

# Watt's Happening?

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## Watt Happened in 2014? *Lots!*

**T**he world is moving to renewable energy more quickly than anyone thought likely, for a variety of good reasons, from climate change to health care. Today humanity spends over \$6 trillion per year to burn fossil fuels, while the transition to 100 percent renewables will cost about \$1 trillion per year. Which is the better deal?

Although much of Canada is dragging its heels into this 21st century of clean energy, (having put most of its eggs into the fossil basket) much of the world is moving ahead surprisingly quickly. The biggest and most important energy transition in human history is happening (well, maybe the discovery of fire trumps this one) quietly, all around us. Here are some "big change" highlights from 2014:

### COAL IS HISTORY IN ONTARIO

Last year Ontario Power Generation completed its coal phase-out by closing its last coal-power generation units in Thunder Bay. This was heralded as one of the most significant climate disruption initiatives in North America.

Ontario's feed-in tariff guarantees producers of solar and wind energy (both large scale producers and small-scale home owners) a good buck for their clean energy, creating a real growth industry in that province, with tens of thousands of new clean energy jobs. Ontario now hosts the third-largest manufacturer of solar electric panels in the world, Canadian Solar in Guelph.

### TESLA TAKES THE LEAD

The new Tesla Model S all-electric car was named best car on the road by Consumer Report in 2014. The Tesla is not only the best electric car on the road, said the editors, but also the best car you can buy period.

Tesla also liberated its intellectual property, releasing its patents to the public domain. It's probably a brilliant marketing move by genius CEO Elon Musk that will standardize electric car technology in the Tesla image, but it's also a great boost to the industry as a whole.

GM announced a half billion dollar upgrade to its Michigan plant that assembles Chevrolet Volt and



*This home-scale solar array in Ontario feeds solar electricity into the grid, generating income for the home owner thanks to that province's feed-in tariff (a guaranteed premium price for solar electricity). Millions of small-scale solar installations like this are in operation around the world, with millions more going in every year. (Roy Mumby photo)*

Cadillac ELR electric vehicles, as well as a factory dedicated to building automotive lithium batteries.

### **ROOF TOP SOLAR TAKES OFF**

The price of solar reached new lows last year, approaching one dollar per watt. Last year the world installed more new solar photovoltaic generating capacity than wind power, a renewable energy milestone. 2014 saw Australia reach the two-million mark for small solar installations, having reached one-million a year earlier. Japan installed one million solar roofs last year, and will install another million this year. The one million in Europe and half a million in the US are also expected to double over the next year or two as well. India's new prime minister vowed to place a solar panel on every home by 2019, bringing clean power to another 400 million people.

### **RENEWABLES MATCH GAS**

Last year saw global power generation from wind, solar and hydro grow to 22 percent of the global energy mix, roughly the same as natural gas. It was also the year that direct renewable energy jobs in Canada surpassed direct jobs in the oil sands.

### **RECORD CLIMATE MARCH**

Some 400,000 people converged on New York City last year for the People's Climate March, the largest to date. More than 2000 solidarity events were held around the world in 166 countries, including close to 150 rallies across Canada.

### **HEALTH CANADA RELEASES WIND STUDY**

Last year Health Canada released its exhaustive study of wind and concluded that wind farms do not cause health problems. The government's findings confirmed 21 other similar peer-reviewed studies in Australia, the U.K., the United States, Denmark, New Zealand and in Canada, all of which found no link between wind turbines and human health. There is no debate over the negative health effects of burning fossil fuels, however.

Bloomberg New Energy Finance reports that of the nearly \$8 trillion presently earmarked globally for new power-generating capacity, two thirds will be invested in solar, wind and other renewable energy sources.

Now, for the first time, it's reasonable to look into the not-very-distant future and see a time when the terms "conventional energy" and "alternative energy" will switch places, and we can all breath a lot easier.

## **Quick Fact:**

**CHINA BECOMES WORLD LEADER IN RENEWABLES:** Last year China pledged to install the equivalent of 800 Site C dams (what!?) in renewables over the next 20 years, mostly in solar and wind. China has been a world leader in renewables for some time now, but only in the last five years has their influence on the viability of renewable energy really been felt, and now, everything is changing. And its not just China. Many nations now agree that lagging behind in this power shift or relying too heavily on fossil fuels over the next 30 years could be a very costly mistake.