

Docket No.: A.14-04-014, R.13-11-007 (Consolidated)

Exhibit No.: _____

Date: March 16, 2015

Witness: Janice Lin

**TESTIMONY OF JANICE LIN
ON BEHALF OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
CONCERNING APPLICATION OF SAN DIEGO GAS & ELECTRIC COMPANY
FOR APPROVAL OF ITS ELECTRIC VEHICLE-GRID
INTEGRATION PILOT PROGRAM**

1 **Q: Please state your name and business address.**

2 **A:** My name is Janice Lin. I am Executive Director of the California Energy Storage
3 Alliance (“CESA”). I am also Managing Director of Strategen Consulting, LLC. My
4 business address is David Brower Center, 2150 Allston Way, Suite 210, Berkeley, CA
5 94704

6 **Q: Please summarize your professional and educational background.**

7 In my capacity as Managing Director of Strategen Consulting, LLC, and Co-Founder and
8 Executive Director of CESA, I am actively involved in helping clients market distributed
9 grid connected energy systems to a wide range of potential customers. I provide strategic
10 and technical support to CESA member companies and end users of energy storage to
11 deploy new energy storage projects, and accomplish their business objectives. Prior to
12 founding Strategen and CESA, I served as Vice President of Business Development and
13 Vice President of Product Strategy at PowerLight Corporation, a leading designer and
14 installer of large-scale grid-connected solar electric systems and energy efficiency
15 services (now SunPower Systems). I hold an MBA from the Stanford Graduate School
16 of Business, a BS from the Wharton School of Business and a BA in International
17 Relations from the University of Pennsylvania’s College of Arts and Sciences.

18 **Q.:** Have you ever testified before this Commission?

19 **A:** Yes.

20 **Q:** On whose behalf are you testifying?

21 **A:** I am testifying on behalf of CESA. CESA is a broad advocacy coalition comprised of
22 approximately 90 member companies that is committed to advancing the role of energy
23 storage to promote the growth of renewable energy and a more efficient, affordable,

1 clean, and reliable electric power system. CESA’s members are a diverse mix of energy
2 storage technology manufacturers, renewable energy component manufacturers,
3 renewable energy, fossil fuel and energy storage project developers, software developers,
4 electrical contractors and systems integrators. CESA is a technology-neutral and
5 business model-neutral association of members who share a common mission, the
6 advancement of energy storage solutions to optimize California’s energy infrastructure,
7 and is supported solely by the contributions and coordinated activities of its members.¹

8 **Q.** What is the purpose of your testimony?

9 **A:** The purpose of my testimony is to respond to testimony filed by SDG&E in support of its
10 Application.

11 **I. SDG&E’S PROPOSAL HAS ALREADY NEGATIVELY COLORED**
12 **INVESTOR PERCEPTION OF ELECTRIC VEHICLE CHARGING**
13 **SERVICES BUSINESS AND APPROVAL IN ITS CURRENT FORM**
14 **WOULD HINDER DEVELOPMENT OF THE OVERALL MARKET FOR**
15 **ELECTRIC VEHICLES IN CALIFORNIA.**

16 CESA’s member companies include many of the leading developers of electric
17 vehicle supply equipment (“EVSE”) and electric vehicle (“EV”) charging services in
18 California. These companies represent healthy, vibrant, and growing businesses that
19 have been attracting hundreds of millions of dollars of private capital to the state.
20 CESA’s members involved in the EV sector have provided feedback in no uncertain
21 terms that SDG&E’s proposal is fundamentally flawed, and that it will be much more
22 difficult for them to do business in SDG&E’s service territory should the pilot proceed as
23 proposed. Some companies have already made the strategic decision not to invest in new
24 EV charging services and EVSE in SDG&E’s service territory until such time as the

¹ See, “About Us – Overview.” *California Energy Storage Alliance*,
<http://www.storagealliance.org/about.html>.

1 Application is ruled upon by the Commission. This ‘market chilling effect’ is driven by
2 investor perception that the program would provide an insurmountably unfair utility
3 advantage if it were to proceed in its current form.

4 This negative perception is caused by a critical flaw in SDG&E’s proposal;
5 namely, that it subsidizes all costs to install SDG&E-owned EV charging infrastructure
6 with ratepayer dollars, making the introduction of such equipment ‘essentially free’. This
7 constitutes a very substantial portion of cost to EV developers. By one CESA member’s
8 account, the EV service connection and supply infrastructure per site costs on average
9 approximately \$60,000 including total cost of ownership. Non-utility competitors must
10 be afforded a level playing field – either through rate basing these same costs for third
11 party developments (which currently is not allowed), or by requiring these costs to be
12 borne by utility shareholders. As has been ruled for utility owned distributed energy
13 resources by NY Public Service Commission, regulated utilities should not be allowed to
14 earn a rate of return on rate-based EVSE.

15 If the playing field is not level, the primary effect will simply be one of crowding
16 out private investment in exchange for ratepayer subsidized investment (with ratepayers
17 bearing 100% of the risk). SDG&E’s program may therefore have the counterintuitive
18 effect of not growing the market for EVSE or services at all, and potentially even
19 shrinking the overall EV market versus what otherwise would occur due to its deleterious
20 effect on private investment in SDG&E’s service territory. This would also have the
21 unintended consequence of reduced consumer choice, and put EV development on a
22 much slower rate of innovation and change than if competition was supported and
23 encouraged by the Commission and utilities.

1 However, if the program were modified to incorporate multiple deployment,
2 ownership, and service models proportionate with SDG&E’s targeted 20% EV charging
3 market share target, and removing the incentive for unfair utility competition by
4 restricting SDG&E to recovery of their actual pass-through costs (and not profit) for
5 customer-side distributed energy resources (“DER”) assets such as EVSE, the program
6 could actually be productively used to establish a fair and reasonable trajectory for future
7 EV development. In other words, if the Commission did not allow SG&E to move
8 forward with an additional utility-owned EVSE (at cost only) *unless* it could demonstrate
9 and prove that there was four other privately-owned EVSE in the marketplace, this could
10 provide a very useful signal to the marketplace that competition, innovation and
11 investment will be supported in California.

12 R.13-11-007 must make further progress in addressing broader questions about
13 what constitutes a “fair” role for utilities in EVSE development. SDG&E’s proposal
14 should actually be designed to create a level playing field through similar ratepayer
15 investment in third party infrastructure, and concrete targets for SDG&E to act as a
16 market facilitator for both utility-owned and third party-owned infrastructure. Properly
17 constructed, SDG&E’s proposal could help accelerate third party investment, innovation
18 and much accelerated growth in EVSE infrastructure in California.

19 **II. SDG&E HAS NOT PROVEN THAT ITS PROPOSAL WILL NOT**
20 **CONCENTRATE MARKET POWER FOR ELECTRIC VEHICLE**
21 **CHARGING STATION SERVICES, NOR HAS SDG&E PROVEN THAT**
22 **ITS PROPOSAL WOULD BE COST-EFFECTIVE FOR RATEPAYERS.**

23 SDG&E’s proposed 5,500 EV charging stations represents a roughly 9x increase
24 in the number of currently deployed EV charging stations in SDG&E’s service territory.
25 SDG&E asserts that such a deployment would not result in over-concentration of EVSE

1 ownership by SDG&E, because approximately 28,000 EVSEs are needed in the target
2 markets within SDG&E's service territory, "assuming PEV market growth is in line with
3 these goals (1.5 million vehicles in 2025)."² This equals an approximately 20% share of
4 what SDG&E asserts to be the projected ultimate market size within its service territory.

5 CESA believes market share assertion misses the point for two reasons:

- 6 1. 20% market share of a multi-billion dollar market does not constitute a pilot; and
7 therefore SDG&E's proposal necessarily must wait until the needed policy
8 determinations in R.13-11-007 regarding utility ownership have been established by
9 the Commission.
- 10 2. SDG&E's testimony does not consider how its own actions as a competitor with
11 monopoly market power will impact the perceptions and behavior of existing and
12 potential competitors entering EV markets. In fact, a number of CESA's members
13 have indicated that their financial partners believe SDG&E's proposed role as a direct
14 competitor will create an imbalanced competitive landscape, and as a result they are
15 *already* unwilling to financially support the development of new EV charging
16 projects in SDG&E's service territory, even before the Commission has decided on
17 the outcome of the application. This fact alone may result in a much greater than
18 20% market share for SDG&E.

19 This means that SDG&E's testimony on the cost-effectiveness of its proposal also
20 misses a fundamental point. Unless SDG&E can demonstrate that the proposed program
21 will not simply substitute utility-owned infrastructure for third-party owned EV
22 infrastructure or services, it cannot prove cost-effectiveness, because other tests of cost-

² Prepared Supplemental Testimony of San Diego Gas & Electric Company, Application 14-04-014, January 14, 2015. ST-30.

1 effectiveness are irrelevant if the result isn't a direct correlation to growth in the overall
2 market size (as opposed to simply a change in market share in favor of the utility). In
3 other words, if there are no other alternatives for EVSE, then there will be little to
4 compare from a cost effectiveness standpoint.

5 **III. SDG&E'S ONE-SIZE-FITS-ALL UTILITY OWNERSHIP APPROACH**
6 **UNNECESSARILY INCREASES THE RISK OF ELECTRIC VEHICLE**
7 **MARKET FAILURE AND IN DIRECT OPPOSITION TO THE**
8 **COMMISSION'S EXISTING POLICY REGARDING DISTRIBUTED**
9 **ENERGY RESOURCES.**

10 The vertically integrated utility-owned model proposed by SDG&E is, in many
11 respects, akin to the way telephone service worked prior to deregulation. AT&T owned a
12 vertically integrated system from the long distance lines and wires all the way through to
13 the black rotary phone in every house. This may have worked in the first half of the 20th
14 century, but we live in an era of increasing expectations of consumer choice, and
15 customized solutions to meet the individual needs of customers. SDG&E's proposal,
16 however, is a rigid, one-size-fits-all model. It limits customer choice of equipment and
17 service pairings, and it proposes rigid network standards and payment mechanisms that
18 could result in a balkanized statewide market for EV charging services. For example, it
19 could result in a different model employed in SDG&E service territory vs. SCE territory
20 to the detriment of consumers particularly who live/work at the border of SDG&E
21 territory and may find it confusing/difficult to charge their vehicle when traveling in/out
22 SDG&E service territory. Further, SDG&E's model has not been tested for acceptance
23 by property owners, and has not been studied for the impact of, for example, the rate of
24 tenant turnover on EV charging equipment utilization.

1 Today, economists tell us that the societally beneficial role of a monopoly only
2 occurs in markets where it is economically inefficient to allow competing service
3 networks to operate, such as in things like transmission and distribution infrastructure.
4 This view is reflected in the New York Public Service Commission’s Order 14-M-0101
5 establishing a policy framework for that State’s new DER framework (“Renewing the
6 Energy Vision”):

7 *“Because of their incumbent advantages, even the potential for utility ownership*
8 *risks discouraging potential investment from competitive providers. ...Markets will*
9 *thrive best where there is both the perception and the reality of a level playing field, and*
10 *that is best accomplished by restricting the ability of utilities to participate.”*

11 SDG&E proposes to extend its incumbent monopoly role to a market that derives
12 no benefit from being vertically integrated under utility control. In general, the
13 Commission’s policy should be that EV charging equipment and service models on the
14 customer side of the meter should be selected, purchased, and owned by customers to
15 promote customer freedom of choice.³ This is consistent with the Commission’s goals in
16 the Distributed Resources Planning OIR, where in a recent ACR the Commission stated
17 that it wants to ‘enable customer choice of new technologies and services that reduce
18 emissions and improve reliability in a cost effective manner’ and to “create a distribution
19 grid that is “plug and play” for DERs. In this case the definition of DERs included EV

³ CESA supports SDG&E’s proposal to maintain the utilities’ traditional role of investing in distribution network upgrades and interconnection infrastructure at the pilot EV charging locations. CESA also believes that allowing SDG&E to invest in “make-readies” would be a good, measurable, first step in evaluating any needed utility role in the market and could proceed independently of progress in R.13-11-007.

1 charging infrastructure. Thus, unless amended, the SDG&E proposal would directly
2 oppose the objectives of the PUC Code 769 and the DRP OIR.⁴

3 Only through promulgation of policies that actively facilitate a vibrant market
4 with many participants, business models, economic structures, financing sources and
5 customer choices will the right models become clear (which is likely to result in
6 significant diversity of options). Many of these service models have been years in the
7 making, and reflect the collective expertise of thousands of stakeholders in California
8 with significant institutional knowledge and learnings gained during this time.

9 Pre-empting competition in the EVSE and services market through creation of
10 entirely vertically integrated utility programs at this stage of the EV industry's life cycle
11 will short circuit that process. Dictating program design and service options – especially
12 when those options are one-size-fits-all – would kill consumer choice and innovation and
13 create risk of stranded assets. If the utility-owned model proves not to be attractive to
14 consumers, the Commission would risk a catastrophic failure of meeting the Governor's
15 ZEV goals while jeopardizing hundreds of millions of ratepayer dollars. The
16 Commission should not concentrate such risk on the success or failure of utilities'
17 programs; nor should the Commission be in a position in which it is picking winners in
18 the EV industry.

⁴ Assigned Commissioner's Ruling on Guidance for Public Utilities Code Section 769 – Distribution Resource Planning at 3. The definition of DER includes EV charging. (See Id., Attachment p. 14), Prepared Testimony, pp. 1-6 through 1-10.

1 **IV. THE PROPOSED SDG&E RATE STRUCTURE SHOULD BE MADE**
2 **AVAILABLE TO THIRD PARTY DEVELOPERS OF ELECTRIC**
3 **VEHICLE CHARGING STATIONS.**

4 EV charging rate structure is critical to EV adoption (given that the cost to charge
5 is fundamental to the overall value proposition of EV adoption) as well as optimal
6 integration with grid via price signals. SDG&E’s proposal doesn’t take into account any
7 other customer-driven optionality afforded by current EVSE and EV services, nor does it
8 consider other demand response or DER programs, including bidirectional vehicle to grid
9 (“V2G”) (bidirectional) EV charging service. Given the importance of the rate structure,
10 CESA supports the proposed rate structure pilot, but is already on record as advocating
11 that that it should *also* be a pilot option for third parties, not just SDG&E. SDG&E
12 asserts that utility ownership of proposed EVSE is necessary in order to transmit rate
13 information to customers of the delivered electricity. This is a flawed argument. Legal
14 ownership is irrelevant to the task of communicating pricing data. The California
15 Independent System Operator, for example, communicates real-time pricing data
16 continuously to all independently owned generation and load on a non-discriminatory
17 basis. Further, California’s utilities test new tariff structures all the time that do not
18 require them owning any related asset (e.g. houses) that is subject to a particular pilot rate
19 structure.

20 Benefits of providing the proposed rate structure as a pilot option to third parties
21 would:

- 22 ○ Enable third parties to create innovative pricing and technology solutions to help
23 consumers effectively manage their out of pocket costs in response to the EV
24 charging tariff’s unpredictable pricing variability.
- 25 ○ Provide a broader cross section of customer types tested for consumer acceptance
26 and usage patterns;

- 1 ○ Contribute to creating a more level playing field between third party developers
2 and operators and SDG&E; and
- 3 ○ Increase potential options for service models from developers and providers
4 giving more choice to customers.

5 In the future, SDG&E’s pilot structure should be further enhanced to add V2G
6 pricing to account for the value of DER as contemplated by the distribution resource
7 planning processes being developed currently as part of R.14-08-013. In any case, the
8 “all eggs in one basket” approach⁵ of SDG&E requires significant improvement, even if
9 it is only to be at a pilot scale.

10 **V. SDG&E’S PROPOSED ROLE OF OWNING ELECTRIC VEHICLE**
11 **CHARGING EQUIPMENT CREATES A DIRECT CONFLICT OF**
12 **INTEREST IN MAINTAINING A FAIR PROCESS FOR THIRD PARTIES**

13 SDG&E’s gatekeeping role in the electric distribution system interconnection
14 process, as the local regulated monopoly, gives it a unique and privileged position to
15 impact the timing, viability, and relative competitiveness of EV charging projects
16 developed by third parties versus those of SDG&E-owned EV infrastructure. Allowing
17 SDG&E to compete in EV charging development with a guaranteed rate of return, while
18 allowing it to also remain in control of its competitors’ interconnection requests, is akin
19 to “putting the fox in charge of the henhouse.” While CESA does not believe that
20 SDG&E would deliberately violate its interconnection tariff obligations, there is still too
21 much unsupervised room for subjectivity and even perceived subjectivity in the process
22 despite the best of intentions. Regardless of its motivation, CESA is very concerned that
23 SDG&E could use its privileged position in a manner that contributes to third party-
24 developed EV assets appearing to customers as uncompetitive from a timing and cost

⁵ Characterized by participation from “customer-drivers” only, an untested rate plan, no third party participation allowing for innovation, nor the flexibility for integration of other DERs

1 standpoint. For example, currently interconnection customers frequently must pay for
2 upgrades for equipment that is already overloaded or past its service life because a
3 utility’s plan of service has deferred necessary but non-critical upgrades. These can
4 frequently be extremely expensive upgrades, costing tens of thousands of dollars. If
5 SDG&E is able to rate base upgrades for its own EV charging sites, and also ensures that
6 the interconnection process for its own sites is completed as fast as possible, while
7 ensuring that competitors sites proceed as slowly as the tariff legally allows and that
8 competitor developed sites are responsible for as many upgrades as SDG&E can justify,
9 then it would be very hard for third party EV charging sites to compete. Even the
10 perception of this possibility has already had a chilling effect on private investment in EV
11 charging infrastructure.

12 **VI. SDG&E SERVES A UNIQUE ROLE IN ENSURING THAT THE OVERALL**
13 **ELECTRIC VEHICLE MARKET NEED FOR CHARGING STATIONS IS**
14 **MET AND COMPETITION IS PRESERVED.**

15 SDG&E asserts in its Testimony that it plays a unique role in making sure the
16 public interest is served and the state’s policy objectives are met. CESA wholeheartedly
17 agrees. However, approval of a program that allows vertically integrated utility
18 ownership with a guaranteed rate of return in a market that is currently competitive,
19 absent appropriate checks and balances, would create every incentive for any rationale
20 stakeholder to use all legal means at its disposal to ensure that third parties are
21 unsuccessful in deploying infrastructure. This is simply logical; if SDG&E can
22 demonstrate that third parties are unsuccessful at deploying EV charging infrastructure,
23 then they will have a stronger case to make that it should be allowed to take over more
24 market share.

1 **VII. SDG&E’S PROPOSAL MUST BE MODIFIED TO SUPPORT THIRD**
2 **PARTY-DEVELOPED ELECTRIC VEHICLE CHARGING**
3 **INFRASTRUCTURE ON EQUAL FOOTING WITH SDG&E-OWNED**
4 **INFRASTRUCTURE.**

5 CESA’s view is that the only way for SDG&E’s interests to truly be aligned with
6 what (i) is in the public interest and state policy goals, (ii) preserves a competitive
7 landscape for EV charging equipment, and (iii) puts ratepayer dollars at a prudent level of
8 risk, is for SDG&E’s EV charging station deployment goals to be directly linked to the
9 successes of broader growth in the EV market and deployment of EV charging stations
10 by third parties. SDG&E asserts in its Testimony that its goal is 20% market share in its
11 target market segments. If the Commission agrees with this level of utility ownership in
12 the competitive market for EV charging stations, CESA makes the following
13 recommendations to ensure that SDG&E’s market share remains in line with this target:

- 14 1. 20% of the funding approved in the Application will go to SDG&E-owned and
15 operated EV charging stations, while the remaining 80% will be allocated to “make-
16 ready” infrastructure and EVSE rebates to third parties.
- 17 2. SDG&E must report annually on deployments achieved in the prior year, both
18 SDG&E-owned and third party-owned. SDG&E’s program must demonstrate that it
19 is facilitating the market growth of third party-owned infrastructure in line with
20 utility-owned EV charging station build out. SDG&E’s target for the next year would
21 be capped to ensure that its approved build out over the coming year would be in-line
22 with never exceeding a 20% market share (annual or cumulative) based on its then-
23 current market share added to the historic year-over-year growth in EV charging
24 station build out in SDG&E’s service territory.

25 The following table graphically depicts the concept:

1

Year	SDG&E	Third Party	Total
0	0	500	500
1	200	800	1000
2	400	1600	2000
3	1600	6400	8000
4	3200	12800	16000
5	5500	22000	27500

2

3 Program review can also occur on annual intervals, including input from stakeholders
4 and review of cost effectiveness of various approaches. In this way, the program can
5 also be amended in real time and adjusted for the benefit of ratepayers... and most
6 importantly, include stakeholder input.

7 3. Any proposal by SDG&E to use ratepayer funds to support additional utility
8 investments need to be fully cost justified. Stakeholders should have the opportunity
9 to vet the cost assumptions used by SDG&E that underlie the overall projected costs
10 of its proposal. This data should be provided such that specific cost components of
11 the individual charging facilities, supporting infrastructure, and systems can be
12 specifically identified and the reasonableness of those assumptions fully assessed.
13 Although in its Application SDG&E has provided some detail regarding anticipated
14 costs, in general this information remains in relatively high level categories that does
15 not allow for a detailed assessment of whether the underlying cost assumptions and
16 components are appropriate or reasonable.

17 4. In order to remove any incentive for SDG&E to unfairly stifle competition, CESA
18 further recommends that the Commission restrict rate recovery of utility-owned DERs
19 such as EVSE to actual pass-through costs. This policy would be completely in line
20 with policies adopted by other states such as New York in, where its states: “Because

1 of their incumbent advantages, even the potential for utility ownership risks
2 discouraging potential investment from competitive providers. ...Markets will thrive
3 best where there is both the perception and the reality of a level playing field, and that
4 is best accomplished by restricting the ability of utilities to participate. ...In the
5 limited situation that utilities will be allowed to own DER as a regulated asset, they
6 will be restricted to recovery of their actual costs.”⁶

- 7 5. SDG&E’s EV charging tariff should be made available to all participants in the pilot,
8 both utility owned projects as well as customer owned and third party owned.

9 **VIII. CONCLUSION.**

10 CESA thanks the Commission for the opportunity to submit this testimony, and
11 hopes that it will be helpful to the Commission and the parties as SDG&E’s Application
12 is evaluated. CESA’s view is that the proposal in its current form would be harmful to
13 competition, unnecessarily risky to ratepayers, and not cost-effective. Restricting rate
14 recovery of EVSE to actual pass through costs and modification of the proposal to
15 support third party-developed infrastructure on equal footing with SDG&E would help
16 address many of these issues. CESA also supports a more programmatic approach to be
17 developed in the AFV Rulemaking to address appropriate sizing of the other utilities’
18 EV-related programs, and many of the more fundamental questions about the role of the
19 utility in EV charging infrastructure development. Fundamentally, all of the goals laid
20 out by SDG&E – increasing adoption of EVs, improving access to EV infrastructure, and
21 piloting an innovative rate design – can be met without most of the constraints on
22 innovation and competitive issues presented by SDG&E’s proposal in its current form.

⁶ See, NY-PSC Order 14-M-101.

1 **Q:** Does this conclude your testimony?

2 **A:** Yes it does.