We need your support. Thank you!

What would have happened if Martin Luther King Jr. had said: "I have a nightmare?" Probably not much.

From the guide to Sustainia.

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Baseload Coal & Nuclear Do Not Work Well With High-Penetration Intermittent Renewables.
Good report from NPR. One correction: they call wind & solar "unpredictable"... actually they are pretty predictable now and getting better over time. More accurate to say they are intermittent or variable. (G = General audience)
http://www.npr.org/2012/03/12/148318905/renewable-energy-throws-power-grid-off-balance

MIT report referenced in the NPR article...
Summary (PG = Pretty Geeky):
http://web.mit.edu/mitei/research/reports/intermittent-renewables-summary.pdf

Full report (VG = Very Geeky):
http://web.mit.edu/mitei/research/reports/intermittent-renewables-full.pdf

The issue of baseload coal, nuclear, and gas generation being obsolete will be a recurring theme in ESB News until there is a nationwide freeze in investments in baseload generation. To "delve deeper" into this issue, view the 3 short videos at (PG):
http://energyshouldbe.org/Delve_Deeper.html

Minnesota 100% Renewables Plan
Makhijani called the baseload concept obsolete.
"It's like living in the age of punch cards and IBM machines when we should be living in the age of the iPhone," he said.

http://www.twincities.com/allheadlines/ci_20166058/study-100-states-power-can-come-from-wind (G)

Is Natural Gas Really Better Than Coal?
The latest in this controversy. (G)
http://dotearth.blogs.nytimes.com/2012/02/29/a-fresh-scientific-defense-of-the-merits-of-moving-from-coal-to-shale-gas/

"The data clearly shows that substituting natural gas for coal will have a substantial greenhouse benefit under almost any set of reasonable assumptions. Methane emissions must be five times larger than they currently appear to be before gas substitution for coal becomes detrimental from a global warming perspective on any time scale. The advantage of natural gas applies whether it comes from a shale gas well or a conventional gas well."

As one step in moving off of fossils entirely, we need to move from primarily coal to primarily gas peaking generation as a backup to intermittent renewables - baseload coal and nuclear simply do not work to backup intermittent generation above about 30% renewables. Moving from baseload to peaking backup sets the stage for higher than 30% renewables and a path to 100% (or darn close) renewable energy.

Natural gas development (i.e., fracking) needs to be much more strictly regulated. Well-head, collection point, and compressor emissions ought to be prohibited. Wellheads in close proximity to schools and homes ought to be prohibited. There are no excuses for leaks and emissions and no rational reason other than unfettered greed to allow gas development close to children.

And, as always, one scientific paper does not consensus make.

Competition is Wonderful...
...but there is no competition short of municipalization in electricity in Colorado and much of the rest of the country. The Investor Owned Utilities (IOUs) are required by law to pursue profit above all else. Is there a better way?

Transforming Corporations from Psychopaths to Good Citizens (an introduction to B Corps)
http://www.francescarheannon.com/2012/02/benefit-corporation-transforming.html (G)

Wind Study
Summary of the status of wind generated electricity from NREL & LBNL. Wind's Levelized Cost of Energy (LCOE) at lowest point ever. Larger swept areas (bigger blades) mean lower wind speed areas can be economically used greatly increasing the potential for wind.
http://eetd.lbl.gov/ea/ems/reports/wind-energy-costs-2-2012.pdf (VG)

Boulder Municipalization in the News.
YES Magazine. (G)
http://www.yesmagazine.org/boulder

Electric Vehicle (EV) News
If you are like me and can't get enough EV news... two sources (both G rated):

http://analysis.evupdate.com
(sign up for their email list in the red box in the upper right)

http://green.autoblog.com/

I will continue to pass on what I consider the best of their news articles. Electrifying transportation is key for developing a secure and sustainable future and is another ESB recurring theme. From politics to the environment oil corrupts almost everything it touches.

And electric vehicles are rapidly getting better than fossil cars... quicker, cheaper-over-time, and cleaner.

If You Can't Plug Your Car In...
Subtle. Not! (1 minute) (G)
http://www.youtube.com/watch?feature=player_embedded&v=LD648-4ImmA

14388.42 Miles per Tank
"Is the gas still good?" A veritable treasure trove of data from 642 Chevy Volts "in the wild."
http://www.voltstats.net

The Best Light? LED
http://spectrum.ieee.org/energy/environment/the-subtle-circuitry-behind-led-lighting (PG)
Great sequence of x-ray pictures showing lightbulbs through the years on page one (click on the image to step through).

On page 2 there is a sequence of pictures of the awesome and beautiful possibilities unique to LED lighting.

Phillips AmbientLED are very good - dimmable with most dimmers, no mercury, almost instant start to full brightness regardless of temperature. Good to excellent color. The

Phillip's bulbs look yellow when off, but are white when on. LEDs using CREE.com lights tend to be quite good as well.

EnergyStar requirements have been beefed up for LEDs so it is well worth looking for the EnergyStar label.

Labeling for lightbulbs is improved as well so it is easier to find things like color temperature, brightness, dimmable, etc.

Only downsides to LEDs are the up-front price and they can't handle heat (so enclosed fixtures where the heat builds up may be a no-no - don't try one inside your oven).

And up-front price is coming down fast. Even at $25 per, LEDs are worth it for a home in energy and replacement savings. One LED = 25 incandescent and 5 to 10 CFL (swirly) bulbs. Energy savings over CFLs are small. Energy savings over incandescents are spectacular (> $100 over LED life).

No mercury to worry about in LEDs. I just broke a CFL at home and am planning on replacing all my CFLs that are not enclosed. (G)
http://epa.gov/cfl/cflcleanup.html

McGuckins (in Boulder), Home Depot, and Amazon are good places to buy.

(I will not miss incandescents or CFLs - Ken).

How Big a Battery Would it Take?
www.scientificamerican.com/article.cfm?id=castelvecchi-how-big-battery-would-it-take-power-usa (G)

Another reason to stop at 350 PPM?
Increased atmospheric CO2 Causes Obesity??? (G)
http://green.autoblog.com/2012/03/18/bad-air-makes-for-good-eatin-more-co2-means-more-weight/

How much CO2 do we make? A lot! (3 minutes, G)

Ratings for articles and videos: (G = General Audience, PG = Pretty Geeky, VG = Very Geeky).

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