

Energy & the Environment Proceedings  
PNWER Annual Summit – Big Sky, Montana  
July 14, 2015

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*Co-chair: Rep. Deb Boone, Oregon State Legislature*  
*Co-chair: Paul Manson, Chairman, Sea Breeze Power*

**Speakers:**

Andrew Pape-Salmon, P.Eng., MRM, Associate, Senior Specialist – Energy  
RDH Building Engineering Ltd.  
Kevin Davis, Director of Sales, Quad-Lock Building Systems Ltd.  
Shana Peschek, Director, Construction Center of Excellence  
Emanuel DaRosa, President & CEO, Northwest Territories Power Corporation  
Sen. Michelle Stennet, Idaho State Legislature  
Sen. Lesil McGuire, Alaska State Legislature  
Rep. Zach Brown, Montana State Legislature  
Rep. Jeff Morris, Washington State Legislature  
Mike Bernier, MLA, British Columbia  
Rep. Jeff Morris, Washington State Legislature  
Ken Nichols, Principal, EQL ENERGY  
Dr. Ron Melton, Director of the Pacific Northwest Smart Grid Demonstration (PNSGD)  
project, PNNL

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**Discussion Topics**

***Roadmap to Resilient, Net-Zero Buildings in the Northwest - Andrew Pape-Salmon, P.Eng., MRM, Associate, Senior Specialist – Energy RDH Building Engineering Ltd.***  
**[Presentation](#)**

Andrew Pape-Salmon gave an overview of the Roadmap to Resilient, Net-Zero Buildings in the Northwest. This Roadmap seeks to facilitate net-zero emissions from new construction and reduce emissions from existing buildings by 2030. The PNWER region is a leader in energy efficiency policy and tech innovation and the Energy and Environment Working groups seeks to share best practices among jurisdictions.

There are a number of benefits for Net-Zero, including: affordability, durability, resiliency, comfortability, healthiness, energy efficiency, and increased value. Net benefits are often ignored when looking into the cost of energy efficient construction and retrofits but in the long term, buildings will be more affordable.

A whitepaper for the Roadmap is currently under development. The whitepaper will review best practices of market and policy measures and extrapolate successful case

studies in order to predict impacts in each of the ten PNWER jurisdictions. 16 case studies will be included in the White Paper from all PNWER jurisdictions. Case studies included: Bullitt Center (Seattle), Factor 9 Home (Regina), Belmont Building (Vancouver), and Home on the Range (Billings). In the PNWER region, up to 100,000 jobs may be created by pursuing energy efficient. The whitepaper will include an updated estimate on job creation in a variety of different jobs, heat ventilation, window creation, etc. These jobs will be local; in rural and urban communities.

We are seeking five founding sponsors in order to fund the whitepaper; sponsors provide perspectives to the Working Group and increase their visibility among regional legislators and energy efficiency professionals.

We are recruiting legislator leads in each of our states and provinces to chair jurisdictional networks focused on developing the Roadmap. The legislators will lead conversations with the private and public sector on developing common market suggestions in regards to energy efficiency.

***High Performance Concrete Building Design*** – Kevin Davis, Director of Sales, Quad-Lock Building Systems Ltd.

**Presentation**

Kevin Davis began by discussing the role that US buildings have on total energy use. It is estimated that 40% of all energy use comes from buildings. Generally, homes are built using the minimum building standards, resulting in money being spent on refurbishing the buildings. In order to improve, it is important to look at what exactly consumers are looking for in a home. Concrete is known for use in foundations but applications have expanded in recent years. Concrete use may be a successful path to implementing energy changes in the near future.

***Industry Perspective Panel*** - Shana Peschek, Director, Construction Center of Excellence; Emanuel DaRosa, President & CEO, Northwest Territories Power Corporation and Kevin Davis, Director of Sales, Quad-Lock Building Systems Ltd.

Shana Peschek discussed the immense opportunities for local hires in operator/building managers. In order to fill these opportunities, it is important for education on relevant topics to be a focus. For example, there are 9,000 jobs in in the Seattle Metro area in this general field, but there are few people which are qualified. We need to connect the community college system with these pathways. . The big picture of Net-Zero is affecting behavior change. Interactive systems in schools and buildings will impact on the future generation and inspire energy efficiency. We need both doers and thinkers to see a successful implementation of the Roadmap.

Emanuel DaRosa urged the need to reevaluate long term goals in regards to energy efficiency and building construction. As a utility, we need to reexamine our long term views of markets and what kinds of products will be delivered. The utility industry is changing at a much quicker rate in recent years. Self and community based generation is becoming an area of focus. Utilities should be seen as enablers; those in the NWT are enthusiastic to be leaders in technology. There are many high efficiency buildings in the NWT. We are working with the public works department and zoning in on particular buildings.

There are a number of barriers in achieving Net-Zero. Barriers include: the need for government to provide examples, complacency, and lack of incentives. It is important for legislators to develop strong policies, work with the private sector, develop key programs, and clearly communicate.

Kevin Davis added there is a huge amount of capability in regards to the answers we have. By developing the roadmap and developing manageable objectives, an exciting amount of work can be done. By getting students involved in the building trade, we will see better designed buildings. A problem in the industry is the fixation on older methods of building.

***Legislative Perspective Panel - Sen. Michelle Stennet Idaho; Sen. Lesil McGuire, Alaska; Rep. Zach Brown, Montana; and Mike Bernier, MLA, BC***

Mike Bernier began by discussing the current carbon tax in BC. It is important for work to be done with local governments in promoting energy efficiency. In addition, we must establish the long term goals and the economic incentives of energy efficiency.

Sen. Lesil McGuire gave a background on the high costs of energy in Alaska. Reliable, affordable, available energy improves the lives both personally and commercially. In the future, Alaska is seeking a heavy reliance on renewable energy. This has been done through a number of programs, including the Home Energy Rebate Program, Revolving Loan Fund, Energy Efficient Rate Reduction, Emergency Energy Fund, SATS Fund, and partnering with private entities to invest as one the biggest difficulties is attracting capital.

Sen. Michelle Stennett overviewed the need for a local push for green energy/solar and new construction high performance in Idaho. Idaho. Idaho has extremely low rates and like Montana and Alaska, Idaho is fairly rural in some regions. Current activity is centered at the local level and the private sector. Boise has high performance new constructions but in the future, more work with legislators will need to take place. Idaho Power is not competitive; it offers the usual energy efficiency program but is dealing with several aging structures.

Rep. Zach Brown gave background on a MT bill, HB 464, the “Smart Buildings Initiative”. This bill allowed for all publically-owned buildings to invest in energy efficiency and promote new projects in the future. Since 60% of public buildings in Montana come out of the university system, it is important to focus on energy efficiency within those buildings. HB 464 provides an incentive to building managers for participating in energy saving projects. Participating agencies, who must develop an "operations and maintenance plan" for their existing buildings, are allowed to then keep financial savings that result from efficiency investments or improved management and reinvest those savings in future energy conservation projects. This will drive down costs over time and hopefully it will provide a model for other states.

***Utility of the Future & Discussion on Next Steps*** – Rep. Jeff Morris, Washington State Legislature; Ken Nichols, Principal, EQL ENERGY; and Dr. Ron Melton, Director of the Pacific Northwest Smart Grid Demonstration (PNSGD) project, PNNL

### **Presentation**

Ken Nichols introduced the purpose is for distribution planning to include DER energy capacity, “smart” capabilities, energy efficiency, and market incentives during long-term distribution planning. These factors would then be balanced against the avoided costs of “traditional” distribution planning. It is estimated that DER will account for 23% of western power by 2022.

### **Presentation**

Dr. Melton began by overviewing the Pacific NorthWest Demonstration Project. The objectives are to: lay the foundation for a regional SmartGrid, develop communications and control infrastructure using incentive signals, measure and validate costs and benefits, develop standards for interoperable Smart Grid, and integrate renewable Energy.

### **Action Items**

- Steering Committee on Roadmap to Resilient, Net-Zero Buildings in the Pacific Northwest to launch 10 jurisdictional networks led by a public and private sector co-chair. Networks develop market-based suggestions to promote energy efficiency
- Presentation of progress on Roadmap at Economic Leadership Forum in Yellowknife, Northwest Territories November 2015. Possibility of live-teleconference of session.
- Identification of one or two common policy initiatives among all jurisdictions
- Whitepaper released at PNWER 2016 Summit in Calgary