

## Work starts on beaming solar energy from space

24th November, 2022



Image: European Space Agency: <https://www.esa.int>

The world is in a climate crisis. We need to change how we get our power. This means we need to end the use of fossil fuels, like oil and gas. The European Space

Agency (ESA) has started on work that could provide millions of homes with clean energy. It has approved a three-year project to test huge solar farms in space. ESA engineers hope to send energy wirelessly from space into people's homes. Testing will take place over three years. An ESA spokesperson said one solar-farm satellite could create the same amount of electricity as a power station on Earth. She added that the aim is to have many of these giant satellites in orbit. They could cut our use of fossil fuels and reduce energy shortages.

The ESA project is called Solaris. The ESA states on its website that it wants to create "a clean and secure energy future for European citizens". Josef Aschbacher, the director-general of the ESA, told the BBC that solar power from space could be of "enormous" help. He said: "We need to convert into carbon-neutral economies and therefore change the way we produce energy. We especially need to reduce the fossil fuel part of our energy production." He added: "If you can do it from space, and I'm saying 'if we could,' because we are not there yet, this would be absolutely fantastic. It would solve a lot of problems." The satellites will be around 1.7 km long. The International Space Station is 110 m in length.

Sources: [esa.int](https://www.esa.int) / [bbc.com](https://www.bbc.com) / [scitechdaily.com](https://www.scitechdaily.com)

### Writing

All energy will be clean and green in the future. Discuss.

### Chat

Talk about these words from the article.

climate crisis / power / fossil fuels / oil / gas / solar farm / satellite / energy shortages / project / future / space / carbon neutral / production / fantastic / problems / length

### True / False

- 1) The article says we need to change how we get power. T / F
- 2) The European Space Agency has finished testing solar farms in space. T / F
- 3) Electricity from the solar farms will be available in three months. T / F
- 4) The space agency says it wants many space farms in orbit. T / F
- 5) The electricity will only be available for people in Europe. T / F
- 6) The agency said we need to become carbon-neutral economies. T / F
- 7) The agency said solar farms in space would solve many problems. T / F
- 8) A solar farm is over 10 times bigger than the International Space Station. T / F

### Synonym Match

(The words in **bold** are from the news article.)

- |                      |                |
|----------------------|----------------|
| 1. <b>crisis</b>     | a. change      |
| 2. <b>provide</b>    | b. happen      |
| 3. <b>approved</b>   | c. safe        |
| 4. <b>take place</b> | d. supply      |
| 5. <b>aim</b>        | e. great       |
| 6. <b>secure</b>     | f. goal        |
| 7. <b>enormous</b>   | g. catastrophe |
| 8. <b>convert</b>    | h. work out    |
| 9. <b>fantastic</b>  | i. agreed to   |
| 10. <b>solve</b>     | j. very big    |

### Discussion – Student A

- a) What do you know about solar energy?
- b) Why is the world in a climate crisis?
- c) What do you think of fossil fuels?
- d) What do you think of wireless solar energy from space?
- e) Have you ever experienced an energy shortage?
- f) Would you like wireless electricity to end all power cords?
- g) What forms of clean energy do you use?
- h) What's the best form of clean and green energy?

## Phrase Match

- |  |                          |
|--|--------------------------|
| 1. The world is in a climate           | a. wirelessly from space |
| 2. It has approved a three-year        | b. fuel                  |
| 3. send energy                         | c. shortages             |
| 4. have many of these giant satellites | d. economies             |
| 5. reduce energy                       | e. in orbit              |
| 6. create a clean and secure energy    | f. lot of problems       |
| 7. carbon-neutral                      | g. crisis                |
| 8. fossil                              | h. fantastic             |
| 9. this would be absolutely            | i. future                |
| 10. solve a                            | j. project               |

## Discussion – Student B

- What do you think about what you read?
- What do you think of solar energy?
- How does the world get out of its climate crisis?
- What can we use instead of fossil fuels?
- What do you think of a wireless world for power and communications?
- Do you think wireless electricity might be dangerous?
- Where will the climate crisis be in 30 years from now?
- What questions would you like to ask the scientists?

## Spelling

- The world is in a climate rcsiis
- rovpide millions of homes with clean energy
- send energy esslriwely
- the same numato of electricity
- many of these giant iasteletsI in orbit
- energy sagstorhe
- energy future for European tziinesc
- be of enormuso help
- We need to eurcd the fossil fuel part
- this would be absolutely tacnatsif
- It would olsve a lot of problems
- 110 m in ghnlte

### Answers – Synonym Match

1. g	2. d	3. i	4. b	5. f
6. c	7. j	8. a	9. e	10. h

## Role Play

### Role A – Electricity

You think electricity is the best wireless thing. Tell the others three reasons why. Tell them why wireless isn't so necessary with their things. Also, tell the others which thing least requiring of wireless technology of these (and why): the Internet, ear buds or a computer mouse.

### Role B – Internet

You think the Internet is the best wireless thing. Tell the others three reasons why. Tell them why wireless isn't so necessary with their things. Also, tell the others which thing least requiring of wireless technology of these (and why): electricity, ear buds or a computer mouse.

### Role C – Ear Buds

You think ear buds are the best wireless things. Tell the others three reasons why. Tell them why wireless isn't so necessary with their things. Also, tell the others which thing least requiring of wireless technology of these (and why): the Internet, electricity or a computer mouse.

### Role D – Computer Mouse

You think a computer mouse is the best wireless thing. Tell the others three reasons why. Tell them why wireless isn't so necessary with their things. Also, tell the others which thing least requiring of wireless technology of these (and why): the Internet, ear buds or electricity.

## Speaking – Wireless

Rank these with your partner. Put the best wireless things at the top. Change partners often and share your rankings.

- |               |                      |
|---------------|----------------------|
| • Electricity | • Mouse              |
| • Internet    | • Remote controls    |
| • Speakers    | • Garage door opener |
| • Ear buds    | • Radios             |

### Answers – True False

1 F	2 F	3 F	4 T	5 T	6 T	7 T	8 T
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Answers to Phrase Match and Spelling are in the text.