

# Big Idea Probe: What Would Happen If We Cut Fossil Fuel Use In Half?

Students in Mr. Yousef’s class were learning about how carbon dioxide (CO<sub>2</sub>) concentrations in the atmosphere change over time. Mr. Yousef showed students the graph below. The solid line shows global CO<sub>2</sub> concentrations between 1960 and 2016.

He asked students, suppose the world suddenly cut the use of fossil fuels (coal, diesel, gasoline, natural gas, etc.) in half and kept usage at that level. If nothing else changed, what would happen to atmospheric CO<sub>2</sub> concentrations over the next 50 years? Some students shared their ideas—the dotted lines on the graph below.

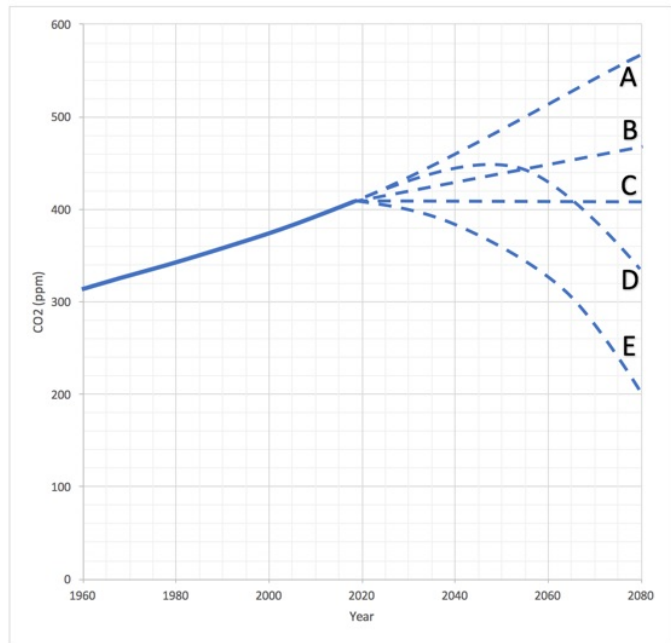
Jin (A on the graph) thinks CO<sub>2</sub> concentrations will continue to increase at a similar rate because of other sources of CO<sub>2</sub> such as deforestation, population growth, and volcanoes.

Latisha (B) thinks CO<sub>2</sub> concentrations will continue to increase, but more slowly, because we will still be releasing CO<sub>2</sub> into the atmosphere, just not as much.

Alana (C) thinks that CO<sub>2</sub> concentrations will level off because there is less pollution.

Maya (D) thinks CO<sub>2</sub> concentrations will continue to increase for a while, then decrease as the CO<sub>2</sub> begins to dissipate in the atmosphere.

Toby (E) thinks CO<sub>2</sub> concentrations will decrease by half (to around 200ppm) because cutting emissions by 50% will lead to CO<sub>2</sub> concentrations decreasing by 50%.



A: Jin, B: Latisha, C: Alana, D: Maya, E: Toby

Who do you agree with and why do you think they have the best answer? It’s ok to pick more than one person. Explain why you chose the answer(s) you did.

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