

# Renewable Energy Feed-In Tariff

White Paper by William Ball

While the passage of the Arkansas Renewable Energy Act of 2001 (net metering) was an important milestone in providing options to consumers and opening up a market for renewable energy development in Arkansas, the policy has had less than stellar results. Only about fifty net metering facilities, mostly small residential systems were installed during the nearly ten years the policy has been in effect. On the other hand, the Arkansas Renewable Technology Rebate Fund, a pilot “feed in tariff” program made available in March of 2010, has already more than doubled the number of RE generating facilities, not including some commercial installations expected to go on line over the next few months.

This is not to suggest that we should abandon Arkansas' net metering policy or not improve on the policy. Net metering must remain as a kind of safety net for other programs that may be developed. As a renewable energy power purchase contract term expires, net metering provides the means for a renewable energy facility to continue to operate. Net metering also provides interconnection protocols and procedures that must be in place no matter what RE incentive programs may be implemented.

There is room for improvement in Arkansas' net metering policy however. The current limitations on the size of individual installations for both residential and commercial / agricultural / industrial & forestry have limited the number and types of RE generating facilities in Arkansas. Individual facility size for residential should be raised from 25kW to 100kW and the limit for commercial and other should be raised from 300kW to 20mW. This is not to suggest that raising the cap on facility size would exempt a qualifying RE facility from meeting other criteria that may be related to environmental concerns, existing grid interconnection capacity or possible permits or licenses required.

As programs and policy are developed to promote increased use of renewable energy (RE) around the world, the use of renewable energy feed in tariffs is emerging as the most effective in getting RE generation in place. FITs are also proving to be the most efficient in getting more energy produced per dollar invested. Eighteen EU countries, fourteen states and several municipalities, along with a number of other countries around the world have implemented some form of a FIT to spur the installation of RE generating facilities.

Unlike “renewable portfolio standards” (RPS), a FIT is a political price, not a political quota. Additionally, FITs can be simple, comprehensive and transparent, with out the administrative burdens, costs or penalty associated with RPS, carbon tax and green pricing programs (RECs). A FIT is also more desirable than tax credits which do not promote competition and can lead to fraud or self-serving, because FIT payments are based on actual production rather than a rebate of some percentage of money spent to install an RE facility.

A feed-in tariff (FIT) drives market growth by providing developers long-term purchase agreements for the sale of electricity generated from RE sources. These purchase agreements, which aim to be both effective and cost-efficient, typically offer a specified price for every kilowatt-hour (kWh) of electricity produced and are structured with contracts ranging from 10-25 years. FIT payments should be based on the levelized cost of RE generation, plus a targeted return on investment (typically set by policymakers or regulators).

In order to tailor FITs to a range of policy goals, the payment level can be differentiated by technology type, project size, resource quality, and project location. The payment levels can also be designed to decline for installations in subsequent years, both to track and to encourage technological change, as well as promote competition.

FIT policy provides universal benefit. Benefits to society are typically interpreted in terms of the value of the electricity plus climate change mitigation, health impacts, energy security, economic development, job creation and other externalities. Value to the utility is generally understood in terms of avoided generation costs, reduction in peak demand and location-specific value of electricity supply.

A well designed FIT will also provide for universal participation, allowing utilities as well as all customer bases and jurisdictions to be eligible. To insure the ability of residential and commercial customers to participate, in a program that might otherwise be consumed only by utility scale facilities, a set aside of at least 20% of the program for such smaller installations is recommended.

FIT policies typically include, guaranteed access to the grid, stable, long-term purchase agreements (typically, about 15-20 years), and payment levels based on the costs of RE generation. They should include streamlined administrative procedures that can help shorten lead times, reduce bureaucratic overhead, minimize project costs, and accelerate the pace of RE deployment. Such long term agreements will provide lending institutions and investors the assurance needed to invest in RE facilities.

To control unintended consequences caps are sometimes imposed either on the total capacity of RE allowed, or on the maximum individual project size. A cap on overall generating capacity inherently sets a limit on how much renewable energy generation we will allow our investments to acquire and sets an artificial political limit on developing Arkansas' renewable energy potential. Caps on the size of an individual facility will limit participation by Arkansas' agricultural, forestry and wind resources. Our most fiscally responsible way to insure the maximum development of Arkansas' renewable energy resources is to limit the total program cost, either total dollars per year, or in terms of rate payer impacts.

While most RE generation is not cheap, it is worth the investment. It has recently been acknowledged that solar electric power is now cheaper than nuclear power. A successful Arkansas FIT will spur many megawatts of RE generation with a likely ratepayer impact of 1/2% to 1%. The value of universal benefits mentioned above will far exceed the costs of such a program.

It should be noted that progressive RE programs elsewhere, have resulted in rapid deployment of RE generation. In 2009 solar power capacity installed reached 3,800 mW in Germany, 700 mW in Italy, 500 mW in Japan and a total of 450 mW in the US, of which 200 mW is in California. These numbers demonstrate that RE generation can be added quickly

given the right market conditions. This is an important consideration as demand for electricity and stress on the existing grid infrastructure are expected to soar over the next decades. We are just beginning to see the inevitable shift from petroleum based transportation to plug in hybrids and electric vehicles.

It is important to recognize that a FIT will result in a huge increase in distributed generation, which unlike conventional large central generation facilities, does not require additional transmission lines or a "smart grid" to facilitate. We are currently producing 1% of our electricity from RE and we can easily raise that number to over 20% through distributed generation, without the addition of a single transmission line or smart meter. In the case of solar power, energy is being produced at the time it is needed the most, and bio-power can be dispatched both for base or peak load requirements.

Implementation of an Arkansas FIT policy (REFIT Arkansas) is an idea whose idea has come and it will result in us becoming a nation of producers, rather than just consumers with limited choice. Passage of REFIT Arkansas will allow regulators, utilities and other interested Parties to work together to design just and reasonable rates, reliable contract durations and effective rules and procedures.

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