



## NEW APPROACHES TO FINANCING THE PUBLICLY AVAILABLE ELECTRIC VEHICLE CHARGING NETWORK (NOTES)

*The fourth meeting of the Advisory Panel and C2ES*

November 13, 2014  
10:00 a.m. – 3:00 p.m. PT

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10:00 a.m.    **Welcome and Introductions**

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10:15 a.m.    **Project Overview and Update**

*Nick Nigro, C2ES*

C2ES will review project progress to date including the results of Task 1 and business model workshop held on October 1.

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- Advisory Panel will be listed in the final report. Panel will not endorse the report. The report is from C2ES.

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10:30 a.m.    **Task 2: Business Model Summaries**

*Matt Frades, C2ES*

*Phillip Quebe, Cadmus Group*

C2ES and Cadmus will present the business model summaries including the charging infrastructure gaps addressed, the business model descriptions, and the financial modeling results including critical success and failure conditions. Feedback on the model scenarios and assumptions will also be solicited to guide discussion for the next agenda session.

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1:00 p.m.    **Task 2: Financial Analysis for Business Models**

*Matt Frades, C2ES*

*Phillip Quebe, Cadmus Group*

C2ES and Cadmus will present a deep dive view of the financial analysis tool, how it is used, the underlying assumptions, the outputs, and how the tool can be used to model many alternative business models and scenarios. Additional modeling results will be presented to motivate and inform discussion based on feedback from the morning session.

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- Additional sources of value

- Value to the electrical grid of managing EV charging; value is in excess of cost.
- Capture societal benefits.
- Resource sharing: fleet can use charging during the night and the public can use it during the day.
- Local electric utilities may not be interested in supporting I-90 charging gap since users may not be their customers (i.e., people passing through).
- Rest stops cannot be commercialized along interstates in Washington.
- Difficult to coordinate partners; use chambers of commerce or business improvement districts.
- Unclear how funds will be managed in all business models.
- Unclear who will manage the charging station – who is the owner operator?
- Consider role for EV service provider (third party operator that doesn't own the station, but helps to operate it).
- Assumptions
  - Prices for DC fast charging (DCFC) equipment declining rapidly. Consider modeling price drop from \$35k to \$25k.
  - Level 2 stations (especially non-networked) could be under \$1,000, not \$2,500.
  - Add a session fee if it lasts longer than 2 hours.
  - Consider investigating a scenario with an increased equity share capitalization, since debt will likely be expensive for these projects.
  - Retailers participating in Business Model 2
    - Lower retail revenue share to 5% (10% is too high for many retailers, like grocery stores). The % will differ depending on the type of business contributing to the funding pool.
    - The cap also may vary – likely different for a grocery store vs. a winery where the new EV tourist may buy a case of wine or two and contribute much more profit than the person buying \$25 worth of groceries at Ocean Shores.
    - Additionality for retailers is a difficult sell. Does providing charging services offer them a competitive advantage?

- See what low-power DCFC looks like.
- Employers may be willing to contribute, but the value of charging to employers is difficult to quantify. Payback may not be the most important metric for employers.
- Deployment efforts may actually focus on specific station “nodes” rather than “routes” because some nodes will be used more (and be more profitable) than others.

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2:15 p.m.

**Task 3 Preview: Identifying the Role of Public and Private Stakeholders**

*Nick Nigro, C2ES*

C2ES will preview recommendations on the role of public and private stakeholders for implementing the business models presented earlier. Participants are encouraged to offer specific feedback on these recommendations, as this will be the last in-person meeting for the Advisory Panel.

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- Private sector partner value
  - Automaker: Nissan offered \$10,000 incentive for DCFC last year, so \$7,000 value in model is close. Important to avoid free rider and get more than one automaker involved. Automaker branding of stations could help provide additional incentive for automaker to invest in the charging station. Those who invest can brand the stations.
  - Electric utility: Value to electric utility is reasonable. Margin might be too high. Cost of capital for Puget Sound Energy is 7.7%. Consider moving subsidy from equipment costs to installation costs. Puget Sound Energy has calculations for value of charging for residential incentive. Some utilities do pay for station installation and issue a small rebate, conditional on the host keeping the station operational for 10 years. Note that utilities aren’t just increasing load with these activities—they may also be reducing supply costs and prices for ratepayers.
  - In the report, need to discuss the opportunity cost for a small business of giving up a parking spot for an EV charging station.
- Public sector interventions
  - Public-private partnership: Would there be a risk/responsibility for the state if it took an equity stake in a project? Could the state fund a third party non-profit to undertake these investments? A public “service agreement,” in the form of a revenue match or other revenue stream, could be a way for the government to share risk and return of charging station investments with a business without a formal “equity” arrangement.
    - In Washington, public funds likely need to be issued to a public entity, as there are constitutional issues regarding gifts of public funds and lending of state credit.

There may be ways that such a program could be structured, but Washington is not as flexible as other states on this.

- The role of government in EV charging deployment may be different depending on the location. State should consider prioritizing underserved areas and/or areas where charging is expected to have low utilization.
- May be entrepreneurial opportunities for local gov'ts investing in EVs – not just subsidizing someone else's network.
- HOV access could help but many of existing lanes in Washington are degraded (too congested) so adding EVs to those lanes could be problematic. And in Georgia, there is some evidence that the HOV incentive has not driven EV sales.
- Building code effects should be referred to as “avoided costs” instead of “subsidies.”
- Congestion Mitigation Air Quality (CMAQ) funds could be used for charging stations. (Note: all U.S. DOT program funds are currently eligible for this activity.)
- Consider dual use opportunities for charging stations for state or municipal fleets.
- ZEV program could help increase charging utilization but it is not politically feasible now. Worth providing some information in this study, but not focusing efforts in this area.
- Low interest loans are politically feasible. Could lend at lower than 5.4% through other public sources. A 1% loan program, similar to the Public Works Trust Account, could be feasible. It is also worth noting that low interest loans alone will likely not be enough to make some projects financially sustainable.
- Model the value of extending the sales tax rebate.
- Actions that increase the sale of EVs would contribute to increased charging station utilization, and therefore improve the business case for the owner/operator.

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2:45 p.m.

**Summary, Discussion and Next Steps**

*Nick Nigro, C2ES*

C2ES will summarize key takeaways from the day including suggested changes to the business model framing financial modeling.

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3:00 p.m.

**Adjourn**

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