

Natural Resources of the Earth

Clean Energy Resources

Vision 3

Lesson Three

Renewable Energy

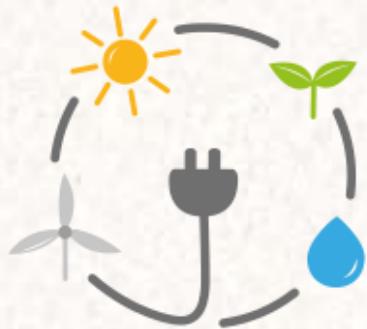


Lesson Three

انرژی تجدیدپذیر

Renewable Energy

renewable (adj.) :energy from a natural source such as wind or solar power



Interesting Facts

The first wind machine was used in ancient Persia around 300 BC.

باستانی

ancient (adj.) : very old

around : about

قبل از میلاد مسیح

Before Christ: Used after a date to show that it was before the birth of Christ.

One wind turbine can produce enough electricity to power 300 homes.

turbine : a machine for producing continuous power by a fast-moving flow of water, steam, gas, air, etc.



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Renewable Energy

Interesting Facts



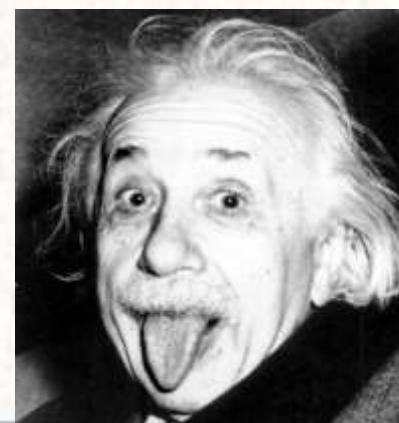
Renewable energy sources create three times more jobs than fossil fuels.

fuel : material such as coal, gas, or oil that is burned to produce heat or power

سوخت

Albert Einstein won the Nobel Prize in 1921 for his experiments with solar power.

English pronunciation: /'aɪnstain/



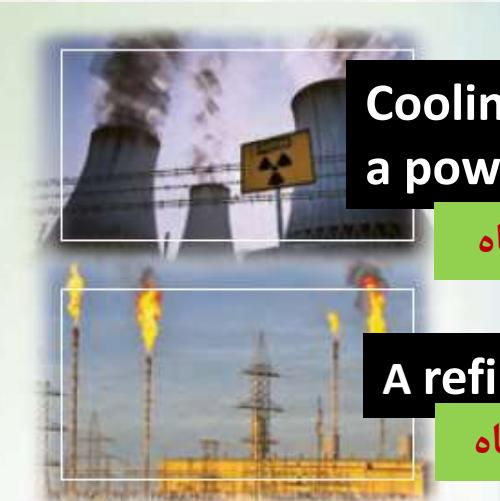
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Get Ready



Cooling towers of
a power plant

نیروگاہ

A refinery

پالایشگاہ



A polluted
day in Tehran



فضای سبز
Greenspace/
a jungle

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Get Ready



A. Match the pictures with energy sources.



باد

wind



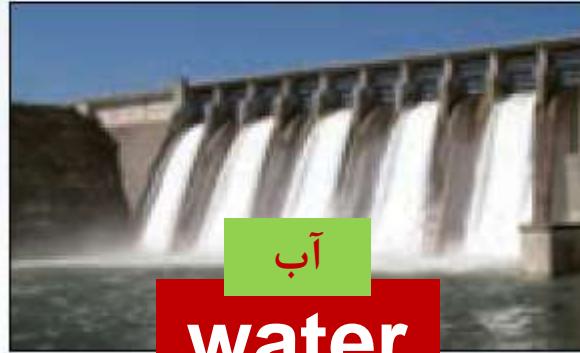
تابش خورشید

sunshine



گیاهان

plants



آب

water



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Get Ready



Now fill in the blanks with the above words.

1. Some scientists are working on producing electricity from **plants**.
This way, while the plant is growing, electricity is produced.
2. Hydropower or **water** power is produced as a result of falling or running water. **hydropower : نیروی آب** **sunshine**
3. Solar energy or the energy that comes from can be used to heat, cool, and light our homes and schools.
4. Wind turbines convert the kinetic energy in the **wind** into mechanical power. **انرژی جنبشی**

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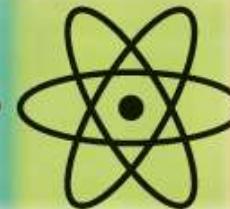
Renewable Energy



Get Ready



B. Draw a circle around renewable energy sources.



plants

wind

coal

sun

atom

oil



coal : a hard rock which can be burned as a solid fossil fuel



Ilvillasud

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Get Ready



C. This picture shows six ways you can save energy. Place the letter next to the correct description.

- B** 1. Close the door behind you so the cold or warm air doesn't go out.
- A** 2. If you're the last person to leave the room, turn off the TV.
- E** 3. Trees can lower the cooling costs of your home.
- C** 4. Using a dishwasher saves much more water than hand washing.
- D** 5. LED light bulbs use 75% less energy and last 10 times longer than string light bulbs.
- F** 6. Let your computer monitor go to sleep or turn it off to save more energy.

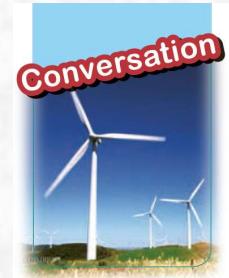
generate (v.) : produce or create

تولید کردن

generator (n.)

generation (n.)

متضاد، برخلاف



opposite (n.) : in a completely different way

opposite = reverse

وزیدن

blow (v.) : (of wind) move

It was blowing from East.

remind (v.) : to make someone remember something

یادآوری کردن

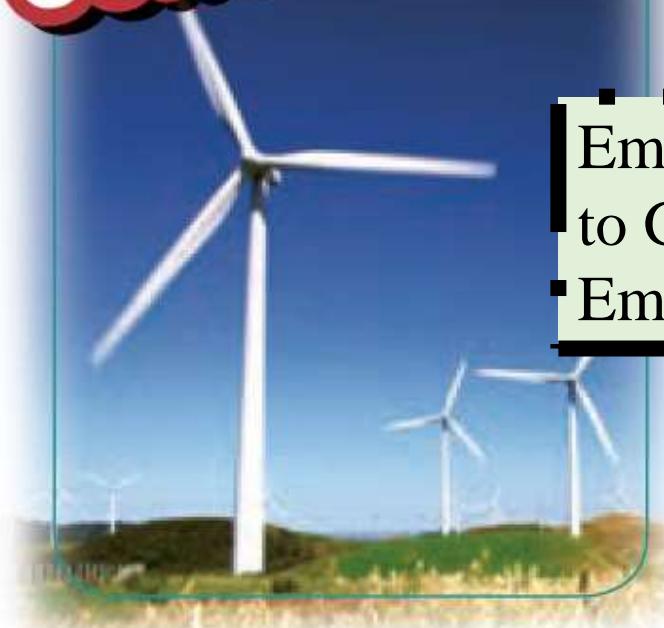
سیستم
تهویه‌ی هوا

air conditioner (n.) : AC ; a system for controlling the humidity and temperature in a building or a car to keep it cool in warm conditions

huge (adj.) : very big ; enormous

عظیم، غول پیکر

Conversation



Emad and his father are traveling to Guilan. On the way, in Manjeel, Emad sees huge wind turbines.

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Renewable Energy



 llvillasud

Emad: Daddy, look at those big fans!

Father: They are actually wind turbines.

Emad: Wind turbines?

Father: Yes, wind turbines are used to produce electricity from wind power.

Emad: I know electricity can be produced from water and sunlight. How might it be generated from wind?

Father: Well, a wind turbine works the opposite of a fan. Instead of using electricity to make wind, a turbine uses wind to make electricity. It is a type of clean energy.

Emad: These wind turbines remind me of what I read about using wind power in Yazd's buildings.

Father: You mean wind towers?

generate (v.) :
produce or create

opposite (n.) :
in a completely different way

turbine : a machine for producing continuous power by a fast-moving flow of water, steam, gas, air, etc.

remind (v.) : to make someone remember something



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Conversation

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Emad: Yes, they are natural air cooling systems and can be used instead of electrical air conditioners. This is another source of clean energy, isn't it?

Father: Yes, it is. An excellent type of clean energy!

Emad: Daddy, can we travel to Yazd this Norooz?

Father: That's OK with me. Let's check it with others.

air conditioner (n.) : AC ; a system for controlling the humidity and temperature in a building or a car to keep it cool in warm conditions

