

ARTICLE 14. Proposed Amendment

Mr. Hubbard-Nelson moves: That the motion be amended by adding at the end: “and further, that the feasibility and resulting design specification should be consistent with Concord’s sustainability principles and with Concord's goals for reducing greenhouse gas emissions, requiring both an all-electric design and Zero Net Energy-ready building and site capabilities; and while the Town urges the School Building Committee to conduct its feasibility study with all-electric/ZNE-ready as the preferred design, other alternatives may be considered; and further that the third-party hired to perform this feasibility study and school design should have demonstrated competencies and experience in all-electric/ZNE building design.”

Sustainability Principles & Goals

- Sustainability Principles (Select Board 2011):
 - *‘Reduce dependence on fossil fuels...’*
 - *‘Meet Human Needs Fairly and Efficiently’*
- Climate Mitigation Goals (Town Meeting 2017)
 - ‘By 2050 – 80% reduction in town-wide greenhouse gas emissions from 2008’

Underlying Concerns

- The new middle school will last for decades
- IPCC December 2018 report warns of ‘dire consequences’ if GHG emissions not reduced dramatically by 2030
- Concord is and should continue to be a leader, providing an example for other communities

Concord's Climate Mitigation Strategy

Three Prong Approach

- Transition Concord's electricity supply to carbon-free sources (currently 54%);
- Transition from fossil-fuel use to electricity for vehicles and heating;
- Invest in efficiency & conservation measures.

Implications for Design of School

- All-electric highly efficient heating & cooling.
Zero fossil fuels on site.
 - Health, comfort and safety all important
- Zero Net Energy (ZNE)
 - School building & site produce enough solar energy to offset 100% of school's electricity consumption on annual basis

What We Know

- To achieve Town's goals, we must proceed with all-electric/ZNE for our buildings *now*
- All-electric/ZNE schools are feasible, and there is local expertise to make use of
 - Lincoln's town-approved and funded design
 - Two schools in Lexington
- Heat pump technology is widespread & proven
- Lifecycle costs of two alternatives are similar
 - But, a fossil school is obsolete as soon as it's built

Preferred Design for School

- All-electric
 - Air-source and/or ground-source heat pumps
 - High efficiency design reduces energy cost
 - Long term benefit for Concord Municipal Light Plant
- ZNE – Solar for 100% of school's consumption
 - Infrastructure on day 1 to allow ZNE (ZNE-ready)
 - Rooftop and/or parking lot solar arrays generate the power

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