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Curriculum Units by Fellows of the National Initiative
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What is Our Energy Past, Present, and Future?

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Contrary to the commonly repeated idea that the fossil fuel economy is dead, there are ample fossil fuel resources remaining on Earth, and extraction technology is keeping pace with demand. In this curriculum unit, my goal is to provide my students with the means to research the origins of the fossil fuel and renewable resources present in Virginia, how they are extracted and used, and what could be the future of energy generation for the state.

This unit surveys the state of available energy in Virginia, looking at the formation, extraction, use and impacts of coal and natural gas, uranium mining, how energy is made in coal-fired and nuclear plants, and how the state is set up for offshore wind. Over the course of 3-4 weeks, students will research organisms of the Carboniferous period, test the energy potential of different grades of coal, visit a coal mine, visit coal-burning and nuclear power plants, and engage in a resource “Crash Debate.” This unit is designed for advanced 8th grade students, but could be easily modified up or down.

(Developed for Earth Science, grade 8; recommended for Physical Science, grades 7-8)

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