

The Move Away From Fossil Fuels Has Begun

Elizabeth May

In 2015, global investment in renewables outpaced investment in fossil fuels for the second year in a row. While the knock-on effects of the oil price crash have reminded us of the cost of Canada's retrograde focus on the oil sands while other countries were developing more reliable, predictable and clean alternatives, the Trudeau government has the scope and jurisdiction to start leading by example.

At the 2016 Globe Leadership Summit in Vancouver, in an illuminating talk (literally, pun intended) energy guru Amory Lovins provided an analysis of how we have lit our homes over the last 200 years or so. We tend to forget how many energy sources we've cycled through—from whale oil to kerosene to the electric light bulb. The fundamentals of the transition were consistent—we switch energy sources when something more efficient comes along.

North American society stopped using whale oil in lamps not because of higher costs or a lack of supply. Kerosene was better. And so on. Lovins' last slide was of a child in a hut in Africa, without electricity, but lit by a small handheld solar light.

Lovins summarized the end of whale oil for lighting: "They ran out of customers before they ran out of whales." (For those wanting more data and solutions, see Lovins' 2011 book, *Reinventing Fire: Bold Business Solutions for the New Energy Era*.)

It is largely the same point made decades ago by former Saudi oil minister Sheikh Yamani: "The Stone Age did not end because we ran out of stones." Bronze tools were better.

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Human society is now at the tipping point of a massive transition away from fossil fuels. While the primary driver for the shift is the threat of climate change, the benefits of such a change will touch on nearly every aspect of a better world. An end to

fossil fuel dependence will have geopolitical benefits. We will no longer fight wars over access to oil. Moving away from fossil fuels will undercut the power of some political actors we don't like very much. It doesn't take long to recall the dictators whose regimes were—and are—fueled by oil.

Our air will be cleaner, reducing deaths from respiratory illness. The rapid ramping up of wind, small-scale hydro, geo-thermal, tidal, photovoltaic solar and the infrastructure that serves them will employ hundreds of thousands of people in Canada and millions around the world.

Done right, a shift to renewables can democratize energy. The model of massive mega-projects with inefficient wires leading to homes and businesses could be a thing of the past. With this democratization to localized power sources, our economy can be far more resilient. The current monopolistic megacity model is so fragile that a single rogue tree branch can shut down power to millions. Recall that massive outage on August 14, 2003. More than 55 million people in Canada and eight states in the United States were without power due to the failure to trim a tree in Ohio.

Imagine a more resilient, distributed energy system. Denmark has succeeded in reducing waste of thermal energy by maximizing district energy. It mapped its thermal grid as well as its electricity grid and designed housing to benefit from waste heat from one building to warm others. It married its strong wind program to local ownership of windmills in housing cooperatives. When the wind-generated electricity exceeds demand, the

Danish wind power is sold to Norway, where its energy system stores the wind power by using it to pump water into existing reservoirs. When Norway needs the power, it opens its sluices and the work of gravity allows a steady and reliable hydro-powered system to produce electricity. It is so elegant—homeowners owning wind power sell to Norway to make hydro.

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Globally, the signs are everywhere that we are on the cusp of a major shift to clean energy. In addition to the shift in investment dollars to renewable energy in 2014 marked the first time in post-Industrial Revolution history when economic performance was unplugged from growth in greenhouse gases. The unprecedented phenomenon of emissions dropping outside an economic downturn continued in 2015.

China has shut down over 70 gigawatts (one gigawatt is one billion watts) of inefficient coal plants, while pledging to bring on-stream 200 gigawatts of solar and 150 gigawatts of wind power by 2020. China hit its 2015 targets for renewable energy and these huge 2020 commitments appear to be real.

So where is Canada in all this? Under the previous Conservative government, we put all our eggs in the bitumen basket. Canada is the only industrialized country and one of only a handful of countries in the world not to have joined the International



Elizabeth May writes that “the best way” to meet clean energy goals is “to get all fossils out of electricity by 2025”. Flickr photo

Renewable Energy Agency when it was founded in 2009. We have lost precious years as other countries ramped up their technological capacity in clean and renewable energy.

Even so, there are more jobs in Canada today—and there were even before the price of a barrel of oil plummeted—in clean tech than in the oil sands. We need to grab this opportunity and get out in front of it for the benefit of the environment, but also for Canadian competitiveness and prosperity. We are far behind other countries.

The best way to catch up is to set ambitious goals to get all fossils out of electricity by 2025. This is doable. And it will spur development, employment and economic opportunities. It needs federal leadership in investing in massive upgrading and better linkages of our east-west electricity grids. It will also benefit from programs that give consumers incentives to install their

own renewable generating capacity. Solar panels should be a required feature of every new building, as well as maximum insulation, double-glazed windows, energy efficient furnaces and heat pumps.

By all means, let’s support the Trudeau government in its collaboration with other orders of government. But let’s also insist that collaboration requires a healthy dose of political leadership. Federal-provincial/territorial meetings are not a substitute for decisive action. The federal government has the scope and jurisdiction to start leading by example. Set the goals and meet them. The benefits to Canada’s economy and to our social capital are enormous. **P**

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