

## **Presentation Notes**

### **New Brunswick Select Committee on Climate Change**

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Over the millions and millions of years it took to make fossil fuels through photosynthesis, the sun has been storing all this energy in C-C bonds (sugars that eventually became oils and gas).

The crazy thing about all this is that the Earth's atmosphere contained almost no Oxygen before 2.5 billion yr ago when cyanobacteria invented a way to convert CO<sub>2</sub> into sugar using sunlight.

About 1 billion years later, there was enough oxygen in the atmosphere to support the evolution of animals, but there was still 8% CO<sub>2</sub>.

The atmosphere now contains 20% oxygen and .04% CO<sub>2</sub>.

So we have released a significant amount of this stored CO<sub>2</sub> in just 200 years, a speck of time in the life of the planet.

The life as we know it on earth can't take it any more:

1. Greenhouse gases like methane from fracking and CO<sub>2</sub> from burning fossil fuels are causing a steady warming that will eventually melt the polar ice and raise ocean levels by hundreds of ft if left unchecked. Remember that warming by itself expands the volume of water, so warming also has a direct affect on ocean levels.
2. CO<sub>2</sub> is acidifying (think carbonic acid in Coke) the oceans and lakes, along with warming leaving coral reefs dead in their wake.
3. Ocean mammals and pelagic birds like the Puffin are having a tough time finding food, as their prey has gone deep to cooler water or just plain disappeared.

Let's Look at Our Addiction:

Some basic facts about our addiction to fossil fuels:

1 barrel of oil = 1700 KwHr. The average home uses 30 KwHr/day so it powers 55 homes for 1 day.

To produce the same amount of energy in 1 day @250 W/ solar panel, we would need 1000 solar panels Or about 20 panels/house

How can we possibly do this?

The answer is to use the sun's current output to pay for not using the sun's stored energy (fossil fuels).

The sun generates electricity directly (solar panels) and indirectly (wind, hydro, tides, waves, etc.) so there are many ways to do this.

1. Solar is lower here than in hot dry places like the SW US, but it still works. Elsie says so. Solar panels to reverse your NB Power meter with a good feed in tariff to reflect the true cost of carbon-based electricity.

2. Wind. Have any of you driven from Sackville to Amherst and see the glaring lack of wind turbines on our side of the border? There are a few in Albert County, but Nova Scotia has them all over the place. What gives with NB Power? We could do much better.

3. Tide: Bay of Fundy

4. Hydro and micro hydro

5. Smart Grid

6. Perhaps the biggest way is to lower our consumption:

- insulation
- urban planning: live where you work
- local food
- public transit that makes sense
- electric cars
- human energy - walk and bike to work

WHAT we should not even think about doing: INCREASING CO2 production by:

- building pipelines for dilbit:
- enables the dirtiest crude in the planet to reach the work market
- runs under every major river in the province: It is not IF but WHEN a spill will occur
- expanding refinery capacity
- More pollution locally
- increased tanker traffic in the Bay
- inevitable Whale fatalities
- more likelihood of a disastrous spill that will destroy the lobster and fishing industry for years and kill untold inhabitants of the bay.
- building new roads that we can't afford to maintain