

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

Level 3 • Advanced

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.

entrepreneur	alchemy	facility	molecule	carat
irreversible	evocative	emission	venture	gem

1. A _____ is a unit for measuring the weight of diamonds and other jewels.
2. A _____ is an area or building used for a particular purpose.
3. An _____ is someone who uses money to start businesses.
4. If a change is described as _____, it is impossible to bring it back to a previous condition or situation.
5. An _____ idea is one that expresses something very clearly and makes people have a strong reaction to it.
6. _____ is a type of science that led people to try to change ordinary metals into gold, especially in the Middle Ages.
7. A _____ is a beautiful expensive stone that is used to make jewellery.
8. An _____ is a substance, especially a gas, that goes into the air.
9. A _____ is a new business or activity.
10. A _____ is the smallest part of an element or compound that is capable of independent existence.

3 Find the information

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

1. What is the main business of Ecotricity?
2. What is unusual about Forest Green Rovers football club?
3. How much rock and earth needs to be moved to produce a one-carat diamond?
4. How many carats of diamonds will the sky mining facility initially produce each month?
5. Where is the sky mining facility?
6. Where will the carbon dioxide for the process come from?

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UK millionaire Dale Vince says lab-grown gems will be ‘world’s first zero-impact’ diamonds

Jillian Ambrose

30 October, 2020

- 1 A multi-millionaire and environmentalist has set out plans to create thousands of carats of carbon-negative, laboratory-grown diamonds every year “made entirely from the sky”. Dale Vince, the founder of green-energy supplier Ecotricity, claims to have 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 “green-technology first” uses carbon dioxide captured directly from the atmosphere to form 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 clean-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 The owner of Forest Green Rovers, described as Britain’s first vegan football club, Vince said he has not yet decided on the price tag for the climate-conscious 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. In addition to the bloody conflicts that have erupted in diamond-producing regions, research has shown that producing a one-carat stone can involve shifting 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 scale up to create 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 800C 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 a renewable-energy-powered electrolysis machine. “Nothing else was good enough for us when we had the idea,” Vince said.

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4 Comprehension check

Answer the questions using the information in the text.

1. How will Dale Vince's diamonds differ from normal diamonds?
2. Why does Dale Vince want to challenge the traditional mining industry?
3. Why are lab-grown diamonds becoming more popular?
4. How many carats of diamonds could Dale Vince's facility create within a year?
5. How long do diamonds take to grow underground?
6. How will Vince's facility produce the hydrogen needed to make methane?

5 Find the word

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

1. a two-word phrasal verb meaning *explain or describe something in a clear and detailed way* (para 1)
2. a verb meaning *get a product or basic material from somewhere* (para 1)
3. a two-word noun meaning *the cost of something expensive* (para 4)
4. a verb meaning *state officially that an organization is good enough to provide a particular type of service* (para 4)
5. a verb meaning *start suddenly with a lot of violence or noise* (para 5)
6. a two-word phrasal verb meaning *make something larger in amount, size etc than it used to be* (para 6)
7. a noun meaning *a process in which layers of a substance form gradually over a period of time* (para 6)
8. a noun meaning *the process of sending electricity through liquid in order to create chemical changes* (para 8)

6 Compound adjectives

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

- | | |
|-------------|--------------|
| 1. zero- | a. grown |
| 2. carbon- | b. producing |
| 3. lab- | c. rich |
| 4. climate- | d. impact |
| 5. diamond- | e. conscious |
| 6. carbon- | f. negative |

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7 Word-building

Complete the sentences using the correct form of the word in brackets at the end of each sentence.

1. Dale Vince believes making diamonds from the elements is a _____ idea. [MAGIC]
2. Diamonds grown in laboratories are increasing in _____. [POPULAR]
3. The carbon elements create a diamond that is _____ identical to a natural diamond. [ANATOMY]
4. The electrolysis machine used in the process is powered by _____ energy. [RENEW]
5. _____ of the environmental impact of the mining industry is growing. [AWARE]
6. Ecotricity is a green-energy _____. [SUPPLY]

8 Discussion

Discuss the statements.

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