

100% CLEAN ENERGY COMMITMENT

**BOARD OF EDUCATION REGION 18
SUSTAINABILITY COMMITTEE PROPOSAL**

JUNE 3, 2020



**A SUSTAINABLE FUTURE IS ELECTRIC...
POWERED BY CLEAN ENERGY**

SUSTAINABILITY COMMITMENT MOMENTUM

- ▶ **Global** - Intergovernmental Panel on Climate Change (IPCC) pathway to net zero emissions
- ▶ **National** - Blue Collar to Green Collar Jobs Development Act of 2019 (H.R.1315), Renewable Electricity Standard Act (S.1974), Coastal Communities Adaptation Act (H.R.1317), National Infrastructure Development Bank Act of 2019 (H.R.658)
- ▶ **Regional** - Los Angeles Unified School District (SD), MN Independent SD 197, Mounds View SD (MN), Red Wing Public Schools (MN), Multnomah SD (OR), San Francisco Unified SD, Santa Barbara SD, Madison Metropolitan SD (WI), Broadalbin-Perth Central SD (NY).....
- ▶ **Local**- "Sustainable CT", Mansfield Elementary School, West Hartford Charter Oak Middle School

**REGION 18 WILL BE THE FIRST SCHOOL DISTRICT
IN CT TO COMMIT TO 100% CLEAN ENERGY**

A COMMITMENT TO A SUSTAINABLE FUTURE

- ▶ Financial Benefits - Energy efficiency saves money, >25%+ cost reduction possible
- ▶ Improve students' health and academic performance
- ▶ Expand educational opportunities
- ▶ Support Global, National and State efforts
- ▶ Build on Region18 success to date



WHY A RESOLUTION?

- ▶ The goal of 100% allows us to fully plan for change rather than piecemeal change - holistic overview
- ▶ Establishes a time-bound goal in line with peer programs, State and National goals
- ▶ Students, teachers are inspired, motivated - as facilities, academics and workforce move towards new energy paradigm
- ▶ Opportunity to capitalize on solidarity lesson from coronavirus
- ▶ Resolution approval will provide input for BoE strategic planning update
- ▶ Leadership, collaboration, commitment for the shoreline schools, our vendors, our community

WHERE ARE WE NOW ?

- ▶ Upgrading HVAC with air source heat pumps that run on electric. MS, CS, Lyme, MC are included in 5 year capital plan
- ▶ ~29% cost reduction achieved with improvements in lighting, energy efficiency with mechanical controls and energy offsets
- ▶ Offset electricity with 27% solar energy



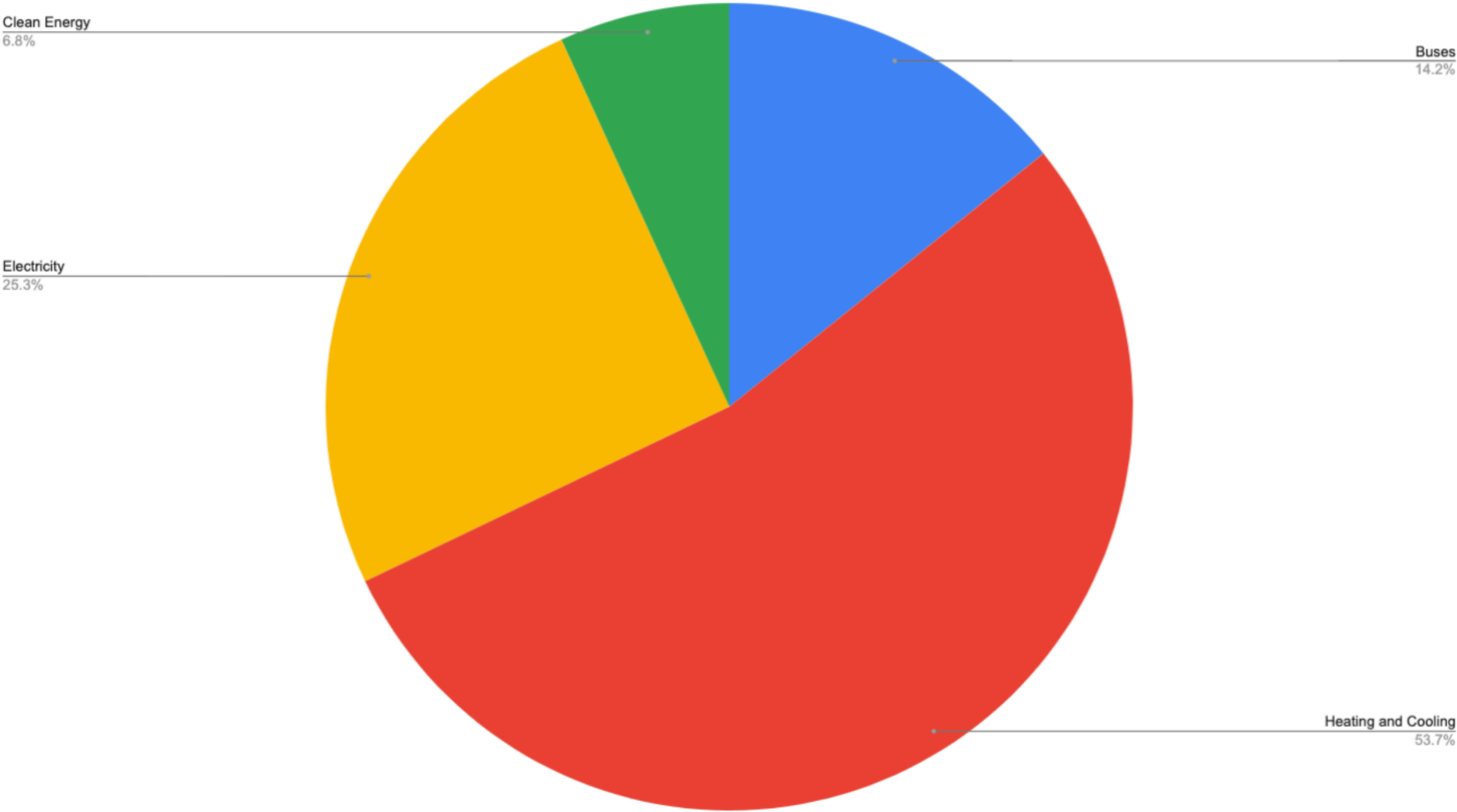
A high-angle, black and white photograph of a massive, curved concrete structure, likely a dam or a large bridge. The structure's surface is composed of large, rectangular concrete panels. A narrow walkway with a metal railing runs along the top edge of the curve. A small figure of a person stands on this walkway, providing a sense of scale to the enormous structure. The sky is a uniform, dark grey.

EMISSIONS

**ARE CREATED FROM BURNING FOSSIL FUELS
FOR ENERGY**

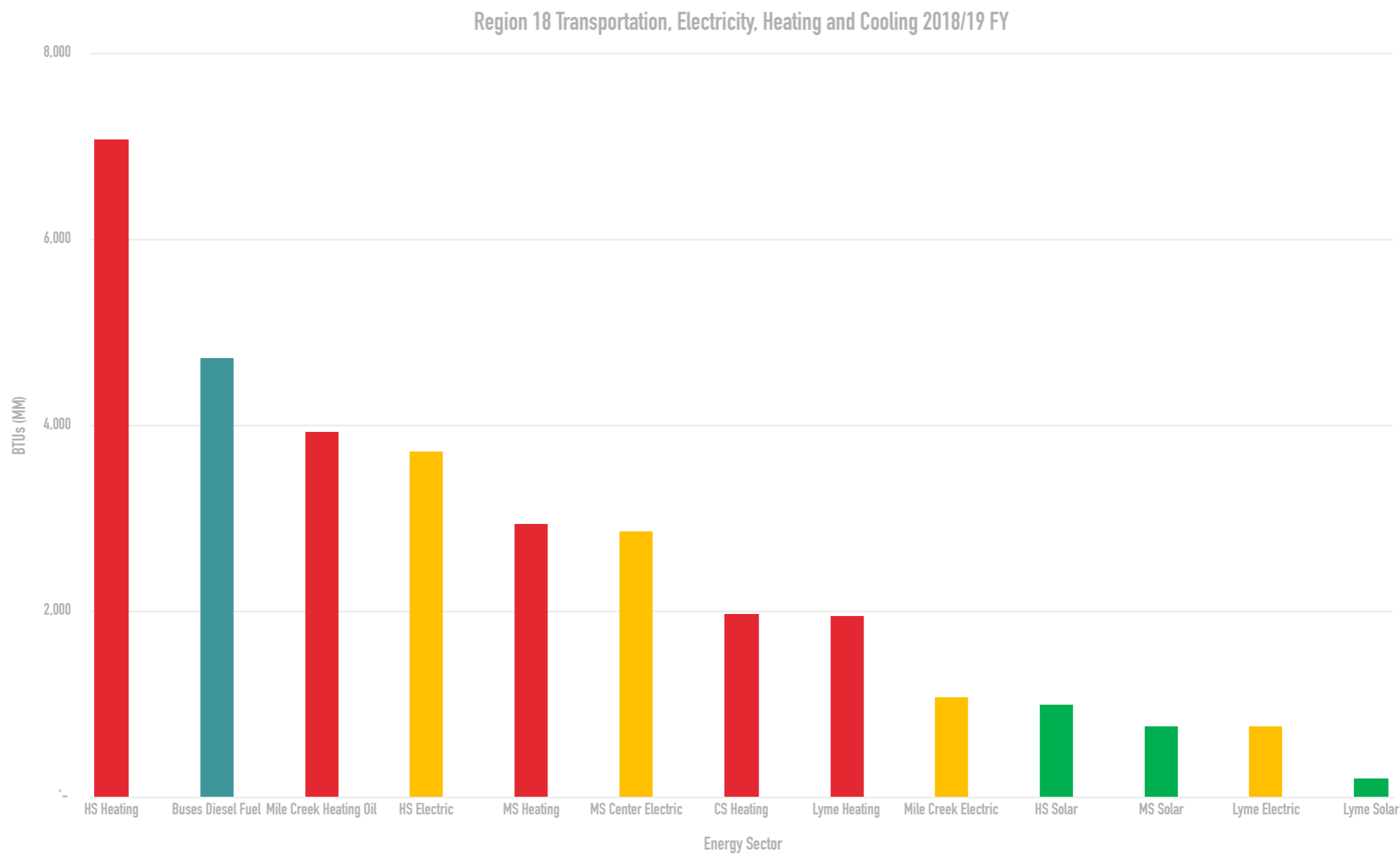
REGION 18 CURRENT ENERGY USAGE

Region 18 Energy Usage

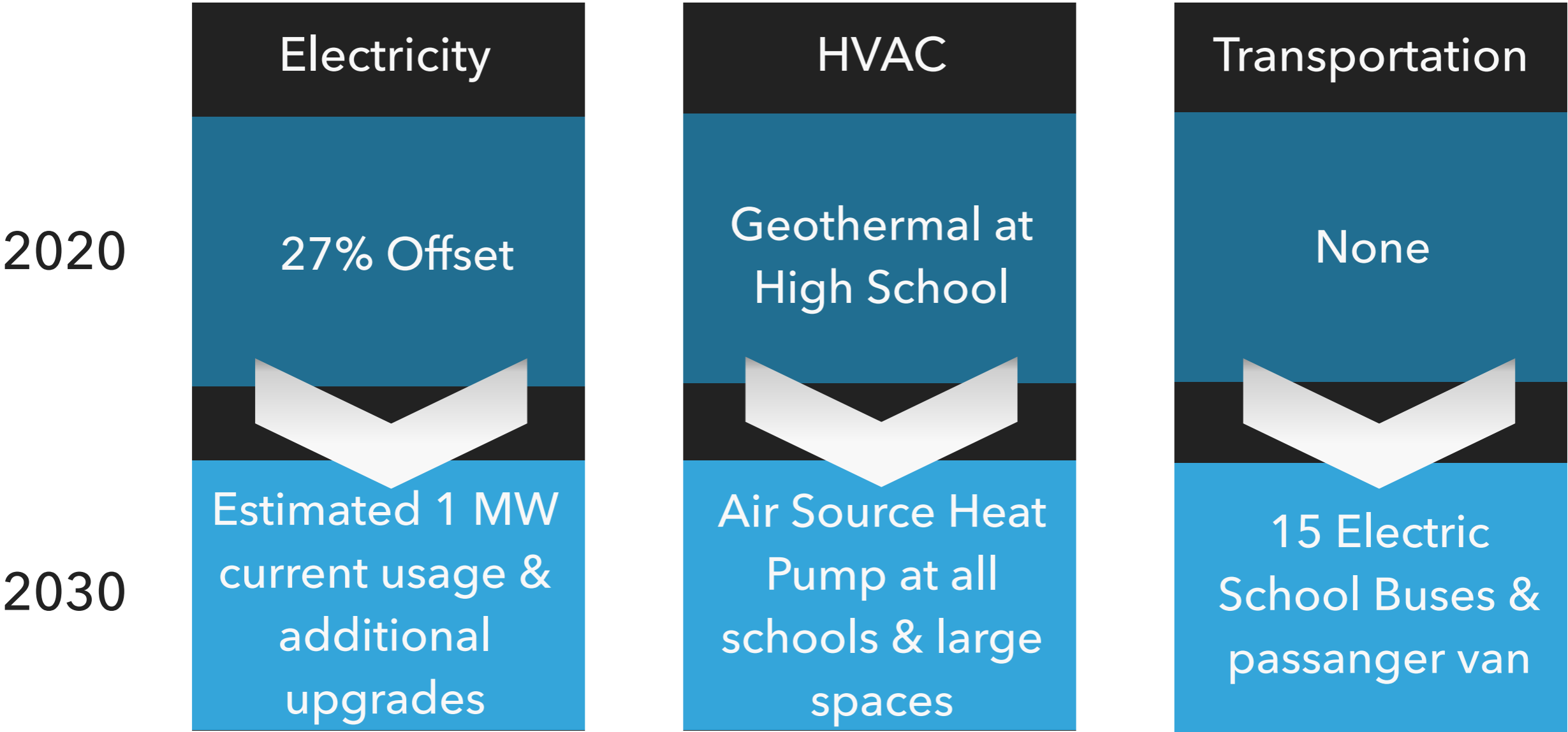


93% OF REGION 18 ENERGY COMES FROM BURNING FOSSIL FUELS

ENERGY SECTOR BREAKDOWN



100% CLEAN ENERGY RESOLUTION



SOME POTENTIAL OPTIONS TO 100% CLEAN ELECTRICITY

- ▶ Onsite solar - Power Purchase Agreement (PPA) - no capital cost, limited space to offset complete usage
- ▶ Build solar farm Old Lyme Landfill with Virtual Net Metering - PPA
- ▶ Shared Clean Energy Facility - bid opened 4/2020 - pay per kWh some companies guaranteed 10% savings
- ▶ Energy Storage
- ▶ Region 18 Electric Usage 3,346,022 kWh 2009-10 : 2,718,867 kWh 2018-19
- ▶ Potential Pathway: 1 MW offset 2025 by 2030 offset remaining usage from additional upgrades

UPGRADE ALL HVAC SYSTEMS – NO MORE HEATING OIL

- ▶ Geothermal or Air Source Heat Pumps
- ▶ Energy source is Electricity
- ▶ MS, CS, Mile Creek, Lyme School already in Capital Plan
- ▶ Engineering study budgeted for 2021/22
- ▶ Include large spaces such as gym, auditoriums, open area in HS
- ▶ Any replacements going forward are electric
- ▶ Heat pumps offer Disease blocking designs
- ▶ Potential Pathway: 2025 continue with Budget plans MS, CS, Lyme, Mile Creek, 2025-2030 add large spaces and High School

ELECTRIC VANS & SCHOOL BUSES

- ▶ Opportunity to apply for grants as sole entity or collaborative with Clean Cities Coalition that includes 23 other towns in CT - 3 use M&J
- ▶ Grant pays for cost of regular school bus to full cost of electric school bus
- ▶ DEEP grant opens in June, additional funding from CT Green Bank, CT Diesel & DERA
- ▶ Procurement through M&J on a plan for one or two electric school buses
- ▶ Collaborate with Town of Old Lyme
- ▶ Plan new technology opportunities at Bus Depot for charging infrastructure, solar offset, vehicle to grid, battery storage, load management
- ▶ Potential Pathway: Add 1 bus/year 2020-2025 & 2025-2030 2 Buses/year

BOARD OF EDUCATION RESOLUTION

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DISCUSSION AND MOTION

BOARD OF EDUCATION Region 18 Lyme Old Lyme, CT

RESOLUTION

Transitioning Lyme - Old Lyme School District to 100% Clean, Renewable Energy Resulting in Net-Zero Emissions.

WHEREAS, The Intergovernmental Panel on Climate Change (IPCC Report) of 2018, the Fourth National Climate Assessment (NCA4), climate scientists from around the world, have all declared a climate crisis requiring a significant reduction of greenhouse gas emissions (GHG) from the burning of fossil fuels by 2030.

WHEREAS a clean energy school district supports Governor Lamont's commitment to 100% renewable energy by 2040 and 45% by 2030 for energy independence, fiscal responsibility, and community health, our air, water, wetlands and coastlines.

WHEREAS, schools, school districts, and cities around the country are making commitments to run on 100% clean energy to improve public health and to help tackle climate change.

WHEREAS, Region 18 is dedicated to supporting programs and strategies to make schools climate- safe, energy-efficient living laboratories teaching children to understand STEM concepts through clean energy applications.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Education of Region 18 hereby establishes the goal of achieving 100% clean energy in the form of wind or solar, and energy efficiency measures within the all energy sectors including electricity, heating, and transportation phasing out all fossil fuels onsite by 2030.

In planning and implementation of our 100% clean energy commitment we shall include effective environmental and sustainability education. These measures will enhance equity in our school district and provide student learning opportunities in STEM and sustainability.

Be it further resolved that the Board of Education calls on city, state, and federal officials and agencies to take swift effective action on climate change to protect current and future students.

Introduced on June 3, 2020 by: Sustainable Committee Advisory Board

Adopted and approved by the Board of Education of the Region 18 at a regular meeting held on [date]

REFERENCES

- ▶ 2020 EV Roadmap for CT [http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/f7ed4932eec438d0852585520001c81b/\\$FILE/EV%20Roadmap%20for%20Connecticut.pdf](http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/f7ed4932eec438d0852585520001c81b/$FILE/EV%20Roadmap%20for%20Connecticut.pdf)
- ▶ Connecticut Physical Climate Science Assessment Report UCONN Atmospheric Science Group Aug 2019
- ▶ Carbon emissions are falling sharply due to Coronavirus. But not for long. <https://www.nationalgeographic.com/science/2020/04/coronavirus-causing-carbon-emissions-to-fall-but-not-for-long/#close>
- ▶ BOE Presentation March 2020 (John Rhodes)
- ▶ Energy Data for Region 18 from 2018/19 (John Rhodes)
- ▶ 100% Clean and Renewable Wind, Water, and Sunlight all-Sector Energy Roadmap for 139 Countries of the World <https://web.stanford.edu/group/efmh/jacobson/Articles/I/CountriesWWS.pdf> 2017