

A Road to Peaceful Nuclear Power Energy Generation Development in the Kingdom of Saudi Arabia

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The global electricity demand, volatile fossil fuel prices, and the need to reduce greenhouse gas emissions push power producers towards clean energy sources, including nuclear energy. Civil nuclear power generation is seen as a reliable contestant in the clean energy race, with about 437 nuclear power plants currently operating worldwide. This paper discusses the Kingdom of Saudi Arabia's (KSA) efforts to meet its growing electricity demand and reduce its dependency on fossil fuels through the introduction of nuclear energy into its national energy mix. The paper describes KSA's progress in developing its peaceful nuclear power energy infrastructure, including the establishment of the King Abdullah City for Atomic and Renewable Energy (KA-CARE) and the Nuclear and Radiological Regulatory Commission (NRRC). To achieve its goals, Saudi Arabia has followed the IAEA "Milestones Approach" and conducted the first Integrated Nuclear Infrastructure Review (INIR) at KA-CARE headquarters in 2018. This showed that the country had made noteworthy progress in the development of its nuclear power energy infrastructure and is ready to invite bids or negotiate a contract for its first nuclear power plant(s). The paper emphasizes KSA's commitment to fulfilling international conventions and treaties related to nuclear power generation and its desire to achieve its Vision 2030 nuclear power generation targets.

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