State Energy Advisory Board Meeting
March, 14-15, 2007

Washington, D.C.

The State Energy Advisory Board (STEAB) meeting was convened on March 14-15, 2007, at the Washington Plaza Hotel in N.W. Washington, D.C. In accordance with public law, the meeting was open to the public.

BOARD MEMBERS PRESENT

William "Dub" Taylor (Chairman) (TX), Patricia Sobrero (Vice-Chair) (VA), Elliot Jacobson (Secretary) (MA), Jim Ploger (KS), Harold "Hal" Smedley (CO), Janet Streff (MN), Steven Vincent (OR), Susan Brown (WI), Elizabeth Robertson (GA), Daniel Zaweski (NY), David Terry (VA), Henry "Ted" Berglund (FL), Peter Johnston (AZ), Chris Benson (AR), and John Davies (KY).

Others present were:
Gary Burch, STEAB Designated Federal Officer (DFO).
Tobin Harvey, Senior Advisor, Office of the Assistant Secretary for Energy Efficiency and Renewable Energy
Natalie Alexander, TMS, Inc.
Pat Malone, TMS, Inc.
David Rathbun, TMS, Inc.

The following STEAB members were absent:
Alexander Mack (FL), Jim Nolan (MT), William Even (SD), Lawrence Wilson (NC), and Duane Hauck (ND)

WELCOMING & INTRODUCTIONS

Dub Taylor opened the meeting with brief introductions, allowing Board members and support components to briefly introduce themselves and summarize their respective energy backgrounds. He then presented the agenda which outlined the conference's activities, paying special emphasis to the speakers that will be representing various Program Offices within the Office of Energy Efficiency and Renewable Energy (EERE).

TRAVEL ISSUES UPDATE

In the days leading up to the meeting, a few travel issues arose that led to some complications with the flight itineraries for some of the Board's membership. Mr. John Franke, a Senior Manager with TMS, Inc., provided a briefing for the Board that outlined the Department of Energy's (DOE) travel process and concluded his discussion by providing a few potential solutions that may prevent further complications. A copy of the briefing document will be forwarded to the Board via electronic format in the days following the meeting.

PRESRENTATIONS[*]

The Board heard presentations/discussions on the following topics:

- Discussion of the Assistant Secretary's vision and goals for the ongoing success of EERE, Mr. David Rodgers, Acting Deputy Assistant Secretary for Technology Development.
- EERE Technology Advancement and Outreach: Mr. Roger Meyer, Lead Energy Technology Program Specialist, Office of Technology Advancement and Outreach (TAO).

[*] Copies of the presentations are available on the STEAB Web site: *http://steab.org/*

- EERE Wind and Hydropower Technologies Program: Mr. Phil Dougherty, Energy Technology Program Specialist, Wind and Hydropower Technologies Program.
- EERE Biomass Program: Ms. Joan Glickman & Mr. Mark Decot, Energy Technology Program Specialists, Biomass Program.
- EERE Geothermal Technologies Program: Mr. Allan Jelacic, Acting Program Manager, Geothermal Technologies Program.
- EERE Weatherization and Intergovernmental Program: Mr. Mark Bailey, Acting Program Manager, Weatherization and Intergovernmental Program.
- EERE FreedomCAR & Vehicle Technologies Program: Dr. Phyllis Yoshida, Energy Technology Program Specialist, FreedomCAR & Vehicle Technologies Program.
- Recap of the "*Financing Basics of Renewable Energy Projects"* Workshop: Mr. Gary Burch, STEAB Designated Federal Officer.

1. STEAB STRATEGIC FOCUS AREA: Discussion with David Rodgers, Acting Deputy Assistant Secretary for Technology Development, EERE.

Mr. David Rodgers, EERE's Deputy Assistant Secretary for Technology Development (DAS-TD), kicked off the meeting by leading an hour-long discussion which outlined the current focus and long-term goals of EERE, and concluded by presenting several strategic focus areas in which he – as well as the Assistant Secretary (ASEE) – believes that the STEAB could provide valuable assistance. The following is a summary of that discussion:

Mr. Rodgers began the discussion by thanking the Board for inviting him to the meeting. He then discussed the current focus of EERE, commenting on the Assistant Secretary's push to make sure that the organization is moving forward on "all fronts" to ensure that Research and Development (R&D) within EERE is "focused," "delivering results," and is consistent with meeting the various goals set forth in the President's *Twenty in Ten*, and *Advanced Energy Initiatives.* He emphasized that in order to make this happen, the agency must continue its on-going focus towards increasing communication and collaboration efforts with the states, state-stakeholders, and citizens.

Mr. Rodgers then discussed some of the current internal focuses within EERE. The following are a few topics that were highlighted during the discussion:

- EERE's desire to "resurrect" the Building Codes Program: Mr. Rodgers mentioned that the program was initially "zeroed out" in FY07 budget, but the continuing resolution in the House will allow for continued funding through the remainder of FY07. He stated that EERE wants to create a larger focus on developing "model building codes," citing that EERE is determined to aggressively push both residential and commercial building codes. He also explained that in order to make this happen, the agency is determined to work with the states on a much "higher level" than in the past so that local building code organizations can implement stronger model building codes that are consistent with technologies that are energy efficient and cost effective.

- Save Energy Now Program: Mr. Rodgers stated that EERE is looking for ways to assist the states in bringing this program "to the next level" by implementing the right projects that will deliver the "savings" that allow consumers – and citizens – to recognize the benefits.

- Working with Environmental Protection Agency (EPA) to standardize plant specification methodologies – benchmarks.

- Grid integration: The need to implement and put in place more "correct" rules within the states which will allow states and state-stakeholders to take advantage of integrating technologies – specifically metering and interconnection requirements.

- The push for the implementation of a National Renewable Energy Credit Trading System(s) (RECs) that can crosscut multiple institutions: Mr. Rodgers commented on the 2006 STEAB Resolution (06-04) that recommended that the DOE develop a National Renewable Energy Credit Trading System, and explained that "State Standards" would be the key to implementing comprehensive, broad-based systems. He also emphasized the need for better Federal Standards which would aid in the establishment of Federal Guidelines that can influence the states.

- Delivering renewables to more locations nationwide: Mr. Rodgers explained that the ASEE has set a goal to create "corridor plans" that will assist in "delivering technologies to the masses." He explained that this is a critical process for establishing methods of linking renewable energy resources with major urban centers – expanding availability, and educating consumers on their benefits.

- Lack of U.S. manufacturing: Mr. Rodgers also discussed the need for a stronger domestic push for increased U.S.-based manufacturing of Solar and Photovoltaic (PV) technologies. He explained that more "on-shore" manufacturing will increase domestic energy security, and also discussed the DOE's Loan Guarantee Program and how that program provides incentives and opportunities to foster more domestic manufacturing.

QA:

Janet Streff mentioned that she had recently read a lot of good information about DOE's Loan Guarantee Program (LGP), and inquired about the possibility of the agency forwarding information packages to the states. Mr. Rodgers responded by stating that this would be a good idea, and that now would be an opportune time to do this because there have been a lot of changes with the LGP. He also explained that the agency would not be able to issue anything prior to publishing the final rules that will implement the program. However, he did emphasize that the LGP is a "high priority" of the Assistant Secretary since emerging technologies will ultimately require assistance from the government. He stated that he would check to see if any future packages could include a calendar of events for the states' benefit.

David Terry inquired as to whether or not the Weatherization Assistance Program (WAP) was going to be taking a broader approach to policy – as well as cross-cutting activities – so that the Program can be more supportive with the National Action Plan for Energy Efficiency (NAPEE). Mr. Rodgers responded by explaining that Mr. Mark Bailey, the Acting Program Manager for EERE's Office of Weatherization and Intergovernmental Program (OWIP), will be taking a lead role in crosscutting areas of the OWIP to make it more consistent with the NAPEE. He also explained that all current EERE market transformation activity is not just limited to the OWIP, and that all of the Program Offices are working harder so that the agency can meet the President's *Twenty in Ten Initiative*.

Gary Burch briefly explained how the STEAB conducts business, and inquired as to what Mr. Rodgers believes would be the most timely and efficient method for the Board to communicate back to the department. Mr. Rodgers responded by stating that it is up to the Board to determine the speed of any responses or recommendations/resolutions that they develop as a result of this meeting, and explained that the Board should follow whatever rules that are currently set in place for communicating with EERE. He also stated that communication is welcomed, and encouraged the Board not to limit communication only to semi-annual Board meetings.

Elliott Jacobson explained that although EERE would see increased funding under the continuing resolution in the House, rumors were circulating that WAP funding was going to be cut considerably from the previous year (FY06). Mr. Rodgers explained that he was not aware of any additional budget cuts in the Program, and explained that the DOE spend plan was going to be sent back to Congress within the next 48 hours and that it will become public knowledge at that time. Mr. Rodgers also stated that EERE recognizes the benefits of the WAP, but must also weigh the benefits of other R&D Programs and fund activities consistently with appropriations.

2. STEAB STRATEGIC FOCUS AREA: Discussion with Roger Meyer, Lead Energy Technology Program Specialist, Office of Technology Advancement and Outreach (TAO).

The following is a summary of the presentation provided by Mr. Meyer:

Primary Activities:

- The EERE Information Center
- EERE Web site development and maintenance
- Outreach campaigns
- Press releases
- Outreach events

EERE has seen an increase of Web site visitors of approximately 35 percent from FY05 (400,000), and FY06 (540,000) respectively. The TAO sponsors "*Network News Subscriptions*" on the EERE Web site that are free of charge to the general public, and inform the subscriber of important events, accomplishments, etc.

TAO also provides numerous professional support services for EERE which include:

1) Marketing and Media Support
    - Message development
    - Evaluation of tools and market penetration through focus groups and surveys

2) Creative Services
    - Graphic design for materials, exhibits, presentations, and templates
    - Copywriting and creative conception
    - Develop audio/visual materials

3) Internet Technology/Web site Design and Development
    - Develop, host & maintain the EERE Web site
    - Web content design and evaluation
    - Development and introduction of emerging web technologies

4) State and Stakeholder Partnership Development
    - Research and monitor existing and potential stakeholder relationships
    - Develop activities and content for stakeholder events
    - Aid recruitment of stakeholders

QA:

Gary Burch inquired about the current status of the internal EERE initiative designed towards increasing consciousness in energy efficiency and energy conservation: "Project Victory." Mr. Meyer responded by stating that Project Victory is currently idle, and was initially set up to be an "umbrella initiative" that supported many

different campaigns designed toward fostering a greater public awareness of energy efficiency. He then added that EERE wants to move away from that approach, and is leaning towards focusing on individual outreach campaigns without an overall theme. Mr. Meyer also informed the Board of – and subsequently welcomed the Board to sign up for – progress alert bulletins that are available on the EERE public access internet page. David Terry stated that in the past, it has been very difficult to obtain information about the status of EERE progress and accomplishments and that these improvements to the Web site are very positive.

Dub Taylor explained that the Board has recently been focusing on increased communication and outreach activities, especially in regards to National Laboratories and how they communicate their technologies to the public. He stated that the Board recently had developed a "white paper" that highlights the need to improve [Laboratory] communication and accessibility, and inquired as to whether or not Mr. Meyer knew if EERE was working on any new initiatives that would be similar in nature. Mr. Meyer explained that he was unaware of any specific Board actions, but stated that he is aware of similar discussions. He commented that the Program Offices are focusing on increasing awareness of technology research and availability, and that there is a future push to put more information on the web.

3. STEAB STRATEGIC FOCUS AREA: Discussion with Phil Dougherty, Acting Program Manager, Wind & Hydropower Technologies Program.

The following is a summary of the presentation provided by Mr. Dougherty:

The Wind and Hydropower Program works closely with industry to provide the market transformation support and R&D needed to drive Wind Development. Since the 1970s, the DOE has spent just over $1 Billion in developing a market, which will reach over $4 Billion in commercial investment in FY06 alone.

Motivating Factors:

- U.S. energy demand to increase 40 percent + over next 25 years
- $Billions investment required
- Security/economic vulnerabilities to "Business as Usual"

Barriers:

- Rising cost of wind energy – materials; limited U.S. production and exchange rates
- Siting barriers – environmental; radar; and public acceptance
- Turbine reliability – gearboxes and drive trains; rotor blades; young fleet of machines; and small testing facilities
- Deployment driven by incentives – 10/20 percent uncertainty premiums
- Transmission issues – low utilization; critical market corridors; long-term efficiency

Program Realignment / New Direction:

- Stronger near-term & technology deployment focus
- Better balancing of R&D activities to support sustainable industry
- Aggressively addressing new and existing barriers
- Taking a stronger policy role

Major Program Changes:

- Reduced funding for low wind speed technology / offshore wind
  - Decreased need for govt. to support large scale, land-based wind turbine systems development
  - Support research and testing to increase turbine reliability and performance

  - Reduced use of cost-shared partnerships and increase more Cooperative Research and Development Agreements (CRADAs)
- Increased funding for systems integration:
  - Collaboration with U.S. Office of Electricity Delivery & Energy Reliability
  - New Initiatives, and the expansion of wind plant characterization
- Increased funding for technology acceptance:
  - Address siting, permitting, and environmental barriers to the use of wind technology
  - Enhanced *Wind Powering America; Wind for Schools/Regional Wind Institutes*
  - Address and mitigate environmental, public acceptance, and wildlife issues
- Increased funding for distributed wind technologies:
  - Residential, small commercial, farm, and community wind markets
  - Focused technology development and application support
  - Expand support of turbine testing in support of state-based incentive programs

Wind Program Funding:

FY06 Appropriations	**FY07 Request**	**FY07 Expected**	**FY08 Request**
$38,828,000	$43,819,000	$49,319,000	$40,069,000

- Program accomplishments:
  - A drop in the cost of wind energy from 40 cents/kWh in 1980 to as low as 4 cents/kWh today
  - 19 States with over 100 MW of wind installed today vs. 4 in 1999

QA:

Gary Burch inquired about the avian mortality issue that affects the expansion of wind turbines. Mr. Dougherty explained that the avian mortality issue is a real concern and that the agency is actively working on better understanding the issue in order to develop solutions. He stated that in 2003, the U.S. Fish and Wildlife Service initially developed a draft *"Interim Voluntary Wind Turbine Guidelines"* document. However, the Department of the Interior determined that a few flaws existed in the guidelines and is currently in the process of establishing a *"Wind Turbine Guidelines Advisory Committee"* to provide better input. He also stated that in addition to birds, bats were also dying as a result of wind turbines and that the agency is taking this very seriously as well – a significant loss of bats would also have the ability to drastically affect numerous environments. Gary Burch also inquired as to whether or not there is any relationship between turbine size and the amount of birds killed. Mr. Dougherty said that a faster spinning turbine will, in essence, kill more birds than one with slower moving blades. He also stated that height can be a factor as well, as a taller turbine will increase the amount of species of birds that can ultimately be affected.

Pat Sobrero commented on a chart that was provided during the presentation which showed the growth of wind energy over the last five years, and inquired as to what the agency's projections are for the next five years to come. Mr. Dougherty stated that the Office's projections vary, and that the overall goal is to increase national wind power by a total of 20 percent by the year 2035.

Peter Johnston stated that Wind and Geothermal Programs appear to have achieved some success in regards to communicating and sharing their technologies with different states, especially the *Wind Powering America Program's* success in developing relationships with state energy offices. Mr. Dougherty explained that each state is different, and thus different approaches would need to be developed. He stated that last year's Regional Offices consolidation has changed the way – in many respects – EERE communicates with the states, and that more direct communications with state energy offices will need to occur as the EERE Project Management Center (PMC) is still trying to "get off the ground" in regards to broad-based communication efforts.

4. STEAB STRATEGIC FOCUS AREA: Discussion with Joan Glickman and Mark Decot, Energy Technology Program Specialists, Biomass Program.

The following is a summary of the presentation provided by Ms. Glickman and Mr. Decot:

Sound policy, effective R&D Technologies, and adequate capitol investments are what a robust Biofuels economy will depend on in order to supplant – or at least reduce – current levels of American petroleum use. Although biofuels represent only 3 percent of transportation fuels being used today, biomass production is growing very rapidly as a result of better policy and increased R&D collaborations, largely in part due to recent Presidential Initiatives geared towards the reduction of U.S. dependence on foreign sources of energy (petroleum).

Presidential Commitments:

- *Twenty in Ten* – reduce U.S. gasoline (light duty vehicle) use by 20% by 2017 through…
  - 5% reduction from enhanced efficiency (CAFÉ)
  - 15% reduction from new Alternative Fuels Standard at 35 billion gallons/year
- *Cost-Competitive Cellulosic Ethanol* goal by 2012
- *Thirty in Thirty*
  - Longer term biofuels goal
  - Ramp up the production of biofuels to 60 billion gallons/year
  - Displace 30 percent of U.S. gasoline consumption (2004 value) by 2030

Barriers	**Solutions**
- High cost of enzymatic conversion	- R&D to improve effectiveness and reduce costs of enzymatic conversion
- Inadequate technology for producing ethanol from sugars derived from cellulosic biomass	- R&D on advanced micro-organisms for fermentation of sugars
- Limitations of thermochemical conversion process	- Re-establish thermochemical conversion as a second path to success
- Demonstrations/integration of technology in biorefineries	- Fund loan guarantees, Section 932 biorefinery demonstrations, and 10 percent scale validation projects
- Inadequate distribution infrastructure for expanding markets	- Form interagency infrastructure team and Regional Feedstock Partnerships

R&D moving in the Right Direction:

- Collaborative R&D
  - Feedstocks: integration of feedstocks with conversion processes
  - Conversion technologies: biochemical and thermochemical
  - Integrated Biorefineries: systems integration; demonstrations; and infrastructure development
- Integrated biorefineries:
  - Systems Integration: feedstocks; conversion; biopower; and infrastructure
  - Demonstration: pilot scale; commercial scale
- Cellulosic ethanol R&D:
  - Today: nearly all ethanol made from corn
  - Future: cellulosic biomass will be primary source for fuel ethanol
    - Emits nearly 60 percent less greenhouse gases than reformulated gasoline
    - Relies on non-food and waste resources – in the future, far less ethanol made from corn

Notable Achievements:

- Achieved substantial decrease in cost of ethanol production – from over $5 to approximately $2.26 per gallon
- Developed organisms with superior ability to convert mixed sugars to ethanol – an important step toward cellulosic ethanol and the *2012* goal.
- Developed high-value plastics, foams, and coatings from oil crops and corn sugars

QA:

Peter Johnston inquired as to what types of feedstocks are currently being used in the conversion process to develop biofuels. Mr. Decot explained that the majority of biofuels are made from corn, but that R&D focus is working towards expanding biofuel production through the use of other agricultural products such as switch grass, hybrid poplar, rice hulls, and oil seed, etc.

Gary Burch inquired about the amount of corn being used to develop ethanol, stating that countries such as Mexico rely heavily on corn as a large part of the national diet and could see inflated prices in other commodities such as pork and beef if corn prices were to soar – another potential barrier to expanding biofuels. Ms. Glickman explained that the Program is working towards replacing corn as the primary ingredient for the production of ethanol, and that R&D focuses are geared towards developing technologies that will allow cellulosic biomass to replace corn as the most efficient means of producing ethanol.

Pat Sobrero inquired if the Biomass Program seeks to foster cooperation and outreach at the "local government level." Mr. Decot stated that primary focus has been at the state level, but explained that a lot of states have really yet to look at biofuels as a real possibility beyond large industries, small businesses, etc. He also stated that collaboration with the states is critical as there is a lot of overlap between Biomass and the technologies being developed in the other EERE Program Offices, as products that affect other industries are also made out of Biobased products. Dub Taylor explained that another potential barrier to biomass expansion is that "special projects" are not always popular at the Program level and are often viewed as a "funding drain." David Terry agreed, and stated that projects operating on a "continuum" are more likely to draw more interest and can also serve as potential "outreach" programs in terms of better conveying the benefits of biomass/biofuels. John Davies said that earmarks can also be an issue. And once broad-based partnerships can be developed, fewer earmarks will ultimately exist. He also stated that partnering with the states to increase the awareness and the development of biofuels could also assist in creating alliances that are especially helpful come budget request time.

5. STEAB STRATEGIC FOCUS AREA: Discussion with Allan Jelacic, Acting Program Manager, Geothermal Technologies Program.

The following is a summary of the presentation provided by Mr. Jelacic:

The Geothermal Applications:

- Electricity generation
- Domestic heat pumps
- Direct uses: Agriculture; Aquaculture; Direct Heating
  - Commercial greenhouses
  - Food processing facilities
  - Gold mining operations
  - Fish farms, etc.

Barriers:

- Costly and time consuming leasing and permitting process
- Investment risk / high front end cost and initial slow recovery period (pay back)
- Perception of environmental impacts
- Transmission access
- Resource confirmation risk

Benefits:

- Low to no plant emissions
- Potential Savings > 80 percent of current energy consumption
- EPAct 2005 provides $300 tax credit to homeowners with specified systems
- Western continental United States has especially high subterranean temperatures making geothermal expansion very feasible due to abundance of resources
- Cheap, clean, and completely sustainable power resource

Current Domestic Capacity:

- $2 billion domestic annual electricity sales – over $600 million in cumulative royalties to federal govt.
- Costs five to 8 cents /kWh
- Four million electric utility customers served annually
- 2,507,000 MWh annual direct energy usage
- 6,170,000 MWh annual geothermal heat pump usage
- 6 percent of California electricity generation; 10 percent northern Nevada, and 25 percent island of Hawaii

Successes:

- EPA endorsements
- 800,000 to 1 million geothermal ground source heat pumps now in use throughout the U.S.
- Projects under active development total 957.7 MWe
- Current projects in nine different states
- Western Governor's Association estimates potential for 5,630 MWe of new generation in 11 western states by 2015

QA:

Janet Streff inquired as to whether or not the Geothermal Technologies Program will receive funding in FY07 due to the increased EERE-wide funding under the continuing resolution in the House. Mr. Jelacic stated that the Program will see some funding in FY07, but will likely be "zeroed out" in FY08.

Gary Burch inquired as to whether or not the states will pursue geothermal technology now that the Program Office is no longer going to receive funding. Mr. Jelacic stated that the program is being discontinued because the agency believes that geothermal technology "is ready for deployment," and that the agency does not need to invest in further R&D in order for consumers to take advantage of the benefits of geothermal power. He then added that the states that are currently using/pursuing geothermal programs will continue to do so regardless of the status of the Geothermal Technologies Program Office's funding status.

Hal Smedley was curious as to whether or not the Program Office developed a calculation for petroleum displacement, and also inquired as to how much of the Geothermal Program is R&D specific. Mr. Jelacic explained that a calculation does exist for petroleum displacement but that he is currently unaware of the actual

fugues. He also stated that R&D efforts equal exactly the 100 percent focus of the Geothermal Program at the DOE.

Peter Johnston mentioned that strong links used to exist between hydrogen and geothermal operations, and wondered if that was currently still the case. Mr. Jelacic stated that there are some links still in place, and recalled one geothermal electricity generation plant in Hawaii that works with a local hydrogen plant by providing it with 2 MWe of off-peak power on a daily basis.

6. STEAB STRATEGIC FOCUS AREA: Discussion with Mark Bailey, Acting Program Manger and Lead Energy Technology Program Specialist, Weatherization and Intergovernmental Program.

Mark Bailey led an hour-long discussion with the Board, addressing three specific topics and identifying them as the current focal points of the Office of Weatherization and Intergovernmental Program Office (OWIP). These topics are: Weatherization Assistance Program (WAP); State Energy Program (SEP); and, "Market Transformation."

WAP Discussion:

Mark Bailey began this discussion by informing the Board that despite all of the recent rumors, the OWIP Program is not in the process – or in the planning stages – of being transferred to another agency (Department of Health and Human Services (DHHS)). He also explained that he very much wanted to discuss the FY07 EERE budget, but explained that it was in the process of being delivered to Congress and that a public announcement will be made at some point the following week.

Elliott Jacobson explained that he heard rumors suggesting that WAP funding would be dramatically lower than the previous fiscal year (FY06). He also stated that since EERE will receive an additional $300 Million in appropriations for FY07, any significant cuts in WAP funding would be considered "an insult" to the "Weatherization community." Mr. Bailey explained that there is a very "large push" to implement recent Presidential Initiatives, and despite any increase in funding, the DOE – and EERE – has a duty to fund programs in conjunction with how the funds were appropriated. Mr. Bailey stated that he sees "great opportunity" in the WAP Program, and that it has the capacity to be a broad-scale efficiency program – as opposed to a program whose sole purpose is providing low-income families with more energy efficient homes. He also stated that he would like "Weatherization" to become a "residential strategy," and to find ways to show the DOE how the WAP connects with other strategies and technologies.

SEP Discussion:

Mr. Bailey explained that after the Assistant Secretary saw the budget for the SEP last year, he immediately decided that the Program needed more support. He explained that the Assistant Secretary is – and has been – a big supporter of the program, and that he wants to continue to make the SEP as flexible as possible in order to mold projects and activities around what the States want to get done. Mr. Bailey explained that the agency sees the SEP as a deployment arm for technology offices, and that he also wants to do his best to connect the SEP so that it can serve as a platform that crosscuts all technologies and market sectors. He also stated that he would not comment on the current budget situation, but stated that he is very positive about FY07 funding.

Pat Sobrero inquired as to what the "drivers" are for the SEP. Mr. Bailey replied by stating that the SEP recently received budget pressure which required EERE to take a critical look at the state-level programs that are providing results. He explained that there was a lot of pressure on the program that the agency was not necessarily prepared for, and that there is now a greater push for the effective communication of results between

EERE and the states. He also explained that a better communication structure that shows program effectiveness is key in order for the Program to be more visible, and so that it can showcase its benefits to the public.

Mr, Bailey then touched upon the SEP's need to strengthen collaborative partnerships with the states, and encouraged the STEAB to think about ways that this can happen. Dub Taylor explained that the National Association of State Energy Officials (NASEO) recently put together a document that outlined strategies that will help bridge the gap between what the states and the agency know, vs. what the Congress finds out through communication with the *Office of Management and Budget* (OMB). He explained that the states would likely be willing partners for tackling these types of issues/efforts.

Market Transformation:

Mr. Bailey defined the term "Market Transformation" as, "Strategic interventions in the market with lasting change." He then stated that the "big question" still remains: "How to put the right policy in place to connect the private and public sectors." Mr. Bailey commented on the STEAB Resolution (06-04) that was developed last year which called for EERE to develop a renewable energy credit (REC) trading system. He explained that the Assistant Secretary challenged OWIP to work with other Program Managers, as well as other state partners, to explore the possibilities for an interstate platform for REC trading. He explained, however, that all of the work done on this to date has been based on internal discussions, and that EERE is still in a "planning mode" as it continues to look for "definitions" and explores regions that would best support a REC system(s).

Janet Streff explained that Carbon emissions could serve as "denominator" for any potential REC system(s). Dub Taylor agreed, and explained that tracking Carbon could very possibly be used as a metric that could be transformed into a similar REC system – translating BTU savings based on emission reductions.

Mr. Bailey then touched on the National Action Plan for Energy Efficiency (NAPEE), and commented as to how the document provides recommendations for removing barriers and for working with state "players" to increase their investments in renewable energy technology programs. He explained that although there are state-run programs and other efforts currently in place that encourage utilities to invest in renewables, EERE should continue to look for new and improved methods of encouraging utilities to "spend in that direction." In closing, Mr. Bailey informed that he would appreciate any feedback, and encouraged the Board to assist OWIP by developing ideas on how to better increase communication and cooperation efforts with the states, local groups, and utilities.

7. STEAB STRATEGIC FOCUS AREA: Discussion with Dr. Phyllis Yoshida, Energy Technology Program Specialist, FreedomCAR & Vehicle Technologies Program.

The following is a summary of the presentation provided by Dr. Phyllis Yoshida:

The FreedomCAR & Vehicle Technologies (OFVT) Program is at the very heart of the President's *Twenty in Ten* and *Advanced Energy Initiative* through its R&D efforts aimed at developing and accelerating the deployment of more energy efficient and environmentally-friendly automobile and truck technologies, reducing America's use and dependence of petroleum.

Applications/Advanced Technologies for High-Efficiency Clean Vehicles:

- Vehicle systems
  - Aerodynamics; rolling resistance; systems analysis and target setting
- Hybrid population
  - Hybrid electric systems; power electronics; advanced batteries; motors

- Advanced combustion engines
  - Low temp. combustion R&D; emission controls; light & heavy-duty engines

- Fuels technologies
  - Bio-based fuels; HCCI fuel characteristics; advanced lubricants
- Materials technology
  - Lightweight structures; metal processing; composite development; processing and manufacturing; recycling technology

Benefits:

- Reduce dependence on oil through fuel substitution & higher efficiency in both passenger vehicles and commercial fleets
- Reduce greenhouse gas emissions

Technology Barriers:

- Components & systems
  - Cost; performance, size and weight; reliability
- High volume manufacturability
- Deployment & infrastructure

Market Barriers:

- Consumer
  - Limited market drivers (consumer perception that fuel price increases are temporary); incremental cost of technology; relatively low fuel cost
- Manufacturer
  - High R&D cost; cost of replacing sunk investments; uncertain market – spurs compromise solutions; pre-buys (heavy truck market)

Technology Timeline/Market Penetration:

It can take as long as 15 years for a technology to reach maximum penetration in new vehicle sales and another 15 years for the technology to be ubiquitous. The following is a demonstrated "Pathway to Commercialization" timeline provided by the OFVT:

R&D	7-9 years
Engineering Feasibility: Validation, Demonstration	3 years
Intent to Produce/Manufacture	3 years
Commercial Deployment	12+ years

State Partnerships:

- Current Projects:
  - DOE funded 16 state projects in FY06 to increase use & availability of alternative fuels
  - *Clean Cities Coalition* (>90)
  - Testing plug-in hybrid vehicles for New York State Energy Research and Development Authority (NYSERDA)
- Further Opportunities:
  - Vehicle testing with other state agencies
  - Gathering state data on alternative fuel usage, market drivers, and market roadblocks

QA:

David Terry inquired if any changes would occur within the *Clean Cities Program* in regards to the FY08 budget request. Dr. Yoshida stated that the C*lean Cities Program* will be keeping its current name, and that the most dramatic change would be that the Program will include the testing of a validation and budget line.

Jim Ploger had a question regarding "plug-in hybrids," and inquired as to when similar vehicles will be coming to the market. Dr. Yoshida explained that the current R&D goal is set for 2014 – cost effectiveness being one of the major barriers in regards to bringing the technology to the market sooner. Mr. Ploger also mentioned the E-85 Program, stating that he was recently at an auto show where E-85 was highlighted. He also stated that very little information was shared that provided a detailed description as to where the E-85 stations are, or where one could go to fill up. Dr. Yoshida concurred, and stated that there are presently about 1000 stations nationwide, and in order to accommodate the entire nation a total of 60,000 stations would need to exist in the future. She also stated that the key to the success of the E-85 program success rests with the states and their assistance in increasing the number of gasoline stations that are E-85 compliant.

8. STEAB STRATEGIC FOCUS AREA: Review of the Financing Basics for Renewable Energy Projects Workshop, Gary Burch, STEAB Designated Federal Officer.

At the request of the Board, Gary Burch provided a brief presentation that summarized the *"Financing Basics for Renewable Energy Projects"* workshop that he recently attended in Austin, TX, in December 2006. He explained that it was one of the best workshops that he has ever attended, and provided the Board with a very brief recap on the renewable energy technology options, roadblocks, project financing strategies, and summary of findings that the workshop detailed.

STEAB STRATEGIC FOCUS AREA GROUP DISCUSSIONS:

At different points during the two-day meeting, Pat Malone (TMS, Inc.) facilitated several discussion sessions which allowed the Board to engage in several topics and areas of interest that they developed based on the presentations that they heard. Using Mr. Rodgers' discussion hour as the primary guide, the Board was able to identify several areas of focus in which future improvements and potential recommendations could be made. The discussion highlighted three major topic areas:

1. The Development of a National Stakeholder Interface "Roadmap/Matrix"
2. Framework for improved EERE / State Collaboration (Issue Development "White Paper")
3. Implementation of the NAPEE

Strategic Focus Area #1, The Development of a National Stakeholder Interface "Road Map/Matrix"

Pat Sobrero explained that the development of a "Stakeholder Interface Roadmap/Matrix" would serve as an effective tool that would assist in locating certain state-specific "identifiers" and who the different "players/stakeholders" are; and the roles of state-stakeholders and their project planning techniques/priorities. She then explained, however, that in order to start developing such a roadmap/matrix, it may make more sense to better research and understand the priorities of the states. Peter Johnston and Ted Berglund agreed, explaining that a better understanding of states' priorities may serve – or could be used – as the basis for developing the necessary criteria that the roadmap/matrix could be based upon.

John Davies said that it may be easier to "know where the roadmap/matrix leads" in order to better develop the criteria that would go into building it. Pat Malone (TMS, Inc,) said that developing the roadmap/matrix may not necessarily require knowledge of "where the roadmap leads," but instead, a "whom to engage" in regards to moving out energy efficient and renewable energy projects/programs. Elizabeth Robertson recalled that one of the recurring themes mentioned during the DAS-TD's discussion was EERE's focus on the importance of establishing partnerships with the states, and suggested that the Board consider developing a "partnership roadmap/matrix."

Gary Burch stated that the Board would likely not have the time or the resources to develop a whole roadmap/matrix, but suggested that Board look into the possibly of determining what some of the "pieces" would be and focus primarily on those. He then explained that he scheduled to meet with Deputy Assistant Secretary Rodgers on the day following the meeting, and stated that he would present some of these suggestions to Mr. Rodgers in hopes that he could provide some clarity as to what criteria he would like the Board to focus on. He explained that he will brief the Board on his discussion during the next STEAB monthly conference call that is tentatively scheduled for April 19, 2007.

Strategic Focus Area #2, Framework for Improved EERE / State Collaboration (Issue Development "White Paper")

Building upon the DAS-TD's recurring theme of the importance of EERE-state partnerships and increased collaboration efforts, the Board discussed methods of how they can assist EERE in improving their coordination and communication with state and local energy partners. The Board developed a list of several institutions in which they felt EERE could benefit by increasing their communication efforts, and also highlighted the possibility of EERE creating a "Director" position to serve as a point of contact for these institutions so that a "voice" could exist within EERE that relays their capabilities, activities, and interests.

The Board determined that this recommendation would be best captured in the form of an Issue Development "white paper," and polled its current available membership to determine which Board member would serve as the lead on this task. David Terry explained that he recently developed a similar document, and volunteered to "re-structure" the content to reflect the suggestions listed above.

Motion Adopted to Allow David Terry to Develop a DRAFT Issue Development "White Paper."

Jim Ploger moved to allow David Terry to develop a DRAFT Issue Development "white paper" and Janet Streff seconded the motion.

The Motion passed unanimously with no oppositions or abstentions.

It was determined that in the days following the meeting, Mr. Terry will forward the DRAFT document to the Board's administrative support lead (David Rathbun) for distribution to the rest of the Board's members, and that the Board communicate any edits or changes prior to next STEAB monthly conference call (4/19).

Strategic Focus Area #3, Implementation of the NAPEE

The third focal point that the Board engaged in was how to properly – and quickly – implement the processes and proposals highlighted in the NAPEE, specifically policy recommendations for addressing key barriers related to the implementation of energy efficiency and renewable energy projects, programs, and initiatives.

David Terry said that the NAPPE would be a valuable guide for focusing on "the goals," as opposed to the previous methods of "first looking for technologies to deploy, and then looking at where/how to deploy them." Hal Smedley agreed. He then added that focusing on addressing various stumbling blocks prior to developing plans to increase/enhance relationships would be the ideal approach in regards to looking for ways to expand energy efficiency and renewable energy projects/programs. Pat Sobrero suggested that the NAPEE may also serve as a valuable resource that the Board could consult for assistance in developing the "State-Stakeholder Interface Roadmap/Matrix."

Dub Taylor stated that since the majority of the Board's membership is unfamiliar with the content in the NAPEE, it may be best for David Rathbun (TMS, Inc.) to locate a copy of the NAPEE on the web, and then forward electronic copies of the "Executive Summary" for the Board to read and review. That way, the Board could engage in more discussion on the topic during the next monthly STEAB conference call (4/19/2007).

STEAB DELEGATION MEETING WITH CONGRESSMAN GREG WALDEN (R-OR):

In the afternoon of the meeting's first day (3/14), Dub Taylor, Elliott Jacobson, Pat Sobrero, Steve Vincent, and Hal Smedley traveled to Capitol Hill to meet with Congressman Greg Walden (R-OR) to discuss his views and interests in regards to renewable energy and energy efficiency programs.

The delegation explained that they were only able to meet with the Congressman for a very brief amount of time, but did have the opportunity to engage in some dialogue with Rep. Walden, particularly in regards to his views on the importance of biomass R&D. Elliott Jacobson said that is was a very interesting meeting. He also stated that building a relationship with Mr. Walden could also be a great vehicle for the Board to develop a relationship with the House Committee on Energy and Commerce. Dub Taylor concurred with Elliott Jacobson's suggestion in regards to STEAB having a great opportunity to enhance relationships with the Congress, pointing out the fact that the Congressman informed him that he was unaware that the STEAB was a Congressionally authorized Committee/Board. He then explained that he used that opportunity to provide one of the Congressman's aides with a copy of a STEAB binder (STEAB FY07 New membership Binder) that includes several Board Resolutions, a copy of the STEAB Charter, and the latest STEAB Annual Report. Pat Sobrero said that the meeting was a good way of establishing "awareness," and that the STEAB could benefit from a closer relationship with the House Committee on Energy and Commerce. Steve Vincent also commented that he felt that the meeting was very positive, and suggested that the Board attempt to "cultivate" the potential relationship that may have been formed between the Congressman and the Board, and make efforts to maintain a certain level of "visibility."

NEXT MEETING LOCATIONS:

The Board prefers to schedule rotating meetings between the National Laboratories and Washington, D.C. – a process that allows the Board to see emerging technologies in the field, and to also meet with members of EERE senior management. Dub Taylor explained that the Board was considering visiting the Lawrence Berkeley National Laboratory (LBNL) last fall until it was realized that several members of the Lab's renewable energy sciences department would be out the week that the Board had wanted to visit. Instead, the Board visited ORNL in October 2006, but would like to consider LBNL for the next meeting as it is one of the leaders within the DOE National Laboratory family in regards to energy efficiency and renewable energy sciences. Jim Ploger inquired as to when the next meeting would take place. Dub Taylor said that the Board should consider having the next meeting sometime in August 2007. Gary Burch commented that the latter half of August would be the most preferable. As of now, the Board agreed and tentatively slated the week of August 13th as the next meeting date. David Rathbun (TMS, Inc.) said that he will contact the Lab and also continue to roundtable suggestions from the Board as to what week in August would be the most convenient for the Board.

DISCUSSION ON IMPROVING STEAB COMMUNICATION WITH EERE:

John Davies inquired about the amount of communication and feedback between the Board and the Assistant Secretary's Office. Gary Burch said that communication between the Board and EERE is of high importance to the Assistant Secretary. Pat Sobrero suggested that the Board's Executive Committee seek meetings with the Assistant Secretary prior to Board meetings in order to establish and develop focus. Dub Taylor agreed, and said that it would be beneficial to continue this method. Gary Burch also mentioned that Board Resolutions are another effective way that the Board can communicate with the Assistant Secretary's Office.

Chris Benson suggested that the Board consider developing a more detailed process that would allow for better feedback based on the Resolutions that the Board develops. Elliott Jacobson suggested that the Board's Executive Committee consider staging "in-between" meetings with the Assistant Secretary, stating that it would be a good method for maintaining continuity and ongoing focus between semi-annual Board meetings. Peter Johnston also suggested that the Board consider follow up meetings with Mr. Rodgers as well, commenting that it too could be equally beneficial. Dub Taylor agreed with Mr. Johnston's suggestion, stating that the DAS-TD's schedule has considerably more flexibility. Gary Burch touched upon the Board's suggestions and invited the Board to take whatever actions they deem appropriate to increase communications and feedback from the Assistant Secretary and his Office. Dub Taylor also mentioned the possibility of inviting the DAS-TD to attend the Board's monthly conference calls. Gary Burch stated that he has a meeting with Mr. Rodgers on the day following the Board meeting, and that he will pose these suggestions to him and also consider any feedback that he may have regarding the same. In conclusion, Dub Taylor mentioned the Board consider establishing a relationship with the OMB as well.

ISSUE DEVELOPMENT WHITE PAPER – "MARKET TRANSFORMATION":

Dub Taylor briefly summarized the issue development "white paper" that was developed based on discussions generated during the October 2006 meeting in Oak Ridge, TN. Gary Burch mentioned that he and the Board's Executive committee shared the "white paper" with Mr. Paul Dickerson (aide to Assistant Secretary Karsner) in November 2006, and that the ideas discussed within were well accepted and that Mr. Dickerson seemed to hold a high regard for them. Chris Benson commented on the term "Market Transformation," and stated that although important, it continues to serve as a generic, "catch all" term. He suggested that the Board develop/provide a more concrete or "boxed in" definition to better capture its essence. David Terry suggested that the paper's reference to the need for a database providing important information regarding government tax credits and incentives be modified to recognize the existence of ad linkages to the Database of State Incentives for Renewable Energy, which includes federal incentives. Pat Sobrero suggested that the Board review the document again for potential "refining," and that reviewing the "white paper" be added as an agenda item for the next conference call (4/19). She also recommended that the Board review the document and forward any edits that they see fit to David Rathbun so that he can incorporate them into one "final version." That way, the Board can discuss whether or not they wish to purse any future action with the document.•

• At the time that the "white paper" was developed (November 2006), the Board did not have an official quorum as it was awaiting the approval of several new Board members. The Board now has the membership numbers required by the STEAB Charter (18-21) to vote and take official actions on this item.

PUBLIC FORUM (3/15):

Mr. Jack Baker, a representative of Energy Northwest, addressed the Board with concerns surrounding the limited amount of annual funding being appropriated for the Renewable Energy Production Incentive (REPI), and urged the Board to consider developing future actions or recommendations that would propose that DOE and Congress increase funding allowances for the REPI Program. Also representing Energy Northwest was Ms. Karen Price, a representative of Morgan Meguire LLC.

Representatives for the American Public Power Association (APPA) and the Sacramento Municipal Utility District (SMUD) were not present during the meeting. However, they did submit formal written statements that summarized their respective concerns surrounding the funding allowances for the REPI Program. •

Mr. Daniel Beckley, a representative of the DOE's Office of Weatherization and Intergovernmental Program, explained that the DOE is sympathetic to utility companies' requests for additional funding. He also explained that the DOE has no bearing on whether or not funds can be increased under the REPI Program, explaining that only the Congress has the authority to appropriate funding in excess of the current $5,000,000 REPI ceiling.

Elliott Jacobson, the present ranking member representing the STEAB Executive Committee, thanked Mr. Baker for taking the time to address these issues with the Board. He explained that although the Board does take a strong interest in advancing renewables, he could not guarantee that the STEAB would take any future actions regarding these requests. He did explain that he would make arrangements to develop electronic copies of the issues that were presented, and will subsequently forward them to the rest of the Board for consideration.

ADJOURNMENT: The meeting was adjourned at 4:37 p.m. on Thursday, March 15, 2007.

• Complete versions of the written statements provided by APPA, Energy Northwest, and SMUD are located at the end of this document.

ACTION ITEMS arising from the March 14-15, 2007 STEAB meeting are highlighted below:

In the coming weeks / months, the Board has several action items on the agenda with associated time-frames to ensure their effectiveness. The Board is currently considering an August 2007 meeting at one of the National Laboratories that focus on renewable energy and energy efficiency technologies. In addition, the Board is also considering several potential actions based on topics discussed during this meeting, with the intention of re-visiting them for further discussion during the April 2007 conference call.

Actions	Responsible Party	Due Date	Status
Make presentations available to all members.	TMS, Inc.	ASAP	Post presentations on STEAB Web site and forward electronic copies to the Board.
Draft formal "Thank You" letters to meeting speakers, and also draft a letter of appreciation to be sent to Congressman Greg Walden's Office.	TMS, Inc.	ASAP	Submit copies to STEAB Chair; Chair to review for approval prior to mailing
Minutes of the STEAB Meeting in Washington, D.C.	TMS, Inc.	Submit draft minutes to DFO and STEAB Executive Committee for review (within 3 weeks of adjournment)	Make public within 60 days of adjournment (May 15, 2007.)
Next Meeting(s) National Laboratory (August - tentative) Washington, D.C. (October / November / March 2008 - tentative)	TMS, Inc.	ASAP	TMS, Inc. to poll the Board's membership to see which weeks of the two respective months would be the most favorable for the majority of the Board. Board to also determine the feasibility of holding late-year D.C. meeting.

Actions	Responsible Party	Due Date	Status
Follow up based on the Public Forum discussion concerning Energy Northwest and SMUD's request for increased funding under the REPI Initiative.	TMS, Inc. / Board	ASAP TMS, Inc. to make electronic copies and forward to the Board.	**Created electronic copies and forwarded to the Board on 3/19.** Board to consider discussion on whether or not to take future actions during subsequent conference calls.
Issue Development "White Paper" (Market Transformation)	TMS, Inc. / Board	ASAP TMS, Inc to forward to the Board for review and comment no later than 3/23.	**Forwarded to the Board on 3/20** Board to review and provide any individual edits to TMS, Inc. no later than 4/10 so that the edits can be incorporated and the final copies redistributed prior to the 4/19 conference call where potential action may be taken.
Strategic Focus Area #1. The Development of a National Stakeholder Interface / Matrix	DFO / Board Target informed sub-team of two or three Board members to develop further.	Preliminary Discussions 4/19	DFO met with DAS-TD on 3/16 and was provided with more information that outlines and describes in more detail what was meant in regards to developing / identifying a State-stakeholder interface "roadmap / matrix." DFO to brief the Board during the 4/19 conference call.
Strategic Focus Area # 2. Issue Development "White Paper" (Framework for improved EERE-state collaboration)	David Terry / TMS, Inc / Board	ASAP TMS, Inc to forward to the Board for review and comment no later than 3/23.	**Forwarded to the Board on 3/20** Board to review and provide any individual edits to TMS, Inc. no later than 4/10 so that the edits can be incorporated and the final copy distributed prior to the 4/19 conference call where potential action may be taken.

Actions	Responsible Party	Due Date	Status
Strategic Focus Area #3. Implementing the National Action Plan for Energy Efficiency (NAPEE) – Assisting EERE in the quicker implementation of NAPEE Proposals	TMS, Inc. / Board	ASAP	**Forwarded to the Board on 3/19.** During the March meeting, the Board decided that since several of the Board's members were unfamiliar with the NAPEE document, that TMS, Inc. locate and subsequently forward an electronic copy of the document's *Executive Summary* so that the Board can re-evaluate this action during the next conference call.

Jack Baker
Energy Northwest
Remarks on the Renewable Energy Production Incentive
State Energy Advisory Board Meeting
March 14-15, 2007

Thank you for this opportunity to speak today regarding the Renewable Energy Production Incentive, or "REPI," program.

You and I are well aligned on our purpose to promote renewables – I am a state employee, too; Energy Northwest has developed large renewable projects for our public members; Energy Northwest and our public power members want to develop more renewables because it represents environmental responsibility, it diversifies our resource mix, it is responsive to our rate payers desires and it is consistent with the political trends in our state, our nation and the world.

Some history:

As you might know, originally authorized in 1992, the REPI program provides funds for consumer-owned utilities to help lower costs for renewable generation. Administered by the Department of Energy, REPI provides a 1.5 cent/kWh incentive (indexed for inflation) to build renewable energy generation, using solar, wind, geothermal, certain biomass and ocean power resources. The incentive payments are awarded after the project is constructed and are based on energy actually generated by a qualified project.

Congress authorized the REPI program in an effort to provide consumer-owned utilities with benefits comparable to those received by private developers under the federal Production Tax Credit (PTC). Because public power systems and cooperatives are not-for-profit utilities, they do not pay federal income taxes and, therefore, are not eligible for the PTC. Thus, in order to provide incentives to invest in renewable energy for the public sector, it was necessary for Congress to create REPI, which is funded through annual appropriations.

Though REPI is a valuable program, it is under funded to a great degree, limiting the amount of clean, renewable energy that can be developed by public power. For example, utilities applied for more than $47 million in funds in 2005, but available funding has been less than $5 million per year.

In 2000, Energy Northwest developed, and we are still operating, our 37kw White Bluffs solar facility. This is a REPI qualified project that we undertook to take some of the mystery out of solar and to get operating & maintenance experience.

In 2002, we built our 50MWe Nine Canyon Wind Project. This is also a REPI qualified project and our participants took the business risk of this project expecting REPI payments. The first year in operation we got $1 for $1 on our REPI payment.

In 2004, we expanded our Nine Canyon Wind Project by 15 MWe knowing that full REPI payment was at risk, but the first year for this project we got about $.85 on the $1, so we were hopeful that the initial REPI promise of a level playing field with the private developers would be realized through increased REPI funding.

In 2007, our participants elected to take additional REPI risk by expanding our Nine Canyon Wind project an additional 32 MWe taking it to nearly 100 MWe. That was with the knowledge that our last year payment was about $.48 on the dollar but again hopeful that this new congress and the DOE leadership would fulfill its REPI promise and find ways to encourage our common interest in having public power continue to develop renewable resources. If REPI funding is not increased, we would expect to get $.25 on the dollar next year.

I can tell you that our last 35 MWe expansion of Nine Canyon was delayed over one year because of the current REPI funding level and policy. The only reason it went through was because we had some access to lower priced turbines and the turbine pricing risk exceeded the REPI risk.

I can also tell you that we have a fully permitted 65 MWe wind site and willing participants that are waiting on the government to offer the same incentives to public power that they are currently offering to private developers.

Our membership has told us to continue to develop additional wind sites to meet their power supply needs. This could be hundreds of MWe in the next five years, if the federal government fixes this unfair policy that is inconsistent with administration and congressional statements of strong support for development of renewables.

We have a mission to develop diversified resources -- we are looking into low impact hydro, geothermal, solar, wave and tidal power. If this development is to be done by public power, it will require fixing these incentives.

This is not the first (or the last time) that I have given this speech and pleaded for a resolution – I have given it to DOE and many Members of Congress. They agree that this in an unwise and unfair policy. They agree it needs to be fixed but it is constrained by the budget. It is time for DOE to adjust its priorities and resolve this issue that has been going on for over 6 years in the budget.

So what would happen if DOE funded REPI and made it truly a level playing field with the Production Tax Credit:

1) Public power would accelerate their development of renewable resources.

2) Public power would be more inclined to own their renewable resources and less dependent on private developers. Since private developers deserve and charge a price premium, public ownership will allow this premium cost savings to be pasted onto its consumers.

3) Public power is consistently an early market entrant into near commercial renewable and smaller renewable projects- development in this area will also be accelerated with increased REPI funding.

4) Past public power projects that are currently REPI qualified will (and are) suffering large price increases due to the under funding of REPI. Increasing REPI funding will motivate them and their consumers for continued renewable development.

Our Recommendations:

1) Demand action now, the 1992 statue authorizes "such sums necessary to carry out the incentive program…"

2) DOE can take the first step, by recommending to Congress – in next year's (FY 09) budget request – that REPI be funded at the level needed to provide full incentive payments to qualified projects. (According to the most recently available data, $47.5 million would have been required in FY 05.)

3) Make it a priority in DOE to actively advocate and support the REPI program as a way to get new renewable generation built, particularly as the country struggles to enact policies to address greenhouse gases and works to become energy independent.

Thank you for this opportunity. I challenge you to be as passionate about this issue as I am and I stand ready to support you in any way you need.

Jack Baker; VP Energy/Business Services, Energy Northwest; jwbaker@energy-northwest.com.

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Jim Shetler
Assistant General Manager, Energy Supply
Sacramento Municipal Utility District
Remarks to the State Energy Advisory Board on the
Renewable Energy Production Incentive Program
March 14-15, 2007

Members of the Board, thank you for allowing me to submit remarks to advocate for a fully-funded Renewable Energy Production Incentive (REPI) program. The Sacramento Municipal Utility District (SMUD) and many others have benefited greatly from this Department of Energy (DOE) program, and would build additional clean resources if the incentive were more reliable.

SMUD is the sixth largest community-owned electricity utility in the United States. It generates, transmits and distributes electric power to a 900 square-mile service area that includes Sacramento County and a small section of Placer County. SMUD provides power to 1.2 million people through the use of hydroelectric generation, cogeneration plants, renewable technologies such as wind, solar and biomass, and power purchased on the wholesale market. Over the next several years, SMUD has a goal of significantly increasing the amount of power it generates through renewable technologies. Our 2006 goal was to provide 12% of our retail sales with renewable energy; we exceeded that goal by providing 13% in non-large hydropower renewables last year. Our 2011 goal is a 23% non-large hydro renewable energy supply.

Congress created the REPI Program in the Energy Policy Act of 1992 (EPAct 1992). The REPI program permits DOE to provide direct payments to publicly-owned utilities and cooperatives at the rate of 1.5 cent/kWh (indexed for inflation) for electricity generated from solar, wind, ocean power and certain geothermal and biomass electric projects. In 2005, REPI was reauthorized and modified for an additional ten years in the Energy Policy Act of 2005 (EPAct 2005).

Congress implemented this program with two goals in mind: first, to assist consumer-owned utilities in overcoming economic barriers to greater renewable energy development; and second, to provide "parity" to the renewable energy tax credits, such as the production tax credit (PTC) and the investment tax credit (ITC), available to investor-owned utilities (IOUs). Consumer-owned utilities make up 25 percent of the electric utility industry, and Congress felt strongly that if federal incentives to build renewable generation were going to be provided, they should be available to all sectors of the utility industry equally, not just to investor-owned utilities.

To date, however, both the promise of overcoming economic barriers and providing of "parity" for consumer-owned utilities have been unfulfilled. Since 1992, Congress has provided billions of dollars in energy tax incentives to private developers and investor-owned-utilities, but only $40 million[1] during the same time period in REPI funds to the consumer-owned utility sector. DOE has never requested an adequate amount of funds and Congress, using the DOE's request as a guide, has never appropriated the program at a level sufficient to meet the demand.

[1] According to DOE, the total amount appropriated from 1194 through 2006 is $40,337,173.

In 2006 alone, DOE received applications for REPI payments of $47.5 million. This was for renewable projects that were built, generated energy and applied for an incentive, but did not receive it because the program was not fully funded. Since its inception in 1992, REPI has been funded at approximately $4-5 million annually - far below the demand. According to DOE estimates, would take nearly $126.5 million[2] to fully fund the projects of all eligible applicants.

While SMUD has been more successful than most consumer-owned systems in obtaining REPI payments, our projects have not been fully funded. SMUD has received $4,453,869 (this includes digester gases at Central Valley Financing Authority (CVFA)) since the inception of REPI but has submitted applications for approximately $11 million (including CVFA). This is for generation constructed and energy produced. SMUD's projects assisted by REPI include solar PV, wind, biomass and landfill gas projects.

In order to make a decision to build a renewable project, SMUD goes through an extensive public process before deciding whether an investment is economically feasible and acceptable to our community owners. We must then go through the siting process, build the plant, generate the renewable energy and submit an application to DOE for re-imbursement.

This is not the optimal way to make long-term, capital-intensive investments. Full funding for REPI would provide much-needed certainty for consumer-owned utilities to invest in more costly renewable generation.

REPI will also play an important role as SMUD strives to meet California's aggressive renewable portfolio standard, which has as its goal to provide 20% of the state's supply from non-large hydro renewable resources by 2010. That supply goal is likely to grow in the future. In fact, legislation is currently pending to increasethe state RPS to 33% supply by 2020.

California also recently embraced an aggressive program to reduce greenhouse gas emissions (GHG) below 1990 levels by 2020 (AB 32). In addition, the State recently adopted a separate law (SB 1368) that prohibits load-serving entities, including municipal utilities, from entering into a new long-term contract for base-load generation unless that generation complies with certain specific emission performance standards (*i.e.* as clean as a natural gas combined-cycle power plant). In effect, SB 1368 bans current, commercially-available coal-fired generation from supplying new electric demand in California. These two new laws have increased the need to invest in new renewable energy and funding such as the REPI program will assist SMUD and other public power systems in California to make those investments.

[2] According to the *June 29, 2004 DOE, Renewable Energy Production Initiative (sic) Program, 10-year Projection Study,* "A Congressional appropriations in FY 2006 of $79,388,002 would be required to pay all recipient in full for payout year 2005." In 2006, DOE has indicated that they had $47.5 million in unfunded "eligible" applications, bringing the total to over $126.5 million in underfunding.

Association

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Statement of the
American Public Power Association (APPA)
Regarding Funding for the Renewable Energy Production Incentive (REPI)
To the State Energy Advisory Board
Following their Meeting on
March 14-15, 2007

The American Public Power Association (APPA) is the national trade association representing the interests of the over 2,000 public power systems nationwide in 49 of the 50 states (all but Hawaii) that provide electricity to 44 million Americans. Approximately 70% of these public power systems provide electricity to communities of 10,000 or less. Public power systems are government enterprises comprised of municipal electric utilities, public utility districts, and state-owned utilities that are owned and operated by the communities they serve. Public power systems operate on a not-for-profit basis and rates for their customers are set, not by what the market will bear, but at a level sufficient to cover their costs and sustain a reasonable reserve for repairs and replacement of capital equipment. Furthermore, the mission of public power systems is to provide reliable, low-cost electricity in an environmentally sound fashion.

Public power utilities are governed either by elected public officials, such as mayors or city councils, or by boards of appointed or elected individuals – these groups are subject to open meetings laws and open records requirements that assure that local issues are adequately addressed. Public power utilities treat their revenues as public funds, are subject to strict purchasing regulations, and major decisions are well vetted within the community.

While public power systems differ in their governance and fiduciary obligations from the for-profit privately-owned investor-owned utilities and the not-for-profit privately-owned rural electric cooperatives that comprise the rest of the electric utility sector, they are all subject to the same environmental laws. In recent decades, Congress has used the tax code to provide incentives to various sectors of the economy, including the electricity sector, to help defray the financial impact of complying with strict environmental laws. However, because public power systems do not pay federal income taxes since they have no income to tax, these incentives have not benefited them directly.

For this reason, Congress has tried to create programs that provide similar financial incentives for the not-for-profit electric utilities, specifically public power systems and rural electric cooperatives. One such program is the Department of Energy's (DOE) Renewable Energy Production Incentive (REPI) program. REPI was created by the Energy Policy Act of 1992 and reauthorized in the Energy Policy Act of 2005, and authorizes DOE to make direct payments to public power systems and rural electric cooperatives at the rate of 1.9 cents per kWh (indexed for inflation) from electricity generated from solar, wind, geothermal, landfill-gas, biomass, ocean energy, and livestock methane projects.

REPI was established to assist consumer-owned utilities and their communities in overcoming economic barriers to greater renewable energy use, and to ensure equity between these utilities and investor-owned utilities that have access to production payments and renewable energy tax credits, as mentioned above. However, the program has been under-funded since its inception. For example, according to DOE sources, for power generated in FY 2005, applications for the REPI program (that were made in calendar year 2006) totaled $47.5 million, yet in that same fiscal year DOE only requested $5 million for the program (and for FY 2006, FY 2007 and FY 2008, the request has hovered at close to $5 million). The following graph from DOE's REPI website shows the history of funding and applicants to the program since its inception through 2005 (this does not include the calendar year 2006 numbers referenced above that have not yet been added to this chart):

REPI Appropriation Summary

Year of Production (FY)	Year of Payment (FY)	Appropriated Funds	Tier 1 Paid	Tier 1 Unpaid	% Tier 1 Paid	Tier 2 Paid	Tier 2 Unpaid	% Tier 2 Paid
1994	1995	$693,120	$100,725	-	100%	$592,395	-	100%
1995	1996	$2,398,472	$218,604	-	100%	$2,178,217	-	100%
1996	1997	$2,490,893	$195,902	-	100%	$2,294,991	$347,038	87%
1997	1998	$2,853,997	$154,504	-	100%	$2,699,493	$6,519,682	29%
1998	1999	$4,000,000	$122,167	-	100%	$3,877,833	$9,747,420	28%
1999	2000	$1,500,000	$603,182	-	100%	$896,818	$15,664,879	5%
2000	2001	$3,991,000	$1,339,377	-	100%	$2,651,625	$24,755,332	10%
2001	2002	$3,787,000	$1,365,846	-	100%	$2,421,154	$33,679,732	7%
2002	2003	$4,815,033	$1,810,911	-	100%	$3,004,122	$40,211,074	7%
2003	2004	$3,714,911	$3,714,911	$1,091,206	77%	-	$58,145,027	0%
2004	2005	$4,960,000	$4,960,000	$2,205,009	69%	-	$43,393,560	0%

**Information provided on the REPI website at: http://www.eere.energy.gov/wip/repi.html*

According to these figures (including the unpaid amount for 2006 provided by DOE separately), approximately $284 million in REPI applications have gone unpaid because of lack of interest in funding the program by DOE and by Congress. (Please note that the types of renewable resources authorized by REPI are divided into two tiers – wind and solar in the first tier and the remaining resources in the second tier. Prior to the reauthorization of the program in 2005, the tier 1 resources were given priority, but EPAct05 ensured that tier 1 resources get 60% of the

funding and tier 2 get 40% of the funding.) This lack of adequate funding for REPI means that communities with public power systems are not being given treatment by the federal government that comparable to the treatment provided to investor-owned utilities. Through the investment and production tax credits, the benefits of which are not capped, the federal government is defraying some of the expense of producing cleaner energy for these private entities and not doing the same for public entities. Ultimately, the end-use public power customer must pay for this disparity. This is particularly inequitable when for-profit investor-owned and not-for-profit public power systems and rural electric cooperatives are being asked to comply with the same federal environmental laws and state renewable resource requirements.

The REPI program deserves increased funding because of the issues discussed above. And despite the chronic under-funding problem, REPI is successful. It has worked to create incentives for continued and expanded use of renewable energy for the communities that have received it. For that perspective, APPA urges you to consider the testimony provided by two of our members: Energy Northwest in Washington State and Sacramento Municipal Utility District (SMUD) in California.

Given the increased pressure to produce electricity with renewable resources created by renewable portfolio standards in some states and pending federal climate change legislation, REPI funding is critical for public power systems, and the communities they serve.

Should you have any questions, please feel free to contact Joy Ditto, Director of Legislative Affairs, at 202-467-2954, or Claude Boudrias, Senior Government Relations Representative, at 202-467-2929.