

Links for energy storage

Don Marsh

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To: JStokes@bellevuewa.gov

Cc: Council@bellevuewa.gov

Dear Mayor Stokes,

Here are the links to information I mentioned during my remarks last night on exciting developments in battery storage:

- Con Edison's article about five smart energy technologies:
<https://paidpost.nytimes.com/conedison/5-smart-energy-technologies.html>
- Tesla's battery farm prevents rolling blackouts in Southern California:
<https://www.nytimes.com/2017/01/30/business/energy-environment/battery-storage-tesla-california.html>
- Tesla's battery farm under construction in Australia:
<https://www.reuters.com/article/us-australia-power-tesla-idUSKBN19S0EV>
- BPA cancels a new transmission line, preferring batteries:
http://www.oregonlive.com/business/index.ssf/2017/05/bpa_nixes_costly_and_controver.html
- UK modernizes policies to embrace batteries and save \$52 billion:
<https://www.bloomberg.com/news/articles/2017-07-24/u-k-opens-power-grid-to-batteries-in-step-to-save-52-billion>
- Hawaii buys an advanced battery from Mukilteo-based UniEnergy Technologies:
<http://www.renewableenergyworld.com/articles/2017/06/consortium-supports-flow-battery-installation-in-hawaii-for-research.html>

Although the UniEnergy Technologies (UET) battery is a smaller installation than the others, I mention it for two reasons.

First, UET's battery has some significant advantages (lifetime, simplicity, density, operating temperature range, and non-flammability) over lithium ion batteries. There are two downsides, slightly higher price and somewhat lower efficiency. Read more here:
<https://www.forbes.com/sites/jamesconca/2016/12/13/vanadium-flow-batteries-the-energy-storage-breakthrough-weve-needed/#5782db785bde>

Second, UET is a local company. If we invest in technology manufactured in our own backyard, we support local jobs and help build a cleantech-based economy that will be important for our future. If we instead find Tesla's technology more compelling, we will cede those jobs to Tesla's gigafactory, which is ironically located near my hometown of Reno, Nevada (my mom still lives there). While we are happy that forward-thinking Tesla is taking the world by storm, we would like the Pacific Northwest to participate in this revolution with our own very compelling energy storage product.

For your easy reference, I'm including a copy of my remarks from last night here:

Last week, two significant things happened which will affect how electricity is supplied to the Eastside.

First, we learned that the Final EIS for PSE's "Energize Eastside" project won't be published until early next year. This schedule does not meet PSE's stated need to have the project in place by summer of 2018.

The second thing is a New York Times article paid for by New York's electric utility, Con Edison. The article describes five smart energy technologies that Con Edison is pursuing to benefit its customers.

I'd like to read you an excerpt of what Con Edison said about energy storage:

Energy storage is like a Swiss army knife for the electricity system. It can hold energy to be used later, such as taking midday solar power and saving it for nighttime. It can also come in handy to stabilize the grid, and even provide backup power during an outage.

Energy storage is so valuable to Con Edison that the energy company is partnering with commercial customers to deploy storage at optimal locations on the grid and provide them additional resiliency if and when it is needed. This can bring increased reliability to not only that business, but also to its neighbors.

Stationary batteries are just one form of energy storage. Con Edison is also investing in mobile storage — big banks of batteries that can be trucked in — to bring power to neighborhoods where it's needed most, whether that's a neighborhood hit by a storm or a growing part of the city that needs extra juice on a hot day.

New York isn't alone in embracing this technology. Earlier this year, Tesla created a battery farm in Southern California to eliminate the potential of rolling blackouts. Now Tesla is building batteries in Australia to stop rolling blackouts there. In southwestern Washington, BPA recently abandoned its plans to build a transmission line in favor of using batteries to save customers hundreds of millions of dollars. The UK just announced plans to boost their grid using batteries, saving customers 52 billion dollars. Hawaii will use advanced batteries manufactured by our own local company UniEnergy Technologies located in Mukilteo.

Eastside cities and PSE have a historic opportunity. I say "historic" because it's a rare day when the best solution for preserving trees and reducing greenhouse gases is also the most cost-effective solution for customers and businesses. It's not often that the most reliable solution is also the one that preserves the natural beauty of our neighborhoods. Best of all, this is a solution we could have in place before next summer, rather than spending years debating the impacts of an extra-high-voltage transmission line built on top of half-century-old petroleum pipelines. This is truly the right investment to provide safe, environmental, reliable, cost-effective electricity to power the Eastside's growing economy.

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