

Secure energy

Diversity is critical for protecting the world from interruptions to energy supplies. We are helping by investing in a wide range of energy options to avoid over-dependence on any one region or energy source.

Security through diversity

Higher prices and the end of “easy” oil are helping make energy a political lever again. Big energy-consuming countries are increasingly worried about the vulnerability of their supplies.

Energy independence is not realistic for big consuming countries. For example, the USA uses about 25% of the world’s oil but has less than 3% of remaining proved oil reserves. The same is true for the European Union’s consumption and reserves of natural gas. Competitive international markets are the surest way to increase global supplies and promote a wide range of supply alternatives – both from different regions and different energy sources.

Massive investments and stable investment conditions are needed. So are sophisticated technology, the ability to manage complex projects and access to resources for the international oil companies that have this know-how. Energy efficiency measures, encouraged by governments, will also need to play an important role.

We are helping diversify energy options in four main ways: by extending the life of existing oil and natural gas fields; by opening up new fields and regions; by developing new ways to produce transport fuels; and by providing a wide range of options for generating electricity.

Squeezing more out of existing fields

New technology is helping us extend the life of existing energy resources close to markets. Today, only 30–40% of oil contained in most reservoirs is typically extracted. Boosting recovery rates by just a few per cent can dramatically increase long-term supply. For example, injecting steam, gas or chemicals into reservoirs is slowing the natural decline in production from mature fields where we have an interest in California, Canada and Oman. A Shell team is investigating the possibility of injecting waste CO₂ into oil fields off the coast of Norway, which would boost production and reduce GHG emissions (page 13).

Developing new fields

With new technology we are also developing new fields near major markets that were once thought too difficult or expensive to exploit. For example, we are developing a new project in water nearly 2.5 km deep in the Gulf of Mexico. With further technology advancement, unconventional oil sands and shales could also significantly increase supplies to some of the world’s biggest energy consuming countries (see box). Unmanned production platforms – like those in the North Sea, powered by renewable