

Watt's Happening? #180

by Don Pettit

for Peace Energy Renewable Energy Cooperative

www.peaceenergy.ca ph 250-782-3882



Welcome to *the Energy Internet!*



Building a new clean energy global grid will not be cheap, but the return on our investment will be enormous.

As COVID restrictions begin to ease, leaders around the world are mapping out their plans for economic recovery. Calls for a recovery grounded in clean energy and climate action are growing louder, from the executive director of the International Energy Agency who called this a “historic opportunity” to the head of the International Monetary Fund who said “we must do everything in our power to make it a green recovery.”

To reduce our carbon emissions while creating jobs and stimulating our economies, we will have to increase our investments in ultra-low carbon energy, especially solar and wind energy, now the cheapest and cleanest energy sources available. That means a

lot more solar on a lot more roofs and smarter, smaller interconnected grids to handle it all.

BIG ISN'T BETTER

Throughout the 20th century, the world built a massive public infrastructure designed to support an economy based on cheap and abundant fossil fuels. It was large and centralized: thousands of coal fired power plants, some 5 million miles of oil and gas pipelines, and hundreds of huge refineries, not to mention about 10 million miles of roads and nearly 200,000 gas stations.

In a clean energy world, much of this carbon-based, centralized infrastructure will no longer be

needed. Energy will be distributed, not centralized. Let's remember that about half the cost of electricity, for instance, is in getting it from the centralized generating station to the end-user. As soon as you create the energy where it is needed, say with solar on your roof to power your home and car, both the environmental and cash costs are immediately and significantly reduced.

JOIN THE ENERGY INTERNET

In the new energy world that we are now beginning to build, energy will be distributed much like information is now. Users, like you and me, will not only consume energy, we will produce it and distribute it on the "Energy Internet."

This is actually beginning to happen, and the technology and equipment are becoming available. For instance, right now you can buy a grid-interactive charger/inverter that will:

- charge your electric vehicle (EV) from the grid or your own solar array (at a fraction of the cost of gasoline);
- feed power into the grid when it is expensive and withdraw it from the grid when it is cheap, feeding it from your solar array or from the energy stored in your EV battery (this can generate income or credit, reducing your cost for electricity even more)
- if the grid goes down it will automatically run your home from your solar array or the large and powerful battery in your electric car.

The energy Internet will mean cheaper electricity, cheaper fuel for your vehicles and increased energy security for you and your family.

That's where energy is headed: not high-carbon but zero-carbon; not centralized but distributed; not

corporate-owned but consumer-owned; not increasing your dependence but increasing your self-reliance, independence and security; not becoming more expensive every year but instead becoming less and less expensive.

And as added benefits we get healthier lifestyles with cleaner air, water, land and food; a reduction in the threat of climate change; a vibrant economy with millions of new clean-tech jobs; and a brighter future for our children and their children.

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GRID-TIED SOLAR NOW

Right now, just putting a simple grid-tied solar array on your shop, barn, garage or house roof, (as I have done on both my business and my home) will immediately lower your cost for electricity to well below what you are paying for grid power right now. (In the case of my business, it eliminated my cost for electricity completely!) And as the cost of grid electricity inevitably continues to rise, daily, monthly and yearly savings will increase.

At the same time, the solar array is a valuable long-term asset that increases the value of home, farm or business.

The cost of building our existing fossil-based energy infrastructure has been enormous. The cost of the global transition to clean energy will also be enormous, but the return on that investment will be right off the scale, both for us and for many future generations.

Will this transition be without problems? Of course not! Will it be the perfect energy system? No. But are we finally headed in the right direction? You bet we are.