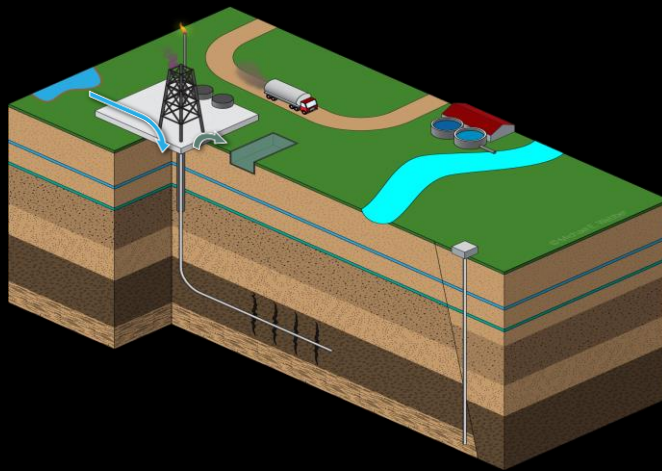


Water Constraints in the Energy Sector

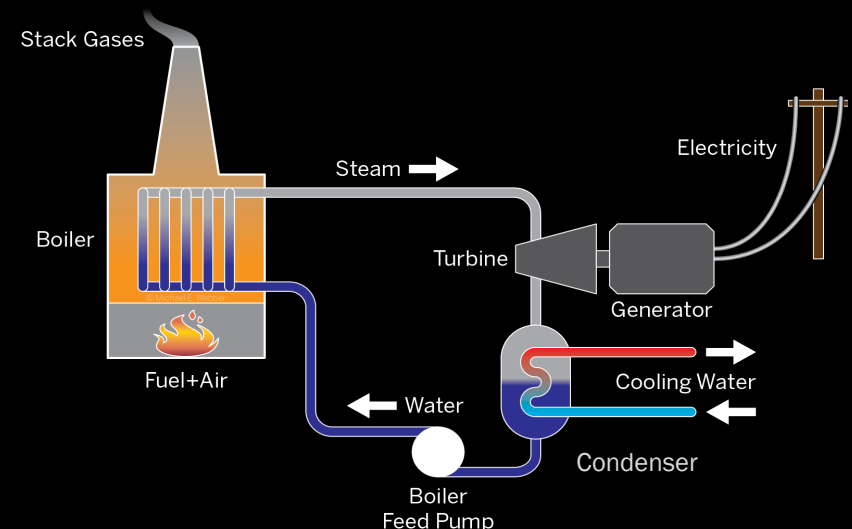
Water for oil and gas

- Hydraulic fracturing requires millions of gallons of water per well
- Recycling and reuse can reduce that demand.
- A water market might encourage efficient water use and reuse by oil and gas sector and other water users



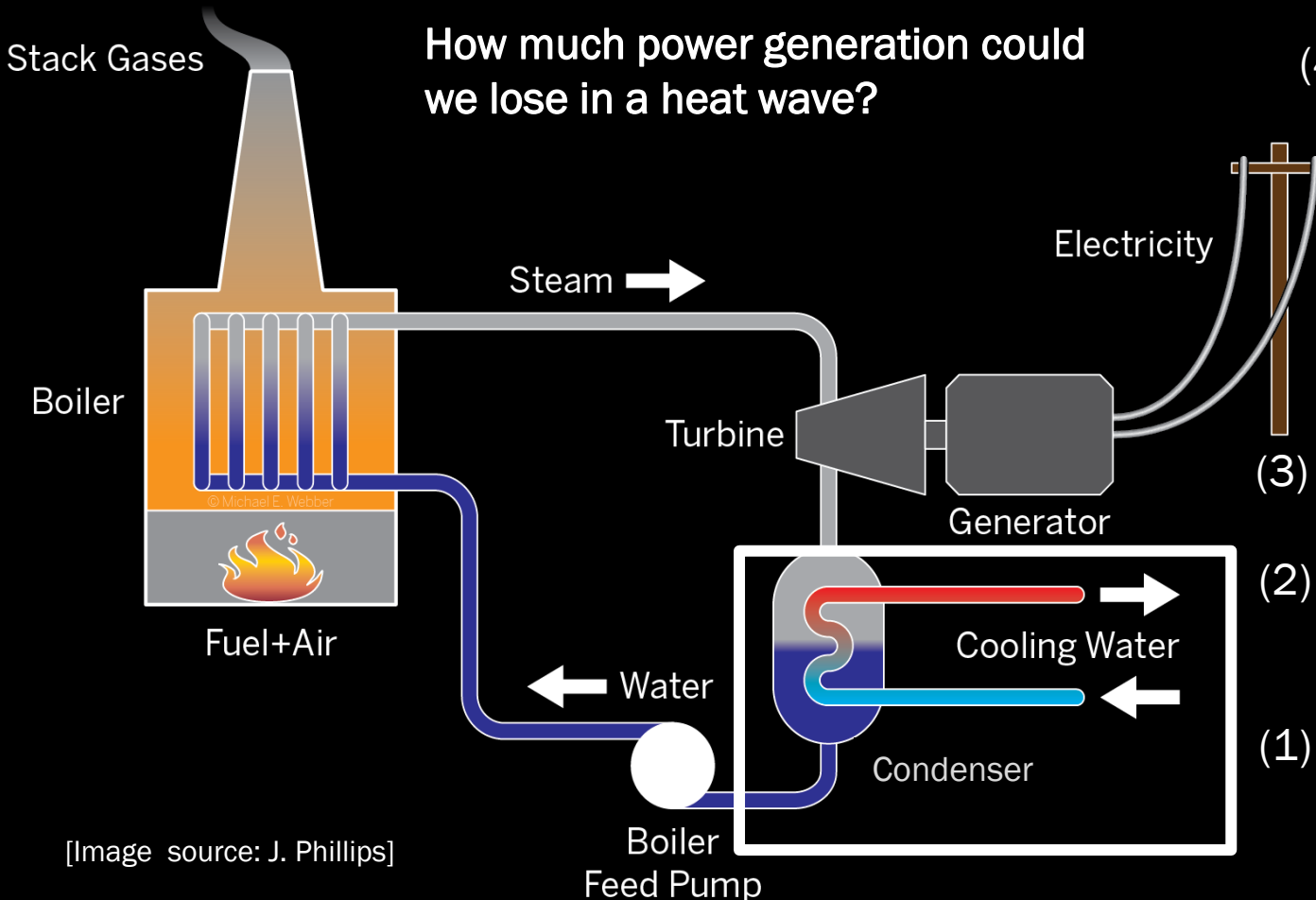
Water for thermoelectric power

- Plants use large amounts of water
- Discharge of water is subject to temperature constraints
- High water temperatures might lead to curtailment of power generation



Power plants using large amounts of water could face issues in drought

How much power generation could we lose in a heat wave?



- (1) Thermoelectric power plants use a lot of water for cooling
- (2) Plants discharge water at high temperatures
- (3) EPA limits discharge temperature
- (4) Plants respond by reducing power generation or using more water and fuel to generate the same amount of electricity.

[Image source: J. Phillips]



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