

Energy Sources Pros and Cons

Wind Power:



How do we use wind to produce energy?	We can use wind turbines to create electricity. The wind spins the turbine which spins the generator which creates electricity. The energy transfers from the turbine to power lines and that brings it to our homes.
Is wind power <i>renewable</i> or <i>nonrenewable</i> ?	Renewable
What are the “pros” of using wind power?	<ul style="list-style-type: none">● We can store it for later use, not just when it is windy● It is a renewable resource● It doesn’t hurt the Earth/ keeps the air clean (no pollution)
What are the “cons” of using wind power?	<ul style="list-style-type: none">● The wind doesn’t always blow● Can only be in specific (windy) areas

- in the middle of nowhere
- Need lots of power lines in order to reach the cities
- It takes a lot of money to build them
- It's really expensive to store the power made by wind turbines

Coal Power:



How do we use coal to produce energy?	Coal is mined through surface mining and underground mining. Then we burn the coal to create steam. The steam spins the turbines which generates power.
Is coal power <i>renewable</i> or <i>nonrenewable</i> ?	Nonrenewable
What are the “pros” of using coal power?	<ul style="list-style-type: none"> • Cheapest fossil fuel • 90,000 people have coal related jobs which means it helps them make a living • There is a whole lot of coal in the world -- more than oil or natural gas • Can convert to a cleaner form in liquid or gas

What are the “cons” of using coal power?

- Burning coal causes pollution which is harmful to both people and the environment
- Surface mining causes mountains, forests, and other natural environments to be destroyed
- The mining of coal pollutes water sources
- The machinery costs a lot of money
- Mine workers risk their lives because their job is very dangerous
- Coal is nonrenewable and will run out someday

Solar Power:



How do we use the sun to produce energy?

Scientists have imitated the process of photosynthesis (how plants get their energy) in order to harness solar power. Solar power is created in two ways. One way is by converting sunlight directly to electricity using

	solar panels. The other way is by Using sunlight to boil water to make steam, which turns turbines and spins a generator.
Is solar power <i>renewable</i> or <i>nonrenewable</i> ?	Renewable
What are the “pros” of using solar power?	<ul style="list-style-type: none"> • It never runs out (renewable) • A few solar panels can provide energy to lots of people • Solar panels can fit right on top of houses
What are the “cons” of using solar power?	<ul style="list-style-type: none"> • It only works in the daytime when the sun is shining. • If the sun stops shining forever, we would lose solar power.

Petroleum Power: (Oil and Natural Gas)



How do we use petroleum (oil and natural gas) to produce energy?	We find petroleum underground. It is made from the remains of plants and animals that
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	<p>lived millions of years ago. We take the oil and natural gas to a refinery so we can process it and turn it into fuel that we can use by burning it.</p>
<p>Is petroleum <i>renewable</i> or <i>nonrenewable</i>?</p>	<p>Nonrenewable</p>
<p>What are the “pros” of using petroleum?</p>	<ul style="list-style-type: none"> ● It can make cars go because we use gas (petroleum) as our fuel ● You can use it to make things less creaky (like door hinges) because it makes things slippery ● So many products are made out of petroleum! ● Petroleum can be used for things that we use every single day, like crayons and clothes (polyester), TVs and even toilet seats and tooth brushes! ● You can use it to make electricity and heat
<p>What are the “cons” of using petroleum?</p>	<ul style="list-style-type: none"> ● Oil spills kill fish and sea life and it pollutes the ocean. ● Nonrenewable which means it will eventually run out ● It can cause asthma and cancer ● Driving cars that use oil as fuel causes pollution because of the exhaust ● It affects the environment especially around cities (because of smog) ● Projected to run out in the next 50 years ● It is difficult to get off of surfaces / animals / people and it is very flammable ● We rely on it a lot (too much!) ● If we run out, the world will never be the same and people might fight over the last oil reserves

Nuclear Power:



<p>How do we use uranium to produce energy?</p>	<p>Nuclear Fission: An atom of uranium is broken apart, which produces energy. This generates heat which boils water into steam. The steam turns turbines which spin a generator to produce electricity. Nuclear Fusion: Two atoms come together which produces energy. This is how the sun produces energy.</p>
<p>Is uranium <i>renewable</i> or <i>nonrenewable</i>?</p>	<p>Non - renewable</p>
<p>What are the “pros” of nuclear power?</p>	<ul style="list-style-type: none">● We have more uranium than we do fossil fuels like oil and natural gas● A tiny piece of uranium produces as much energy as 150 gallons of oil!
<p>What are the “cons” of nuclear power?</p>	<ul style="list-style-type: none">● They have to store nuclear waste at the plant underwater● The waste is radioactive!● It is not safe because meltdowns can happen, which release radioactive gas into the air, making people sick and

ruining the crops.

- When there is a nuclear accident, entire communities can be destroyed.
- If there is a nuclear meltdown, it lasts for a millenia (a thousand years!).
- If a nuclear power plant gets destroyed, toxic gases get released which harms people and causes cancer