

International comparisons on nuclear

Finland

Construction of a European Pressurised Reactor (EPR) has recently begun at TVO's Olkiluoto plant, 3 ½ years after a decision in principle by the Finnish Government.

TVO is a privately owned electricity generating company, owned by Finnish industry and power companies (one of which is a state owned utility). This ownership structure enables TVO to supply electricity at cost to the owner companies for their own use or for further distribution.

This structure reduces the financial risk, enabling a (comparatively low) 5% discount rate to be used on the project. There are also long term offtake contracts in place (around 15 years) with a wide group of high/intensive energy users. This further reduces the financial risk.

The total construction cost is estimated at €3bn (around £2bn). The plant is being built by Areva (the designers of the EPR) and Siemens, on a turnkey contract basis, where the construction firms bear the cost of any delay. This mechanism is about to be tested, as a six month delay was announced last week. The plant is now due to be operational in Autumn 2009.

Plans are well advanced for a deep waste repository near Olkiluoto, which will take waste from Finland's existing plants as well as the new EPR. It is expected to be operational around 2020.

The main driving factor for the new plant has been cited as industrial consumers' need for stable electricity prices. Public opinion is marginally in favour of new nuclear, following public hearings, stakeholder consultation, and extensive parliamentary debate.

France

France currently has 58 nuclear plants in operation, with plans to replace the existing fleet over the next 20 years.

Given the high proportion of French electricity generated by nuclear, public opinion tends to be supportive.

A decision was taken by the French parliament to keep the nuclear option open by building at least one plant of the new generation of designs. This, together with a national debate and local public hearings, resulted in plans for an EPR to be built at Flamanville, which is due to be commissioned in 2012.

France uses a closed fuel cycle is used. Spent fuel is recycled into MOX, thus reducing the amount of spent fuel for disposal. Plans for a repository are underway, but siting is proving controversial. The cost of waste management is included in the cost of generating electricity from nuclear energy.

USA

Measures in the 2005 Energy Act reinforced the US Government's explicit support for new nuclear build. These include production tax credits and standby support, where the Government would compensate industry for regulatory delays.

This comes on top of reforms to the regulatory approvals process to streamline procedures and give industry and investors greater certainty.

Plant operators pay a levy to the US Government to deal with waste. A waste management facility is currently under construction at Yucca Mountain in Nevada, but this project has been beset with delays.