

SMALL MODULAR REACTORS

Small Reactors Big Solutions

Small modular reactors (SMRs) are advanced nuclear reactors with a maximum capacity of 300 MWe, SMRs are approximately one-third the size of typical large nuclear power reactors (1000 MW systems) and are anticipated to be cost-effective and safer.

Why SMRs Matter?

FLEXIBILITY

Besides providing a reliable baseload power, SMRs can ramp up/ down their power output based on the demand. This makes them more flexible than conventional nuclear plants.

LESS PREP

SMRs are factory-built and need less extensive site preparations and infrastructure than large reactors, speeding up the deployment process and reducing overall project complexity.

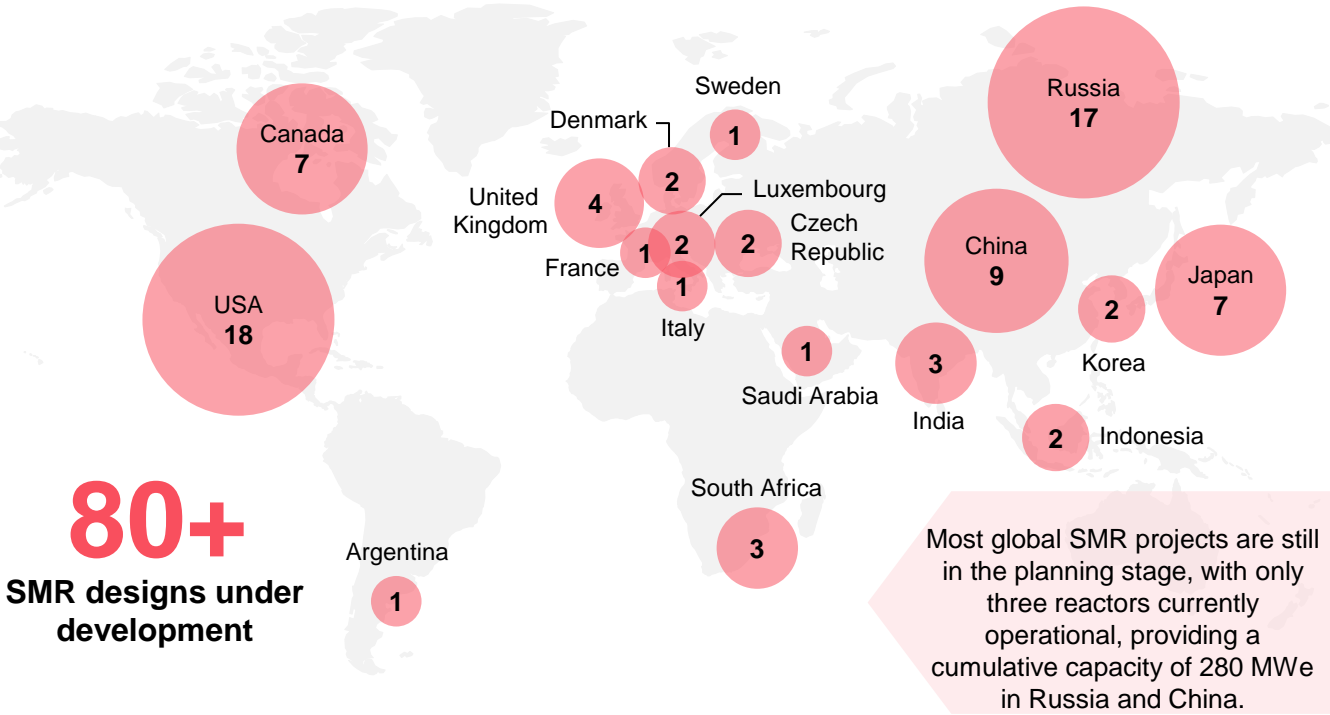
OFF-GRID DEPLOYMENT

SMRs can be built in locations unsuitable for large reactors, such as remote or small grid areas, and allow for a more distributed generation approach, providing energy security and resilience.

NEW BUSINESS

SMRs create new business opportunities by enabling private companies and smaller utilities to invest in nuclear energy for providing heat, hydrogen, or desalination.

Global Map of SMR Development



Potential Applications of SMRs

SMRs can play a stabilizing role in grids with a large share of renewables and contribute to reducing the cost of low-carbon energy supply.

Moreover, they can also be used to decarbonise heavy industries and other non-electrical applications.

SMRs can also prove to be a non-emitting alternative for merchant shipping.

Types of SMRs	Temperature Range (°C)	Applications
Water-cooled reactor	~550	District Heating, Seawater Desalination, Paper & Pulp
Very high temperature reactor	~1000	Chemicals, Ammonia, Refineries
Molten salt reactor	~800	Aluminum, Methane Reforming
Fast neutron reactor	~850	Aluminum, Methane Reforming

SMR Global Market Projections

21

GW expected capacity by 2035

300

US\$ billion projected market by 2040

15

Gigatons of emissions avoided by 2050

SMRs: Something to watch out for!

- Small Modular Reactors (SMRs) are emerging as a key element in the future of energy, offering scalable, flexible, and low-carbon power solutions. Their success, however, hinges on proving their cost-effectiveness and ensuring security. Currently, high capital costs, largely due to limited commercialization present a significant challenge, making cost-competitive production at scale essential
- Flexible nuclear regulations could accelerate SMR development, opening new markets and improving their economic feasibility. With the ability to complement renewable energy and serve remote regions, SMRs hold the potential to make a substantial contribution to a low-carbon future
- As SMRs move closer to commercialization, they are a must watch out for trend, as their success could reshape the global energy landscape in profound ways

About FutureBridge

FutureBridge is a techno-commercial consulting and advisory company. We track and advise on the future of industries from a 1-to-25-year perspective to keep you ahead of the technology curve, propel your growth, Identify new opportunities, markets and business models, answer your unknowns, and facilitate best-fit solutions and partnerships using our platforms, programs, and access to global ecosystems and players.