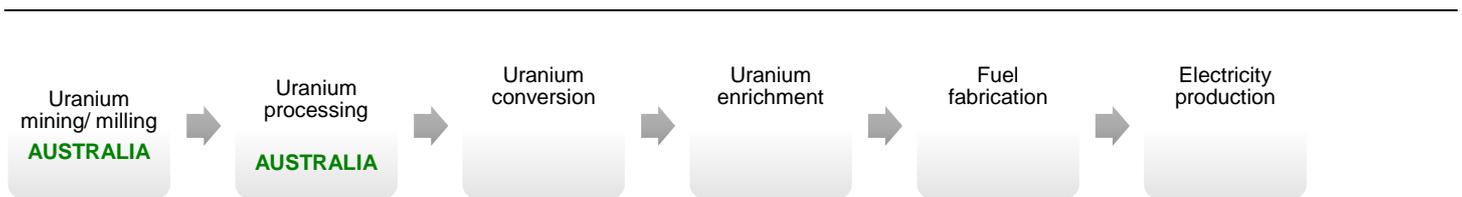


Supply and demand pressures influence the uranium fuel market

Currently the world possesses a surplus of capacity required to meet the global demand to convert uranium, to enrich it and to manufacture nuclear reactor fuel. In effect this creates a buyer's market for production of fuel from uranium.

What are the main stages in the uranium fuel cycle?

The uranium fuel cycle includes stages of mining and milling, conversion, enrichment, fuel fabrication and production of electricity (See figure, and Fact Sheet 10 for more detail).



Steps in the uranium fuel cycle. Those occurring in Australia are indicated.

What is the demand for uranium conversion and enrichment?

Current and future demand for conversion and enrichment services sit at around 80-85% of uranium required for fuel fabrication.

In 2015, the annual global capacity for uranium conversion was approximately 59,000 tonnes, whereas global demand was only 46,000 tonnes of uranium.

The term that is used to measure the capacity of enrichment plants is called 'separative work unit' or SWU. In 2015, global capability for enrichment was nearly 59 million SWU, but only 47 million SWU was required to meet demand for nuclear reactor fuel.

Production capacity for uranium enrichment is currently expanding – mainly in China – so by 2020, the annual capability will rise to nearly 67 million SWU. At the same time, demand is estimated to increase to 57 million SWU.

What is the demand for uranium fuel fabrication?

Demand for uranium for fuel fabrication is only 60% of the total supply.

Fuel fabrication services are provided at 28 facilities located in 17 countries. The total capacity of these facilities is approximately 18,000 tonnes per year.

There are several different types of fuel manufactured for different types of nuclear power reactors. Annual demand is around 10,400 tonnes, including 7,000 tonnes for Light Water Reactors, 3,000 tonnes for Pressurized Heavy Water Reactors and 400 tonnes for Gas-Cooled Reactors.

How will supply and demand impact on investment in new fuel cycle facilities?

Construction of nuclear fuel cycle facilities is expensive, and can rise as high as billions of dollars (depending on their size). The market situation – an oversupply – means that the contracts will be highly competitive, with obvious downward pricing pressure.