

Energy - Docket Optical System

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California Energy Commission

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The following are some of my comments on the DRECP draft EIR/EIS:

First item:

I have to disagree with the electrical energy estimating process in the DRECP. All of the energy production figures in the DRECP have been in Mega Watts of CAPACITY and capacity is the maximum amount of electrical energy a project is expected to produce at its peak output. The photo voltaic, solar thermal, and wind generation plants do NOT produce energy at their full capacity for 24 hours a day, 365 days of the year. They cannot produce energy at a constant level for 24 hours a day, 365 days a year. Mega Watts are designation of how much electrical energy is being produced at any instant of time. Therefor, energy capacity for these methods of electrical generation cannot be used to establish a figure to use for determining how much renewable energy is being produced.

The correct method of stating energy production in the DRECP would be to use MegaWatt-Hours or GigaWatt-Hours. This takes into account the wattage being generated and how long it is being generated. Electrical power is sold in KWh, MWh, or GWh increments.

In 2013, total system power for California was 296,628 gigawatt-hours (GWh)

http://www.energyalmanac.ca.gov/electricity/total_system_power.html

Therefor, in order to meet the 33% of retail sales of renewable energy production requirements mandated in California Senate bill No. 2, 2011-2012, the renewable energy production would have had to be around 97,887 GigaWatt-hours annually during that time period. The method in the DRECP of reporting Mega Watt capacity doesn't relate to this figure.

Predicted MegaWatt-Hours must be included in the DRECP.

1.3.5.3.6 Gigawatt-Hours, Megawatts, and Acres

A gigawatt-hour is a unit of electricity that is generated or consumed over time, and therefore is the appropriate measure of California's total energy demand and its progress toward meeting its RPS benchmark. This would also seem to make gigawatt-hours the best measure of renewable energy that is likely to be needed from the Plan Area to keep the state on track to meet its RPS and GHG-reduction benchmarks. But the value of using gigawatt-hours is limited when planning for energy generation and transmission since gigawatt-hours does not provide a measure of the system's capacity—or, more precisely, the amount of electricity that might be generated and moved through transmission lines at any particular point in time. Capacity is usually expressed in terms of megawatts, which are the normal measure of both generating facility and transmission path size. Power plant developers, utilities, and regulatory agencies generally plan electricity generation and transmission by megawatt capacities.

Second item:

I have not read how the acres per MegaWatt of renewable energy was estimated for the photo voltaic, solar thermal, and wind methods of generation.

When estimating the land needed to fulfill the 20,000 MegaWatts capacity, the acres per MegaWatt in table 1.3-4 were under half of what the BLM has in their report on permits for renewable energy production.

DRECP combined photo voltaic and thermal solar power = 7.1 acres per MW each.

BLM permit application: Acres for one MW capacity PV on BLM applications = 18.6 acres per MW

BLM permit application: Acres for one MW capacity Power Tower on BLM applications = 26 acres per MW

DRECP wind power = 40 acres per MW

BLM permit application: Acres for one MW capacity Wind Power on BLM applications = 86.6 acres per MW

<http://www.blm.gov/style/medialib/blm/ca/pdf/pa/energy/solar.Par.84447.File.dat/BLM%20Solar%20Applications%20&%20Authorizations%20April%202013..pdf>

The method for estimating the acres per MW must be included in the DRECP.

Third item:

I have not found any reference to the non-renewable energy that would be consumed in the solar thermal generating plants. Additional non-renewable energy is needed to heat the thermal conductors or thermal mass during times of low or no solar influence.

An estimate of the amount of non-renewable energy that will be used must be included in the DRECP.

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