Day 14: Energy Policy

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Road map

- Mid-Semester Evaluation
- Basic background on energy policy
- Pros and cons of energy sources
- How to have the next energy revolution

Mid-Semester Evaluation

Figure: "Performance Evaluation Process" by Rizkyharis, CC BY-SA 4.0

Energy Policy

- Energy is not a pollutant in itself, but use contributes pollution
- Two energy paths:
  - "Hard": coal, oil, gas, nuclear
  - "Soft": Increase efficiency and renewable energy
- Policy approaches:
  - "Hard": Subsidies for hard sources, electric competition
  - "Soft": Subsidies for soft sources, hard source taxation, decouple profit and sales

History of Energy

Three Eras - Why do these shifts occur?

- Wood (Big Bang to 1800s)
- Coal (1800s to WWI)
- Oil (WWI to Present)

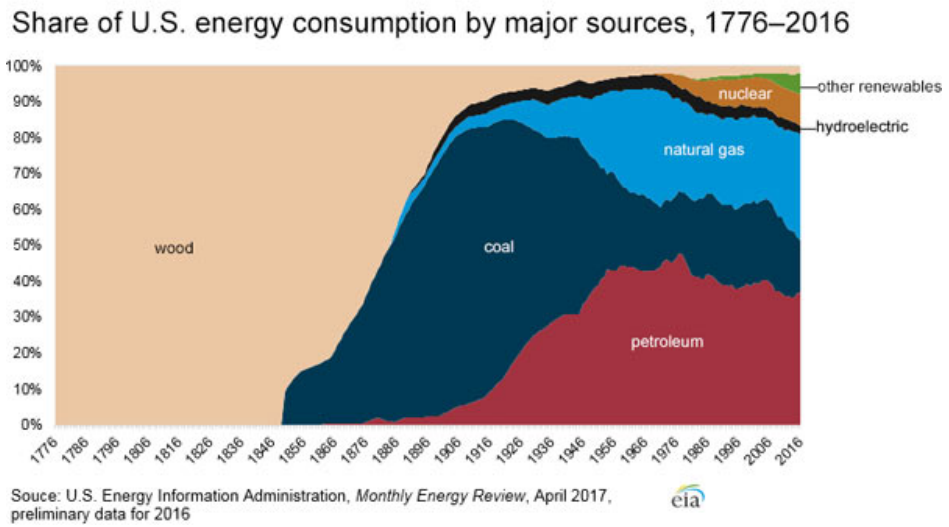

Figure: U.S. EIA

Pennsylvania Energy Revolutions

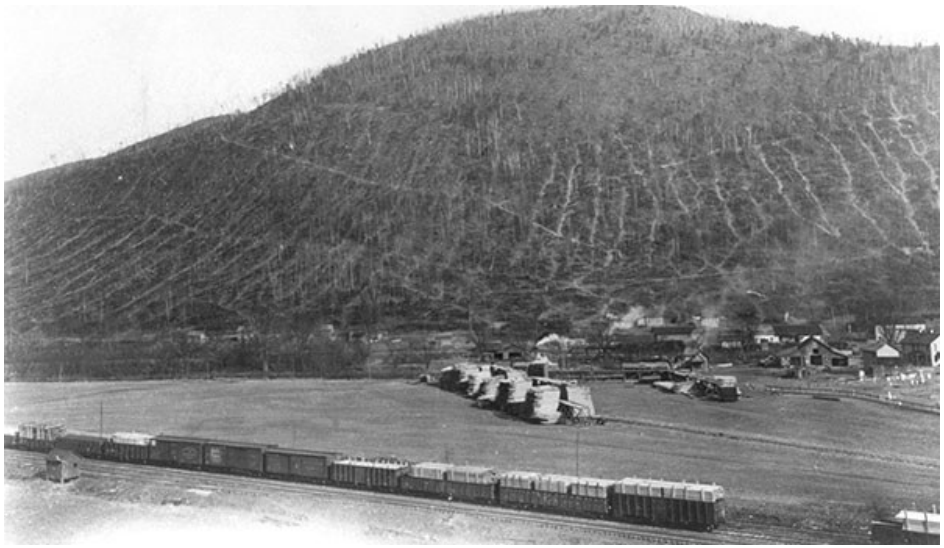

Figure: Mt. Tom, Tioga County, PA, 1907

Figure: Mt. Tom, Tioga County, PA, Today

Trade-offs

Discuss the (1) environment; (2) economic; and (3) practical trade-offs of the following energy sources:

Nonrenewable

Coal, Oil, Natural Gas, Geothermal, Nuclear

Renewable Energy

Hydro, Solar, Wind, Biomass

Conservation

Conservation and Energy Efficiency

A New Revolution

Given what we discussed about prior energy revolutions and the pros and cons of our present and potential energy sources, how can we facilitate the next energy revolution and what might that look like (i.e., energy sources, policy tools, etc)?

Figure: Source: FOEI

For Next Class

https://youtu.be/s3ScJ_FwaZk