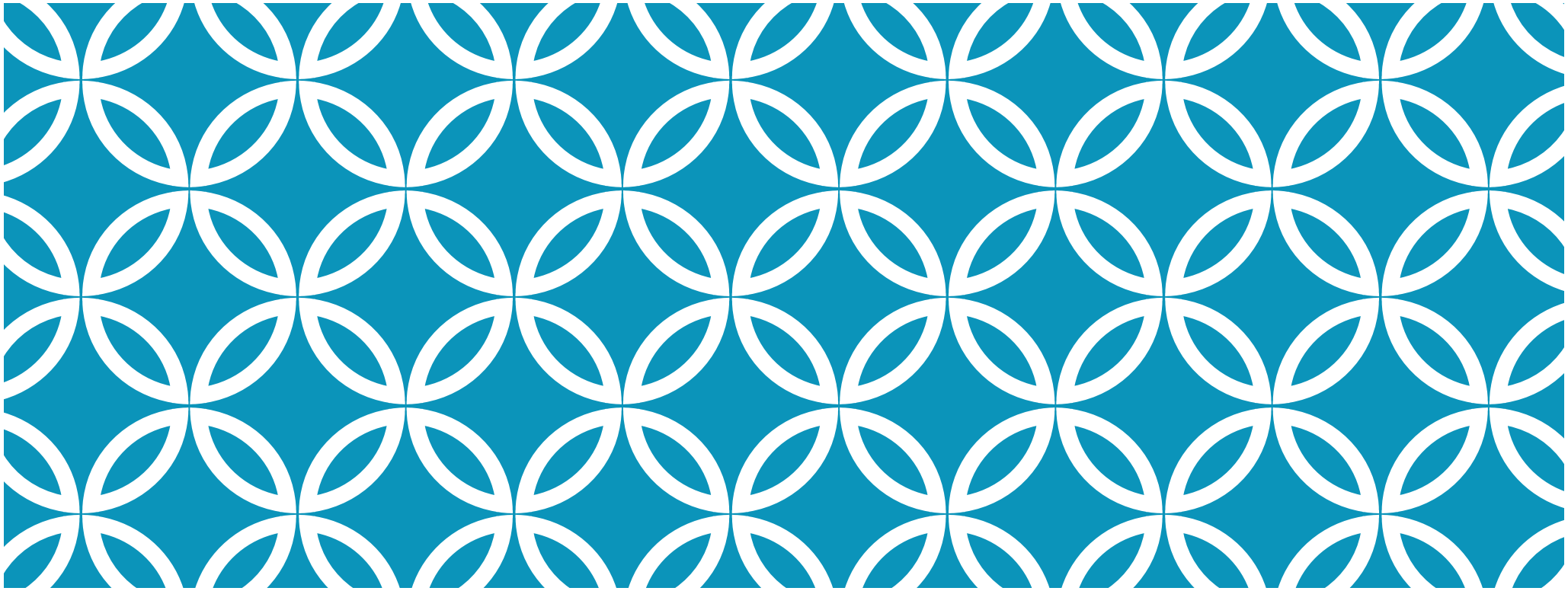


ENERGY

COAL

Pros-

- Cheap
- Abundant
- A big industry
- Convertable

Cons-

- Emits emissions
- Non-reusable
- Major source of sulfur-dioxide
- Dangerous
- Transportation is expensive

SOLAR

Overview: Solar power is an investment that could significantly help out on the input of energy one consumes, also has zero emissions to hurt the environment.

The power of solar

- 3.5x more energy than windmill
- Available through out the day
- Zero impact on the environment
- Renewable
- New opportunities

What might stop you from solar power

- "Pay for power not panels"
- "Solar incentives won't work and they are not economically feasible" - Maloney
- One solar cells could cost up to $1,000 and some households may require more than one solar cell
- Fossil fuels are currently cheaper

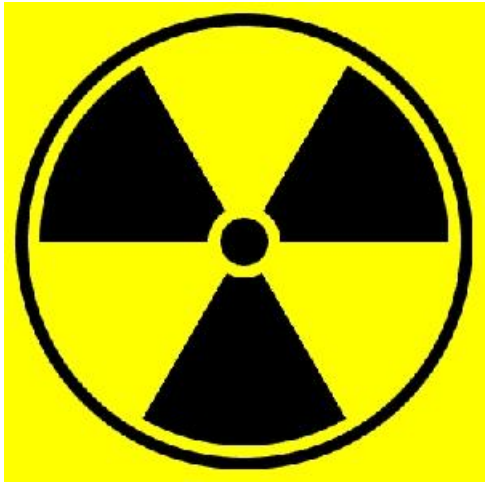
NUCLEAR

Pros-

- Low CO2
- No research for procedure
- Large power capacity
- Available at all times
- 1 uranium fuel pellet =
  - 17,00 cubic feet natural gas
  - 1,780 pounds coal
  - 149 gallons oil

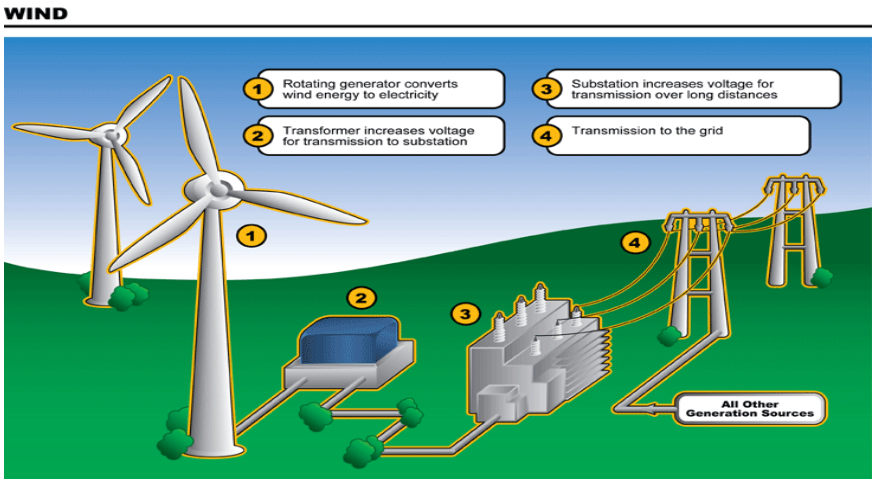
Cons-

- Expensive/long construction
- High risk accidents
- Unknown risks
- Uranium- finite, expensive
- Research for waste



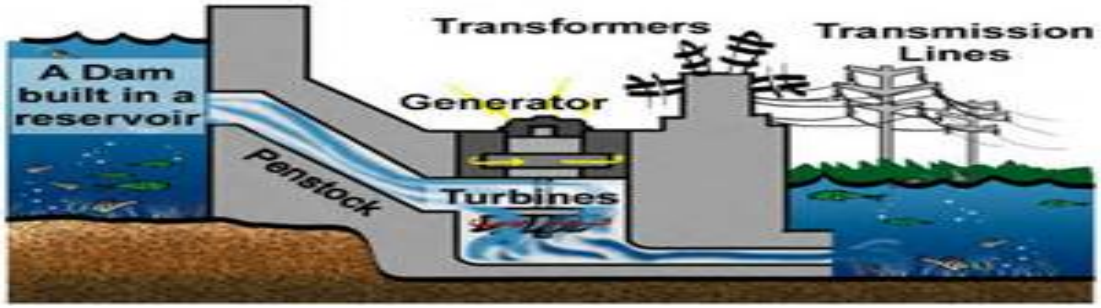
WIND

- Disagreements:
- Fluctuating source of energy that cannot keep up with demand
- They are expensive
- They are noisy- they can generate that same amount of noise as a car traveling at 70mph
- Kills birds



- But…
- You can have multiple sources of energy
- Only a one time cost
- Can build barriers to block noise
- Wind turbines only kill 10-40 thousand birds (American Bird Conservancy)
  - Powerlines kill 130 million birds
  - Cats kill millions of birds
  - Pesticides kill 70 million

HYDROPOWER



Pros-

- A renewable resource
- It is reliable and stable
- A domestic source of energy
- Low maintenance costs
- There isn't any waste disposal
- Water supply and flood control

Cons-

- Dams are expensive
- Hurts ecosystems
- Not completely developed
- Negative impacts at a time of drought

Courtesy of The National Renewable Energy Laboratory (NREL)

OIL

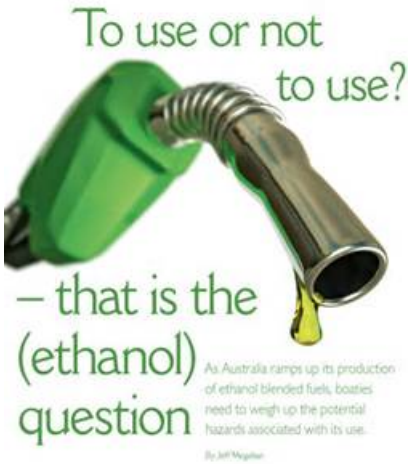
Pros-

- Abundance
- Common in heating of American homes, causing difficulty in transferring to a different system
  - Easy to transport and use
  - High heating value (used to heat lots of homes)

Cons-

- Burning oil releases nitrogen oxides, mercury compounds, carbon dioxide, etc.
- Oil wells and oil collection produce methane
- Non-renewable resource
- Refineries release contaminated wastewater (can contain pollutants into streams, water, etc.)
- Produce wastewater sludge

ETHANOL



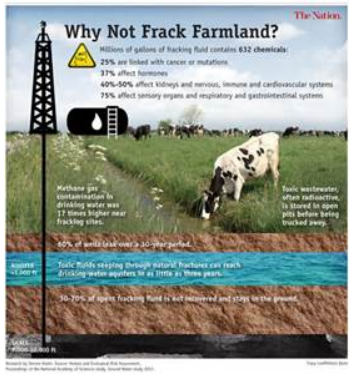
Pros-

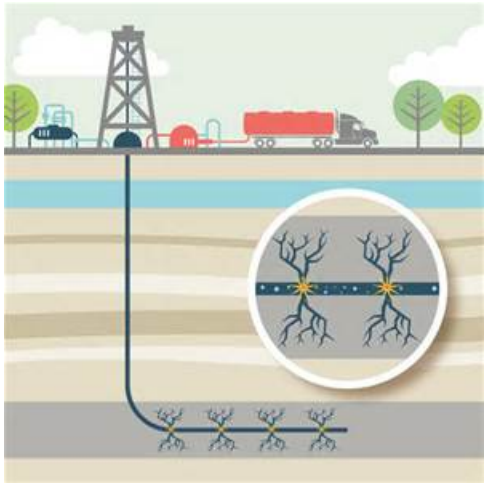
- Greenhouse gas reduction (18% to 29% less GHG per vehicle mile)
- Biodegradeable
- Gives Minnesota's farmers jobs
- Few changes needed to implement widespread use

Cons-

- Increases corn costs
- 50% less efficient that petroleum as a fuel
- Difficult to ship
- Soil degradation
- Less mpg

NATURAL GAS





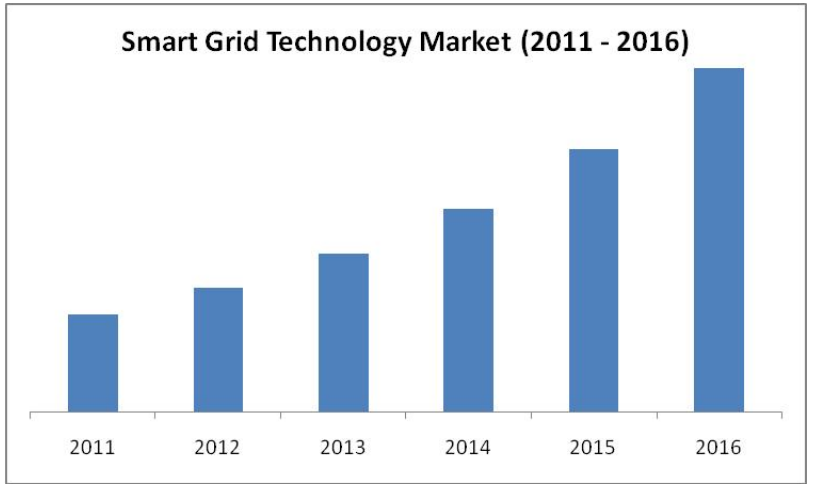
Pros-

- 90% of natural gas wells can be accessed
- Natural Gas has less emissions than oil or coal
- 17,600 jobs in NY alone
- 125 million dollars in tax revenue

Cons-

- Millions of gallons of chemical water
- 2% chemicals (cleaning supplies)
- Seep into soil and groundwater
- Long fissures may reach water supply (drinking chemicals)

SMARTGRID TECHNOLOGY



Pros-

- Enhanced cyber security
- Able to have multiple sources of energy on the grid
- Create new opportunities for companies

Cons-

- Expensive to update
- Requires the reengineering of the electricity service industry
- Privacy concerns
- Concerns of fair and equal availability of electricity

CARBON TAX

Pros-

- Lessen the production of Carbon
- Encourage the use of more efficient methods for the environment
- Increase revenue
- Repair damages caused by weather disturbances and pollution to the environment

Cons-

- Production may shift to countries with less or no carbon tax
- Cost of administrating the tax may be expensive
- May encourage businesses to produce carbon into the air secretly