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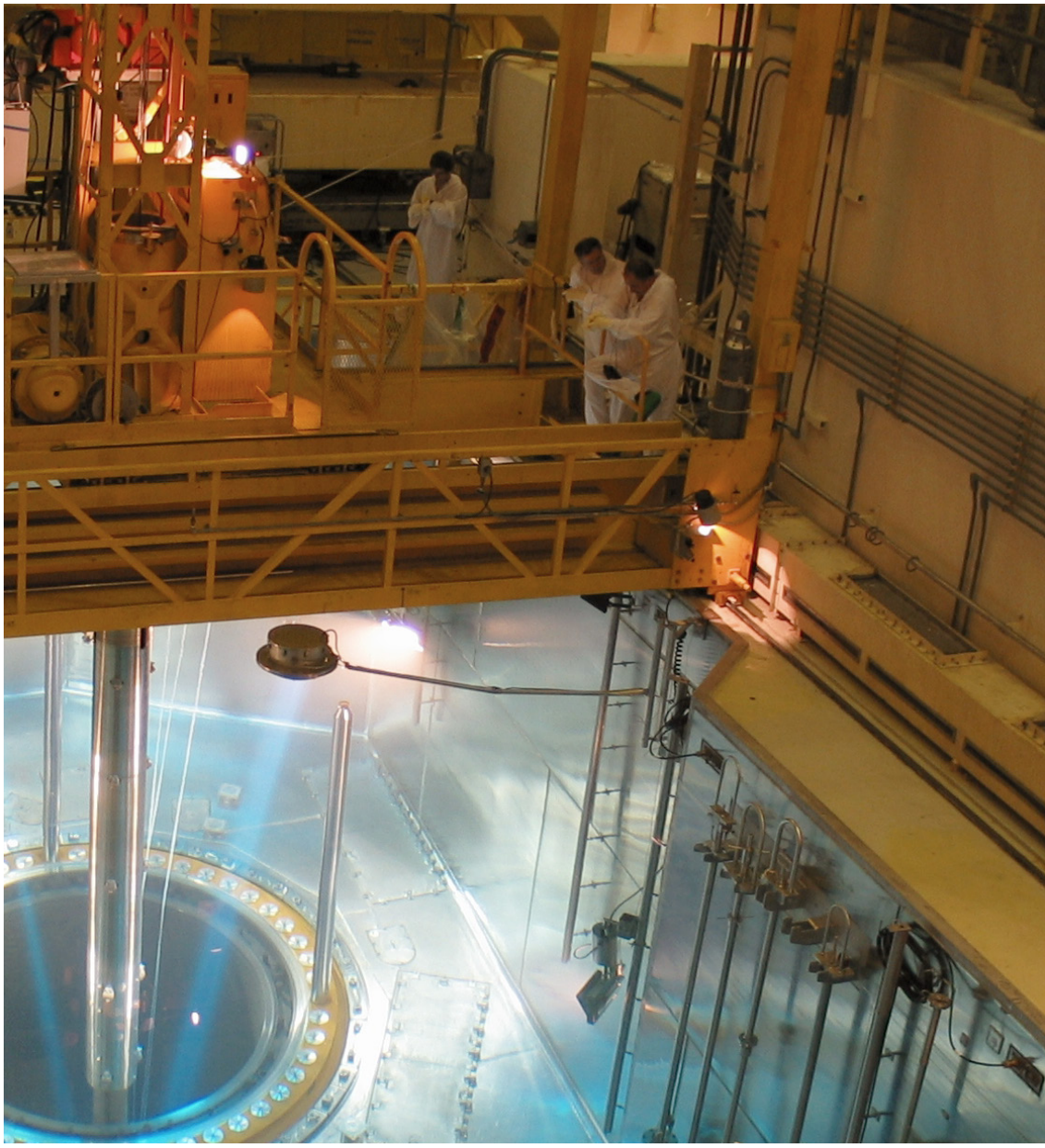
Ways and means for delivering new nuclear

November 2015



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This article originally appeared in Nuclear Connect **www.theconnectseries.co.uk**

The seven pieces of the nuclear financing jigsaw

With increasing global climate change commitments and the need for large baseload power, nuclear power is again becoming a real solution to the world's energy problems. However as with all energy solutions, set up costs are prohibitively high. With country balance sheets constrained, how are governments and developers meeting this financing challenge?

During the mid-1900s, a number of countries, particularly the UK, France, USA and Russia, chose to build nuclear power plants. In line with policy at the time, and also to maintain a high level of control, these early plants were financed, developed and operated by government. Later countries adopted different ownership strategies: privatising plants e.g. the UK or maintaining their plant as national assets e.g. Slovenia/Croatia.

In this article, we consider the seven alternatives to government financing being used in the market today.

Cover photo courtesy: Krško Nuclear Power Plant (NEK)

Corporate balance sheet financing

Financing a nuclear plant from a company's own resources is really only an option for the largest utilities and developers. The cost of a large nuclear plant (two or three reactors) is circa $20 billion. To carry such a large capital commitment for the average construction period of five to seven years before the plant starts producing revenue, is a huge challenge for even the largest and most established company.

Exceltium

Between 2005 and 2010, to address the increase in energy prices, a number of industrial investors (and banks) came together in France to form 'Exceltium'. The purpose was to enter into a contractual arrangement with EDF to help finance their new build plants in return for cheaper electricity from EDF's portfolio. The payback to the investors (as opposed to the banks) comes over a period of 24 years through agreements to provide electricity to the industrial investors for a mix of fixed and variable pricing. The industrial investors can either use the electricity or sell it to the market.

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Mankala

The Finnish Mankala concept has been used to help develop various forms of infrastructure. The shareholders are a number of industrialists and utilities and the Mankala takes a shareholding in the power plant being built. The owners of the Mankala are allowed and obliged to purchase electricity from the power plant equal to their shareholding at a cost price. This electricity can then be used by the investors or can be sold into the market.

Vendor equity

In the late 2000s, it was recognised that reactor technology vendors may be able to support new build projects financially as well as technologically. Vendor equity helps to finance a project in return for the vendor's technology being deployed in the new facility.

However technology vendors do not have the infinite balance sheets to allow them to invest in unlimited projects. In reality, they will only invest in the most advanced projects that are likely to succeed, that will allow them a return on their investment in the shortest time and allow them to exit the project at the earliest opportunity.

Export Credit Agencies (ECA) debt financing

Non-recourse/limited recourse financing, where the lenders have no/limited recourse to the borrower and the only collateral for the loan is the project itself, is the panacea of nuclear new build. However it is still some way off. In the meantime, commercial banks are becoming less reluctant to lend to nuclear projects. The support of a number of the ECAs has assisted with this move.

ECAs have provided the backbone of debt lending to a number of projects in recent years through either direct or guaranteed lending to projects. The key is that it is there to support the export of goods or services from the ECA's home country.

Build, own and operate

Countries such as Russia and China are offering complete solutions to developing nuclear projects in countries other than their own. The development consortium offers to take a large shareholding in the plant and then develop, construct and operate the plant over its lifetime. Examples of this include the Russian consortium's project in Turkey or the Chinese consortium's project in Bangladesh. A large tranche of the financing for these projects comes from the home government, (Russia and China in these examples) its ECAs or banks.

Government financial support

Government support for the development of new nuclear is key. In financial terms, this can take a number of forms including: sovereign guarantees and/or a revenue support mechanism. Much will depend on the country in which the plant is being developed, the country's credit rating, the electricity market in country, the off-take regime and the rights and obligations of generators.

We have seen a number of examples of guarantees and revenue support being deployed including Power Purchase Agreement support e.g. UAE and Turkey, or support through government guarantees such as the US DoE guarantee scheme. However the mechanism which is getting a lot of interest at present is that being deployed in the UK– the Contract for Difference with the Infrastructure UK Guarantee.

Conclusion

Although there is much talk about the various types of financing available in the nuclear market today, the reality is that each project is a mix of all or some of them. In practice, many of the new build projects being developed at present are incorporating a blend of financing solutions. How this jigsaw looks in practice will very much depend on the particular project, the regulatory regime, available options and a number of other factors. The scale, cost and development time needed for nuclear new build projects are so complex, high and long that finding a solution to the financing remains a challenging issue for developers and country hosts alike.

Government support for the development of new nuclear is key.

Non-recourse/limited recourse financing… is the panacea of nuclear new build. However it is still some way off.

To have a deeper conversation about this subject, please contact:

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