

(8)

- 1 surprised married women
- 2 revealed a different trend
- 3 was praised by working men
- 4 confirmed this belief

(9)

- 1 have similar overall workloads
- 2 refuse to do certain jobs
- 3 want more free time
- 4 tend to avoid housework

(10)

- 1 leads only to financial rewards
- 2 is valued less than men's
- 3 damages their health
- 4 keeps them at home

3

Read each passage and choose the best answer from among the four choices for each question. Then, on your answer sheet, find the number of the question and mark your answer.

Green Cement

Thanks to construction booms in growing economies such as India and China, global cement production has nearly doubled in the past decade. The conventional way to manufacture cement is to alter the chemical makeup of limestone by heating it to over 1,400°C. Unfortunately, generating the huge amount of energy needed to heat the limestone to such high temperatures produces extremely large quantities of CO₂, a greenhouse gas that contributes to global warming. In addition, the chemical reaction that converts limestone to cement also releases CO₂. As governments around the world move to reduce greenhouse gases by taxing industries according to the amount of CO₂ they emit, conventional cement production is set to become extremely costly. For major manufacturers, future profits depend on developing methods of either reducing the amount of CO₂ they produce or capturing the gas to prevent its release into the atmosphere.

Brent Constantz says he has created a new cement-manufacturing process that does both. His California-based company, Calera, makes cement by injecting CO₂ into seawater. He developed the process after studying how corals use calcium and magnesium from ocean water to form their skeletons. Calera's pilot operation produces up to five tons of cement daily, and utilizes CO₂ generated by a nearby natural gas power plant. Constantz claims the process not only requires less energy than conventional cement production, but by using captured CO₂ as a raw material for cement, it also reduces CO₂ emissions into the air.

Some scientists are unconvinced. Ken Caldeira of Stanford University says the material Calera produces is very different from the cement used in construction. "At best," says Caldeira, "it

looks like they have an expensive way to make common rocks.” Other critics say the CO₂ injection process creates acidic byproducts that are expensive to clean up, eliminating any potential savings from reducing CO₂ emissions. Calera stands by its technology, however, saying it has cost-efficient ways of neutralizing acidic waste.

Calera investor Vinod Khosla says the company’s ambition is to overcome the main obstacle of much green technology, which is that environmentally friendly manufacturing techniques are too expensive to compete without financial aid from the government. Khosla is confident that the company can meet “the price at which China and India would adopt these technologies for economic reasons.” In the long term, replacing CO₂-producing cement manufacture in these two growing economies with CO₂-reducing processes could significantly reduce global greenhouse gas emissions.

(11)

What is one problem conventional cement manufacturers face?

- 1 The process of mining limestone for cement manufacture leaves dangerous chemicals in the ground.
- 2 Creating the intense heat required generates great amounts of a gas that damages the environment.
- 3 Upgrading their technology to produce the high-grade cement that their customers demand will be too costly.
- 4 New government safety regulations mean manufacturers have to invest more money to protect their workers.

DAY
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(12)

What does Brent Constantz say about Calera's cement-production technique?

- 1 It produces excess energy that can be used to provide low-cost power for nearby communities.
- 2 It uses calcium and magnesium found in common rocks, thereby reducing reliance on seawater.
- 3 It contributes to a reduction in CO₂ emissions by using the gas as a basic component of the cement.
- 4 It results in a product that is stronger than conventional cement because of the CO₂ it contains.

(13)

According to Vinod Khosla, Calera

- 1 is having technical difficulties adapting its process to meet the needs of developing nations.
- 2 should wait until it receives financial aid before continuing to develop its cement-manufacturing technology.
- 3 can make its process cheap enough to be competitive with regular methods of manufacturing cement.
- 4 should focus its marketing on developing nations because such nations have strict laws regarding CO₂ emissions.