Watt's Happening? #94

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It's Wake Up Time!

he media often calls this the "dawn" of renewable energy, as if it's something new. Somebody, I suspect, has been snoozing through sunrise.

It may seem like dawn because we've been happily sleeping and dreaming while the real dawn of clean energy happened some 20 years ago, when leaders like Denmark and Germany moved aggressively into wind and solar power, starting the energy revolution.

CANADA OPENS ITS EYES

Canada was thoroughly asleep (if not intentionally tranquilized) until Ontario was jolted awake about a decade ago by a failing and massively over-budget, heavily subsidized nuclear industry, and one of the largest and most polluting coal power plants in North America. So Ontario woke up and installed 4000 megawatts of wind and solar in less than 10 years. Thousands of permanent high-quality jobs and cleaner air were nice spin-offs.

Quebec, with its abundant hydropower, is well into its second cup of coffee and getting serious about electric cars. Alberta and several other provinces seem to be rubbing the sleep from their eyes, and even the federal government is finally coming out of its trance and smelling the coffee.

A new report from the International Energy Agency says that renewables like wind and solar have now overtaken coal as the world's largest installed power source, a truly historic milestone. Each of these turbines at Bear Mountain Wind Park near Dawson Creek, BC produces enough power for 1000 homes.



Rather than the dawn of renewables, I would say for the world as a whole its about mid-morning.

Globally we are well past the awakening stage. In fact we are fully dressed and going about our morning's business: rapid implementation on a global scale. We are up scaling production, increasing efficiency and causing the prices of wind and solar power to plummet.

NEW ENERGY BEATS COAL

A new report from the International Energy Agency says that renewables have now overtaken coal as the world's largest installed power source, a truly historic milestone. And this growth is not slowing down any time soon. In 2015, two wind turbines were installed every hour in China alone. Around the world, an astounding 500,000 solar panels were installed every day last year.

New solar power capacity increased by 25% globally in 2015, adding 45 GW (45,000 megawatts) to the world's estimated 2014 solar capacity of 178 GW. By the end of this year, the planet should have 310 GW of solar. This growth is happening largely in Asia, China and Japan leading with the US ranking third.

More than 1,000 cities and countries have pledged to go 100 percent renewable by 2050, including the City of Vancouver. The US Department of Energy expects 35 percent of US electricity needs to be met by wind power by that same year. The US government's SunShot program expects solar to easily meet 25 percent of the nation's demand "without any major intervention."

In spite of Canada's long slumber, our non-hydro renewable energy projects grew in just 10 years from

two percent of Canada's energy capacity to 11 percent, according to a new report from the National Energy Board.

Wind and solar are leading the change because they are easy to mass-produce, easy to ship and install anywhere, and they are simple and safe with real costs continuing to fall. In areas with good wind and solar resources, they are already often cheaper than any other energy source.

BIG OIL NOT YAWNING ANY MORE

Even big oil has turned to face the sunrise and beginning to put its capital to work outside the oil and gas sector. Plunging and unpredictable oil prices and falling profits are causing them to look for new energy opportunities, and they're beginning to find them in renewables.

Shell has thrown \$1.7 billion into a new division called New Energies.

Total SA, the French oil giant, has just bought Saft for \$1 billion, a major manufacturer of batteries. Total has also bought a 66 percent share of solar panel maker SunPower Corp for \$1.3 billion.

Exxon is investing heavily in fuel cell tech that powers cars with hydrogen extracted from water.

Smaller, more flexible and progressive fossil fuel companies have been investing in renewables for some time. AltaGas, who built B.C.'s first wind project (with help from Peace Energy Co-op in Dawson Creek) have since invested in run-of-river hydro, geothermal and more wind.

So if you are just rubbing the sleep from your eyes and wondering what the fuss is all about, you're in for a pleasant surprise. A new and brighter world has dawned.



The International Space Station is powered entirely by 3000 square meters of solar panels that generate 246 kilowatts of electricity. Why solar? Because of its very low maintenance, extreme reliability, and the unlimited solar fuel delivered free of charge forever.