Q68

Consider the following activities : 1. Spreading finely ground basalt rock on farmlands extensively 2. Increasing the alkalinity of oceans by adding lime 3. Capturing carbon dioxide released by various industries and pumping it into abandoned subterranean mines in the form of carbonated waters How many of the above activities are often considered and discussed for carbon capture and sequestration? (a) Only one (b) Only two (c) All three (d) None Official key: C.

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Explanation

(a)

Only one. All three are discussed carbon-removal routes.

(b)

Only two. Enhanced rock weathering, ocean alkalinity and subsurface carbonated storage are all on the list.

(c) Official key

All three. Basalt on fields, lime in oceans, and pumping carbonated water into old mines / formations.

(d)

None. Each is a named CDR / CCS idea.

Summary

Official key is (c) all three. Spreading crushed basalt (enhanced weathering), adding alkalinity to the ocean, and injecting dissolved CO_2 into subsurface voids are all discussed carbon capture and sequestration pathways.

Related possible facts

These can be asked in a future Prelims paper.

Enhanced weathering
Crushed silicate rock on land speeds natural CO_2 uptake.

CCS
Capture of CO_2 and storage in geological formations.