The future of power

AN ENERGY SYSTEM ON THE BRINK OF TIPPING

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Why I’m here

1. Distributed

2. Integrated

3. Decarbonized
Car guy from oil country

Automotive obsessed

The notorious oil sands

Electricity vs. oil: A war in my backyard
Supply chain efficiency of electricity

1. Generation **25%** loss
2. T & D **1.5%** loss
3. Inverter/Battery **10%** loss
4. Motor – wheels **10%** loss
5. Re-gen brakes **5%** gain
Supply chain efficiency of gasoline

1. Bitumen
   - 50% loss

2. DilBit
   - 15% loss

3. Pipelines/Rail
   - 10% loss

4. Refinery
   - 10% loss

5. Redistribution
   - 4% loss

6. Internal Combustion
   - 80% loss
Have any car you’d like, so long as it’s **electric**

**INHERENT 6X ADVANTAGE** OVER ICE

**AUTONOMY** WILL “TIP” TRANSITION

TRANSITION WILL BE **MASSIVE AND RAPID**
A new **model**

1. **Batteries**
   Home or vehicles utilized in load shifting

2. **Delivered cost**
   Price signals to consumers will include location, quality and reliability of production

3. **Distributed generation**
   Solar, micro-cogen, district energy and localized gas

4. **Asset communication**
   Communication between generation (micro & scaled) and batteries