

## Dim the Sun to limit global warming, say scientists

27th November, 2018



Scientists have come up with a revolutionary new idea to save planet Earth from global warming. Geo-engineers from Harvard University believe that spraying "sun-dimming"

chemicals into the stratosphere high above the Earth could slow down global warming. They also say their technique would be "remarkably inexpensive," costing in the region of \$2.25 billion a year over a 15-year period. The technique is known as stratospheric aerosol injection (SAI). It is still in its infancy and is yet to be proven. It would involve the use of gigantic hoses or high-powered chemical cannons to spray chemicals into the stratosphere to act as a reflective barrier against sunlight and harmful UV rays.

The scientists have admitted that their idea is currently still in the planning stages. They said: "We make no judgment about the desirability of SAI. We simply show that a hypothetical deployment program commencing 15 years hence, while both highly uncertain and ambitious, would indeed be technically possible from an engineering perspective." Not all scientists think the idea is a good one. Some think it is somewhat pie in the sky. They say it would require a fleet of 100 specially-designed planes to make 4,000 missions a year, crossing most of the globe's airspace. This would require permission from over 100 governments. There are also concerns it could increase droughts and extreme weather.

Sources: slashdot.oeg / nypost.com / physicsworld.com

### Writing

We will never be able to limit the effects of global warming. Discuss.

### Chat

Talk about these words from the article.

scientists / revolutionary / global warming / chemicals / technique / barrier / UV rays / planning / judgment / hypothetical / ambitious / pie / missions / permission / drought

### True / False

- a) Scientists say they can revolutionize how the Earth is warmed globally. T / F
- b) The scientists are geo-engineers from Harvard University. T / F
- c) Scientists want to slow down the earth to dim the Sun's UV rays. T / F
- d) Scientists say giant hoses will spray chemicals into the stratosphere. T / F
- e) The sun-dimming plan is in the final stages of planning. T / F
- f) The scientists say it's possible to use their technique in 15 years' time. T / F
- g) Some scientists believe the sun-dimming idea is pie in the sky. T / F
- h) Other scientists said sun-dimming could help to end all droughts. T / F

### Synonym Match

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

- |                            |                  |
|----------------------------|------------------|
| 1. <b>revolutionary</b>    | a. approximately |
| 2. <b>technique</b>        | b. acknowledged  |
| 3. <b>in the region of</b> | c. damaging      |
| 4. <b>infancy</b>          | d. severe        |
| 5. <b>harmful</b>          | e. a bit         |
| 6. <b>admitted</b>         | f. early stages  |
| 7. <b>desirability</b>     | g. innovative    |
| 8. <b>somewhat</b>         | h. trips         |
| 9. <b>missions</b>         | i. appeal        |
| 10. <b>extreme</b>         | j. method        |

### Discussion – Student A

- a) What do you think of the idea of sun dimming?
- b) Do you think sun dimming would work?
- c) How serious a problem is global warming?
- d) What do you know about global warming?
- e) How has global warming affected you?
- f) How has global warming affected your country?
- g) How much do you worry about global warming?
- h) What harm can UV rays do?

## Phrase Match

- |   |                               |
|---|-------------------------------|
| 1. Scientists have come up with a       | a. infancy                    |
| 2. their technique would be             | b. from over 100 governments  |
| 3. It is still in its                   | c. against sunlight           |
| 4. spray chemicals into                 | d. planning stages            |
| 5. a reflective barrier                 | e. and extreme weather        |
| 6. their idea is currently still in the | f. revolutionary new idea     |
| 7. technically possible from            | g. missions a year            |
| 8. make 4,000                           | h. remarkably inexpensive     |
| 9. require permission                   | i. the stratosphere           |
| 10. it could increase droughts          | j. an engineering perspective |

## Discussion – Student B

- What do you think about what you read?
- How likely is it that sun dimming will go ahead?
- What other ideas do you think are "pie in the sky"?
- Would the world agree to sun dimming?
- What would happen if sun dimming cooled our planet?
- What extreme weather might sun dimming bring?
- What are your ideas to reduce global warming?
- What questions would you like to ask the scientists?

## Spelling

- a luoeorviyatrn new idea
- "sun-dimming" lccmehsai
- into the srhttpreasroe high above the Earth
- their echquntej would be remarkably inexpensive
- sroaelo injection
- a fevlirteec barrier
- We make no ungdtjme
- a pyhehltaocti deployment program
- uncertain and mobtiuisa
- This would require prsoniimse
- it could increase utgrdsho
- eeexrmt weather

### Answers – Synonym Match

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

## Role Play

### Role A – Droughts

You think droughts are the worst weather events. Tell the others three reasons why. Tell them why their events aren't as bad. Also, tell the others which is the least dangerous of these (and why): hurricanes, heat waves or floods.

### Role B – Hurricanes

You think hurricanes are the worst weather events. Tell the others three reasons why. Tell them why their events aren't as bad. Also, tell the others which is the least dangerous of these (and why): droughts, heat waves or floods.

### Role C – Heat Waves

You think heat waves are the worst weather events. Tell the others three reasons why. Tell them why their events aren't as bad. Also, tell the others which is the least dangerous of these (and why): hurricanes, droughts or floods.

### Role D – Floods

You think floods are the worst weather events. Tell the others three reasons why. Tell them why their events aren't as bad. Also, tell the others which is the least dangerous of these (and why): hurricanes, heat waves or droughts.

## Speaking – Weather

Rank these with your partner. Put the worst weather events at the top. Change partners often and share your rankings.

- |                     |              |
|---------------------|--------------|
| • heat waves        | • droughts   |
| • forest fires      | • hurricanes |
| • rising sea levels | • blizzards  |
| • tornados          | • floods     |

### Answers – True False

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a | F | b | T | c | F | d | T | e | F | f | T | g | T | h | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Answers to Phrase Match and Spelling are in the text.