

“Non-Renewable” Energy

Unit 8

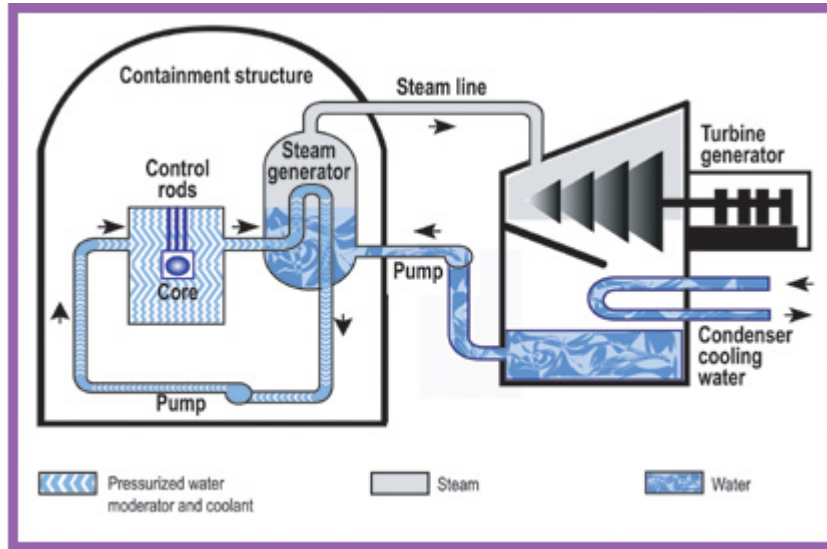
First a few notes...

- The reality is not as simple as the book makes it.
- The “renewable-ness” is tied in with the efficiency of the engineering.
- Recycling IS possible (and they are working out the details)

Production to consumption

P. 454, figure 15.4 (coal)

Nuclear:



Vocab

A word cloud centered on the word "energy". The word "energy" is the largest and most prominent, written in a bold, red, sans-serif font. Surrounding it are several other words in various colors and orientations, including "efficiency" (purple, top-left), "renewable" (purple, top-right), "conversion" (red, left), "enduse" (purple, bottom-left), and "reservestoproduction" (green, bottom-right). Smaller words include "investment", "proven", "reserves", "non", "primary", "secondary", "ratio", and "return".

energy

efficiency

renewable

conversion

enduse

investment

proven

reserves

non

primary

secondary

ratio

return

reservestoproduction

The Grid

While there is coal in Indiana, we don't get ours here.

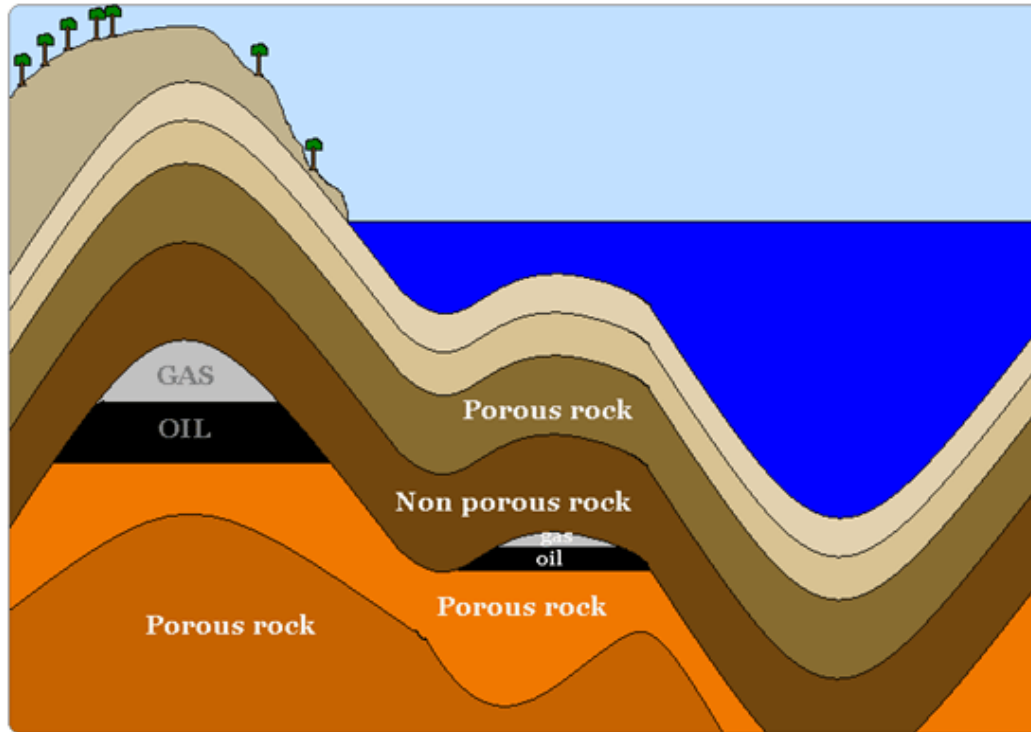
Instead, coal is delivered where ever it is dug up from to a central "exchange", which redistributes it as needed for a cost.



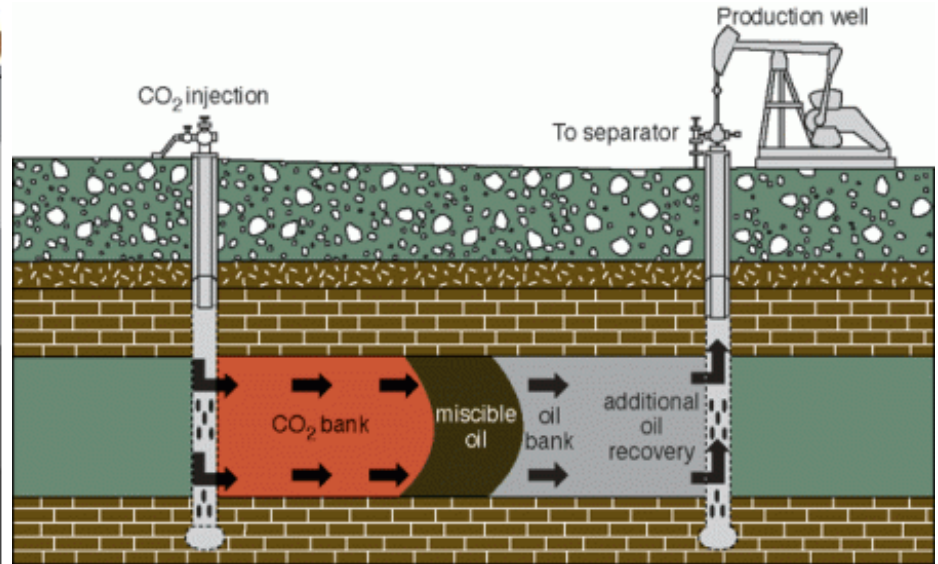
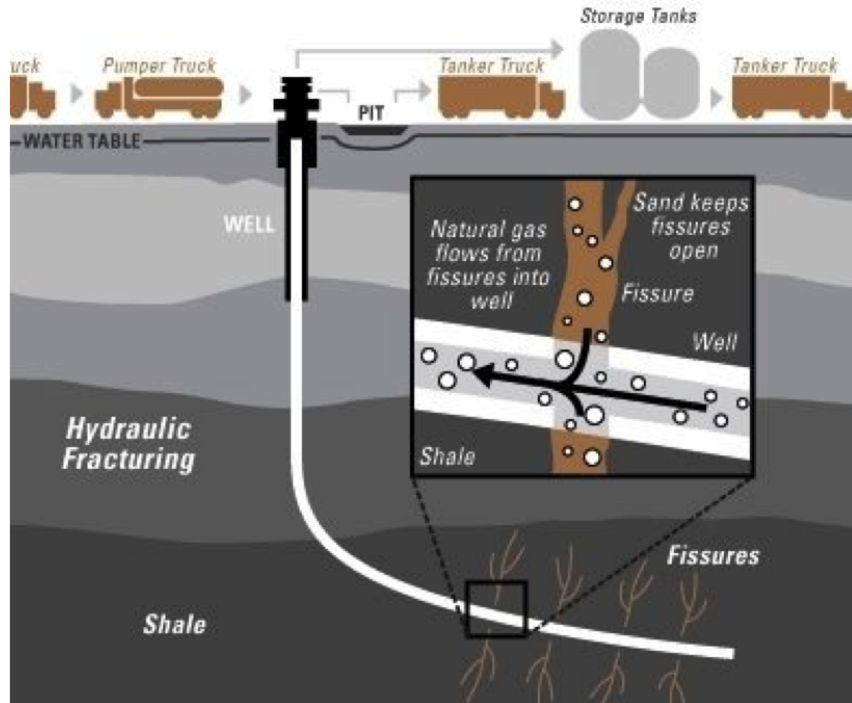
Think and connect

The connection between the grid and law enforcement isn't immediately obvious, but give it some thought (in groups) and find the connection.

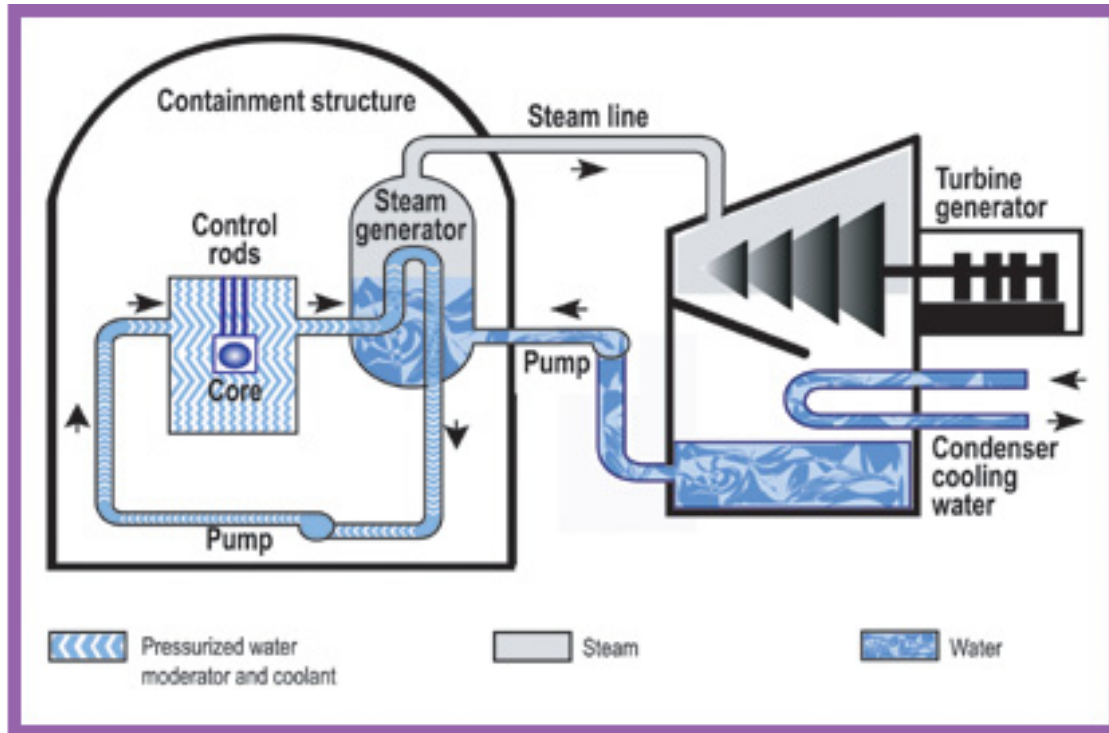
Oil & Gas



Fracking (not that evil)



Nuclear



Renewable (chp. 16)

Hint: Think of this as energy that seems like it will never end.

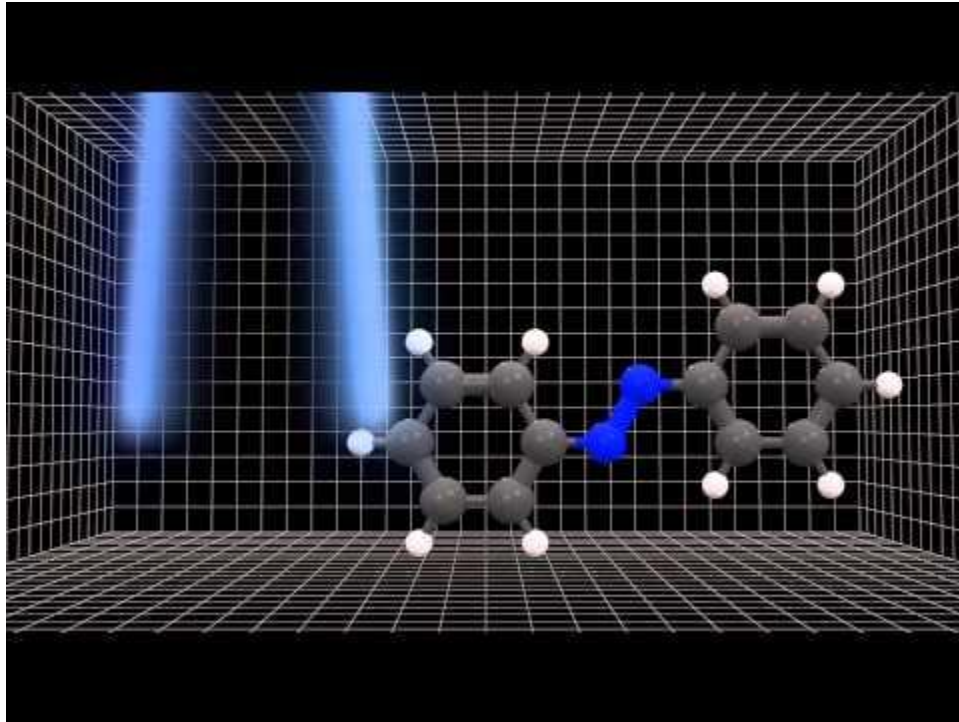
Engineering Woes

- Unfamiliar technology (electric cars)
- Scaling
- Costs
- Knowledge (for consumers)

Hydropower



Solar energy



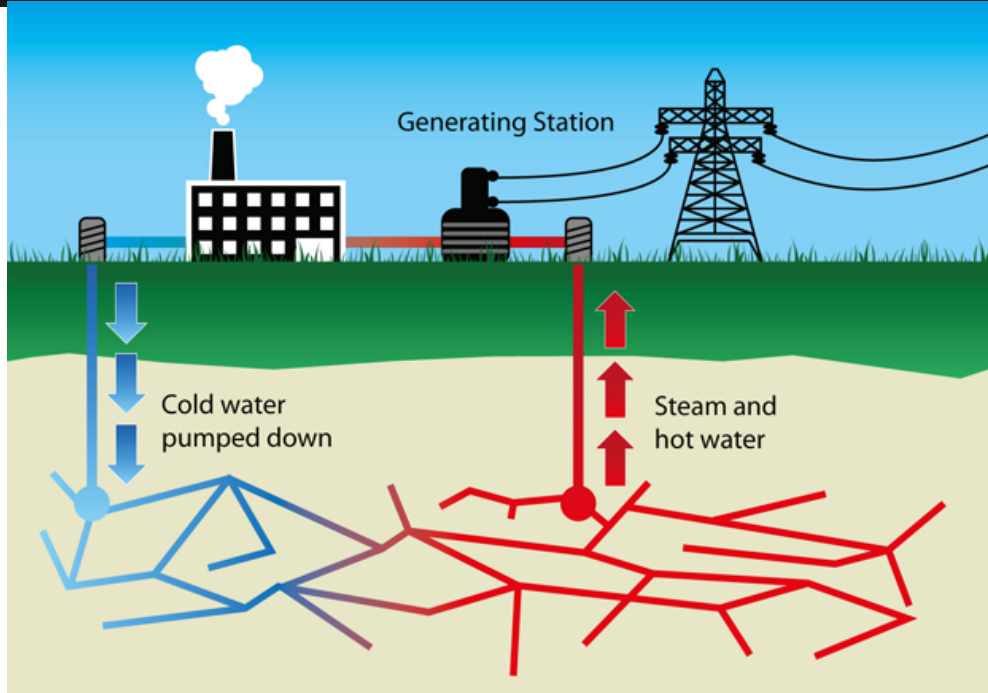
Wind Power

Wind power isn't just for the plains.

Bioenergy

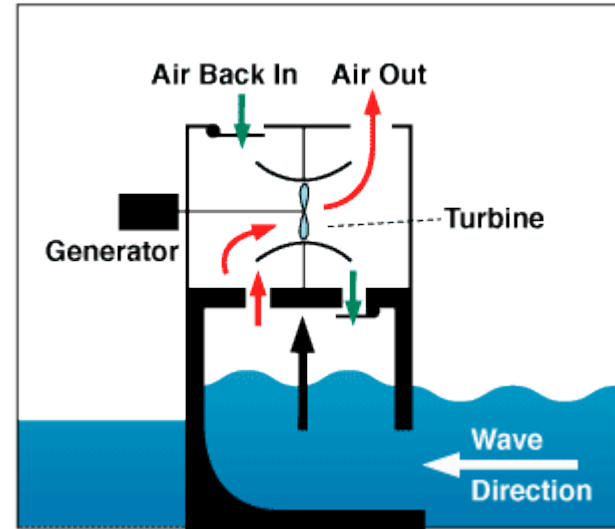
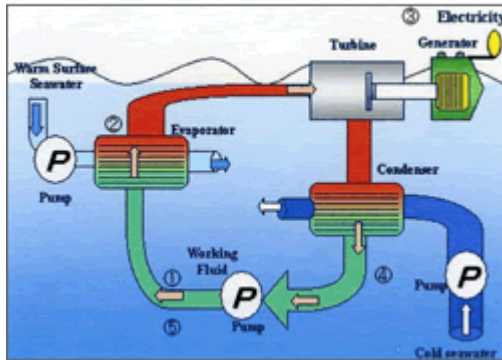


Tapping the earth



Riding Waves

Closed-Cycle OTEC



Conserving & Connecting

Think deeply and practically about your future in law enforcement. Which of these renewable energies can be used now? In the short view of the future? Long term? Never?