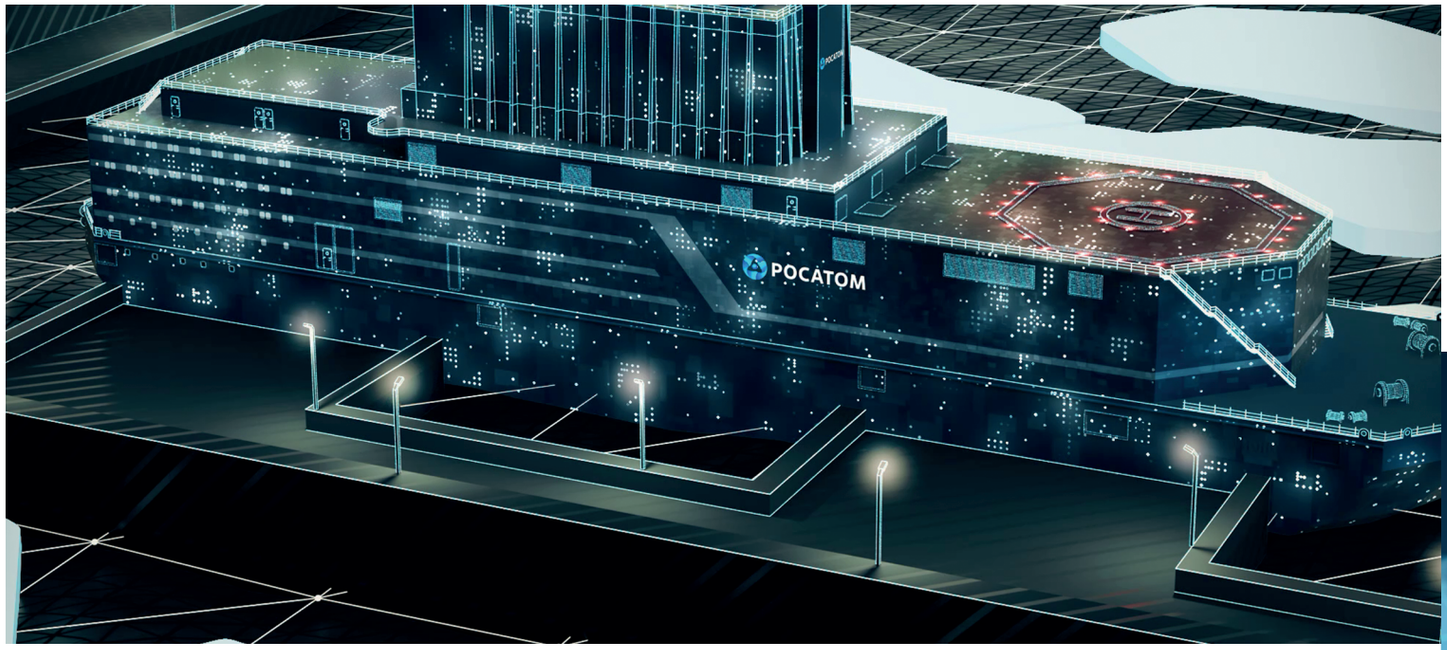


ATOMENERGOMASH
ROSATOM

Staring from the very first Russian ice breakers, the companies which are now part of Atomenergomash Group, have been creating reactor equipment for all ships with a nuclear-powered propulsion system.

The Akademik Lomonosov floating nuclear power plant is a unique project has paved the way for the era of low-capacity transportable power units.

Commercial Floating Nuclear Power Units will become a major development factor for remote territories providing reliable and cost effective energy supply from a green energy source.

- Power plant based on innovative RITM reactors
- 100+ MW capacity options
- Arctic or tropical design options
- No direct CO_2 emissions

Contribution of floating nuclear power units to the implementation of the UN Sustainable Development Goals (SDGs):

13 БОРЬБА С ИЗМЕНЕНИЕМ КЛИМАТА

solution with no direct CO_2 emissions;

7 НЕДОРОГОСТОЯЩАЯ И ЧИСТАЯ ЭНЕРГИЯ

electricity price stability due to the fuel component;
providing affordable, reliable, sustainable energy to hard-to-reach regions;

8 ДОСТОЙНАЯ РАБОТА И ЭКОНОМИЧЕСКИЙ РОСТ

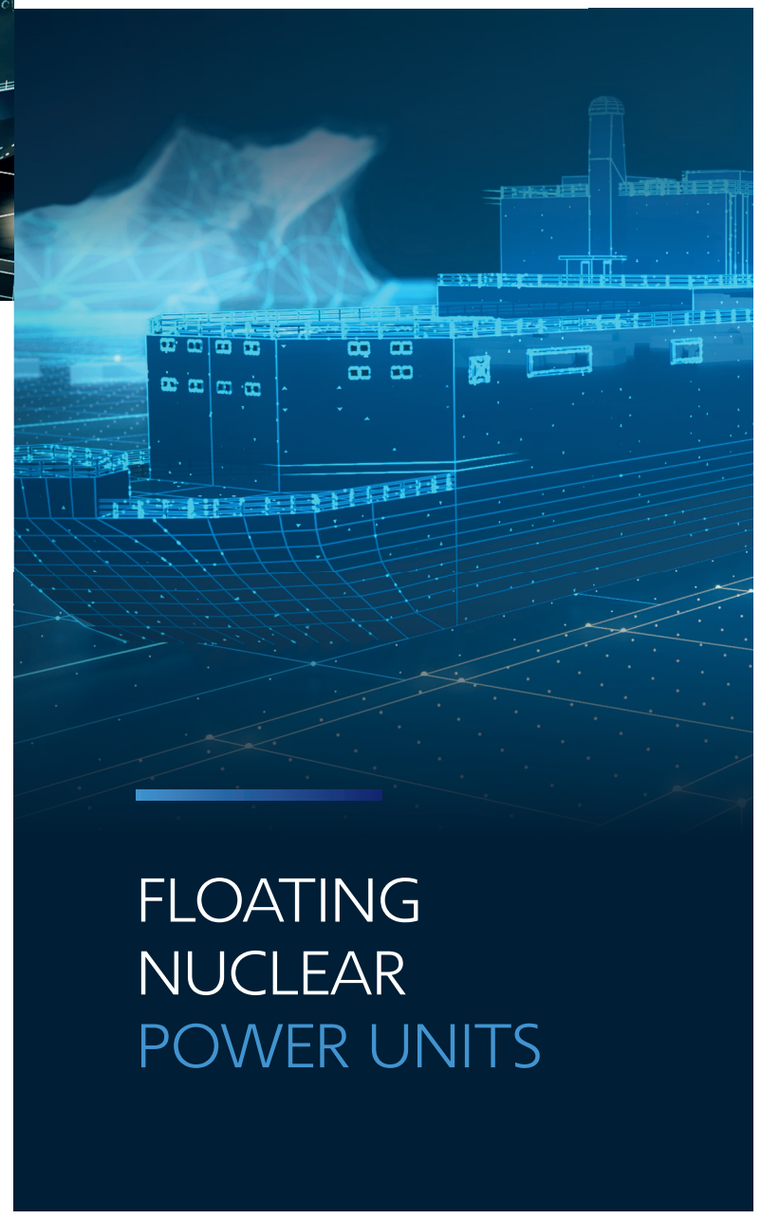
promoting sustainable economic growth and decent work for all;

9 ИНДУСТРИАЛИЗАЦИЯ, ИННОВАЦИИ И ИНФРАСТРУКТУРА

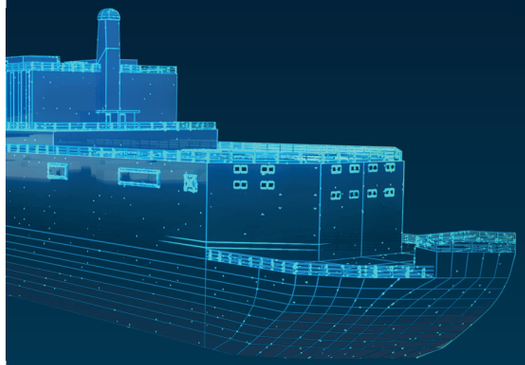
positive impact on infrastructure, promoting innovation and industrialization;

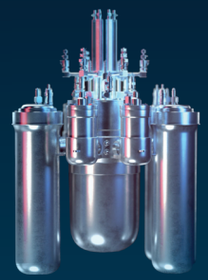
11 УСТОЙЧИВЫЕ ГОРОДА И НАСЕЛЕННЫЕ ПУНКТЫ

sustainable development of cities and communities.



FLOATING NUCLEAR POWER UNITS





Technical parameters

Floating Nuclear Power Units

	Floating nuclear power plant – Akademik Lomonosov	Modernized floating nuclear power plant	Optimized floating nuclear power plant (for overseas market, tropical design)	Optimized floating nuclear power plant (for domestic market, arctic design)
Reactor type	2 x KLT-40S	2 x RITM-200S	2 x RITM-200M	2 x RITM-400M
Electrical capacity	70 MW	106 MW	100 MW	175 MW
Thermal capacity	300 MW	396 MW	350 MW	680 MW
Design life	40 years	40 years	60 years	40 years
Length	144,2 m	144,2 m	112 m	165 m
Beam	30 m	30 m	30 m	33 m
Draught	5,5 m	5,5 m	6 m	6,68 m
Type of vessel	nonself-propelled barge	nonself-propelled barge	nonself-propelled barge	nonself-propelled barge
Crew	366 people	128 people	128 people	128 people
Displacement	21,000 tonnes	21,560 tonnes	16,680 tonnes	30,500 tonnes
Possible sites	Home port: Pevek	Remote areas, ports, agglomerations, islands, archipelagos, mining, mining and processing facilities, large facilities under construction Ongoing project: power supply of the Baimsky mining and processing plant	Remote areas, ports, agglomerations, islands, archipelagos, mining, mining and processing facilities, large facilities under construction	Remote areas, ports, agglomerations, islands, archipelagos, mining, mining and processing facilities, large facilities under construction
Operational temperature	Air: –40 to +30°C, Water: –2 to +25°C	Air: –40° to +30°C, Water: –2 to +25°C	Air: –10 to +47°C, Water: +1 to +40°C	Air: –40 to +30°C, Water: –2 to +25°C

Reactor Plant

Technical parameters	KLT-40S	RITM-200S	RITM-200M	RITM-400M
Thermal capacity	150 MW	198 MW	175 MW	340 MW
Steam capacity	240 tons per hour	305 tons per hour	280 tons per hour	525 tons per hour
Circulation	Forced	Forced	Forced	Forced
Steam pressure	3,71 MPa	3,83 MPa	3,83 MPa	3,83 MPa
Feed water temperature	plus 170	plus 150	plus 170	plus 150
Time of continuous operation	26,000 hours	26,000 hours	26,000 hours	26,000 hours
Design life	40 years	40 years	60 years	40 years
Refueling cycle	2.5 – 3 years	more than 5 years	up to 10 years	more than 5 years
Reactor containment dimensions	12 x 7.9 x 12 m	6 x 6 x 15.36 m	6.4 x 6.6 x 16.2 m	9.56 x 8.4 x 18 m