WASHINGTON STATE
HOUSING FINANCE COMMISSION

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July 15, 2011

Mr. David Danner
Executive Director and Secretary
Washington Utilities and Transportation Commission
1300 South Evergreen Park Drive SW
PO Box 47250
Olympia, WA 98504-7250

Re: Docket UE-110667

Executive Director and Secretary Dave Danner:

The Washington State Housing Finance Commission (the "Commission") is pleased to submit this Comment in response to the Washington Utilities and Transportation Commission (UTC) Notice of Opportunity to File Written Comments dated June 24, 2011 (Notice) regarding the study of the potential for distributed energy in Washington State, Docket UE-110667.

In 2009, Engrossed Second Substitute House Bill 1007 was enacted directing the Commission to implement a Sustainable Energy Trust (SET) to provide financing for qualified improvement projects such as renewable energy, energy efficiency systems, processes, programs, water conservation and to the extent feasible develop financial products in support of Washington's Renewable Energy Portfolio Standard, and other energy efficiency and renewable energy policy goals and objectives of the State.

Since adoption of the SET legislation, we have commissioned a series of feasibility analyses examining the following renewable energy technologies:

- Solar photovoltaic applications for single-family housing, multifamily housing, commercial buildings and community facilities, as well as community solar installations;
- Wind energy installations; and
- Anaerobic biodigesters,

We have also explored and analyzed the opportunities, barriers and constraints to energy efficiency and renewable energy retrofits of existing buildings.

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Additionally, the Commission has engaged expertise to survey and analyze a range of financial incentives to support the installation of distributed energy generation technologies and assist in the energy efficiency/renewable energy (EERE) retrofits of buildings.

The Commission plans on attending the UTC work session scheduled for Monday, July 25 to discuss these topics and comments.

In issuing its Notice, the UTC notes its interest, among other things, in reviewing:

- Current State and federal statutory authority governing distributed energy generation;
- Issues that affect the financial and development feasibility of distributed energy technologies, including among others:
  - Interconnection standards;
  - Financial incentives;
  - Net metering; and,
  - Feed-in tariffs.
- Evaluations of the technical and economic potential for distributed energy including, but not limited to, solar, wind and biomass; and,
- Policy options and recommendations for developing distributed energy in areas served by investor-owned utilities (IOUs).

Based on the Commission's substantial work in this field, we organize this Comment in three areas:

1. Renewable energy financial and development feasibility analysis results generally;
2. Energy efficiency (and renewable energy) for buildings; and
3. Financial incentives.

The Commission has intensively reviewed the financial feasibility of solar photovoltaic (PV) installations in single-family, multifamily, public facilities and commercial buildings, as well as community solar installations, and has conducted substantial research on the financial and development feasibility of anaerobic biodigesters in Washington State. The Commission has also analyzed the financial feasibility of wind energy installations.

A common thread running through all three of these distributed energy analyses (solar, biodigester, wind) is that existence of very low electricity rates in Washington State delays the financial "payback" of any renewable technology project. In the fourth quarter of 2009,

average electric rates in the State were $0.068 per kWh, with a low range of $0.059 and a high of $0.08. These contrast with average rates in California of $0.14, and $0.10 nationally. Accordingly, any distributed energy or EERE incentive policy in Washington State will need to take account of longer payback projections for capital intensive projects. The results of analyses performed for the Commission by our financial advisor, DRA, detail payback projections for a variety of solar, wind and biomass renewable energy systems. DRA's analyses are appended to this Comment, and are submitted for the UTC record.

Another barrier that is common to these three technologies is that the federal Renewable Energy Investment Tax Credit (REITC) for renewable energy installations will decrease from 30 percent to 10 percent as of January 1, 2012 (unless extended at a higher rate by Congress). This has been the most significant incentive for many renewable energy projects, and with its reduction, development of these projects will face increasing financial feasibility pressure.

Thus, the Commission has concluded that, if Washington State seeks to meet its Renewable Energy Portfolio Standard set forth in chapter 19.285 RCW, it will be necessary to undertake a comprehensive review (and restructuring, as appropriate) of tax issues, financial incentives, financing tools, interconnection issues, net metering frameworks, Renewable Energy Credits (REC), and feed-in tariff measures to enhance the feasibility of renewable energy, energy efficiency and distributed generation projects.

1. Renewable Energy Feasibility: Solar, Wind, Biodigester

Solar

Based on the financial analysis of DRA, solar projects, with the exception of single-family home installations using solar panels manufactured in Washington State, are not financially feasible using the currently available incentives.

The State's solar energy incentives for solar PV is inadequate to support timely payback of installations for multifamily housing, commercial, industrial and municipal (i.e., publicly owned) buildings. Moreover, the provisions governing the installation of "community solar" projects on public buildings remains difficult to use on a broad scale. The currently existing solar incentives will support payment of solar PV systems up to about 30 kW in size if the PV panels are manufactured in Washington State, qualifying for the higher incentive rate.

Wind

Wind energy development in Washington State has largely been in the utility sector and has taken place on a utility scale. As such, it is sensitive to assumptions regarding operations and maintenance (O&M) costs, and the rate at which, if at all, developer equity

investment is repaid prior to repayment of senior debt used to finance such utility-scale projects. Moreover, the State's renewable energy incentive, capped at $5,000 per year, is immaterial to the development feasibility of these utility-scale wind farms, with their large capital costs and repayment requirements. Most of the operating wind farms in Washington are owned by utilities which are required to comply with the State's renewable energy standard, and are able to sell the power generated at retail rates.

We have not discovered a widespread appetite (thus far) for distributed wind-energy electric generation on the smaller scale, though we assume that the issues relating to lack of realistic and usable financing incentives affecting distributed solar installations would similarly affect distributed wind generation installations.

Anaerobic Biodigesters

Collaborating with the State Departments of Commerce and Agriculture, and the Washington State Rural Development Office at USDA, the Commission has reviewed anaerobic biodigester development and financial feasibility. DRA's initial analysis is appended to this comment, and a second, more detailed DRA analysis will be provided to the UTC shortly.

Biodigesters are one of the few types of non-utility-scale renewable energy generation projects concentrated outside of the state's urban areas. The financial feasibility of anaerobic biodigesters in Washington State is dependent upon the ability of digester owner/operators to obtain long-term (10 years or more) Power Purchase Agreements (PPAs) with local public utility districts (PUDs) to purchase electricity generated by the burning of biogas. However, as reported by potential biodigester developers interviewed by the Commission and its consultants, several barriers exist. First, because these biodigester projects are typically ancillary to dairy and other farming operations, net-metering agreements (which give the power generator essentially retail value for any power being produced) are not a viable mechanism. Second, as reported by interviewees, certain investor-owned utilities are resistant to entering into long-term PPAs, hindering developers' ability to finance digester projects. Third, the lack of certainty surrounding (or willingness by the investor-owned utilities to negotiate regarding) the separation of the Renewable Energy Credits (RECs) from the purchase of the electricity removes another potential source of revenue that could support these projects. Finally, biodigester developers are subject to varying policies by the investor-owned utilities and the Public Utility Districts affecting the cost of interconnection.

Technological advances and the development of new markets for biodigester by-products, such as fiber and fertilizer, are bringing biodigesters closer to financial feasibility without financing subsidy. But until those benefits materialize to offset the detriment created by the low cost of power in Washington state, the continuation of tax credits, grants and subsidized financing are important to maintaining a pipeline of biodigester projects.

In examining financing feasibility and designing incentives relating to biodigesters, it will be important to take into account the likely larger size of such projects, which will generally be larger than, e.g., solar panels on a single family home, but smaller than a utility-scale wind project. Additionally, the Commission encourages continued exploration and policy support for digesters using pre- and post-consumer food waste and other fuel sources, beyond animal waste, to maximize benefits from waste to energy technologies in Washington.

2. Energy Efficiency

The Commission has been charged with carrying out a vision that includes energy efficiency (EE) retrofits, often combined with renewable energy (RE) measures, for residential, industrial, commercial, and public buildings as a key component of the State's policy to reduce energy consumption and green house gas emissions. The Commission has collaborated with the Washington State Department of Commerce on development of a revolving loan program for building EE retrofits, and has investigated the feasibility of EE retrofits for single-family housing, multifamily housing, commercial and municipal buildings. DRA's work (appended to this Comment) has identified both the barriers and opportunities to such retrofits. Substantial state of the art improvements in EE (and EERE) building programs and financing has emerged nationally in the last two years. This has been particularly assisted by the $16 billion in EERE retrofit and finance programs as part of the 2009 American Recovery and Reinvestment Act (ARRA).

We encourage the UTC, and the Legislature, to begin a dialogue and explore the benefits of creating an "Energy Efficiency Portfolio Standard," comparable to I-937's renewable energy portfolio standard. Under such a standard, measurable reductions in energy consumption from energy efficiency improvements would be required by a specified date. Compliance with such a requirement would require collaboration from utilities, property owners, and building users. An Energy Efficiency Portfolio Standard would also be possibly assisted by provisions of incentives from utilities and others to encourage building retrofits.

States such as New York (Energy Efficiency Portfolio Standard: EEPS) and North Carolina (Renewable Energy and Energy Efficiency Portfolio Standard: REPS) have adopted such provisions. New York's EEPS calls for a 15 percent reduction from forecast demand by 2015 from 2007 levels.

As for new building stock, the Department of Commerce and the Commission have collaboratively developed the Evergreen Sustainable Development Standard for affordable rental housing developments, pursuant to RCW 39.35D.080, but this is a very small measure compared to statewide energy consumption and the efficiency gains that could be promoted in existing building stock.

Cities such as Chicago that have also helped the industry achieve substantial improvements in energy efficiency for industrial processes, and the EPA's E3 initiative to promote energy efficiency in the manufacturing sector. We encourage the UTC and Legislature to explore energy efficiency standards and incentives for industrial and agricultural processes as well.

3. Financial Incentives

The Commission has comprehensively reviewed, profiled, and analyzed, a range of existing renewable energy, and energy efficiency, financial programs and structures, including many types of finance tools and financial incentives including tax incentives, direct financial subsidies, and utility rate-based incentives. As a result of this work, we have concluded that Washington will benefit from a comprehensive and integrated system of financial incentives for distributed energy and EERE retrofits of buildings and industrial/agricultural processes.

Moreover, financial incentives (whether through tax incentives, rate–based incentives, low-cost financing, or certainty surrounding the ability to securitize or monetize RECs) are essential to the widespread adoption of distributed energy and energy efficiency strategies.

The Commission believes that the policies and enforcement the UTC establishes for interconnection cost containment, net metering and feed-in tariffs associated with distributed energy systems materially affect their financial feasibility and thus their rate of adoption or development.

Accordingly, we encourage the UTC's efforts to respond to the Legislature's request and call for a comprehensive review and development of State energy incentive and finance programs, taking maximum advantage of existing federal tax, loan guaranty and spending programs for distributed energy and EERE retrofits of buildings. The Commission has begun this work, and expertise exists in a number of State agencies on this topic. It is important that efforts be coordinated, rather than duplicated.

Some of the available Federal programs that should be taken advantage of in the analysis include:

- Renewable Energy Business Investment Tax Credit;
- Modified Accelerated Cost Recovery System (MACRS);
- Rehabilitation Tax Credits;
- Tax-Exempt and Tax-Advantaged Bonds (including traditional governmental and private activity bonds, as well as Qualified Energy Conservation Bonds (QECBs), and Clean Renewable Energy Bonds (CREBs);
- Better Buildings Initiative;
- Ramp Up to Retrofit awardees (including Seattle);

- Weatherization; and
- FHA, DOE, USDA Rural Development and SBA loan guaranty authorities.

Regulatory (UTC) and financial State-level incentives, policies and programs which should be included in a comprehensive review and development of renewable energy and EERE projects include:

- Cost containment of interconnection policy, practice and costs;
- Feed in tariffs;
- Net metering;
- Viable practices for development of an efficient market for RECs in Washington State benefiting Washington RE and EERE projects;
- Incentives (utility, ratepayer, State) for RE and EERE projects;
- Review of State tax policy to remove impediments to RE and EERE projects, and to explore new tax-based incentives for such projects;
- Review of utility and third party Power Purchase Agreement (PPA) practices, and exploration of UTC and legislative policies to support cost efficient and feasible use of PPA contracts to support RE and EERE projects
- Development and exploration of loan guaranty, utility investment, finance and support for RE and EERE projects.

Finally, in order to ensure that the review captures the full breadth and potential of the distributed energy area, this examination should be mindful of the potential for other developing technologies, such as waste heat recovery, that in effect are a hybrid of EE and RE projects. For example, many of the issues described above also affect projects such as district or neighborhood level heating or combined-heat-and-power (CHP) strategies. These strategies have the potential to further reduce pressure on utility-scale electricity generation by capturing and using waste heat (without needing to convert that energy into electricity) or by feeding excess electricity generated by waste heat projects into the grid. These kinds of strategies have other potential benefits, including becoming an off-peak load-leveling generating source. Thus, any incentive system must be mindful of other innovative technologies that may be currently in development or may become available in the future.

We appreciate the opportunity to offer this comment, and stand ready to work with the UTC, the Department of Commerce, other State agencies and the Legislature to develop and carry out comprehensive, effective financial incentives for the feasible development of distributive energy and EERE retrofit projects.

Respectfully Submitted,

Pam Eakin, Deputy

FOR Kim Herman
Executive Director

Attachments: Sustainable Energy Trust: Energy Efficiency and Water Conservation

Sustainable Energy Trust: Multifamily Solar Photovoltaic System Financial Analysis

Sustainable Energy Trust: Wind Energy and Biodigester Financial Analysis

Sustainable Energy Trust Financial Analysis

cc: Deborah Eddy, State Representative
John McCoy, Chair, House Committee on Technology, Energy and Communications
Senator Phil Rockefeller, Chair, Senate Committee on Environment, Energy and Water
Jeff Morris, State Representative