

Market Research Report
**Summary of a Workshop
on the Future of Electric Energy Use**

prepared by

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Summary of a Workshop on the Future of Electric Energy Use

Consumer Trends in the Pacific Northwest and U.S. through 2015

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Introduction

The Northwest Energy Efficiency Alliance sponsored a workshop in March 2001 to investigate the future social, economic and technology trends and how they would affect energy efficiency in the Pacific Northwest. The major purpose of the Workshop was to identify the trends that might have an effect on the current portfolio of Alliance projects and “get ahead” of important trends in designing and screening new program opportunities. This document is a summary of the Workshop; the full study is available by calling the Alliance at 800/411-0834.

Thirty-five participants and six observers, representing futurists, environmentalists, utility company executives, journalists, social and political scientists, administrators, regulators, and consumer advocates participated in the workshop on March 14-16, 2001. At this event, stakeholders explored the long-term national and regional trends that may impact the adoption of energy efficiency in the PNW and chose specific actions to undertake in the near future.

The narrative in this paper consists of two interwoven parts, one briefly explaining the system methodology used during the workshop, the other describing the findings of the workshop.

Pre-Workshop Survey

A web-based survey was produced in preparation for the workshop, based on sampling of relevant secondary research. The survey was designed to engage the participants in responding to questions at three distinct but interrelated contexts. It was framed in such a way as to encourage participants to think “out of the box” about social economic and technological trends within the following limits:

- International trends in energy consumption for a time horizon of 15 years;
- National trends in energy efficiency for a time horizon of 10 years;
- Regional trends in energy efficiency for a time horizon of 5 years.

Methodology

Any group of people, when trying to solve a complex problem, such as the anticipation of energy efficiency trends and events, confronts three challenges.

First, the problem often seems vast, unwieldy, bewildering. Individuals often find one aspect of the problem easy to understand, but to each person the entire problem is overwhelming. If all the individual understandings could be somehow joined together, real progress would occur.

Second, individuals – depending on their backgrounds and training – perceive the problem differently, and use different terms or language to describe their perceptions. Again, uniting these differing perspectives could be a real opportunity to improve everyone’s understanding of the problem, but often groups do not allow individuals enough time to clarify their perspective so that others understand them sufficiently, cutting short the group learning that is so essential to solving complex problem situations.

Finally, while no one in the group may comprehend the entire problem, the groups as a whole possesses a collective understanding of the problem that enables it to map out how different components of the problem are related to each other. The trick is to devise a method that facilitates a group tapping into this collective understanding and wisdom in a constructive, goal-oriented manner.

The workshop used a facilitation methodology that addresses each of these challenges, striving to turn them into collective opportunities.

Outcomes

In the first stage of the workshop, participants described and clarified 107 national trends and 71 regional trends. The participants identified the 20 trends they considered the most important and grouped them onto four categories, or “tracks”:

1. ***Energy Conservation*** composed of six trends:

- Global Inequities in Energy Consumption (national)
- State Regulatory and Legislative Incentives (regional)
- Credibility of Global Warming (national)
- Environmental Impacts of Energy Consumption (national)
- Hardware Solutions and Energy Reliability (regional)

2. ***Energy Efficiency*** composed of three trends:

- Price volatility and signals (national and regional)
- Interest in “green” solutions (regional)
- Distributed generation and green building construction.

3. ***Lifestyles of the Future*** composed of five trends:

- Increasing use of Internet
- Integration of communication and energy technology
- Real time pricing of energy
- Penetration of “smart” metering technology
- Compact urban form embraced

4. ***Energy Supply***, composed of three trends:

- Regulators refuse to let real energy price signals flow through to consumers
- Integrity of Bonneville Power Administration is at risk
- Increase in new electricity supply makes energy “invisible” again

The participants’ judgments of the relationships among the trends produced a pattern displaying how some trends influence others in the set of the 20 most important trends

(this “plausibility map” is available in the full workshop report).

The final stage of the workshop was to develop action options and action option categories using the same methodology. Some categories had only one action option that the group agreed on. The action options and categories are presented below:

1: Price & Taxes

Action Options:

- Develop tiered rate proposals to encourage energy efficiency and/or distributed generation instead of growth in loads.
- Encourage state regulatory agencies to experiment with innovative pricing mechanisms and consumer signals.

2: Changes in Values

Action Options:

- Establish energy efficiency as the core of sustainability
- Enhance energy and efficiency sophistication of local sustainability efforts focused on planners, media and professionals

3: Education and Marketing of Energy Efficiency

Action Option:

- Adopt a region-wide, demand-side management marketing strategy that has a common theme or logo.

4: Regulatory Action

Action Option:

- Establish competitively neutral, equitable requirements for utility investment in energy efficiency.

5: Metering and Controls

Action Options:

- Establish a standardized protocol for smart meter installation across the region.
- Encourage widespread installation of electric metering that allows alternative rate design.

6: Distributed Generation Infrastructure

Action Option:

- Review barriers to distributed generation and try to reduce or eliminate.

7: Pacific Northwest Economic Development

Action Options:

- Provide incentives to attract to the Northwest companies that make energy efficiency and green products
- Make the Northwest the recognized “Silicon Valley” of revolutionary distributed energy technology.
- Promote the formation of a regional forum to attract companies into the region that will provide energy efficiency products and services.

8: Tools

Action Option:

- Use public credit to create a buying/purchase guarantee cooperative tool for regional energy efficient product purchases.

Analysis

Looking across the trends and action options some interesting themes emerge that could affect the Northwest electricity industry and specifically Alliance. Alliance development staff examined some of the themes and their potential impact on Alliance efforts. These are presented below.

1. *A threat to energy efficiency may be the de-emphasis of the importance of efficiency as the energy crisis – for the time being – recedes (trend).* This trend was one in a group of trends related to regulation and rate design. If the region’s energy crisis recedes, the Pacific Northwest may see a decreasing emphasis on conservation and energy efficiency. The cyclical nature of energy crisis and surplus that has characterized the Pacific Northwest since the early ‘80’s will once again be present.

Regulatory action and appropriate price signals would ensure that energy remains a visible issue. However, the participants were convinced that regulators would continue to keep energy prices low.

2. *The development of the Internet will place a strain on energy supply and presents an opportunity for the Alliance (trend).* The rise of “server farms” or “telco hotels” servicing the Internet has grown in the Pacific Northwest. This trend may present the Alliance with an opportunity to develop new efficiency initiatives for this growing market.
3. *Increasing decentralization will result in growing use of distributed energy and self-contained communities (trend).* This was proposed as a regional trend for the Pacific Northwest. The Alliance may want to monitor geographic and population trends to track these changes.
4. *Distributed energy is and will be a growing industry, and the Alliance should become involved in that area (Action Option).* This trend and recommendation was a

consistent theme in the workshop. It was also related to rate design and control technology, but clearly stood out on its own. The Board of the Alliance on several occasions has discussed this topic. The Workshop recommendation was based upon the regional nature of the Alliance, and the fact that no such organization currently exists for distributed energy technology.

5. *The Alliance should develop a regional “brand” for recommended products and services (Action Option).* The decision to develop a regional brand has both positive and negative implications. For example, the Alliance is already an ENERGY STAR partner. Partnership in this program leverages the fact that awareness of the brand is growing and being promoted by DOE/EPA and has the strength of a national effort behind it, which represents a large number of stakeholders.

However, tying into a national program means the Northwest would mean less control and flexibility in establishing the specifications for what qualifies for the brand. In other words, if the region wanted qualification standards that are higher than the standards for a national program, they could opt for the higher specifications under its own brand as well as endorsing ENERGY STAR products.

6. *The Alliance should become involved in economic development, to make the Pacific Northwest the “Silicon Valley” for energy efficiency and distributed energy technologies (Action Option).* The Alliance has never considered this option explicitly, although it does encourage new businesses and new product development. The Alliance has sponsored the development of individual new products, such as the MagnaDrive mechanical coupling. However, regional economic development based on energy-efficient products is not as yet part of the Alliance’s mission.
7. *The Alliance should use the growing “Green” building movement to institutionalize energy efficiency concerns (Action Option).* Energy efficiency is not necessarily a prerequisite for designation as a “Green” building. However, with the growing demand for these types of buildings, including efficiency standards might be a way of introducing efficiency in new construction.

Next Steps

The results presented above pose some challenges to the Alliance, both in its mission and in the content of its initiatives. The results of the workshop will be presented to the Alliance Portfolio Development Committee. The committee will have an opportunity to examine the implications of the Workshop findings and to recommend further action to the Board.