

NDC DATA REQUEST
NDC-SDG&E-DR-02
SDG&E SB 350 TRANSPORTATION ELECTRIFICATION PROPOSALS (A.17-01-020)
SDG&E RESPONSE
DATE RECEIVED: May 16, 2017
DATE RESPONDED: June 13, 2017

Please send through email all responses that can be transmitted electronically. If any response or part of a response cannot be sent electronically, please notify Tadashi Gondai (tgondai@naac.org) to make alternative arrangements.

DATA REQUEST

Questions 1-9 pertain to the Medium Duty/Heavy Duty (MD/HD) and Forklift Port Electrification Project (Port project):

1. How many electric MD/HD vehicles or forklifts will each installation support? Installation here refers to a combination of some or all of the following: electric vehicle supply equipment (“EVSE”), an electric circuit, a load research meter and a data logger (SDGE-3 RS-34).

SDG&E Response:

Each of the approximately 30-40 installations may be utilized by one or more electric MD/HD vehicles or forklifts. However, support of an electric vehicle may not necessarily mean an incremental EV. An installation could be a load research meter and data logger in order to collect data for future electrification.

2. Will the Port project provide installations for EVs other than the 17 funded by Grant 1, Grant 2, and Grant 3 (SDGE-3 RS-37)?

SDG&E Response:

Yes. See response to question 1. This project is expected to incentivize the acquisition of more EVs than the grant vehicles.

3. Please provide copies of SDGE Letters of Support and Commitment for Grant 1, Grant 2 and Grant 3.

SDG&E Response:

See attached copies of letters (“Letter of Support – Grant 1.pdf,” “Letter of Support – Grant 2.pdf,” and “Letter of Support – Grant 3.pdf”).

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4. Will any of the money for the procurement of EVs through Grant 1, Grant 2 or Grant 3 come from SDGE? If so, explain the source of funding for the money SDGE will provide (shareholders, ratepayers, etc.).

SDG&E Response:

Yes. SDG&E has agreed to contribute \$200,000 of match funding towards Grant #2 through the South Coast Air Quality Management District (grant applicant). The money will be ratepayer funded.

5. Is any funding for electric vehicle supply equipment (“EVSE”), electric circuits, load research meters, data loggers, or other charging infrastructure provided by Grant 1, Grant2, or Grant 3? If so, explain how much is provided for such equipment.

SDG&E Response:

Yes. The majority of grant funds go towards the electric vehicle itself. The grants provide varying degrees of funding for supporting equipment. None of the grants include electric load research metering.

6. Provide detailed calculations for the estimated GHG reductions for the Port project. Provide a separate breakdown of the estimated GHG reductions by vehicle type/class (for example the reductions for a Class-8 truck vs a reach stacker). Also indicate estimated annual and lifetime GHG reductions.

SDG&E Response:

The E3 PEV Grid Impacts Model used to calculate the GHG (CO₂) emissions is E3’s proprietary model. SDG&E does not have access to E3’s proprietary models and detailed calculations; however, E3 has provided the “Fleet Delivery Emissions Impact Estimation” spreadsheet (See spreadsheet “NDC-DR-01-Q20.xlsx” provided in SDG&E’s responses to NDC-DR-01) to demonstrate the assumptions and calculations used to estimate GHG emission impacts. This spreadsheet presents the emission reduction calculations for the Fleet Delivery priority review project, which correspond to the values in Table 8-1A and Table 8-1B in Chapter 8 of SDG&E’s testimony. Additional methodological information is available in Chapter 8, Appendix A - Technical Appendix For E3 Analysis Documentation, please see section 2.1.2 PEV Charging Optimization and section 3.2 Fuel Usage, and section 3.4 CO₂ Emission and Air Quality Impacts. Annual and total lifetime GHG impacts (avoided Carbon from Fuel and incremental Carbon from Electricity) for each project are available in the work papers (“Priority Projects Results (Final).xlsx”) provided in SDG&E’s responses to NDC-

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DR-01, in worksheet “Additional Information.” Specific vehicle type emission factors are available in Chapter 8, Appendix A - Technical Appendix For E3 Analysis Documentation, Table 9: ICE Emission Factors by Vehicle Type.

7. Provide detailed calculations for the estimated costs of the Port project. Please also provide calculations and itemization for the data in SDGE-3 Appendix Table PE-1. Provide a separate breakdown of the estimated costs by vehicle class/type (for example the costs for a Class-8 truck vs a reach stacker).

SDG&E Response:

See cost estimate spreadsheet “SDGE Cost Estimate.xlsx” provided in SDG&E’s responses to NDC-DR-01. Costs were not estimated separately by vehicle class or type.

8. Describe any collaboration or involvement SDGE had in the development of the Port District’s Climate Action Plan.

SDG&E Response:

SDG&E was not involved in the development of the Port District’s Climate Action Plan.

9. What site selection criteria will be used for the Port project? Also specify any site selection criteria that pertain to DACs.

SDG&E Response:

Several site selection criteria will be applied, such as the presence of a willing site host (who will provide appropriate vehicles and provide easement access), location of sites (with a preference for DAC based sites), level of difficulty (cost) to provide electrical infrastructure, and projected miles driven / potential GHG reductions.

Questions 10-22 pertain to the Fleet Delivery Services (FDS) project:

10. How many electric delivery vehicles does UPS currently have operating in SDGE’s service territory? How many use L2 and how many use DCFC? Please also indicate if any use both, or a different charging connection.

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SDG&E Response:

No UPS electric delivery vehicles are currently operating in SDG&E's service territory.

11. For the electric delivery vehicles UPS currently has operating in SDGE's service territory, please indicate how many are of each truck class. (For example, how many are class 3 or class 8 trucks?)

SDG&E Response:

No UPS electric delivery vehicles are currently operating in SDG&E's service territory.

12. How many electric delivery vehicles does UPS currently have operating in California? How many use L2 and how many use DCFC? Please also indicate if any use both, or a different charging connection.

SDG&E Response:

SDG&E is not privy to this information.

13. For the electric delivery vehicles UPS currently has operating in California, please indicate how many are of each truck class. (For example, how many are class 3 or class 8 trucks?)

SDG&E Response:

This information is not known by SDG&E.

14. For the electric delivery vehicles UPS plans to obtain as part of the FDS project, please indicate how many are of each truck class. (For example, how many are class 3 or class 8 trucks?)

SDG&E Response:

UPS has committed to procuring electric delivery trucks, but has not determined which class of vehicles will be procured.

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15. How many L2 charging ports does UPS currently have operating in SDGE's service territory? How many DCFC charging ports does UPS currently have operating in SDGE's service territory? Who owns and maintains these charging systems?

SDG&E Response:

As stated above, no UPS electric delivery vehicles are currently operating in SDG&E's service territory.

16. Provide charger usage data for UPS charging ports in SDGE's service territory.

SDG&E Response:

Not applicable.

17. How many L2 charging ports does UPS currently have operating in California? How many DCFC charging ports does UPS currently have operating in California? Who owns and maintains these charging systems?

SDG&E Response:

This information is not known by SDG&E.

18. Provide charger usage data for UPS charging ports in California.

SDG&E Response:

This is UPS data that SDG&E does not have access to.

19. Aside from UPS charging installations, does SDGE plan to provide DCFC for other program participants? If so, how much funding has been allocated for this? If not, why not?

SDG&E Response:

SDG&E will assess charging needs for other program participants as they are identified. There is \$1,676,051 of funding available in the project aside from the proposed UPS charging installations.

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20. Provide detailed calculations for the estimated GHG reductions for the FDS project. Provide a separate breakdown of the estimated GHG reductions by vehicle type/class (for example the reductions for a Class-3 truck vs a Class-8 truck). Also indicate estimated annual and lifetime GHG reductions.

SDG&E Response:

The E3 PEV Grid Impacts Model used to calculate the GHG (CO₂) emissions is E3's proprietary model. SDG&E does not have access to E3's proprietary models and detailed calculations; however, E3 has provided the "Fleet Delivery Emissions Impact Estimation" spreadsheet (See spreadsheet "NDC-DR-01-Q20.xlsx" provided in SDG&E's responses to NDC-DR-01) to demonstrate the assumptions and calculations used to estimate GHG emission impacts. This spreadsheet presents the emission reduction calculations for the Fleet Delivery priority review project which correspond to the values in Table 8-1A and Table 8-1B in Chapter 8 of SDG&E's testimony. Additional methodological information is available in Chapter 8, Appendix A - Technical Appendix For E3 Analysis Documentation, please see section 2.1.2 PEV Charging Optimization and section 3.2 Fuel Usage, and section 3.4 CO₂ Emission and Air Quality Impacts. Annual and total lifetime GHG impacts (avoided Carbon from Fuel and incremental Carbon from Electricity) for each project are available in the work papers ("Priority Projects Results (Final).xlsx") provided in SDG&E's responses to NDC-DR-01, in worksheet "Additional Information." Specific vehicle type emission factors are available in Chapter 8, Appendix A - Technical Appendix For E3 Analysis Documentation, Table 9: ICE Emission Factors by Vehicle Type.

21. Provide detailed calculations for the estimated costs of the FDS project. Please also provide calculations and itemization for the data in SDGE-3 Appendix Table FDS-1. Provide a separate breakdown of the estimated costs by vehicle type/class (for example the costs for a Class-3 truck vs a Class-8 truck).

SDG&E Response:

See cost estimate spreadsheet "SDGE Cost Estimate.xlsx" provided in SDG&E's responses to NDC-DR-01. Costs were not estimated separately by vehicle class or type.

22. What site selection criteria will be used for the FDS project? Also specify any site selection criteria that pertain to DACs.

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SDG&E Response:

UPS has already committed to participate in the project. SDG&E will conduct outreach to other potential partners and encourage fleet electrification. Several site selection criteria will be applied to the other potential partners, such as the presence of a willing site host (who will provide appropriate vehicles and provide easement access), location of sites (with a preference for DAC based sites), level of difficulty (cost) to provide electrical infrastructure, and projected miles driven / potential GHG reductions. SDG&E's preference is to deploy charging infrastructure in DACs but this will be driven by customer partnerships.

Questions 23-34 pertain to the Green Taxi/Shuttle/Rideshare (Green Taxi) Project:

23. Please provide any studies or research SDGE reviewed which show benefits from utility ownership of EVSE specifically at residential locations. Cite to any specific sections of studies or research that SDGE relied upon in designing the portion of the Green Taxi program pertaining to residential chargers.

SDG&E Response:

SDG&E has no studies or research to provide which show benefits from utility ownership of EVSE specifically at residential locations. However, SDG&E believes that end-to-end ownership of the infrastructure and residential chargers provides value in keeping the equipment operational and available for use.

24. Please provide any studies or research SDGE reviewed which show that a grid integrated rate can encourage off-peak charging among the taxi, shuttle and TNC driver community. Cite to any specific sections of studies or research that SDGE relied upon in designing the portion of the Green Taxi program pertaining to the grid integrated rate.

SDG&E Response:

SDG&E has no studies or research to provide, which show that a grid integrated rate can encourage off-peak charging among the taxi, shuttle and TNC driver community. Data collected as part of this project should help inform this.

25. Please provide details on the aspect of the Green Taxi project that relate to fuel incentives. Also describe the basis for determining the incentive amount.

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SDG&E Response:

The Green Taxi/ Shuttle / Rideshare project includes fueling incentives for taxi drivers and rideshare drivers.

Taxi drivers will receive a \$4,000 fueling credit for energy consumed in the first year of operation at SDG&E chargers. Each driver will need to learn how to strategize around charging times such that the fueling credit provides maximum benefit throughout the year. This is expected to create awareness among drivers on how to respond to the grid integrated rate and create further incentive for the taxi industry to participate when otherwise reluctant to change technology. SDG&E assumes all miles driven are for taxi business and not personal usage or other business.

Rideshare drivers will receive an \$80 credit for each 1,300kWh they consume; roughly equivalent to the value of a single LCFS credit in October 2016. This incentive value encourages maximum EV miles from the rideshare drivers in the case of plug in hybrids, while not overcommitting to the rideshare market which is exhibiting constant change. SDG&E is not able to assume all miles on rideshare vehicles are for rideshare business or that a rideshare driver will continue to operate a rideshare vehicle for the entirety of the priority review project. Therefore, a lesser incentive is being offered to this market.

SDG&E determined these incentive amounts based on the characteristics of both markets as described above. The proposed incentives provide a motivation to both sets of drivers to convert to an electric vehicle and increase the amount of electric vehicles miles driven. Both sets of drivers will be able to sign up for SDG&E's EV Climate Credit Program for all EVs in the service territory. See footnote 84 on page RS-67¹ (link below).

26. Will Green Taxi project charging sites be shared by taxi, shuttle, and TNC drivers? Will charging sites also be open to the public?

SDG&E Response:

If the first two charger deployments are installed at the airport, they will be separated for the Taxi and Rideshare drivers per the airport's current parking configuration, but accessible to shuttle drivers. If the next three charger deployments are installed elsewhere, they will be accessible to all three groups. The chargers will not be accessible to the public.

¹ Approval of Advice Letter 2716-E: <http://regarchive.sdge.com/tm2/pdf/2716-E.pdf> (contains program description; the reference above to SDG&E's annual "EV Climate Credit" is referred to as "the LCFS credit" in the plan); and approval of the application by D.14-12-083, <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M143/K640/143640083.PDF>

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27. How will shared usage of Green Taxi project chargers by taxi, shuttle, TNC, and other drivers be managed?

SDG&E Response:

The chargers will be first come first serve.

28. How much is the SDG&E's annual EV Climate Credit, and what are the eligibility requirements?

SDG&E Response:

In 2017, SDG&E's EV Climate Credit is \$200 and will be credited to the customer's SDG&E bill. To be eligible, customers need to apply at www.sdge.com/evcc, provide a copy of their current CA DMV registration card and be the registered owner of the EV in the area served by SDG&E.

29. How was the amount of the Zero Emissions Credit decided?

SDG&E Response:

SDG&E believes this question is likely referencing SDG&E's "EV Climate Credit" - see response to Question 28. The amount of the credit was determined by the LCFS credits sold minus the program costs, divided by the number of EV drivers who signed up.

30. How will the locations for the charger sites be determined? Will data be considered from TNC's other than Uber? Please indicate any consideration or deployment targets specifically for DACs.

SDG&E Response:

The airport or downtown San Diego is a priority based on information derived from the airport. Other aspects could include "Uber Hot Spots" as referenced in footnote 91 on page RS-72. SDG&E believes feedback from drivers and all TNCs is important in deciding where chargers will go and encourages this feedback. Another key aspect that will dictate where chargers go is determining willing site hosts.

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31. Where will the site with solar array and energy storage capability be located?

SDG&E Response:

SDG&E has not yet selected the site where the solar array and energy storage will be located.

32. Will any specific outreach or promotion for the Green Taxi project be focused on DACs?

SDG&E Response:

Outreach strategy for the Green Taxi/Shuttle/Rideshare project has not yet been developed. Once developed, SDG&E can prioritize outreach to DACs. However, SDG&E has engaged local taxi drivers and reached out to rideshare companies.

33. Provide detailed calculations for the estimated GHG reductions for the Green Taxi project. Provide a separate breakdown of the estimated GHG reductions by vehicle type/class (for example the reductions for a taxi vs a shuttle). Also indicate estimated annual and lifetime GHG reductions.

SDG&E Response:

The E3 PEV Grid Impacts Model used to calculate the GHG (CO₂) emissions is E3's proprietary model. SDG&E does not have access to E3's proprietary models and detailed calculations; however, E3 has provided the "Fleet Delivery Emissions Impact Estimation" spreadsheet (See spreadsheet "NDC-DR-01-Q20.xlsx" provided in SDG&E's responses to NDC-DR-01) to demonstrate the assumptions and calculations used to estimate GHG emission impacts. This spreadsheet presents the emission reduction calculations for the Fleet Delivery priority review project, which correspond to the values in Table 8-1A and Table 8-1B in Chapter 8 of SDG&E's testimony. Additional methodological information is available in Chapter 8, Appendix A - Technical Appendix For E3 Analysis Documentation, please see section 2.1.2 PEV Charging Optimization and section 3.2 Fuel Usage, and section 3.4 CO₂ Emission and Air Quality Impacts. Annual and total lifetime GHG impacts (avoided Carbon from Fuel and incremental Carbon from Electricity) for each project are available in the work papers ("Priority Projects Results (Final).xlsx") provided in SDG&E's responses to NDC-DR-01, in worksheet "Additional Information." Specific vehicle type emission factors are available in Chapter 8, Appendix A - Technical Appendix For E3 Analysis Documentation, Table 9: ICE Emission Factors by Vehicle Type.

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34. Provide detailed calculations for the estimated costs of the Green Taxi project. Please also provide calculations and itemization for the data in SDGE-3 Appendix Table TX-1. Provide a separate breakdown of the estimated costs by vehicle type/class (for example the costs for a taxi vs a shuttle). Also indicate extra costs for site that will include the solar array and energy storage.

SDG&E Response:

See cost estimate spreadsheet “SDGE Cost Estimate.xlsx” provided in SDG&E’s responses to NDC-DR-01.

Questions 35-40 pertain to the Dealership Incentives (DI) Project:

35. Please provide any studies or research SDGE reviewed which show that monetary incentives for car dealership and salespersons increases rates of EV adoption. Cite to any specific sections of studies or research that SDGE relied upon in designing the incentive amount for salespersons and dealerships of the DI project.

SDG&E Response:

Citations in Randy Schimka’s direct testimony, RS-80:8 – 81:1 and RS 81:1-6, provide this information, and the results of the Connecticut Dealer Incentive for Electric Vehicle Sales by the Center for Sustainable Energy demonstrate salespeople are motivated to learn about and sell EVs by receiving monetary incentives, pg. 23, 24 and 27:

https://energycenter.org/sites/default/files/docs/nav/resources/2016-10-25_Connecticut_Dealer_Incentive_EV.pdf

36. Why should an incentive be provided to the dealership in addition to the salesperson for selling an EV?

SDG&E Response:

The results of the Connecticut Dealer Incentive for Electric Vehicle Sales by the Center for Sustainable Energy demonstrate dealerships are motivated to increase EV sales by receiving monetary incentives, pg. 27:

https://energycenter.org/sites/default/files/docs/nav/resources/2016-10-25_Connecticut_Dealer_Incentive_EV.pdf

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37. How was the amount of the DI payments determined? How much is a salesperson's average commission for selling a comparably priced internal-combustion engine (ICE) vehicle versus an electric vehicle?

SDG&E Response:

Citations in Randy Schimka's direct testimony, RS-80:8 – 81:1 and RS 81:1-6, provide this information.

38. Does the amount of the incentive paid vary depending on the EV sold? Does it vary if the buyer does not sign up for the residential grid integrated rate? If so, how is the variation calculated?

SDG&E Response:

The program details will be developed in partnership with the New Car Dealer's Association of San Diego and the Auto Alliance. Options of whether or not the type of EV sold will depend on the incentive amount will be determined in collaboration. As for a variance in the incentive if a customer signs up for a residential grid integrated rate, this will also be determined.

39. Provide detailed calculations for the estimated GHG reductions for the DI project. Also indicate estimated annual and lifetime GHG reductions. Provide a separate breakdown of the estimated GHG reductions by vehicle type/class, if the incentive amount varies based on the type of EV sold.

SDG&E Response:

The E3 PEV Grid Impacts Model used to calculate the GHG (CO₂) emissions is E3's proprietary model. SDG&E does not have access to E3's proprietary models and detailed calculations; however, E3 has provided the "Fleet Delivery Emissions Impact Estimation" spreadsheet (See spreadsheet "NDC-DR-01-Q20.xlsx" provided in SDG&E's responses to NDC-DR-01) to demonstrate the assumptions and calculations used to estimate GHG emission impacts. This spreadsheet presents the emission reduction calculations for the Fleet Delivery priority review project which correspond to the values in Table 8-1A and Table 8-1B in Chapter 8 of SDG&E's testimony. Additional methodological information is available in Chapter 8, Appendix A - Technical Appendix For E3 Analysis Documentation, please see section 2.1.2 PEV Charging Optimization and section 3.2 Fuel Usage, and section 3.4 CO₂ Emission and Air Quality Impacts. Annual and total lifetime GHG impacts (avoided Carbon from Fuel and incremental Carbon from Electricity) for each project are available in the work

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40. Provide detailed calculations for the estimated costs of the DI project. Please also provide calculations and itemization for the data in SDGE-3 Appendix Table DI-1. Provide a separate breakdown of the estimated costs by vehicle type/class, if the incentive amount varies based on the type of EV sold.

SDG&E Response:

See cost estimate spreadsheet “SDGE Cost Estimate.xlsx” provided in SDG&E’s responses to NDC-DR-01.