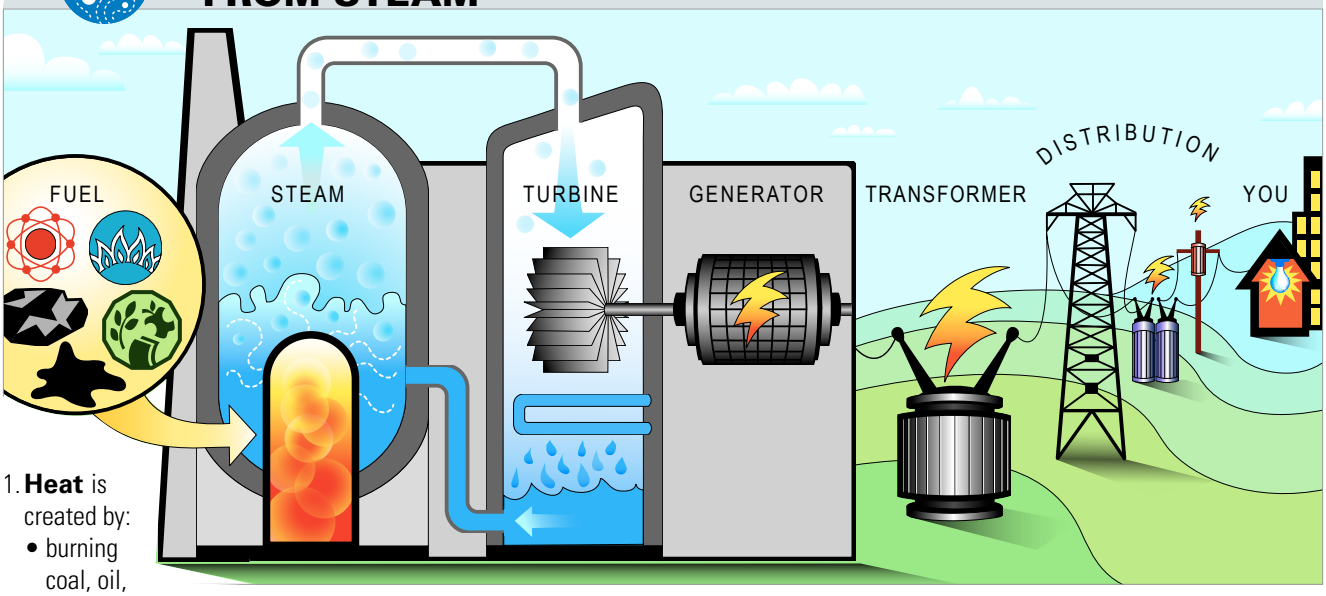
Generating Electricity

HOW ARE POWER SOURCES CONVERTED TO ELECTRICITY?

FROM STEAM



1. **Heat** is created by:
   - burning coal, oil, natural gas, biomass trash,
   - or splitting atoms in nuclear fission...

2. to boil water to make **steam**.

3. Steam turns the blades of huge **turbines**...

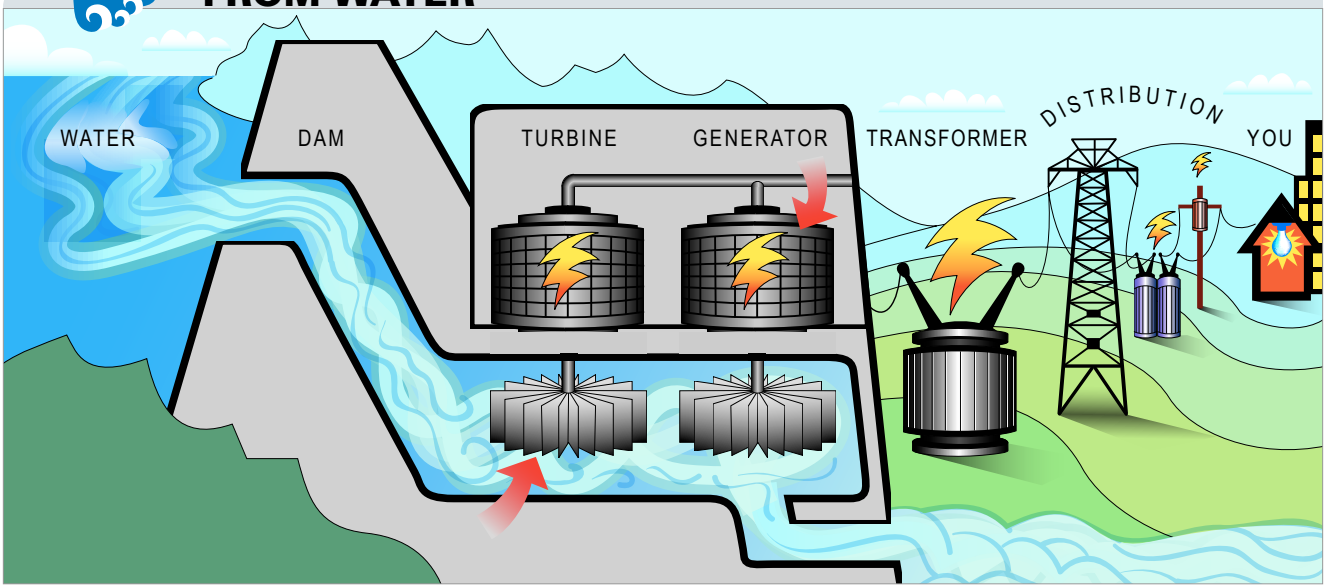
4. which spin **generators** to create electricity.

5. A **transformer** increases the voltage to send electricity over...

6. **distribution** lines. Then local transformers reduce the voltage...

7. for **you** to use.

FROM WATER



1. **Water** backs up in a river...

2. then falls through tubes in a **dam**...

3. to turn the blades of huge **turbines**...

4. which spin **generators** to create electricity.

5. A **transformer** increases the voltage to send electricity over...

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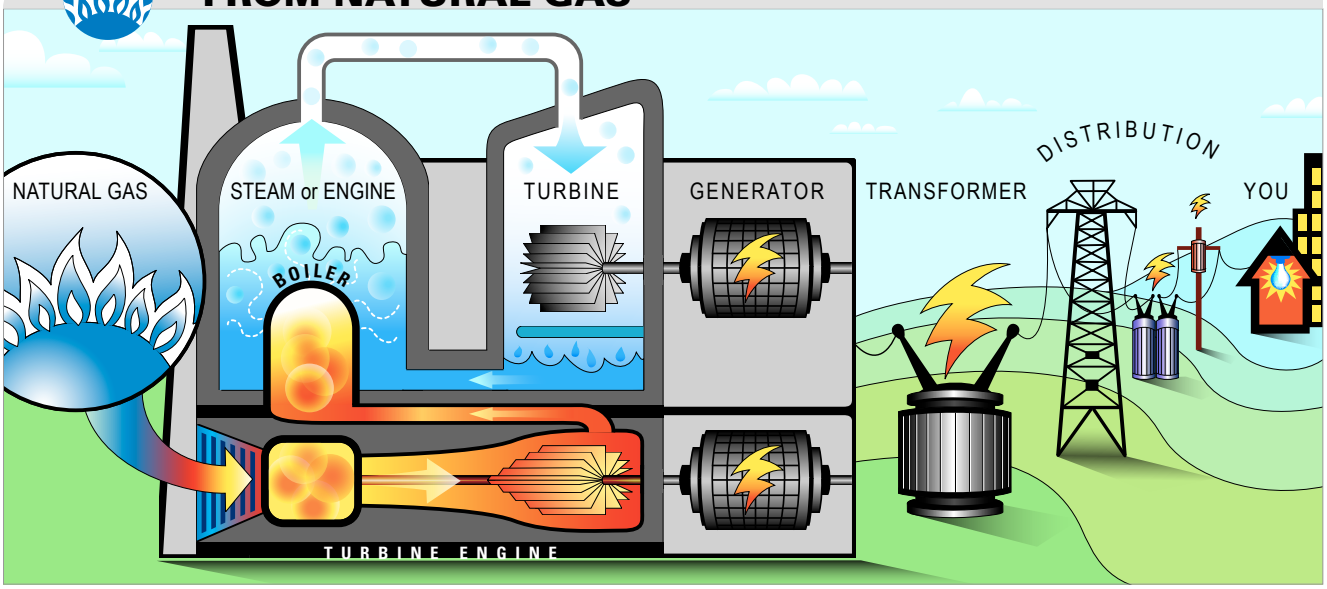
FROM NATURAL GAS



1. **Natural gas** is piped in and burned either...

2. in a boiler to turn water into **steam** which turns the blades of a turbine...

3. or to power a **turbine engine** similar to a jet engine. The heat from the engine may also be used to turn water into steam which turns another turbine, as you see here.

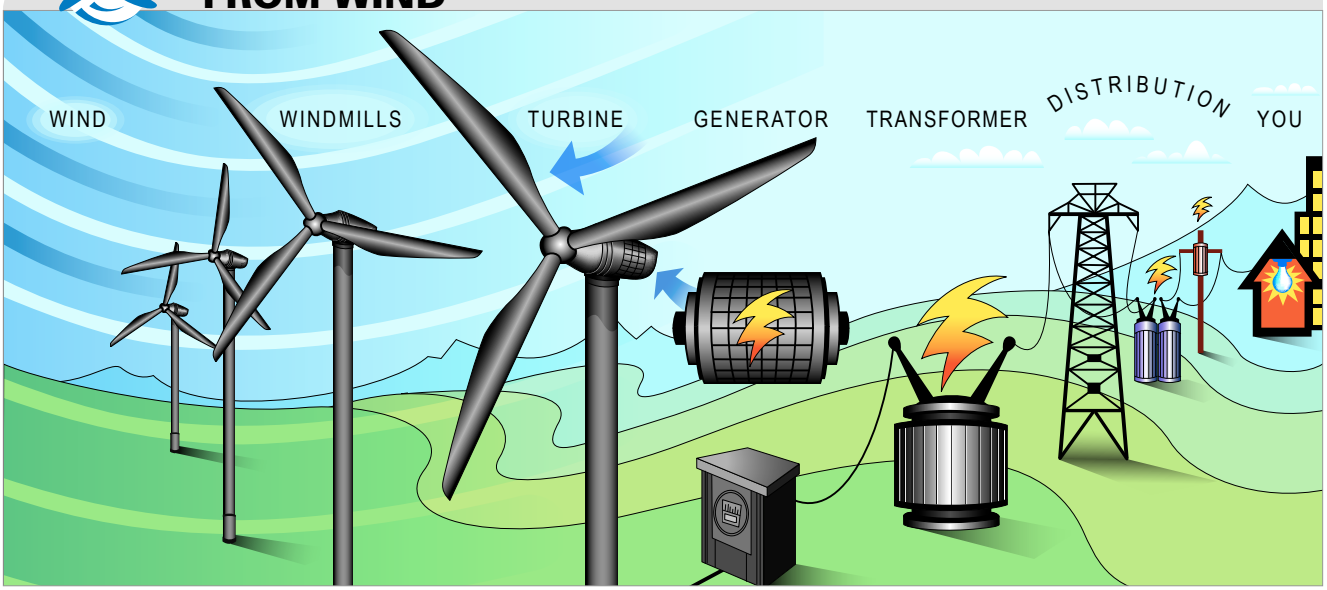
4. The turbines spin **generators** to create electricity.

5. A **transformer** increases the voltage to send electricity over...

6. **distribution** lines. Then local transformers reduce the voltage...

7. for **you** to use.

FROM WIND



1. **Wind** blows...

2. across tall **windmills**...

3. to turn the blades of huge **turbines**...

4. which spin **generators** to create electricity.

5. A **transformer** increases the voltage to send electricity over...

6. **distribution** lines. Then local transformers reduce the voltage...

7. for **you** to use.

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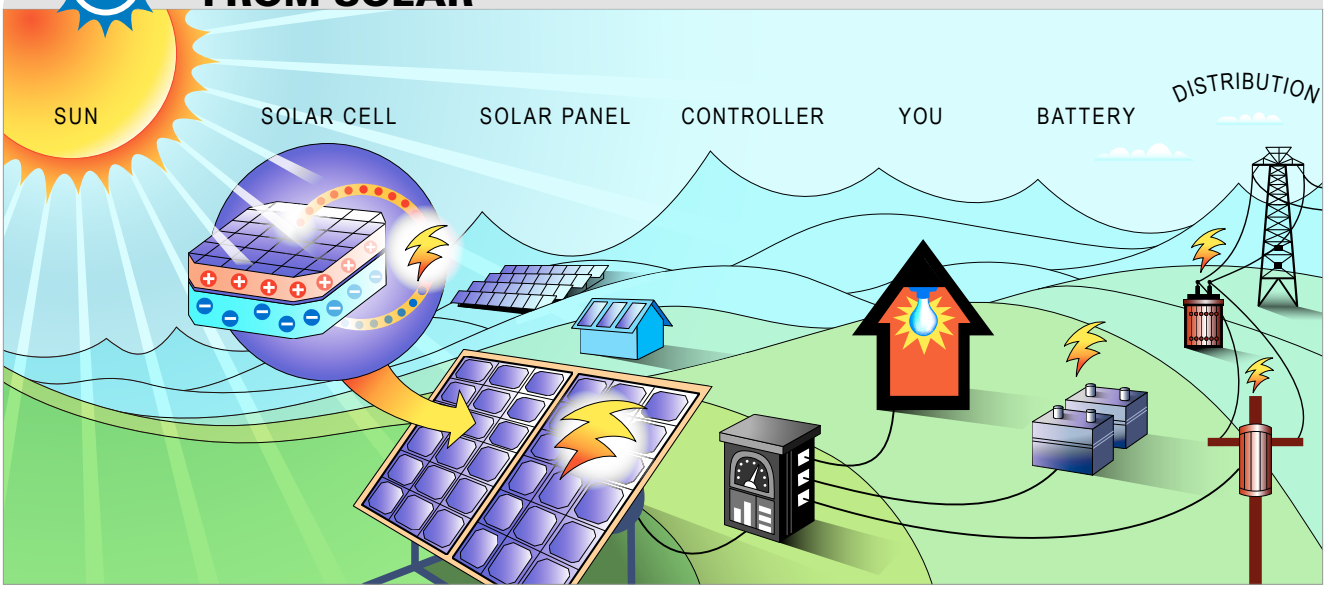
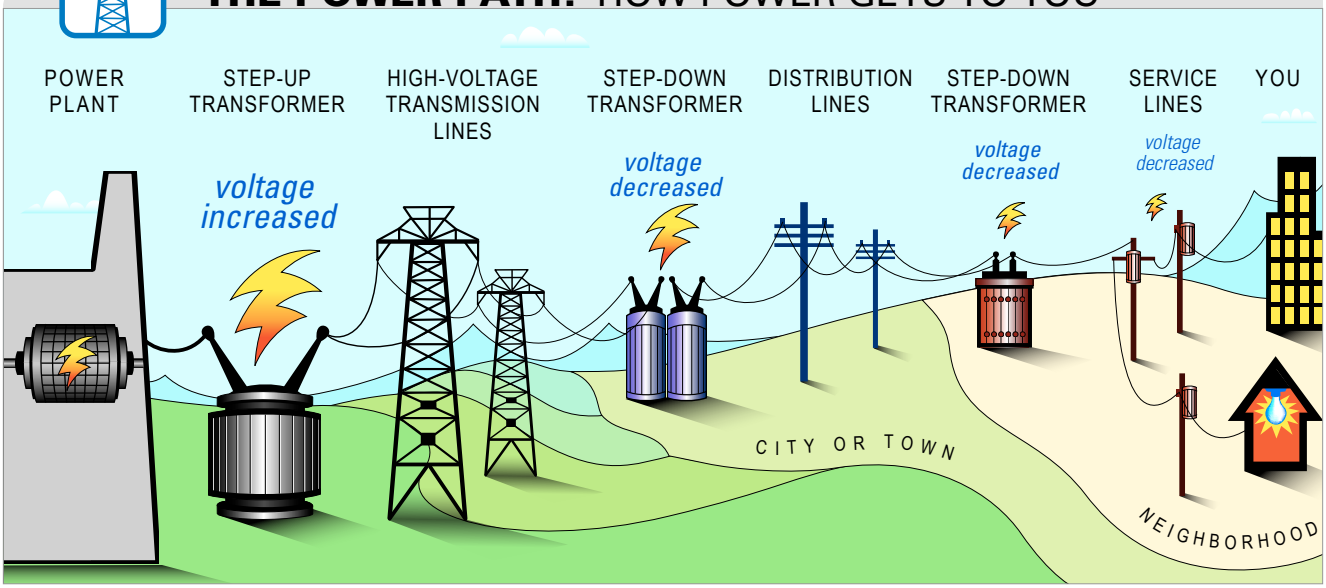
FROM SOLAR



1. When the **sun** shines...
2. on a **solar cell**, loose electrons are created which flow to create electricity.
3. Solar cells are combined into **solar panels**, which may be put on buildings, or in large groups called arrays to create more power.
4. A **controller** determines where electricity from the panels is used.
5. **You** may use some in your home.
6. Some may be stored in a **battery** for future use.
7. Extra electricity may be **distributed** to your electric utility for other people to use.

THE POWER PATH: HOW POWER GETS TO YOU



1. A **power plant** creates electricity.
2. At the plant, a **transformer** increases its voltage…
3. to send it long distances across high-voltage **transmission lines**...
4. to a step-down **transformer** that lowers the voltage for an area like a city or town.
5. It is then sent out on **distribution lines**...
6. to **transformers** that reduce the voltage again for a neighborhood.
7. Local **service lines**, reduce the voltage once more...
8. for **you** to use.