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Comments on
2007 IEPR - feed-in tariffs
By Local Power

Docket No. 06-IEP-1c and No. 03-RPS-1078

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 06-IEP-1c and No. 03-RPS-1078
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ATTACHMENT A, with Comments

Questions for May 21, 2007

Workshop on Feed-In Tariffs for Renewable Energy

The *2006 IEPR Update* explored a variety of strategies to support post-2010 renewable development, including requiring investor-owned utilities to accept bilateral Renewable Portfolio Standard (RPS) offers under the market price referent, authorizing a system benefit charge for renewable energy, adopting a renewable energy certificate (REC) model, or establishing a renewables feed-in tariff similar to those used in Europe.

In this workshop, the 2007 IEPR Committee seeks input on whether and how a renewable energy feed-in tariff would help California achieve its renewable energy goal of 33 percent renewables by 2020.

[COMMENT: A requirement for standard offer prices for renewable generation is a proven and highly successful model for promoting renewable generation. Last year 10,000 megawatts of wind power were installed in Europe, mostly in countries with feed-in tariffs. It appears unlikely that the state will make much progress at all in meeting its renewable goals without a policy of this nature as well as other important reforms.]

[At this point renewable development is highly contingent on the federal production tax. While this program has clearly been essential in the US for promoting wind power, it has also suffered from three principle drawbacks. First, it is just as intermittant than the wind power it supports, subjecting the industry to "boom and bust" cycles. Second, the credit originally only applied to wind, though it was extended to other renewables in the 2005 Energy Policy Act. Unfortunately, the two year cycle of expiration makes a very challenging timeframe for renewable projects other than wind. Third, it only supports projects for the first 10 years, making it much less helpful than the German solar tariff which pays projects for 20 years-- much closer to a realistic financial lifecycle. Fourth, it only applies to commercial developers who can take tax credits, government agencies, MUNIs and other non-profit vendors are ineligible.]

[Other important supporting reforms include: 1) A surcharge on the bill, like in the German solar program, to finance a feed-in tariff. 2) Eliminate the SEP system, which has been shown to be unfinancable as a revenue stream and is thus nearly useless to project developers. 3) lessen red tape for compliance and lead time for renewable projects. 4) prioritize projects the provide firm capacity for renewables, such as geothermal, pumped storage and biofuel generators. Also integrate hydroelectric capacity with renewables. Search for ways to build renewable capacity while minimizing need for transmission, and provide higher payments to such projects.]

In Europe, feed-in tariffs are set either at a fixed price, or a fixed premium above spot market prices. Price levels and premiums vary by technology, reflecting variation in technology costs. Incentives vary by country; incentives for some technologies are scheduled to decline over time. California is currently implementing two programs with incentives similar to feed-in tariffs. As part of the California Solar Initiative, the CPUC has developed performance-based incentives with set payments per kWh for qualifying solar photovoltaic systems, with payments limited to the size of the on-site load. In response to Assembly Bill 1969 (Yee), Chapter 731, Statutes of 2006, the CPUC is also implementing a

process to determine a tariff rate that will be offered to public water or wastewater agencies for renewable generation and whether this or a similar tariff should be used to spur additional renewable resource development.

[COMMENT: The feed-in tariff should be fixed according to technology. Performance incentives should not be confused with feed-in tariffs, as there are fundamental differences. Feed-in tariffs are actual payments for the electricity which the tariff purchases. Tariff rates are optimally set according not only to a "cost-plus" basis, but must be justified according to value offered. The Germans actually calculated how much solar peak energy was worth, adding up the electric value, the social value, the environmental value and the future risk hedge value. Thus a feed-in tariff is NOT a charity payment, but a payment for real value delivered, which should be a calculated, real amount. This amount should be paid out for 20 years, a sufficient time to retire debt, and annually reset to respond to market changes in the price of fuel, the hedge, social, and environmental value--as well as to insure that projects are brought on line at a sufficient rate to meet the 33% RPS target.]

The 2007 IEPR Committee is asking that parties address the following questions in their verbal and/or written comments for this workshop:

1. To encourage additional renewable energy development, explain whether and why you support:
 - a. Creating California renewable feed-in tariff (or tariffs) instead of an RPS in the 2011-2020 time period.
 - b. Creating feed-in tariffs as a complement to an RPS in the 2011-2020 time period.
 - c. Developing feed-in tariffs or similar incentives as part of the current RPS program to meet 2010 targets.
 - d. None of the above.

[REPLY: We support creating a feed-in tariff as an essential tool for realizing the 33% RPS as well as the 2010 target. The current system is clearly in a state of crisis and needs a radical remake or the policy will fail.]

Please answer the following questions for the policy option you selected in question 1:

2. The 2006 IEPR Update noted that feed-in tariffs have contributed significantly to impressive levels of renewable energy development in Germany, Denmark, and Spain and recommended similar policies for California. Is any updated information available on the disadvantages and benefits of using feed-in tariffs in California for renewable energy?

[COMMENT: There are a few important points here. First, a feed-in tariff is a demand side solution and the European experience has shown that it can, if set high enough, strain the capacity of industry to keep up. This has resulted in increased costs for infrastructure. Of course, feed-in tariffs are not the only cause, as exchange rates and rising materials costs have also played a role. Nevertheless, it is important to look at

the larger market forces, and also, as has been done in Europe, to look at the supply side as well. European countries have been just as interested in providing incentives to expand manufacturing to complement the demand side payments. This approach provides a balance and also can stimulate economic benefits for--and within-- the state. On the other hand, if California continues with a "least cost" strategy transferred to renewables this will likely fail. European countries that do not set tariffs high enough have not been nearly as successful as those with fixed, long term rates that are reasonably generous.]

3. In support of meeting the goal of 33 percent by 2020, what lessons from feed-in tariffs in Europe should be applied to development of feed-in tariffs in California? What lessons, if any, from California's experience with standard offer contracts should be applied?

[COMMENT: It is very important to structure payments together with reasonable system planning to insure the grid systems are met. While this is particularly true as renewables grow beyond 20%, it is even true today since the IOUs and CPUC make decisions based upon "the next thing" that is needed to hold the grid together. The three agencies and load serving entities should work together to create development plans that will, in fact, meet reliability needs into the future-- a vision of how to transform the energy system in a realistic way. This may require answering some very technical questions and working in creative ways to answer them.]

4. What are the mechanics for determining the appropriate tariff(s)?

a. How would the tariff level(s) be determined? What are the relevant data points?

[REPLY: As stated above the rate needs to be fully justifiable based upon a REAL MIX of value factors, so it is not in fact or perception a subsidy or special handout. We consider this point to be extremely important, and it was the decisive foundation for the German Feed-in Tariff for solar energy:

- An assessment of actual energy system value
- An assessment of environmental value, including carbon and air pollution avoidance; carbon should be valued at rate ruled by CPUC; ExtenE method can be used to assess other environmental impacts
- An assessment of social value, in avoiding siting polluting power plants in low income neighborhoods, as well as health and job creation
- An assessment of levelized costs that is realistic
- A reasonable adder to account for future natural gas fuel market price risk hedge
- An assessment of updated market conditions and program response to insure tariffs are working to achieve RPS program targets in a timely way]

b. Is a single tariff for all renewable technologies appropriate, or should there be distinct tariff levels for individual technologies, project sizes, geographical areas (for example, based on the quality of the wind resource), or other factors?

[REPLY: Unquestionably there should be several tariffs. For example, peak electricity from

solar power should be paid according to the extra value it provides. Distributed electric sources, or those that address transmission or reliability constraints, should be given priority. There should not, in our view, be adjustment for geographical areas, as this introduces artificial constraints that might reward poor resource choices. Resources should not be developed if they are not economical, but local areas should develop the best technologies in their own regions. Project sizes should be optimized for best economy rather than create an incentive for uneconomic projects. Smaller projects should only be rewarded if they address the system needs, such as suggested above.

Other factors, especially ownership, should NOT be used to establish the rate, since that would provide incentive to develop less economic resources in less economical ways. The tariff should be set to assume third party ownership with a generous rate of return. The widest range of sellers feasible should be included in the market as vendors. In addition to IPPs, also Municipalities, non-profits, and CCAs should be allowed to sell into the feed-in market. This will strongly incentivize development]

c. Should tariffs be specific to renewable facilities/technologies within California, or should they be determined comprehensively based on national and international data and experience?

REPLY: Tariffs should clearly focus on in-state, and preferably local, resources. They should be specific according to costs, resources-- and to a degree technologies-- that are preferred within the state. For example, the state should decide whether it will support flash or closed loop binary geothermal development. We strongly suggest that flash technology not be allowed since it has environmental and resource problems, and that the tariffs be set according to binary technology. A separate feed-in tariff might be set for experimental or emerging technologies, such as wave, tidal, renewably fueled fuel cells, and photovoltaics.]

d. How and on what schedule should the tariff(s) be updated? Is there enough flexibility in the state regulatory process to allow for updates in a timely way?

REPLY: The main issue should be: is progress being made in meeting the targets on the established schedule. If not, then the commission needs to step on the gas and raise the tariff until there are takers. But, if the market research is well done, and the tariff is reasonably generous, then the developers will come and adjustment should be less necessary. The main issues for business are:

- is the payment enough to guarantee cost recovery
- Is the payment long enough to lower investor risk and thus cost of capital
- Is there adequate rate of return

There will need to be ongoing review, but there should not be need to correct the payment system too often. In general, developers want predictability far more than tweaking to get the exact "right" answer.

From: "rfreeh" <rfreeh123@sbcglobal.net>
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Date: 5/29/2007 3:21 PM
Subject: docket No. 06-IEP-1c and No. 03-RPS-1078
Attachments: feed-in tariff comments by local power.PDF

Attached is a pdf file of comment on the feed-in tariff proposal by Local Power.

Thank you,

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