Feed-In Tariff Design and Implementation Issues and Options
June 30, 2008 Workshop
Comment and Response Synopsis

This synopsis of comments and responses reflects written and oral comments received on the "Feed-In Tariff Design and Implementation Issues and Options" paper that was presented to stakeholders for the June 30, 2008 staff workshop. Comments have been summarized or truncated and are not direct quotes. A significantly more detailed breakdown of comments and responses is available upon request. Comment letters are also available on the Commission's web site under the Renewable Portfolio Standard (RPS) docket.

A. Should feed-in tariffs be expanded or limited to projects 20 MW or less?

Comments:
The majority of comments opposed expanding feed-in tariffs to projects larger than 20 MW because of concerns which included:

- Lack of clear objectives.
- Be counterproductive because of incompatibility with the existing RPS.
- Need to further evaluate current feed-in tariff programs before expansion.
- Existing RPS solicitation is adequate.
- Regulatory command-and-control approach should not replace current market-driven competitive solicitation.

There were some comments in support of expanding tariffs primarily based on the notion that the current solicitation process is not meeting RPS renewable energy objectives.

- FITs should be available until either technical capacity is reached or until RPS goal is exceeded.
- No min or max energy production.
- Focus on getting projects built; include all possible RE generators.
- Need another tool to meet RPS goal
- FITs a more reliable instrument for investment

Responses:
Staff's response is consistent with the comments that the existing RPS is not on track to meet RPS goals. Staff considers it appropriate to consider the role a feed-in tariff can play in meeting those goals. In addition, feed-in tariffs can be structured and designed to be responsive to market conditions by addressing speculative queuing, and by giving careful consideration to how the tariff price is set and adjusted; how the tariff is differentiated by technology, size, and location; and by how costs are allocated. And finally, implementing a feed-in tariff would not preclude continuation of the current competitive solicitation process, but could rather operate in parallel to the existing process.

B. What are the barriers to renewable resource development that have led to delay or project failure of RPS contracts that feed-in tariffs may overcome?

Comments:
Most of the comments instead focused on barriers that feed-in tariffs would not address. Key barriers to increasing renewable energy include:

- Lack of transmission
- Lengthy permitting and siting process
- Uncertainty surrounding continued availability of tax credits
- Increasing raw material costs

Arguments in support of a feed-in tariff were based on the following considerations:

- Inability of Independent Power Producers to obtain financing compared to investor-owned utilities (IOUs)
- Development of renewable energy is impeded by inaccurate natural gas price forecasts the Market Price Referent (MPR)
- Speculative queuing prevents viable projects from being built
- Current solicitation is not working as evidenced by the high delay and/or failure rate of projects

Responses:
While recognizing there are legitimate constraints on how and when a feed-in tariff could be implemented, nevertheless the 2007 IEPR directed staff to examine how a feed-in tariff might increase renewable energy generation within acceptable parameters of risk and cost to ratepayers. There are existing efforts underway, such as RETI, to help address transmission barriers; by working in concert with RETI a feed-in tariff could expedite development of new renewable energy resources. In addition a feed-in tariff can increase transparency in the contracting process and reduce speculative queuing.

C. What are the costs and benefits associated with feed-in tariffs for larger projects from the administrator, ratepayer and societal perspective?

Comments:
Most of the comments focused on the potential cost impacts that a feed-in tariff might have, and expressed reservations regarding its compatibility with the existing RPS program and its potential cost impact to ratepayers:

- Costs
    - Expansion of a feed-in tariff would directly compete with the existing RPS solicitation which would be detrimental to ratepayers
    - Feed-in tariffs would remove the risk from project developers and place the burden on the ratepayer instead
    - Ratepayer backed feed-in tariffs would stifle efficiency and innovation, and customer driven product development in particular
    - Historically, large numbers of standard offer contracts have led to high priced power

- Feed-in tariffs are not consistent with the Commission's commitment to the policy of customer choice, and any system that implements new non-bypassable charges should be carefully considered

There were also a few comments regarding the potential benefits of a feed-in tariff on reducing contracting costs and the potential to open up new investment:

- Benefits
  - Reduce costs of contract negotiation and regulatory oversight
  - Adjust costs based on price or value of energy to reduce development risk
  - Make investments easier to obtain resulting in more renewable energy
  - FIT could create more distributed generation to expand availability of renewable energy
  - FITs at a level of 1-20 MW could fill the gap that the RPS process doesn't sufficiently address

Responses:
In general, the long-term costs of failing to meet RPS objectives (associated with climate change and increasing fossil fuel costs) may significantly outweigh the short-term costs of developing new renewable energy resources through the use of a feed-in tariff. Furthermore, based on the current inability of the existing RPS solicitation to put California on a path toward meeting mandated renewable energy objectives it is prudent to consider alternatives such as a feed-in tariff. When compared to the existing solicitation process the benefits of increased transparency and certainty that a feed-in tariff offers may result in the more timely development of renewable energy resources. In addition a feed-in tariff can be designed and structured in such a way that costs to ratepayers can be minimized by determining the rate through competitive benchmarks and/or by designing a tariff that declines over time.

D. Could feed-in tariffs help increase the mix of renewable energy resources in California and thereby have a dampening effect on electricity price fluctuations?

Comments:
Some of the stakeholders believed that feed-in tariffs are not likely to increase the mix of renewable energy resources in a way that would reduce electricity price fluctuations, and that it is premature to predict what the cost impact of a feed-in tariff might be. Others felt that a feed-in tariff is a necessary alternative financial tool to increase the amount of renewable energy generation in California, and that costs could be controlled through careful design of the tariff.

Responses:
Staff noted that practical experience with feed-in tariffs in Europe demonstrate that feed-in tariffs can be an effective tool for increasing the mix and amount of renewable energy resources. With a diverse mix of renewable energy, system reliability can be improved and prices fluctuations based on volatility of natural gas supplies would be dampened.

E. Are feed-in tariffs supported by the same guiding principles used to develop the same RPS procurement process?

Comments:
Several comments focused on the concern that a feed-in tariff is a departure from a commitment to competition at the generator level, and that a tariff represents a regulatory "command and control" approach that will increase costs to ratepayers.

- A feed-in tariff is inconsistent with the competitive procurement process entirely, and instead imposes a mandatory purchase obligation for the IOUs to take any and all types of renewable generation regardless of the least-cost, best-fit analysis.
- A feed-in tariff does not allow for the market to compete in terms of pricing, technology, and development.
- Feed-in tariffs represent a regulatory approach to energy infrastructure that will be a more costly "command and control" approach which is also potentially detrimental to technological innovation.

Other comments noted that a feed-in tariff is not entirely different from the existing solicitation in that they both support renewable energy generation that is above market prices, and that a tariff may be necessary to meet RPS objectives:

- A feed-in tariff does not function much differently than what we are using today with the utility Request for Offers (RFO's), which are largely command-and-control in that they agree to pay a price for renewable energy generation whether or not the markets are supporting that investment.
- If the current competitive solicitation does not result in more renewable energy resources, then other alternatives should be considered.

Responses:
Staff believes a feed-in tariff can be consistent with the guiding principles of the RPS. Specifically, it can help increase renewable energy capacity by increasing financial certainty for developers. In addition, it can be structured in such a way that is consistent with the principles of competition and reducing risk and ratepayer exposure.

F. Can feed-in tariffs be designed to bring down costs and limit ratepayer exposure?

Comments:
In general the comments reiterated concerns already expressed above that a feed-in tariff, with one exception noted for solar, could increase costs to ratepayers, and that evaluation of the current program is needed before expanding the use of feed-in tariffs in California.

- A feed-in tariff can be designed in such a way to achieve RPS objectives without increasing costs.
- It is premature to predict the costs impacts of a feed-in tariff. It would be appropriate to consider them after evaluating the impact of the current program.

- Increased use of feed-in tariffs will create new non-bypassable charges without any corresponding risk management, making it more difficult for non-utility suppliers to offer customers competitive options.
- The very specific use of a feed-in tariff, structured appropriately, could provide a potential solution to the current tension surrounding the various subsidies supporting solar generation and its impact on non-participating customers.

Responses:
A feed-in tariff can be designed and structured in such a way that costs to ratepayers can be minimized by determining the rate through competitive benchmarks and/or by designing a tariff that declines over time. In addition, as previously stated, a diverse mix of renewable energy will increase system reliability and dampen price fluctuations based on the cost of natural gas. Furthermore, a feed-in tariff can be designed to include mechanisms to periodically adjust price as a method of risk management. And finally, costs can be controlled by setting a quantity cap based on capacity or generation or by capping it based on a percentage of annual electricity sales.

G. How should feed-in tariffs be designed to effectively support California's RPS programs and Renewable Energy Transmission Initiative (RETI)?

Comments:
Staff received significant, wide ranging comment reflecting the wariness and uncertainty of stakeholders regarding the compatibility of feed-in tariffs:

- The Energy Commission should assist and encourage electrical corporations to develop voluntary programs that both meet their business objectives and address particular market needs. This would allow the Energy Commission and California Public Utilities Commission (CPUC) to expend their efforts on larger, more urgent issues associated with transmission development in California.
- Expansion of the RPS program to include tradable Renewable Energy Credits (RECs) will result in a more market-based approach to renewable development, stimulate innovation, and help ensure that cost effective solutions to the state's renewable energy objectives are realized. The efficacy of the RPS with RECs should not be undermined at the outset by the adoption of feed-in tariffs.
- It is critical that feed-in tariffs not undermine the RPS program. RPS eligible projects that quality for the feed-in tariff should be allowed to participate in either the feed-in tariff program or RPS solicitations.
- Feed-in tariffs should not be expanded until we have more experience with the existing program. The current policy that customers should not be able to participate in both a feed-in tariff and the net energy metering should not be changed.
- For larger projects, there should be performance standards that are built into the tariff to ensure sustainability and that the projects are being maintained.
- IOUs will want equivalent requirements to those used in Europe where they separate the two or three different kinds of tariffs into specific amounts so you do not have to have a must-take for an unlimited amount of renewable resources.

- To ensure that a feed-in tariff does not only benefit the low cost provider, the defined rate and standard offer are two fundamental concepts that need to be involved in any feed-in tariff program.
- Feed-in tariffs could establish a rate base per technology that encourages investment by producing revenue that makes the risk of investing worthwhile.

Responses:
Yes feed-in tariffs should be designed to support RPS. Specifically, a California feed-in tariff would support the RPS law by providing another funding mechanism to help site renewable energy projects. There are numerous options for how a tariff can be structured and designed to support the RPS. The report will inform the 2009 IEPR proceeding regarding potential implementation pathways for a feed-in tariff.

A feed-in tariff can be tied to new transmission in a CREZ to expedite the development of renewable energy generation. Tying a feed-in tariff to a CREZ would serve as a basis for setting technology specific tariff prices.

H. Should feed-in tariffs be differentiated by selected technologies or size?

Comments:
Comments reflected support for both approaches, with some support for specific technologies, such as biomass. A value-based approach was also proposed, with the suggestion that a value-based approach might negate the need for technology-specific tariff. A cost-plus approach was also suggested, targeting renewable generation tied to areas of high quality for resource development.

- Given that different technologies have differing costs and value associated with their construction and operation, feed-in tariffs should be differentiated by both technology and size.
- In California, any tariffs should be differentiated based on size with different performance standards, such as grid impacts and reliability, and level of intermittent delivery.
- It is more practical for any feed-in tariff to be value-based, not cost-based. Cost-based tariffs would reward less efficient and less beneficial resources. Moreover, a tariff that considered time-value of generation would account for technology specific differences in generation profile and would negate the need for technology specific tariffs.
- The Energy Commission and CPUC as a part of an effort to implement Executive Order S-06-06, should consider creating a special statewide feed-in tariff offering exclusively for biomass and biogas facilities, which are increasingly under represented in RPS solicitations. A tariff that is sufficient to make development of new biomass projects viable will attract a good deal of interest.
- A feed-in tariff should be generic and apply to all new small technologies equally, putting all technologies on the same footing.
- Feed-in tariffs should be designed to meet specific goals, including goals that are focused on emerging technologies, location, etc. However, the Energy Commission should

encourage utilities to adopt new tariffs on a voluntary basis rather than adopting a statewide tariff.

- The Energy Commission should look at technology benchmarks. The feed-in tariff should reflect the actual cost to develop the project, and not be tied to the MPR which may not reflect the cost to stimulate investment in a particular technology.
- Because renewables are intermittent and non-dispatchable, a solicitation process might be better to complement your overall grid management rather than having to accept everything that comes in with the uncertainty of whether it will be overwhelmingly wind or solar, which have very different generation profiles.
- Renewable resources should be developed using a cost-plus methodology that develops the resource in areas that have the highest quality for that resource, solar for example.

Responses:
Differentiating a feed-in tariff by technology or size will depend upon the policy options laid out in the 2009 IEPR. This could include a full-market tariff with no technology or size restrictions to a pilot tariff limited by location, size, and/or technology.

I. What levels of resource potential and/or operational characteristics should be considered in determining feed-in tariffs?

Comments:

- The resource should have the potential to allow generation for the period of time necessary to at least ensure debt repayment.
- Performance standards, efficiencies, and delivery caps should be considered in the design of any feed-in tariff.
- Sustainability is a key issue, and with any generation it is important to consider designs that will prevent investment from being abandoned or not properly maintained.
- Allow a feed-in tariff for existing generation facilities that seek new contracts. It might be reasonable to develop feed-in tariff contracts that have a tolling provision element in the pricing mechanism.
- Location and dispatchability should be considered.
- If you have under-represented technology sectors, then you may want to look at them differently from a price perspective in order to increase their relative contribution to renewable generation.

Responses:
Resource potential is a key consideration in designing a feed-in tariff that supports RPS objectives. In addition, staff supports the idea that value of operational characteristics should also be considered. In summary, a feed-in tariff can be used to meet policy objectives or to target operational characteristics.

J. Should feed-in tariffs be differentiated by geographical location, or just by an in-state or out-of-state designation?

Comments:
Stakeholder comments voiced concern over how potential costs of a feed-in tariff would be distributed across the state and who would be obligated to participate.

- Differentiating a tariff by geographic location runs the risk of oversubscription to that area. Limitations would need to be in place to prevent this.
- Any over-market costs of feed-in tariffs should be borne statewide, regardless of the location of the generation. All Load Serving Entities, including Publicly Owned Utilities (POUs), Community Choice Aggregators (CCAs), and Energy Service Providers (ESPs) providing power to direct access customers should be required to participate in an expanded feed-in tariff program.

Responses:
Staff agrees that the feed-in tariff should be designed to prevent oversubscription, regardless of whether the tariff is limited by location or is statewide. The decision on whether the feed-in tariff is full market or limited by geographic location will depend upon the policy option direction from the 2009 IEPR.

K. How should costs be distributed?

Comments: The majority of comments stated that costs should be shared equally amongst all ratepayers since RPS and emissions goals are statewide.

- A tariff system would be less expensive to administer than the current RPS solicitation.
- A statewide tariff should be borne by all ratepayers, not just those residing within the territory of an IOU.
- Only above market costs should be borne statewide.

Responses:
Staff agrees in principle that costs should be distributed equitably, but how those cost are allocated depends on the design of the feed-in tariff, and whether the tariff is statewide, limited by geographic location, or by utility.

L. Should feed-in tariffs replace the current MPR plus AMFs to support the RPS?

Comments:
The majority of the comments do not suggest feed-in tariffs replacing the current Market Price Referent (MPR). Comments did recommend that feed-in tariffs be decoupled from fossil fuel costs. Above MPR Funds (AMFs) are intended to continue to be meaningful ratepayer protection in the RPS process. There was concern, however, that a feed-in tariff would set a price floor and eliminate cost protections set forth in Senate Bill 1036.[1]

[1] SB 1036; Chapter 685, Statutes of 2007.

One comment suggested that feed-in tariffs replace the MPR system, because it could eliminate much of the time consuming negotiations necessary to implement the present MPR system.

Responses:
Staff does not recommend replacing the MPR with a feed-in tariff. A feed-in tariff would offer a alternative financing mechanism for renewable energy. However, for an expanded feed-in tariff, staff supports the idea of decoupling the tariff from fossil fuel prices. In addition, feed-in tariffs can be designed to include ratepayer protections through mechanisms such as caps or price degression.

M. How could AMFs and feed-in tariffs work together?

Comments:
Comments reflected two views on this matter. Some suggested that AMFs could work as cost adders to the feed-in tariffs. On the other hand, stakeholders noted that AMFs cannot work with a feed-in tariff because contracts for AMFs must be selected through a competitive solicitation process.

Responses:
A feed-in tariff would not be eligible for AMFs because it is a separate financing mechanism from the RPS, which is based on the MPR. In addition, a feed-in tariff is administered through a standard offer contract while the RPS eligible AMF requires competitive solicitation.

N. How should feed-in tariffs be designed to contain costs and encourage renewable energy development in Competitive Renewable Energy Zones (CREZs)?

Comments:
Comments suggested that feed-in tariffs could increase generation to match new transmission systems. However, a feed-in tariff does not necessarily have to be 100% linked to CREZs. The following are comments reflecting these views:

- Building in CREZs would contain costs.
- More work should be done on permitting, siting and construction of transmission before renewable plants are built in the area.
- Discussions should not be linked directly with the RETI process. Other transmission areas should be explored.
- When the transmission gets built in the CREZs, then procurement needs to be increased to match.
- Place a cost on transmission relating to the environmental values of the location.

Responses:
Staff agrees that by developing renewable energy generation within CREZs would help contain costs by focusing on high renewable resource areas that are also cost competitively accessible for new transmission. Staff also agrees that new transmission could facilitate to construction of new

renewable energy projects. RETI is intended to research renewable resource potential, outline least cost/high yield locations for building transmission, and explore zones of environmentally low sensitivity. A feed-in tariff can be designed to develop projects in high resource potential areas, and would also expedite the procurement of new renewable generation.

O. What is the proper implementation structure for feed-in tariffs for generators larger than 20 MW?

Comments:
Although many parties feel the feed-in tariff should be limited to facilities under 1.5 MW, the following comments are issues that deal directly with generators larger than 20 MW:

- Maintain the existing solicitation process because large generators require very specific and customized contract language that meets the needs of their individual project.
- A feed-in tariff should be open only to resources and technologies meeting defined eligibility standards enforced by the Energy Commission.
- Implement a step process for tariff rates.
- Set different pay levels based on project size.
- California Energy Commission and the CPUC need not be bound by historical practices as they consider an expansion of the feed-in tariff.
- Impose using flexible maximum subscription levels to allow for demand growth.
- Change the California Independent System Operator (California ISO) queue to require a deposit to weed out serious bids from frivolous ones.

Responses:
Staff believe that the feed-in tariff should only be available to RPS eligible technologies. Staff believes that the feed-in tariff must be set at a rate high enough that will result in new renewable energy generation. In addition, the structure and design of the tariff are future implementation issues that will be addressed in the 2009 IEPR. Staff agrees that it is important to design reservation systems that assure viable projects make their way to the head of the transmission queue.

P. How should feed-in tariffs be administered?

Comments:
There was a wide range of suggestions on how to administer the program.

- Feed-in tariffs should match load with need; priorities as to what type of energy is required and the technology to produce the energy determined.
- A queue should be established based on the value of its energy resource and the likelihood of the ability to obtain financing.
- Costs of the program should be captured administratively through taxes or charges at the distribution system.

- If the feed-in tariff is established as part of the RPS program, then it should be set at the market price as determined by the CPUC.
- If the feed-in tariff is separate from the RPS program, the rate could be set at a level designed to attract renewable power to meet the cap established on capacity.
- A standard offer contract is fundamental in a feed-in tariff program.

Responses:
Staff conceptually supports equal distribution of cost. The feed-in tariff can be administered at the utility or state level. If it is administered statewide, cost could be recovered through a mechanism similar to the public goods charge. A determination on how a feed-in tariff would be administered is an issue that would be addressed in a proceeding if directed in the 2009 IEPR.

Q. How should feed-in tariffs be adjusted to match supply and demand?

Comments:
Comments focused on the need to match supply with demand, meet state objectives, be coupled with incentives, and include appropriate mechanisms to protect both the buyer and the seller. In addition, the following concerns were also identified:

- Feed-in tariff should match the load with the need and establish generating requirements for amounts of base load and peaking.
- Designed in such a way to ensure California ISO can maintain a safe and reliable grid.
- Tariff rate should be flexible in order to fluctuate with supply and demand.
- To avoid an open-ended supply of contracts the tariffs should be offered for finite time and/or quantities.

Responses:
A feed-in tariff can be set to match supply and demand through several pricing mechanisms. For example, the price of a value-based tariff can be determined based on time of delivery. A cost-based tariff can be used by competitive benchmarks, which are based on most recent comparable competitive price of the last utility solicitation results or periodic auctions. A feed-in tariff can be set at market price for energy, which floats, with a constant premium above market value.

R. How should feed-in tariffs be linked to statewide RPS targets?

Comments:
The majority of comments were in favor of linking the feed-in tariff with that of RPS targets and focused on the following:

- The tariff should incorporate environmental attributes (RECs, emission performance benefits, etc.)...
- All benefits should be held by the utility contracting with the generator.
- All RECs should count towards RPS.
- RPS should be the floor and all other tariffs should help surpass the RPS objectives.

One stakeholder commented that a feed-in tariff would not serve any purpose in reaching RPS goals, and that the Commission should instead focus on implementing tradable RECs.

Responses:
The feed-in tariff offers another financing mechanism to help build new renewable energy projects and is intended to help the state meet its renewable energy objectives. Other issues related to RPS implementation would be addressed through the CPUC/CEC collaborative.

S. What current state and federal legislation may affect development of a feed-in tariff for generators larger than 20 MW?

Comments:
Stakeholders pointed out that PURPA and FERC regulations state that utilities can only purchase power from QFs at avoided cost. This means that the feed-in tariff would have to be set at avoided cost. Further, IOUs are required to follow a least-cost/best-fit evaluation in selecting renewable projects. A feed-in tariff would directly compete with this requirement.

Responses:
Comment noted. Staff acknowledges that there may be legal barriers regarding the interaction between state laws, federal laws, and feed-in tariffs.