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News. July, 2016. Issue #51. 91,000 ESB [video views](#). *100% Renewable by 2035.*

*Let us not look back in anger, nor forward in fear, but around in awareness.
- James Thurber, American writer*

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Moving to 100% Renewables

How Far Can Renewables Go? Pretty Darn Far. Thoughtful 5-Part Series.

Ramez Naam is a computer scientist, futurist, angel investor, and award-winning author.

His fairly short, to the point, 5-part web series looking at the economic trends of new energy technologies is an excellent read. The first 3 parts look at how cheap solar, wind, and battery storage will get ... (*pretty darn cheap*). *Part 4 looks at how far renewables can go (pretty darn far)*. *Part 5 looks at how cheap electric vehicles can get, and how they'll disrupt oil.* (G - The link below goes to part 1. Click the links in the first paragraph to get to the remaining parts)
<http://rameznaam.com/2015/08/10/how-cheap-can-solar-get-very-cheap-indeed/>

Texas Analysis: Every Scenario For 2017 - 2030 Generation Growth is Almost All Solar

ERCOT is the transmission provider for more than 20 million Texans. All 7 scenarios analyzed showed generation growth that was almost all solar. 4 of 7 scenarios include solar only! (PG)
<http://blog.ucsusa.org/mike-jacobs/texas-solar-power-plants>

40 Years to Reach 1 Million US Solar Roofs. 2nd Million in the Next 2 Years. (G)

<http://www.renewableenergyworld.com/articles/2016/05/us-celebrates-one-million-solar-installations.html>

The Coal Industry Has Collapsed. Is Oil Next?

Five years ago, if you had asked someone in the coal industry about the future, they would have predicted growth—and ignored a nonprofit report arguing that the industry was likely to decline. Since then, dozens of coal companies filed for bankruptcy, including the largest coal company in the Western world.

Now, a new report from the same nonprofit warns that the oil industry faces similar risks of decline. (G)

<http://www.fastcoexist.com/3061943/the-coal-industry-collapsed-is-oil-next>

Research: Nanotech Transforms Heat into Electricity - Gets \$5.5 M Funding

(G. See the last article of the 3 on the first link. The second link is the company's website)

<http://www.greentechmedia.com/articles/read/Rockefeller-Fund-Divests-From-Fossil-Fuel-Industry-it-Helped-Build-Invests>

<http://redwaveenergy.com/about/>

Washington State to Vote on Carbon Tax. Proceeds From Tax to Cut Other Taxes. (G)

<http://yeson732.org/>

Fair Electricity Markets Allow the Freedom of Choice

21 States Allow at Least Some Access to Fair Markets.

Half of US Population Has Community or Residential Choice Electricity Markets.

The states are California, Connecticut, Delaware, Illinois, Maryland, Massachusetts, Michigan, Maine, Montana*, Nevada*, New Hampshire, New Jersey, New York, Ohio, Oregon*, Pennsylvania, Rhode Island, Texas, Virginia*, Washington* and, though not a state, the District of Columbia - a * means that the state offers commercial choice but does not offer either residential or community choice.

In some states, a business may have to pay a significant fee to exit the monopoly electric provider (e.g., Nevada). In some cases a state may provide community choice which provides the community generation options, but not individual residential choice (e.g., California). (report below from 2012. Data on states updated from EIA direct communication. PG) (The “Half of US Population” claim is based on ESB analysis - add up the population of the 15 states offering community or residential choice and divide by US population).

<http://www.eia.gov/todayinenergy/detail.cfm?id=6250>

ESB Note: I live in Colorado where there is no fair market for electricity. Does this mean that Colorado is no longer a good place to locate and keep businesses and industries?

Coop Wins Fight for More Local Renewables

Their generation supplier said “no” to low-cost renewables, but the Federal Energy Regulatory Commission said emphatically “yes” overruling their generation supplier. (G)

<http://www.greentechmedia.com/articles/read/cooperative-utilities-win-fight-for-more-local-renewables>

Want More Renewables and Stable Prices? Drop Your Fossil-Based Electricity Supplier.

A New Mexico coop and a muni have dropped their traditional - mostly fossil - suppliers for a non-traditional and more flexible power supplier. Their new supplier allows more renewables and, unlike their fossil suppliers, has stable or declining pricing. Coops and munis serve rural areas and cities. Even in non-choice (see above) electric states coops and munis usually have fair market choices those of us forced to have monopoly service do not have. (G)

<http://www.utilitydive.com/news/independence-day-local-utilities-ditch-power-suppliers-for-renewables-sta/423140/>

Fortune 500 Drives New Renewable Energy Markets

Leading companies are seizing the opportunity to reduce their environmental footprint with wind and solar while simultaneously locking-in low, predictable energy prices for a decade or more... Corporate deals so far total over 5.4 GW of capacity, and the stream of new deals has grown exponentially over the last three years. But only where electricity choice or monopoly exit options exist. (G)

<http://www.aweablog.org/cant-buy-off-shelf-fortune-500-driving-new-market-clean-energy/>

Texas: Residential Solar That Pays Without Net Metering

Texas provides few incentives for solar. In most of the state net metering is not an option. And because of Texas' success at lower electricity rates, the cost of electricity and the return from solar panels is low. This means a solar homeowner gets little money back on their investment.

SolarCity has figured out how to use Texas' open market for electricity to provide good net metering like returns to residential solar owners. *Texas and ERCOT are probably better equipped to take on solar than any other market in the country. When you match solar generation profiles against risk, we think solar is better than anything we can get on the market. (PG)*

<http://www.greentechmedia.com/articles/read/in-texas-mp2-energy-sees-the-shape-of-rooftop-solar-as-value-to-substitute->

Energy Storage and Miscellaneous

1 Second to Connect - 15 Second Flash-Charging All Electric Bus Line in Switzerland (G)

<http://www.autoblog.com/2016/07/18/genevas-new-flash-charge-electric-buses-refuel-in-15-seconds/>

Visualizing the US Grid

A view from 2009 showing power plants, existing and possible transmission lines, etc. (PG)

<http://www.npr.org/2009/04/24/110997398/visualizing-the-u-s-electric-grid>