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News. January, 2016. Issue #45. 76,000 ESB [video views](#). 100% Renewable by 2035.  
(note: We skipped December ESB News and hope to be back on track through 2016)

*I believe in choice and competition, and rooftop solar is the only true form of competition that utility monopolies have ever faced. - Barry Goldwater*  
<http://www.renewableenergyworld.com/articles/2015/12/a-cap-on-solar-is-not-the-american-way.html>

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## **Moving to 100% Renewables**

**Japan. Hot Springs. Geothermal. Harmony. (G)**  
<http://www.renewableenergyworld.com/articles/2015/12/popular-hot-springs-in-japan-co-exist-with-binary-geothermal-power-plants.html>

**San Diego 100% by 2035 (G)**  
<http://fortune.com/2015/12/16/san-diego-renewable/>

**Solar and Wind Make Up 99% of New US Electric Capacity in November**  
72% for Jan - Nov 2015 new capacity is solar and wind. Solar and wind electricity now stand at 8% of total grid capacity and rising quickly. (G)  
<http://cleantechnica.com/2016/01/02/renewables-99-of-new-us-power-capacity-in-november/>

**Australia Mining City to “Tap a More Abundant Resource”**  
The silver is petering out. But the the sun will last forever. (G)  
<http://www.renewableenergyworld.com/articles/2015/12/how-an-australian-mining-town-became-a-solar-power-trailblazer.html>

**Australia Off-Grid Community of 20,000 People Considered (G)**  
<https://www.greentechmedia.com/articles/read/australian-developer-aims-to-put-entire-community-off-grid>

## **Wind Integration Getting Easier**

*... technological advances... enable wind plants to meet or exceed the reliability contributions of conventional generators.* (PG)

<http://www.aweablog.org/output-records-and-nerc-report-show-increasing-reliability-contributions-of-wind/>

## **Rooftop Solar Now Cheaper Than the Grid in 42 US Cities (G)**

<http://www.utilitydive.com/news/rooftop-solar-is-now-cheaper-than-the-grid-in-42-american-cities/352799/>

## **Benefits from Renewable Energy Standards (RES or RPS) Far Exceed Costs (G)**

<http://www.greentechmedia.com/articles/read/report-benefits-from-state-renewable-portfolio-standards-outweigh-costs>

## **Poll: 80% of Millennials Want Clean Energy by 2030 (G)**

<http://grist.org/article/millennials-really-want-to-transition-to-clean-energy-says-new-poll/>

## **Renewables Continue Rapid Growth Despite Low Fossil Prices (G)**

<http://about.bnef.com/press-releases/clean-energy-defies-fossil-fuel-price-crash-to-attract-record-329bn-global-investment-in-2015/>

## **Modeling 100% Renewables. Japan China Supergrid. “THE real policy option”**

*... and low cost too.* (VG)

<http://www.lut.fi/documents/10633/70751/Breyer2015-published-paper-North-East+Asian-Super-Grid.pdf>

## **Energy Storage and Miscellaneous**

### **Online Tool Allows Modeling Renewable Energy Policy Options Article & Tool (PG)**

<http://www.utilitydive.com/news/how-to-decarbonize-the-us-energy-system-in-14-charts/408669/>

<https://www.energypolicy.solutions>

### **Research: Adding Nitrogen can Triple Energy Capacity of Supercapacitors (PG)**

<http://spectrum.ieee.org/energywise/semiconductors/materials/nitrogen-can-triple-energy-capacity-of-supercapacitors>

### **Research: Laser Induced Graphene Improves Supercapacitors (PG)**

<http://spectrum.ieee.org/nanoclast/semiconductors/materials/laserinduced-graphene-looks-to-dip-into-batteries-with-supercapacitors>

### **Research: Quantum Dots Made of Fool's Gold Improve Batteries (PG)**

<http://spectrum.ieee.org/nanoclast/semiconductors/materials/quantum-dots-made-from-fools-gold-could-lead-to-a-new-generation-of-batteries>

### **Research: Nanopillars on PV Improve Efficiency (PG)**

<http://spectrum.ieee.org/nanoclast/semiconductors/materials/nanopillars-are-becoming-the-new-black-in-photovoltaics>

### **Managing Load: Storing Energy in Hot Asphalt (PG)**

*Keeping power grid frequency in balance doesn't necessarily require expensive, fast-responding power plants or utility-scale batteries. With the right technology, the same job can be done with supermarket refrigerators, or water pumps, or even tanks of hot asphalt...*

<http://www.greentechmedia.com/articles/read/Open-Energi-Turning-Hot-Asphalt-Tanks-into-Fast-Acting-Grid-Batteries>