

ENERGY BASICS FOR PLANNERS

July 28, 2011

MetroCenter, Oakland

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American Planning Association –
California Chapter Northern



PRESENTERS

Policies and Regulations Update

- Peter H. Weiner – Paul, Hastings, Janofsky and Walker, LLP

Interconnection

- Rachel A. Peterson – California Public Utilities Commission

Project Development

- Greg Blue – SunPower Corporation

BEYOND THIS PANEL...

Planners working group on energy and the built environment.

- ❑ Research / publishing opportunities
- ❑ CM Credits
- ❑ 1st meeting in early September:
Stephanie Wang, CLEAN Coalition

- ❑ Need contributors! Contact Josh Hohn:
jnhohn@gmail.com

CALIFORNIA'S IN-STATE POWER GENERATION

Natural Gas – 53.4%

Nuclear – 15.7%

Large Hydroelectric – 14.6%

Renewables – 14.6%

Coal – 1.7%

Source: California Energy Commission, 2010

CALIFORNIA'S IN-STATE POWER GENERATION

14.6% Renewables

6.2% Geothermal

3.0% Wind

2.8% Biomass

2.2% Small Hydro

0.4% Solar

Source: California Energy Commission, 2010

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VOCABULARY

Megawatt (MW): Basic measure of power plant output; 1,000 kilowatts (kW)

Homes / MW varies: 750 is generally accepted in California.

Megawatt-hour (MWh): MW used over the period of 1 hour.

Typical Household Demand: 538 kWh
(PG&E, 2009)



8 MW
6,000 HOMES
(NOMINALLY)

VOCABULARY

Capacity Factor: % of power plant's capacity used over time

Line Loss: Electricity wasted in the normal transfer from generation source to load centers (electricity users)

Central Station vs. Distributed Generation: Typically, larger projects located further away from load centers vs. smaller projects closer to load centers

VOCABULARY

Power Purchase Agreement (PPA):

Contract between generator/seller and buyer (typically, utilities)

Interconnection: Linkage of generating project to the host utility's distribution lines ("The Grid")

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FUTURE TOPICS

Distributed Generation

- ❑ CLEAN California Campaign
- ❑ California Solar Initiative
- ❑ Governor's Conference on Local Renewable Energy Sources

Energy Efficiency

- ❑ Sustainable Communities

Smart Grid

- ❑ CA ISO roadmap

FUTURE TOPICS

Distributed Generation, Energy Efficiency, Smart Grid...

What implications will these efforts have on the built environment? What role, if any, should planners have in their implementation?

WORKING GROUP

Planners working group on energy and the built environment - 1st meeting in September

- Investigate
- Publish
- CM Credits

Interested? Contact Josh Hohn:
jnhohn@gmail.com