)
- Franklin HS - 4
- Laurelhurst (K-8) - 2
- Marysville Elementary
- Bridlemile Elem - 2
- D.A Grout Elementary
- Bridger Creative Science (K-8)
- Robert Gray
- Ida B Wells
- Beach Elementary
- Lewis Elementary
- Scott Elementary (K-8)
- Glencoe Elementary
- Winterhaven Elementary



PPS Decarbonization: Survey

Session 4: Online Questionnaire, Ongoing

Q2: What does Decarbonization at the District and your local school sites mean to you?

- Solar and Battery Storage
- Solar Power, Electric Buses, Reusable Cafeteria Materials
- Fuel efficient buses, Less parental commuting, encourage walking
- Solar Power, Energy efficient buildings, electric transportation/buildings
- Reduction of meat & dairy in lunches, Composting, Solar Power
- Building HVAC, transportation, supplies
- Refactor society to live within healthy & safe bounds of what our planet can support
- Educating new gen about protecting environment, community, planet
- Means a lot to individual has a public health degree
- Remove antiquated heat/cool systems, transition to renewable energy sources, electric buses, educating new generation
- Radical action, Radical words
- Lowering carbon emissions from transportation or building
- A crucial local part of the global effort to mitigate climate crisis
- Discourage parents commuting, incentivize walking, biking, public transit
- Hiring reputable firm to create feasibility plan
- Composting, recycling as much as possible, decrease commuting, increase accessible sidewalks
- Awareness, important for students to know (educating)
- Better trajectory for future generations
- Rigorous standards for construction and operations
- Convert to heat pumps, electric bus, anti-idling, energy eff. buildings, more recyclable materials in cafeteria, natural habitats on school campus
- Means a lot to know school and community are improving
- Raises concerns about disruptions in terms of cost, efficiency, and comfort.
- Safe clean air, moving to heat pump systems.
- Public transit, walk, or bike to school.



PPS Decarbonization: Survey

Session 4: Online Questionnaire, Ongoing

Q3: Why is it important to you that PPS reduces its greenhouse gas emissions?

- Everyone has to play their part, otherwise we will not reach scientifically determined GHG reduction goals
- We have to do what we can, We can at least slow down the effects
- Leave behind a viable planet for future generations.
- Will reduce state's climate emissions and educate other districts firsthand.
- Future generations will otherwise deal with the consequences of current climate crisis
- New gen is deserving of respect, we must model what we want them to learn from
- Essential for children's future
- Avoid human extinction
- Betterment of our society and collective health and wellbeing
- Sustainability is life saving
- We all must play a part in reducing our carbon footprint to help stop the catastrophic climate change. By PPS taking actionable steps, students will take notice.
- We have a duty to students in the rest in the country that may face oppressive leadership. PPS must lead by example, students can make these changes happen.
- PPS should align itself with the cities actions and goals since Portland is a fairly green city.
- PPS is the biggest district in the state, making it have a greater climate impact. Taking effective action can mean longterm gains in budgetary efficiency. Raising efficiency & maintenance standards will improve equity in educational services and resources.
- Because we are collectively cooking the planet.
- Its our obligation, we have to try and reduce GHG.
- For the safety, health, and earth conscious awareness that will carry over to the next gen.
- Global movement to cut carbon emissions requires all of us. Students need to be a part of that.
- Schools are critical leaders that have a big role in changing the course of our future.
- Not only a critical priority for future generations but also creates a better learning environment for the current generation.
- PPS needs to do their part.
- Very important
- While it may not be economically sensible, its essential to understand the urgency and practicality of certain initiatives.
- We must do what we can to limit the damage for future generations. Reducing GHGs often brings better indoor air quality and efficiency.
- Car traffic, parking, and emissions are terrible.



PPS Decarbonization: Survey

Session 4: Online Questionnaire, Ongoing

Q4: How should PPS balance things like equity, cost, comfort, efficiency, and scale?

- Equity should be number 1, but other things should be determined with budgetary and community input.
- We've gotta find the money to get it done across the board
- Take it one step at a time but add decarbonization to your list of values you ACTUALLY respond to.
- Efficiency, scale and comfort should be prioritized. That is the best way to achieve the lowest cost to implement the measures that will have maximum impact for everyone.
- That's a big question. Obviously updating all the high schools has been one way to modernize and make schools more efficient. Adding plant-based options to lunches would also address all those issues.
- I would like to see equity prioritized. As a tax payer I am more than willing to pay higher taxes if I know it is going to PPS and the libraries. If there is transparency in sharing the plans to PPS/ Mult Co have to cut greenhouse gases, I will happily pay higher taxes.
- There are a lot of co-benefits of decarbonization efforts- for example, remodeling a building for heat efficiency likely improves comfort, air quality, etc. If the goal is JUST decarbonization, equity is not really a concern, because the benefits will be felt at the global scale. If OTHER benefits are being considered, then equity is a concern.
- Equity should inform all choices; cost is inconsequential given the risk; some choices we must make will cause us to be less comfortable; efficiency is an overloaded term and needs to be defined; test and iterate solution at a small scale and then implement at a large scale.
- PPS should allow children that live in close proximity, less than a mile from a school, walk to that school rather than place them in a zone twice the distance from their home which would require they are driven. This is a disservice to our children's health, contribute to childhood obesity, increases our GHGs, and affects the community at large.
- Communicate with specific schools and listen to the most vulnerable within each school. The needs of the most vulnerable should be baseline.
- Start with the schools that need the most support first. And as modernization efforts happen, ensure ALL of those changes are done with decarbonization in mind.
- PPS must model in actions what we teach with our words. This means PPS should offer free transit passes to all staff who can reduce their car trips. PPS should not build new schools with parking lots. PPS should let appropriate staff work at home. The new buildings use more energy than what they replaced. This is true of Franklin and Roosevelt in 2015 all the way to Benson in 2024. No AC was needed in the old buildings nor new buildings. We just needed better designs.
- Check in with school communities and gain/implement feedback before making major decisions.
- Start with high quality climate footprint assessment (US EPA, SME Climate Hub, Berkeley Cool Climate,...)
- Listen to the experts you hire; they can provide you with several options that balance these factors differently.
- It is a public school system and the fact that we are dealing with asbestos at RGMS is crazy and any thing that gets exposed at Bridlemile gets plastic covering with duct tape due to asbestos exposure. It's time to invest in the schools.



PPS Decarbonization: Survey

Session 4: Online Questionnaire, Ongoing

Q4: How should PPS balance things like equity, cost, comfort, efficiency, and scale? (cont..)

- Equity has to come first. Historically under served communities like North Portland already bear the brunt of environmental pollution. These communities must be at the center of whatever corrective actions we take next.
- Efficiency, comfort, scale, equity, cost
- Efficiency & scale should take priority.
- By informing us and hearing our opinions.
- PPS should approach the issue of decarbonization with a balanced perspective, considering equity, cost, comfort, efficiency, and scale simultaneously. Equity should not be sacrificed in the pursuit of aggressive emission reduction targets, and the district must be cautious about placing an undue financial burden on certain communities. Cost considerations should be thoroughly analyzed, ensuring that the economic implications do not hinder the district's ability to provide quality education. Comfort and efficiency must also be factored in to maintain conducive learning environments without compromising educational standards. Additionally, the scale of any initiatives should be pragmatic, avoiding overambitious targets that may lead to unintended consequences for the district and its stakeholders. It is about finding a sustainable balance that serves the best interests of the community, taking into account both economic and educational considerations.
- I think the district should assess and triage the buildings where air quality, both indoors and outdoors, is the unhealthiest and work on moving those schools to heat pumps with air filtration. We know that air pollution leads to all kinds of negative health outcomes for children, like asthma, poor attention and increased illness, not to mention increased transmission of Covid-19. Similarly, schools with the most uncomfortable indoor spaces should be prioritized for improvements first.
- PPS should subsidize a Trimet pass for staff at 100%, especially student facing staff so they promote transit. Encourage kids and parents to bike pool- have walking school bus and bike bus and Trimet travel groups.



PPS Decarbonization: Survey

Session 4: Online Questionnaire, Ongoing

Q5: Is there anything specific to you, your school, or your community that you want us to know as it relates to decarbonization efforts at PPS?

- It is important to think about long term costs to our planet, not just a price tag. We need to make smart choices that make a difference to the planet. You can share big successes and their impacts on the state/planet, even if they are not at every site.
- Ensure that the developed plan includes rooftop solar and energy efficiency. There are ample state and federal incentives.
- Reducing food waste and plant-rich diets are #1 and #2 on Project Drawdown's top climate solutions. These would cost little to do and deliver a large result and could be equitable across school districts, yet it is given very little attention.
- Provided goals are not measurable, accountable, or time-bound. And who knows if they are realistic or not without those other qualities. What you are calling Goals are really just Tactics. Without SMART goals, these are just empty promises.
- Cutting out a small square of the Grant HS neighborhood that lives 0.75-mile from the school will directly increase our GHG emissions. PPS should focus on appropriate zoning for schools based on location and allow children to continue to be part of their existing communities, while maintaining a healthier lifestyle.
- Last year PBOT asked our school (marysville elementary) for input because they had a lot of funds to improve 82nd. We asked for a school zone (along 82nd) for existing students and for the 90 additional students (from Lent) that would need to cross 82nd this (23/24) school year. We asked Safe Routes to staff a crossing guard at 82nd or someone to lead a walking school bus. Between PBOT, PPS and safe routes, the "solution" was to add 2 school buses. This tells us that the best solution is for kids to get up earlier, sit on a bus instead of walk, pay bus drivers instead of safety personnel and contribute to carbon emissions. I am very interested in school bus alternatives especially for kids who live 20 minutes or less walking distance to school. Can PBOT, PPS, Safe Routes and others that might have an impact, join efforts to make things healthier for our kids and communities?
- Bridlemile currently has an under-performing boiler room. This is massively inefficient. Space like this is also precious in schools and could be re-purposed with smaller more efficient heating and cooling elements with additional space then given back to the school either for storage or functional use.
- The survey should have been better designed by a survey expert who knows survey like scales and how to avoid the bias I see in this survey.
- We see School Bus use for inner SE Portland (D. Grout K-5) that could be far more efficient, while also improving equity & reducing costs — especially by having clearer & more consistent communication (with riders & their families)



PPS Decarbonization: Survey

Session 4: Online Questionnaire, Ongoing

Q5: Is there anything specific to you, your school, or your community that you want us to know as it relates to decarbonization efforts at PPS? (cont..)

- Do whatever you can to discourage parents from driving their kids to school individually in private vehicles, and to encourage and incentivize them instead to walk, bike, or use the bus or public transit.
- I am an architect at LSW Architects, specializing in mass timber design. I am currently working on 5-8 school in Ridgefield, WA which will be a fully mass timber structure. We are working closely with a pre-construction estimator to ensure the use of mass timber is either cost-neutral or cost-negative when compared to the same building utilizing a steel structure. The benefits of mass timber reach beyond carbon sequestration, including occupant health and happiness, shorter construction timelines, and local economy and forestry support. I would be happy to discuss our process and findings with Ridgefield, as it relates to any efforts related to mass timber and decarbonization.
- Lewis Elementary has the largest garden space in the PPS district, and yet we receive no support for our efforts at making the gardens a natural habitat and a conducive place for outdoor education. We need more trees planted to create shade for the kids during the warm months. The landscaping crew makes occasional appearances and ruins the work parent volunteers have done. They remove our mulch; they cut down our plants; they don't take away the green bins we've filled from raking and weeding. There were classrooms in the high 90s last year during heat waves. Parents paid for teachers to have portable AC units in the classroom. There's one kitchen worker who says she has no time to clean reusable trays and flatware or recycle milk cartons, so she resorts to using disposable trays and flatware. All the plastic flatware, plastic trays, and milk cartons end up in the dumpster, and that could be avoided if PPS paid for more kitchen staff. The kids need to have experiential learning about climate change through gardening and being outside, where they can be exposed to plants & nature, but the teachers don't have support to add that into their curriculum.
- I question the wisdom of precipitous decarbonization efforts, particularly within educational institutions like PPS. While environmental responsibility is crucial, we argue for a measured approach that balances the economic realities faced by the district, the well-being of its stakeholders, and the need for quality education. Hastily embracing decarbonization without thorough consideration of the economic impact risks undermining the very foundations upon which our education system relies. Let us advocate for a pragmatic and thoughtful approach that prioritizes both environmental responsibility and the socio-economic health of our communities. Thank you.
- We may need to keep windows open for airflow because of disease.



PPS Decarbonization

March 28th, 2024

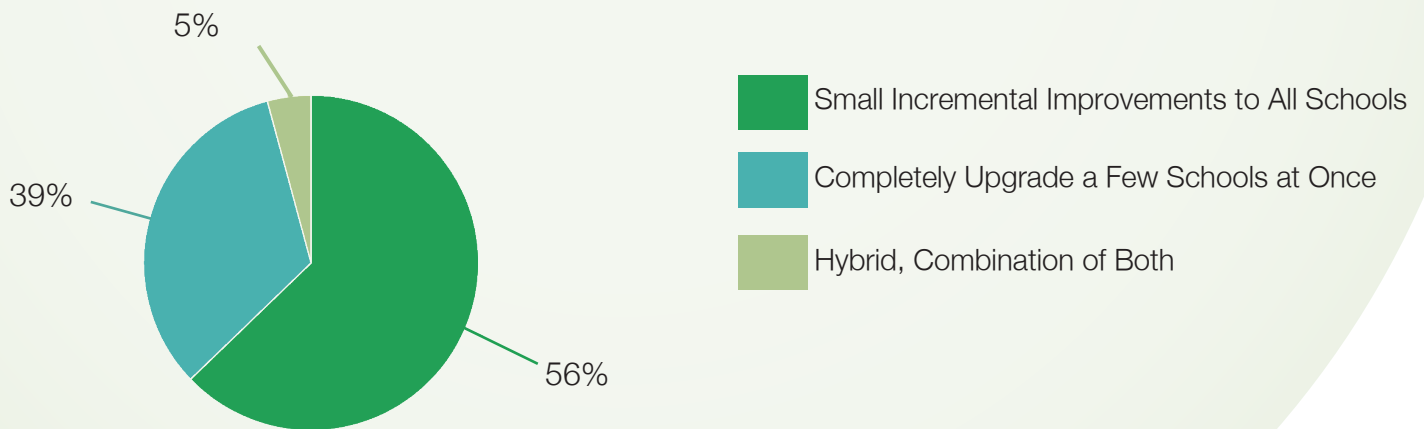
How Many Participated

43 participants

Purpose

The purpose of this document is to share the Dot Poll implementation question and Ranking outcomes from the 4 in-person meetings and 1 virtual meeting.

Dot Poll Implementation Question



Ranking Results

- 1 (highest priority)..... Improve thermal comfort.
- 2..... Reduce energy & carbon emissions.
- 3..... Improve indoor air quality.
- 4..... Add energy resilience.
- 5..... Reduce operating cost & maintenance.
- 6..... Improve outdoor environment.
- 7 (lowest priority)..... Improve visual comfort.



PPS Decarbonization FAQ

Q: How is PPS handling the topic of transportation and solid waste emissions?

A: Both transportation and solid waste are included in the scope of the overall PPS emissions portfolio and in the emissions reductions goals of the Climate Crisis Response Policy. Transportation tracking includes school bus fleet and PPS operations fleets, but not personal staff and family transportation. Solid waste emissions are tracked through total weight of PPS trash. However, neither transportation nor solid waste are included in the scope of this decarbonization roadmap, which focuses on buildings.

Q: Is PPS planning to use these facilities for safe spaces in natural disasters? Forest fires and air pollution?

A: The CCRP states that PPS “will make available its facilities, as appropriate, during community response efforts to climate events.” Many new facilities will be designed to accommodate the community during climate events, with the health and safety of our students and school staff being the first priority. PPS is [working closely with Multnomah County](#) and the EPA to determine the best approach to this important part of our policy.

Q: Is indoor air quality a part of the equation for decarbonization?

A: Indoor air quality is being considered as part of the health and equity factors when we determine and weigh the various priorities and needs associated with decarbonization.

Q: How does equity fit into the equation for decarbonization?

A: Equity is being considered when we determine and weigh the various priorities and needs associated with decarbonization. Prioritizing historically underserved schools is a key metric used to decide the order in which PPS will decarbonize its campuses. For example, if two schools have similar opportunities for carbon reduction and electrification, a school that serves a high population of low-income or students of color, or is in a neighborhood with severe effects from urban heat islands, will take precedence.

Q: What role will solar panels play in the future of decarbonization?

A: The goal of creating a decarbonization roadmap is to determine the most efficient and effective pathway to getting to carbon neutrality. Part of that work will be exploring the cost-effectiveness of solar as a part of that solution. However, energy efficiency and electrification will be paramount in our journey to net zero emissions.

Q: Does decarbonization work take away from the deferred maintenance of buildings or staffing needs?

A: This roadmap is designed to take into account multiple factors, including maintenance needs. The goal is to find opportunities to decarbonize our buildings while also addressing deferred maintenance and needed upgrades. The vast majority of the funding for decarbonization work

will come from voter-approved bonds or other capital funding sources, not general funds. Another chunk will come from local, state, and federal grants.



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**GREEN SCHOOLS
NATIONAL NETWORK**

Climate Literacy Education Assessment Report

Summer, 2024



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Acknowledgments

The Green Schools National Network (GSNN), a national non-profit organization working with districts and schools, offers holistic support and guidance for health, equity, and sustainability. GSNN uses its [GreenPrint™](#) (Built upon four main impact systems: Leadership; Curriculum & Instruction, Culture & Climate; and Facilities & Operations) as a frame for educational excellence¹.

GSNN partners with the following schools and districts to further health, equity and sustainability across impact systems:

- ◇ Boise Public Schools
- ◇ Boulder Valley School District
- ◇ Brooklyn Urban Garden School
- ◇ Carson City School District
- ◇ Common Ground Urban Farm School
- ◇ Encinitas Union School District
- ◇ Fayette Public School District
- ◇ Fayetteville Public Schools
- ◇ Laguna Beach Public Schools
- ◇ Los Angeles County Office of Education
- ◇ Laguna Beach Public Schools
- ◇ Mundo Verde Schools
- ◇ Oak Park Union School District
- ◇ Pilgrim School
- ◇ Portland Public Schools
- ◇ Prairie Crossing Community School
- ◇ School of Environmental Studies
- ◇ United Nations International School
- ◇ United World Colleges of Costa Rica
- ◇ Vista Grade High School
- ◇ Wayside Schools

GSNN and Portland Public Schools (PPS) have a strong mission alignment and collaborate on various fronts. This project has focused on supporting PPS to go further, farther, and faster with Climate Justice instruction and implementation. Aspects of this project have included interviewing stakeholders, meeting with PPS Climate Justice leaders, visiting school sites, participating in climate and sustainability-related events, and reviewing key documents and materials related to the pioneering work of PPS within the Climate Justice field. This scope was made possible due to a 2019 grant from Portland General Electric (PGE), the scope of which seeks to support PPS developing curriculum and resources to expand climate literacy in Portland and beyond.

¹For a list of the 20 Core Practices of the GreenPrint™, please see Appendix.



The PPS Climate Crisis Response, Climate Justice, and Sustainable Practices Policy has three pillars. This report focuses on Pillar 3, which is to “Provide Effective Environmental and Sustainability Education,” and is broken down into three sub-goals:

- ◇ Goal 3.1: PPS will empower staff as allies for a healthy climate.
- ◇ Goal 3.2: With guidance from frontline students and communities, PPS will develop curricular learning opportunities so PPS graduates know the causes and consequences of climate change, understand climate justice², and have opportunities to practice climate solutions.
- ◇ Goal 3.3: PPS staff will collaborate with students to create opportunities to engage youth in hands-on climate learning, preparation, and practice on a regular basis at all PPS schools.

During our interviews, visits, and the writing of this report, we strived to use these goals as a lens for our insights and opportunities.

The following reflections offer data and insight into GSNN experiences while considering the hopes and intentions of PPS leaders regarding Climate Justice integration. Content included in this document highlights key themes, strengths and assets, and insights and opportunities. In addition, notable quotes from individuals consulted were included. Lastly, [GreenPrint™](#) core practices (of which 20) were offered as connecting points to ground the recommendations to PPS in industry best practices and support for this important work.

The GSNN overview process took place between February – July 2024 under the leadership of Kat Davis, PPS – Advisor for Climate Justice.

Associated GSNN team members involved include:

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²Climate justice refers to the idea that addressing climate change should be done in a way that recognizes and rectifies the unequal impacts on vulnerable communities. It emphasizes fairness, ensuring that those who contribute least to climate change, often marginalized groups, are not disproportionately affected and that solutions promote equity, human rights, and sustainability for all people. Subgoal 3.2.3 in the Climate Crisis Response Policy addresses this directly



Quotes from PPS Students

"I joined the green team because I feel like it was a good way to get younger people involved with climate change a little more."

- Maximus, 7th Grade

"I think that, from a young age, being taught that you can actually do something to combat climate change is invaluable. It's what helps people become global citizens."

- J.J., Senior

"Because everyone has a stake in stopping the climate crisis even if they don't know it yet. That's the reason that we are organizing in local schools, and not just at our federal level."

- Adah Crandall, Grant High School Graduate, NPR

"I think other people should take it seriously because even if they think it doesn't affect them, it affects everyone."

- Marshall, 7th Grade

"I feel like a lot of the lessons that they teach us don't really empower us to make change. It's kind of just like lightly touching the surface on climate change more on the effects, but not on what we can do."

- Amanda, 11th Grade

"When you learn about climate change, it can be really scary and lead to anxiety... but showing that people have made change can inspire us to create our own solutions instead of having a sense of doom. We shouldn't be scared of it and want to avoid it. We should work together, both with our peers and with people older than us, to solve things together, which can also help with the anxiety."

- Lulu, 11th Grade

"I have some family in parts where the hurricanes have been hitting. It's really scary and a wakeup call for how many that we've had... we need to have some action."

- Riley, 11th Grade

"We're the future; we're going to be the adults. Having even just a unit that really talks about climate change and climate justice would be really beneficial, especially for young people and young minds."

- Ali, 11th Grade



Executive Summary

Integrating climate justice education can enrich adopted curriculum by making it more relevant and place-based, which in turn boosts engagement, promotes equity, fosters a stronger sense of belonging, and enhances achievement in math, science, and literacy. (MacDonald, S. P. (2020), Springer (2023). Frontiers. (2020)

Portland Public Schools has passed one of the most ambitious, comprehensive, and progressive climate justice education policies in the country. It's done so in a state that has not yet mandated climate education, which creates unique opportunities and challenges. The district has developed pockets of excellence in climate knowledge and expertise, youth engagement, outdoor education, stakeholder collaboration, project-based learning, professional development, and resource development. From integrating climate justice themes across the Middle School Science Curriculum—covering energy, weather, climate, and ecology—to prioritizing youth engagement through initiatives like the Youth Climate Summit and Climate Solutions Fairs, the district has fostered environmental stewardship and action. Additionally, programs like outdoor education and the Innovation Studio Climate Justice Design Team exemplify stakeholder engagement and a systemic approach to providing a more equitable climate education. This report aims to identify ways to systematically highlight and build upon these successes, ensuring they are expanded and accessible across the district.

Portland Public Schools has the opportunity to establish itself as a national and global leader in climate justice education. This report aims to provide a strategic roadmap to help actualize that vision.

This report identifies 10 insights and 18 opportunities, all of which are interrelated and interdependent. Readers can approach this report as a menu of options, choosing where to focus resources, time, and energy to advance climate justice education in PPS. At the end of the report, we highlight and detail four high-leverage points that address multiple insights and opportunities simultaneously. These leverage points are:

1. The creation of a digital climate literacy and justice education resource hub,
2. The implementation of climate literacy and climate justice criteria for district-wide curriculum adoption,



3. The collection and visualization of climate literacy, climate justice, and sustainability data,
4. The infusion of climate literacy, climate justice education and sustainability into existing structures, initiatives, and professional development

Each of these leverage points is elaborated in detail at the conclusion of this report, offering strategic paths forward for maximizing impact.

Below is an at-a-glance summary of the insights and opportunities elaborated on throughout the report:

Insights

- ◇ #1: Balancing Curriculum Fidelity with the Need for Climate Justice Education
- ◇ #2: Limitations of Consistent Climate Education Across the District
- ◇ #3: Empowering Students Through Hands-On Sustainability and Climate Action Projects
- ◇ #4: Clarifying Language and Terms
- ◇ #5: Expanding Outdoor Education: A Pathway to Climate Justice and Community Engagement
- ◇ #6: Integrating Indigenous Knowledge for Climate Justice and Sustainability Education
- ◇ #7: Expanding Community Engagement for Broader Climate Justice Impact and Resilience
- ◇ #8: Trust Building Between District and School Building Staff
- ◇ #9: Engaging the Early Majority: Bridging the Why of Climate Justice and Education Priorities
- ◇ #10: Addressing the Need for Accessible and Curated Climate Change and Sustainability Resources in Education



Opportunities

- ◇ #1: Adoption Criteria for Climate Justice Education Integration
- ◇ #2: Leverage Existing Structures and Initiatives
- ◇ #3: Collect Data on Climate Education
- ◇ #4: Create a Climate Justice Scope and Sequence
- ◇ #5: Provide PD on the Solutionary Framework and/or 4PBL
- ◇ #6: Implement Sustainability Performance Data Collection and Visualization Programs
- ◇ #7: Clearly Define Language for Sustainability, Climate Literacy, and Climate Justice Education
- ◇ #8: Expand Access to Climate Education Professional Development
- ◇ #9: Create a Dynamic and Collaborative Digital Resource Hub to Support Climate Justice and Sustainability Education
- ◇ #10: Expand Access to Outdoor Education
- ◇ #11: Create a Digital Climate Solution Showcase
- ◇ #12: Expand the Spring 2025 PPS Climate Justice Summit
- ◇ #13: Invest in Reciprocal Connections with BIPOC, Disabled, and Minority-Led Organizations
- ◇ #14: Create and Disseminate a Climate Justice Professional Development and Messaging Toolbox
- ◇ #15: Continue to Engage Content Experts and Community Members
- ◇ #16: Gather Data on Student and Staff Mindset
- ◇ #17: Continue to Support and Expand the School Sustainability Champions Network
- ◇ #18: Provide Targeted Support and Gather Feedback from Climate Justice and Environmental Science Teachers
- ◇ #19: Create a dynamic and collaborative digital resource hub to support climate justice and sustainability education



History and Acknowledgments

In April 2016, teachers and community partners, presented a resolution to the Portland Public Schools (PPS) Board of Education's Teaching and Learning Committee calling for the integration of climate literacy into the curriculum. The resolution emphasized the need for climate education across all grade levels, promoting solutions and causes of climate change in age-appropriate ways and providing professional development for educators. It also highlighted the importance of engaging local communities, especially those most affected by climate change, and preparing students for green job opportunities.

In May 2016, the PPS Board of Education adopted Resolution No. 5272, committing to climate justice and climate change education. This resolution directed the Superintendent to work with students, teachers, and community members to develop an implementation plan to advance climate literacy, including reviewing textbooks for accuracy and eliminating those that downplayed the severity of the crisis. The Superintendent supported a teacher and community-led Climate Justice Committee to lead this process.

Educators like Tim Swinehart and Bill Bigelow, co-authors of *A People's Curriculum for the Earth*, played a vital role in the Climate Justice Committee, leading workshops for teachers and working toward an assessment to review and remove outdated textbooks. Community organizations, including 350PDX, were instrumental in mobilizing public support. Their collective efforts helped position PPS as a leader in climate justice and education. However, during this time frame, PPS leadership moved towards a more centralized distribution of education and resources, and by 2019 the administration chose to hire a Climate Justice Program Coordinator under the Office of Teaching and Learning to advance the Climate Literacy Resolution with central office administrators to advance curriculum adoption processes and professional development. While this choice for direct systemic integration and funding serves as a signal of the success of the community's push to advance climate literacy as a PPS priority, the trade off was a divestment of funding and support for the community-driven Climate Justice Committee that led this movement, leading to educators and community members feeling frustrated and sidelined.

In 2019, PGE provided a grant to fund open source, teacher-created climate literacy



curricula at PPS to serve as a tool for all Oregon educators. However, in 2020 the Covid-19 pandemic led to a full resource mobilization to support the basic needs and learning of students. Despite the pandemic, the Climate Justice Program Coordinator was able to successfully launch a virtual climate justice curriculum camp in the summer of 2020 to develop student and teacher co-created Climate Justice High School Elective. The elective launched in Fall 2020.

While these support for Climate Literacy Resolution continued to grow within the central administration of teaching and learning, the work taking place became less publicly visible. The withdrawal of funding and respect for the Climate Justice Committee's efforts deeply frustrated the teachers and advocates who had laid the groundwork for climate literacy in PPS. Teachers, community members, students, and parents came together to develop a draft policy, a mechanism with more accountability than a resolution, that committed PPS not only to climate literacy, but to mobilize a response to the climate crisis as a whole, centering climate justice. Students led walkouts, community partners testified at Board meetings, and the community came together to collaborate with the Board of Education and PPS staff to negotiate an ambitious climate policy.

In March 2022, the PPS Board of Education unanimously passed the Climate Crisis Response, Climate Justice, and Sustainable Practices Policy. This marked a major milestone after years of advocacy from students, educators, and activists. Key figures like Danny Cage and Jackson Weinberg rallied support for climate justice education, with students leading the charge for bold action. The policy, which aims for net-zero emissions by 2040, commits to 100% clean electricity in new buildings and retrofitting existing ones, rejecting false solutions like renewable natural gas.

The policy's passage in 2022 sparked systemic change. Superintendent Gureeroro hired an Advisor for Climate Justice positioned to report to the Chief of Staff to advise senior leadership on systems-wide strategic implementation of the Policy goals and values. Work to pilot successful climate literacy education at PPS launched with professional development opportunities for teachers that centered on teaching with a climate justice lens, Climate Justice Youth Summits seeking to connect students across the district on tangible, inspirational pathways for change, and a comprehensive assessment effort to identify strengths and opportunities for growth. While the systems-wide implementation took off with research, planning



and engagement to set up the district with a strong foundation from which to grow cohesive and impactful projects and programs to advance the policy goals, the tangible impact at the site level of this work has been slower to emerge, leading to frustration among early advocates who felt sidelined. The pilots may have feel meaningful and



impactful for those in attendance, but they still only reached a small percentage of teachers and students. Thus, a parallel movement has taken place at PPS where district-wide systems are becoming more emboldened to lift policy goals and values, while certain site-based signs of success may feel harder to pinpoint, or may be felt inequitably as some sites excel at providing climate literacy learning opportunities and others lack support. This leads to a nuanced and complex perspective on the success of climate literacy education implementation at PPS, where some may feel like PPS has made significant strides, and others may critique that not enough has happened, or worse, that the district has abandoned the effort all together.

However, students remain highly engaged, with movements like the Green New Deal for Schools advocating for comprehensive climate justice education in classrooms. And teachers, whether they are inspired by opportunity or exhausted by lack of movement on climate action, continue to show up for collaborative efforts, climate justice professional development opportunities, and most of all, to support their students who are trying to navigate growing up in a climate-changed world. This report seeks to acknowledge this complex history, to recognize and honor those who have helped position PPS as a leader in climate justice education, and show the opportunities and strengths for furthering this important work both in district-wide development and in school site-level support.





Climate Justice as it Relates to PPS Top Priorities

Dr. Kimberley Armstrong has [three major initiatives](#) that are naturally aligned with the district’s climate justice education efforts: Building Trust and Relationships Across our City, Advance Literacy, and Strengthen Safe, Supportive Schools³.

The arrival of a new superintendent at Portland Public Schools (PPS) presents a timely opportunity to rebuild trust among staff, students, and community activists who have long advocated for climate justice education. The superintendent’s focus on “Reestablishing Trust” can be a key step toward repairing these relationships by acknowledging past missteps and engaging those early adopters in the renewed climate literacy initiative. Involving these educators in decision-making processes, promoting transparency, and fostering open communication are crucial for restoring trust and ensuring climate justice education is meaningfully integrated across the district.

³ [Full Interview with new Portland Public Schools Superintendent Dr. Kimberlee Armstrong](#)

⁴ [New Portland Public Schools Superintendent Kimberlee Armstrong shares priorities for school year, cellphones on campus and other issues](#)



In terms of “Advance Literacy,” climate literacy is a strong vehicle for fostering student engagement and improving literacy skills across reading, writing, speaking, and listening. By embedding climate-related, place-based learning into the curriculum, students gain a stronger connection to their work, which can lead to increased motivation and comprehension. The interdisciplinary nature of climate literacy offers opportunities for project-based learning, enabling students to build background knowledge and vocabulary in contextually relevant ways. As students engage with complex climate issues, they are not only developing literacy skills but also learning to think critically and become problem-solvers, preparing them for both academic and real-world challenges. This can be achieved by expanding existing teacher training opportunities and creating a digital resource and showcase hub, as outlined later in this report.

The “Strengthen Safe, Supportive tSchools” initiative aligns with the goals of climate justice education. PPS can continue to transform its schools into living laboratories where students and teachers collaborate on projects that enhance the physical environment. By involving students in efforts to improve air quality, reduce waste, and create greener, more sustainable spaces, they are empowered to contribute to tangible changes in their communities. These efforts not only align with the district’s Climate Crisis Response Policy, which addresses the impacts of climate change on health and wellness, but also offer students hands-on opportunities to practice the climate solutions they learn about in the classroom. These initiatives will foster healthier learning environments and contribute to the overall physical and mental well-being of students and staff. By implementing a sustainability data dashboard more accessible for each school, the district can make sustainability performance more visible and accessible to both teachers and students, creating opportunities for them to become active changemakers in their schools. This can lead to positive mental health benefits, as well as improvements in physical well-being and safety.

At the heart of these three initiatives—building trust, advancing literacy, and strengthening schools—is the mental and physical well-being of students and staff, especially in the face of eco-anxiety. Eco-anxiety, which many young people experience as they grapple with fears about the future of the planet, makes it difficult for them to envision a hopeful and achievable future. As educators, it is our responsibility to foster what some experts call critical hope: the ability to acknowledge the challenging realities of our current climate crisis while still empowering students to work towards a positive future. The work of climate literacy



directly addresses this by offering students opportunities to collaborate on local, place-based solutions, allowing them to take tangible actions in their communities.

Through project-based learning, outdoor education, and solutionary thinking, students not only develop essential academic and problem-solving skills but also cultivate a sense of efficacy and agency. This pairing of strong curriculum with the greening of physical spaces creates resilient schools that are better equipped to face climate disruptions and extreme weather, while simultaneously supporting the physical and mental well-being of students. The fact that all of this is grounded in PPS's Climate Crisis Response Policy is a significant step forward, and the following sections of this report will outline the insights and opportunities to fully implement this policy and its supporting initiatives.





Strengths, Assets and Successes

First Annual PPS Innovation Summit

The First Annual PPS Innovation Summit gathered students, staff, board members, and community organizations to explore strategies for systemic change through the theme of Productive Disruption. Trenelle Doyle, Founder of Go Girl Ride, described this as disrupting the status quo with intention and impact, while Bryan Lee Jr. of Colloqate Design emphasized reshaping not just physical spaces but also cultural and social narratives toward justice. The summit prioritized voices with lived experiences of oppression, centering equity through panels, student speeches, and a keynote. The PPS Innovation Studio is now tasked with empowering the community to implement these creative, impactful changes.

Student Climate Action Design Team

In Spring 2024, the Student Climate Action Design Team launched, composed of students, educators, community climate organizations, and staff working to develop pathways that empower students to take meaningful climate action within Portland Public Schools (PPS). In collaboration with the PPS Innovation Studio, the team employs the Innovation Equity Design Process, integrating design thinking with racial equity and social justice. Despite challenges, especially for historically underrepresented students, the team is focused on creating accessible, diverse pathways for all students to engage in climate action, particularly those most affected by climate change.

School Sustainability Champions Network

In Fall 2023, PPS launched the School Sustainability Champions Network, a group of teachers and staff who meet monthly to discuss climate-related initiatives across the district. The Champions have led



impactful events, programs, and climate art projects at various schools, while also sharing ideas, resources, and solutions to common challenges. Serving as a vital communication link, they help spread information about climate programs, events, and opportunities for student and teacher involvement, fostering collaboration and inspiration throughout PPS.

Climate Solutions Fairs

For the last four years, PPS has partnered with SAGE (Seniors Advocates for Generational Equity) to host Climate Solutions Fairs at middle schools in PPS. In Spring 2024, SAGE hosted fairs at Roseway Heights Middle School and Harriet Tubman Middle School. These fairs provided students with the opportunity to learn about local organizations and sustainability practices aimed at mitigating climate change and building community resilience in the Portland area.

Second Annual PPS Student Climate Summit

In May 2024, more than 100 students from seven PPS high schools gathered at the Redd Building on Salmon Street for the Second Annual PPS Spring Climate Summit. The event, themed Seeds of Change, aimed to inspire student leaders and connect them with community organizations to support climate action in their schools. Students learned practical skills for managing climate projects with a focus on impact and equity.

Keynote speakers included Oregon Representative Khanh Pham, climate author Elizabeth Doerr, staff from the Portland Clean Energy Fund (PCEF), Kat Davis (PPS Advisor for Climate Justice), and student leaders from the Climate Justice Youth Advisory. The Seeds of Change theme will continue into the next school year, as PCEF begins financially supporting student-led climate action projects across the city, fostering further collaboration between students, community organizations, and district staff.

Climate and Sustainability Initiatives in PPS High Schools

High schools across Portland Public Schools (PPS) have taken significant strides in climate action and sustainability, driven by student leadership and community engagement. These types of initiatives should be shared, scaled and replicated as PPS builds capacity.



At **Grant High School**, students in the Green Club made PPS history by launching the district's first high school front-of-house **food scrap collection program** on March 4th, 2024. While PPS kitchens have long managed back-of-house food waste, creating a system for students to participate in food scrap collection in the cafeteria proved challenging. Green Club students worked diligently with administrators, secured volunteer hours for monitoring, ordered bins, and created informational signage. Their persistence led to a successful launch after receiving staff approval, marking a milestone for sustainability initiatives in the district.

Ahead of Earth Day, **Alliance High School** hosted a guided tree walk led by Jim Gersbach, showcasing a **Learning Landscape** developed in partnership with the Concordia Tree Team and Portland Parks & Recreation Urban Forestry. This landscape features around three dozen tree species, including deciduous and evergreen oaks, as well as relict species. A highlight of the event was the chance to see a living specimen of Oregon's official state fossil, deepening participants' connection to the region's natural history.

Earth Day celebrations at various PPS high schools further exemplify the commitment to environmental stewardship. **Franklin High School** hosted a campus cleanup, while **Grant High School's Climate Justice Club** organized a cornhole tournament and distributed Earth Day buttons to raise awareness. **McDaniel High School's Naturalists Club** participated in the Roseway Neighborhood Earth Day Celebration with an informative tabling event. At **Roosevelt High School**, Environmental Science and Leadership classes collaborated to create an Earth Day carnival, where students engaged in climate change activities and signed a climate pledge in exchange for frozen yogurt.



The **Climate Justice Youth Advisory**



(CJYA), composed of passionate high school students from across PPS, plays a critical role in shaping the district’s climate action agenda. CJYA members were instrumental in organizing the Spring Climate Summit, providing input on event themes, speakers, and tabling organizations, thereby amplifying student voices in climate justice work.

In February 2024, several high school students from **Benson, Franklin, Grant,** and **McDaniel** traveled to Salem for a day of **legislative advocacy**. They participated in a floor session at the House of Representatives, learned about the legislative process, and met with state representatives to advocate for public education and youth empowerment, including bills supporting summer learning programs, youth advisory councils, and expanded school-based health care services.

Middle School Front-of-House Food Scrap Programs

Front-of-house (FOH) food scrap programs in PPS middle schools have laid a strong foundation for sustainability efforts across the district. Beverly Cleary Middle School has set a notable example, where students actively participate in FOH composting by assisting custodians in sorting food scraps. This hands-on involvement has fostered environmental stewardship and built awareness among students. While Grant High School recently became the district’s first high school to implement a similar program, several elementary and middle schools had already embraced FOH composting prior to 2020.

Climate and Sustainability Initiatives in PPS Elementary Schools

As a result of key community partnerships, elementary schools in Portland Public Schools (PPS) are leading the way in climate action through hands-on projects, community engagement, and sustainability-focused events.

[Eco-School Network](#) coordinates volunteers at elementary schools



across Portland, engaging thousands of students in hands-on learning about gardens, alternative transportation, waste diversion, environmental stewardship and more.

At **Rose City Park Elementary**, a partnership with Grow Portland, Full Cellar Farm, and Wild Roots Farm launched a new **food waste sorting program**. This initiative kicked off with a fun-filled day where students and community members taste-tested root vegetables, promoting sustainable food practices and reducing waste.

Peninsula Elementary hosted a large-scale **Earth Day event** that involved



over 150 students, families, and volunteers. Participants cleaned up the neighborhood, moved soil, planted an edible garden, and removed invasive species. The effort resulted in 1,600 pounds of litter and yard waste being cleared from the area, contributing to the school's environmental and outdoor learning spaces. This project was supported by community partners Depave and SOLVE, highlighting the power of collaboration.

At **Buckman Elementary**, Earth Day was celebrated with an **Earth-Day cleanup** event followed by a silent disco, co-hosted by SOLVE and Heartbeat Silent Disco, combining environmental stewardship with fun, community-building activities.

Bridger Creative Science School marked Earth Day 2024 with a Sunday afternoon of **community stewardship**, where families participated in clothing swaps, made upcycled planters and bird feeders, and spread mulch in the school's Rain Garden. The event also served as an opportunity to envision a revamped garden education space and additional outdoor learning areas.

At **Woodstock Elementary**, the school community celebrated the installation of a **Peace Pole and Peace Garden** with a special Earth Day ceremony. The Peace Pole, which displays the message "May Peace Prevail on Earth" in multiple



languages, symbolizes the school's commitment to peace, sustainability, and global understanding. This initiative, led by Principal Johnson and Mr. Hunter's class, adds a meaningful cultural and environmental element to the school garden.

Fourth-grade students from **Scott Elementary** recently visited two local farms to explore unique food production practices. At **Live Local Organic**, they learned about sustainable farming through a combination of aquaculture and hydroponics. At **Black Futures Farm**, a community-focused organization led by Black-identified and African Diasporic individuals, students experienced how food production fosters social connections and cultural resilience. This field trip highlighted the importance of sustainability, community, and local food systems in the students' education.





Curriculum Integration and Pedagogy: Insights

Insight #1: Balancing Curriculum Fidelity with the Need for Climate Justice Education

GreenPrint Core Practice #6: Schools plan strategically for curriculum and instruction that promote health, equity, and sustainability

Because the PPS commitment to a climate justice curriculum is ahead of the curve for school districts, the curriculum that the district adopts from nation-wide sources may not make the connections about the inequitable human-environmental impact of climate change, or offer resources for teaching the climate-related curricula that attend to students' mental health that the district's policy demands. There is a noticeable tension between adhering strictly to the adopted curriculum in most subject areas and the desire to integrate climate justice education. This tension is felt even in science classes, where climate change is explicitly included in the standards, but questions remain about whether, how, and to what extent climate justice should be taught. In interviews, Many educators expressed feeling constrained by standardized content requirements and fear deviating from the prescribed curriculum. Educators sometimes incorporate climate justice "under the radar" for fear of district reprimand or retaliation. This may limit opportunities to engage students in deeper discussions about the systemic causes of climate change, environmental racism, and social inequities. At the same time, there is a growing recognition that climate justice education is essential to preparing students for the complex environmental and social challenges they will face. To address this, there is a need for clearer guidance and resources on how to weave climate justice seamlessly into existing curricula without compromising fidelity, empowering teachers to explore these critical issues confidently and effectively..



Insight #2: Limitations of Consistent Climate Education Across the District

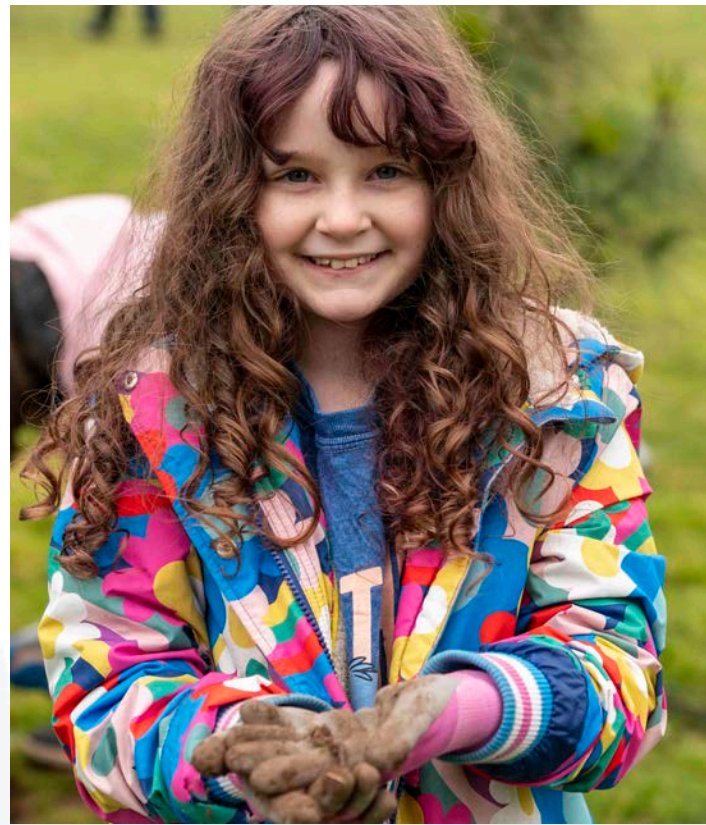
GreenPrint Core Practice #10: Curriculum and instruction leaders build a comprehensive and coherent system of assessment that measures sustainability literacy

Based on student anecdotes, when climate change is taught, it is typically brief and limited to the basics—causes and effects—with little discussion of solutions, justice, or actionable steps. Most said that any mention of climate change was in science class, and a few students said there wasn't much difference in the content of climate change instruction, even at different grade levels. According to some students, this approach sometimes left them feeling disempowered and uninspired, missing the opportunity to engage them in meaningful discussions about their role in addressing climate challenges and advocating for equity.

Insight #3: Empowering Students Through Hands-On Sustainability Projects

GreenPrint Core Practice #9: Schools use instructional practices that include phenomena, place, project, and problem-based learning

The facilities department at Portland Public Schools (PPS) has a small, dedicated sustainability team making significant strides in reducing the ecological footprint of school buildings despite being stretched thin by their heavy workload of maintenance and retrofitting. While they currently lack the capacity and expertise to engage directly with students and teachers, they can bridge this gap by involving students in sustainability efforts. With the guidance of the School Sustainability Champions Network, facilitated by the Climate Resilience Program Manager, Ari



Ettinger, community partnership organizations, students can actively participate in initiatives to lower the ecological footprint of their buildings and campuses. This approach becomes especially powerful when sustainability data—such as energy use, water conservation, and waste reduction metrics—is accessible and transparent. By turning these authentic examples into classroom projects, students can learn hands-on how to analyze and act on sustainability challenges, creating a more integrated and impactful educational experience .

Insight #4: Clarifying Language and Terms

GreenPrint Core Practice #7: Schools create the conditions for leaders, teachers, and students to plan and implement high-quality curriculum



During our visit, we noticed some confusion and even tension in the language used to describe the goals of the climate crisis response policy. There seemed to be a discrepancy between the terms ‘sustainability,’ ‘climate change,’ ‘climate justice,’ and ‘environmental justice.’ Some stakeholders used these terms interchangeably, while others strongly preferred focusing on one over the other. Sustainability often focuses on clean air, clean water, conservation, and technical solutions, emphasizing individual consumer actions. ‘Climate change’ typically centers on the causes and effects of global warming, often focusing primarily on the scientific understanding of these phenomena. In

contrast, climate justice addresses the root causes of climate change, such as fossil fuel dependency, industrialization, capitalism, economic growth at the expense of people, colonial and historical injustices, inequality and poverty, political inaction, overconsumption, agricultural practices, and environmental racism.



‘Environmental justice’ emphasizes the fair treatment and meaningful involvement of all people in environmental policy decisions regardless of race, income, or background. It addresses the disproportionate impact of environmental hazards on marginalized communities, highlighting the need for equitable solutions that protect the most vulnerable populations from pollution, unsafe living conditions, and the effects of climate change.

In addition, there is some confusion with the phrase “School Climate,” which is about a school’s general culture and atmosphere but has little to do with the four terms above.



Insight #5: Expanding Outdoor Education: A Pathway to Climate Justice and Community Engagement

GreenPrint Core Practice #12: Schools promote healthy relationships between peers, adults, the local community, and the natural world. Interviews and observations have revealed a noticeable pattern of limited outdoor education opportunities across the district, with only a few elementary schools offering such experiences. For instance, schools with dedicated gardens, particularly Sunnyside Elementary, stand out as exceptions where outdoor education is thriving. At Sunnyside, students engage in garden activities and walk field trips to gather data and work on projects that enhance their neighborhood beyond the school grounds. Replicating this model across the district could significantly benefit students and teachers, fostering hands-on learning, strengthening community connections, improving mental health, and advancing climate justice and sustainability goals.



Expanding these opportunities would empower more students to experience and understand their local environments, encouraging a deeper commitment to sustainable practices and environmental stewardship. Some schools with gardens have limited capacity because the upkeep often depends on parent volunteers. Notably, Sunnyside Elementary has a full-time garden coordinator, funded through PTA-raised money.

Insight#6: Integrating Indigenous Knowledge for Climate Justice and Sustainability Education

GreenPrint Core Practice #8: Schools use an integrated approach to curriculum design that reflects the interdisciplinary nature of understanding the world around us.

Indigenous Traditional Ecological Knowledge (ITEK) refers to the cumulative, holistic understanding of the environment developed by Indigenous peoples over generations. Rooted in deep relationships with the land, water, plants, and animals, ITEK encompasses practices, beliefs, and wisdom passed down through oral traditions, ceremonies, and lived experiences. It emphasizes balance, reciprocity, and stewardship of the natural world. ITEK is vital to climate justice as it highlights the importance of Indigenous leadership in addressing environmental challenges. Indigenous communities, often on the frontlines of climate change, use their knowledge to protect ecosystems and advocate for sustainable practices that counter the environmental harm caused by industrialization, colonialism, and extractive economies. By embracing ITEK, we move away from a narrative of separation between humans and nature, toward one of interconnection and reciprocity, where humans are seen as integral to, rather than separate from, the natural world. This shift is essential for creating equitable, sustainable climate solutions.

Oregon State partnered with local Indigenous tribes to co-develop the Tribal History, Shared History curriculum to honor Oregon's Indigenous communities and ensure students receive a more accurate, inclusive education. This collaboration involved working closely with tribal leaders, educators, and historians to incorporate authentic Indigenous perspectives, knowledge, and histories into the curriculum. By centering the voices of the tribes, the curriculum reflects the rich cultural heritage and ongoing contributions of Indigenous peoples in Oregon while also addressing the lasting impacts of colonization and historical injustices.





Curriculum Integration and Pedagogy: Opportunities

Opportunity #1: Adoption Criteria for Climate Justice Education Integration

GreenPrint Core Practice #6:

Schools plan strategically for curriculum and instruction that promote health, equity, and sustainability.

Portland Public Schools' curriculum adoption process consists of four key steps:

- 1. Define:** In this initial phase, adoption leads develop a project plan, engage committee members, conduct an internal program evaluation, and establish the adoption scope. They also create a best practices paper and a materials evaluation matrix.
- 2. Select:** In this phase, the adoption committee reviews publisher programs based on priorities set in the Define phase. The committee narrows down options using guiding questions and a standards trace to determine which programs should move forward in the adoption process.
- 3. Implement:** This step focuses on rolling out the selected instructional resources to teachers and students. It includes professional development, support for instructional pedagogy, and ongoing training throughout the school year, as well as for new teachers or those changing subjects or grade levels.
- 4. Evaluate:** Evaluation occurs throughout all phases, focusing on both the effectiveness of the instructional resources and whether they meet student needs. Both quantitative and qualitative data are collected to inform this ongoing assessment.

Develop and implement adoption criteria that mandate the integration of climate literacy and justice education. If the current curriculum does not meet these criteria, adopt supplemental resources and materials to fill the gaps. More details for this approach are elaborate in the Leverager Points section at the end of this report.



Opportunity #2: Leverage Existing Structures and Initiatives

GreenPrint Core Practice #7: Schools create the conditions for leaders, teachers, and students to plan and implement high-quality curriculum and instruction for health, equity, and sustainability.

Utilize current programs that align with climate justice education, such as Social Emotional Learning (SEL), Tribal History/Shared History, Career Technical Education courses and the Middle School Redesign. These initiatives lend themselves to the infusion of climate literacy.

Middle School Redesign

Portland Public Schools identified 18 initiatives across five themes—Integrated Adolescent Supports, Inclusive and Differentiated Teaching and Learning, Embracing Change, Racial Equity and Social Justice, and Professional Excellence and Support—aimed at transforming outcomes for middle-grade students. These initiatives are designed to support adolescent learners and improve the school experience for all 6th–8th graders. Each year, the district will prioritize and deeply support two to three of these initiatives.

SEL in Elementary School

[Social and Emotional Learning \(SEL\)](#) is a process that helps individuals, both young and old, acquire the knowledge, skills, and attitudes necessary to understand themselves, connect with others, achieve goals, and support their communities. The CASEL framework outlines five core competencies essential for SEL: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. These competencies help individuals manage emotions, empathize with others, build meaningful relationships, and make thoughtful choices. SEL development occurs throughout life and is influenced



by supportive environments, including classrooms, families, and communities. By integrating SEL into educational and social settings, we can foster inclusive, engaging, and supportive learning spaces that prepare young people to contribute positively to society.

Other schools and districts have used SEL as a framework for integrating climate literacy in a developmentally appropriate way, especially in elementary schools. Responsible decision-making, one of the core SEL competencies, naturally aligns with the principles of doing the most good and least harm for people, the planet, and animals. By encouraging students to consider the broader impact of their choices, teachers can weave in concepts of sustainability and environmental stewardship without directly mentioning terms like climate change or global warming. Relationship skills, another key SEL component, can be developed as students collaborate on projects aimed at improving their schools and communities, such as making them cleaner, safer, and greener. These hands-on efforts foster a sense of self-efficacy and confidence in young people, empowering them to take action. There are many academic and transdisciplinary connections that can be made with this project-based learning approach that can tie SEL together with academic skills and sustainability. By incorporating Traditional Ecological Knowledge (TEK) and biophilia—the innate human connection to nature—teachers can enhance SEL while fostering a love and respect for the environment. Since SEL is often a district-wide initiative, it serves as a powerful leverage point for embedding climate literacy into everyday learning, laying the groundwork for a more sustainable future.



Career Technical Education (CTE) and other Workforce Pathways

The rise of green jobs in the U.S. is reshaping the workforce, expanding beyond traditional sectors like solar and wind energy to include industries such as construction, medicine, architecture, and even finance. As companies increasingly





prioritize sustainability due to customer and shareholder demands, the need for workers with green skills has grown. In 2022, over 410,000 job postings were for “core green” roles, and it’s expected that the demand for these positions will grow by 5.5% over the next five years. Beyond these core green jobs, there’s a significant demand for “green-enabled” jobs in non-traditional fields that require at least one green competency. With over 51.6 million workers who could potentially be reskilled for these positions, the green economy presents enormous

opportunities for workforce transformation. Upskilling programs and green job initiatives are vital to meeting the needs of this expanding sector, allowing workers to transition into roles that can drive sustainability and climate action across the economy.

Portland Public Schools (PPS) can leverage Career and Technical Education (CTE) courses and other workforce development pathways in high schools to infuse climate literacy into the curriculum in ways that connect to students’ future careers and livelihoods. By reframing every job as a potential green job, educators can help students see how any interest or passion can be translated into a climate solution. This systemic integration of climate literacy can energize high school coursework and provide relevance to students’ lives beyond the classroom. While some high schools already offer CTE programs related to climate and sustainability, there are vast opportunities to scale and multiply these efforts. Expanding these examples can provide students with a broader understanding of how climate solutions can permeate all industries, preparing them for a future where green skills are increasingly necessary.



Opportunity #3: Collect Data on Climate Education

GreenPrint Core Practice #10:

Curriculum and instruction leaders build a comprehensive and coherent system of assessment that measures sustainability literacy and promotes health and equity.

To address the limited teaching of climate change and justice, the district could gather data from students and teachers to map out where and how these topics are currently covered in the curriculum.



Surveys, focus groups, and classroom observations could identify gaps in content, instructional practices, and areas where climate justice is effectively integrated. This data can then inform targeted improvements, such as developing specific curriculum modules, providing professional development, and creating interdisciplinary connections, ensuring a more comprehensive and impactful approach to climate education across all grade levels and subjects.

Opportunity #4: Climate Justice Scope and Sequence:

GreenPrint Core Practice #6: Schools plan strategically for curriculum and instruction that promote health, equity, and sustainability.

To effectively integrate climate change and justice into the curriculum, a comprehensive scope and sequence should be created based on the data gathered from students and teachers. This scope and sequence would map out all existing instances where sustainability and climate justice are already taught across K-12 grades, providing a clear overview of current efforts. Additionally, it would identify natural integration points within the curriculum, education that builds on students' knowledge year after year. This plan would also help design professional development for teachers and develop supplemental materials that align with district goals. This



can likely be done with existing mapping software used by the district.

Opportunity #5: Solutionary Approach (4PBL)

GreenPrint Core Practice #9: Schools use instructional practices that include phenomena-, place-, project-, and problem-based learning.

Encouraging a solutionary approach rooted in [4PBL](#) empowers students to advocate for improving their school’s sustainability performance by tackling real-world environmental challenges on their campuses. With guidance from educators and support from community partners, students can analyze accessible sustainability data, such as energy use or waste management metrics, and develop actionable plans to reduce their school’s ecological footprint. This hands-on method builds critical thinking and advocacy skills and connects classroom learning with real-world impact, fostering a sense of ownership and responsibility. Students become active change-makers in creating a more sustainable school environment by engaging in these projects. The older a student is, the more reach they can have in making a change. The Portland Clean Energy Fund Climate Friendly Public Schools grant funding youth climate action is an example of a solutionary approach.



Opportunity #6: Sustainability Performance Data Collection Programs

GreenPrint Core Practice #10: Curriculum and instruction leaders build a comprehensive and coherent system of assessment that measures sustainability literacy and promotes health and equity.

Use programs like [START](#) to make sustainability metrics, such as energy use, waste production, and water conservation, visible and accessible to students and teachers, paired with tailored educational materials that explain these metrics in context.



Making this data transparent communicates the urgency of sustainability and climate justice efforts. It tracks progress, engaging key stakeholders like families, board members, and the broader community in the school's environmental initiatives. Tracking student-led sustainability projects through START can help build a school-wide culture of environmental responsibility, where students see the direct impact of their actions. Additionally, integrating certification programs like [EcoSchools U.S.](#), which supports environmental learning and climate action from elementary through secondary levels, can provide a structured framework for schools to advance their sustainability goals and recognize achievements. These combined efforts can transform schools into active hubs for climate action, fostering a community dedicated to sustainability.

Opportunity #7: Clearly define language

GreenPrint Core Practice #5: Leaders create and maintain a communication system that engages the whole community in support of healthy, equitable, and sustainable schools.

Create a set of foundational documents that outline a clear progression of definitions, from sustainability on one end to climate and environmental justice on the other. These documents would illustrate how different approaches, from individual actions focused on environmental conservation to systemic changes that address the root causes of climate change, all contribute to a greener future.

Additionally, these resources should communicate that there is a place for everyone in this continuum, encouraging inclusive participation from all students and teachers.

A helpful starting point might be the newly released NOAA Climate Literacy Guide, updated from 2009, that now incorporates climate justice and a lens of equity.



Opportunity #8: Expand access to climate education professional development

GreenPrint Core Practice #7: Schools create the conditions for leaders, teachers, and students to plan and implement high-quality curriculum and instruction for health, equity, and sustainability.

To support this effort, the district could continue to provide targeted professional development, workshops, and resources that help educators understand what is developmentally appropriate at different grade levels and how to integrate these concepts into their teaching. The district can create a more unified and effective approach to climate education by offering clear definitions and supportive materials.



Example: June 2024 PPS Climate Justice Professional Development Day

This professional development opportunity introduced the Climate Crisis Response Policy and featured a visit from David DenHartog of GSNN, who connected these efforts to a broader national movement. Participants also received instruction from Tim Swinehart, a teacher at Lincoln High School and one of the district's earliest advocates for climate justice education. For many years, Tim felt let down by the district, as they were either unable or unwilling to incorporate the climate education he knew was urgently needed. However, with a few years of Policy implementation, the district could finally highlight Tim's expertise, creating a moment of repair. Tim led the group in a thoughtful reflection on their experiences with the Willamette River, followed by a gallery walk illustrating the river's history of environmental injustice. It was clear that teachers benefit from learning from peers trained in this vital field of education whenever possible.



The field trip with the Braided River Campaign continued along the Willamette River, where participants explored issues like dredging, pollution, displacement of riverside communities, the history of recreation on the river, and the city’s prioritization of industry over people. Though the topics were weighty, the trip concluded at the Braided River Campaign’s vibrant and creative space in the Lloyd Center Mall, designed to inspire ongoing education, advocacy, and reflection.

Opportunity #9: Expand Access to Outdoor Education

GreenPrint Core Practice #12: Schools promote healthy relationships between peers, adults, the local community, and the natural world.

Integrating outdoor education into the curriculum allows students to engage directly with real-world sustainability issues, fostering a deeper understanding of the environment and their role in protecting it. By moving beyond the classroom, students can explore local ecosystems, observe the impacts of climate change, and participate in hands-on activities like gardening, composting, or water quality testing.



These experiences make abstract concepts more concrete and meaningful, encouraging students to think critically about human-environment interactions and sustainability practices. Outdoor education also promotes experiential learning, collaboration, and problem-solving, empowering students to become active stewards of their communities and the planet.



Examples of Outdoor Education in PPS:

Portland Public Schools (PPS) has a rich landscape of outdoor education, with numerous schools incorporating hands-on learning experiences in gardens and natural spaces. **Lent Elementary** stands out with its long-term partnership with Growing Gardens and a vibrant garden space that has flourished for over a decade.

Their Garden Educator created the **Semillas Indigenas** (Indigenous Seeds) curriculum, which brings cultural and environmental learning together.

Scott Elementary also partners with Growing Gardens, connecting their school garden to the cafeteria, ensuring students see the full cycle of growing and consuming food. **Harrison Park** collaborates with Grow Portland, incorporating culturally affirming foods into their garden beds to enrich student learning. At the high school level, **Alliance HS** offers a Natural Resources class, and **McDaniel HS** runs a **CTE Sustainable Agriculture** program, providing students with in-depth, practical experiences in sustainability.

Across PPS, 16 schools partner with Growing Gardens or Grow Portland, and an estimated ten additional schools offer outdoor lessons through PTA volunteers, with many more participating in garden clubs through SUN Schools. These programs collectively strengthen student connections to nature and sustainable practices. Their stories should be amplified and scaled across the district.





Community and Stakeholder Engagement: Insights

Insight#7: Expanding Community Engagement for Broader Climate Justice Impact and Resilience

GreenPrint Core Practice #11: Schools plan strategically for a school culture and climate that promotes health, equity, and sustainability mindsets

There are many examples of engaging various stakeholders and community partners, as evident in the Youth Climate Justice Summit, the Climate Solutions Fair, and the Climate Justice Design Team. These initiatives highlight the work of innovators and early adopters. Developing a framework that expands these initiatives to reach a broader audience is essential to scaling up these efforts.

Insight #8: Trust Building Between District and School Building Staff

GreenPrint Core Practice #5: Leaders create and maintain a communication system that engages the whole community in support of healthy, equitable, and sustainable schools.

Based on conversations with a handful of aggrieved teachers, there appears to be a significant lack of trust between Portland Public Schools (PPS) district administration and some of its staff, particularly among early adopters and activists who have worked closely with local community members, students, and families to advance climate justice initiatives. These educators feel let down by what they perceive as a lack of transparency and the mismanagement of funds, often directing blame toward specific district staff members. Some teachers expressed frustration about



inadequate communication around events like the climate justice summit, which they felt was not inclusive. There have also been instances of confusion over accountability, where teachers mistakenly blamed current staff for decisions made by former employees. Additionally, some teachers reported feeling reprimanded by the district for implementing climate justice policies that did not align with the district's vision, leading to a sense that this work had to be done in secrecy or not at all. However, it is important to note that these impressions are based on a few teachers, and it is unclear how widespread this distrust is. Moreover, the landscape has become more favorable since the adoption of the CCRP. We observed that district staff are acutely aware of these concerns and are actively taking steps to address them and repair relationships.

Insight #9: Engaging the Early Majority: Bridging the Why of Climate Justice and Education Priorities

GreenPrint Core Practice #1: Schools practice visionary leadership.

There is a growing need for more targeted messaging and professional development around the importance of climate justice and sustainability in education. While a core group of dedicated, knowledgeable, and passionate innovators and early adopters are already committed to this work, engaging the early majority is the challenge. To bridge this gap, it's essential to connect climate justice and sustainability to the priorities and responsibilities of teachers and educational leaders. By aligning these critical issues with what educators care about—such as student well-being, equity, and preparing future-ready citizens—we can create a broader understanding and commitment to integrating sustainable practices into schools and curricula. Through strategic communication and professional development, we can foster a culture that values and prioritizes climate justice as an essential education component.





Community and Stakeholder Engagement: Opportunities

Opportunity #10: Digital climate solution showcase

GreenPrint Core Practice #5: Leaders create and maintain a communication system that engages the whole community in support of healthy, equitable, and sustainable schools.

Create a centralized online platform that highlights the work of innovators and early adopters of climate justice education at PPS. This showcase would feature videos, project highlights, interactive presentations, and stories from various stakeholders, including students, educators, and community partners, demonstrating their contributions to climate justice efforts. By offering an engaging, visually rich experience and providing resources and tools for replication, the

digital showcase would help expand these initiatives, reaching a broader audience and inspiring action across the district and beyond. See below in the section titled “Resource Development and Accessibility” for elaboration on digital resources.



Opportunity #11: Expand the Spring 2025 PPS Climate Justice Summit

GreenPrint Core Practice #3: Schools promote a culture of community and belonging.

Teachers have expressed a strong desire to bring more students to the Spring Climate Summit in recent years than the venues can accommodate. Last year, each high school was allotted 20 spots, but many teachers wanted to bring their entire classes, which often numbered around 145 students. Limiting the number of attendees prevents broader student engagement with climate justice—an issue deeply relevant to their lives. To make the summit more accessible and inclusive, inviting as



many students as possible is essential. We aim to make this event an entry point for students who may not typically be drawn to the topic and ensure that it aligns with how schools operate, recognizing that it's easier for teachers if all their students can participate.

The district could consider three approaches to expand access to the PCEF Spring 2025 Climate Summit:

- ◇ First, schools could be supported in organizing their climate justice summits, creating multiple concurrent events across different locations. This decentralized model would engage more students, educators, and community members directly at their sites, fostering local ownership and relevance.
- ◇ Second, the district could envision a larger, centralized event in a more spacious venue, allowing for more attendees and inviting a wider range of stakeholders.
- ◇ Lastly, a virtual attendance option could be offered to accommodate those unable to attend in person. While in-person participation is preferable, especially for climate justice advocacy, as it fosters stronger community bonds and deeper engagement, a virtual component would ensure no one is excluded due to logistical or capacity constraints. Both the decentralized and larger centralized events, combined with a virtual attendance option, would increase access and equity, ensuring more voices are heard and empowering more participants to contribute to climate action.

Opportunity #12: Invest in reciprocal connections with BIPOC, disabled, and minority-led organizations and students who identify within these groups

GreenPrint Core Practice #4: Schools cultivate strong school-family-community partnerships.

To understand better how to make climate justice education equitable, the district needs to follow through when





using words like “justice” and “equity” by deeply engaging marginalized students and communities to understand their needs and how to create a climate justice culture that is inclusive, culturally resonant, and diverse. Special attention must be paid to creating reciprocal rather than extractive or performative relationships.

Opportunities #13: Professional Development and Messaging Toolbox

GreenPrint Core Practice #1: Schools practice visionary leadership.

To effectively engage the early majority in advancing climate justice and sustainability in education, it is crucial to equip district leaders with a toolbox of professional development resources and language that connects these critical issues to various roles and responsibilities across the network. This toolbox could include ready-made workshops, discussion guides, case studies, and frameworks that align sustainability with core educational goals, such as student achievement, mental health, equity, and community engagement.

Opportunity #14: Engage content experts and community members

GreenPrint Core Practice #4: Schools cultivate strong school-family-community partnerships.

The PPS Spring Climate Summits have successfully brought in content experts to deliver keynote addresses, including guests from elected offices and community-based organizations. These individuals are valuable resources for climate education. However, a knowledge gap still needs to be addressed through teacher professional



development and curriculum development. In 2024, two PPS AmeriCorps members, Cal Verstrate and Anita Spaeth, created a highly successful food justice lesson that teachers are requesting again. Additionally, several other organizations have shown interest in contributing to classroom instruction. PPS should create a directory of guest speakers and community-based organizations to support this effort further.



Opportunity #15: Gather data on student and staff mindset

GreenPrint Core Practice #10: Curriculum and instruction leaders build a comprehensive and coherent system of assessment that measures sustainability literacy and promotes health and equity.

Data around mindsets will be essential in understanding the current landscape and guiding targeted efforts. Surveys, classroom observations, walkthroughs, and analyzing the scope and sequence of curricula can provide valuable insights into educators' perceptions, beliefs, and readiness to incorporate climate justice and sustainability into their practice. Combining these strategies can create a more inclusive and widespread commitment to this work.

Opportunity #16: Continue to support and expand the School Sustainability Champions Network

GreenPrint Core Practice #2: Schools use shared leadership structures. The district launched the SSCN in Spring 2023 to connect with and support school-



based staff (mostly teachers) with sustainability initiatives. The Network gives members a more direct line of communication to the district, and to each other. With Middle Schools and High Schools receiving PCEF Student Climate Project funds, there is an opportunity to pivot the SSCN to focus on supporting Elementary schools in more specialized ways.

Opportunity #17: Provide targeted support and gather feedback from Climate Justice and Environmental Science teachers

GreenPrint Core Practice #7: Schools create the conditions for leaders, teachers, and students to plan and implement high-quality curriculum and instruction for health, equity, and sustainability.

Teachers of Climate Justice and Environmental Science courses are currently underserved. Low enrollment and staff reductions have led to the rollback of many of these classes, which is a significant setback considering the community pressure and student advocacy that helped establish these electives. Due to limited capacity, district staff in the Office of Teaching and Learning (OTL) and Climate Justice departments have been unable to provide the level of support necessary to help these teachers make the courses successful and increase their popularity.





Resource Development and Accessibility: Insights

Insight #10: Addressing the Need for Accessible and Curated Climate Change and Sustainability Resources in Education

GreenPrint Core Practice #8: Schools use an integrated approach to curriculum design that reflects the interdisciplinary nature of the world around us

Both district leaders and classroom teachers emphasized the need for localized climate justice resources that are vetted, trustworthy, developmentally appropriate, engaging, accessible, and diverse. Some educators felt that more resources were needed, while others found the existing resources overwhelming, making it time-consuming to find suitable materials for specific grade levels or content areas. There was a clear desire for a digital space where teachers could easily share climate justice units, lessons, and projects.





Resource Development and Accessibility: Opportunities

Opportunity #18: Create a dynamic and collaborative digital resource hub to support climate justice and sustainability education

GreenPrint Core Practice #8: Schools use an integrated approach to curriculum design that reflects the interdisciplinary nature of the world around us

This hub aims to empower teachers, students, and the community by providing easy access to localized, trustworthy, and engaging resources focused on climate solutions. It will serve as a platform for sharing best practices, fostering collaboration, and highlighting success stories across the district. PPS district leaders, educators, and students will set up and maintain it. This can be the place to showcase positive outliers across the district, map out community-based partnerships, and a space to help students build knowledge across disciplines, make connections to the things they care about, and take action.

A digital resource hub would go a long way in addressing and integrating the insights and opportunities above and is a strong candidate for short- and medium-term work in implementing PPS' Climate Justice Policy. In the next few pages,, we elaborate on some of the steps involved in creating such a hub.





Possible Plan and Strategy for Four Key Leverage Points

Leverage Point #1: Digital Resource Hub

1. Crowdsourced Content Sharing Platform:

- ◇ Develop a user-friendly space for teachers to contribute lessons, units, and climate justice-related resources. This platform would allow educators to upload materials, share insights, and discuss strategies that have proven effective in their classrooms.
- ◇ Ensure the platform supports diverse media types (e.g., lesson plans, slide decks, videos, project templates) to cater to teaching and learning styles.
- ◇ Consider expanding the Portland Public Schools Climate Justice Google site to incorporate these functionalities or developing a new site with more robust features.

2. Curated Climate Justice and Sustainability Resources:

- ◇ Organize resources by grade level, topic, and geographic location to facilitate easy navigation and integration across various disciplines. This could include materials on environmental science, social studies, literature, arts, etc.
- ◇ Provide local and global context by curating resources that connect local climate justice issues to broader global movements, emphasizing how actions in Portland fit into the bigger picture.
- ◇ Integrate multimedia resources, including videos, podcasts, articles, and interactive modules, to engage different types of learners and accommodate varied educational needs.

3. Integration Across the Curriculum:

- ◇ Offer guidance and exemplars on how to weave climate justice themes into existing curricular areas, whether in STEM, humanities, arts, or physical education.
- ◇ Develop cross-disciplinary units and projects that connect subjects through a climate justice lens, enabling holistic and interconnected learning experiences.
- ◇ Include outdoor and experiential learning opportunities that link students' classroom learning with the local environment, fostering a deeper understanding of sustainability in their communities.

4. Success Story Repository and Dissemination Tool:

- ◇ Create a dedicated section to collect and disseminate success stories from across the district, celebrating innovative teaching practices, student-led initiatives, and community partnerships.
- ◇ Highlight impactful projects, particularly those funded by the Portland Clean



Energy Fund (PCEF) grants and other local initiatives, showcasing how students and schools are taking action against climate change.#

- ◇ Feature stories in various formats (e.g., blog posts, videos, infographics) to reach a wider audience and inspire others to replicate successful approaches. (Examples of teacher interviews here. Examples of students interviewing students here. Washington curates stories and resources [here](#).)

5. Collaboration and Community Engagement:

- ◇ Facilitate collaboration among educators, students, parents, and community members by incorporating features like forums, discussion boards, and event calendars to promote ongoing dialogue and partnership.
- ◇ Leverage the hub as a communication channel for climate justice initiatives throughout Portland, fostering a sense of shared purpose and community.
- ◇ Engage local organizations, experts, and activists in contributing to the hub's content, ensuring it reflects various perspectives and expertise.

6. Implementation Strategy:

- ◇ Form a Development Team: Assemble a diverse team that includes teachers, students, district leaders, IT specialists, and community partners to guide the hub's development. Ensure the team reflects the diversity of PPS and includes voices from various grade levels, disciplines, and communities.
- ◇ Pilot and Iterate: Launch a pilot version of the hub with select schools or teacher groups, gather feedback, and iterate based on user experience. Scale up gradually, incorporating lessons learned and refining the hub's features and content.
- ◇ Promote and Sustain: Develop a communication plan to raise awareness and encourage participation among teachers, students, and community members. Consider hosting workshops, webinars, or professional development sessions to train educators on using the hub effectively.

7. Continuous Improvement and Feedback Loop:

- ◇ Establish regular updates and a content refreshment system to keep the hub dynamic and relevant. This could include teacher and student surveys, feedback forms, and periodic reviews by a dedicated team.
- ◇ Monitor usage analytics to understand the most valuable resources, continuously improving the site based on user behavior and needs.
- ◇ Encourage user feedback and create opportunities for community input to adapt and expand the hub's offerings over time.



Leverage Point #2: Implement Climate Literacy Adoption Criteria Aligned with PPS Curriculum and 7-Year Cycle

Phase 1: Define

1. Project Plan Development:

- ◇ Establish a timeline aligned with the state's 7-year adoption cycle.
- ◇ Identify key stakeholders (teachers, climate justice advocates, curriculum experts) to form the adoption committee.

2. Adoption Scope:

- ◇ Clearly define the scope of integration, ensuring climate literacy and justice education are embedded across subjects (e.g., science, social studies, English).
- ◇ Specify grade levels (Pre-K through 12) and highlight interdisciplinary opportunities for climate justice.
- ◇ Climate Literacy Position Paper:
 - ◇ Develop a position paper on best practices for integrating climate literacy and justice education, referencing both state and national standards (e.g., Next Generation Science Standards).
 - ◇ Include guiding principles on sustainability, social justice, equity, and climate change's impact on frontline communities.

3. Evaluation Matrix:

- ◇ Create a matrix to evaluate current curriculum materials for alignment with climate literacy and justice education.
- ◇ Include criteria for assessing coverage of key climate topics (e.g., climate science, environmental justice, sustainability practices).

Phase 2: Select

1. Initial Program Review:

- ◇ Use the evaluation matrix to review current district materials and identify gaps in climate literacy.
- ◇ Invite publishers to present their programs based on alignment with the district's climate literacy goals.

2. Narrowing Down Options:

- ◇ Select publisher programs that meet the climate literacy integration criteria.
- ◇ Conduct a "standards trace" to assess how well these programs align with the Climate Crisis Response Policy and state standards.



3. Supplemental Resource Identification:

- ◇ For areas where the current curriculum falls short, identify supplemental materials (e.g., lesson plans, modules, digital resources) to bridge gaps in climate literacy.
- ◇ Engage local and national organizations specializing in climate education to provide resources.

Phase 3: Implement

1. Professional Development:

- ◇ Develop a multi-tiered professional development plan to train teachers on integrating climate literacy and justice education into their existing curriculum.
- ◇ Offer specific training for interdisciplinary and project-based learning opportunities (e.g., outdoor education, community sustainability projects).

2. Resource Rollout:

- ◇ Ensure new instructional resources are distributed to schools along with support for teachers to integrate these into their daily lessons.
- ◇ Provide ongoing access to digital resources, climate literacy guides, and the supplementary materials identified in the Select phase.

3. On-Going Support:

- ◇ Assign dedicated instructional coaches or coordinators to provide in-classroom support for teachers implementing climate literacy.
- ◇ Offer “at-the-ready” digital tools and resources, including webinars, workshops, and model lessons.

Phase 4: Evaluate

1. Continuous Evaluation:

- ◇ Conduct regular assessments to track the effectiveness of climate literacy integration, gathering both quantitative (test scores, literacy rates) and qualitative (teacher feedback, student engagement) data.
- ◇ Use surveys and focus groups with students and teachers to evaluate the impact of climate literacy on learning outcomes and engagement.

2. Mid-Cycle Adjustments:

- ◇ Based on evaluation data, update and refine curriculum materials, professional



development plans, and supplemental resources as needed.

- ◇ Prepare for the next 7-year adoption cycle by reviewing emerging best practices and evolving climate literacy standards.

3. Long-Term Reporting:

- ◇ Align the climate literacy evaluation with the district's broader goals for sustainability and wellness, reporting progress annually to stakeholders.
- ◇ Incorporate data on how climate literacy is affecting broader district priorities, such as student health and environmental sustainability in school buildings.

Leverage Point #3: Climate Literacy and Sustainability Data Collection

Climate Literacy and Sustainability Data Collection

To support the integration of climate literacy and sustainability in Portland Public Schools (PPS), a structured approach to data collection is essential. Gathering data across multiple categories will provide valuable insights into current practices, identify areas for improvement, and foster a culture of transparency and accountability. Below are four key categories and suggested steps for data collection:

1. Sustainability Performance Dashboards

Creating Sustainability Performance Dashboards for schools and the district can make sustainability data accessible to both teachers and students. These dashboards would track metrics related to energy use, waste management, water consumption, and other ecological indicators on school grounds. This transparency would empower students to engage in solutionary and project-based learning opportunities, allowing them to set and monitor goals to reduce their school's ecological footprint. Examples of such dashboards include [START](#) by Green Schools Alliance and ArcSkoru, both of which provide user-friendly platforms for measuring and improving sustainability performance. Steps include:

- ◇ Identifying the key sustainability metrics to track (e.g., energy use, waste diversion, water conservation).
- ◇ Implementing dashboards that allow real-time access to data for students, teachers, and administrators.
- ◇ Incorporating data from these dashboards into classroom projects and school-wide sustainability goals.



2. Student Climate and Sustainability Actions and Projects

Collecting data on student climate and sustainability actions is crucial for understanding the scope and impact of student-led initiatives. This data can be gathered from classroom-based projects, green teams, or youth-led actions funded by the Portland Clean Energy Fund (PCEF). This can be accomplished using the free [EcoSchools U.S. platform](#), hosted by the National Wildlife Federation.

Steps include:

- ◇ Developing a system for tracking and documenting student projects and actions related to climate and sustainability.
- ◇ Gathering information on the type, scale, and outcomes of these projects.
- ◇ Highlighting exemplary projects to inspire and motivate further action across the district.

3. Sustainability Beliefs and Mindsets

Understanding student and staff mindsets around climate justice and sustainability is key to fostering a broader culture of environmental responsibility. Data collection in this area could include surveys and focus groups that assess attitudes, beliefs, and levels of engagement with sustainability issues. The Green Schools National Network (GSNN) can provide guidance and examples of effective mindset surveys and tools. Steps include:

- ◇ Designing and distributing surveys to gather data on sustainability beliefs and attitudes among students, teachers, and staff.
- ◇ Analyzing the data to identify patterns, barriers, and opportunities for increasing engagement with sustainability issues.
- ◇ Using this information to tailor professional development and curriculum enhancements that address specific mindset gaps.

4. Curriculum and Instruction

Collecting data on curriculum and instruction helps map where and how climate literacy and sustainability education are already being integrated, as well as where opportunities for expansion exist. This involves identifying existing interdisciplinary connections and potential areas where sustainability can be further embedded. Steps include:



- ◇ Conducting curriculum audits to determine where sustainability and climate literacy are already taking place.
- ◇ Mapping interdisciplinary opportunities where climate justice themes can be introduced or expanded.
- ◇ Using the collected data to inform curriculum development and professional development efforts, ensuring a more comprehensive integration of climate literacy across subjects and grade levels.

Leverage Point #4: Infusing Climate Literacy and Sustainability into Existing Structures and Initiatives

Middle School Redesign

Portland Public Schools identified 18 initiatives across five themes—Integrated Adolescent Supports, Inclusive and Differentiated Teaching and Learning, Embracing Change, Racial Equity and Social Justice, and Professional Excellence and Support—aimed at transforming outcomes for middle-grade students. These initiatives are designed to support adolescent learners and improve the school experience for all 6th–8th graders. Each year, the district will prioritize and deeply support two to three of these initiatives.

SEL in Elementary School

[Social and Emotional Learning \(SEL\)](#) is a process that helps individuals, both young and old, acquire the knowledge, skills, and attitudes necessary to understand themselves, connect with others, achieve goals, and support their communities. The CASEL framework outlines five core competencies essential for SEL: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. These competencies help individuals manage emotions, empathize with others, build meaningful relationships, and make thoughtful choices. SEL development occurs throughout life and is influenced by supportive environments, including classrooms, families, and communities. By integrating SEL into educational and social settings, we can foster inclusive, engaging, and supportive learning spaces that prepare young people to contribute positively to society.

Other schools and districts have used SEL as a framework for integrating climate literacy in a developmentally appropriate way, especially in elementary schools. Responsible decision-making, one of the core SEL competencies, naturally aligns with the principles of doing the most good and least harm for people, the planet, and animals. By encouraging students to consider the broader impact of their choices,



teachers can weave in concepts of sustainability and environmental stewardship without directly mentioning terms like climate change or global warming. Relationship skills, another key SEL component, can be developed as students collaborate on projects aimed at improving their schools and communities, such as making them cleaner, safer, and greener. These hands-on efforts foster a sense of self-efficacy and confidence in young people, empowering them to take action. There are many academic and transdisciplinary connections that can be made with this project-based learning approach that can tie SEL together with academic skills and sustainability. By incorporating Traditional Ecological Knowledge (TEK) and biophilia—the innate human connection to nature—teachers can enhance SEL while fostering a love and respect for the environment. Since SEL is often a district-wide initiative, it serves as a powerful leverage point for embedding climate literacy into everyday learning, laying the groundwork for a more sustainable future.

CTE and other Workforce Pathways

The rise of green jobs in the U.S. is reshaping the workforce, expanding beyond traditional sectors like solar and wind energy to include industries such as construction, medicine, architecture, and even finance. As companies increasingly prioritize sustainability due to customer and shareholder demands, the need for workers with green skills has grown. In 2022, over 410,000 job postings were for “core green” roles, and it’s expected that the demand for these positions will grow by 5.5% over the next five years. Beyond these core green jobs, there’s a significant demand for “green-enabled” jobs in non-traditional fields that require at least one green competency. With over 51.6 million workers who could potentially be reskilled for these positions, the green economy presents enormous opportunities for workforce transformation. Upskilling programs and green job initiatives are vital to meeting the needs of this expanding sector, allowing workers to transition into roles that can drive sustainability and climate action across the economy.

Portland Public Schools (PPS) can leverage Career and Technical Education (CTE) courses and other workforce development pathways in high schools to infuse climate literacy into the curriculum in ways that connect to students’ future careers and livelihoods. By reframing every job as a potential green job, educators can help students see how any interest or passion can be translated into a climate solution. This systemic integration of climate literacy can energize high school coursework and provide relevance to students’ lives beyond the classroom. While some high schools already offer CTE programs related to climate and sustainability, there are



vast opportunities to scale and multiply these efforts. Expanding these examples can provide students with a broader understanding of how climate solutions can permeate all industries, preparing them for a future where green skills are increasingly necessary.

Tribal History, Shared History

[Tribal History/Shared History](#) (THSH) was established by Oregon Senate Bill 13 in 2017 to create K-12 Native American curriculum for public schools and provide professional development for educators. It also funds Oregon's nine federally recognized tribes to develop place-based curricula that reflect their unique histories and experiences. This initiative addresses the lack of accurate representation of Native American history, which has contributed to opportunity and achievement gaps for Native American students. Grounded in the Essential Understandings of Native Americans in Oregon, the curriculum aims to offer a more complete and authentic portrayal of Native American histories and perspectives, correcting longstanding misconceptions in traditional curricula.

As mentioned above in the report, the teaching of Indigenous knowledge and ways of knowing is already integral to climate literacy, as one of the core climate solutions is to protect the lands and rights of Indigenous peoples. By including Tribal History/Shared History, which is grounded in the Essential Understandings of Indigenous Lifeways, students gain a deeper understanding of the interconnectedness and reciprocity between humans and the natural world—principles central to climate literacy. Indigenous knowledge emphasizes sustainable practices, stewardship, and respect for the environment, offering critical lessons for addressing climate change. Through this curriculum, students not only learn about the history and rights of Indigenous peoples but also how their traditional ecological knowledge can inform and guide modern climate solutions.

Create a Crosswalk Between Tribal History/Shared History and the Climate Literacy Guide

- 1. Form a Collaborative Working Group:** Establish a team that includes representatives from the nine federally recognized Oregon tribes, PPS curriculum specialists, climate literacy experts, and tribal liaisons. This group will oversee the development of the crosswalk, ensuring cultural sensitivity and legal compliance.
- 2. Review Tribal History/Shared History Curriculum:** The working group should



conduct a comprehensive review of the Tribal History/Shared History curriculum, paying special attention to the Essential Understandings related to Indigenous Lifeways, reciprocity, and environmental stewardship.

- 3. Align with Climate Literacy Principles:** Identify specific elements within the Climate Literacy Guide that align with Indigenous knowledge, particularly the principles of interconnectedness, sustainability, and the role of protecting Indigenous lands as a climate solution.
- 4. Ensure Tribal Authorization for Use:** Since the lessons of Tribal History/Shared History cannot be altered without tribal authorization, the working group should engage in direct consultation with tribal governments. Any plans to integrate content from both guides must be reviewed and approved by the tribes to maintain the integrity of the material.
- 5. Develop a Crosswalk Document:** Create a crosswalk that highlights areas where the two curricula naturally align, showing connections between the climate literacy competencies and Tribal History/Shared History lessons on ecology, sustainability, and human–nature relationships. This crosswalk should maintain the integrity of the tribal lessons while enhancing students’ understanding of climate justice.
- 6. Provide Professional Development:** Offer training sessions for educators to help them understand how to use the crosswalk, ensuring they are aware of the restrictions on altering Tribal History/Shared History content and how to integrate climate literacy without modification.
- 7. Gather Feedback and Refine:** After initial implementation, gather feedback from educators, students, and tribal representatives. Use this feedback to refine the crosswalk, making adjustments while maintaining compliance with tribal authorizations.





Appendix

PPS Climate Crisis Response Policy

Below is the relevant excerpt from PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy (3.30.080-P)

Pillar 3: Provide Effective Environmental and Sustainability Education

Goal 3.1: PPS will empower staff as allies for a healthy climate.

1. Provide learning opportunities for staff on climate science/climate justice.
2. Continuously collaborate with staff to utilize sustainability practices in the performance of their work and provide information, support, and tools to help implement those practices.

Goal 3.2: With guidance from frontline students and communities, PPS will develop curricular learning opportunities, so PPS graduates know the causes and consequences of climate change, understand climate justice, and have opportunities to practice climate solutions.

1. Develop and deliver curriculum and resources to help students understand, prepare for, and respond to climate change impacts.
2. Teaching and learning about climate change will recognize and support the emotional and other impacts of climate change on individuals.
3. Provide opportunities for students to probe the underlying causes of the climate crisis and the structural racism embedded in climate change due to actions by majority white countries with disproportionate negative burdens and impacts on people of color, and to understand the dynamic nature of complex systems and how they change, and opportunities for them to practice using systems thinking to inform their choices.

Goal 3.3: PPS staff will collaborate with students to create opportunities to engage youth in hands-on climate learning, preparation, and practice on a regular basis at all PPS schools.

1. Support development of youth leadership and engagement opportunities around climate solutions, prioritizing opportunities for students from frontline



- Communities.
2. Support student-led climate justice, climate action, and climate resiliency Initiatives.
 3. Treat the grounds and garden of each school as a learning space and involve students in nature-based grounds improvements and design. Support opportunities for students in every PPS elementary school to learn in a designated outdoor learning space.
 4. Support students in their ongoing and critical role as climate response, climate justice, and sustainability advocates.

Climate Education Ecosystem in the U.S.

The landscape of climate education in the United States is gaining momentum, reflecting an increased awareness of the need to equip young people with the knowledge and skills to understand and address climate change. Several states and cities have taken significant steps to adopt policies to embed climate education within school curricula, most commonly through science standards like the Next Generation Science Standards (NGSS). NGSS, which emphasizes climate science as part of environmental education, has been adopted by over 20 states. These standards ensure that students are introduced to the scientific principles of climate change, its causes, and its impacts on ecosystems and communities. However, the reliance on science as the primary vehicle for climate education can create a narrow lens, as climate change's broader social, economic, and justice dimensions are often sidelined.

NOAA is leading the way in defining climate literacy at the federal level through its publication, [Climate Literacy: Essential Principles for Understanding and Addressing Climate Change](#). This guide outlines key information that individuals and communities need to understand Earth's climate, the impacts of climate change, and the solutions being implemented globally. Designed for educators, communicators, and decision-makers, it is a foundational tool for developing climate-related curricula, fostering dialogue, and informing decisions and policies.

Several U.S. states, including New Jersey, California, and Washington, have taken innovative steps to move beyond traditional science-based climate education, working to create interdisciplinary approaches that span multiple subjects. These states recognize that climate change is a multifaceted issue, requiring education incorporating scientific, social, economic, and political dimensions. Each state



has developed unique strategies to embed climate education across its curricula, empowering students to think critically about the impacts of climate change and the role they can play in addressing it.

While each of the following states has passed climate education policies, each continues implementing them with mixed results, with pockets of success and serious obstacles of funding, capacity, educational resources, and professional development. The only way to progress as a country will be to collaborate and learn from one another.

New Jersey:

In 2020, New Jersey became the first state in the U.S. to pass legislation requiring climate change to be integrated across all subjects in K-12 education. Through the New Jersey Student Learning Standards, the state seeks to ensure that students learn the science behind climate change, its local and global impacts, and how to make informed, sustainable actions. This interdisciplinary approach fosters critical thinking and action across subjects like science, social studies, and the arts. Supported by First Lady Tammy Murphy, the state has committed millions in funding to assist school districts with implementation and established the [New Jersey Climate Change Education Hub](#) to provide resources for educators. The state also created a website for [Climate Change Education Resources](#). Another initiative that began in New Jersey but has since grown to a national and even international scope is Subject to Climate.

California:

California has taken a significant step in advancing climate education with the passage of [Assembly Bill 285](#), signed into law by Governor Gavin Newsom on October 8, 2023. The new law requires the state's public schools to integrate the causes, effects, and solutions to climate change into the science curriculum for grades 1-6 and 7-12, with full implementation by the 2024-2025 school year. While the original bill aimed for a more interdisciplinary approach to climate education across various subjects, the passed version focuses specifically on science. However, efforts are underway, particularly through organizations like [Ten Strands](#), to expand this mandate into other content areas and provide resources for curriculum development and climate change professional development for educators.

[California's Environmental Principles and Concepts \(EP&Cs\)](#), legislated under California Public Resources Code [Section 71301](#) and California Education Code



[Section 51227.3](#), provide a foundational framework for promoting environmental literacy by highlighting the interconnected relationship between humans and the natural world. Rather than focusing on memorization, the EP&Cs emphasize “big ideas” that inform standards-based instruction and encourage student inquiry across various disciplines. The five environmental principles and 15 supporting concepts address themes such as the dependence of human life on natural systems, the impact of human actions on ecosystems, and the continuous exchange of matter between human and natural environments. Under the legislation, the EP&Cs are integrated into content standards and curriculum frameworks for subjects like science, English language arts, social studies, and health, ensuring that students develop a comprehensive understanding of environmental issues as part of their education.

Washington:

Washington State is a national climate change education policy leader, pioneering efforts to link climate education to the Next Generation Science Standards (NGSS). In 2017, Washington and other groups, with the support of Governor Jay Inslee, secured funding for climate education through a budget proviso. This led to the creation of [ClimeTime](#), a state-led network and grant program focused on professional development for teachers, helping them integrate climate education into their classrooms. Since its launch in 2019, ClimeTime has received over \$24 million in funding, supporting educator capacity-building and the development of climate-focused instructional materials. The initiative is led by the Washington Office of Superintendent of Public Instruction (OSPI) in collaboration with the University of Washington’s Institute for Science and Math Education (UW-ISME). In addition to ClimeTime, the state has invested in the [Climate Teacher Education Collaborative](#), which supports pre-service teacher training on climate topics. Washington’s climate education efforts emphasize climate justice and equity, ensuring that diverse student populations—including Tribal schools, rural areas, and underserved communities—benefit from climate-focused learning.

New York State

While New York State has and continues to struggle to pass climate education policy, the state and city have found innovative ways to lay the foundation for high-quality climate change education.

In 2023, the [Climate Resilience Education Task Force \(CRETf\)](#) published New York



State's first Climate Education Platform, outlining the key elements needed for a successful statewide climate education program. The platform was developed by an intergenerational committee of educators, scholars, policymakers, and students, drawing from best practices in other states like California and New Jersey and aligning with New York's ambitious [Climate Leadership and Community Protection Act \(CLCPA\)](#). The platform envisions a comprehensive, interdisciplinary approach to climate education in PK-12 schools, designed to support a just and equitable transition for the state's workforce, achieve climate justice, and enhance community resilience. While New Jersey is the only state to fully integrate climate education across all grade levels and content areas, New York's platform aims to connect climate education with broader state priorities, offering a unique opportunity to bridge the goals outlined in the [CLCPA Scoping Plan](#) with educational initiatives that equip students to face the climate challenges of today and tomorrow.

The [New York Climate Exchange](#) is a center for urban climate solutions located on Governors Island, launched in 2023 after a competitive selection process. As a global hub for climate action, The Exchange is crucial in advancing climate education by integrating research, workforce development, and policy initiatives to develop and implement solutions to the climate crisis. Its mission focuses on addressing urgent climate impacts and issues of environmental justice, with a strong emphasis on equity and the role of cities in climate challenges. Through collaborative partnerships with academic institutions, corporations, and non-profits, The Exchange fosters an innovative, inclusive environment that breaks down silos to rapidly develop scalable urban climate solutions, positioning itself as both a think-tank and a do-tank for climate action.

PPS might be interested in looking at [The Harbor School](#) on Governors Island for their CTE programs and how they connect them to climate change. Students engage in hands-on, career-focused learning through their CTE programs, all incorporating climate change and sustainability aspects. Freshmen are introduced to the various CTE pathways through a Harbor Class, and by their sophomore year, students choose one of eight specialized programs. These programs lead to industry certification in marine science and technology, offering a continuum of work-based learning experiences that extend beyond the classroom into real-world environments. By weaving climate change education into these programs, Harbor School prepares students not only for careers but also to address the pressing environmental challenges facing marine and coastal ecosystems.



Positive Outliers within the GSNN Network

Here are a few GSNN partners that are further along in their implementation of sustainability and climate education initiatives. While none of these schools have fully perfected their approach, each offers unique insights and valuable lessons that PPS can learn from, both in terms of their successes and challenges.

Boulder Valley Public Schools, CO

PPS might also look to Boulder Valley School District's [Seal of Climate Literacy](#), established through [Colorado Senate Bill 24-014](#), which provides high school students with a diploma endorsement recognizing their commitment to sustainability and climate literacy. This program connects classroom learning with real-world challenges and opportunities related to climate change, encouraging students to engage with local environmental issues through coursework and hands-on experiences. By exploring Boulder Valley's model, PPS could consider implementing a similar endorsement, allowing students to demonstrate their dedication to climate action and sustainability while gaining valuable skills and knowledge that directly benefit their communities.

In addition, PPS can look to Boulder Valley School District's [five-year action plan](#), developed in partnership with the GSNN, as a model for guiding their sustainability and climate education efforts. Boulder Valley's plan, which sets the course for sustainability work through 2026, was created through a collaborative process involving staff interviews, community forums, focus groups, and Ad Hoc Advisory Committee feedback. The plan outlines four strategic priority areas: 1) Curriculum and Instruction, focusing on developing experiences, knowledge, skills, values, and behaviors; 2) Climate and Culture, emphasizing relationships, health, and equity; 3) Leadership, covering decision-making structures, procurement, finance, and HR systems; and 4) Operations, ensuring sustainability across all functions. Each area includes overarching and supporting goals, along with measurable indicators to track progress. By examining this model, PPS can develop a similar comprehensive plan that engages key staff, gathers meaningful data, and sets the district on a path to becoming a healthy, equitable, and sustainable learning community.

Lexington Public School Sustainability Youth Council

PPS can draw inspiration from the [Bluegrass Youth Sustainability Council \(BYSC\)](#) in Lexington, Kentucky. This project-based, student-led coalition empowers young leaders from ten public and private high schools to drive sustainability initiatives



across their campuses and community. Led by student facilitators and project committee chairs, BYSC fosters lasting change through partnerships with businesses, nonprofits, and elected officials at local, state, and global levels. PPS could benefit from the experiences of these student leaders by establishing a virtual partnership with BYSC, enabling their students to collaborate, share ideas, and implement similar student-driven sustainability projects in Portland, amplifying the impact of youth-led climate action in their schools and community. Lexington is

Commonground Charter Schools - New Haven, CT

At a school-site level, PPS can look to [Common Ground Charter School](#) in New Haven, CT, as a powerful example of integrating climate and sustainability education with place-based learning deeply rooted in academic excellence. Common Ground serves as a center for environmental learning and leadership, providing opportunities for students and community members to connect with their local environment through hands-on experiences. The school's unique integration of farm, forest, and city—utilizing a working farm and 20 acres of forest land—allows students to explore rural and urban ecology while developing practical paths to urban sustainability. Common Ground's curriculum fosters environmental stewardship and academic rigor, empowering students to excel in their studies while engaging with real-world challenges related to sustainability.

Core Practices of the GSNN GreenPrint™

The Leadership System

1. Schools practice visionary leadership
2. Schools use shared leadership structures
3. Schools promote a culture of community and belonging
4. Schools cultivate strong school-family-community partnerships
5. Leaders create and maintain a communication system that engages the whole community in support of healthy, equitable, and sustainable schools

The Curriculum and Instruction System

1. Schools plan strategically for curriculum and instruction that promote health, equity, and sustainability
2. Schools create the conditions for leaders, teachers, and students to plan and implement high-quality curriculum and instruction for health, equity, and sustainability
3. Schools use an integrated approach to curriculum design that reflects the



- interdisciplinary nature of understanding the world around us
4. Schools use instructional practices that include phenomena-, place-, project-, and problem-based learning
 5. Curriculum and instruction leaders build a comprehensive and coherent system of assessment that measures sustainability literacy and promotes health and equity

The Culture and Climate System

1. Schools plan strategically for a school culture and climate that promotes health, equity, and sustainability mindsets
2. Schools promote healthy relationships between peers, adults, the local community, and the natural world
3. Schools create a healthy, equitable, and sustainable food culture
4. Schools have programs that promote fitness, recreation, and nature exploration for students and staff
5. Schools embrace a holistic approach to wellness for teachers, staff, and students that includes physical, mental, and social-emotional health

The Facilities and Operations System

1. Schools plan strategically for building, renovating/replacing, and operating and maintaining sustainable facilities
2. Schools build leadership capacity among all stakeholders to create and operate healthy, equitable, and sustainable facilities
3. Schools design, build, and upgrade existing facilities with systems that embrace healthy, equitable, and sustainable building principles and practices
4. Schools manage and operate facilities with internal systems that reduce environmental impacts, enhance health, and promote equity
5. Schools involve the entire school community in working toward a healthy, equitable, and sustainable learning environment

Works Cited

- ◇ Frontiers. (2020). Place-based environmental civic science: Urban students using STEM for public good. *Frontiers in Environmental Science*. Retrieved from <https://www.frontiersin.org>
- ◇ Springer. (2023). Social justice, place, and equitable science education: Broadening urban students' opportunities to learn. *The Urban Review*. Retrieved from <https://link.springer.com>
- ◇ MacDonald, S. P. (2020). Place-based learning as a high impact educational practice. In R. D. Lansiquot (Ed.), *Interdisciplinary team teaching*. Palgrave Macmillan.





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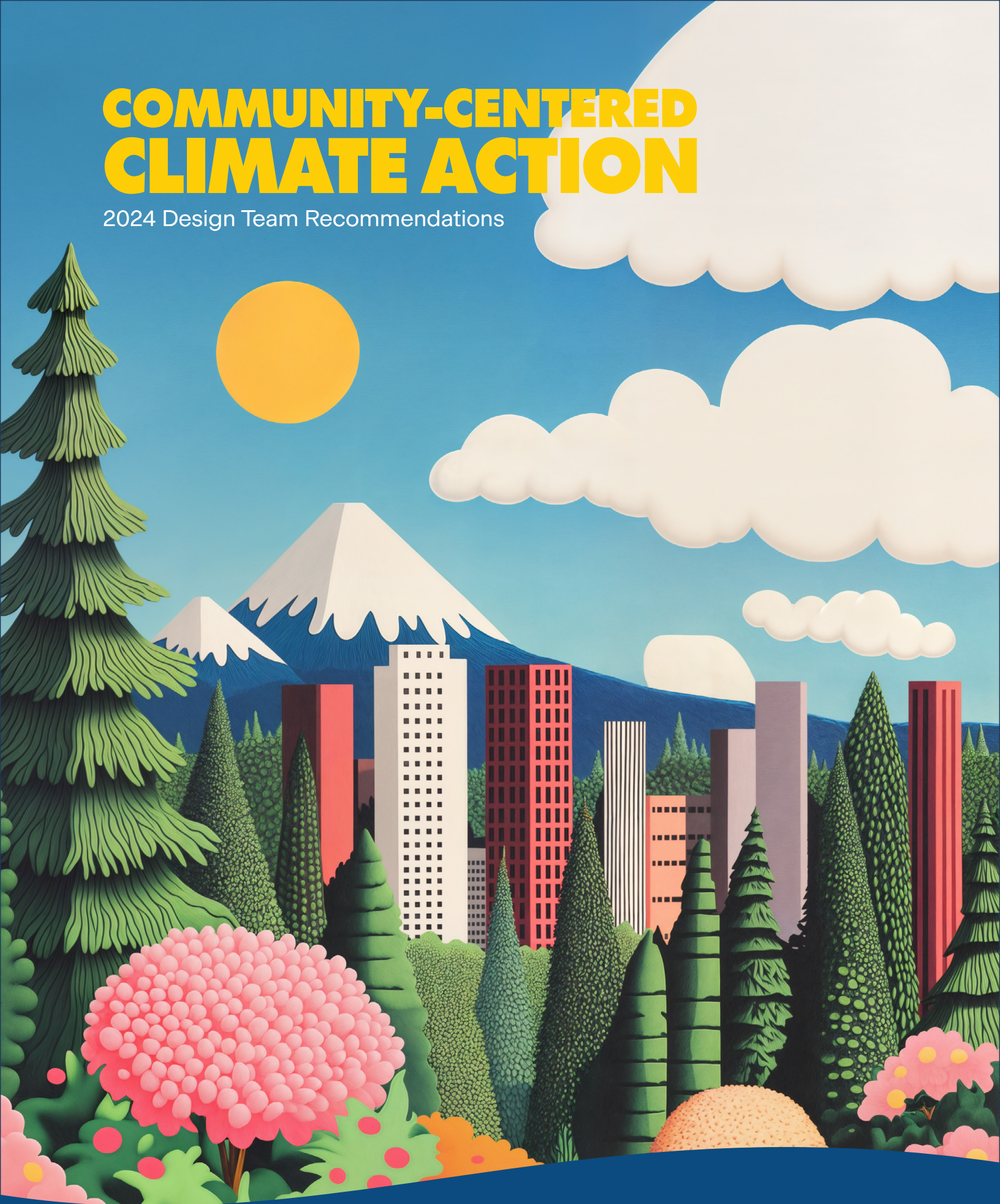


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COMMUNITY-CENTERED CLIMATE ACTION

2024 Design Team Recommendations





TIME AND AGAIN, WE SEE KIDS WHO ARE WHO ARE REALLY PASSIONATE ABOUT *CLIMATE ACTION*, AND FOR WHOM IT BECOMES KIND OF A LIFE CHANGING, SIGNIFICANT EXPERIENCE THAT SHAPES THEIR IDENTITY, THAT BUILDS THEIR CONFIDENCE AND THEIR ABILITY TO MAKE CHANGE, THAT BUILDS THEIR TRUST IN THEIR COMMUNITY'S ABILITY TO RESPOND POSITIVELY TO THE IMPACTS OF CLIMATE CHANGE AND CLIMATE INJUSTICE.

- Eco-School Network Interview

CONTRIBUTORS

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INTRODUCTION

In Spring of 2024, the PPS Climate Justice department co-led a design process with the PPS Innovation Studio, Co-Creating Pathways for Student Leadership in Climate Action at PPS, with the goal of answering the overarching question:

How might PPS create and support meaningful, accessible pathways to climate action, engagement opportunities, and community connection for our entire student body, especially students most affected by climate change?

To help answer that question, PPS Climate Justice staff composed a diverse 30-person Design Team that included PPS students, teachers, staff, and partner organizations. Each participant on this Design Team embodied aspects of climate justice through different causes, communities served, and lived experiences. The Design Team engaged with the overarching question through interviews, focus groups, and observational study, seeking to understand the deeply held challenges, barriers to participation, and needs of the many different stakeholders that encompass the PPS ecosystem.

This process, designed by the PPS Innovation Studio, employs equity and empathy by putting the end user (PPS students, staff, and stakeholders) at the center of the inquiry. It is intended to identify solutions that are genuinely based on the needs and experiences of the stakeholders we serve, rather than settling for solutions that we as administrators, or even community partners, “assume” or “imagine” meet those needs. From this perspective, the Design Team embarked on a community-based research process to design prototypes of strategies and recommendations that PPS leadership can advance from designing directly with and for communities who experience barriers to advancing student support in climate action.

The outcome of this work is a series of best practices and prototypes of specific strategies to support our most underserved students and community members to thrive despite a changing climate. Understanding the real needs of the community is essential to creating climate solutions that promote racial equity and social justice. That’s why this report highlights not only the Design Team’s findings but also the process used to uncover them, emphasizing both the process and findings as equally important steps toward meaningful change.



At the heart of this work together, there is a clear call for enhanced transparency and accountability to further relationship-building and trust in order to develop the sustainable programs and support systems that our students deserve. The Design Team emphasizes that in order to foster long term buy-in and collaboration from the PPS community as these recommendations are refined, added to, and implemented, it will be critical to continue to show a commitment to deep engagement with our students, staff, and partners. At a high level, the Design Team found that across the district, our communities share the following needs:

- Equitable Access to Education and Resources
- Support for Mental Health, Student Agency, and Community Well-Being
- Sustained Collaboration and Capacity Building

While many of the recommendations to meet these needs require long term approaches to cultural change and program development, five outcomes from the Spring 2024 Design Team **inspired immediate action items** for the 2024-2025 school year:

1. Develop a PPS Climate Project Playbook
2. Make More Transparent Partnership Pathways for Community Stakeholders
3. Career and Technical Education & Curriculum Planning
4. Assess Opportunities for Integrated Climate Justice Curriculum
5. Charter a more focused Design Team to continue this work through deeper engagement with middle grades and underserved communities

In June, 2024, PPS welcomed a new Superintendent, Dr. Kimberly Armstrong, providing an opportunity to bring a new vision for how the district advances the mission of providing a high quality public education. Dr. Armstrong's first year priorities are: Building Trust and Relationships Across our City, Advance Literacy, and to Strengthen Safe, Supportive and Well-Maintained Schools. With new leadership and funding opportunities, the PPS Climate Justice Department advocates for an enhanced set of best practices for all student support services and community engagement informed by the findings from this design process. The Climate Justice Department will regularly expand on these best practices as iterative engagement and design research continues to deepen our understanding on how to best support our most underserved students in a climate-changed world.



BACKGROUND

The Portland Public Schools' [Climate Crisis Response, Climate Justice, and Sustainable Practices Policy \(CCRP\)](#) commits the district to multi-faceted, ambitious goals to reduce the district's contribution to climate change and create a more equitable system that advances justice, health, and community empowerment through climate solutions and education.

Key to this policy is student voice and community partnership. In fact, the policy was brought to the PPS Board of Education in Fall 2019 by community members in partnership with students and teachers, launching a multi-year process of collaboration to land on the final iteration of the policy, officially adopted in March 2022. While key threads of the policy aim to reduce greenhouse gas emissions and minimize waste in all areas, it is arguably just as, if not more, important as an educational institution to consider: how the district approaches this work, who gets to participate in those decisions, and where this policy can weave in deeper education and project based learning for students and educators.

Since adopting the CCRP, the PPS Climate Justice Advisor (CJA) has focused on understanding the history and context of climate justice within the district. The PPS Graduate Portrait, developed collaboratively with the community, envisions graduates ready to tackle climate challenges in a greener future. Responding to student, teacher and community advocacy for climate education in 2016, the PPS Board adopted Resolution

#5272, which called for “curriculum and educational opportunities that address climate change and climate justice in all Portland Public Schools. The CCRP calls for engaging students with climate solutions both through the curriculum and through action opportunities outside the classroom. However, despite strong community interest and leadership support, there remains a lack of clarity on how to effectively integrate climate action into the already complex and underfunded framework of the district's priorities.

Through conversations with various stakeholders—including students, teachers, staff, board members, and community members—the CJA identified crucial insights for effective climate action within Portland Public Schools (PPS). The district has a rich history of passionate advocacy for climate initiatives, positioning it ahead of many others. However, there's a persistent challenge in linking climate action to educational outcomes like student achievement and health, often treated as separate priorities. To create a sustainable and impactful climate action strategy, it's vital to integrate these efforts into the district's overall mission, ensuring accountability and support for all involved. Moreover, the dominant narrative around climate action often marginalized voices from diverse backgrounds, which can widen the engagement gap. Moreover, many students feel overwhelmed by the scale and urgency of





climate change, leading to feelings of hopelessness and frustration. Empowering students with tangible ways to contribute can combat this pessimism, foster a sense of agency, and deepen engagement through the lens working towards a better future.

This research and reflection led to the development of a research question:

How might PPS create and support meaningful, accessible pathways to climate action, engagement opportunities, and community connection for our entire student body, especially students most affected by climate change?

Enter the PPS Innovation Studio, which guides innovative, community-informed, and equity-centered processes for designing solutions to complex problems in PPS that are directly informed by and serve those who need them most. The Innovation Studio and Climate Justice department began collaborating in summer 2023 to plan for the first Innovation Studio summit themed: "Productive Disruption" - a call to intentionally and thoughtfully disrupt the entrenched challenges within a large bureaucratic agency that prevent us from reaching community goals. This collaboration led to the creation of the PPS Climate Justice Design Team: Co-Creating Pathways for Student Leadership in Climate Action.

Context of this Moment in Time

With the CCRP in early strategic planning and development, the 2023-2024 school year was an optimal time for a deep engagement project to inform a community-driven program. At the time, a labor dispute was causing intense distrust between teachers, the district, and the community. This project was an opportunity to go through a community-centered process that could build trust on a small scale.

There were two additional factors that made the timing of this project ideal: First, the Climate Justice department had one-time funds which would expire July 1, 2024, the sole purpose of which was to develop the foundational work needed for the CCRP to launch and become systemically adopted. Without a guaranteed budget beyond July 2024, the ability to fund community-led insights to inform the next stage of strategic planning was determined a meaningful investment.

Second, the Portland City Council voted to approve the Portland Clean Energy Fund (PCEF) Climate Investment Plan (CIP), a clear and tangible way to immediately apply any insights that a community-led Design Team came to being. The PCEF CIP allocates funds to PPS for student-led climate projects, giving every K-8, middle school and high school \$15,000 for student-led projects every year for five years.

wThe student, teacher, community partner, and systemic outreach, engagement, and support needed to launch this program made our research question even more pressing. This research question no longer reflected a need for a theory of action, but had suddenly become a very tangible question we needed to answer in order to uplift a funded and substantial new student climate action program which would launch during the 2024-25 school year.

Innovation Studio Design Practice

The Innovation Studio is committed to transforming Portland Public Schools through fresh, ambitious ideas that challenge the status quo. By focusing on long-standing barriers, particularly those affecting Black and Native students and staff, they aim to foster inclusivity and equity within the educational system. Their mission is to enhance organizational capacity by providing training, resources, and incentives that empower students, staff, and the broader community to turn their innovative ideas into reality. Guided by principles of collaboration,

iterative design, and disruption of systemic inequities, they invite participants to engage in a thoughtful, community-driven process that uncovers the complex histories influencing current challenges, ultimately leading to meaningful and impactful change.

Creating an inclusive design team is crucial for effective problem-solving in the design process. A well-curated team brings together diverse members from impacted communities who can take on various roles, such as Team Leads, Project Managers, Technical Designers, Subject Matter Experts, and those with lived experience. Design Research plays a vital role in understanding the needs of those affected by the challenge, focusing on both explicit and latent needs to ensure that solutions are relevant and effective. The solution-creating process involves iterative prototyping, allowing teams to progressively refine their ideas and adapt as they gain insights, ultimately leading to actionable and meaningful outcomes.



Chartering the PPS Climate Justice Design Team

The PPS Climate Justice department set out to recruit a broad and diverse Design Team, full of people who would each have a unique perspective and experience interfacing with Portland Public Schools. Those experiences needed to include students who are being served, but not always heard, and who are our most direct stakeholders; staff who are employed by and supported by the district, and who deal with bureaucracy and limited resources as part of their daily work; and partners who navigate how to show up in advocacy spaces and school support roles from the outside.

A critical component of creating an inclusive Design Team was ensuring that the design team members were compensated for their participation. The PPS Climate Justice department, housed under the Office of the Chief of Staff, had access to one-time grant money from the PPS Federal ESSER allocation to lift climate justice and climate resilience initiatives at PPS, understanding that just like covid-19, climate change disproportionately impacts vulnerable members of our community, and building student-centered systems and solutions will not only help with covid-19 recovery, but also climate resilience. All participants (except for 1 design team member who is a PPS central office staff and 1 from the City of Portland) were paid for their time. Students were paid through hourly stipends, teachers through Extended Hours pay, and community partners through service contracts.

Our outreach efforts aimed at diverse and inclusive engagement with students, teachers, and community partners in sustainability initiatives. For students, we utilized our monthly sustainability newsletter and the popular Trivory app, complemented by outreach through email, Instagram, and our website. Teachers received announcements in newsletters and weekly emails, and we personally contacted those who have been engaged in climate action in the past. We also reached out to a broad network of community partners focused on sustainability and social justice, many of whom had deep ties to our district. To ensure everyone felt welcome, we hosted informative Zoom sessions to explain the project and guide interested participants through the process.

After months of recruitment, we were proud of the diverse community-based Design Team that formed.

The team included:

- 28 total members, not including PPS support staff and facilitators
- 3 students
- 6 school-site staff: 4 teachers, 1 CTE Teacher on Special Assignment (TOSA), and 1 School-based Qualified Mental Health Professional
- 1 PPS central office staff, the Safe Routes to School Coordinator
- 16 community partner organizations, including 5 focused on supporting youth through racial equity and social justice work 9 focused on climate education and advocacy
- 2 from public partners, including City of Portland and Portland Community College

The Design Team formally came together in February to establish community agreements and introduced the concept of design research, focusing on both explicit and latent community needs. From Feb. 7, through June 26, the team met 11 times to move through the Innovation Studio Design Process.



THE DESIGN PROCESS

The Climate Justice Design Team (the Design Team) convened with an overarching goal of answering the question: How might PPS create and support meaningful, accessible pathways to climate action, engagement opportunities, and community connection for our entire student body, especially students most affected by climate change?

The Design Team was tasked with exploring that question using a design methodology developed by the PPS Innovation Studio, a department within the district which facilitates community-centered design methods to develop answers to complex problems facing PPS. The questions that the Innovation Studio seeks to support elude simple solutions and require insight from a wide variety of program users and stakeholders. The Innovation Studio describes this work as “Creativity that disrupts the status quo and empowers those who are most impacted to create powerful change.”

The Innovation Studio Design Process embraces Design Research, an umbrella term for a set of practices that help us to understand a problem more deeply, with a particular focus on the needs of people who are most impacted. Design Research is intended to help identify solutions that are genuinely based on the needs and experiences of the stakeholders we serve, rather than settling for solutions that we as administrators “assume” or “imagine” meet those needs.

Within the Design Process, the Facilitators (the PPS Climate Justice Department and the PPS Innovation Studio) lead the Design Team through a series of exercises intended to help the participants in the Design Team explore and understand their own bias and assumptions, explore and digest community needs, and continuously iterate on developing solutions to those needs using “prototypes” to inform final recommendations. With the Design Process, prototyping is a process of testing and learning or “progressive approximation” that gets closer and closer to the final product. In design prototyping, we ask stakeholders to imagine or experience how a solution might work – and how it might not work, and then we iterate based on what we find out. This allows us to refine our insights and recommendations in a meaningful way before we begin to invest in their actual implementation.

The role of the Facilitators is to provide resources, context, and access to better understand the Problem Statement, while the role of the Design Team is to connect with their communities, networks, and each other’s expertise to articulate the needs and potential solutions of those most impacted by the potential solutions.



Design Process Timeline

Phase 1:

Empathy, Humility, and History
February - March 2024

- Learn about the history of climate injustices
- Investigate our own perspectives, positionality, and bias.
- Introduction to empathetic design - put ourselves in the shoes of the "end-users" (stakeholders) who we are designing programs for.
- Develop an expansive list of stakeholders.

Phase 3:

Prototype and Evaluate
May - June 2024

- Develop prototypes of solutions based design research.
- Engage stakeholders to continuously receive feedback and iterate on prototypes

Phase 2:

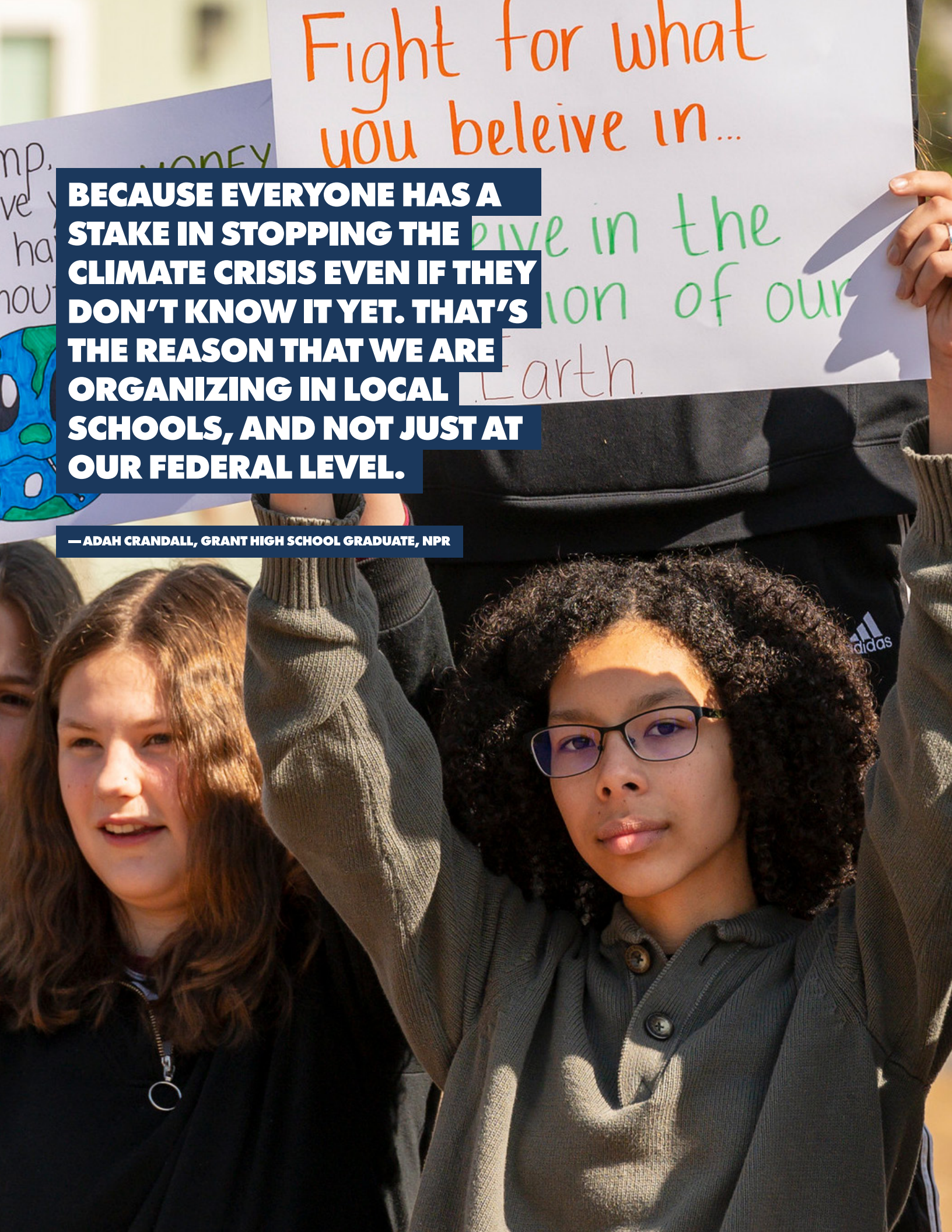
Design Research: Inspiration and Ideation
March - April 2024

- Learn from stakeholders through observation, interviews, focus groups, and surveys.
- Identify stakeholder barriers, challenges, and needs.
- Ideate solutions that would meet stakeholder needs.

Phase 4:

Synthesize Findings
June 2024

- Synthesize findings, categorize recommendations, and outline long-term goals.
- Identify gaps in stakeholder engagement and potential challenges.



BECAUSE EVERYONE HAS A STAKE IN STOPPING THE CLIMATE CRISIS EVEN IF THEY DON'T KNOW IT YET. THAT'S THE REASON THAT WE ARE ORGANIZING IN LOCAL SCHOOLS, AND NOT JUST AT OUR FEDERAL LEVEL.

— ADAH CRANDALL, GRANT HIGH SCHOOL GRADUATE, NPR

Design Team Structure

In order to understand the barriers and opportunities to build out accessible pathways to climate action, engagement opportunities, and community connection for our entire student body, especially students most affected by climate change, we would need to consider not just the student experience, but the experience of all the different stakeholders who comprise an ecosystem of student support.

Through a collaborative stakeholder mapping exercise, the Design Team identified four primary stakeholder categories, which became the focus areas for breakout groups (Pods). The Design Team members selected which Pod they were most interested in given their unique background, network and skill set, resulting in five pods:

Pods 1 & 2: Student Experience in Schools - What do students, especially those from historically under-invested in communities, need to feel supported by the district? What do meaningful and accessible pathways to student climate action look like for students?

Pod 3: Student Support Systems - What are the ways that teachers, parents, counselors, and other student support staff can be involved in this work? What support do they need from the district in order to engage in student climate projects and even actively support and mentor students who are working on those projects?

Pod 4: “It takes a village” - What do community partners, volunteers, local artists and local businesses need to better connect with and support students on these pathways? What are some ways they want to connect?

Pod 5: “Reworking the system” - How do the central office, principals, and facilities departments need to adapt in order to best support student pathways to climate work? What larger systems need to be addressed to have more equitable, accessible and justice-oriented student support

The Design Team participated in the Design Process timeline from the perspective of their pod focus. They conducted outreach via interviews, surveys, observations at events, and more, to better understand how students, teachers, parents, PPS leadership, and community partners viewed opportunities and challenges to support students in learning about, living through, or leading in climate change. They investigated each individual stakeholder group’s hopes, fears, frustrations, and areas of excitement.

Findings

Pods 1 & 2: Student Experience in Schools

Through engaging in conversations with students and teachers, Pods 1 and 2 revealed challenges that students face in getting involved with climate action are largely a result of a lack of clarity, accessibility and consistency from the district leaders. While there's a strong sense of trust between students and teachers, there's a **notable lack of trust** toward school administration, often due to inconsistent support for climate initiatives. Students also expressed **uncertainty about how to get involved** in climate action. Without access to a clear pathway for student leadership at a district level, and unclear expectations around restrictive policies that prevent them from participating in important civic engagement events like student-led marches, it can feel confusing for students to know where and how they can plug into existing efforts at their schools.

In addition to engagement, there's a clear need for a more **comprehensive, accessible climate justice curriculum that addresses systemic change**, rather than just individual actions. The focus on individual actions without connecting to systems of change can exacerbate a sense of hopelessness and overwhelm. Aligning this curriculum with built-in **support for mental and emotional well-being** is vital, as students are grappling with not only learning about a future of climate disaster, but living through and witnessing real-time climate crises - in addition to economic, geo-political, safety-related crises - regularly.

Additional support systems that can help with this sense of overwhelm focus on **student agency**, such as hands-on opportunities to make a difference during school hours, along with guidance on career paths in climate justice. More intentional connection and **equitable access to outdoor learning spaces** at every school site would foster place-based and project-based learning that can create more equitable and accessible pathways for tending to emotional impacts of climate change, connection to tangible action, and a practical application of classroom lessons. However, many teachers express feeling overwhelmed by their current workloads, emphasizing that climate justice efforts can't just be added to their plates without real support on how to integrate these lessons into the existing curricula.

Finally, having mentorship and role-models who reflect our diverse student identities and experiences is key to fostering engagement and motivation. Partnering with community organizations who can show students the diverse needs and pathways to make meaningful change is important not only for this representation, but also for supporting teachers to lean on local experts to provide culturally responsive enrichment to the curriculum. However, it is vital to create sustainable support systems to foster these partnerships, as without that consistent support the continuous cycle of building and diminishing new partnerships or plans can harm relationships rather than strengthen them.

To meet these needs, the student experience Pod recommends prioritizing consistent funding, weaving climate justice into all areas of the curriculum, and creating supportive structures that empower both students and teachers.

Pod 3: Student Support Systems

Through interviews with students, teachers, parents, volunteers and community partners, Pod 3 explored the systems available (or needed) to support students. The research revealed a strong desire among parents and students for structural and cultural changes within schools to better support low income families and students to participate in climate action.

Parents already engaged with environmental action at schools envision infrastructural improvements to increase their capacity to **better support students with hands-on experiences**. These include calls to implement waste reduction measures (such as food recovery, donations, tastings and food scrap bins), school gardens, along with initiatives that promote walking and biking to school. To increase retention of parent volunteers and to foster greater community involvement, especially for low-income families, these parents advocate for **more validation and recognition of volunteer efforts and aligning school messaging** with environmental goals. District storytelling through newsletters and reports can further recognize and celebrate the roles that parents, volunteers, and community groups play in making school climate justice successes possible. Compensating volunteers with stipends or gift cards can help address barriers related to time and financial resources, and help boost support for students.

“Implement adequate climate education for all students and all ages, not just high school. Because a lot of us are learning it now but in middle school it was really scary to learn about climate change and we didn’t really know the solutions yet. We have the resources. it should be more than just a couple days of learning.”

– Student Climate Justice Club Leader

In addition, students expressed a need for more **comprehensive climate education integrated across all grade levels**, as well as more **accessible hands-on learning opportunities outside the classroom**, particularly in underserved communities. This includes comprehensive curricula that are engaging and accessible to students of all ages, ensuring students understand climate issues and solutions in a way that is grade appropriate and culturally relevant. They emphasized the importance of **practical experiences like field trips and schoolyard projects, alongside mentorship programs**. Students also articulated the importance of **alignment** between what they’re **learning in class and the practices available** every day in some of their schools. Middle school students said they feel guilty about being part of the problem if they need to use disposable plastic utensils at school and toss uneaten food in the landfill bin when composting isn’t available in the cafeteria. Students are keen to advance projects that would allow their whole day at school to be more aligned with climate justice; from the trips to school, to the messages and symbols they see in their buildings, to the practices available to them.

“Give us more time and money to help with student climate projects. Let us design ideas and adults can help us carry them out.”

– Wesley, Middle School Student

There is a demand for funding and resources to support student-led projects and activities to **increase student agency**. A key element of environmental justice is stronger representation in legislative discussions of those most affected by policy decisions. There is an opportunity for increased sense of student agency by **empowering student-led initiatives that allow diverse voices to influence policy**, ensuring that the needs and concerns of all community members are heard. In addition, providing **financial support for student-led projects**, such as sustainable fashion shows or climate fairs, allows students from various backgrounds to take active roles in their communities and express their commitment to sustainability.





Overall, fostering a supportive environment for climate action requires consistent support and recognition of parents and volunteers to ensure more equitable participation, as well as a commitment to integrated learning experiences (both through formal curriculum and daily school experiences) that prioritize student empowerment.

Pod 4: “It Takes a village”

The idea behind Pod 4, “It Takes a Village” is to understand the strengths and challenges that entities outside of PPS face when trying to work with the District. Given the limited funding and resources allocated to public education, partnerships with community organizations, non-profits, and businesses are essential to curating a rich and vibrant experience for our students. To explore this question, Pod 4 engaged a diverse group of community partners, nonprofits, and businesses dedicated to supporting student-led climate action.



IN LOWER-INCOME COMMUNITIES(OUR PRIORITY), OUR CHANGEMAKER VOLUNTEERS TEND TO FACE MORE BARRIERS TO LEADING CLIMATE ACTION PROJECTS AND GREEN TEAMS WITH STUDENTS... WHETHER IT'S TRANSPORTATION NEEDS, WORKING MULTIPLE JOBS, LANGUAGE BARRIERS, TIGHT PTA BUDGETS, OR COMPETING SCHOOL PRIORITIES. AS A SMALL NONPROFIT, IT TAKES MORE TIME AND FUNDING TO PROVIDE THESE SUPPORTS TO THE COMMUNITIES MOST IMPACTED BY CLIMATE INJUSTICE. THEIR VOLUNTEER PASSION AND SKILL IS ALREADY THERE. WHEN WE CAN PAIR OUR TRAINING AND SERVICES WITH SUPPORTS LIKE CHILD CARE AND FOOD FOR MEETINGS, TRANSLATION, SIMPLE PROJECT MATERIALS, AND VOLUNTEER STIPENDS, COMMITTED VOLUNTEERS TEND TO KEEP AT IT FOR YEARS. TECHNICAL ASSISTANCE OR FUNDING FOR THESE SERVICES HELPS US SUPPORT MORE CLIMATE JUSTICE ADVOCATES LEADING TO MORE CLIMATE ACTION IN SCHOOLS AND MORE STUDENTS WITH THE SKILLS TO ADVANCE CLIMATE JUSTICE THEMSELVES.

– Amy Higgs, Executive Director at Eco-School Network

A significant insight from their interviews was the **eagerness to initiate or sustain student-driven climate initiatives**, particularly from organizations already active in elementary schools. However, many expressed concern about the limited access to funding and the need for **consistent financial support** to grow projects from initial ideas into sustainable initiatives. Community partners emphasize the need for **culturally relevant programming** that reflects the diverse backgrounds of students. Increasing the capacity of these organizations to provide such programming is essential for fostering an inclusive environment for all learners. To enhance the effectiveness of partnerships, there is a need for **capacity-building resources** for community organizations.

Community partners also highlighted challenges in working with PPS due to bureaucratic obstacles, advocating for a streamlined and equitable engagement process. A more **streamlined and equitable process for collaboration** would encourage community partners to engage more easily with PPS and enhance student-led initiatives. This could involve funding for staff dedicated to developing and implementing student-led projects, ensuring that these organizations can meet the diverse needs of youth while moving away from extractive models of collaboration.

Mental health emerged as a critical issue, acknowledging that students, teachers, and community partners all encounter mental health challenges when facing the realities of climate change. This theme underscores the necessity for **wrap-around services and capacity-building funding** to enable effective participation. These services should support the **well-being of all stakeholders** involved in climate action work, allowing them to engage effectively.

To strengthen partnerships, recommendations include providing dedicated funding for project development and fostering collaborative models that respects and integrates the knowledge and labor of marginalized communities.

Pod 5: “Reworking the system”

Pod 5 examined changes that could be made at the district level to better support our ability to administer this work in an equitable, scalable, sustainable way. They discovered a variety of things staff can implement and advocate for at the district level.

One primary need is to integrate climate education as a central thread throughout all subjects by creating an **interdisciplinary climate curriculum**. Integrating climate education transforms the educational framework, making environmental literacy a fundamental component of the curriculum. This systemic approach empowers students with the knowledge and skills to address climate challenges in various contexts. Engaging teachers through meaningful climate justice professional development and teacher training are essential elements to this process, especially methods that involve opportunities for peer-to-peer teacher training.

For project based work at a school level, the central office can support by having a **designated project manager at the central office** assigned to student-led climate projects. Climate action that impacts a school often requires navigating PPS bureaucracy and this project manager would be a huge help. It is also critical to **loop in principals** to ensure they receive direction communication at the start of the year about the district goal and processes to support student and teacher-led climate action. **Designating and paying a school-based staff member** to oversee climate-related projects will ensure continuity and support for initiatives, as well as invaluable leadership and expertise for students to learn from. This may also include PPS helping organize or support career fairs that actively involve families and emphasize **Inclusive Career Pathways** that are climate-related. This can broaden access to opportunities for underrepresented groups and ensures that all community members are aware of and can pursue pathways in sustainable industries, fostering long-term economic equity.

Lastly, from an equity standpoint, **streamlining opportunities for partner participation** by creating clear and simple pathways for community partners to collaborate with schools encourages equitable participation in educational initiatives. This supports diverse voices and resources contributing to climate action and education. **Building shared outdoor learning spaces** can also enhance equity by promoting access to climate education. Outdoor learning also facilitates collaboration across disciplines and encourages all students to engage with environmental issues as part of their everyday learning.

“

IMPLEMENT ADEQUATE CLIMATE EDUCATION FOR ALL STUDENTS AND ALL AGES, NOT JUST HIGH SCHOOL. BECAUSE A LOT OF US ARE LEARNING IT NOW BUT IN MIDDLE SCHOOL IT WAS REALLY SCARY TO LEARN ABOUT CLIMATE CHANGE AND WE DIDN'T REALLY KNOW THE SOLUTIONS YET. WE HAVE THE RESOURCES. IT SHOULD BE MORE THAN JUST A COUPLE DAYS OF LEARNING.

- Student Climate Justice Club Leader



Collective Findings

Each pod focused on different stakeholder groups and perspectives to understand the complex needs to be considered when working to increase student support and engagement in climate action, and ultimately each pod came up with distinct prototypes for solutions to address those needs. As a collective, clear needs arose as themes consistent for each stakeholder group that PPS should take seriously and center when designing or implementing programs or resources.

Equitable Access to Education and Resources:

Across all pods, there is a strong emphasis on providing inclusive and accessible climate education. This includes developing comprehensive curricula that reflect diverse perspectives and ensuring all students, particularly those from marginalized communities, have the tools and opportunities to engage with tangible, culturally-relevant, place-based and project-based learning.

Support for Mental Health, Student Agency, and Community Well-Being:

The need for mental and emotional support emerges as a critical theme. Both students and educators face significant stress related to climate crises, necessitating wrap-around services that properly resource educators, staff and community partners to support students grappling with the many crises they face growing up amidst the climate crisis.

Sustained Collaboration and Capacity Building:

There is a clear need for sustainable partnerships and consistent funding to support community organizations and student-led initiatives. This includes addressing bureaucratic barriers to collaboration with schools and fostering long-term relationships that are not extractive. Providing resources and capacity-building opportunities for community partners ensures that diverse voices are included in climate justice work and that initiatives can thrive over time.



RECOMMENDATIONS

After engagement with different stakeholder groups, each Pod developed a persona that represented a variety of needs that they heard from the communities they engaged with. They referenced these personas to create prototypes of tangible, actionable projects and recommendations that PPS could implement to respond to these identified needs.

Prototypes

From the Innovation Studio: A prototype is a model that illustrates a concept. The process of prototyping is one of progressive approximation—getting closer and closer to the final product, knowing that our understanding of the context and the proposed solutions will change as we go. This template will assist you in clearly communicating what your prototype is, who will be impacted by it, and which essential conditions are necessary for successful implementation.

The Pods worked as groups to develop prototypes that would directly address the needs they hear from the interviews, surveys and other research methods. They had the opportunity to share the prototypes across pods to gain feedback from other stakeholder perspectives, as well as with students at the PPS Climate Summit. Finally, the design team as a whole considered the timing and implementation of the prototypes, making visual representations of what prototypes must be implemented first or that would have the largest impact in order to most effectively address community needs and structural changes. The outcome of this iterative design work is the following recommended prototypes.

Recommended Prototype Examples¹

Capacity Building:

- Full-time Climate Action Project Management Position: Create a Climate Action Project Management staff position for Student/and School-based Climate Projects so green projects can be implemented when funds are available and allocated.
- Volunteer Power for Student Climate Action, K-8 edition: A workforce of parents and community volunteers is trained and supported in bringing climate solutions to schools, engaging students.

- Volunteer Power for Student Climate Action, HS edition: A workforce of high school students and community volunteers is trained and supported in bringing climate solutions to their schools, engaging students.
- Capacity Pathways for Community Stakeholders: Streamline entry point for organizations to PPS by addressing issues like funding, bureaucracy/red tape and capacity support.

Advancing Student Agency:

- **Climate Project Playbook:** A menu of climate action activities and projects that schools have successfully implemented in the past and a playbook of what their implementation may entail.
- **Air Quality Education, Monitoring, and Advocacy:** Students would learn how to install monitors, how to collect and read data, and then have an opportunity to use their data for advocacy initiatives in their community.
- **Food Waste Reduction and Diversion Program:** Schools recover and donate untouched/ unserved foods and divert post consumer food waste from cafeterias to a composting system, ideally on-site to generate hands-on learning and leadership.
- **School Yard Food Forests:** Planting perennial food forests and native habitat on school property to engage all students across grades and disciplines.

Systemic Integration of a Climate Curriculum across education:

Climate Justice as Embodied Practice to Decolonize, Reintegrate Cultural Ways of Being: A hub with culturally specific community partners where Bodies of Culture are resourced and provided opportunities to share culturally relevant knowledge in relationship to Climate Justice.

[Link to PDF featuring full descriptions of Design Team's Prototypes](#)

Climate Justice Curriculum Camp / Teacher Professional Development: Develop place-based, climate justice curriculum modules – co-created by teachers, students and community organizations at summer curriculum camp(s) – that can be used for district-wide teacher professional development and used in classrooms.

Climate Change Career and Technical Ed. track and Climate Corps: Career and Technical Ed. curriculum related to climate action work, providing students with exposure to a range of climate-related careers and opportunities to intern with organizations.

Career and Technical Education Program for Climate Justice: Students participate in introductory climate education lessons, then choose which hands-on track to participate in. More focused on justice, community, and activism.

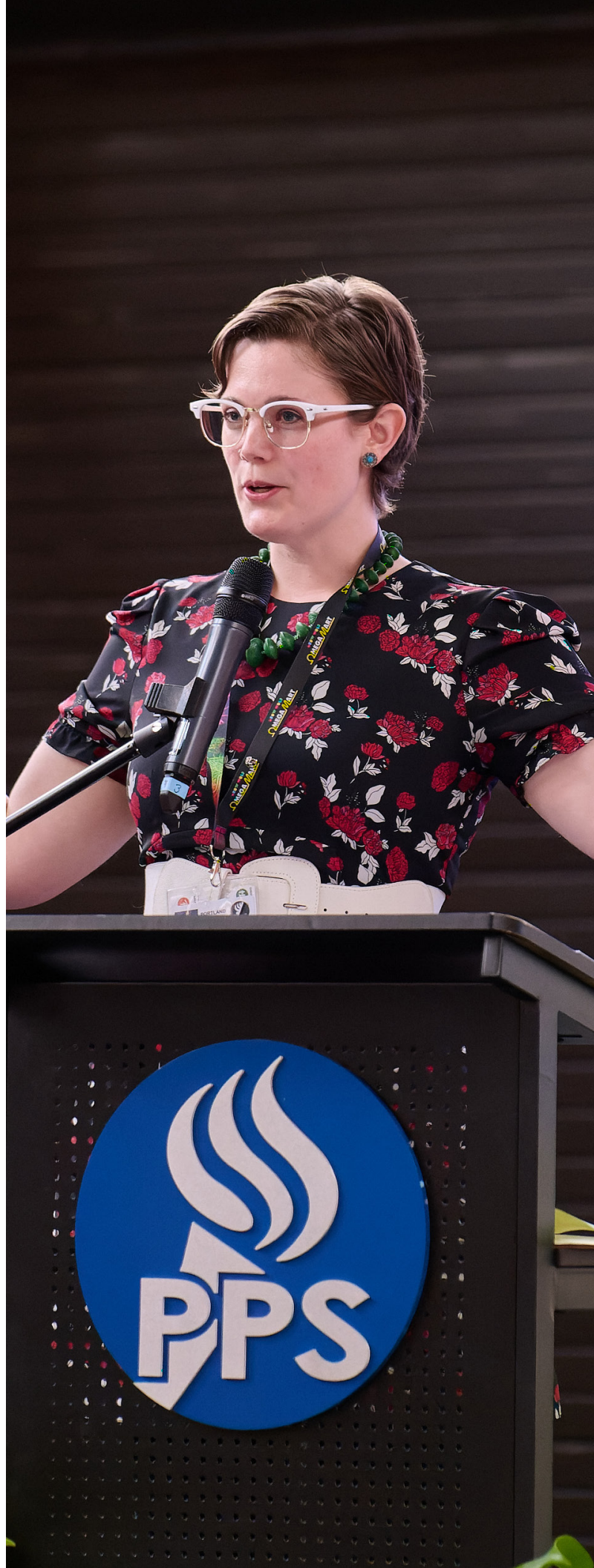
Integrating Climate Justice into School Programs: Bringing climate justice into other school spaces like Journalism, Leadership, Affinity groups, Podcasting, Newspaper, and Restorative Justice, etc.

Recommendations to Guide our Work

In addition to the prototypes, the Design Team used a process of empathetic inquiry and community engagement to identify a set of community-created values that should guide the work of climate justice and climate action at PPS.

Recommended Values to Guide PPS Climate Justice Action

- Center Justice and Equity through a commitment to decolonization
- Build and maintain community trust through collaboration and accountability
- Foster Critical Hope through Youth Agency, Action and Empowerment
- Support systems improvements with sustainable, scalable change



Recommended Desired Outcomes of PPS Climate Justice Action

Inclusive Collaboration: Foster reciprocal partnerships with indigenous communities, communities of color, students with disabilities, and other historically underserved groups in program design and implementation.

Holistic Support: Create school environments that promote student joy, resilience, and preparation for challenges in a climate-changed world.

Hands-On Experience: Provide students with practical opportunities to engage in meaningful action and explore diverse career pathways.

Connection to Nature: Encourage students to see their school grounds as vital spaces for learning and healing.

Social and Emotional Skills: Equip students to envision a hopeful future and effectively navigate challenges.

Intergenerational Learning: Facilitate connections among students of all ages and abilities for enriched learning experiences.

Critical Awareness: Empower students to understand the roots of the climate crisis and their potential to drive meaningful change.



LESSONS LEARNED & FACILITATOR INSIGHTS

Engaging students, teachers, and community partners through the Innovation Studio Design Research process provided valuable insights into navigating PPS systems. The facilitators experienced, alongside the Design Team members, how challenging it can be to identify the correct entry point to reach different audiences. This learning re-emphasized the need for consistent feedback, iteration, and more accessible and transparent pathways for engagement for both external and internal stakeholders.

In addition, the facilitators consistently struggled with the balance of relationship building with practical action during the in-person Design Team meetings. Meaningful introductions and connections among participants were crucial, even if they took time away from planning. Many participants were enthusiastic about diving into tangible work, yet facilitators didn't fully anticipate the time needed for essential relationship-building, resulting in a trade-off during meeting times between planning or connecting. Moreover, there was a mismatch in understanding participants' capacity to engage with Design Team content between meetings. This disconnect between our theoretical discussions and practical application made it difficult for everyone to stay engaged and fully invested in the process. It's important to acknowledge these challenges so we can better support each other moving forward.

As the design team's excitement grew, time constraints began to feel more limiting; feedback indicated that more meetings—4 to 6 additional sessions—would have fostered deeper engagement. The facilitators also noted that longer meetings and a weekly schedule might have helped establish a better rhythm. Ultimately, the end of grant funding halted progress just as momentum was building, highlighting the importance of pacing, relationship development, and sustained engagement in collaborative efforts for future success.



NEXT STEPS

The Climate Justice Design Team's outcomes offer valuable insights that are both actionable and guide future practices for PPS Climate Justice engagement, empowerment, and education. With the rollout of the PCEF Student Climate Project Funds, facilitators are committed to applying these lessons by prioritizing funding for teachers driving this work, encouraging student partnerships with community organizations for sustainable initiatives, and ensuring thorough outreach to all levels of the district. By creating transparent entry points for community partners and collaborating with internal departments to reduce barriers, we aim to facilitate successful project implementation. Additionally, developing a "Climate Project Playbook" will inspire students with tangible project opportunities, fostering a hopeful and impactful future for climate action. Being the first year of allocation, there are still many lessons to learn ahead to more successfully implement these funds and more insights from the Design Team we intend to include.

While many of the recommendations require long term approaches to cultural change and program development, **five outcomes from the Spring 2024 Design Team inspired immediate action items** for the 2024-2025 school year include:

1. **Develop a PPS Climate Project Playbook** to support student led climate projects.
2. **Develop Partnership Pathways for Community Stakeholders:** create a streamlined and clear way for community partners to get involved with PPS student climate work. For the 2025-26 school year, connect community partners to students to act as thought partners in developing student climate projects. Utilize partners to help show students how to think more deeply about the integration of justice, community, and climate in their projects.
3. **Career and Technical Education & Curriculum Planning:** collaborate with Middle Grades Redesign Project-Based Learning initiative and CTE to integrate climate action into project-based and career training education.

4. **Integrated Climate Justice Curriculum:** Conduct a Climate Justice Curriculum Assessment to better understand where and how students currently learn about climate change and climate justice, and create a plan for bridging the gaps in education with project-based, place-based practices championed by teachers leading the change. Engage teachers through meaningful climate justice professional development and teacher training, especially focusing on methods that involve opportunities for peer-to-peer learning.
5. **Advance a deeper engagement strategy** to continue this work with students and teachers from underrepresented and underserved communities.

In addition, Dr. Armstrong has started her time at PPS with a vision for how to prioritize our work as a district to focus on Building Trust and Relationships Across our City, Advance Literacy, Strengthen Safe, Supportive and Well-Maintained Schools. The Climate Justice Advisor is able to participate in each of these priority initiatives with direct feedback on opportunities for improvement to increase transparency, accessibility, accountability and trust, referencing the feedback directly from the Design Team.

Understanding that 5 months is not enough time to properly conduct deep engagement with our highest need communities, the Climate Justice team continues to advocate for this work, with a focus to engage more intentionally with stakeholders who were less represented in the Spring 2024 scope. Engaging in praxis – the integration and alternation of thought and practice – will allow the PPS climate justice and sustainability teams to continue to listen deeply and responsively to the needs of the community while enacting climate justice actions across the district that tend to the immediate urgency of the crisis.

CONCLUSION

There are challenges to achieving PPS's climate goals, most notably mobilizing resources for large-scale infrastructure change and coordinating the necessary community engagement within the confines of a limited budget. Beyond fiscal needs, challenges range from the minute details of implementation decisions to the big-picture complexities of a transformative culture shift. At the heart of our work as a district, though, is student wellness. It is vital to examine our district systems to ensure that this organization is more accessible and transparent to navigate and such that our teachers,

parents, staff and community partners can support the intensifying urgency and relevance of students growing up in the climate crisis, hungry to make meaningful change. There are challenges to achieving PPS's climate goals, most notably mobilizing resources for large-scale infrastructure change and coordinating the necessary community engagement within the confines of a limited budget. Beyond fiscal needs, challenges range from the minute details of implementation decisions to the big-picture complexities of a transformative culture shift. At the heart of our work as a district, though, is student wellness. It is vital to examine our district systems to ensure that this organization is more accessible and transparent to navigate and such that our teachers, parents, staff and community partners can support the intensifying urgency and relevance of students growing up in the climate crisis, hungry to make meaningful change.



WE WOULD LIKE TO THANK OUR COMMUNITY PARTNERS





PORTLAND PUBLIC SCHOOLS – Dr. MATTHEW PROPHET EDUCATION CENTER

PEC Relocation Update

Agenda

- **Phase Two Staff Engagement and Communications**
- **Full Project Schedule: High Level Draft Schedule**



PHASE 2 Property Search and Evaluation

(June 2025 - October 2025)

- The PEC Planning Team is currently focused on identifying need and evaluating conditions for new location(s) that can best serve the District for the next 50 years.
- A Request for Information (RFI) has been circulated publicly and we are currently awaiting responses and reviewing submissions.
- Together with AVT, the team will evaluate properties and identify the top solutions to the present to the BOE in a confidential executive session.
- When property(s) have been identified the team will develop a detailed timeline outlining the steps to purchase property, complete needed tenant improvements, and relocate.

PHASE 2 - Property Search Staff Engagement

- **Listening Sessions**

- **Purpose:** Opportunity for staff to engage and share their thoughts and concerns. Questions will be identified in order to prompt discussion that will help the PEC Planning Team understand what is important to staff and address their concerns in a safe environment.
 - PEC Staff Listening Sessions: PEC staff only (exclusive of leadership) - It is recommended that the Listening Sessions be attended only by staff to provide a safe and open environment for discussion. These were done on June 11th & 12th, with about 250 attendees
 - Collaborative union partner listening sessions
 - Leadership Listening Sessions: Follow up with Leadership to share what was heard at the Staff Listening Sessions, to build consensus, and to provide recommendations for additional conversations and information gathering with staff and provided to the PEC Planning team for consideration.

- **“What we heard”**

- **Purpose:** Reiterate to PEC staff and Leadership that we have heard them, how they can stay staff informed, reiterate the minimum criteria, and provide a status update on the property search (Future updates will be made via the PEC Relocation Planning Website and SMORE Newsletter) in addition to in person Q & A sessions.

- **Progress Updates: “Where we are to date”**

- **Purpose:** Provide recurring communication to keep staff engaged and up to date on the status of the PEC Phase 2 Property Search and Evaluation. The cadence of updates will be dependent on the number of properties identified and the length of the evaluation processes.

Ongoing Staff Communications

- **Additional Opportunities for Staff Input/Surveys**

- **Purpose:** Maintain an open line of communication with staff and stakeholders.
 - **Email:** A dedicated Email has been created that will be monitored on a regular basis. Encourage staff to send in their comments, concerns, questions, etc. throughout the course of Phase 2.
 - **Comment Submission Form:** A QR code was created to link a general comment submission form that is included in each meeting invite and is posted around the PEC.

- **PEC Relocation Planning Website**

- Available on the Facilities department website

- **SMORE Newsletter/Progress Updates:**

- PPS' existing PEC Communications channel via Smore Newsletter will be maintained and updates will be provided as the project progresses.

- **Board of Education Updates:**

- **Executive Session in September - End of Calendar Year** - To provide the BOE updates on properties that meet the minimum criteria and are cost neutral and provide space to answer questions about each.

- **One-on-One Department Meetings/Interviews:**

- To occur on an "as needed basis" once the Listening Session and/or feedback is received or specifically requested by Leadership
- In Phase 1, over 20 one-on-one meetings with each of the Department leads and Chiefs occurred. (schedule of those interviews can be seen [HERE](#))

PHASE 2 Schedule

-Will be revised as engagement opportunities arise-

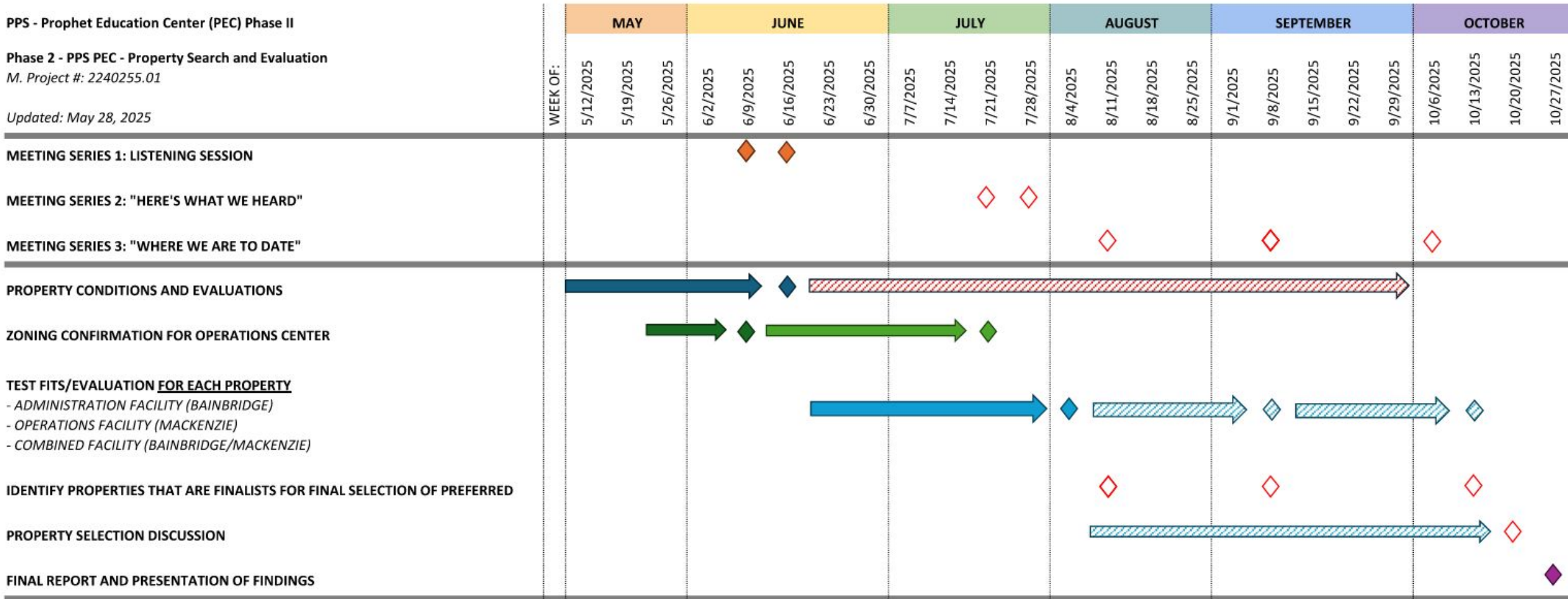


PPS - Prophet Education Center (PEC) Phase II

Phase 2 - PPS PEC - Property Search and Evaluation

M. Project #: 2240255.01

Updated: May 28, 2025



*Collaborative Union partner listening sessions throughout the summer

High level project schedule



Work Plan: PEC Relocation

April 22, 2025

PREPARE FOR PROPERTY SEARCH

Board Resolution No. 6861

Phase 1 - Minimum Criteria

Phase 1a - Peer District Comparison

Phase 1b - Minimum Criteria Refinement

Board Approval of Minimum Criteria

PROPERTY SEARCH

Property Solicitation

Property Evaluation

Negotiate Purchase and Sale Agreement

BOE Approves Property Purchase

PEC SALE

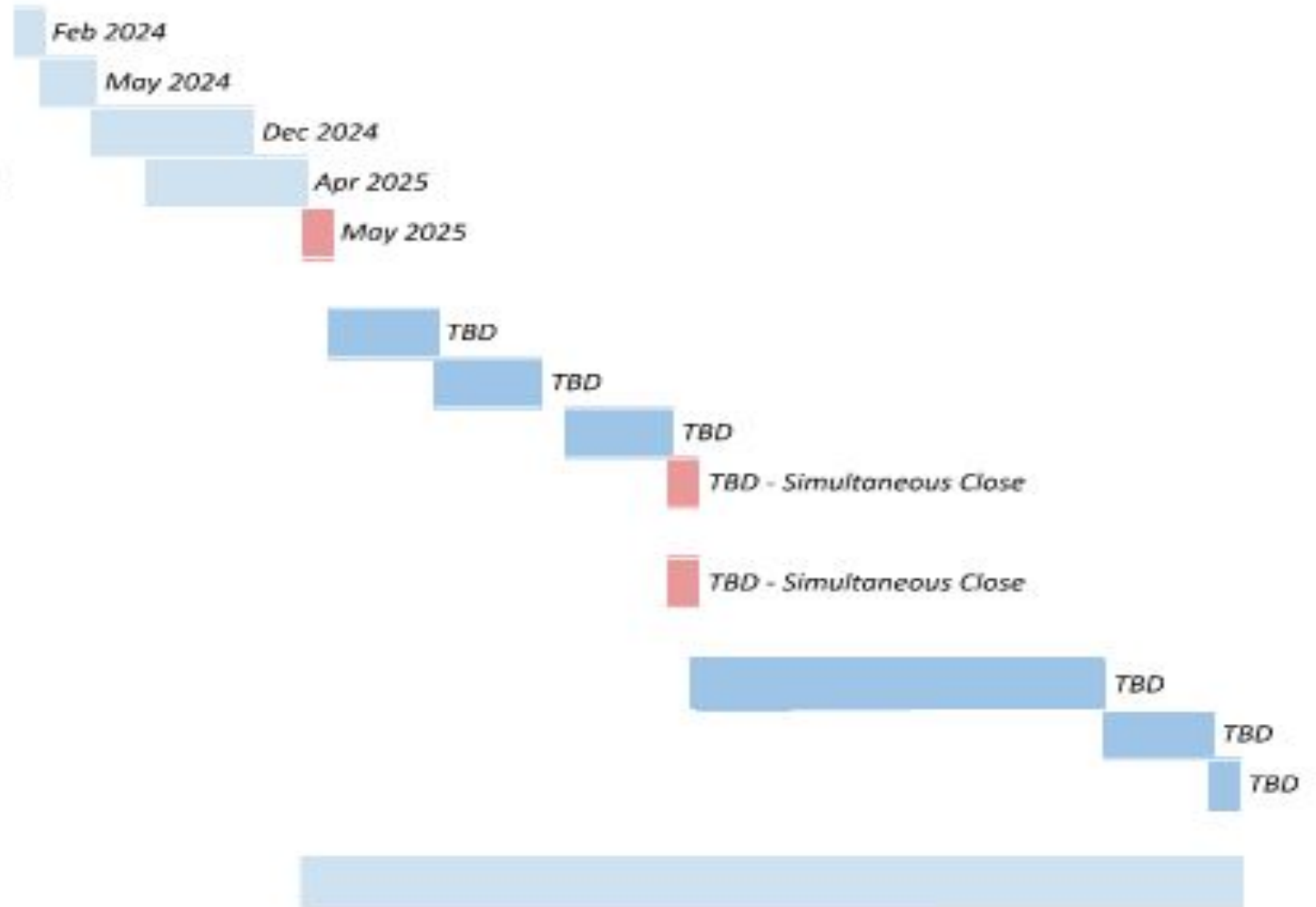
BOE Approval of the Sale of PEC to AVT

RELOCATION

Tenant Improvements

Physical Move

Occupy



Regular BOE Updates to be Provided



PORTLAND
Public Schools

PECplanningteam@pps.net

Questions or comments

