



How energy intensive is your school district?

Compare with others in British Columbia

8TH ANNUAL PUMA **BENCHMARKING SUMMARY**

For BC School Districts: 2020 Calendar Year

Scope

The sites included in the benchmarks are from the following BC School Districts that subscribed to monthly PUMA utility monitoring software & services during the calendar year 2020.

COASTAL



INTERIOR & NORTH



About PUMA

PUMA comprises a combination of software and services that track over 23,000 electrical, natural gas, water, and other fuel accounts for government, commercial, and institutional customers. Since launching online in 2009, more and more organizations have enlisted PUMA to help track and analyze building energy use.

PUMA is currently used by over 20 Energy Managers, and more than 50 organizations across Canada. Our utility tracking software and services save time and money for owners of multiple properties by turning data into actionable information.

About this Report

Each year the PUMA team puts together a benchmarking report for school districts, advanced education and municipalities.

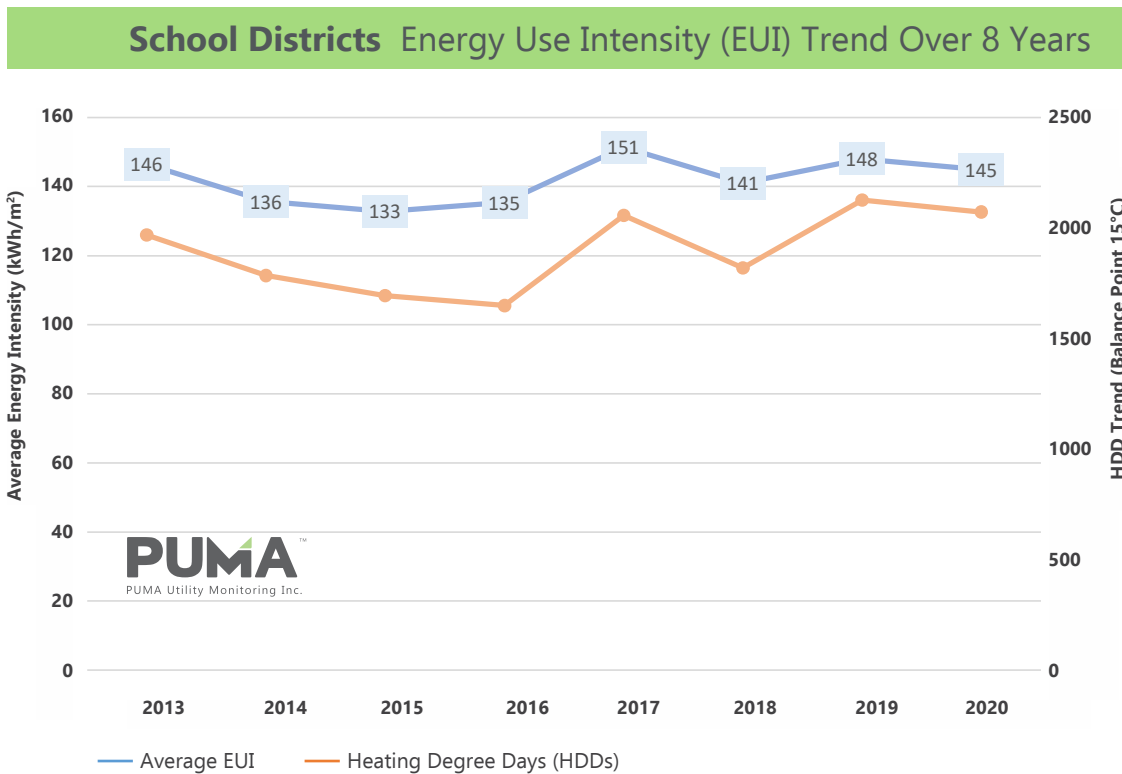
Based on compiled data from PUMA, this report enables the comparison of similar sites across each sector.

www.pumautilitymonitoring.ca

COVID-19 and 2020 Benchmarks

No benchmarking report for 2020 would be complete without addressing the serious changes to energy use in buildings because of changes in our collective behaviour during the COVID-19 pandemic. We have been quantifying these changes as they unfolded to help our clients understand both increases and decreases in energy use. We presented to a Canadian audience in April on how our techniques can reveal the scale of changes, which you can view online at this link: https://www.pumautilitymonitoring.ca/news-2021/may_

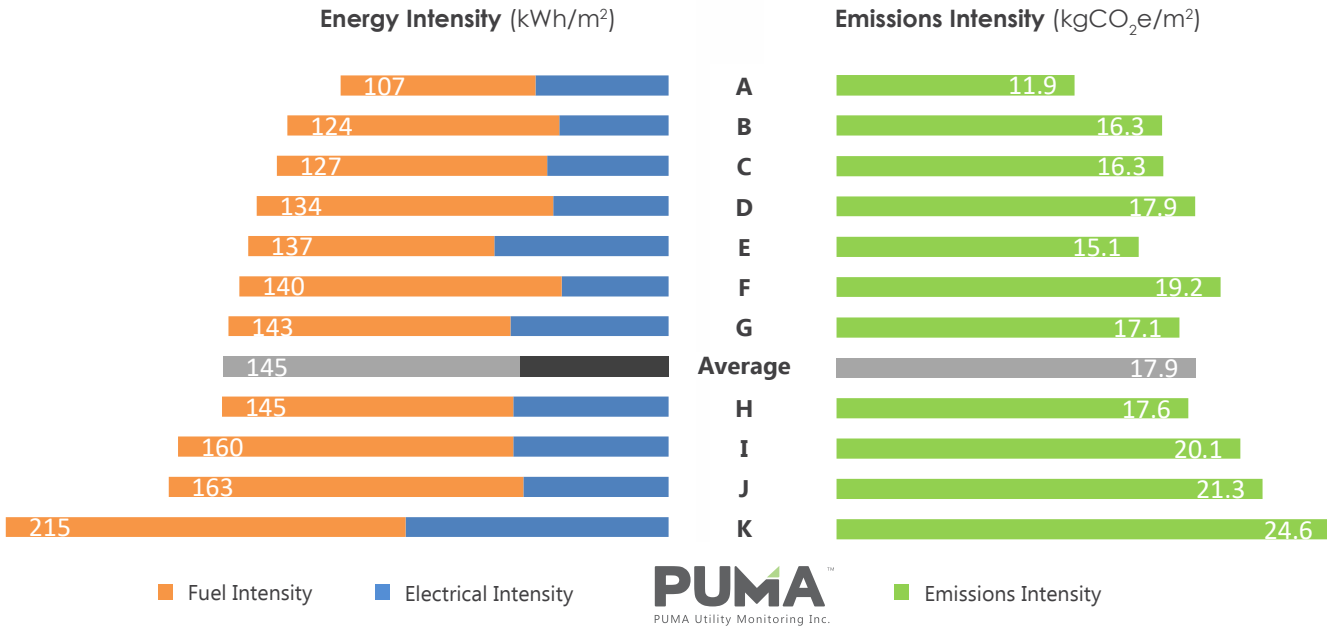
Since **benchmarking compares buildings during the same time period**, and the changes in behaviour largely took effect at the same time across the sample area – British Columbia – **the comparison between how buildings performed remains valid**. Comparisons with prior years are more problematic due to the [variability of the weather](#). However, with the big changes we have all experienced in 2020, the history of average performance provides some important context and is shown below for the sector:



How **energy intensive** is your school district?

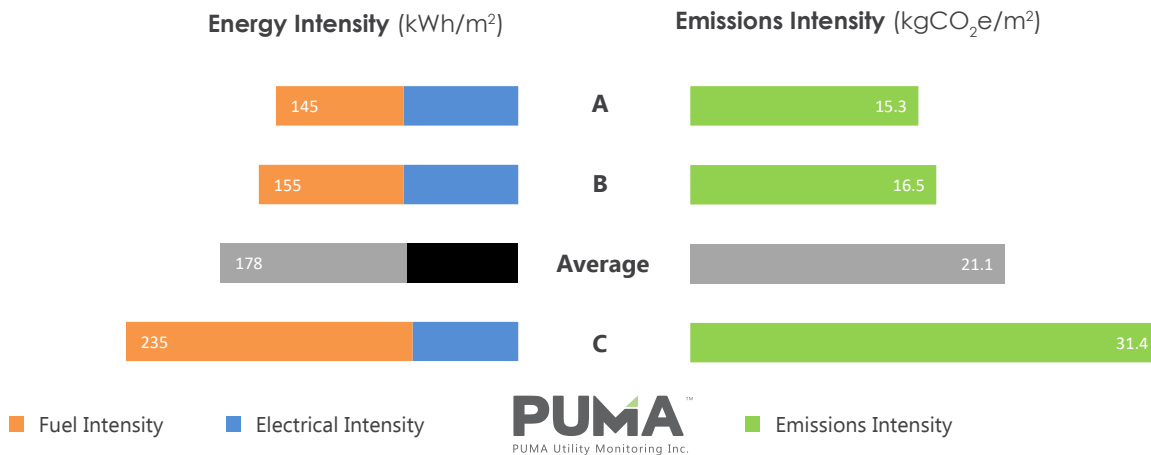
Coastal BC School Districts

Calendar Year 2020 | 11 School Districts



Interior & Northern BC School Districts

Calendar Year 2020 | 3 School Districts



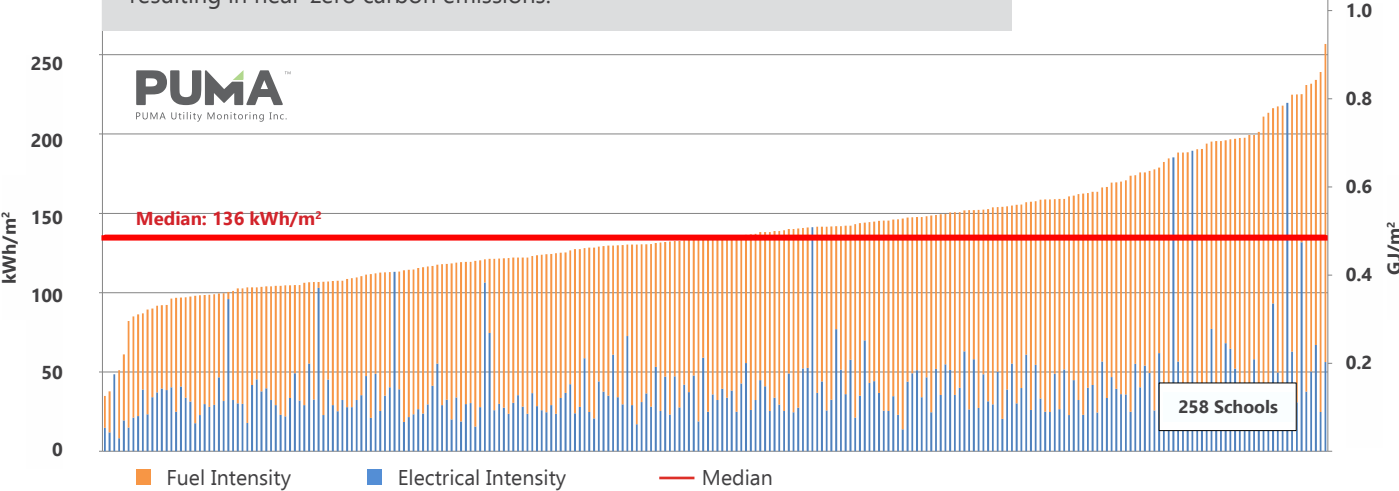
Districts are grouped into similar climatic zones. Energy Use Intensity (EUI) allows sites of different sizes to be compared.

Are your **elementary schools** better or worse compared to other schools in BC?

Coastal BC Elementary Schools EUI Calendar Year 2020

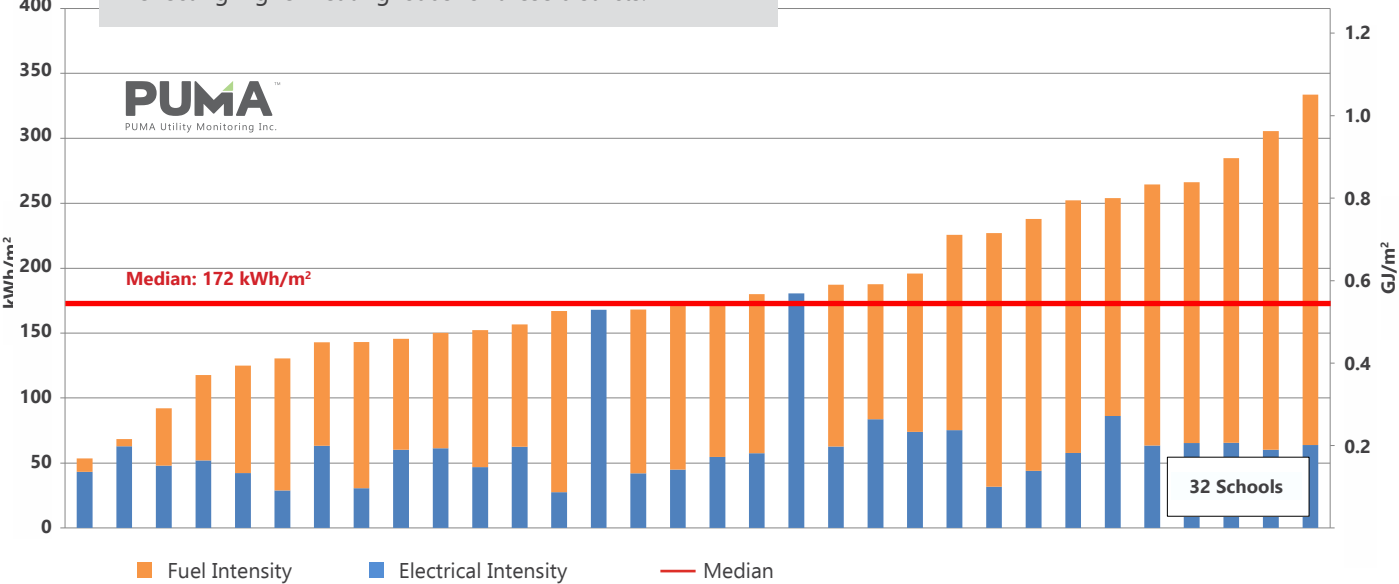
Energy Consumption for the 10 best performing schools were less than a third that of the 10 worst performing schools (66 kWh/m² vs 230 kWh/m²).

Notice that the lines for about 10 schools are all or nearly-all electrical intensity, resulting in near-zero carbon emissions.



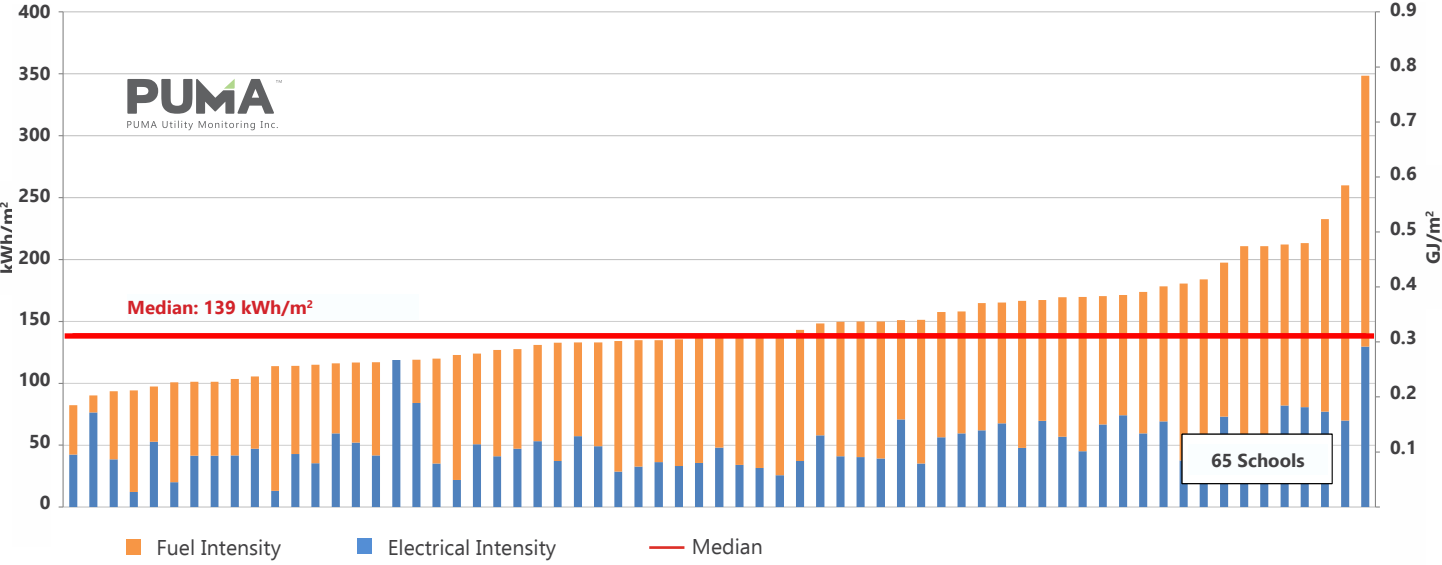
Interior & Northern BC Elementary Schools EUI Calendar Year 2020

Median Energy use is 30% higher on this group of schools, reflecting higher heating loads for these districts.

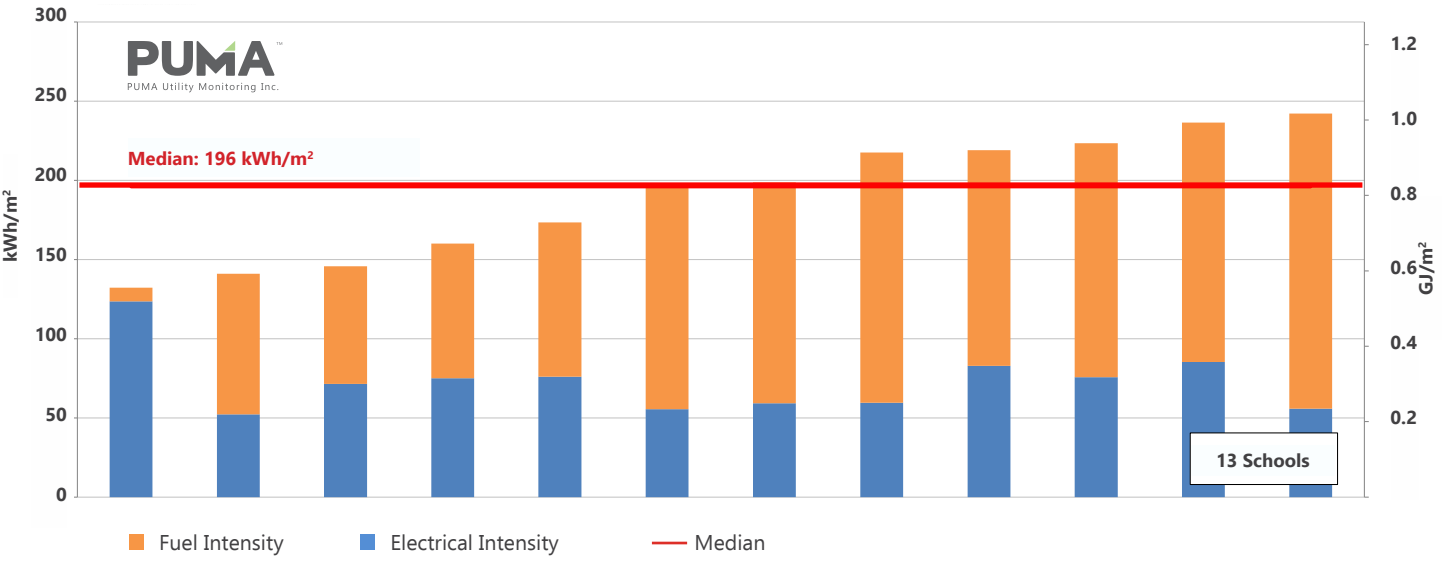


Are your **secondary schools** better or worse compared to other schools in BC?

Coastal Secondary Schools EUI Calendar Year 2020



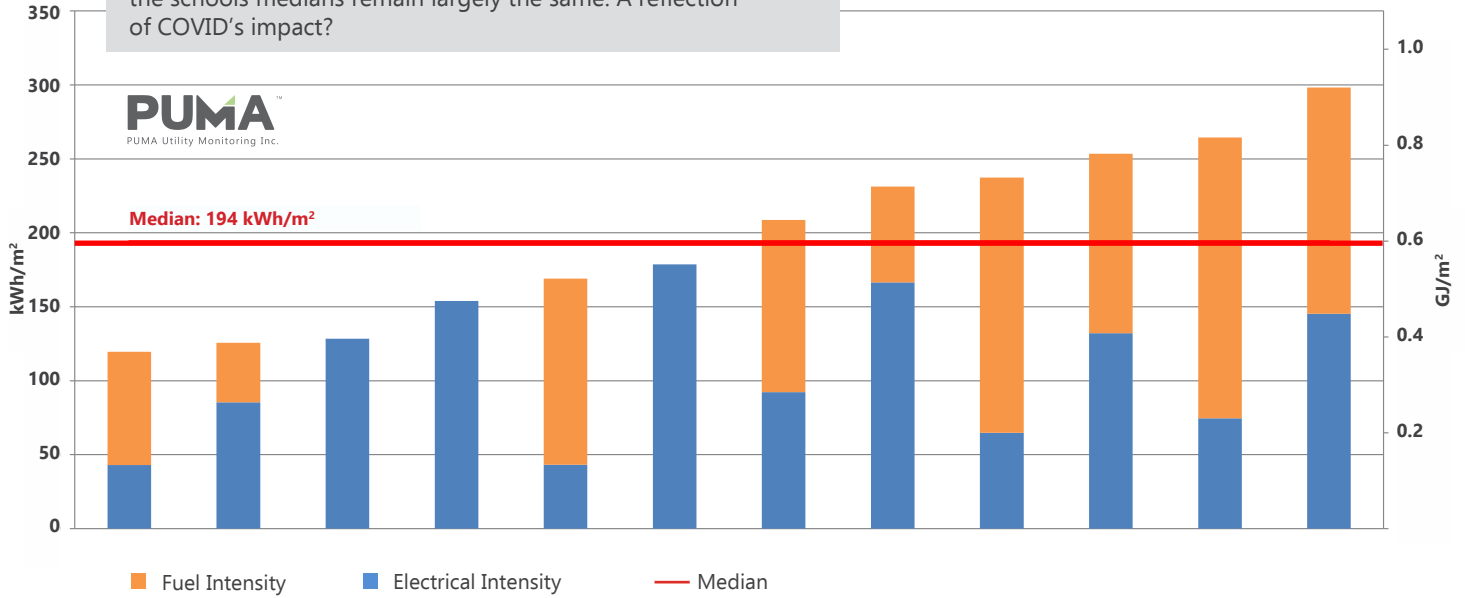
Interior BC Secondary Schools EUI Calendar Year 2020



Are your **board offices** better or worse compared to others in BC?

Coastal Board Offices EUI Calendar Year 2020

Board offices median is 20% less than previous year while the schools medians remain largely the same. A reflection of COVID's impact?



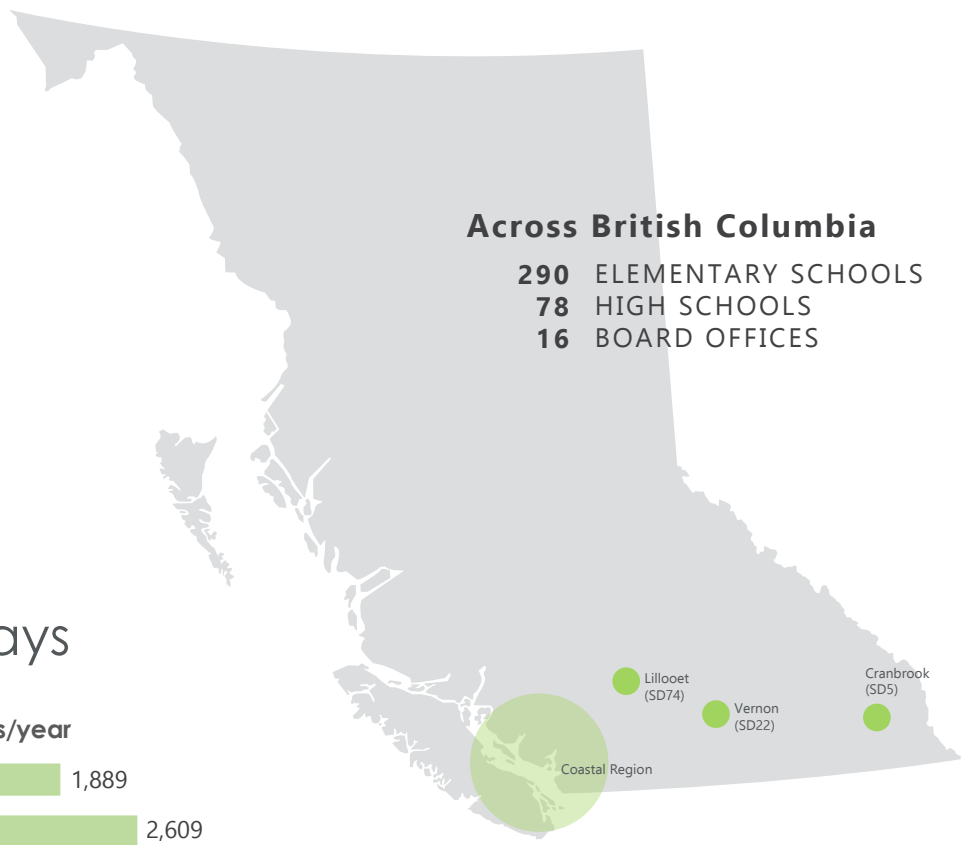
Summary

COASTAL

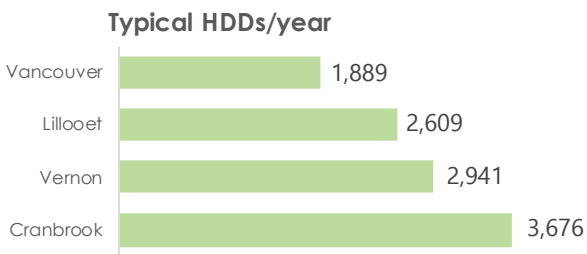
School District Building Type	Median Energy Use per m ² (EUI)	Number in sample
Elementary	133 kWh/m²	258 buildings
Secondary	139 kWh/m²	65 buildings
Board Offices	194 kWh/m²	12 buildings
Overall District Average	145 kWh/m²	11 districts

INTERIOR & NORTH

School District Building Type	Median Energy Use per m ² (EUI)	Number in sample
Elementary	172 kWh/m²	32 buildings
Secondary	196 kWh/m²	12 buildings
Overall District Average	178 kWh/m²	3 districts



Heating Degree Days



PUMATM
 PUMA Utility Monitoring Inc.

PUMA is an affordable and effective way to compare the performance of all the buildings in your portfolio, including the ability to normalize for weather.

www.pmautilitymonitoring.ca

Contact us to schedule a free demo:

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