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News. October, 2016. Issue #54. 96,000 ESB [video views](#). *Low-Cost 100% Renewable by 2035.*

[Experience is a hard teacher because she gives the test first, the lesson afterward.](#)
- Vern Law, Baseball Player

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Ken Regelson (Founder ESB) Presents: 100% Renewables - Let's Go! 11/30/2016 Golden, CO
http://www.cityofgolden.net/event/golden-sustainability-night/?instance_id=940

Moving to 100% Renewables

DOE: An Energy Revolution is Upon Us (PG)

<https://www.greentechmedia.com/articles/read/5-charts-that-show-the-us-clean-energy-revolution-is-upon-us>

Fair Electricity Markets "Fair" Markets = competitive, deregulated, open, or choice markets.

States That Don't Provide Renewables Are Increasingly At a Competitive Disadvantage

Companies are demanding 100% Renewables and are factoring that into their decisions about locating factories and data centers. For example, in choosing Michigan for a new facility Switch asked two questions. 'Can you get us our power needs?' The second question was: 'Can you get us 100 percent renewable?' If the answer was no, Michigan wasn't going to be part of the site selection. States that can't provide 100% are now at a competitive disadvantage. (G)

<http://www.nationofchange.org/2016/10/13/utilities-squeezed-corporations-seek-renewable-energy-elsewhere/>

62 US Companies Sign Corporate Renewable Energy Buyers' Principles

These companies represent \$5 trillion in market capitalization and 45 Million MWh of demand for renewable energy. Switch (see the article above) and 61 other companies have signed on to these principles.

Summarizing and editing a bit, the Buyers' Principles can be stated as: *Renewable energy has become cost effective. Companies are setting ambitious goals to buy it. Companies are looking for ways to contract directly for fixed price renewable energy to protect against future energy price increases and meet their climate and renewable energy goals. Corporations must be able to access bundled, fixed price renewables whether in a competitive market or not.*

In this case "directly" means:

- 1) Directly contracting (onsite or offsite) with renewable energy facilities in competitive markets;*
- Or,*
- 2) Using a special contract vehicle or green tariff with regulated monopoly utilities in non-competitive markets, which effectively assigns the energy and RECs to the corporate buyer through the utility.*

Editors' note: It is unlikely that monopoly IOUs in non-competitive electricity markets can provide the fixed, low-cost renewables that these corporations seek in massive scale. However, [BuyersPrinciples.org](http://buyersprinciples.org) does not appear to be advocating having all of the US move to competitive, fair, electricity markets - at least not yet, anyway. (G)
<http://buyersprinciples.org>

Kavulla: A Monopoly Industry Laden With Perverse Incentives to Over-Invest in Capital

Travis Kavulla is NARUCs President (National Association of Regulatory Utility Commissions) and a Republican PUC Commissioner from Montana. According to this article:

Kavulla says there are two types of Republican utility regulators.

One is more likely to side with incumbent monopolies. "The first type says, 'I'm a Republican and that means I'm pro-business. And here's this utility, that's a business after all -- where's the rubber stamp? Where do I sign?'"

The other is more likely to side with open markets... "I'm a Republican who happens to think...this is a monopoly industry laden with perverse incentives to over-invest in capital on the part of the utility. I'm very skeptical of the type of corporate behavior that results from a cost-of-service regulatory monopoly."

Over-investing in capital makes our electricity more expensive and more profitable for monopolies than it needs to be. (PG)

<https://www.greentechmedia.com/articles/read/the-republican-case-for-distributed-energy>

Energy Storage and Miscellaneous

Flexibility Not Baseload Generation Needed - Baseload is an Obsolete Paradigm

“Having a 24/7 nuclear plant, from a grid operator’s standpoint — that is a real problem,” says David Olsen, a member of the board of governors of the California Independent System Operator (CAISO)...“Dealing with 2,200 MW coming in at every minute — we have to design our grid around that inflexibility. ‘Baseload’ refers to an old paradigm that has to go away.” (G)
<http://www.renewableenergyworld.com/articles/2016/10/baseload-vs-flexibility-standing-the-traditional-generation-model-on-its-head.html>

Fitch: Energy Storage Costs Plummet. Oil Companies to Suffer? (PG)

<http://seekingalpha.com/news/3214629-fitch-batteries-key-disruptor-oil-industry-investor-death-spiral>

EU: Strong Support for EVs. All New & Refurbished Homes to Have a Place to Charge

In addition, 10% of all new commercial parking may have to have chargers. (G)

<https://www.technologyreview.com/s/602613/heres-how-to-speed-up-the-electric-car-revolution/>

Deutsche Post DHL’s is Building Electric Delivery Vans and Plans to Sell Them to Others

Traditional fossil-fueled vehicles are complicated enough that few non-automotive companies would consider building their own. But changes in the supply chain to major fossil car makers combined with the relative simplicity and reliability of electric drive trains means that DHL is making their own electric delivery vans. (G)

<http://www.autoblog.com/2016/10/10/vw-angry-dhl-make-own-electric-delivery-van/>

Transmission Planning For Success Delivering Canadian Hydro Electricity to the US

This article explores both the planning process and examples of projects underway that show that large scale electricity transmission projects can be planned and developed with broad support. Some of the keys to success are early, meaningful, and frequent involvement of stakeholders in all aspects of the project and burying transmission lines along existing roads or under lakes and waterways. In the Minnesota project not only is cheap (2 cents/kWh) hydro being delivered from Canada, but excess wind power will be exported back to Canada for storage for later use. (PG)

<http://www.greentechmedia.com/articles/read/canadian-hydro-a-lifeline-for-northeastern-clean-energy-goals>

Leaf Batteries Are Much More Reliable Than Diesel or Gasoline Engines

This is an early, relatively small study. It concludes that after 5 years, just 0.01% of Leaf batteries have been replaced vs. 0.255% of combustion engines that had to be repaired. (G)

<http://www.treehugger.com/cars/5-years-after-going-sale-europe-leaf-battery-packs-way-more-reliable-gasoline-diesel-engines.html>