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News. October, 2013. Issue #19. 16,000 ESB [video views](#).

"It's difficult to get a man to understand something if his salary depends on him not understanding it."

— Upton Sinclair

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Electricity

Solar PV Cost Over Time - A 99% Reduction. Xcel: Solar Competitive With Gas (G)

<http://thinkprogress.org/climate/2013/10/06/2717791/cost-pv-cells-solar-powe/>

ERCOT: 20,000 MW of New Gas - or - 17,000 MW Wind & 10,000 MW Solar

The difference? If they use 2006 data for wind & solar costs and ERCOT (Texas) predicts 20,000 MW of new gas generation. But using current wind & solar costs and ERCOT gets very little new natural gas generation and lots of new wind & solar. (G)

<http://thinkprogress.org/climate/2013/01/29/1509551/new-ercot-report-shows-texas-wind-and-solar-are-highly-competitive-with-natural-gas>

Floating Offshore Wind Towers

One of the costliest elements of offshore wind generation is building the tower foundation. Most offshore wind is built on rigid foundations embedded in the seafloor at water depths less than 50 meters. But much of the offshore ocean is at depths more than 50 meters. If we could practically

build floating wind turbine foundations, we would have a bigger and more cost-effective offshore wind industry. This article details efforts in many countries to jumpstart deep ocean wind (G).
www.renewableenergyworld.com/rea/news/article/2013/10/floating-offshore-wind-power-taking-hold

Footfall Energy Harvesting - Electricity From Floor Tiles

Speaking of jumping, what if we could generate electricity from people, vehicles, etc, as part of their day-to-day activity. The hope of this company is to be able to make electricity generating flooring material at competitive costs to traditional flooring. (Several videos on home page. G)
<http://www.pavegen.com>

Ikea to Sell Solar Panels in the UK

<http://www.theguardian.com/environment/2013/sep/30/ikea-sell-solar-panels-uk-stores>

NREL Maps Path to Big Cost Reductions for Solar

In a new report, NREL maps out a way to bring soft costs down from \$3.32/watt in 2010 for a 5-kilowatt residential system to \$0.65/watt in 2020. (article G, Report PG)

<http://spectrum.ieee.org/energywise/green-tech/solar/nrel-report-soft-costs-savings-solar-installations>

<http://www.nrel.gov/docs/fy13osti/59155.pdf>

Thousands of German Cities Looking to Buy Back Power Grids (Just Like Boulder, CO)

Energy rebels in Germany & Boulder looking for the same objectives. Lower costs, lots more renewables, freedom from Electric Utility bad investments in fossil & nuclear generation. (G).

<http://www.greentechmedia.com/articles/read/Thousands-of-German-Cities-and-Villages-Looking-to-Buy-Back-Their-Power-Grids>

The Economist: European Electric Utilities: How to Lose a Half a Trillion Euros

ON JUNE 16th something very peculiar happened in Germany's electricity market. The wholesale price of electricity fell to minus €100 per megawatt hour (MWh). That is, generating companies were having to pay the managers of the grid to take their electricity. This has a huge cost impact on traditional coal, natural gas, and nuclear generators. The amazing thing is that, even with the ease of achieving, and political support for, high-penetration renewables, any country *anywhere* is looking at new traditional generation. (G)

<http://www.economist.com/news/briefing/21587782-europes-electricity-providers-face-existential-threat-how-lose-half-trillion-euros>

Social Costs of Carbon Make Wind & Solar the Cheapest Electricity

Social costs include health & environmental damages (G).

<http://www.livescience.com/40456-study-tracking-the-social-cost-of-carbon.html>

Transportation

Toyota is Manufacturing i-Road e-trike for Car Sharing in Japan

We've seen the i-Road before as a prototype. Perhaps available at a dealer near you in the next few years? 28 MPH maximum and 30 mile range, fully enclosed e-trike for 2 people. (G)

<http://www.autoblog.com/2013/10/08/toyota-i-road-electric-trike-production/>

Palo Alto Requires New Home Prewiring for High Speed EV Charging

Adds about \$200 to the cost of a new home as compared to \$1000 to many times that for retrofitting an existing home. (G)

<http://www.autoblog.com/2013/10/01/palo-alto-electric-car-pre-wiring-homes/>

Electric Vehicle Overview from Seeking Alpha

(free signup required to see the entire articles). 5 thoughtful articles on a variety of EV issues (all G-rated) :

1. Not Your Father's gas Station: The Future of EV Charging
2. Beyond Range Anxiety: The EV's Next Challenge
3. Power Surge: Will the EV Revolution Overwhelm the Grid?
4. Solar-Powered EVs: Panacea or Hype
5. EV Shootout: Why the Fuel Cell Won't Beat the Battery

<http://seekingalpha.com/article/1565212-not-your-fathers-gas-station-the-future-of-electric-vehicle-charging>

<http://seekingalpha.com/article/1595562-beyond-range-anxiety-the-evs-next-challenge>

<http://seekingalpha.com/article/1657312-power-surge-will-the-ev-revolution-overwhelm-the-grid>

<http://seekingalpha.com/article/1695442-solar-powered-electric-vehicles-panacea-or-hype>

<http://seekingalpha.com/article/1723292-ev-shootout-why-the-fuel-cell-wont-beat-the-battery>

Heat Storage

MIT: How A Heat Energy Storage Molecule Works

Energy storage is key to our energy future. While there are many ways to store electricity (pumped hydro, batteries, etc), storing heat energy in a stable long-term way has been elusive. Storing heat as heat in big tanks works fine for a short time periods, but not seasonally.

The basic issue is that we have lots & lots of easily available heat in the summer - wouldn't it be great if we could can that heat - for months or years - then open those cans to get the heat back for warming our buildings in the winter? *Such a compound was discovered in 1996, but it included ruthenium, a rare and expensive element...Now researchers at MIT have ... revealed exactly how the molecule, called fulvalene diruthenium, accomplishes its energy storage and release. And this understanding, they said, should make it possible to find similar chemicals based on more abundant, less expensive materials than ruthenium.* (Article & video, both PG)

<http://web.mit.edu/newsoffice/2010/solar-storage-1026.html>