

Watt's Happening?

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Sun power: *a bright idea*



This solar power system was installed in Dawson Creek two years ago. Since then, it has produced more electricity than the building

needed to operate. Millions like it are being installed around the world each year.

Look! Up in the sky! It's a bird. It's a plane. No, it's the sun!

Folks promoting nuclear energy should have a quick look up at the sky some nice afternoon. That really bright thing up there? It's an utterly immense nuclear fusion reactor. We don't have to spend hundreds of billions of dollars trying to build our own, because we already have one. A very large one, and it's a nice safe 93 million miles away. The sun will happily burn for the next several billion years, no maintenance required. All we have to do is soak up the energy it's sending us, every day.

And that's a lot of energy. A LOT! Many thousands of times more than our global economy could ever use, and many thousands of times more

than the energy stored in all the planet's fossil fuels, past, present and future. And, (here's the real bonus) it doesn't run out, ever.

PURE ENERGY

Solar power, sunlight converted directly to electricity, is perhaps the "purest" and most abundant of all energy sources. Each year, about 9 million kilowatt-hours of solar energy fall on each acre of generally sunny earth. That means that the solar energy falling on the roof of your home, even at the modest conversion efficiency of a modern photovoltaic (PV) panel (about 20%) is enough to power your house. With solar power on your roof, you can kiss your

electricity bill goodbye.

The sun powers everything on our planet: fossil fuels are solar energy that has been captured by ancient plants, buried, concentrated and stored underground; wind and weather come from uneven solar heating causing the atmosphere to move around; hydro power is the result of Earth's solar-powered water cycle. With the exception of some geothermal energy (radiating from the molten core of our planet), everything on Earth is powered by sunlight – you, me, all the plants and animals, the weather, ocean currents, everything.

If the sun powers our whole planet, it can certainly power us.

HOW IT WORKS

Like the chlorophyll in a plant, a PV panel uses crystalline silicon as a catalyst to convert photons directly into electrons. No moving parts to maintain, nothing used up. This silicon catalyst changes very little over time, so as long the solar panel remains sealed against the weather, it will last a very long time, likely 50 years or more. PV panels now come with a 25-year warrantee for this very reason.

Fossil fuels represent our planet's energy "capital" – the energy in our planetary savings account. It's handy, but its finite and comes with a growing (staggering!) environmental price tag.

When we tap into renewable energy (solar, wind, hydro, geothermal, tidal) we are tapping into energy that is constantly being created in real time.

It's our energy "income." Not quite as handy as fossil fuels maybe, but its all around us in countless different forms, it doesn't pollute, and it never runs out. Sweet.

GLOBAL POWER SHIFT

Nice idea, this solar and wind power stuff, but is it practical? As my mother used to say, "the proof is in the pudding." Wind power has been the fastest growing energy source on the planet for some time, and now solar is taking the lead. Prices have plummeted as mass-production has kicked in, and solar and wind are spreading like crazy.

Japan has installed over one million solar roofs, Australia two million, Europe over a million, China countless millions, and in the US solar is a major growth industry employing hundreds of thousands of people. Yes, Dorothy, we can have jobs and clean up the environment too!

At Peace Energy Renewable Energy Cooperative (based in Dawson Creek) we have been designing and installing solar power systems for homeowners for the last few years, as solar has become more and more affordable. You may have seen a few roofs in the area glistening with blue crystal solar panels.

This year seems to be a watershed year for solar in the Peace Region. The phone is ringing like never before. Something is shifting. I think folks are really getting this solar thing. The rest of the world most definitely is.

Look, up in the sky!

Quick Fact: clean power brings big bucks into BC's economy

A new report from Clean Energy BC finds that companies developing small hydro, wind, bioenergy and solar plants across British Columbia have attracted \$8.6 billion in investment to date, while creating 16,00 construction jobs. Future clean energy projects in the works will bring in another 4,500 jobs. The clean energy sector is now spending more than twice the anticipated investment in the province's mining industry.

The International Renewable Energy Association reports that last year global clean energy capacity grew by 8.3 percent to just under two terra watts (two trillion watts) the fastest annual growth rate to date.