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California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

**RE: Docket # 11-IEP-1A- Lead Commissioner's Draft Report – 2011 Integrated Energy Policy Report (IEPR)**

Dear Commissioners:

As in past years, the 2011 Draft Integrated Energy Policy Report ("IEPR") represents a substantial effort on the part of the Energy Commission, its staff, and the numerous parties that participated in the various workshops. San Diego Gas and Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) commend the extensive efforts of the Commission and its staff and support elements of the report and are providing comments to specific chapters. Overall, we believe it is important that the IEPR address the following topics that are detailed below:

**RENEWABLE ELECTRICITY STATUS AND ISSUES**

**Support Recommendation 2, But With an Expanded Scope**

SDG&E fully supports Recommendation 2 of *Chapter 1, Renewable Electricity Status and Issues*, to "[e]valuate the cost of renewable energy projects beyond technology costs – including costs associated with integration, permitting, and interconnection – and their impact on retail electricity rates."<sup>1</sup> The chapter describes numerous costs that increase with much higher levels of DG penetration including integration costs on the distribution system. The IEPR notes that "[t]he distribution system needs to be modernized and use technologies that easily allow for two-way flow of electricity as well as improved communication technologies, better protection systems, uniform standards, cyber security measures, and inverter standards."<sup>2</sup> And further notes that "distribution system upgrades and modernization could be significant." Further, the chapter omits discussion of potential transmission system upgrades that could arise in connection with securing local and/or system Resource Adequacy (RA) counting rights for distribution-level generators.<sup>3</sup> There is a critical need to analyze rate design and the structural changes necessary to support wide-scale rooftop solar deployment as well as net zero energy construction policies. The impacts on customer bills from collecting increasing distribution and transmission costs through a rate structure which does not adequately capture the services that are provided to customers is

<sup>1</sup> IEPR, page

<sup>2</sup> IEPR, page 40.

<sup>3</sup> See the CAISO's December 12, 2011 paper entitled "*Resource Adequacy Deliverability for Distributed Generation, Issue Paper and Straw Proposal*."

significant. State policy should not be to simply announce distributed renewable energy targets that transform the way in which Californians get their energy without also considering the costs, and the pricing structures required to recover those costs, of requisite changes that are necessary in utility infrastructure to support this transformation.

Also, SDG&E would expand recommendation 2 to analyze the retail rate impacts of long-term subsidies for renewable DG. There is a pressing need as the cost of solar continues to decline to identify, even if subsidies are supported, the level of subsidies that is really required, the structure in which those subsidies are provided, and how to reduce those subsidies over time as the price of solar declines. In the section of Chapter 1, Cost Issues, it describes the declining cost of solar energy, but nowhere does it mention how that should impact renewable energy subsidies going forward. The CSI program has built in declining subsidies as PV expands, but a similar decline is not built into net energy metering tariffs. In fact, under the current IOU residential rate structure, more spending on renewable infrastructure costs and PV subsidies increases the residential subsidy to high usage electricity customers that install PV. Correspondingly, this increases the rates and bills of some customers exponentially, precisely the opposite of the policy underlying the CSI. The Draft IEPR does not discuss these contrary policy outcomes or their short or long term impacts. A determination on a reasonable level of incentives must take into account the retail rate impact of these added costs and how that impact is magnified for certain customers because of mandated AB1-X rate structures. The IEPR process, as the State's long-term electricity planning forum, should address rate design and long-term subsidies as solar energy becomes more cost competitive with conventional power.

There is a growing understanding that rate design should be looked at to see if it is adequate to support a transition to a distributed generation world. A recent study by MIT entitled, *The Future of the Electric Grid*, made the recommendation, "State regulators and those who supervise government-owned and cooperative utilities should recover fixed network costs primarily through customer charges that may differ among customers but should not vary with kilowatt-hour consumption."<sup>4</sup> The current rate structure based on a totally volumetric approach may not be tenable in the long run. The CEC should be equally forward-looking as the MIT Study to provide data to inform policymakers that want to promote renewable DG of the structural changes in utility rate design that may be necessary to transition the utility industry to a sustainable low carbon future.

### **Delete Table 3**

The CEC should eliminate Table 3 on page 32 of the IEPR, "Proposed Regional DG Targets by 2020," since the data is preliminary, is not vital to any of the 2011 IEPR recommendations, will be revisited in 2012, and contains a least one significant error. Recommendation 1 of *Chapter 1, Renewable Electricity Status and Issues*, is to "[i]dentify and prioritize geographic areas in the state for both renewable utility scale and distributed generation development" in 2012.<sup>5</sup> Given this recommendation, it does not further the recommendation to have erroneous preliminary regional numbers in the 2011 IEPR for the amount of distributed generation ("DG") potential by region. Table 3 should be eliminated from the IEPR.

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<sup>4</sup> MIT, *The Future of the Electric Grid*, page 17.

<sup>5</sup> California Energy Commission, IEPR, page 49.

The CEC report where Table 3 was first developed cited numerous parties believing the regional estimates were inadequately developed:

Many questioned what the targets include, for example, should existing renewables count, are non-PV technologies adequately included, and should other technologies such as storage or demand response count toward the targets. Others raised the concern that basing the analysis on market activity does not account for where local generation would be most beneficial, the political will to meet the targets, or cost issues.<sup>6</sup>

Since the ratepayers of the region subsidize the cost of distributed generation in that region, particularly photovoltaics ("PV"), SDG&E believes the last issue of cost consideration is particularly important. The impact of a disproportionately large amount of DG in a region may have significant rate impacts that should be fully explored as the CEC intends to do in 2012. The regional estimates of Table 3, with such disproportionate impacts, should be eliminated until the CEC completes its analysis in 2012.

Parties reviewing the Proposed Regional DG targets suggested that the allocation of the 12,000 MW goal should be proportional to load, while others thought the available capacity on the distribution system should inform the regional targets.<sup>7</sup> The CEC investigated this latter approach but stated,

Staff used the calculated available capacity for each region as a ceiling for a region's capacity to accommodate relatively inexpensive interconnection, ***seeking to ground a region's total goal in feasible possibilities for future project development***. Ultimately, however, these regional goals reflect policy decisions. Therefore, staff used regional targets set by the Governor's Office..."<sup>8</sup> [emphasis added]

The CEC report states that the regional targets of the Governor's Office take into account "economic development," "resource potential," and "other considerations." However, SDG&E believes that the numbers developed by the Governor's Office are faulty. The table below compares San Diego County to other similar regions (Inland Empire, Orange County, and Central Coast) in terms of population and economic activity. The table shows the level of proposed DG in San Diego shown in Table 3 of the IEPR is roughly **double** a reasonable estimate based on economic development and/or resource potential (assuming the other region estimates are reasonable).

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<sup>6</sup> California Energy Commission, *Renewable Power in California: Status and Issues*, December 2011, page 38.

<sup>7</sup> *Ibid.*, page 39.

<sup>8</sup> *Ibid.*, appendix page E-11.

County	IEPR Regional DG Targets (MW)		PV Technical Potential - Comm +new Res (MW)		Electricity Consumption (GWh)		Population (Thousands)		Taxable Sales (Mil)	
San Bernardino			637		13,213		2,073		23,952	
Riverside			1,379		13,765		2,140		22,582	
<b>Inland Empire</b>	<b>910</b>	<b>77%</b>	<b>2,016</b>	<b>142%</b>	<b>26,979</b>	<b>143%</b>	<b>4,213</b>	<b>131%</b>	<b>46,534</b>	<b>115%</b>
<b>San Diego</b>	<b>1180</b>	<b>100%</b>	<b>1,416</b>	<b>100%</b>	<b>18,801</b>	<b>100%</b>	<b>3,224</b>	<b>100%</b>	<b>40,549</b>	<b>100%</b>
Santa Barbara			3,260		3,197		434		5,159	
Monterrey			1,845		2,474		436		4,830	
Santa Cruz			421		1,252		58		2,682	
San Benito			839		309		272		427	
San Luis Obispo			3,047		1,649		273		3,423	
Ventura			1,288		5,387		845		10,014	
<b>Central Coast</b>	<b>370</b>	<b>31%</b>	<b>10,700</b>	<b>755%</b>	<b>14,269</b>	<b>76%</b>	<b>2,319</b>	<b>72%</b>	<b>26,536</b>	<b>65%</b>
<b>Orange</b>	<b>470</b>	<b>40%</b>	<b>6,466</b>	<b>456%</b>	<b>20,698</b>	<b>110%</b>	<b>3,166</b>	<b>98%</b>	<b>46,424</b>	<b>114%</b>
<b>Reasonable DG Target For San Diego County</b>			<b>493</b>		<b>516</b>		<b>563</b>		<b>590</b>	

#### Sources:

<https://calrenewableresource.llnl.gov/solar/potential-by-county.php>

<http://ecdms.energy.ca.gov/electbycounty.aspx>

<http://www.csac.counties.org/default.asp?id=399>

[http://www.boe.ca.gov/annual/pdf/2010/table20\\_10.pdf](http://www.boe.ca.gov/annual/pdf/2010/table20_10.pdf)

The first column shows the areas comparable to San Diego - the Inland Empire, Orange County, and the Central Coast. The second column of the table, labeled "IEPR Regional DG Targets," shows the regional targets as now proposed in the IEPR for each of the respective regions. As can be seen, all three comparable areas have DG targets significantly less than the 1180 MW in Table 3 for San Diego County. The third column, labeled "PV Technical Potential," shows the technical potential for existing commercial and new residential PV installations. This data was relied upon by the Governor's Office according to the CEC and shows that there is substantially more resource potential in these other comparable areas. Orange County has 5 times the PV resource potential yet 40% of the regional DG target of San Diego. The fourth column shows the electricity consumption of each of the regions. If DG replaces existing electricity consumption, one might expect areas with more consumption to have higher DG targets. The Inland Empire has 43% more electricity consumption than San Diego, but a regional target that is 23% less than the San Diego regional DG target (77% compared to 100%). The fifth column shows the population for each region. Orange County has roughly the same population, but a regional DG target that is only 40% of the San Diego regional DG target. The last column is taxable sales of each region, a measure of economic activity. Again Orange County has 14% more taxable sales than San Diego County, but a regional DG target that is 60% less than the San Diego regional DG target (40% compared to 100%).

The last row of the table, labeled "Reasonable DG Target for San Diego," shows an estimate of what the San Diego County regional target would be based on a weighted average of Inland Empire, Central Coast, and Orange County regional DG targets. The weighting is based on the different

measures of economic activity or resource potential described in columns 2-6.<sup>9</sup> Given the significant error in the San Diego County DG regional target, Table 3 should be deleted.

### **Improvements of Distribution-Level Integration**

SDG&E believes this section would be much more beneficial if it reported the effectiveness of these activities and any possible improvements to the structure including reducing those efforts that are not producing meaningful results.

### **NATURAL GAS ASSESSMENT**

SoCalGas and SDG&E have reviewed the CEC's preliminary California Energy Demand Forecast 2012-2022 and have made comparisons with the last published California Gas Report demand forecast. We appreciate the opportunity to review the report and provide comments. We find the gas price forecasts reasonable but have concerns about the gas demand forecasts as described below.

The CEC's forecast for SoCalGas and SDG&E shows the projected annual load growth with the exception of natural gas throughput used by utilities or others for electric generation or cogeneration. After making comparable adjustments to exclude like factors from the 2010 California Gas Report, we have prepared the adjusted CGR demand forecasts.

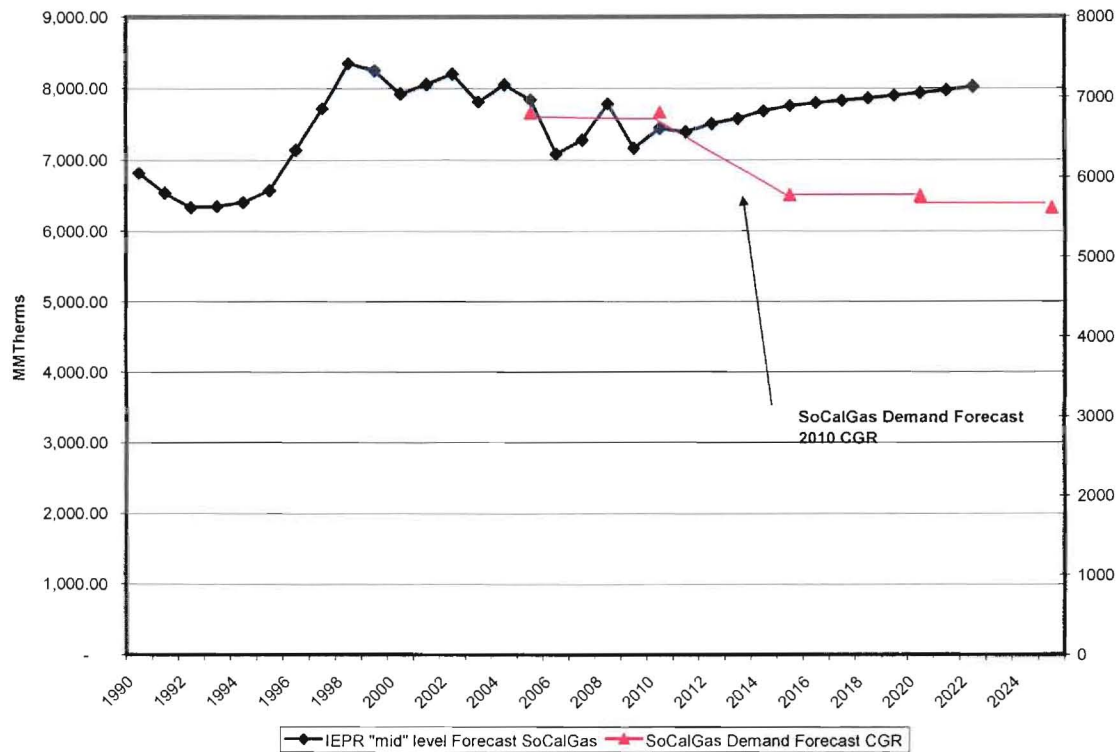
Table 1 below shows the CEC's "Mid" level demand forecast for SoCalGas plotted against SoCalGas' Average Year Demand Forecast (excluding UEG, EG and Cogen load).

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<sup>9</sup> PV potential MWs calculated based on a weighted Inland Empire and simple average of the Orange and Central Coast since the latter two regions were so large compared to the two other regions.



Table 1  
CEC demand forecast for SoCalGas vs. 2010 CGR demand forecast for SoCalGas

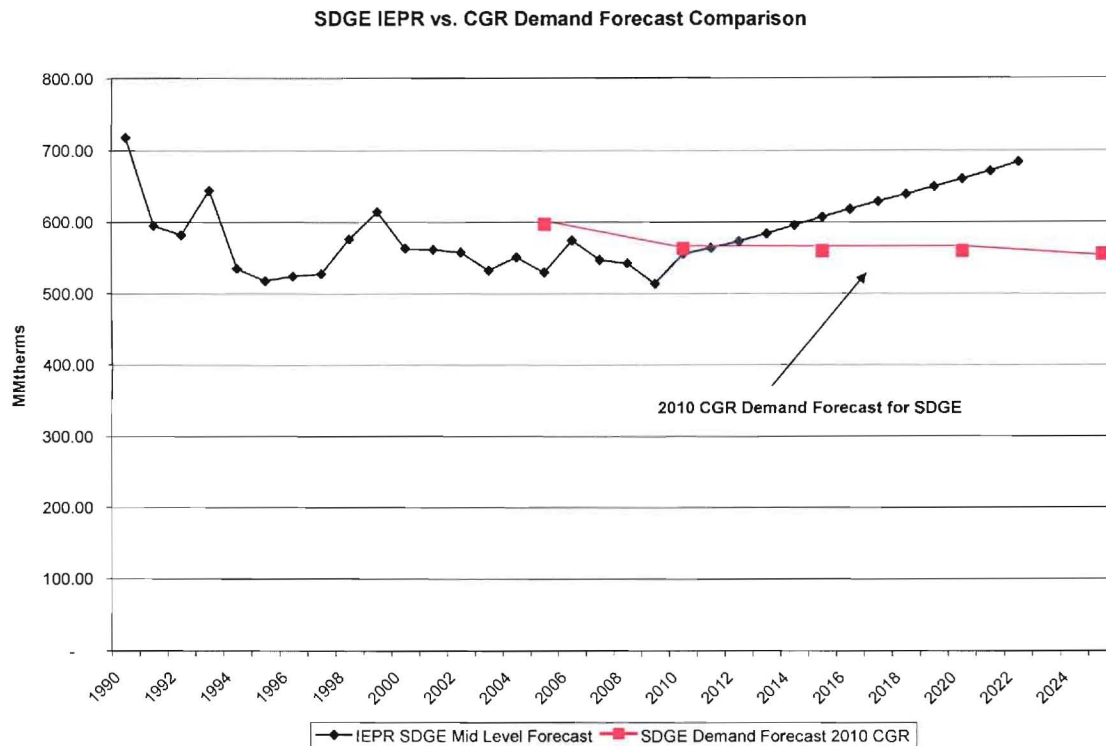


The CEC forecasts are significantly higher than the forecasts the California utilities prepared for the *2010 California Gas Report (CGR)*. The disparity between the forecasts is only 9% different in 2010 but the gap widens to 38% by the year 2020. The reason for this is likely due to more optimistic economic and customer growth forecasts and the fact that the CGR incorporates out-of-model adjustments which include energy efficiency savings and the expected savings attributable to AMI. SoCalGas and SDG&E assume that energy efficiency programs will continue beyond the current three-year Energy Efficiency program cycle while the CEC assumes no savings beyond the currently approved energy efficiency program funding. We recommend that the CEC revise its forecast and recognize energy efficiency savings beyond the current program years.

For example, Table 2 below shows the CEC's "Mid" level demand forecast for SDG&E plotted against SDG&E's 2010 Average Year demand forecast (excluding UEG, EG and Cogen load).

Table 2

CEC Demand Forecast for SDG&amp;E vs. 2010 CGR Average Year Demand Forecast for SDG&amp;E



The disparity between the CEC's forecast and the CGR forecast is only about 1% different in 2010. The disparity widens to 18% by the year 2020. The reason for the widening disparity is likely caused by the fact that SDG&E incorporates various out-of-model adjustments which include state-mandated, energy efficiency savings as well as the conservation anticipated due to advanced meters.

Overall, the comparison in the growth of the CEC's SDG&E demand forecast is in line with the growth in SDG&E's major load drivers such as employment growth and meters growth as follows:

CEC Demand Forecast Growth		Employment Growth	Meters Growth
2010-2015	1.79%	1.99%	1.05%
2015-2020	1.79%	1.75%	1.40%
2020-2022	1.76%	1.30%	1.29%

In conclusion, the CEC's gas demand forecast is optimistic, but captures a relevant range of current and possible future gas prices.

## **ELECTRICITY INFRASTRUCTURE – ONCE-THROUGH COOLING (OTC)**

In Part One, the draft IEPR discusses many of the issues associated with the State's policy to eliminate or substantially reduce the use of plants that rely on "once-through-cooling" (OTC). However, SDG&E has observed several deficiencies in the report's OTC analysis. For example, most of the discussion addresses issues within the Los Angeles Basin. The discussion also implies that the time lines shown on page 120 are applicable to all OTC plants, which is not the case. Further, on page 121, the report does recognize there are other parts of the State impacted by the policy but then states that "there are more OTC plants operating along the central coast." Thus, the draft IEPR report fails to address squarely the OTC policies and issues in the San Diego area.

SDG&E recommends that the final IEPR address the important OTC issues in the San Diego region. The IEPR should mention, for example, that the compliance date for plants in San Diego is 2018, not 2020 (which could be inferred from the LA Basin discussion). Thus, if the State is truly committed to meeting its OTC goals, then investment in new plants in San Diego cannot follow the time line shown on page 120. Rather, commitments need to get made today in order for new plants needed to maintain reliability in the San Diego load pocket to get through the regulatory approvals, licensing and generation interconnection processes. There is no time left for further unproductive delay and deliberation, as doing so will jeopardize attaining the State's objectives in the San Diego region and will not change the conclusion that we know today: load growth is uncertain.

SDG&E strongly disagrees with those who would, by delays and deferrals, force SDG&E and entities with resource adequacy obligations into building plans 'just-in-time.' SDG&E also believes it will be a better outcome for its customers to have built new, clean, flexible generation a year or two in advance of its "optimal" on line date than to be in a situation of shortages or having to maintain older generation longer than would be desired. SDG&E has entered into contracts for new plants that it believes will provide sufficient capacity to allow for the remaining units that use once through cooling to close. These plants would meet local needs based on the CEC's new middle and low case load forecasts. These contracts are currently before the CPUC for approval (SDG&E's "Product 2" application).

The report notes on page 121 in the Policy Decision section the lack of agreement between the state agencies as to how much capacity will be needed. In the CPUC's 2010 long term procurement process, the Commission issued standard planning assumptions that basically resulted in no load growth in SDG&E's service area for the next ten years after accounting for energy efficiency and demand response. The CAISO's recent analysis presented this month assumed loads over 1,000MW higher for the SDG&E area. The CEC Staff's draft load forecast for this IEPR process is in-between these two forecasts. The difference between these assumptions drives the need for hundreds of megawatts of capacity. This difference, which equals to about 20% of the entire load, creates an undesirable range of uncertainty for an entity like SDG&E which is working to provide the state with the lowest cost solution to meeting the statewide policy goals. The IEPR should endorse the additions of the new, clean and flexible resources SDG&E has before the CPUC as the best step towards the state meeting the OTC goals in San Diego in the time frame envisioned by the policy.



## **2011 BIONENERGY ACTION PLAN**

In its recommendations, the IEPR call for “Reauthorization of the Public Goods Charge to fund public interest energy research and provide incentives to existing and emerging bioenergy technologies.”

SDG&E would focus the incentives on injection projects, since incentives already exist for on-site electric generation running on biogas.

SDG&E fully supports the development of in-state biogas/biomethane for pipeline injection and on-site use, including a review of regulatory and legislative hurdles.

The IEPR goes on to conclude “Greater coordination among permitting agencies to streamline and expedite permitting.” SDG&E recommends implementation of a standardized process and template for ease of use.

In closing, SDG&E/SoCalGas appreciate the opportunity to provide comments on the draft 2011 IEPR.

Respectfully submitted,

A handwritten signature in cursive script that reads "Eugene Mitchell". The signature is written in dark ink and is positioned below the "Respectfully submitted," text.