

Trends driving energy transition

Objective 6.1

To identify the central trends driving energy transition, including technological changes, national and municipal policy incentives, and social movements confronting the dominance of the fossil fuel industry and how each is making opportunities for transition to 100% renewables. (~68 minutes)

6.0 Watch the following segment of “Disobedience: The Full Movie.” (13:42; start at 3:06 and end at 16:48)



Disobedient Productions. “Disobedience 2016 Full Movie,” video, 40:57, posted by Climate State to YouTube, September 2016.

<https://www.youtube.com/watch?v=8l7qCiqm8n0> (<https://www.youtube.com/watch?v=8l7qCiqm8n0&start=186>)

In October 2018 the International Panel on Climate Change set out the implications for all living creatures if a rapid decline in fossil fuel consumption is not achieved. Already, they found detrimental effects of climate change occurring, and argued the situation will worsen more quickly than believed in the past. Shifting away from fossil fuel energy will require a rapid increase in our capacity to stop using fossil fuels.

“Disobedience” documents the expanding climate movement confronting governments and the fossil fuel industry on every continent. Resisting entrenched power that marginalizes or harms many has almost always been a feature of dislodging dysfunctional systems. The movement to dislodge the fossil fuel industry is critical to the struggle to transform our energy system and make it more democratic—but unless we are vigilant the fossil fuel companies could transform the energy system in other directions.

Resistance may help create the space for change, but it is far from enough. Transition to a clean and resilient energy system means replacing fossil fuels by electrifying the functions they currently power, alongside reducing energy use by implementing energy efficiency. This will not happen without

transforming the aging, centralized, and expensive long distance distribution networks that bring electricity to our homes and businesses. Or, quite frankly, without changing our way of life.

In a TV Ontario interview entitled “The Third Industrial Revolution,” Jeremy Rifkin sets out a big picture vision of a needed transition (See Supplemental Resources). For him, transforming the energy system is central. Rifkin reflects on the 1st and 2nd industrial revolutions, contemporary climate change threats, and the financial meltdown of 2008 and concludes that a 3rd industrial revolution is necessary if human civilization is to survive. He identifies 5 pillars that will support the future democratization of energy and transform the economy:

- shifting to renewable energy;
- transforming the building stock of every continent into micro-power plants to collect renewable energies on site;
- deploying hydrogen and other storage technologies in every building and throughout the infrastructure to stockpile intermittent energies;
- using Internet technology to transform the power grid of every continent into an energy-sharing inter-grid that acts just like the Internet. He argues that when millions of buildings are generating a small amount of energy locally, they can sell surplus back to the grid and share electricity with their continental neighbours; and finally
- transitioning the transport fleet to electric plug-in and fuel cell vehicles that can buy and sell electricity on a smart, continental, interactive power grid.

For Rifkin, the convergence of radical changes in today’s energy and communications systems will drive this 3rd industrial revolution. In what follows we explore working examples that move us towards Rifkin’s democratic vision.