

DOCKETED

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Zero Carbon Public School Districts

Additional submitted attachment is included below.



**ELECTRIC PROGRAM INVESTMENT CHARGE 2021-2025 (EPIC 4)
RESEARCH CONCEPT PROPOSAL FORM**

The CEC is currently soliciting research concept ideas and other stakeholder input for the EPIC 4 Investment Plan. For those who would like to submit an idea for consideration, we ask that you complete this form and submit it to the CEC by 5:00 p.m. on **July 2, 2021**.

To submit the form, please visit the e-commenting [link](https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-EPIC-01), <https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-EPIC-01>, enter your contact information, and then use the “choose file” button at the bottom of the page to upload and submit the completed form. Thank you for your input.

1. Please provide the name, email, and phone number of the best person to contact should the CEC have additional questions regarding the research concept:

Alice Sung, asung1@gmail.com, 510-658-8060

2. Please provide the name of the contact person’s organization or affiliation:

Greenbank Associates

3. Please provide a brief description of the proposed concept you would like the CEC to consider as part of the EPIC 4 Investment Plan. What is the purpose of the concept, and what would it seek to do?

I’d like to propose the CEC take a statewide programmatic approach to statewide decarbonization of the public K-12 school sector by 2030, through development of a strategic plan and Program Design, by engaging (and contracting representation from) all stakeholders, (not through 1 or 2 already established businesses, This could include possibly turnkey or partial direct install through multiple pre-qualified professional design-build teams, for identified deployment of best combinations of packages of deep energy retrofits to zero carbon (with battery and storage) for identified prototypes across all climates zones and existing school building types. Further, the concept should include benchmark and identification of all public K-12 schools within all 1000+ districts in priority order of need for a combination OF IMPACTED (most Title 1 students/within DACS/LI) , retrofit-decarbonization ready, and assessed representative proof-of-concept types. The purpose is to deploy best decarbonization strategies at pace and scale across the public sector in the state, beginning with those public school sites most impacted, to meet state energy, climate, AND equity (by integrating a training

and workforce development program) goals, leveraging public monies for public good. It would seek to reduce real-world carbon emissions across the K-12 sector, shifting operating expenses into educational programs, where it is needed first.

4. In accordance with Senate Bill 96, please describe how the proposed concept will **"lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory energy goals."** For example, what technical and/or market barriers or customer pain points would the proposed concept address that would lead to increased adoption of clean energy technologies? Where possible, please provide specific cost and performance targets that need to be met for increased industry and consumer acceptance. For scientific analysis and tools, what data and information gaps would the proposed concept help fill, what specific stakeholders will use the results, and for what purpose(s)?

The technological advancement might not be limited to R & D of any new proprietary technology per se, but in the beta testing of best combination of interoperability of best in class decarbonization (i.e. all-electric heat pump equipment) strategies and Grid optimal controls, V2B/V2G and electric school bus deployment across districts to also develop microgrids and resilience hubs. The market barriers and customer pain points addressed would be in District staff capacity, knowledge/training, and overcoming risk, scale, perceived funding barriers by providing a state defined program that provided technical assistance etc. One key to designing an equitable program would also be in examining needs, prioritizing those most impacted, and spreading the dollar/investments in communities and workforce/professionals (BIPOC, small women-owned, MBE/WBE and local teams for example,) as well as allowing flexibility in leadership among local small businesses. Data gaps are access to each facilities' carbon footprint, and other stakeholder needs. This is where state CEC /CPUC might assist in benchmarking and analysis partnering with the CDE, DSA, and CARB to prioritize sites. The state and all districts could have access to their own data and transparently see prioritization orders, with access to reliable technical assistance and advisement, certainty in decarbonization, with bulk purchase power from the state leveraging all other funding sources.

5. Please describe the anticipated outcomes if this research concept is successful, either fully or partially. For example, to what extent would the research reduce technology costs and/or increase performance to improve the overall value proposition of the technology? What is the potential of the technology at scale?

Anticipated short term outcomes would be the development of policy and program design, identification/creation of mechanisms for training, implementation, and

funding, as well as proof-of-concept deployment for each prototype retrofit-decarbonization in every climate zone, and a roadmap for bringing all 10,000+ public schools to zero carbon by 2030. The potential of this program/technologies to bring all districts to zero carbon, could be defined once benchmarking of all districts is completed. The scale, at an entire sector of public buildings, is significant.

6. Describe what quantitative or qualitative metrics or indicators would be used to evaluate the impacts of the proposed research concept.

Energy, GHG emissions, and utility expenses avoided are some of the quantitative metrics. Qualitative benefits in better health, increased education program dollars, environmental education and community resilience or in achieving equity would be of interest to also attempt to identify.

7. Please provide references to any information provided in the form that support the research concept's merits. This can include references to cost targets, technical potential, market barriers, etc.

New Buildings Institute and Opinion Dynamics has authored research papers on the barriers to ZNE readiness of K-14 decision-makers, as well as governmental decision-makers barriers in the last 5 years. New CARB studies not yet released are quantifying the Zero Carbon potential of various building types and includes schools.