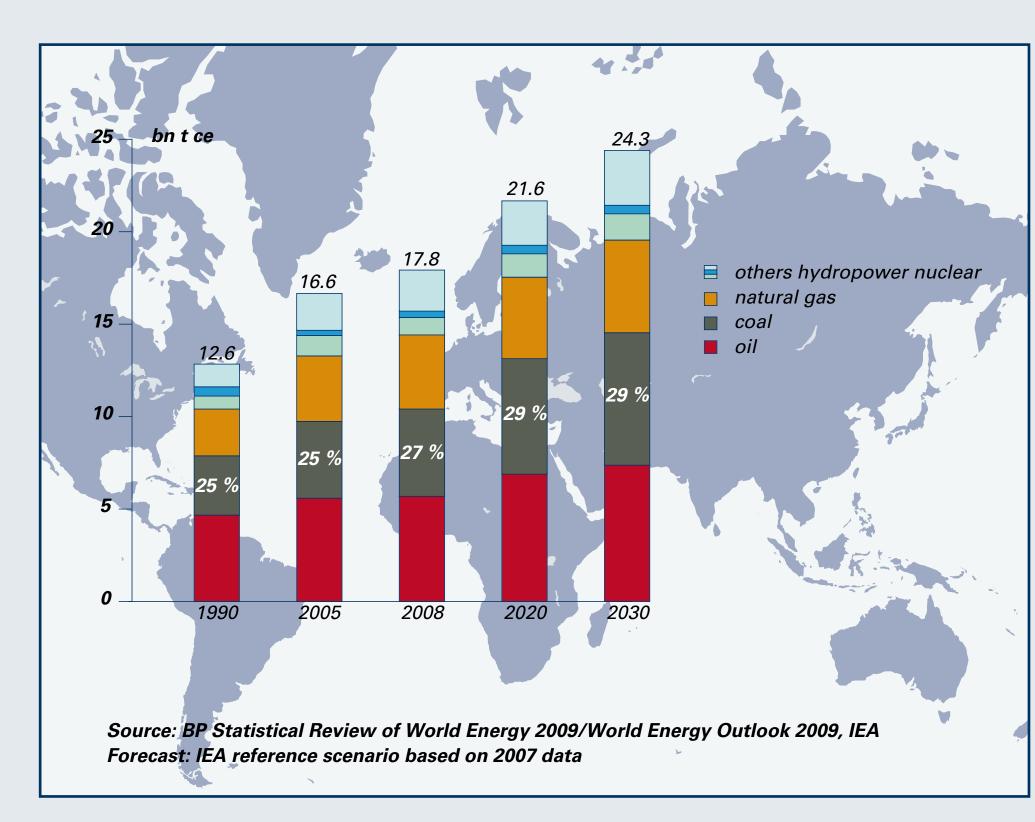


Coal and lignite – creating wealth

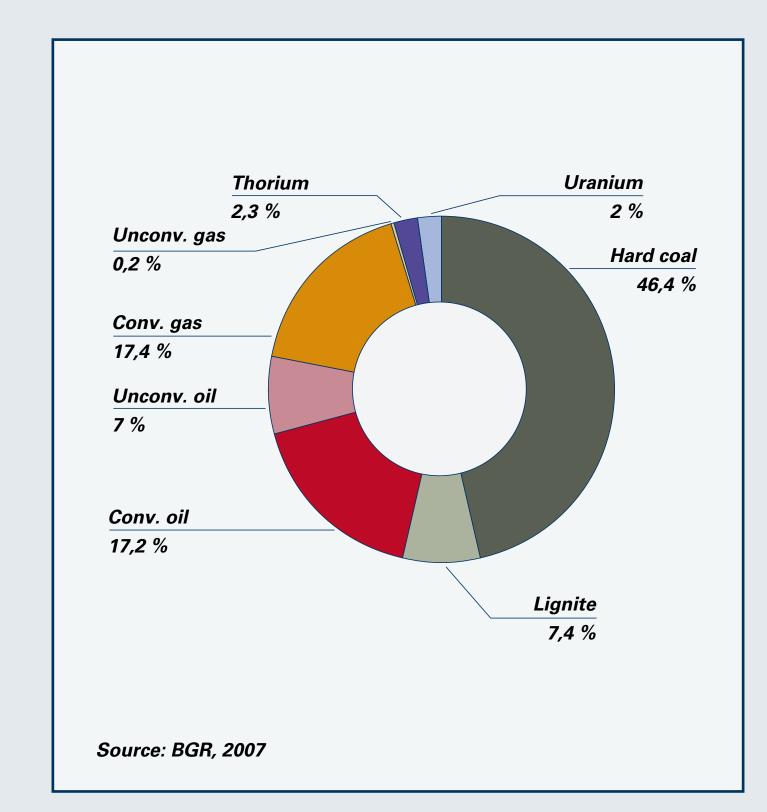
Coal is a valuable natural resource, abundant globally and safe to transport and store. It makes a major contribution to the energy mix in Europe, and enables policy makers to achieve energy security at affordable prices.

The widespread abundance of coal helps reduce fuel poverty. Its use for power generation ensures that European industry remains competitive in a global context.

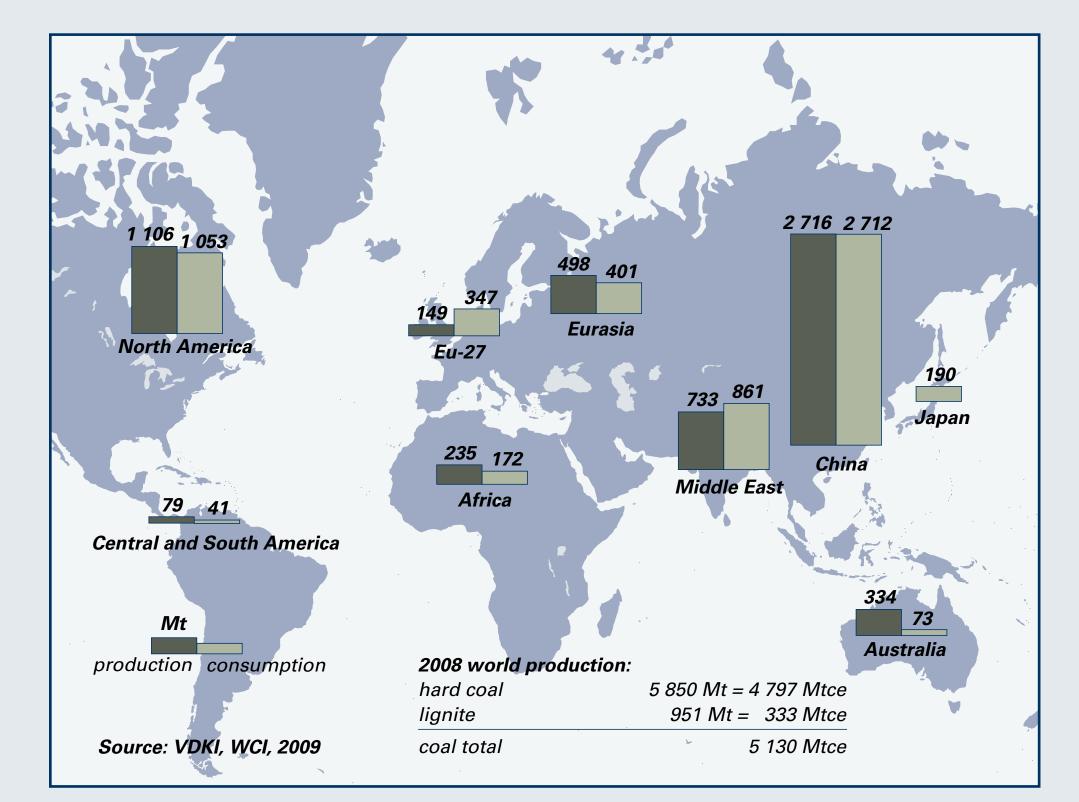
It contributes to Europe's wealth and standard of living in general and is the catalyst for vast economic benefits to be gained throughout Europe in technology development and transfer.



World energy consumption



Global energy reserves dominated by hard coal and lignite



Global hard coal production and consumption

Coal-fired power plants supply the most secure and price-competitive fuel for base load electricity in Europe. Currently, hard coal and lignite have a share of 29 % of EU-27 power generation. In Poland, this share reaches 91 %, the Czech Republic 61 %, Greece 55 % and Germany 47 %.



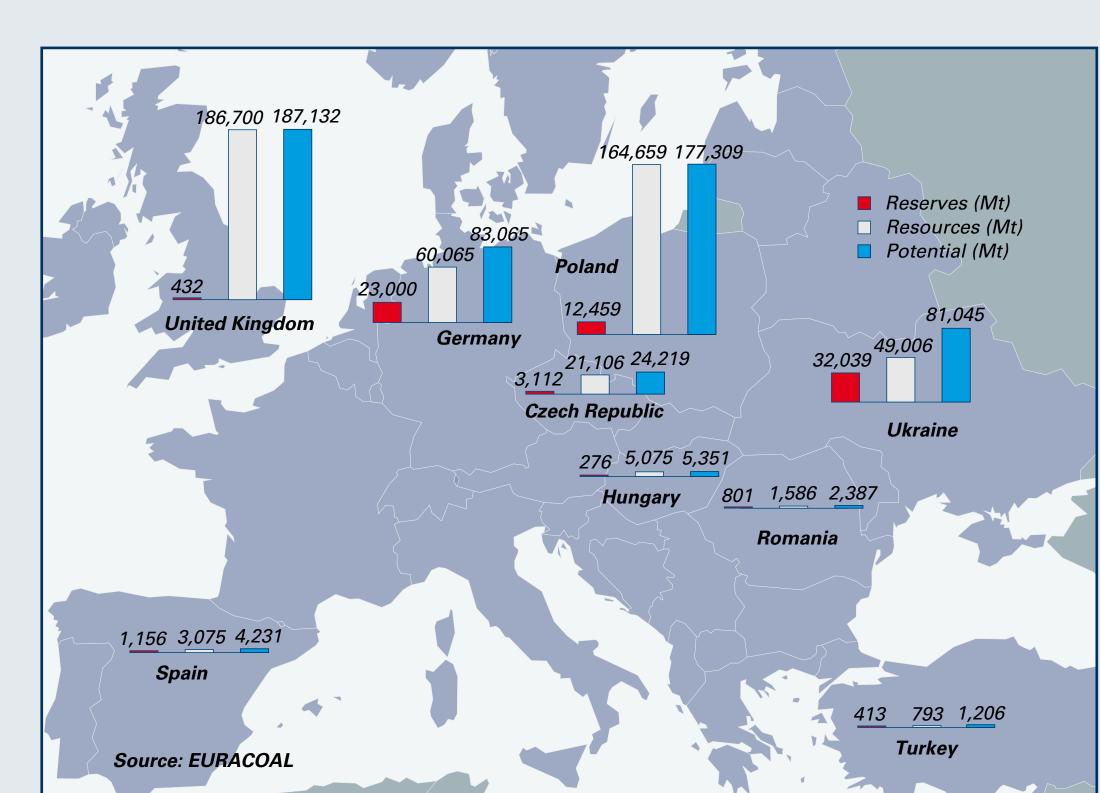
EU hard coal and lignite production and imports in 2009

Europe's coal potential

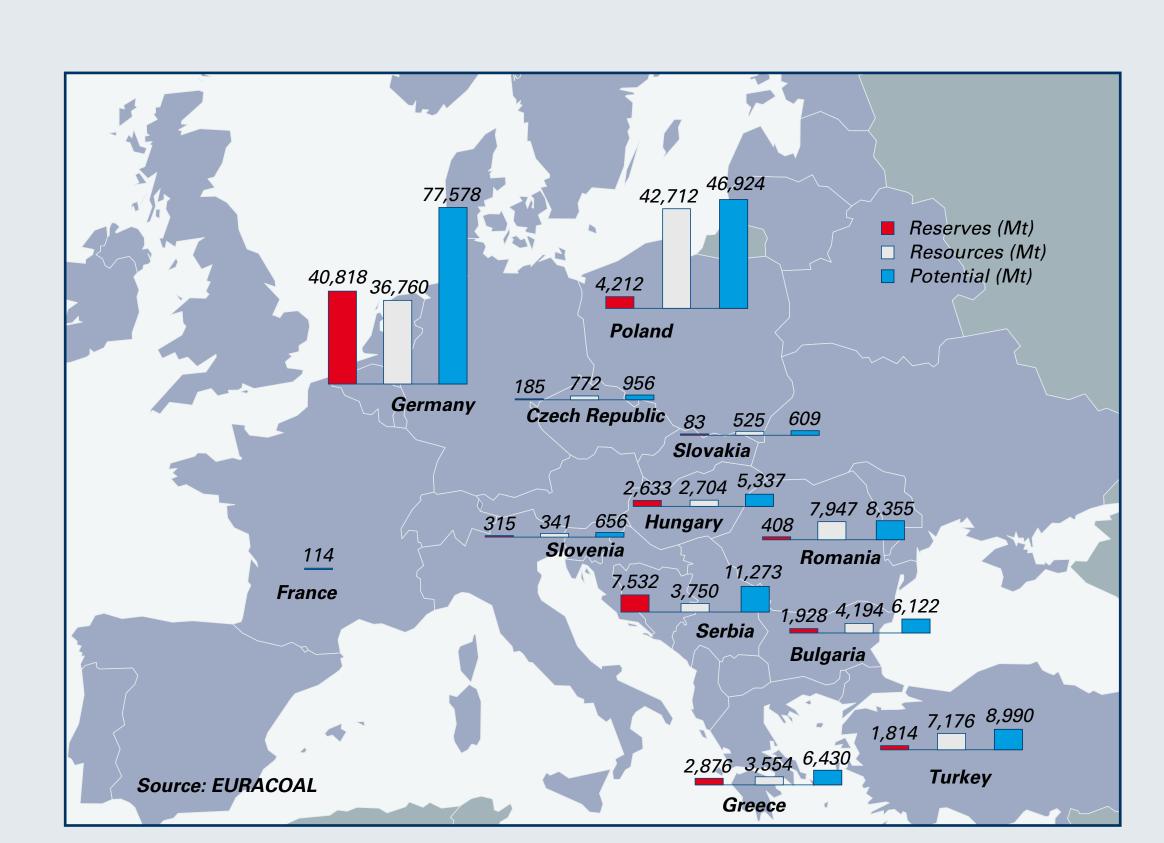
Of the fossil fuel reserves in the EU-27, about 80 % are hard coal and lignite - approximately four times the reserves of oil and gas. The long-term benefits of coal are enormous – an energy resource that will remain widely available across Europe for generations to come.

More than half of the coal used in the EU-27 is supplied by indigenous production. The largest resources and reserves of hard coal are in the UK, Germany, Poland and the Czech Republic. There are extensive reserves of lignite in Germany, Poland, Greece, Bulgaria, Romania and Hungary.

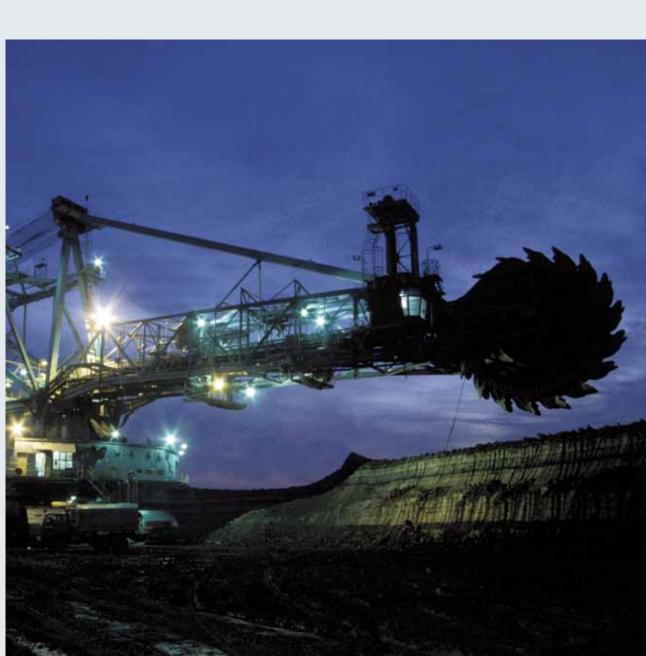
In general, lignite is produced from surface mines, and hard coal is mined underground.



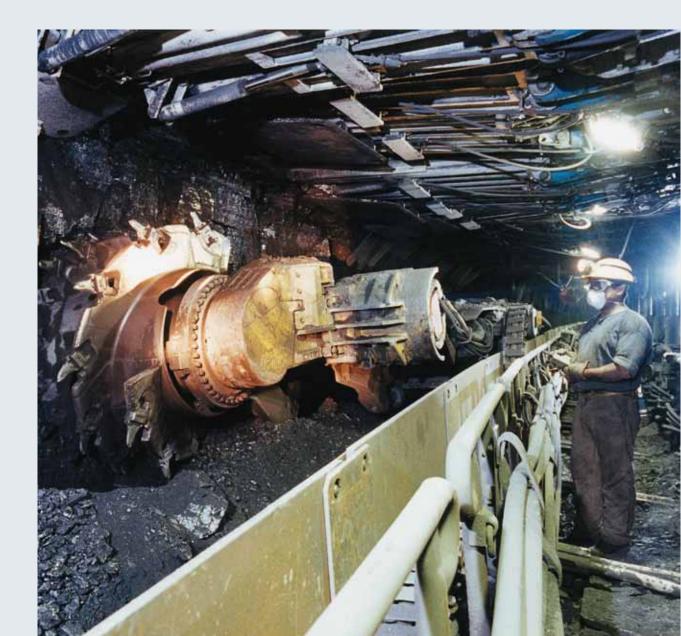
European hard coal potential



European lignite potential



Poland



Germany



Greece



Bulgaria



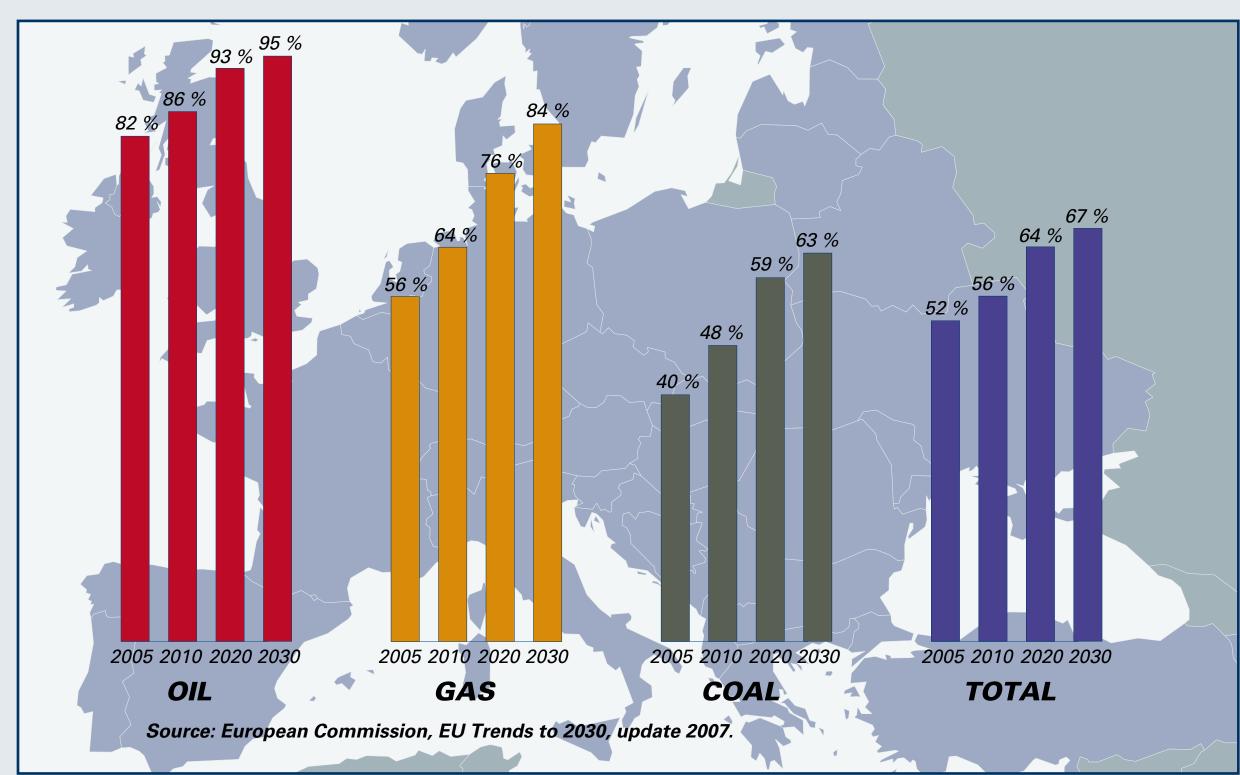
Security of supply

Security of energy supply

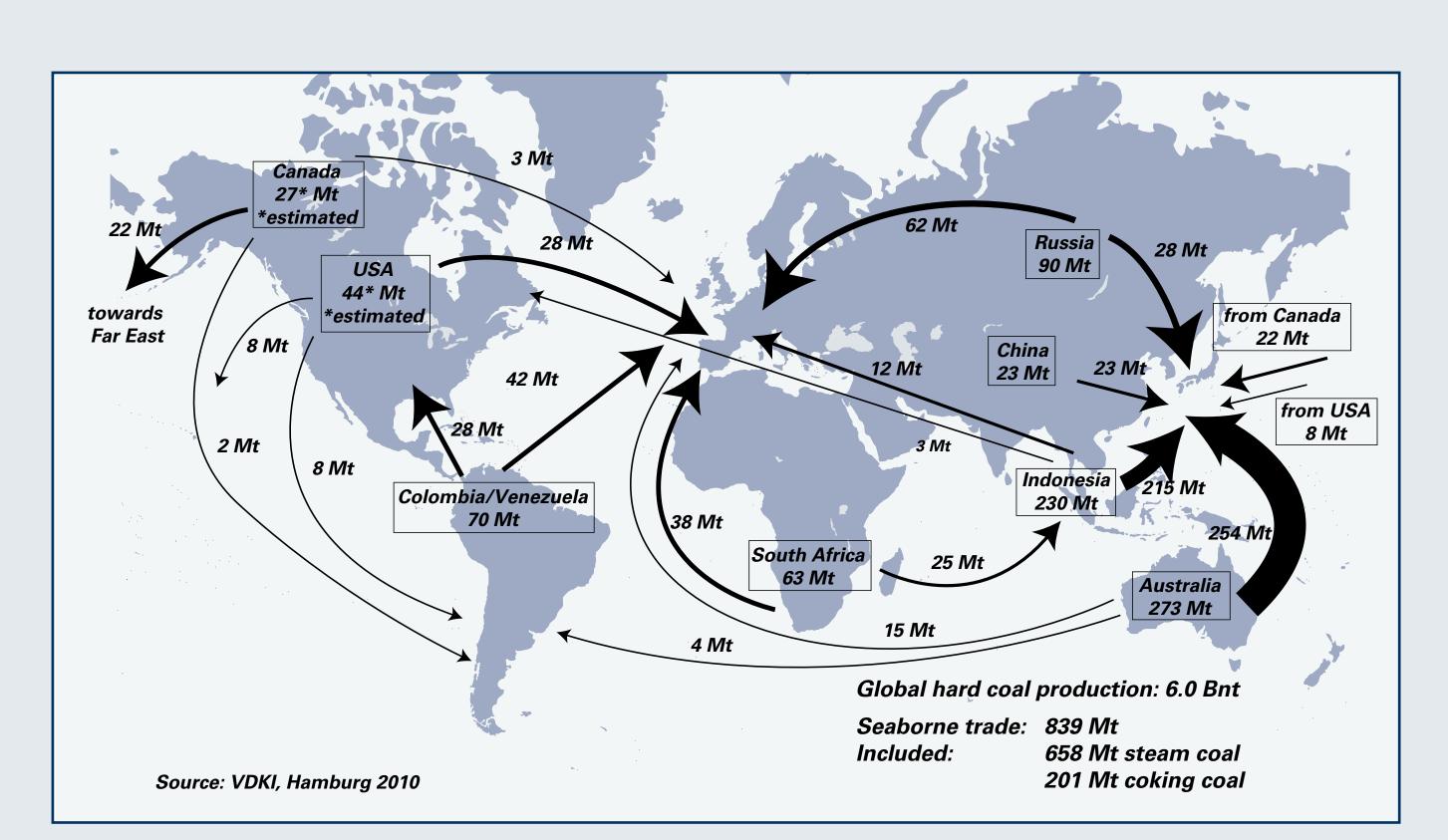
Indigenous coal has particular advantages for Europe's security of supply. In an increasingly globalised world, Europe should keep its own coal and lignite production. In addition to the important contribution of indigenous coal to a balanced EU energy mix and to regional economic growth throughout Europe, imported coal also contributes to the security of Europe's energy supply.

Coal reserves are spread across the world, with international trade taking place in accordance with free market principles. It means coal is available on international markets at prices more stable than oil and gas. Both indigenous and imported coal clearly minimise the EU's energy supply risks.

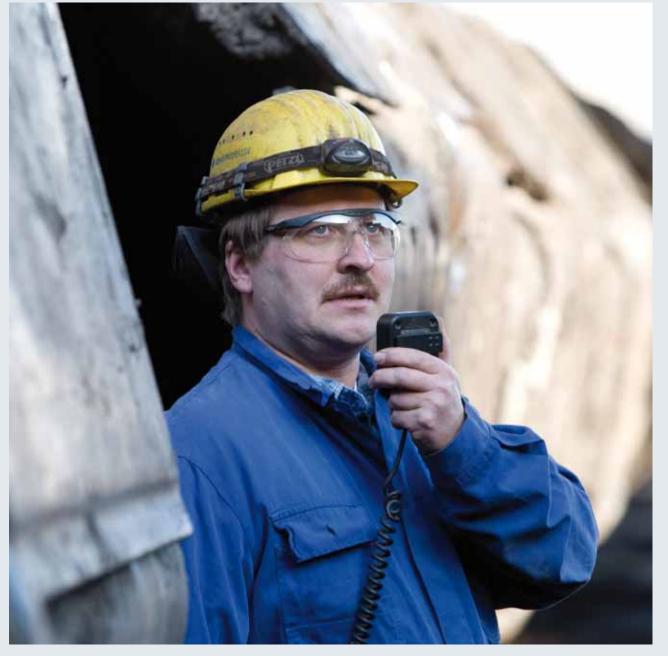
Hard coal is also an essential fuel for steel production. In addition, both hard coal and lignite are widely used in industrial and domestic sectors.



EU fossil fuels import dependency



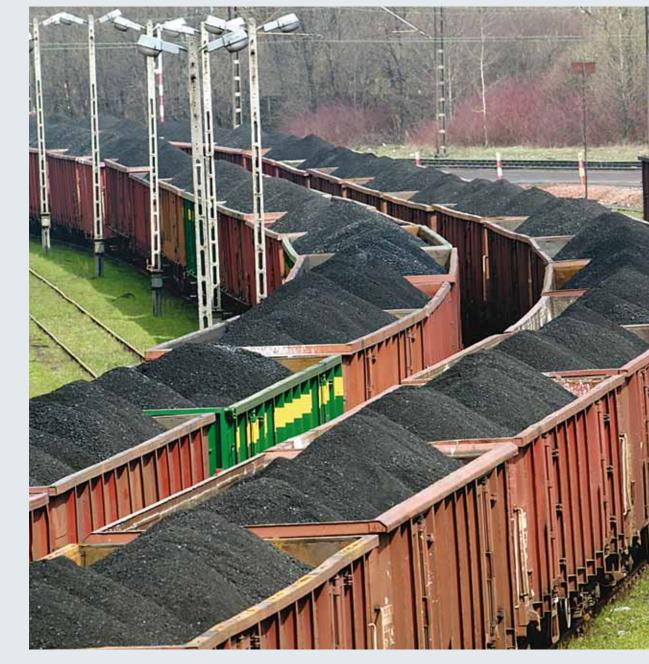
Main hard coal seaborne trading routes in 2009



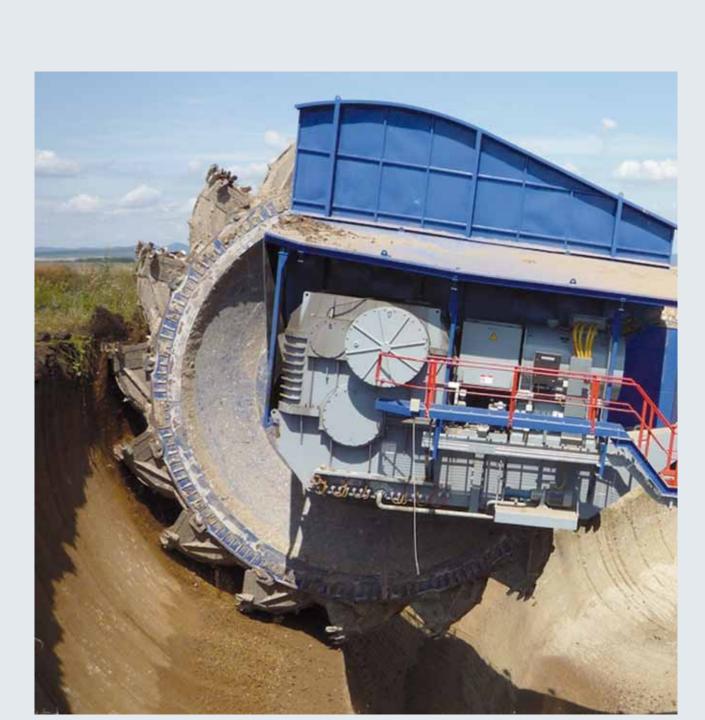
Germany



Spain



Poland



Hungary

Mining technology – innovation for the future

High-tech mining machinery and coal power plant equipment produced in Europe have a high export value. Currently, European underground and surface mining technology dominates the world market, with a share of more than 50 %.

This position of market leaders depends on a continuing and significant indigenous coal production. The position of European companies in growing markets like China, India, Indonesia and Africa can only be maintained with continual technological advancements.

Productivity improvements and process innovation are crucial for the economic success of any mining company. Achieving further improvements in productivity depends on technological innovation in areas such as automation, communications and infrastructure. This includes improvements in drive systems and winning technology, logistics, plant maintenance, planning and organisation.







Sensor-based remote control of cutting machines for effective coal mining