



Update on DER, Grid & Electricity Sector Developments

Hello,

Welcome to your latest issue of Update.

The dog days are here and I have been trying to beat the heat, and plan to beat it even further next week. So I am squeezing in this issue of Update to make sure that I send you the news and thoughts that I have been curating.

For some of you out there the summer dogs are barking more loudly than usual. If any of you out in the PacNW want to report on what it feels like to be in triple digits, please do.

Whatever part of the country (or world) that you live in, stay cool - but please be energy efficient while you do it!

Dan

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That's Not Right

It is time for my Annual "That's Not Right" Awards. This is where I list a few things that I think should not be happening, should be happening, or just don't make

sense. The list includes some small things, which could be labeled "peeves" and some larger things.

Here goes:

1. Open Door Policy

There is a new trend in the city in which I live that I have also witnessed in other cities recently. Small retail establishments - clothing stores, hardware stores, wine shops, you name it - are keeping their front doors open while they have their air conditioning on. I know they are trying to project a welcome to passers-by, but A/C with a window or door open? *That's not right.*

2. Failure to Dot the i

So much for infrastructure being the one thing that everyone in Washington could agree on and move forward on. So much for it being a top-of-the-list item for the new Administration. Yet the clock ticks and infrastructure improvements, including in the electricity sector, continue to lag. *That's not right.*

3. Money and the Mouth

At a recent conference that I attended, there was a panel of technology Execs. When the audience was polled during that session about major challenges for grid modernization, regulatory changes outpolled everything else by a wide margin. The Execs then agreed with this.

During Q&A, a friend of mine stepped to the mike and, with reference to all of that discussion, asked the panel how much they were budgeting for regulatory work. There were a few moments of awkward silence, and then came some comments that might be called non-answers. Not investing in policy change and expecting someone else to do it? *That's not right.*

4. Mobile Content

In my city and others, there are mobile billboards. For those of who don't know what I mean, I am talking about light-duty flatbed vehicles that are basically a cab for the driver and a billboard behind it. They drive around, and around, and around. More traffic, and more gasoline burned, on city streets where the purpose is bombarding me with another ad? *That's not right.*

5. Smartness on the Side of the House

No, I am not talking about Congress. I am talking about the side of everyone's home. When I started working on smart meters back in 2001, a major challenge for getting them in place was the fact that many utilities had only just installed "drive-by" Automatic Meter Reading (AMR). Tough to throw those devices out when they were only just beginning to be amortized. But now it is 2017. A utility or jurisdiction or commission doesn't now have a process underway to get smart meters in place? *That's not right.*

6. Level Paying Field

If you read that too fast, you missed the fact that I dropped the "L" in Playing. That's because, as you probably guessed, I can't have smart meters on the list without bringing up electricity pricing. A lot of smart meters are in fact in place - much more than a majority of those in the US. That means that it is time to get over the hump on time-based pricing, which is essential for comprehensive grid modernization and optimization. Every kWh being priced the same no matter when it is used? *That's not right.*

7. Giving the Ball to Someone Else

You have seen me talk a lot about China over the past year, owing to the fact that I feel like the US continues to make moves (or to not make moves) that are ceding the clean energy technology game to that country. The latest area of concern is Electric Vehicles. Walking off the court instead of doing things to compete? *That's not right.*

8. Blue and Red Jerseys

A majority of Americans, and an even bigger majority of citizens in other countries are concerned about climate change (including a majority in every one of our 435 Congressional Districts). At the risk of beating a dead horse, 97% of climate scientists believe that climate change is happening due to human influence. Yet the EPA Administrator has decided to put together "red" and "blue" teams of experts to

debate climate science, as if the issue should be taken up from scratch. The scientific community, as well as innumerable others, are reacting with two types of responses: 1) our work is already subject to peer review - it is not necessary to have a "cross-fire" debate, and 2) putting an equal number of individuals on the red and blue teams sends a message that there is an equal body of support behind each side - as opposed to the 97-3% differential. Debating whether or not climate change is a "thing"? *That's not right.*

9. Level Paying Field (2) and the Gas Pass

In an ideal world, there would be no subsidies for any kind of energy source - either clean or fossil/traditional. But hey, when have we ever been operating in a perfect world? But things change, and maybe more than you think. The wind industry is actually in favor of doing away with some of the subsidies it has received for a while. The non-clean industry should be doing the same. But if we are looking for a way to help everyone make the right decision - both on policy and on purchasing - let's all get focused on how to price externalities into our energy prices (while protecting the vulnerable). Chief among measures in this category right now is carbon pricing. Not only would it be a true market mechanism for addressing the elephant in the room, but it would also bring some additional focus to the fact that natural gas - while having roughly half the carbon of coal and oil - still is a carbon fuel. To not be working on putting carbon pricing in place when it is inevitable? *That's not right.*

10. Mea Culpa

Remember the first thing on my list above? Well, guess what I did earlier this week. The fluctuating weather here in DC has me using my heat pump A/C for a few days and then not using it for a while and throwing the windows open while the temps are low. Well, as things turned hot and humid this week, I turned on my A/C. Over the course of the next day and a half it did not seem to be cooling things off as it always did. Then I had occasion to go into my guest room where I found a wide-open window. So now it seems that asking my unit to air condition the entire city of DC for a significant number of hours may have damaged it. In looking at the information packet for the unit that the seller passed along to me, I was surprised to find out how old my unit was as in "very old". Leaving my window open with the A/C on? *That's not right.* But not looking at replacing old appliances with energy efficient ones before they break down - *that's not right either.*

So there you have it. My Annual "That's Not Right" Awards. Actually, it is the first time I have made up such a list, so whether it will be an annual exercise on my part is something I will think about next summer. Or you can think about that now and drop me a line. But right now, my thoughts are of the coming weekend. I hope you have a good one while you take your iPad to the beach so you can read all of the news items I curated in the next section. Wait....taking your iPad to the beach? *That's not right.*

Best,

Dan

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California: Cap-and-Trade Extension Approved

California lawmakers and Governor Brown recently agreed to extend the state's cap-and-trade program for greenhouse gases through 2030.. Among the program changes outlined in AB 398, lawmakers opted to reduce free carbon allowances by 40% by 2030 and require offsets to be sourced in California.

More [here](#).

More [here](#).

California: Support for Emissions Reductions Growing

Public support for the state's battle against global warming remains strong and growing, according to a new poll. Seventy-two percent of California adults back last year's law requiring the state to reduce greenhouse gas emissions to 40% below 1990 levels by 2030. Fifty percent said climate policies would create more jobs, the highest level since the question was first asked seven years ago.

More [here](#).

California: Winners of DRAM Auction Announced

California has announced the winning bids in its latest round of procurement auctions under its DRAM program/mechanism. A number of companies received large amounts of commitments, with the total procured ending up at over 200 MW.

More here

<https://www.greentechmedia.com/articles/read/californias-dram-tops-200mw-as-utilities-pick-winners-for-distributed-energy>

Cities: NREL Using City Project to Improve Grid Modeling

DOE's National Renewable Energy Laboratory is working with Xcel Energy on a smart city project in Denver, which will allow the lab to employ and improve its grid modeling capabilities. The project is a chance to test the

capabilities of its Energy Systems Integration Facility while demonstrating a new buildings and district energy modeling tool currently under development at NREL

More [here](#)

Clean Energy: American Coal Exports Increasing to Europe and Other Nations

While use of coal in US power plants is declining, some parts of Europe and other countries such as India have begun to import more US coal.

More [here](#)

More [here](#)

Clean Energy: Conservative States Seen as in the Lead

CNBC recently took a look at clean energy and found that many states seen as conservative in their political leaning are actively pursuing clean energy and showing gains in deployment of such.

More [here](#)

Clean Energy: Looking at Market Share Versus Growth Rates

A recent piece in the Washington Times looked at EIA and other data to discuss why the view that coal may be waning could be a distorted view of the situation.

More [here](#)

Congress: House Caucus Reaches 50 Members

The Climate Solutions Caucus in the House of Representatives now has 50 members and recently led efforts to defeat an amendment that would have restricted the US Military from considering climate change in its planning and actions. The Caucus has been noted for its member entry process - a Republican and Democratic Member of Congress must join together at the same time to ensure that there are equal numbers from each party.

More [here](#)

Congress: Chairman of House Science Committee Extols Benefits of Climate Change House Science Committee

Chairman Lamar Smith (R-Texas) recently argued that climate change is real and has numerous benefits in areas like agriculture and shipping and went on to say that the "benefits of a changing climate are often ignored and under-researched." Smith said higher carbon dioxide concentrations aid photosynthesis, increasing plant growth, while warmer temperatures would increase growing seasons.

More [here](#)

Congress: House Rejects Anti-Climate Measure

In a 185-2343 vote the House of Representatives rejected a defense bill amendment that would have removed a requirement that the Defense Department study climate change's impacts on military operations in the next two decades. Republican Rep. Scott Perry of Pennsylvania, who proposed the amendment, said climate shouldn't be a priority for the military. Forty-six Republicans disagreed and the bill passed with language stating that climate change is a "direct threat" to U.S. security interests.

More [here](#)

Demand Response: EIA Data Shows Thermostats Underutilized

According to EIA, most U.S. households with programmable thermostats do not choose to program them. Based on information collected for 2015, only 12% of the nation's 118 million households had a central air-conditioning unit that is actually controlled using the programmed thermostat. About one in three households using central air conditioning do not have one. But even for those households that use central A/C and have one, more than two-thirds of those households control temperatures without actually programming it.

More [here](#)

DER: New Report on Process for Developing New Business Models for Utilities

RMI has issued a new report entitled the Role of Pilots and Demonstrations in reinventing the utility business model. Recommendations to regulators, DER providers and other parties are included.

More [here](#)

DOE: Draft Grid Study Says Renewables Not a Threat

The much-discussed DOE study on grid reliability has been said to focus in part on whether increased penetration of renewable energy will pose challenges and problems for maintaining grid reliability. A Draft of the Study was recently released (unofficially) that stated that such will not be the case and that other factors are ones to note relative to changes in the grid and any impact on reliability.

More [here](#)

DOE: Funding Announced for Building Technologies

The DOE Building Technologies Office (BTO) has announced it is investing up to \$15.8 million in 13 projects that will drive innovation in early-stage research and development for advanced building technologies and systems that will serve as a foundation for future technological developments and reductions in building energy

consumption.

More [here](#)

DOE: New Grants Announced for Energy Innovation Projects

DOE recently announced that 11 energy innovation projects had received funding from the Department. The projects focus primarily on how to remove barriers to financing and how to create new models for funding.

More [here](#)

Electricity Jobs: EEI, APPA and NRECA Join to Produce Report

The three electricity industry trade groups recently issued a joint report that touts the jobs and economic contributions of the nation's electric utility sector. It also notes the coming challenge of retirements in the utility workforce.

More [here](#)

Electricity Sales: EIA Reports Continued Decline

EIA recently reported that following sustained growth through 2010, U.S. residential electricity sales have declined in both absolute and per capita terms. The agency said that although changes in the weather are a key driver of year-over-year fluctuations, energy efficiency improvements and economic factors have contributed with residential electricity sales per household declining even more than the absolute or per capita declines, decreasing 9% between 2010 and 2016.

More [here](#)

EVs: Automaker Announces Breakthrough to Solid State Batteries

Toyota has announced that it has developed a solid state battery that will be incorporated into its cars beginning in 2020. Development of solid state batteries has been viewed as a crucial breakthrough for vehicle storage and has long been sought as an option over lithium ion batteries.

More [here](#)

EVs: Two Major Auto Manufacturers Team Up to Tackle US Market

On the heels of its announcement that it had achieved production of a solid-state EV battery, Toyota announced that it was teaming up with Mazda to build manufacturing capacity in the US and to prepare for a rapid uptick in the EV market

More [here](#)

EVS: A Holistic Look at the Environmental Aspects of EVs

A recent feature piece in Quartz looked beyond the simple green argument for EVs, i.e. not using gasoline and also looked at how vehicles are manufactured, how they are driven, and other factors.

More [here](#).

EVs: High Praise from Editorial Board

The NY Times Editorial Board recently issued a lengthy editorial that cited the advances made by EVs to date and said that rapid development of EVs is necessary to address environmental concerns.

More [here](#).

Sponsor Spotlight: EDTA

The Electric Drive Transportation Association (EDTA) is the lead organization and voice on all things related to electric vehicles. With EVs being recognized as a key resource in the new, modernized grid, EDTA is a resource that you want to know about. You can find out more [here](#).

Grid Integration: New Report in Series on Improving System Planning for DER

The Trade Association for the Solar Industry, SEIA, has issued the latest in its series of White Papers and Reports on Renewable Energy and the Grid. The new one looks at how to improve distribution planning in order to incorporate more DER.

More [here](#).

Grid Modernization: Environmental Group Adds Its Voice

The Nature Conservancy (TNC) recently began an effort to educate its many members on the benefits of grid modernization to clean energy and therefore the group's mission and goals. Regional meetings have been held with more scheduled.

More [here](#).

Grid Security: National Academies Report Finds Grid Vulnerable to Cyber, Physical Attacks

A new Congressionally commissioned report from the National Academies of Sciences, Engineering, and Medicine concludes that the U.S.'s electric grid is vulnerable to a range of threats, including terrorism or natural disasters that could potentially cause long-term and widespread blackouts. The report says most U.S. customers will continue to depend on obtaining their power from the large-scale, interconnected electrical grid at least for the next two decades. It notes that no single entity is responsible for planning, operating, or regulating the grid, and therefore increasing its resilience will require coordinated actions by state, federal, private, and public groups

More [here](#).

Illinois: Commission Adopts Open Data Access Framework

The Illinois Commerce Commission has issued a ruling saying that a designated Open Data Access Framework must be considered by utilities as they design new AMI-based data services, and by all stakeholders in discussions throughout the course of AMI deployment around how AMI data can be used to enable the market for the development of products and services.

More [here](#).

New Jersey: Utility Cited for Being Proactive on DER

A recent trade publication took a look at grid modernization and clean energy and how Public Service Electric & Gas is reportedly taking proactive steps to accommodate and increase DER deployment.

More [here](#).

New York: Commission Approves Extension of Non-Wires Project

The NYPSC recently issued a ruling approving an extension of Con Edison's Brooklyn-Queens Demand Management Program. The latter is considered to be a non-wires project initiated by the utility in an effort to defer capital T&D investments.

More [here](#).

New York: Commission Adopts Ratemaking and Revenue Framework

The Public Service Commission recently issued an Order Adopting a Ratemaking and Utility Revenue Model Policy Framework in Case 14-M-0101 (Track Two Order). The Track Two Order identified several rate design issues for future action. Since many of the rate design issues also relate to the efforts of Department of Public Service Staff (Staff) and stakeholders in the VDER Proceeding¹, the following issues will be addressed in that proceeding, particularly in the Working Group Regarding Rate Design.

More [here](#).

New York: New Transmission Line to Carry Clean Energy

In an effort to strengthen the reliability of New York's electric power grid and enable more upstate renewables to connect to the statewide power system, Governor Andrew M. Cuomo has announced plans to rebuild 78 miles of power transmission infrastructure in the North Country (the counties in the extreme north of the state). The project is designed to carry renewable energy - including hydropower as well as power from newly constructed wind farms, solar projects and other large-scale renewable energy sources - from upstate to high-energy-demand areas downstate.

More [here](#)

Pacific Northwest: Need to Adopt Capacity is Identified

The Northwest Council has said that the Northwest will need to add generating capacity by 2021 to maintain an adequate power supply. It states that it will look to Demand response, wind, and solar resources could help fill the gap.

More [here](#)

Renewable Energy: Major Increase Needed to Meet State Standards for Procurement

Renewable electricity generation will have to increase by 50 percent by 2030 to meet ambitious state requirements for wind, solar and other sources of renewable power, according to a new report from Lawrence Berkeley National Laboratory.

More [here](#)

Sponsor Spotlight: Silver Spring Networks

Silver Spring is among the 2017 sponsors of Update. You can see recent announcements by the company [here](#).

Solar Building Codes: City Requires Solar on New Homes

South Miami, FL has a new law requiring that new homes or substantially renovated ones have PV panels. The measure, the first of its kind in Florida, will go into effect on September 18. New residential construction would require 175 square feet of solar panel to be installed per 1,000 square feet of sunlit roof area, or 2.75 kw per 1,000 square feet of living space, whichever is less. If the house is built under existing trees, the shade may exempt it.

More [here](#)

Solar: New Edition of 50 States of Solar

The N.C. Clean Energy Technology Center has released its Q2 2017 edition of The 50 States of Solar. The quarterly series provides insights on state regulatory and legislative discussions and actions on distributed solar policy, with a focus on net metering, distributed solar valuation, community solar, residential fixed charges, residential demand and solar charges, third-party ownership, and utility-led rooftop solar programs.

More [here](#)

Storage: Report on Batteries Enhancing the Grid

Gridwise Alliance recently issued a new report focused on how battery storage can enhance grid modernization. The report focuses in particular on front-of-meter applications.

More [here](#)

Time-of-Use Rates: New Paper for State Commissioners

A group of consumer-oriented parties recently issued a paper intended to provide guidance to State Regulators on the development and implementation of time-based rates.

More [here](#)

Vermont: Electricity Customers Talked of as Getting Off the Grid

The NYT recently looked at a new program underway at Green Mountain Power which is touted as having a goal of getting customers "off the grid" by use of a wide array of options including solar, demand response, and storage.

More [here](#)

Washington State: Commission Approves Microsoft Request to Bypass Utility

The Washington Commission has approved a settlement allowing Microsoft to meet its clean energy goals by buying power on the retail power market, rather than purchasing energy from Puget Sound Energy. PSE created a tariff last year to allow for the new retail service for large industrial or commercial customers, and Microsoft agreed to pay a transition fee of \$23.6 million to ensure customers are not harmed.

More [here](#)

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