Testimony of

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Good morning Chairman Bingaman and distinguished members of the Committee on Energy and Natural Resources. I'd like to specifically thank Senator Bingaman, Senator Dorgan, Senator Cantwell, and Senator Salazar for the interest and support you have provided in recent years for policies supporting smart grids. I want to also thank all the members of the committee for your support in passing the Energy Independence and Security Act of 2007 and in particular Title XIII on Smart Grids. Together your leadership on these issues has clearly had a positive impact on the country and I applaud your continued vision and action.

I appreciate the opportunity to testify before you today on behalf of the growing number of smart grid professionals. I'm specifically representing more than 80 member companies of the GridWise Alliance and the Smart Grid Policy Center, most of whom are in Houston today for our annual

members meeting. IBM, Sempra, Battelle, PJM, AREVA, and Rockport Capital founded this group with me five years ago with a vision to transform our electricity system based on innovative information and energy technologies. Our goal was and still is to substantially improve the efficiency, reliability and affordability of electricity in this country while reducing its environmental impact. I won't take time to name all the other members of this Alliance that include many of America's leaders; both utilities and technology companies. I have provided each of you a brochure that summarizes our vision and purpose with a list of members included.

I am also pleased to represent the other managers and more than 100 staff members of GridPoint. GridPoint is a rapidly growing cleantech company with offices in nearby Arlington as well as in Seattle, Washington. We are proud to be a leader in the smart grid industry; developing and deploying smart grid solutions in several states, cities and utilities around the country.

Senators Cantwell and Dorgan may remember the last time I testified before this committee. It was late in the summer of 2001 and strange things were happening in the electricity industry, especially on the West coast, where a field hearing was held to explore alternatives to traditional power systems and technologies. I explained then the growing interest and understanding of how information based technologies and tools could provide solutions to revolutionize the way we delivery electricity. Providing a system for measuring and communicating more detailed and accurate information on how electricity is produced and consumed would create the ability to optimize and control energy use with significant benefits. Sitting next to me that day was Steve Hikock from Bonneville Power who described Bonneville's concept for an Energy Web; a complex ecology of distributed resources, optimized to maximize their benefit to consumers and the economy. Together we offered a picture of a future utility infrastructure where every

electricity generating device, big or small, and every energy consuming device could communicate; providing a system for integrating more renewable energy, enhancing the efficient consumption of energy, and enabling consumers to have the ability to actively contribute to reducing both their use of energy and their resulting carbon footprint.

Now, seven years later I'm pleased to say that we've made substantial progress toward reaching that vision. As you know, smart grids are being talked about across the industry as a critical part of the changes we need to make in our electricity industry. DOE's electricity advisory committee is about to release a report on their findings and recommendations that will include a major section on smart grids. The Federal Energy Regulatory Commission and the National Association of Regulatory Commissioners have established a smart grid task force committed to study policies to promote smart grid deployment. The Edison Electric Institute, the American Public Power Association and the National Rural Electric Cooperative Association all have newly active groups looking at smart grids to better understand how they apply across their utility members. Generally they all agree with a statement made recently by Steve Specker, the President of the Electric Power Research Institute that "Smart grids represent the biggest opportunity for the utility industry in the next decade".

Many of our member companies have testified before this committee in the past few years on the importance of smart grids and I encourage you and your staff to refer back to their previous comments. What we as Alliance members and these other stakeholders, I believe, want me to communicate to you today is that building a smarter grid must have top priority both in your energy policies and in your spending plans in 2009 and beyond. While I don't presume to speak for all of them explicitly, I do talk with them regularly and believe that I understand their views and concerns, and have

sought to reflect their ideas into my comments today. Before I articulate some of the specific ideas I'm offering today, I'd like to quickly review the context, drivers, and issues facing our industry today.

For over a century we've systematically built a complex infrastructure of power plants, regionally connected with transmission lines to load centers where distribution lines crisscross roads and neighborhoods to provide power to every home and business. This power grid ensures not only our safety and security, but is vital to our continued growth in productivity and prosperity. This "public good", an infrastructure built and maintained on our behalf, is aging and overstressed. While it has served us remarkably well, it is now incumbent upon us to upgrade it to meet the changing demands of our 21st Century economy and society. ***We must build a cleaner, more efficient grid; one that meets the needs of a digital and highly interactive economy; and one that maintains affordability, reliability, safety and security for every consumer***. Building a smart grid is the first critical step of many; bringing new tools, techniques and technologies in a network of devices aligned for supreme performance.

The benefits of this new approach, a smart grid, are myriad and enduring. At its core is a sophisticated information system that allows grid operators much greater visibility into the complex inner workings of this large machine. With greater visibility comes the ability to quickly make decisions to optimize performance, reduce emissions, and improve reliability. A smart grid provides the capability of integrating an increasing amount of clean distributed energy resources accelerating the growth in these important technologies. While much of the technical and policy discussions focuses on energy efficiency, renewable energy, storage, and electric vehicles; we have too often underemphasized the critical need for a smarter grid to achieve both scale and true cost effectiveness.

A smart grid also provides the ability to measure and verify the energy savings realized as we accelerate our investments in these important technologies in federal facilities, schools and in homes and businesses around the country. By carefully measuring these savings, we better understand the value of our investments and proactively identify and even greater efficiency opportunities going forward.

This same smart grid information system provides customers with a window into their own energy use, giving them the tools to change their behavior according to their own values and needs. Many studies have shown that better information alone results in consumers reducing their energy use by 10-20%. A smart grid will provide all consumers with the option for not only reducing their energy use and their cost of energy, but also will allow them a new flexibility to add cleaner and more efficient appliances and equipment. Some of the exciting new developments in advanced vehicles and electricity storage devices offer huge potential to not only have a positive impact on the environment by reducing tailpipe emissions, but can also substantially improve the way we operate the grid. A smart grid is critical to ensuring that these new technologies are integrated safely and reliably to maximize their benefits. ***Together the power providers and the power users work to create the best possible "pubic good" at the least cost to the economy and the least impact on the environment***; creating a new paradigm for involving every consumer in the solution.

GridWise Alliance member companies are actively deploying smart grids around the country already. One of the truly pioneering demonstration projects was completed earlier this year in Washington State. Known as the Olympic Peninsula project, this project proved many of expected benefits

across more than 100 homes participating in the project. Reductions in both KW demand and KWh energy use were shown to range from 5% to more than 20%. But more importantly, the consumers were thrilled with their own participation in the project showing how well designed consumer information and control can have big impacts.

Another project was started earlier this year and is actively deploying new technologies and systems right now. Known as SmartGridCity, this project promises to push the edge of the possible with a smart grid, capturing more than 70 different unique benefits and ultimately deploying to several thousand homes and businesses in Boulder, Colorado. Last week, the City of Austin announced their new smart grid deployment called the Pecan Street Project, with the city pledging to create a virtual 300MW clean power plant with a combination of efficiency and clean power. Many other utilities around the country have launched similar efforts in the past year to explore the potential of a smart grid.

As we close out 2008 and head into 2009 we have the opportunity with new leadership in the White House and support from Congress to greatly accelerate the creation of a smart grid and become a global leader once again in providing clean, reliable and affordable electricity to our citizens. A substantial new federal investment in this smarter grid will accelerate and leverage planned investments by cities and utilities around the country resulting in rapid job growth, stronger and more reliable infrastructure, and more affordable electricity. Consumers of all types will benefit through greater information, tools to understand and manage energy use, and greater access to green power. Schools, for example, will not only benefit from greater visibility and control of their energy use, but will be able to use the equipment and information to educate and involve students in better energy decisions; embedding a greater understanding for generations.

Federal facilities can be an early success story if investments in clean energy and energy efficiency are supported by a smarter infrastructure that not only measures and verifies the impacts of these near term investments but actively monitors the ongoing benefits and identifies new opportunities for future investments.

An explosion of new technologies is emerging into the market that must be part of this new, smarter power system. For example, electric vehicles and electric transportation in general are about to revolutionize the way we travel and in doing so change the power system forever. The new high performance batteries in these vehicles will also revolutionize power delivery by enabling cost effective storage. However, a smart grid network is essential to manage these new technologies in a way that optimizes the overall performance and cost of the grid.

A smart grid is the cheapest option for meeting our growing need for electricity, expanding high-tech businesses and manufacturing, giving homeowners the tools to control their cost of power, and reducing the carbon intensity of our power infrastructure. Properly implemented a smart grid can substantially reduce the need for new traditional power plants and transmission and distribution infrastructure. A recent study by the Brattle Group on behalf of the Edison Electric Institute says that “energy efficiency and demand response *as part of a smarter grid* can significantly reduce the need for new generation capacity”. In addition, nearly $100 Billion is lost by consumers every year due to power outages and poor power quality; and every time the power goes out our security and safety is at risk. It is an investment in today’s economic health and tomorrow’s productivity, safety and security.

Finally, on behalf of a rapidly growing smart grid industry, I would like to present the following specific recommendations to this committee today. This funding request totals $1.3B for 2009 representing the first year of several years of funding that we expect to increase in future years as the value of these solutions, technologies and systems are proven.

PRIORITY #1: Fund TITLE XIII—SMART GRID, Energy Independence and Security Act of 2007 (PL 110-140)

Research and Development of Information Technology, Section 1304 ($200 million) Advanced technology research and modeling will be critical to deploying smart grid technology that works with our current utility grid. In addition, research training programs at universities, laboratories, utilities, and labor organizations are particularly important for providing well-trained employees for an industry where the average age is over 50. The authorization level under EISA was for "sums as are necessary" which we propose should be funded at $200 million annually starting in 2009 with the stimulus package.

Regional Demonstration Initiative, Section 1304 ($100 million)

Because of the diversity across the nation of our electric grid system, it is critical to fund a variety of regionally targeted demonstration projects focused on refining our national performance goals and best practices. The results of these projects can quantify costs and benefits, verify technology viability, and validate new business models at a scale that can then be replicated throughout the country. EISA authorized $100 annually for five years and we propose that this level of funds be provided as part of the stimulus package.

Federal Matching Fund for Smart Grid Investment Costs, Section 1306 ($1 billion)

This matching grant program would provide reimbursement of 20% of qualifying smart grid investments. At this rate, federal funding is leveraged into $5 billion of infrastructure investment in 2009. For $1 billion, more than one million houses and businesses could be integrated into a smart grid. These funds allow for economic investment and growth, including new jobs for employees in the electricity sector. Authorization level under EISA was for "sums as are necessary" rather than a specified amount. We believe that this is one of the most powerful economic tools in the title and should be funded at no less than $1 billion.

PRIORITY #2: Extend bonus depreciation for smart grid technologies (PL 110-185)

The Economic Stimulus Act of 2007 (PL110-185) contained a provision to provide a 50% first year bonus depreciation for business assets contracted for in 2008 and placed in service in 2008. “Long lived assets” (defined in the Act as those with tax lives of 10-20 years) could be placed in service 2008-2009. An extension of one year in the contracted for and date and two years in the placed in service dates is needed to get these assets in production. This provision has not been taken advantage of because of the lead time for regulatory approval. As an accelerated deduction, this can provide substantial short term stimulus benefits without long term deficit impacts.

PRIORITY #3: Expand the Green Jobs Act of 2007 to Include Smart Grid Jobs (PL 110-140)

The Green Jobs Act of 2007 authorizes $125 million each year to provide job training and workforce investment in the energy efficiency and renewable energy sectors. Since smart grid technologies enable increased energy efficiency and deployment of renewable energy technologies, these jobs should be added to the list of industries eligible to receive this funding. We recommend that the Act be fully funded and that language revisions be made.

Let me summarize by saying that I believe and the companies I represent believe that creating a smart grid is one of the most important investments you can make to revitalize our economy and build for the future; and the investments must start now. We are faced with challenging times in this country; challenges to our economy, to our energy security and to our continued leadership in the world. Making transformative changes such as these will not only get us through the current crisis, but will build toward a cleaner, more productive and secure future.

Thank you very much for your time and attention.