

## Ecotricity founder to grow diamonds 'made entirely from the sky'

### Level 2 • Upper intermediate

#### 1 Warmer

Which of these 'green' ideas do you think is the most effective? Rank them in order from 1 (most effective) to 6 (least effective).

- |          |                          |
|----------|--------------------------|
| 1. _____ | a. electric cars         |
| 2. _____ | b. wind farms            |
| 3. _____ | c. a vegan diet          |
| 4. _____ | d. solar energy          |
| 5. _____ | e. free public transport |
| 6. _____ | f. planting more trees   |

#### 2 Key words

Fill the gaps in the sentences using these key words from the text. The paragraph numbers are given to help you.

alchemy  
emission

entrepreneur  
venture

facility  
gem

molecule  
impact

carat  
irreversible

1. A \_\_\_\_\_ is a unit for measuring the weight of diamonds and other jewels. (para 1)
2. A \_\_\_\_\_ is an area or building used for a particular purpose. (para 1)
3. An \_\_\_\_\_ is the effect that something has. (para 2)
4. An \_\_\_\_\_ is someone who uses money to start businesses. (para 3)
5. If a change is \_\_\_\_\_, you cannot change it back. (para 3)
6. \_\_\_\_\_ is a type of science that led people to try to change ordinary metals into gold, especially in the Middle Ages. (para 3)
7. A \_\_\_\_\_ is a beautiful expensive stone that is used to make jewellery. (para 4)
8. An \_\_\_\_\_ is a substance, especially a gas, that goes into the air. (para 5)
9. A \_\_\_\_\_ is a new business or activity. (para 6)
10. A \_\_\_\_\_ is the smallest part of an element or compound that is capable of independent existence. (para 8)

#### 3 Find the information

Find the following information in the text as quickly as possible.

1. What is the main business of Ecotricity?
2. Where is the sky mining facility?
3. What is the name of Vince's new venture?
4. How much rock and earth needs to be moved to produce a one-carat diamond?
5. How many carats of diamonds will the sky mining facility produce each month?
6. What is the temperature inside the sealed chamber?

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#### Ecotricity founder to grow diamonds 'made entirely from the sky'

Jillian Ambrose

30 October, 2020

- 1 A British multi-millionaire and environmentalist has a plan to create thousands of carats of carbon-negative diamonds every year "made entirely from the sky" and grown in a laboratory. Dale Vince, the founder of green-energy supplier Ecotricity, claims he has developed the world's only diamonds to be made from carbon, water and energy sourced directly from the elements at a "sky mining facility" in Stroud, Gloucestershire.
- 2 The process uses carbon dioxide captured directly from the atmosphere to make the diamonds – which are chemically identical to diamonds mined from the earth – using wind and solar electricity, with water collected from rainfall. The result is the "world's first zero-impact diamond", according to Vince, and they could even help to clean the air by removing carbon dioxide directly from the atmosphere.
- 3 The green-energy entrepreneur said he hopes to challenge the traditional diamond-mining industry, which causes "irreversible damage" to the environment. "Making diamonds from nothing more than the sky, from the air we breathe, is a magical, evocative idea – it's modern alchemy," said Vince. "We don't need to mine the earth to have diamonds; we can mine the sky."
- 4 Vince said he has not yet decided on the price of the carbon-negative gems, which are accredited by the International Gemological Institute.
- 5 Lab-grown diamonds are rising in popularity as awareness of the environmental and socio-economic impact of the mining industry has grown. There have been violent conflicts in diamond-producing regions, but also research has shown that producing a one-carat stone can involve moving 1,000 tonnes of rock and earth, 3,890 litres of water and more than 108kg of carbon-dioxide emissions.
- 6 Vince expects his new venture, Sky Diamonds, to produce 200 carats of the carbon-negative diamonds every month but said the facility could increase production to 1,000 a month within the next year. He said that Sky Diamonds would use a process known as chemical vapour deposition to create the diamonds at his facility.
- 7 This process typically involves placing a "diamond seed" within a sealed chamber, or "diamond mill", which is heated to 800 degrees Celsius and filled with carbon-rich methane gas. The carbon elements will gradually bond with the "seed" to create a diamond anatomically identical to a stone that has taken billions of years to grow underground.
- 8 Vince has promised to source the carbon dioxide directly from the air and will produce the hydrogen needed to make methane by splitting rainwater molecules using an electrolysis machine powered by renewable energy.

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#### 4 Comprehension check

Are these statements true (T) or false (F) according to the text?

1. Dale Vince's diamonds will be made from natural materials such as air and water.
2. They will be chemically different from diamonds mined from the earth.
3. Lab-grown diamonds are becoming more popular because of their low price.
4. Producing a one-carat diamond from mining creates more than 108kg of carbon-dioxide emissions.
5. Diamonds take billions of years to grow in laboratories.
6. Vince's process produces hydrogen by splitting rainwater molecules.

#### 5 Find the word

Find the following words in the text. The paragraph numbers are given to help you.

1. an adverb meaning *completely* (para 1)
2. an adjective meaning *exactly the same* (para 2)
3. a noun meaning *fighting between countries or groups* (para 5)
4. a noun meaning *a process in which layers of a substance form gradually over a period of time* (para 6)
5. a noun meaning *an enclosed space inside a machine* (para 7)
6. a verb meaning *become firmly fixed together* (para 7)
7. a noun meaning *the process of sending electricity through liquid in order to create chemical changes* (para 8)
8. an adjective meaning *able to be replaced by natural processes* (para 8)

#### 6 Two-word phrases

Match the words in the left-hand column with the words in the right-hand column to make phrases from the text.

- |                  |             |
|------------------|-------------|
| 1. carbon        | a. industry |
| 2. renewable     | b. impact   |
| 3. mining        | c. dioxide  |
| 4. irreversible  | d. supplier |
| 5. environmental | e. energy   |
| 6. energy        | f. damage   |

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#### 7 Prepositions

Complete the phrases from the text using these prepositions.

on

with

of

at

to

in

1. identical \_\_\_\_\_ something else
2. grown \_\_\_\_\_ a laboratory
3. decide \_\_\_\_\_ something
4. awareness \_\_\_\_\_ something
5. create something \_\_\_\_\_ a facility
6. bond \_\_\_\_\_ something

#### 8 Discussion

Discuss the statements.

- The price of diamonds and other precious jewels is ridiculous.
- All energy should be renewable.