

Watt's Happening? #96

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The energy debate is over



The Solar Impulse 2 has now completed its historic around-the-world flight powered night and day by solar energy alone. Solar power is a mature technology that is safe, reliable. . . and inspirational.

We can run the world without consuming the earth." So said Ulrich Spiesshofer who partnered with Bertrand Piccard for the first round-the-world flight powered by sunlight.

The Solar Impulse 2 is a zero-emission solar-electric airplane capable of flying day and night on solar energy alone. Its carbon-fiber 236 foot wingspan is covered with 17,248 solar cells that charge four lithium battery pods that in turn power four electric engines and propellers, allowing the Si2 to fly day and night. It flew 43,041 miles in 23 days without using a single drop of fuel.

Now, this is a demonstration plane, designed to make a point and showcase clean technologies, not the prototype of a solar commuter jet! But the Si2 makes a

powerful point. ". . . it's clear that if we can fly day and night with no fuel, it means that these technologies are mature," said pilot Piccard.

And that's the point – these technologies are mature. Wind, solar, geothermal, biomass, electric cars, energy storage . . . mature and spreading rapidly across our troubled, warming globe.

A CLIMATE MESS IN THE MAKING

We have just endured twelve of the hottest years on record, and our atmosphere has officially reached 400 parts per million (ppm) carbon dioxide . . . and climbing. 350 ppm is considered a "safe" level, where the worst effects of climate disruption will be avoided.

The Paris climate deal has just kicked in, and to meet our obligations, Canada will have to cut carbon emissions to 80 per cent below 2005 levels by 2050. To get a handle on what that means, consider that Canada emitted 732 million tonnes of carbon dioxide equivalent in 2014, and that to meet our goal we will have to bring that down to 150 million tonnes in just 34 years. Wow.

Can we do it? Totally. No new research, no new technologies are required. But it will take a plan, re-tooling and re-training, and most of all real leadership on all levels. Business as usual just will not work.

WE HAVE A PLAN!

Canada has a plan, and it's a pretty good one. A national carbon tax, for instance, will generate money that will be returned to the provinces to tackle climate change. And that's a lot of change.

But if its jobs you're looking for, look no further.

All-new clean energy infrastructure will have to be built to replace the old one. A solar array for every roof. A new wind turbine every minute.

The heating efficiency of nearly every building in Canada will have to be upgraded.

Most fossil burning vehicles will be replaced with electric ones. As a bonus, electricity per mile costs a lot less than gas or diesel per mile, and electric vehicles are almost maintenance-free.

A well-insulated house not only costs a lot less to heat and cool, its more comfortable in summer and winter.

Efficient factories are more competitive and pollute

less, reducing health care costs and human suffering.

Electricity flows through simple wires around the world at the speed of light. Compare that to an old-fashioned pipeline or tanker filled with toxic liquids. The very near future will be electric, not toxic.

THE DEBATE IS OVER

Pipeline debates are quickly becoming irrelevant. Multi-billion dollar investments in long-term fossil infrastructure are less and less attractive, and soon won't even be an issue.

Natural gas has long been touted as a "30-year transition fuel." Many experts now talk of gas as a 10-year transition fuel, and that number continues to fall.

Meanwhile, investment in renewables continues to climb. Watt's Happening readers will know that last year investment in new renewable infrastructure out-paced that in new fossil infrastructure for the first time, and this year installed renewables exceeded installed fossil

infrastructure on the planet – a first in modern history. These trends are real and accelerating.

Those who argue that we must keep expanding fossil fuels to generate the energy and wealth needed for the transition to a carbon-free world are about 10 years behind the times. That's already happened. The transition is in full swing.

There's a better world to build, and we're building it. Time to quit talking and get busy.

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