Clean and Local Power – The Answer to Climate Change and Energy Reliability

I. State and local energy planners say local is best.

California Energy Action Plan [2003]: "*Top priorities are energy efficiency and local distributed generation, both renewable and high efficiency natural gas-fired systems.*"

San Diego Regional Energy Strategy 2030 [2003]: "*Local power, local control.*"

Table 1. Goals of San Diego Regional Energy Strategy 2030

Goal	Description
1	Achieve and represent regional consensus on energy issues.
2	Achieve capacity to generate 65% of summer peak demand with in-county generation by 2010 and 75% by 2020.
3	Increase the total electricity supply from renewable resources to 15% by 2010, 25% by 2020, and 40% by 2030. Achieve 50% of total from resources located within the County.
4	Increase the total contribution of clean distributed generation resources (nonrenewable) to 12% of peak demand by 2010, 18% by 2020, and 30% by 2030.
5	Increase the transmission system capacity as necessary to maintain required reliability and to promote better access to renewable resources.
6	Reduce per capita electricity peak demand and per capita electricity consumption back to 1980 levels.

II. How are we doing? Long on imports, short on local power.

Table 2. SDG&E's 2007 Power Mix

% SDG&E 2007 Power Mix [projected - from August 2007 monthly commercial billing notice]		**Imported Power in 2007 (%)**
Renewable energy	6	4
Coal	12	12
Large hydroelectric	9	9
Natural gas	53	22[a]
Nuclear	20	20[b]
Total	**100**	**67**

a) Long-term Department of Water Resources contracts assigned to SDG&E – Williams A, B, and C contracts.
b) SDG&E owns 20% of the San Onofre Nuclear Power Plant. SDG&E classifies power from San Onofre as imported power.

III. What has happened in the energy world since 2003? – Climate change is front-and-center.

Global Climate Change Solutions Act, Assembly Bill 32, 2006 – California commits to achieving a 25% reduction in greenhouse gases by 2020, and an 80% reduction by 2050.

California Solar Initiative, Senate Bill 1, 2006 – 3,000 MW of solar photovoltaics by 2017.

Waste Heat and Carbon Emissions Reduction Act, AB 1613, 2007 – Add 5,000 MW of small distributed combined heat and power plants by 2015 (awaiting governor's signature).

"*Global warming is the issue of our time*." Statement by CPUC Commissioner Dian Gruenich, September 18, 2007, lead commissioner in CPUC's energy efficiency proceeding and Sunrise Powerlink proceeding, while calling for new residential construction to achieve net zero energy use by 2020, new commercial construction to achieve net zero energy use by 2030, and rapid deployment of ultra-efficient cooling systems.[1]

[1] San Francisco Chronicle, *State regulators propose developing energy self-sufficiency by 2020,* September 18, 2007.

Table 3. Facts about Sunrise Powerlink

Capacity:	1,000 MW
Purpose 1:	Reliability. Address projected SDG&E peak demand power shortfall of ~500 MW in 2016.
Purpose 2:	Access to renewable energy. However SDG&E states it can meet 20% renewable energy by 2010 mandate without Sunrise Powerlink and has no plan to increase beyond 20% by 2016.[a]
Assumption:	689 MW South Bay power plant is permanently retired in 2009.
Starting point:	Imperial Valley substation on border. This substation connects with two large export power plants just over border, one owned by Sempra, the other by Intergen.
Cost to California utility ratepayers, 40 year life-of-project (2010 dollars):	$7 billion.
Guaranteed profit to SDG&E, life of project: (2010 dollars)	$720 million.
Requirement to move any power over Sunrise Powerlink to collect $720 million profit?	No. Profit is calculated solely as percentage of financed capital cost.
Presence of Sunrise Powerlink assures that SDG&E will avoid brownouts or blackouts during periods of high power demand?	No. See California Independent System Operator press release on August 29, 2007 statewide Stage 1 electrical emergency. "Regionwide high temperatures reduced availability of power imports."

a. See SDG&E August 4, 2006 California Public Utilities Commission (CPUC) application for Sunrise Powerlink and SDG&E 2007-2016 Long-Term Procurement Plan submitted to CPUC on Dec. 11, 2006.

Table 4. Another Vision - Clean and Local Power

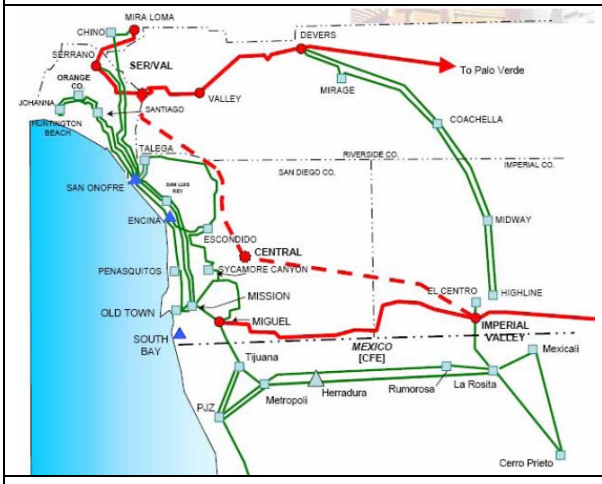
[challenge in all cases – SDG&E is not obligated to sign contracts to purchase power]

Options	Generation capacity	Cost to ratepayers	Local jobs?
Accelerated energy efficiency	reduce demand by 20%	only projects with pay-back in 10 years or less.	Yes. Many and continuous.
Accelerated installation of commercial photovoltaics[a]	2,000 MW	no change compared to SDG&E rates.	Yes. Many during construction, some during operation.
Accelerated development of combined heat & power projects	700 MW	$0 private financing.	Yes. Many during construction, many during operation.
Carlsbad dry-cooled combined cycle plant	588 MW	$0 private financing.	Yes. Many during construction, some during operation.
Dry-cooled combined cycle replacement plant for South Bay	620 MW	$0 private financing.	Yes. Many during construction, some during operation.
Sunrise Powerlink	0 MW	$7 billion	Yes. Some during construction, a few during operation.

a. SDG&E states 2,000 MW of photovoltaics (PV) would cost $21 billion. Actual total in 2007 dollars for commercial PV would be in $18 billion range at $7 per installed DC watt. Federal tax credit for commercial PV reduces capital cost by 30% to $12.5 billion. Accelerated tax depreciation for PV reduces the after tax credit net capital cost by 28% to $9 billion. Annual cost on $9 billion capital investment at 5%, 30-year term is $585 million per year. Total PV energy produced is 3.9 billion kW-hr (at 1.5 kW-hr per year per DC watt). Average cost of PV electricity is $0.15/kW-hr. Typical SDG&E customer energy charge in 2007 is $0.16 to $0.17/kW-hr.

Regional Sempra Energy Infrastructure and Sunrise Powerlink Route to Los Angeles

This concept map showing the Sunrise Powerlink ultimately interconnecting with the Los Angeles area transmission grid was submitted by SDG&E in its March 6, 2006 letter to the U.S. DOE requesting "national interest electric transmission corridor" status for the transmission line.



The transmission line will pass through the heart of Anza Borrego State Park. The 500 kV towers proposed by SDG&E will be considerably larger than the existing 69 kV transmission poles in the park. The park is home to the largest U.S. population of federally endangered peninsular bighorn sheep.

This map shows the interrelationship between the Sempra LNG terminal, Sempra natural gas pipelines, and the Sempra export power plant, all in Baja California, and the Sunrise Powerlink on the California side of the border. [source of base map: March 8, 2007 Sempra LNG presentation to the California Energy Commission; source of yellow tags and lines showing Sunrise Powerlink: Bill Powers]