

The **Efficient and Healthy Schools Program** aims to motivate and empower K-12 schools to reduce energy costs and improve energy efficiency, health, and resilience. The Program connects schools with practical solutions, provides technical assistance and resources, to significantly improve school facilities. This Program is led by the U.S. Department of Energy Building Technologies Office with technical support from Lawrence Berkeley National Lab and New Buildings Institute.

## CASE STUDY

### Performance Pro: Seattle Public Schools



### Project Scope & Approach

Since 2016, Seattle Public Schools' recommissioning (RCx) team has been tasked with retuning their building operations to reduce energy consumption and greenhouse gas (GHG) emissions with their existing HVAC systems. Over the last eight years, the team has made on-the-spot repairs, managed the building automation system (BAS) within district temperature and ventilation guidelines to improve efficiency, and acted responsively during the onset of the COVID pandemic to increase ventilation and improve indoor air quality (IAQ). The team was able to quickly respond and adjust ventilation schedules and identify schools whose systems could not keep up with heating alongside increased ventilation. The understanding of district buildings gained from this work has prepared the district to transition from trying to comply with Seattle's Building Tune Up Ordinance to being prepared for Seattle's newer [Building Emissions Performance Standard](#).

### Project Outcomes & Lessons Learned

The recommissioning team measures success in several ways, including energy cost savings, reduced energy consumption, IAQ improvements, reduced GHG emissions, and correcting deferred maintenance. Overall, the district's site Energy Use Intensity (EUI) decreased by an average of 2.2 KBTU/ft<sup>2</sup>-yr by repairing existing systems and increasing operational efficiency. Because of the recommissioning team's in-depth accounting and knowledge of the school district's buildings operations, they can expertly identify and fix HVAC component issues, optimize start-stop times, demand load shedding, and monitor for inefficiency over time.

The primary lesson learned through this work is the importance of preventative maintenance for HVAC equipment. The recommissioning team will remain in place because of their success in reducing reactionary maintenance and approach to preventative maintenance. The team learned that their RCx process equally suits buildings of all ages and will support their compliance with new building performance standards.

### PROJECT HIGHLIGHTS

The school district's site EUI improved by an average of 2.2 KBTU/ft<sup>2</sup>-yr simply by repairing existing systems and increasing operational efficiency.

- Evolving ventilation recommendations due to COVID were quickly addressed.
- Maintenance team supported by iterative tune-up process and monitoring for efficiency.
- Funding was secured and data was shared internally to improve outcomes.
- Recommissioning team will stay in place following implementation of a new Building Emissions Performance Standard.

### Project Details

**Location:** Seattle, WA

**Number of Students:**  
55,271

**# Schools in District:** 108

**Locale:** Large city

**Percent Free and Reduced  
Price Meal:** 31%

**Percent Title 1 schools:**  
28%

**Project Cost:** \$424,000/yr  
(levy-funded salaries)

**Project Dates:** 2016 -  
Current

#### Key Project Features:

- Compliance with building emissions and performance standards
- In-house staff (FTE) creation
- Global programmable thermostats for portable classrooms
- Identification and tracking of repairs and work orders
- Achievement of ASHRAE post-COVID ventilation recommendations
- Public-facing energy use and carbon emissions dashboard