

Oil and gas today

Key questions to answer

- * Where do our oil and gas supplies come from?
- * How do we get useful products such as fuels from crude oil?
- * How are oil and gas transported?
- * What are oil and gas used for?
- * What gases cause air pollution?
- * What are the benefits of oil and gas as energy resources?

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The future of fossil fuels

Key questions to answer

- * What's happening with coal?
- * What is carbon capture?
- * What is fracking?
- * What innovative approaches to fossil fuel use are there?
- * What are the benefits of oil and gas as energy resources?
- * How are fuels from oil used for transport?
- * What alternatives are there to fuels from oil?

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Oil and gas today

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * HOW IT WORKS: Thermal Power
- * HOW IT WORKS: North Sea Oil and Gas
- * IN FOCUS: Natural Gas Around the World
- * IN FOCUS: Oil Around the World
- * HOW IT WORKS: Onshore Oil and Gas
- * BRIGHT IDEA: Surprising Uses of Oil
- * HOW IT WORKS: Gas Grid
- * HOW IT WORKS: Getting gas
- * HOW IT WORKS: Sharing Gas
- * IN FOCUS: Energy In 2015
- * IN FOCUS: Air Pollution
- * BRIGHT IDEAS: Surprising Uses of Oil
- * HOW IT WORKS: Energy Storage

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The future of fossil fuels

Suggested information sources

- * IN FOCUS: Bye, Bye Coal
- * HOW IT WORKS: Thermal Power
- * HOW IT WORKS: Capturing CO₂
- * BRIGHT IDEA: CO₂ Capture Game
- * DEBATE: Fracking: Yes or no?
- * HOW IT WORKS: North Sea Oil and Gas
- * BRIGHT IDEA: CO₂ Capture Game
- * BRIGHT IDEA: Coal Or Biomass
- * HOW IT WORKS: Energy Storage
- * DEBATE: Save Energy, Waste Energy?
- * IN FOCUS: Internal Combustion Engine
- * IN FOCUS: Alternative Fuels
- * BRIGHT IDEA: Hydrogen Hopes
- * BRIGHT IDEA: Heat From Waste
- * HOW IT WORKS: Energy Storage

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An electrical story

Key questions to answer

- * How is electricity generated?
- * How is electricity distributed?
- * When is electricity needed the most?
- * How can we use electricity for transport and heating?
- * In which new ways might electricity be generated in the future?

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Nuclear energy

Key questions to answer

- * What is nuclear fission?
- * What types of reactor are there?
- * How do we deal with nuclear waste?
- * How are by-products of nuclear reactions useful?
- * What is nuclear fusion?

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An electrical story

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * IN FOCUS: Friction Free
- * HOW IT WORKS: Electric Journey
- * BRIGHT IDEA: Future Grid
- * HOW IT WORKS: Thermal Power
- * BRIGHT IDEA: Lunar Panels?
- * HOW IT WORKS: Sharing Electricity
- * BRIGHT IDEA: Solar Powered Roads
- * IN FOCUS: Demanding Electricity
- * HOW IT WORKS: Energy Storage
- * DEBATE: Electric Everything
- * HOW IT WORKS: Energy Storage

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Nuclear energy

Suggested information sources

- * HOW IT WORKS: Nuclear Fission
- * IN FOCUS: Nuclear Power and Research
- * HOW IT WORKS: Nuclear Power
- * BRIGHT IDEA: Nuclear Fusion
- * HOW IT WORKS: Thermal Power
- * QUIZ: Fission For Answers
- * BRIGHT IDEA: Mini Nuclear Reactors?
- * HOW IT WORKS: Energy Storage
- * IN FOCUS: Nuclear waste

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Solar Power

Key questions to answer

- * What are the renewable energy resources?
- * How do we use solar power now?
- * How might we use solar power in the future?
- * What are the benefits of renewable energy resources?

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Wind power

Key questions to answer

- * What are the renewable energy resources?
- * How does wind power work?
- * What are the different options for siting wind farms?
- * What are the benefits of renewable energy resources?

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Solar Power

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * HOW IT WORKS: Solar Energy: Light
- * HOW IT WORKS: Solar Energy: Heat
- * IN FOCUS: Living Off Grid
- * IN FOCUS: Solar Power at Night
- * BRIGHT IDEA: Solar Powered Roads
- * BRIGHT IDEA: Lunar Panels
- * HOW IT WORKS: Energy Storage

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Wind power

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * BRIGHT IDEA: World Wind
- * HOW IT WORKS: Wind Turbines
- * A DAY IN THE LIFE: Blown Away
- * A DAY IN THE LIFE: Out To Sea
- * BRIGHT IDEA: Floating Wind
- * IN FOCUS: UK Wind Map
- * IN FOCUS: Living Off Grid
- * HOW IT WORKS: Energy Storage

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Water power

Key questions to answer

- * What are the renewable energy resources?
- * What are the different ways in which water can be used as an energy resource?
- * What are the benefits of renewable energy resources?

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Geothermal energy

Key questions to answer

- * How does geothermal energy work?
- * Which countries use geothermal energy?
- * Can we use geothermal energy in the UK?

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Water power

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * HOW IT WORKS: Rising tides
- * IN FOCUS: Living Off Grid
- * HOW IT WORKS: Wave Energy
- * HOW IT WORKS: Hydro Power
- * HOW IT WORKS: Rising Tides
- * HOW IT WORKS: Energy Storage

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Geothermal energy

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * HOW IT WORKS: Thermal Power
- * IN FOCUS: Geothermal Energy
- * ENERGY MIX: Iceland
- * HOW IT WORKS: Energy Storage

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Innovative approaches to renewable energy

Key questions to answer

- * What are the renewable resources?
- * What are the benefits of renewable energy resources?
- * Why can we consider nuclear fusion to be a renewable resource?
- * How can we generate hydrogen and how can we use it as a fuel?
- * What creative suggestions are there for future energy?
- * How is it possible to live off the grid?

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Future energy

Key questions to answer

- * How do we use energy resources now?
- * What do we need energy for?
- * What are the best choices for a local/regional/national energy solution?
- * What issues do we need to consider for future energy?
- * How can we produce hydrogen and how would we use it?

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Innovative approaches to renewable energy

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * BRIGHT IDEA: Hydrogen Hopes
- * BRIGHT IDEA: Floating Wind
- * BRIGHT IDEA: Nuclear Fusion
- * HOW IT WORKS: Energy Storage
- * IN FOCUS: Living Off Grid

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Future energy

Suggested information sources

- * IN FOCUS: The Main Energy Sources
- * IN FOCUS: Energy in 2015
- * ENERGY MIX: France
- * ENERGY MIX: China
- * ENERGY MIX: Germany
- * ENERGY MIX: Iceland
- * IN FOCUS: Using Energy For?
- * IN FOCUS: 3 Energy Issues
- * IN FOCUS: Saving Energy
- * BRIGHT IDEAS: Hydrogen Hopes
- * IN FOCUS: Energy Trilemma Game
- * BRIGHT IDEA: Mini Nuclear Reactors
- * BRIGHT IDEA: Nuclear Fusion

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Careers in the energy industry

Suggested information sources

Use the relevant energy resource pages and the careers pages: A DAY

IN THE LIFE OF:

- Keeping The Lights On
- The Apprentices
- Science @ Christmas
- Greener Glasgow
- Hello Hydrogen
- The Technician
- Blown Away
- Out to Sea

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Careers in the energy industry

Key questions to answer

WHAT CAREERS DO THESE ENERGY INDUSTRIES OFFER?

- * Electricity generation and distribution
- * Gas and oil exploration and distribution
- * Oil refining and petrochemicals
- * Manufacturing and installing wind turbines
- * Building and maintaining a hydro power station
- * The nuclear power industry
- * Building and maintaining tidal power station and wave energy machines

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