

## Natural Resources Line of Inquiry

### Lesson 3

#### Challenges of Hydrogen - CCRS Level D

Hydrogen can power buses, trucks, and some smaller vehicles through fuel cells; however, making hydrogen fuel often involves burning fossil fuels, which may not be much better than using gasoline or diesel. While vehicles using hydrogen may be less polluting, creating the fuel cells can add pollution to the air.

At present, there aren't enough places to make hydrogen fuel because it is too expensive. Changing a large country like the United States to hydrogen would require a large investment and require a lot of work to make, store, and move hydrogen fuel. Some countries might not have the money to switch their current fuel sources. Funds spent on hydrogen could be used to make current energy sources, like clean coal, better for the environment.

There is also concern that leaking hydrogen during its production and use might harm the ozone layer. Ongoing studies are exploring this, but caution is necessary to protect the ozone layer from substances like hydrogen. Without the ozone layer, life on Earth would be very different and not in a positive way.

Overall, the evaluation of hydrogen as an alternative fuel is just beginning. Currently, it has too many problems to be a reliable and promising energy source for the future.

Adapted from:

*Using Natural Resources for Energy: Reader* (2019). Core Knowledge Foundation.

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