

### Letter from the AES.P Chair

## The Energy Scrooge – except at Christmas

by John Hargrove



**John Hargrove**  
NV Energy

I was the only participant in a little battle recently. The battle took place in my own head and it felt very familiar.

The first Saturday in December is the day that my wonderful wife likes to put up the Christmas lights. I hate putting up Christmas lights. Given that I have made a career of energy efficiency, I tend to put these colorful, little, electricity users in the same category as commuting by car to work, wasteful but necessary. Necessary I say as my number one goal in this life is taking care of my family, and making my beautiful bride happy is near the top of that list.

Ah, but not this year, I thought. On the morning of December's first Saturday, I made what I thought was an effective argument against our traditional increasing of the December electric bill through the use of those beautiful, twinkling energy burners. The conversation went well, and given the logic and technical information that I used to support my position, I thought I had made the case.

So, later that morning as I was putting up the Christmas lights (the argument evidently didn't go as well as I had thought), another psychological urge came over me, competition. Now we live across the street from a couple who have the holiday exuberance of Clark Griswold along with the decorating verve of Martha Stewart; a deadly combination when their house is what we see when we look out our front windows. He

*December 2012*

#### Upcoming Events

##### Chapter Events

*December 11 - National Capital Chapter*  
[Networking Event](#)

*December 11 - Midwest Chapter*  
[Chapter Meeting](#)

*December 12 - Northwest Chapter*  
[Holiday Party](#)

*December 13 - Chicago Chapter*  
[Holiday Event](#)

##### Brown Bags

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*December 13*  
[Industrial Retrocommissioning – Eye-Opening, Energy-Saving](#)

If you would like to organize a Brown Bag, please contact Kisha Gresham at [kisha@aesp.org](mailto:kisha@aesp.org).

##### AESP Training Courses

*January 28, 2013*  
Orlando, FL  
- Principles of Demand-side Management  
- Principles of Evaluation, Measurement & Verification

*January 31-February 1, 2013*  
Orlando, FL

is one of “those guys” who never stops working around his house and makes the rest of us on our block look a little, well, lazy. She is the type who has never celebrated two birthdays in a row where her living room paint was the same color. Motivated? I’ll say.

So, as I stood on my roof, untangling the lights we have used for years, one voice in my head told me to throw the lights off the roof and tell my wife they didn’t work anymore. Another voice urged me to run to our local mega-box store and buy a truck load of additional lights so I could compete with the neighbors. And, I am proud to say that the battle subsided when a third little voice in my head entered the fray and told me to just put up enough to keep the other residents of my home happy and let Martha and Clark be the only house on the block that you can see from space this month. All things in moderation? I suppose.

And with those voices ringing in my head, the battle was over... until next year.

Happy Holidays to you all!



## Industry News

["Cooling Challenge Spurs More Energy-Efficient Air Conditioner"](#)

["Breaking Down Barriers to Residential Demand Response"](#)

["NW Power Utilities Turn Focus to Energy Efficiency"](#)

["California Proposition 39 Results in \\$2.5 Billion for Energy Efficiency"](#)

["Automated Demand Response Will Be First Line of Defense for Managing Renewables"](#)

- Strategic Marketing of your Energy Efficiency Program  
- Leadership Training for Exceptional Team Performance

If you would like to schedule an onsite training please contact Suzanne Jones at (480) 704-5900 or [suzanne@aespp.org](mailto:suzanne@aespp.org). For more information about the AESP Institute, [click here](#).

### Conferences

January 28-31, 2013  
[23rd National Conference](#)  
Orlando, FL

April 29-May 1, 2013  
[AESP Spring Conference](#)  
Dallas, TX

### WELCOME & THANK YOU to our New and Renewing Members!

#### *New Individual Members*

Alex Tiessen, Posterity Group  
Amanda Wollin, WECC  
Andreas Savvides, Seldera LLC  
Andrew Metz, Columbia Gas of Ohio  
Andy Johnston, Nexant  
Ann Clarke, National Grid  
Ben Doughman, Alabama Power  
Brian Evans, TecMarket Works  
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Lisa Schmidt, High Energy Audits  
Lucia Nixon, Efficiency Maine Trust  
Matt Clark, Ecova  
Melanie Wemple, E Source  
Melissa Whited, Synapse Energy Economics

["ENERGY STAR® Homes Accounted for 26 Percent of New Construction in 2011"](#)  
["BPA Wraps Up 'Demand Response' Pilot Projects"](#)

## Featured Articles

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[Energy Regulations That Shaped 2012](#)

## AESP News

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## Industry News

*The following executive summaries of current news items were written for Strategies after being compiled from various news sources.*

### **Cooling Challenge Spurs More Energy-Efficient Air Conditioner R & D (11/12)**

HVAC manufacturer Trane has developed a rooftop air conditioner that is 40 percent more energy-efficient than conventional units as part of a UC-Davis Western Cooling Efficiency Center challenge. The company received the Western Cooling Challenge certification, which is given to market-ready units that are 40 percent more efficient than 2010 Department of Energy standards. It is the most demanding type of certification, and just one other company—Cooperado Corp—has received the certification in its five-year history. Trane's Voyager DC hybrid rooftop air conditioner uses indirect, evaporative cooling to boost cooling capacity and cut peak electrical demand. Water evaporation cools outside air for the condenser of a standard air conditioner, which then uses the chilled air to cool the hot outside air that is used for building ventilation. This increases the amount of time the system uses “free cooling” and cuts the use of full-speed operation. Variable speed fans, staged compressors, and other aspects work to maintain the high efficiency rates.

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**Breaking Down Barriers to Residential Demand Response**  
*Electric Light & Power (11/12) Vol. 17, No. 10 Szablya, Louis*

Michael Fisher, Nexant  
Michele Wagner, Georgia Power  
Mike Snyder, Entergy Texas  
Nonette Surbaugh, AEP-OK  
Pam Williams, Entergy Texas  
Pat Drexler, Lime Energy  
Pau Berkowitz  
Phillip Ragusa, RISE Engineering  
Rachel Sims, student at Austin College  
Randy Bailey, AEP-OK  
Richard Stevie, Integral Analytics  
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#### *New Group Members*

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Entergy Texas  
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City Utilities of Springfield  
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AESP is a member-based association dedicated to improving the delivery and implementation of energy efficiency, energy management and distributed renewable resources. AESP provides professional development programs, a network of energy practitioners, and promotes the transfer of knowledge and experience.

Movement toward demand response has been slow among utilities due to what are perceived as technological, regulatory, and other barriers, but there are ways to manage the risks and overcome these perceived barriers. One of the biggest concerns is consumer acceptance of dynamic pricing and other changes, but studies show that consumer education can reduce consumer resistance—an IBM study in 2011 found that knowledgeable respondents were 64 percent more likely to change their usage patterns. Another potential barrier is the newness of standards needed for home energy management and networking, but various pilots and production rollouts have proven the existing standard—the network-agnostic Smart Energy Profile SEP 1.x—to be effective. Furthermore it is supported by the HomePlug Powerline Alliance, HomeGrid Forum, SunSpec Alliance, Wi-Fi Alliance, IPSO Alliance and International Society of Automotive Engineers. The lack of strong two-way communications between utilities and their customers is another perceived barrier, but the Smart Grid's advanced metering infrastructure (AMI) can provide that communication. Not every utility uses AMI, though the Internet can serve as a sufficient alternative via a dedicated gateway. Oklahoma Gas & Electric is an example of how demand response can work—the utility's pilot was so successful that it is rolling it out to 40,000 customers by the end of the year, and Pike Research forecasts growth of 38 percent in demand response services over the next five years.

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### **NW Power Utilities Turn Focus to Energy Efficiency**

*Boise State Public Radio (11/15/2012) Kunz, Aaron*

Northwest power utilities have been pushing for energy conservation in order to keep up with their customers' future demand for electricity. The Northwest Energy Efficiency Alliance, representing energy producers and utilities that want customers to save electricity, is coming up with inventive ways to promote awareness. The Alliance holds contests to lure people into "liking" it on Facebook, giving the utilities access to thousands of people they can reach with tips and encouragement to save energy. "If we were able to switch all of the televisions in the Northwest to the most energy efficient models available today," says Ty Stober of the Alliance, "we would save enough energy to power 290,000 homes in the Northwest." Stober's group isn't the only one turning to social media and contests to encourage consumers to cut back on electricity. The Environmental Protection Agency is also using social media to promote a contest to accelerate energy efficiency. Its Battle of the Buildings competition is using social media tools like Flickr and Twitter to encourage landlords to update their apartments and commercial buildings with energy efficient toilets and solar panels. That's also the approach behind a Northwest contest called the "Kilowatt Crackdown."

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Submissions are due by the 12th of each month to Adeline Lui at [Adeline@aesp.org](mailto:Adeline@aesp.org)  
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### **Editorial Committee**

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Commercial building owners in Portland and Boise that take part can use online tools to compare their energy use. Mark Stokes, a manager at Idaho Power's energy planning team, notes such efforts can pay off by helping them avoid the need for new power plants.

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### **California Proposition 39 Results in \$2.5 Billion for Energy Efficiency**

*Christian Science Monitor (11/08/12) Belsie, Laurent*

On Election Day, California overwhelmingly passed a tax initiative, which is expected to benefit clean energy and energy efficiency. California Proposition 39 closes a loophole on taxes for multistate businesses and is expected to raise approximately \$1 billion each year. For the first five years, half of the revenue will go toward funding energy efficiency and clean energy projects in the state's public buildings and schools, while the other half will go into the state's general fund. The measure eliminates one of the formulas that multistate corporations can use to calculate their state taxes, leaving a single-sales factor formula, which will raise taxes on those firms. The state's Legislative Analyst's Office said the proposition is expected to create up to 40,000 new jobs.

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### **Automated Demand Response Will Be First Line of Defense for Managing Renewables**

*Transmission & Distribution World (10/12)*

A new report from Lux Research finds that energy operators will have to respond to the growth of renewable energy by using natural gas generation to make their grids more flexible, using automated demand response (ADR) to manage up to 2 percent of their peak loads, and store at least 0.5 percent of the annual electricity generated. Wind, solar, and other renewables are nearing 30 percent grid penetration, and Lux's Brian Warshay says that because these energy sources tend to be intermittent, utilities will need to change their operations to ensure a constant energy supply. The report, titled "Cloudy with a Change of Energy: Evaluating Technologies to Manage Grid Intermittency," analyzed daily supply and demand curves in different climates for one year, and found that ADR was the cheapest option for managing intermittency. Its levelized cost of electricity was the lowest, at \$0.016/kWh, but it cannot manage more than 2 percent of peak generation with renewable penetration of 30 percent. Natural gas costs 3.7 to five times more, but it does a better job of addressing long-lasting supply fluctuations and cuts storage requirements by 60 percent at 50 percent renewable penetration. Energy storage, meanwhile, is driven by wind and solar growth. For a grid with 1 GW of

peak demand, and using 168 GWh per year, 59 MWh of storage capacity is required with 10% renewables while 1,323 MWh of storage is required with 30% renewables, and 1,751 MWh of storage is required with 50% renewables.

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## **ENERGY STAR® Homes Accounted for 26 Percent of New Construction in 2011**

*The Financial (10/17/12)*

About 26 percent of new homes built in the United States voluntarily met ENERGY STAR certification requirements in 2011. ENERGY STAR homes use at least 15 percent less energy than 2009 International Energy Conservation Code (IECC) homes. Although some states have energy efficiency codes in place for new home construction, there currently is no national building energy code. States with energy building codes tend to have higher ENERGY STAR participation than those without energy building codes, although there are exceptions. Arizona, for example, has no energy building code, but strong utility support for ENERGY STAR has resulted in high participation with the program. In 1995, the U.S. Environmental Protection Agency initiated ENERGY STAR for residential construction, and the third version of the program was released this year. There are two paths to ENERGY STAR certification—prescriptive, which incorporates predefined improvements based on the home's IECC climate zone; and performance, which uses home energy modeling with more flexible energy savings measures. Both require a certified Residential Energy Services Network home energy rater to verify that specific guidelines of the program are met.

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## **BPA Wraps Up 'Demand Response' Pilot Projects**

*Kitsap Peninsula Business Journal (10/31/2012) Tollefson, Rodika*

According to Pacific Northwest energy analysts, wind energy surpassed hydropower in October. Yet the strongest winds occur at night when energy demands are low, and wind energy cannot be stored, so more effective ways are needed for deploying wind power. The Smart Grid Program of the Bonneville Power Administration says they are researching ways to integrate variable generation like wind power, as well as using electricity to store energy in water heaters. The Public Utility District of Mason County has conducted research in conjunction with BPA, which consisted of water heaters that synchronize with wind turbines from a Kennewick wind farm. Using an algorithm, predictions were made about the times during wind power would be generated.

Researchers used a device attached to the water heaters that was remotely controlled by utilities, while customers also used override switches. Customers were able to switch to wind power when it was available, resulting in conservation of nuclear and hydro power. BPA noted that rural areas were uniquely challenged due to poor cellular phone signals that would be unable to transmit to the water heaters. BPA noted that the project was a successful pilot, but wide-sale deployment would not be cost-effective. BPA has tested several demand response programs, with residential, commercial, industrial, and irrigation customers.

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## Featured Articles

### Lessons from 2012 Election Polling for Energy Market Researchers and Evaluators

*by Carla Jackson*

Public opinion polling conducted during the 2012 election cycle has some important lessons with respect to data collection for energy market research and evaluation. The most important of these lessons include:

**Timing Matters:** Particularly with the presidential election but also with some other races, the timing of polling within the election cycle was important. Public opinion was somewhat fluid and subject to various events, including debates, candidate statements, and Hurricane Sandy. Polls conducted a month or two before the actual election were less representative of the final result than those conducted closer to the election.



The lesson for energy researchers is that we need to be judicious in determining the timing of our research. Is research being conducted too early or too late in a program cycle to allow for informed decision-making? Are there events outside the researchers' control which dictate when a study should be fielded? Probably the most relevant example from my energy career is the national survey of electric reliability that we were to begin on August 14, 2003, which if you will recall, was the date of the

great blackout in the Northeast. We pulled the study for several months until the timing was more appropriate, although questions about the blackout were ultimately added to the instrument. More recently, the events at Fukushima Daiichi occasioned some research to be suspended, while other efforts were launched to determine its impact on public opinion about nuclear power in the U. S.

**Method Matters:** Election polls for the 2012 cycle were conducted using a variety of methodologies, including opt-in panels, outbound IVR, telephone sample with landline numbers only, and telephones with both landlines and wireless numbers. These methods had varying degrees of success in predicting the outcome of the elections, although they were impacted by the likely voter screening used by each pollster. It was evident, however, that telephone surveys to landlines only were not as representative of the final results as those surveys that included calls to both landline and wireless numbers.

For energy researchers, the take-away is that it is important to tailor the data collection methodology for a particular project to the expected respondents. To obtain representative estimates of an entire residential population, the inclusion of both landline and wireless numbers is probably best, but for a study of energy managers, a web survey may make sense if email addresses are available and because virtually all prospective respondents have Internet access. Sometimes cost dictates method, but the lowest-cost methodology may not be appropriate to answer our research questions.

**Data Matters:** Some candidates said they were surprised by the results of the 2012 elections. They dismissed polling results and instead relied upon their “gut”, which told them, for example, that large crowds at candidate rallies meant success in the election. But the pre-election polls were generally successful in predicting election winners, although the percentages of votes for some races were within the margins of error for specific polls.

Many of us in the energy industry have encountered managers who are resistant to measurement of any kind. They believe they know what their customers believe, what product will be successful in the marketplace, or what marketing method is best to reach customers, all without asking customers for input. But the election polling should remind us that there is no substitute for carefully collected data to inform energy decision-making.

And finally, **aggregation of information matters:** We saw aggregators of polling information, such as Nate Silver and others, predict election

results with great success because they aggregated data from multiple polls and other sources.

Their success should remind us in the energy industry to look at multiple sources of information, if available, and to avoid making important decisions based on a single study with a small number of sample points, if possible. Bringing together information from a variety of sources strengthens the decision-making process.

In summary, we need to recognize that our data collection challenges in the energy industry are not unique and that other sectors have important lessons for us, including polling from the 2012 election cycle.

*Carla Jackson is the vice president of energy research at [Abt SRBI, Inc.](#), a full-service market research and strategy organization.*

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## Energy Regulations That Shaped 2012

*by Travis Mitchell*

Over the past year, the energy industry has seen a significant amount of regulatory policy debates. Ranging from net metering to storm clean up to cyber security, these issues came to a head in 2012 and set the stage for the future of the industry. In this excerpt from FierceEnergy, we revisit some of the year's top regulatory developments as the industry prepares for 2013. To read the full article, [click here](#).



### Net metering debate continues to brew

A growing number of utilities are beginning to compensate customers for putting power back onto the grid. Commonly known as net metering, the program is often based around solar and encourages distributed generation and on-site renewable generation. The option to zero out monthly bills is certainly attractive to customers who have the means to install these generation technologies, and can lead to reduced load for their utility company.

As of August 2012, 43 states had implemented a version of the program,

and California, Texas, New Jersey and Massachusetts were among states in 2012 that upped the cap on net metering participants.

Along with the obvious benefits, however, net metering has a whole bucket of challenges, and they were hotly debated throughout 2012. For example, everyone likes to save money on energy, but nobody likes to be unfairly burdened. The issue with net metering is determining fair participant compensation for power that accounts for transmission and distribution services used by the grid. This is an issue that is still being addressed by many utilities and regulatory commissions, and will get more air time as personal solar installations continue to grow, especially in states like California.

### **EPA regulations threaten traditional electricity generation**

Over the past year, the U.S. Environmental Protection Agency (EPA) ratcheted up pollution regulations that will affect power generation throughout the country. An April proposal, made under the Clean Air Act, would cap CO<sup>2</sup> emissions at 1,000 pounds per megawatt-hour. The idea was to encourage utilities to make greater use of existing efficiency technologies, along with carbon capture sequestration. But power companies countered that making the changes wasn't going to be so easy and the regulations were ahead of available efficiency tools.

In a statement at the time, American Public Power Association CEO Mark Crission said that, "in our view, this proposed rule effectively kills coal going forward as a resource for electricity generation."

The EPA is also moving forward with its Mercury and Air Toxics Standards (MATS), which must be implemented by 2016 and will be applied to all coal and oil-fired plants with capacities greater than 25 MW. The EPA called the regulations "long overdue," but MATS looms as a headache for utilities, as they must balance reliability while also finding solutions to high-pollution coal power plants.

### **Smart meter opt outs continue to grow**

The number of smart meters deployed throughout the U.S. grew dramatically in 2012, and global totals for Q2 2012 totaled 17.9 million units, according to Pike Research. As the number of deployed smart meters continues to rise, however, so does the chorus of consumers opposed to the new technology. More utilities began exploring and implementing smart meter opt-out programs in 2012, out of respect (and perhaps because of the pressure from) for this small but passionate group of customers.

The most substantial rulings came earlier in 2012, when the California Public Utilities Commission (CPUC) approved smart meter opt-out proposals by Pacific Gas & Electric and Southern California Edison. Both utilities charge customers who wish to stay with an analog meter a one-time \$75 fee to along with a \$10 recurring monthly fee. California is home to one of the largest pockets of smart meter opponents, due both to its large population and the fact that it was one of the first states to deploy smart meters.

There are a number of other states with opt-out programs, including Oregon, Nevada, Arizona, Maine, Wisconsin and Vermont, which voted to nix any fees associated with enrolling in the plan. Other plans are being considered in Illinois, Michigan and Florida, among other states.

### **Regulators approve Entergy, MISO integration**

Entergy Corporation and its subsidiary utilities continued during the past year to work toward integration with the Midwest Independent System Operator (MISO).

The transition is slated to be completed in December 2013, but 2012 saw a flurry of regulatory victories, which secured the future of the agreement. The Federal Energy Regulatory Commission in January denied a rehearing into the case filed by the Southwest Power Pool, which contended that a deal between Entergy Arkansas and MISO would violate a previous joint operating agreement. Final hurdles were cleared in November, when energy regulators in Texas, Arkansas, Mississippi and the City of New Orleans approved Entergy's transfer of functional transmission control to MISO.

Once finished, Entergy's region will add about 15,500 miles of transmission and 30,000 MW of generation to MISO's current capacity. Primary benefits include improved reliability, market efficiency, and demand response, as well as substantial financial benefits. A May filing by Entergy Texas pegged savings for state ratepayers at approximately \$225 through the next decade.

**MORE:** Read the full article by [clicking here](#).

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**AESP News**

**State Your Case!**

AESP is compiling our annual State of the Industry Report. If you work in the energy efficiency industry, your opinions are important to help us gain a snapshot of the industry and where it is headed. The initial report will be available in January. Please take a few minutes to take our survey by [clicking here](#). For completing the survey, you can enter to win a \$200 Amazon gift card. Thank you!

### **Another One for Your List**

Don't wait till the last minute to register for the AESP 23rd National Conference in Orlando next month. It's AESP's biggest conference and if you can attend only one conference a year, make this the one. [Online registration](#) closes January 17, 2013. The discounted [hotel room](#) rate is available till January 2 only, so in between shopping for gifts, make sure you get the AESP National Conference wrapped up too!



The **Ontario Chapter** met on November 27 at the Renaissance Toronto Downtown Hotel for an evening of learning, meeting up with business contacts and making new friends! The keynote speaker was David Short, manager of market forecasts & integration at the IESO.

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