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NUCLEAR POWER, AN OPPORTUNITY FOR DEVELOPMENT IN AFRICA

More than 640 million people in Africa do not have access to electricity. Experts reveal that the rapid proliferation of small modular reactors could transform the evolution nuclear energy in Africa.

A small modular reactor (SMR) is a nuclear fission reactor, smaller in size and power than conventional reactors, manufactured in a factory and transported to the installation site for installation. Modular reactors make it possible to reduce work on site, increase the efficiency of containment and the safety of nuclear materials. SMRs (with a power of 10 to 300 MW) are offered as a lower-cost alternative, or as a complement, to conventional nuclear reactors.

Africa has significant potential in nuclear energy. According to 2022 data from the World Nuclear Association, four African countries, namely Namibia, Niger, South Africa and Malawi, stand out as major uranium producers. A real boon for improving people's access to electricity, but also for meeting the challenge of climate change, according to experts. The International Atomic Energy Agency estimates that nuclear power has avoided more than 70 gigatons of carbon emissions over the past five decades and continues to avoid more than a gigatonne per year. Additionally, replacing 20% of coal-fired electricity generation with 250 gigawatts of nuclear power generation would reduce emissions by 2 gigatons of CO₂, or 15% of electricity sector emissions per year.

On the continent, only South Africa currently has a nuclear power plant. Yet experts say the new generation of reactors makes nuclear power accessible to more African countries, offering lower cost, faster construction and improved safety. WHO data shows that 3.2 million people die each year from conditions caused by the use of polluting fuels and technologies, hence the urgent need to look at nuclear power as a reliable energy source and durable.

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