Summary Title: Renewable Feed-in Tariff Policies and Guidelines

Title: Approval of Policies and Guidelines for a Renewable Energy Feed-in Tariff

From: City Manager

Lead Department: Utilities

Recommendation
Staff and the Utilities Advisory Commission (UAC) recommend that the Finance Committee recommend that the City Council adopt the proposed Renewable Energy Feed-in-Tariff Policies and Guidelines (Attachment A).

Executive Summary
A Feed-in-Tariff (FIT) is a purchasing mechanism that enables owners of small local renewable generators (primarily rooftop solar panels) to sell power to the electric utility for a fixed price. The electric utility is in turn able to include the energy in its supply portfolio and count it towards its Renewable Portfolio Standard (RPS). Staff recently completed an initial evaluation of renewable FITs as a method of purchasing renewable power and is now proceeding to design a program. The attached policies and design guidelines reflect staff’s proposed approach to FIT program development. If the policies and design guidelines are approved, staff would return to City Council for approval of the detailed program later this year with the goal of launching the program in early 2012.

Background
On March 7, 2011, Council unanimously approved the Long-term Electric Acquisition Plan (LEAP) Objectives, Strategies and Implementation Plan (Staff Report 1317). LEAP Strategy #3 (RPS) and Strategy #4 (Local Generation) require the evaluation of the use of FITs to meet the City of Palo Alto (City)’s RPS goal of supplying 33% of its power from renewable sources by 2015 and to encourage the development of local ultra-clean generation. Earlier this year staff evaluated the use of FITs in Palo Alto and held study sessions with the UAC. Based on that evaluation staff proceeded with the development of the proposed FIT Policies and Guidelines (Attachment A), which were reviewed by the UAC on April 6, 2011.

Discussion
The City has an RPS goal to supply 33% of its power from renewable sources by 2015 while not exceeding a 0.5 ¢/kWh impact on rates. Power from currently committed renewable resources is expected to meet approximately 30.8% of the City’s annual electric energy needs in 2015
leaving a gap of approximately 23,000 MWh/year, or 2.2% of load, to meet the 33% RPS goal by 2015. Part of this gap could be filled with power procured through a renewable FIT program.

The renewable FIT program that staff is designing will be “value-based”, meaning that it is based on the value of the energy to the City. The alternative is a “cost-based” FIT, which is based on the cost to build and operate the generator and is designed to guarantee a rate of return to the developer even if it means setting the rate higher than the value of the energy to the utility. Unlike a cost-based FIT, a value-based FIT will not increase the City’s cost of renewable power over other power purchasing methods because it is based on the market value of the power.

Given current market prices, if the remainder of the City’s RPS goal were achieved using only local renewable sources purchased through the FIT program, staff believes the total cost of the City’s renewable power supply would have less than a 0.5 ¢/kWh impact on rates, the goal included in the LEAP. It is worth noting, though, that a FIT program will have higher contract and program administration costs than the City’s traditional purchasing methods because it involves many small contracts rather than fewer larger ones.

Under a FIT program, the City will offer a fixed long-term rate and standard power purchase agreement (PPA) to any developer of an eligible generator in Palo Alto. Eligible technologies will initially include solar, wind, and biogas fueled generators. If developers’ projects fit the program guidelines, they would be able to sign up for the standard contract and rate unless the program is already fully subscribed. For example, if the City offered a program with the following terms: a fixed rate of 15 cents per kilowatt-hour (¢/kWh) for 20 years, any solar developer willing to build a project in Palo Alto by the deadline, follow the program rules, and agree to the standard contract terms could apply for the program and sign a 20-year PPA to sell power at 15 ¢/kWh so long as there was still capacity remaining in the program.

The proposed Renewable FIT Policies and Guidelines (Attachment A) will be the basis for the program. Below are some of the key features of the Policies and Guidelines:

1. The FIT will be value based.
2. A standard non-negotiable contract will be used.
3. Fixed rates will be available for solar, wind, and biogas-fueled generators.
4. Rates will take into account the value of the project to the utility, including the renewable attributes, avoided transmission and distribution costs, local capacity value, and the time of day the technology typically generates electricity.
5. The contracts will require the transfer of all energy, green attributes, and capacity attributes (if applicable) to the utility.

The FIT program differs from the Request for Proposal (RFP) process, the method the City has used to-date to purchase renewable power. In an RFP process several developers offer projects, then the utility chooses the developers with the lowest priced feasible projects, and negotiates PPAs with each one. An RFP process has worked well for obtaining contracts from larger projects, but the costs and uncertainty associated with preparing a bid are too high for
small local developers. A FIT program will reduce costs and provide local renewable project developers certainty because of the fixed long-term rate, the standard contract, and the fact that it is open to any developer rather than only those who are selected through an RFP process.

In addition to enabling smaller developers to supply power to the City, a FIT program can deliver benefits to other stakeholders as well, including:

- Benefits to the utility, such as the fact that renewable energy is generated locally, meaning lower transmission costs than for remote renewable resources. Also, local generation can help maintain regional (Bay Area) electric grid stability, which can result in financial benefits to the utility
- Benefits to the site owner, including additional revenue from power sales or roof rental. A FIT can also provide a way for owners of multi-unit commercial rental properties to take advantage of distributed generation. Under traditional incentive programs like the City’s Photovoltaic (PV) Partners program, the solar projects are typically built behind the customer meter, offsetting their consumption. This benefits the utility customer rather than the building owner, meaning there is less incentive for the building owner to install solar panels.
- Benefits to the community, such as the potential for money spent on renewable power to return to the community. The community can also take pride in generating renewable power locally.

**Timeline**
Upon Council approval of the renewable FIT Policies and Guidelines, staff will proceed with program design and bring a proposal to Council in December 2011. The program will include fixed rates, the standard contract, program rules (such as minimum system size and deadlines for project progress), the amount of capacity to be procured, and any other necessary changes to the City of Palo Alto Utilities (CPAU) rules and regulations, such as interconnection agreements or metering requirements. Staff’s objective is to obtain Council approval in time to launch the program in early 2012.

**Commission Review and Recommendation**
Staff held two study sessions related to FITs with the UAC, one on February 2, 2011 and the second on March 2, 2011. At these meetings the UAC supported the adoption of a FIT for local renewable generators as long as it was based on the value of the energy to the utility and not on the cost of generation. The proposed Renewable FIT Policies and Guidelines are aligned with the UAC’s preference.

On April 6, 2011 the UAC reviewed the proposed policies and design guidelines for a value-based FIT and unanimously recommended that the Council approve them. The minutes of that meeting are provided as Attachment B.

**Resource Impact**
Aside from the staff time associated with designing and launching the program, there will be
some additional ongoing cost associated with program administration and interconnection and permitting of new solar projects. The costs will depend significantly on the number of projects that participate in the program, and may range from a negligible staff impact to 2/3 of a Full-Time Equivalent or more. Most of these costs are related to permitting and interconnection, meaning the costs would be recovered by the City’s existing permit fees. At this time staff does not anticipate a need for additional permanent staffing, but will return with a more in-depth projection of costs and staff time associated with the program when returning with the detailed program design this fall. Any necessary additional resources would be requested via a Budget Amendment Ordinance or through the Budget Process.

Policy Implications
The proposed Renewable FIT Policies and Guidelines help meet the Council-approved objectives under LEAP Strategy #3 (Renewable Portfolio Standard, or RPS) and LEAP Strategy #4 (Local Generation) and support the Council-approved Energy Risk Management Policies, and Comprehensive Plan Goal N-9 (a clean, efficient, competitively-priced energy supply that makes use of cost-effective renewable resources).

Environmental Review
Approval of the proposed Renewable FIT Policies and Guidelines does not meet the definition of a project pursuant to Public Resources Code Section 21065, thus no California Environmental Quality Act review is required.

Attachments:
- Attachment A: Proposed Renewable FIT Policies and Design Guidelines (PDF)
- Attachment B: Excerpted Draft UAC Minutes of April 6, 2011 (PDF)

Prepared By: Jon Abendschein, Resource Planner
Department Head: Valerie Fong, Director
City Manager Approval: James Keene, City Manager
City of Palo Alto Utilities (CPAU)
Proposed Renewable Energy Feed-In-Tariff (Renewable FIT) Program Policies and Guidelines

POLICIES
1. The Renewable FIT program’s objective is to maximize fulfillment of the City of Palo Alto (City)’s Renewable Portfolio Standard (RPS) from local renewable sources.
2. Enrollment will be capped at the amount of energy projected to be required to fulfill the City’s RPS.
3. Eligible resources will include those that are deemed renewable by the California Energy Commission (CEC) and that can be included in meeting RPS goals including solar photovoltaic (PV) systems, wind, and biogas-fueled generators.
4. Eligible resources are to be located in the City and connected to the distribution system on CPAU’s side of customer meters.
5. The Renewable FIT rate, set as a fixed-price in cents per kilowatt-hour (kWh) for a twenty-year term, will be based on CPAU’s avoided energy and capacity cost (i.e., value-based) and may vary by load shape for each renewable resource type.
6. The agreement between CPAU and program participants will be a non-negotiable, twenty-year standard contract available to all eligible resources.
7. Program participants will be responsible for direct costs associated with the project (such as interconnection and metering).
8. Projects with a Renewable FIT will not be eligible for a net metering tariff or incentives under the PV Partners Program, the Power from Local Ultra-clean Generation Incentive (PLUG-In) Program, or any other CPAU-funded incentive program.
9. City Council must approve the Renewable FIT rates, standard contracts and updates.

PROGRAM DESIGN GUIDELINES
1. The methodology for calculating avoided cost should include all of the following that apply to the technology in question:
   a. The value of renewable energy (including the value of avoided carbon);
   b. Local capacity value related to the applicable characteristics of the technology;
   c. Avoided transmission charges, transmission losses, and ISO charges;
   d. Avoided distribution losses; and
   e. Any other avoided costs attributable to local renewable generation
2. A standard contract will be established and published. The term will be 20 years.
3. A program cap will be established.
4. Maximum and minimum limits on individual project sizes may be used to limit the number of projects or the risk associated with the operation of any single project. These may be differentiated by technology type.
5. Updates to rates, contract terms, or program size should occur at regular scheduled intervals or should involve substantial advance notice to project developers.
6. Metering requirements will be designed to meet any applicable California Independent System Operator (CAISO), Northern California Power Agency (NCPA), and City operational requirements.
7. Interconnection rules will be established or modified to ensure FIT projects meet all City, NCPA, and CAISO operational requirements. Interconnection rules may be modified on a schedule independent of the FIT update schedule.
8. The FIT program will be designed similarly to FIT programs in other utility service areas where desirable, reasonable and feasible.
ITEM 1: ACTION: Proposed Policies and Guidelines for Renewable Energy Feed-In-Tariffs
Utilities Resource Planner Jon Abendschein provided a presentation summarizing the key points in the development and approval process of a Renewable Feed-in-Tariff (FIT) program in Palo Alto to meet the Long-term Electric Acquisition Plan (LEAP) Objectives for Renewable Portfolio Standard (RPS) and Local Generation and requested that the UAC recommend Council approve the Proposed Policies and Guidelines for Renewable Energy Feed-In-Tariffs.

During his presentation, Abendschein identified key policy and guidelines which would be used to guide the development of the Renewable FIT program, including:

- Objective of the Renewable FIT program is to meet the City’s RPS of 33% by 2015.
- Initial eligible technologies would be solar photovoltaic (PV), wind, and biogas-fueled generators.
- A FIT rate based on the City’s avoided (value-based) cost and fixed for 20-years.
- A standard, non-negotiable, Power Purchase Agreement (PPA).

Abendschein also touched on several program design elements and details that staff is currently working on with other City departments and Utilities divisions related to program size and limits, development of power purchase agreements, fees and FIT rates, and program administration. Abendschein laid out the next steps including seeking Finance Committee and Council approval of the proposed policies and guidelines in June 2011 and July 2011, respectively. Upon Council approval of the policies and guidelines and development of the program details, staff will return to the UAC, Finance Committee and Council in the fall of 2011 for approval of the Renewable FIT Program including the PPA and FIT rate along with a request for delegation of authority to the City Manager to execute FIT contracts.

Commissioner Melton asked why staff was pursuing a FIT for biogas-fuel generation and what opportunities exist. Abendschein explained that biogas-fueled generation is a CEC approved RPS technology and that it is essentially a fuel-cell that burns natural gas that has been injected into the gas system at a different location and nominated to the specific fuel-cell generator. Abendschein mentioned that there has been some interest in this technology in Palo Alto, but that it was not clear whether it would be economic in the near term.

Commissioner Foster asked staff not to limit the program to the RPS of 33% by 2015, but rather use the ½ cent premium as the cap. He asked for clarification on the list of avoided costs in the proposed FIT policies. Abendschein clarified that the items listed were the ones staff expected to use in developing the feed-in tariff, but that future policy changes could result in additional items being added to the list. Additionally, Commissioner Foster asked if staff believed 4 MW of FITs could be achieved per year and why staff was limiting the FIT technologies to PV, biogas-fueled generators and wind. Abendschein explained that 4 MW is an optimistic projection for Palo Alto. With regards to technology to include within the program, Abendschein explained that staff is trying to keep the program simple in the first year of the program.
Commissioner Keller asked why staff was recommending that program be limited to a 20-year PPA. Abendschein responded that staff will look at what other utilities are doing during the design phase and may recommend alternative durations when staff returns for approval of the program. Utilities Director Fong emphasized that staff is trying to keep the program simple in the beginning and can expand features as we gain experience.

Commissioner Cook clarified that he works in the solar industry for a manufacturer of larger-scale PV systems with the smallest size being 20 MW and therefore did not feel that there was any conflict of interest. He also asked why staff was considering a 25% phase-in per year of the program cap and why staff would develop different FIT rates by technology. Abendschein explained that staff has not developed a recommendation yet for the total program cap or the amount of capacity released each year, but merely cited 25% as an example. Abendschein mentioned that different technologies might have different FIT rates because of the different value each technology provides as a result of varying generation profiles. For example, PV generation generally coincides with higher market price conditions, whereas biogas-fueled generation is a base-load resource generating in all market price conditions. Commissioner Cook asked whether staff was talking to other municipalities about their FITs. Abendschein said that they were.

Chair Waldfogel suggested staff work closely with the Building Department to ensure they understand the Renewable FIT program including how it differs from the City’s current PV Partners program. Abendschein mentioned that staff has reached out to key staff within the Building Department to develop a program design team. Commissioner Waldfogel asked whether system upgrades would be necessary and who would bear the cost. Abendschein said staff would be working with the Utilities Engineering Division to assess the need for upgrades and define who would bear the costs.

**ACTION:**
Commissioner Melton motioned to recommend Council approve the proposed Renewable FIT policies and guidelines. Commissioner Cook seconded the motion. The motion carried unanimously (6-0) with Commissioner Eglash absent.