

Unit 8 - Renewable and Nonrenewable Energy

Energy - Gives off heat or light, Energy causes movement

Non-renewable energy - Takes millions of years to form, Finite (limited) supply

Nonrenewable Energy	Pros (Advantages)	Cons (Disadvantages)
Coal	High energy Cost of coal is low	Dirty fuel -Releases CO ₂ , SO ₂ , and NO ₂ as pollutants Destroys the land
Oil	Fossilized organisms	Drilling - contamination of drinking well Increasing ecosystems' damage
Natural Gas	Cleanest energy mined	Releases CO ₂ into the atmosphere Fracking—wells injected water and gets into well water
Nuclear Energy Nuclear reactors use mined Uranium to convert to Plutonium through fission (splitting of atoms)	Large fuel supply Low CO ₂ emissions	Accidents – Japan and Chernobyl Reactors last only 40 years Expensive

Renewable resources - Can be replenished over a fairly short period of time

Ecological Footprint - A measure of human demand on the Earth's ecosystem

Renewable Resource	Advantages	Disadvantages
Biofuel	Tree farms can restore degraded lands Large potential supply	CO ₂ emissions if harvested and not planted back Soil erosion, water pollution, and loss of habitat
Geothermal	Available 24/7 Little emissions of CO ₂ and natural gas	Only available near geological activities Habitat destruction when building it
Hydroelectric Power	No CO ₂ emissions Flood control method	Expensive Convert land to water habitat
Hydrogen Fuel Cells	No CO ₂ emissions Safe Low environmental impact	High Cost Doesn't last long when made Not readily available
Solar Power	No CO ₂ emissions Low air and water pollution	Need access to sun 60% of time Collection system is expensive
Tidal Power	Know when daily high tides No CO ₂ emission	Unreliable on west coast of U.S. Expensive equipment
Wind Power	High efficient No CO ₂ emissions Quick construction	Need steady winds Noise and Visual Pollution Damage/death to animals (birds)

Fission ---Atoms split in two, Used to produce energy What nuclear power plants do	Fusion---Atoms combine together, Used to produce energy, Helium & Hydrogen
---	--

Unit 8 - Renewable and Nonrenewable Energy

Energy - Gives off heat or light, Energy causes movement

Non-renewable energy - Takes millions of years to form, Finite (limited) supply

Nonrenewable Energy	Pros (Advantages)	Cons (Disadvantages)
Coal	High energy Cost of coal is low	Dirty fuel -Releases CO ₂ , SO ₂ , and NO ₂ as pollutants Destroys the land
Oil	Fossilized organisms	Drilling - contamination of drinking well Increasing ecosystems' damage
Natural Gas	Cleanest energy mined	Releases CO ₂ into the atmosphere Fracking—wells injected water and gets into well water
Nuclear Energy Nuclear reactors use mined Uranium to convert to Plutonium through fission (splitting of atoms)	Large fuel supply Low CO ₂ emissions	Accidents – Japan and Chernobyl Reactors last only 40 years Expensive

Renewable resources - Can be replenished over a fairly short period of time

Ecological Footprint - A measure of human demand on the Earth's ecosystem

Renewable Resource	Advantages	Disadvantages
Biofuel	Tree farms can restore degraded lands Large potential supply	CO ₂ emissions if harvested and not planted back Soil erosion, water pollution, and loss of habitat
Geothermal	Available 24/7 Little emissions of CO ₂ and natural gas	Only available near geological activities Habitat destruction when building it
Hydroelectric Power	No CO ₂ emissions Flood control method	Expensive Convert land to water habitat
Hydrogen Fuel Cells	No CO ₂ emissions Safe Low environmental impact	High Cost Doesn't last long when made Not readily available
Solar Power	No CO ₂ emissions Low air and water pollution	Need access to sun 60% of time Collection system is expensive
Tidal Power	Know when daily high tides No CO ₂ emission	Unreliable on west coast of U.S. Expensive equipment
Wind Power	High efficient No CO ₂ emissions Quick construction	Need steady winds Noise and Visual Pollution Damage/death to animals (birds)

Fission ---Atoms split in two, Used to produce energy What nuclear power plants do	Fusion---Atoms combine together, Used to produce energy, Helium & Hydrogen
---	--