

Stepping Stone:

You need to know ...

- ✓ Definition of energy as the ability to do work or cause change.
- ✓ Law of Conservation of Energy.
- ✓ Mechanical solutions to real-world problems in sustainable cities, fostering innovation and practical skills.

You will be able to...

- ✓ Recognize energy transformation in Wind turbines.
- ✓ Understand the efficiency of energy conversion in wind turbines and factors that affect it, such as blade design and wind speed.
- ✓ Understand the environmental implications of using different energy sources, with a focus on the benefits of renewable energy like wind power.


**let's
Think**



What should be included in our smart city?

**What source of energy is cleaner to use?
Will it be expensive?**

What is our plan for generating electricity?

Explore



Let's play the game to understand how energy transfer:

<https://www.educaplay.com/learning-resources/5536419-energy-transformation.html>



Scan Here!

Watch it..

Follow this link to start add energy sources to your city.



www.youtube.com/watch?v=JXYkjHKakGE



Scan Here!

Read about it

Wind energy is a sustainable and environmentally friendly source of power, as it produces no greenhouse gas emissions during operation. Wind turbines can be found both onshore and offshore, with large wind farms capable of powering thousands of homes.

Read the article to understand more.

<https://education.nationalgeographic.org/resource/edu-wind-turbines/>



Scan Here!

Assessment

Focus



How does the efficiency of wind turbines compare to other renewable energy sources, such as solar or hydroelectric power?

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What challenges arise when integrating wind energy into the electrical grid, and how can they be addressed?

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Practice



Make a DIY for a wind turbine to generate electricity.



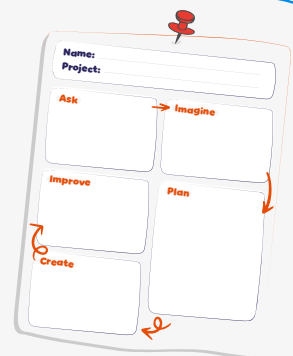
Challenge



Generate electricity from different clean sources other than the wind and add it to your city.



After we added energy sources in our city let's go back to the EDP and add it in create part.



Now I can...

- Recognize energy Transformation in Wind Turbines.
- Understand the efficiency of energy conversion in wind turbines and factors that affect it, such as blade design and wind speed.
- Understand the environmental implications of using different energy sources, with a focus on the benefits of renewable energy like wind power.