

# Case study: Egypt's nuclear dream about to come true – and the future ahead

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When the final contracts for the El Dabaa nuclear power plant are signed this year, Egypt is edging ever closer to fulfilling its nuclear ambition that Egypt has been nurturing for more than half a century now, since the first plans of a national nuclear programme were unveiled back in 1954.

Over the intervening six decades, Egypt has come a long way and, after many hiccups, is finally on the cusp of reaping the benefits from its first very own nuclear power plant. Other than the sheer historic significance of Egypt's most ambitious project since the Aswan High Dam, what does the El Dabaa NPP construction mean for Egypt and its people?

Considering how technologically advanced the nuclear industry is today, its development almost inevitably puts a nuclear newcomer country into the premier league of the world's leading states, through the economic, technical and social progress it necessarily entails.

First of all, obviously, there is the power generation itself. With its total 4,800 MWe net capacity, the El Dabaa NPP will not only ensure the security of supply, providing affordable electricity to millions of people, but opens up the potential of Egypt becoming an energy exporter in the future, solidifying its standing in the region.

Importantly for a project of this scale, its effect will be felt both long before the plant is even built. For instance, the localization level for the project will amount to approximately 20%, which is remarkably high for a country with no pre-existing nuclear power plants. Even better news is that this figure is likely to increase with the construction of each subsequent power units (of the four units of the plant' design).

During the construction phase, the project will also provide employment for 10,000 to 12,000 skilled local workers. As far as job creation goes, the El Dabaa NPP will be a major employer, requiring 2,500 to 3,000 specialists for operation and maintenance.

No less importantly, these jobs come with improved training and education opportunities for Egypt's nuclear industry. Russia's Rosatom, the main contractor for the El Dabaa NPP project, will be conducting training, both in Russia and in Egypt, for 2,000 Egyptian specialist cadre who will service the future NPP. It also has joint nuclear education programmes for Egyptian students and partnerships with Egypt's leading universities such as Alexandria University. Rosatom has plans to expand these programmes, with some 300 Egyptians students set to study nuclear science in Russia over the next few years alone.

No less significant is the indirect effect the El Dabaa NPP project will have on Egypt's economic development, stimulating growth in related non-nuclear industries such as construction and utilities as well as in the consumer services sector, and driving the population's purchasing power. Early estimations put this indirect effect on Egypt's economy at \$7-9 bn during the NPP construction phase alone.

An added – and, considering the failing state of Egypt’s tourism industry – important benefit of the project is that, by bringing state-of-the-art infrastructure to the relatively underdeveloped El Dabaa region, it will help turn the area into a tourist destination. The link between nuclear power and tourism development has been proven by precedent – most notably in Angra Dos Reis, a resort on Brazil’s south-east coast. The region is home to Brazil’s only nuclear power plant, Angra, which is the region’s largest employer and, since the start of construction in 1971, was instrumental in turning Angra Dos Reis from a backwater village into a popular resort, and driving the development of both traditional and modern industry sectors as well as the population’s living standards.

Back in 2015, when Egypt and Russia signed an intergovernmental agreement on the construction of the El Dabaa NPP, Egypt’s president Abdel Fattah As-Sisi noted that having its own nuclear programme for power generation had been a longtime dream of Egypt’s. With the El Dabaa NPP, the dream come true is set bring Egypt infinitely more than just electric power.