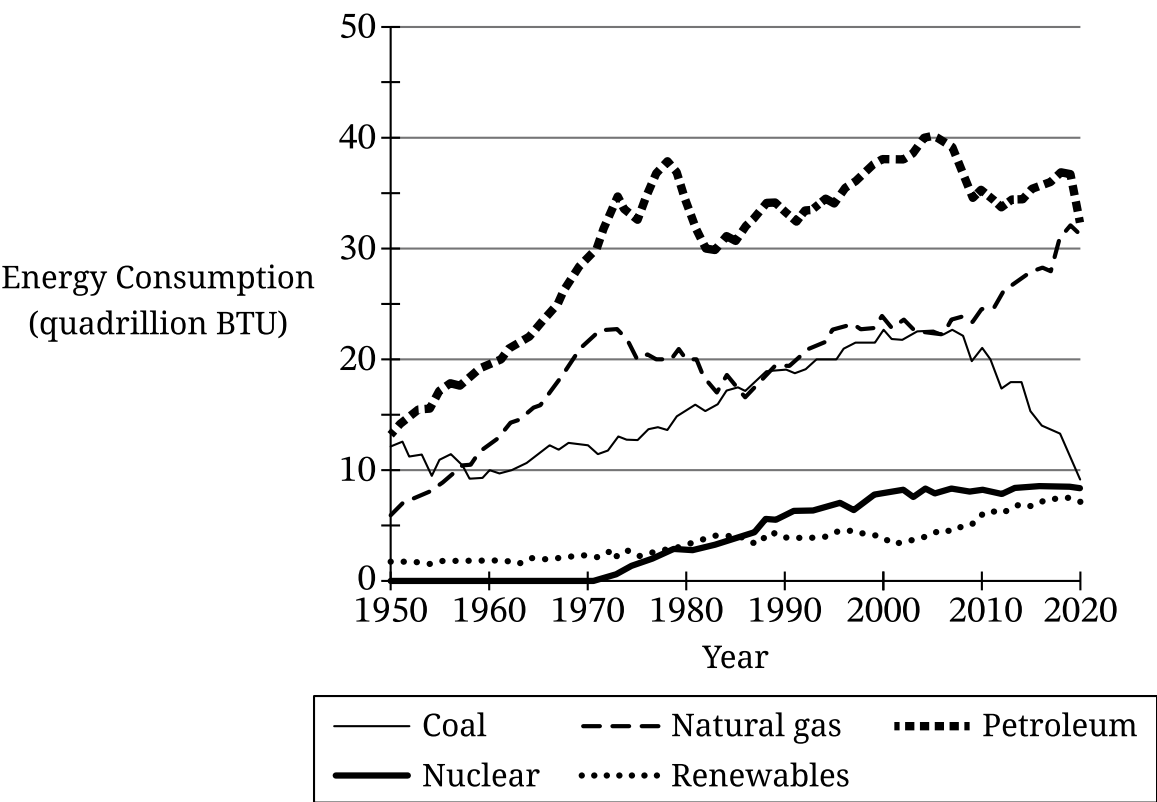


The following information applies to parts A, B, C, D, E, F, and G.

The following graph shows the number of quadrillion British thermal units (BTUs) that were consumed in the United States using five different energy sources from 1950 to 2020.

Energy Consumption by Source in the United States, 1950–2020



The following information applies to parts H and I.

Researchers studied an aquatic ecosystem near an area of land that had been converted to agricultural use. They reported an increase in nutrients, such as nitrates and phosphates, in the water.

2. Respond to parts A, B, C, D, E, F, G, H, and I, and all subparts.

Part A

Identify one renewable energy source that is used to generate electricity.

Part B

Based on the data in the graph, identify the energy source that had the highest consumption in 2010.

Part C

Based on the data in the graph, describe the pattern in the energy consumption from coal in the United States from 1960 to 2020.

Part D

Based on the data in the graph and your knowledge of energy consumption, explain one likely reason why the use of coal for energy changed between 2010 and 2020.

Part E

Explain how fossil fuels are used to generate electricity.

Part F

In addition to fossil fuels, nuclear power can be used to generate electricity. Identify one negative impact associated with nuclear energy.

Part G

Fossil fuel combustion leads to ocean warming. Describe one environmental problem other than coral bleaching that is associated with warming oceans.

Part H

Explain how an increase in nutrients, such as nitrates and phosphates, can negatively affect an aquatic ecosystem.

Part I

- i. Propose a realistic solution that would reduce nutrient pollution of waterways, while still allowing cultivation of crops.
- ii. Justify the solution proposed in part I (i) by explaining one potential advantage other than reducing nutrient runoff.