DOCKETED	
Docket Number:	22-ERDD-02
Project Title:	Climate Innovation Program
TN #:	252952
Document Title:	Answers to CEC's 5 questions for Climate Innovation Program (CIP) stakeholders
Description:	N/A
Filer:	System
Organization:	LoopWorks
Submitter Role:	Other Interested Person
Submission Date:	11/5/2023 11:55:53 AM
Docketed Date:	11/5/2023

Comment Received From: LoopWorks
Submitted On: 11/5/2023
Docket Number: 22-ERDD-02

Answers to CECâ€™s 5 questions for Climate Innovation Program (CIP) stakeholders

Additional submitted attachment is included below.

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November 5, 2023

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Subject: Answers to CEC's 5 questions for Climate Innovation Program (CIP) stakeholders

1. Which of the presented objectives or technology families should the CEC prioritize?
Prioritize transportation because it is the biggest emitter of CO_2 (37%) in California, especially in cities like Milpitas where on-road transportation accounts for 59%. With electrification of road vehicles, California is making great strides in reducing those emissions. However, it is a safe bet that other sectors may not be as easy to "fix". Thus, CEC must also be looking for opportunities to exceed certain targets to make up for other lagging sectors. Personal Rapid Transit (PRT) could be the way to exceed targets in the transportation sector by providing 24/7 on-demand, non-stop service from a neighborhood station to any other station in the service area. Learn more about PRT and the Milpitas demonstration project at MilpitasPRT.com

2. What are appropriate grant sizes and technology stages the CEC should consider for solicitations?
Grant sizes should depend upon the project and its reward-to-risk ratio, using a "guardrail" maximum of 20%-25% of total annual budget invested in a single project (thus avoiding a possible outcry that sinks the entire program). As with grant size, technology stage should be flexible enough to cover a wide range while being guided by a reward-to-risk rating system.

The reward-to-risk ratio is a blend of opportunities, risks, impact, and time.

- The opportunities of a project would include CO_2 reductions, synergies with other technologies, and the possibility of profitable public transit. For example, the Milpitas PRT demonstration project promises both CO_2 reductions and dramatically increased transit ridership; later expansion of the project to serve 10 square-miles is expected to cross the threshold into being profitable.
- Risks include initial funding outlay, opportunity costs, and likelihood of failure. The Milpitas PRT project can get started with a $6M investment and a offers a high probability of success by using off-the-shelf technology.
- Impact indicates how big a reduction in CO_2 emissions is possible/likely if the technology is successful. Gigaton reductions in CO_2 emissions from worldwide use is possible with the Personal Rapid Transit (PRT) technology being demonstrated in the Milpitas dual-loop Automated Transit Network (ATN).
- Time is becoming our most critical factor due to our rapidly-worsening Climate Crisis. Projects that take a long time to come to fruition (i.e. making significant CO_2 reductions) reduce the reward-to-risk ratio compared to those with shorter deployment schedules. The PRT technology proposed for use by LoopWorks was developed by numerous engineers over several years. Now, it is ready for testing in a demonstration project that, if successful, will kick-start a $1T industry designed to get people out of fossil-fueled cars and into electric cabs.

3. Please indicate any objectives or technology families not presented that the CEC should consider.
Automated Transit Networks (ATN), which mesh with the CIP's goal to reduce transportation sector emissions, should be considered. A dozen studies predict dramatic increases (doubling, tripling, and more) in public transit ridership when PRT is added to the existing transit mix. (Transit agencies have struggled unsuccessfully for years to increase ridership.) That potential combined with the scalability and flexibility of the technology promise a high reward-to-risk ratio.

4. Are there existing or upcoming federal opportunities that the CEC should consider leveraging?
Once this demonstration project is operational, its open-source architecture can be promptly duplicated throughout the state using recently-created federal infrastructure funding programs. A big win by Democratics in 2024 will likely lead to even bigger federal funding opportunities.

5. How can the CEC ensure that equity is centered within this program?
Equity can be centered both during the process, and as a result of a project. ATN technology can be adapted to a wide range of topologies and conditions, making it a viable transportation solution for front-line communities. While CEC can institute rules that center equity during the process of project creation and evaluation, success in the Milpitas PRT project will open a panoply of opportunities to deploy a technology that naturally provides transportation equity.

Equity between Climate Solutions
Since the 1980's, neoliberalism has dramatically reduced investment in public resources like transit, electric grids, and forestry. It's time to reverse that decades-long neglect. Our Climate Crisis is providing the impetus to go big with public transit that's appropriate to local conditions.

Since ATN technology has been viable for nearly 50 years, yet apparently no mention of it has been made in any CEC documents, LoopWorks recommends jump-starting the technology. A $6M grant to perform final design and engineering for the Milpitas PRT project is warranted – especially in light of our rapidly-worsening Climate Crisis.

Sincerely,

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