Solar, wind or hydroelectric?

1. **Use one word to complete the gaps in each group of sentences.**

   a) They spend the summer in a cabin near a huge ..... plant.
   These small solar farms ..... individual buildings.
   To avoid blackouts, the ..... grid operators decided to diversify energy sources.

   b) Only 10% of the company's ..... managers are women.
   Solar farms ..... energy in massive batteries.
   You never know what's in ..... for you.

   c) They ..... a lot of candy.
   The desert receives 100 times more energy from the Sun than that ..... by humanity annually.
   He was ..... with jealousy.

   d) The force of water ..... energy into the local grid.
   The cow ..... in the pasture.
   The system ..... updates to the team.

   e) They run a small ..... .
   They ..... the land that belonged to their grandparents.
   The solar ..... was subsidized by the local government.

   f) We needed time to ..... on what to do next.
   The statistics ..... an increase in sales.
   Mirrors ..... the sunlight into a receiver.

2. **In each line, choose one word that doesn't collocate with the word in bold.**

a)	absorb	reflect	implement	transmit	generate	**light**
b)	transmit	pump	harness	store	absorb	**water**
c)	convert	harness	store	pump	power	**air**
d)	generate	convert	transmit	reflect	harness	**electricity**
e)	transmit	pump	store	absorb	generate	**energy**

LIVEWORKSHEETS

3. Complete the sentences with the words in the box in the correct forms.

absorb	coating	cooling	dam	generator	turbine

a) The anti-reflective ..... on the surface increase the structure's efficiency.
b) The energy from the flow is fed into an electric ..... .
c) Some of it is ..... as heat.
d) The farms have an impact on the landscape as the ..... are spread over big areas.
e) And the ..... systems employed by many farms can use huge amounts of energy powering fans or moving water to maintain optimal temperatures.
f) It is a flexible source of energy because ..... and reservoirs can be easily controlled.

4. Look at the sentences and decide which forms of alternative energy sources in the box they refer to. Explain your choices. Sometimes more than one answer is possible.

hydroelectric	solar	wind

a) The anti-reflective coatings on the surface increase the structure's efficiency.
b) The energy from the flow is fed into an electric generator.
c) Some of it is absorbed as heat.
d) The farms have an impact on the landscape as the turbines are spread over big areas.
e) And the cooling systems employed by many farms can use huge amounts of energy powering fans or moving water to maintain optimal temperatures.
f) It is a flexible source of energy because dams and reservoirs can be easily controlled.

LIVEWORKSHEETS

5. **Discuss the questions.**
   - Do you know if there are any solar plants in deserts?
   - What would be the biggest problem if we covered the Sahara with solar panels?

6. **Watch the first part of a video [https://youtu.be/WcLlpWmEpQ8] (to 02:59) about solar panels and check your answers in ex. 5.**

7. **Watch the first part of the video again (to 01:51) and complete each gap with a word or a short phrase.**
   a) The Sahara receives over one hundred times more energy than is consumed by humanity …….. .
   b) Electrons are knocked out of their stable bonds by …….. hitting the solar panels' surface.
   c) Solar panels' efficiency is limited because only some …….. can interact with them to generate electricity.
   d) Electrons are more likely to be hit by light particles if the solar panels' surface is covered with anti-reflective coatings and …….. .
   e) Solar energy gets cheaper because other technologies use …….. .

8. **Watch the next part of the video (01:51–05:04) and take notes on the following points.**
   a) heat absorbed by solar panels causes the following problems:

      ……

      ……

   b) solutions adopted at Morocco's solar power plant:

      ……

      ……

   c) challenges for solar power and other renewables:

      ……

      ……

LIVEWORKSHEETS

9. Discuss the questions.

- Do you think the solar power will one day be the main source of energy? Why/Why not?
- How popular is solar power in your country?
- What energy sources does your country depend on most?
- What would be the benefits and drawbacks of connecting electric grids across the globe?



10. Complete the texts with the correct form of the words in the box.

drill	drive	flow	heat	maximize	pump	split

a) Hydroelectric energy uses the power of water in motion. It is controlled by a dam with a reservoir, which allows the energy of water …….. to be fed into a generator. It is therefore a very flexible energy source.

b) Wind farms use the energy created when a turbine's blades are moved by the wind. The energy …….. a generator creating electricity. To …….. the efficiency, wind power plants should be located in regions with high average wind speed.

c) Nuclear energy comes from …….. an atom nucleus (e.g. uranium) into smaller nuclei. The energy is then used to …….. water into steam, which turns a turbine and generates electricity.

d) To harness geothermal energy, deep wells are …….. and the hot water or steam is …….. to the Earth's surface. The heat is then converted into electricity. Building geothermal power plants is most cost-effective in the areas where the heat is just below the surface (e.g. where hot springs or volcanic activity are common).

LIVEWORKSHEETS

11. Think about which energy sources in the table could be developed in your country. Complete the table below.

Energy source	To what extent do climate and landscape allow for it?	How reliable is it?	What would be the possible objections from citizens?
SOLAR			
HYDROELECTRIC			
WIND			
NUCLEAR			
GEOTHERMAL			

LIVEWORKSHEETS