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News. December, 2013. Issue #21.   20,000 ESB video views.

*There's very little public discussion of utilities or utility regulations, especially relative to sexier topics like fracking or electric cars. That's mainly because the subject is excruciatingly boring, a thicket of obscure institutions and processes, opaque jargon, and acronyms out the wazoo. Whether PURPA allows IOUs to customize RFPs for low-carbon QFs is actually quite important, but you, dear reader, don't know it, because you fell asleep halfway through this sentence.*

*Utilities are shielded by a force field of tedium.*
 *- David Roberts* http://grist.org/climate-energy/utilities-for-dummies-how-they-work-and-why-that-needs-to-change/

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## ESB News

### ESB YouTubes Hit 20,000 Views in December

EnergyShouldBe.org videos have been seen over 20,000 times and in almost every country in the world.  Five of our 15 videos have been seen more than 1,000 times.

Our two consumer YouTubes -  The Best Lawnmower - Cordless Electric  and  The Best Cooktop - Magnetic Induction  - continue to be our most popular videos.

Surprisingly, our third most watched video with almost 4,000 views is the moderately technical: To Allow Lots of Renewables, Baseload Coal & Nuclear Must Go.

# Electricity

**Electricity Storage Company in Germany Aiming to Out-Compete Coal Power Plants**
*"The conventional generators will fight us on this, but they will lose," Hiersemenzel said. "…But we have to choose between systems. Either you have one system optimized for nuclear and coal, or one for renewables. This is a choice that should be made now. Just tacking on a renewables system onto an old one just makes it more expensive."*
http://www.greentechmedia.com/articles/read/the-battery-storage-system-that-could-close-down-coal-power


**Riding the Rails to Cost-Effective Electricity Storage**
In development. Picture a 5 mile rail track up a steep grade. Picture heavy - 300 tons - rail cars each absorbing (uphill) or releasing (downhill) 1.5 MW. A third rail provides the electric connection. Scalable to a point simply by adding more cars. 50 MW commercial installation in the works in Nevada. Supposedly half the cost of conventional electricity storage systems. (Article & short video G)
http://www.gizmag.com/ares-rail-energy-storage/28395/
http://vimeo.com/39364772


**Seafloor Electricity Storage Using Water Pressure**
In research. Essentially a large tank installed deeply in the ocean. Allow water to flow in to release electricity, pump the water out to store it. The high pressure in the tank from being installed in deep water makes it efficient (G).
http://www.gizmag.com/sea-floor-energy/27579/



# Transportation

**40% of US Households Could Switch to Today's EVs**
*45 million households – about 42 percent of all the households in the US - could drive plug-in vehicles with "little or no change" in their driving habits. …The key reason …is that almost 70 percent of US drivers drive less than 60 miles per weekday...*

*What would that mean if all of those folks …switched? Try about 15 billion gallons of gasoline saved annually, which is more than what's consumed by California drivers in 12 months. That also means 89 million fewer metric tons of greenhouse gas emissions every year, which is equivalent to emissions from 14 million conventional cars annually. Refueling savings? $33 billion. (G)*

http://green.autoblog.com/2013/12/12/40-of-american-households-could-easily-drive-evs
http://www.ucsusa.org/clean_vehicles/smart-transportation-solutions/advanced-vehicle-technologies/electric-cars/bev-phev-range-electric-car.html

**Cities Save Big Money on Fuel & Maintenance By Going to EVs**
*Houston, TX, for example, expects to save $110,000 a year by bringing in 27 Nissan Leafs...*
*Leafs in the city fleet in Loveland, CO, will save 41 percent compared to owning and operating*
*gasoline-powered cars.* (article & studies from Loveland, CO & Austin TX. All G)
http://green.autoblog.com/2013/12/19/data-shows-cities-save-big-money-switching-evs/
http://electrificationcoalition.org/sites/default/files/Loveland_Case_Study_092613.pdf
http://www.electrificationcoalition.org/sites/default/files/Houston_Case_Study_Final_113013.pdf

**Solar Panel Cover on Pickup Bed Adds Up to 10 Miles of Range Per Day**
Or use the juice on a jobsite to solar-power your construction tools. (G)
http://green.autoblog.com/2013/11/20/via-trucks-solar-ev-range-la-2013/

**VW: Energy Losses in Creating Hydrogen Point to Fuel Cells Being Plug-In Hybrids**
*"The best hydrogen vehicle is a plug-in hydrogen vehicle." This means an EV with a commuter-*
*sized battery pack for daily use with a fuel cell range extender that you use, "only if you are in an*
*emergency or you really want to go long distance. In terms of energy saving, this is the only way*
*to have a sensible hydrogen vehicle."* (G)
http://green.autoblog.com/2013/11/20/vws-krebs-talks-hydrogen-says-most-efficient-way-to-convert/

# Misc.

**Energinet - Real Time Electricity Map of Denmark**
Denmark has an enormous amount of renewable energy installed. This map shows you what is
happening in Denmark right now - how much energy is being produced in wind farms,
traditional central power stations, consumed, and imported or exported. Over the past few weeks,
most of the times I've looked, there has been more wind generation than central power
generation. Is this is a look at the electricity future of many more countries? (G).
http://energinet.dk/Flash/Forside/UK/index.html

**Research: Firefly Scale Structures on LED Surface Improve Efficiency 50%**
http://gigaom.com/2013/01/08/fireflies-are-inspiring-brighter-leds/