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News. August, 2014. Issue #29. 40,000 ESB [video views](#).

If your actions inspire others to dream more, learn more, do more and become more, you are a leader.

~ John Quincy Adams

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## **Electricity**

### **Nicaragua's Rapid Renewables Rise - 90% by 2020**

In a very few years Nicaragua has moved from almost no renewable electricity to some 50% right now, with plans to be at 70% in 2017 and 90% in 2020. Investment and renewables jobs have exploded. Grid reliability has improved. Government leadership and guidance were key. *What happened next surprised even the government. Private capital poured in. Wind parks mushroomed. Sugar producers built plants to turn sugarcane stalks into fuel. U.S. and Canadian companies explored heat reservoirs around volcanoes. "Other countries evolved gradually. Nicaragua just leaped ahead" ...* (G)

<http://www.miamiherald.com/2014/08/22/4303456/nicaraguas-latest-revolution-becoming.html>

### **For the First Time Non-Hydro Renewables Produce More Energy Than Hydro in the US**

While US hydropower has been relatively flat, there has been great growth in renewables - mostly solar & wind. (G)

<http://www.greentechmedia.com/articles/read/wind-solar-bypass-hydro-for-power-generation-in-the-u.s>

## **Megabank UBS: Large-Scale Generators on the Path to Extinction**

In a UBS analysis on Europe:

*Our view is that the ‘we have done it like this for a century’ value chain in developed electricity markets will be turned upside down within the next 10-20 years, driven by solar and batteries.*

*“As a virtuous circle, lower battery cost will also spur EV sales, which should bring further economies of scale to batteries, also for stationary applications. Power is no longer something that is exclusively produced by huge, centralised units owned by large utilities.*

*“By 2025, everybody will be able to produce and store power. And it will be green and cost competitive, ie, not more expensive or even cheaper than buying power from utilities. (G)*

<http://reneweconomy.com.au/2014/ubs-time-to-join-the-solar-ev-storage-revolution-27742>

## **Lead Acid Batteries Recycled as Perovskite PV**

Currently Lead Acid car batteries are recycled at a very high rate, almost all going into new car batteries. But it seems likely that lithium batteries will soon replace lead acid in cars... will the old lead from batteries then become waste? This research project shows how to recycle the batteries into perovskite PV with an estimated yield of one car battery to make 30 houses worth of PV (PG - for extra geek credit, check out the first 3 minutes of the video found further down the linked page).

<http://www.renewableenergyworld.com/rea/news/article/2014/08/recycling-old-batteries-into-solar-cells>

## **Transportation**

### **Proterra Electric Bus**

E-Busses become workhorses in the real world. (G)

<http://www.valuewalk.com/2014/06/electric-bus-manufacturer-pr-proterra-follows-teslas-leadoterra-follows-teslas-lead/>

### **Flash Charging E-Busses**

A Swedish prototype. Overhead wires used for city electric busses have problems - wires get tangled, and a stalled car can stop the bus. This prototype demonstrates 15 second charging of e-busses by robot at bus stops - with enough charge to get to the next charging station which might be several stops away. (article G)

<http://green.autoblog.com/2014/08/18/we-could-have-electric-buses-that-recharge-in-15-seconds>

### **Tesla Roadster Battery Upgrade From 245 to over 400 Mile Range**

Tesla's first car - the Roadster - was introduced in 2008 with a 245 mile range. Tesla just announced a replacement battery pack that allows a 400 mile range. What is interesting about this announcement is how fast the capacity and quality of batteries is improving. (G)

<http://green.autoblog.com/2014/08/14/tesla-roadster-getting-400-mile-battery-upgrade/>