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News. August, 2013. Issue #17. 12,800 ESB [video views](#).

There are risks and costs to a program of action. But they are far less than the long-range risks and costs of comfortable inaction. - John F. Kennedy

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News About EnergyShouldBe (ESB)

A personal note from Ken Regelson:

The Campaign For Local Power - From Boulder, Colorado

In 2011, Boulder voters passed a ballot issue authorizing our city council to take over our electricity system from coal & fossil based (80% in 2012) Xcel Energy - ONLY if rates & reliability could be shown to be competitive, and that we could have lots more renewables more quickly than Xcel. Then and now I volunteer to support this effort.

The city has deeply analyzed the “rates, reliability, renewables” issues and come up with a resounding conclusion of “YES we can!” For details: <http://BoulderEnergyFuture.com>

Xcel has kicked off their third fake anti-clean-energy grassroots group in 9 years, this time to kill Boulder’s energy future by vote on November’s ballot. One of our clean energy partners - New Era Colorado - has created a wonderful short video and national fund-raising campaign to help answer that threat to Boulder’s energy future. Watch the video. Like it on Facebook. Tell your friends. Contribute if you can. All the world’s children will thank you! (Excellent G video)

<http://www.indiegogo.com/projects/campaign-for-local-power/x/2458211>

Energy Should Not Be...

... reliant on water for cooling.

Wet Cooling of Generation May Lead to Grid Failure & Deaths During Super Heatwaves

In [last month's newsletter](#), in the *Energy Should Not Be*, section I reported on a video exploring super heatwaves - heatwaves that have left 10s of thousands of dead in Europe & Russia.

Most fossil & nuclear generation in the world relies on wet cooling - bringing huge amounts of water into the power plant to cool them down. As the water inlet temperature rises, the efficiency of the plants go down. And if the water temp goes above a certain point, or there is not enough water, the plants must shutdown.

Climate chaos (AKA climate change) means we face increased risks for super heatwaves - when there will be little water for cooling and that water may be at too high a temperature to be usable to generate electricity.

A recent Union of Concerned Scientists report details electricity generation water use and maps where electric generator water quantity and temperature problems have already occurred in the US.

Note that PV and wind use almost no water. Some concentrating solar thermal plants do use large amounts of water for cooling.

The question isn't if, but when will the "perfect storm" of a very dry winter and spring, and an ultra-hot summer combine with failures of the grid due to water issues occur. And no power means no air conditioning. And without air conditioning, how many will die? (article & report G) <http://spectrum.ieee.org/energywise/energy/fossil-fuels/collision-between-water-and-energy-is-underway-and-worsening>
http://www.ucsusa.org/assets/documents/clean_energy/Water-Smart-Power-Full-Report.pdf

Electricity

Don't Bother Washing Normal Atmospheric Dirt From Solar Panels.

Bird droppings & heavy dirt should be washed. But the normal dust & dirt from atmospheric conditions will wash off in the next rainstorm. Particularly for panels with a slope of > 5 degrees. <http://greenbuildingelements.com/2013/08/11/cleaning-solar-panels-often-not-worth-the-cost/>

RMI: Debunking Claims of Failures in Germany's Energiewende (Energy Turnaround)

Energiewende - *renewable electricity rising to 35 percent of consumption by 2020 and 80 percent by 2050, primary consumption falling respectively to 20 and 50 percent below 2008 levels, and CO2 emissions falling to 30 and 80 percent below 1990 levels* - is a stunning success.

Given other intentional disinformation campaigns against renewables, it is no surprise that supporters of fossil generation are falsely attacking German renewables - claiming that Germany is turning back to coal, that renewables undermine grid reliability, and that renewables' costs are cratering the German economy. Rocky Mountain Institute's Chief Scientist, Amory Lovins, debunks those myths. (G)

http://blog.rmi.org/separating_fact_from_fiction_in_accounts_of_germanys_renewables_revolution

Transportation

Texas: Charge Your EV at Night for Free

What to do with excess wind generated electricity? Give it away! (G)

<http://green.autoblog.com/2013/08/08/go-ahead-texas-charge-up-with-txu-energys-free-nights/>

Hyperloop: Intercity Travel Redefined? Brilliant? Impossible? You Judge.

Elon Musk is at it again. At least conceptually. He has no plans to build this. For moving people more than 1,000 miles between cities, he thinks that very high-altitude supersonic aircraft will eventually be the most sensible & efficient solution. But the overhead of the relatively slow subsonic trip to and from altitudes high enough for supersonic craft to be reasonably quiet for us still on the ground makes them inefficient for shorter trips.

For shorter trips he suggests a low air pressure tube with pods that have a high pressure fan system built-in to move air from in front to behind the pod allowing 700 MPH travel - 30 minutes LA to San Francisco for \$20 all costs in. It would use: near frictionless air bearings; batteries to power the pod fan; and, linear electric motors every 70 miles would keep the pods moving. Costs would be far below, safety and functionality far above, bullet trains. PV on the roof of the tube would provide way more than enough power. The first 5 pages of the PDF are an excellent and readable description of the problem and an outline of the solution.

(First 5 pages G. The rest PG).

http://www.teslamotors.com/sites/default/files/blog_images/hyperloop-alpha.pdf

RMI: The Future of Mobility

Another excellent Rocky Mountain Institute blog post on mobility, car-sharing, & ride-sharing. *The average number of cars per household in the U.S. peaked in 2006 at 2.1, but has been slowly decreasing since. Young Americans are waiting longer to get licensed (roughly 1 in 5 say they plan to never even get a license,...), driving less, increasingly turning to alternatives such as mass transit or car-sharing programs, and choosing living locations and lifestyles to match.* (G)

http://blog.rmi.org/the_future_of_mobility

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