

Watt's Happening? #158

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The HIDDEN BENEFITS of our fight against CLIMATE CHANGE



After decades of research and development, today's solar energy systems are now an affordable, robust and mature energy technology. People will be needed to manufacture, deliver, design, install and maintain

the vast solar arrays we will need in our transition to clean energy. Green jobs like these will be just one of the many benefits of beating climate change.

When we talk about the effects of climate change, we often hear nothing but the down side: the risks, the dangers and the costs. But what about the upside, the opportunities and benefits?

Let's make a "fight against climate change" to-do list: phase out fossil fuels and phase in renewable energies like solar, wind and geothermal; implement massive training programs for the rapidly growing green job sector;

preserve the rainforests and plant millions of trees to absorb carbon dioxide; electrify our transportation systems to reduce air pollution and noise; reduce the use of agricultural chemicals and clean up our air, water, food and soil; move to sustainable cities that are designed more for people than cars, with green roofs, fast and efficient public transport, bike lanes, walking paths and green space; accelerate technological innovation and

research in energy efficiency to reduce pollution and increase profits and competitiveness . . .

"But gee," says the skeptic, "what if the whole climate change thing turns out to be a big hoax and we go to all this trouble to build a better world for nothing?"

So lets have a look around and see how the world is building itself better.

BERKELEY KICKS OUT GAS

No, not gasoline, natural gas. The City of Berkeley, California, has banned the use of natural gas in all new buildings, including homes, businesses and even restaurants. Such a move is being talked about in numerous cities around the world and the U.K. as a way to reduce their carbon footprint, but Berkeley is the first city to actually do so.

Natural gas, once promoted as a “clean fossil fuel” that will help us “transition to renewables” has, apparently, proven to be not quite as clean as we had hoped. Carbon is carbon, I guess. Sigh.

COST OF ENERGY STORAGE DROPS

The renewable energies from the sun and wind are wonderful and free for the harvesting, as long as the sun is shining and the wind is blowing. When the wind slows down and the sun sets, we’ve got a problem.

But not for long. Since 2012, the cost of lithium batteries, for instance, has fallen by 74%, and over the last year has continued to fall by another 34%. Lightweight, powerful lithium batteries have made possible world-famous electric cars like the Tesla, and now they’re being used for grid-scale energy storage.

The cheapest power in the world was just sold to a California utility for less than two cents per kilowatt-hour. The energy is coming from a solar farm with lithium storage. Combining wind and solar with storage is a major game changer, and it’s happening fast.

“LIKE” A SOLAR FARM

Often our Canadian national and provincial climate leadership seems to be in turmoil, but we can look to the private sector for hope. Barclays, one of the world’s largest banks, has committed to using 100% renewable energy by 2030, while US retailing giant Target has done the same. Facebook is building a 379 megawatt solar project to power one of its many energy-hungry facilities. What’s not to “Like” about that?

Other majors like Google and GM are frustrated by the lack of readily available renewable energy. Together they have formed the Renewable Energy Buyers Alliance, a mega-team with big clout and big buying power.

Speaking of GM, they have closed their Ohio gasoline car manufacturing plant, but dumped \$300 million into their electric car plant north of Detroit. GM says this is a “major new investment focused on the development of GM future technologies.” Looks like their

Chevy Bolt is going to get some company.

FUN FACT

Speaking of electricity (I was, wasn’t I?) here’s a fun fact. Electricity travels through a power line to your home (or from a light switch to a light bulb) at 97 percent of the speed of light. Light is the fastest thing known, traveling at 186,000 miles per second (300,000 kilometers per second). That means if there was a wire circling the Earth (maybe there is!) electricity in that wire would travel around the world seven times every second, effortlessly!

It’s easy to see why the world is going electric – just another benefit hidden in our fight against climate change.

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