

Unit 10: Sean Kheraj: How does the move from organic fuels to inorganic fuels differ across the country?

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A: Canadians shift their energy consumption patterns differentially by region and within regions between urban and rural environments. So urban Canadians shift to a mineral energy regime earlier than rural Canada where rural Canadians had more ready access to wood, for example, as a heating source. So residents of Montreal, by the early 20th century, are using coal as a primary heating source, the majority of residents are using coal. Though still a large number were using wood. But rural Canadians had access to wood as a fuel source for much longer in 20th century Canadian history. So that was one factor to consider there in terms of differential consumption. And then regionally, the urban rural patterns across Canada are not equivalent between Ontario and British Columbia or Newfoundland, we're talking about quite different geographies. Provinces that have much more expansive - provincial norths, have different energy consumption histories than provinces like the Maritimes where they have no large substantial provincial norths and perhaps exhaust their wood resources at an earlier period in the Canadian past. The significance of that transition, though, is that when Canadians consumed organic energy sources, when they burned wood, when they used animal energy for their transportation or when they used animal bodies through candles for their lighting, they had more control over the energy that they consumed. It was decentralized. If you needed more light, you had to buy more candles and you could see how much energy you were consuming. If you needed more heat, you had to buy or cut more cord wood and you could see how much energy you were consuming. A mineral energy regime relies upon centralized energy sources, a coal mine, an oil field and then the transmission of that energy via long distance transmission lines or a hydroelectric facility. And so Canadians' connection to the energy they consumed became disassociated, in some ways like the connection between the animals that Canadians consumed became disassociated from the lived experiences of Canadians. But beyond that, a shift to a mineral organic regime began to break the connection between Canadians and the flows of energy that come from the sun. Stay with me. So in an organic energy regime, the energy is derived from the sun. It produces the photosynthesis that grows a tree that's later harvested and cut into cord wood. Your ability to

continuously harvest that resources is limited to some extent. It's connected to the flow of energy from the sun. So it can be sustainable because that energy is renewable, in perpetuity, at least, within the evolutionary lifetime of humans, we're going to have the sun around for a long time. And if we consume that wood resource at a pace that allows the trees to rejuvenate over time, you can use that wood resource in a sustainable fashion but in a limited fashion. So we're connected to the flows. Mineral energy breaks that connection because it's like a battery. It stores the energy over millions of years. It's the capital energy that the earth has saved over millennia and humans in the past half century in Canada have been making withdrawals from that capital energy in enormous quantities, in ways that are not sustainable and in ways that are not renewable. We're harvesting solar energy that's been stored for millennia in coal and in oil and it's a huge benefit for us. Because now, we're no longer constantly drawing from the flow of energy from the sun, we're collecting the capital investment of energy that's been stored over millennia. And we can discharge it at rates that humans were never able to do before, which has allowed people to do things like go into space. It's allowed people to do things like travel vast distances at incredible speeds, to move products around the world at incredible speeds. And, of course, we know that it's had environmental consequences, the emission of carbon into the atmosphere and the transformation of the biosphere through climate change, the exposure to diseases across the world because of high speed aviation transportation. That creates vulnerabilities for Torontonians to diseases that originate in China. And so this is a really radical change that has occurred within the lifetimes of Canadians who live today, and Canadian historians are only just beginning to start to come to grips with how much Canada actually changed in the second half of the 20th century because of our changing relationship with energy.