

THE IMPLEMENTATION OF NEW NPP UNITS IN PAKS

INFORMATION BROCHURE



PAKS II.
NUCLEAR POWER PLANT LTD.



Construction and erection
base facilities

1200
MW

1200
MW

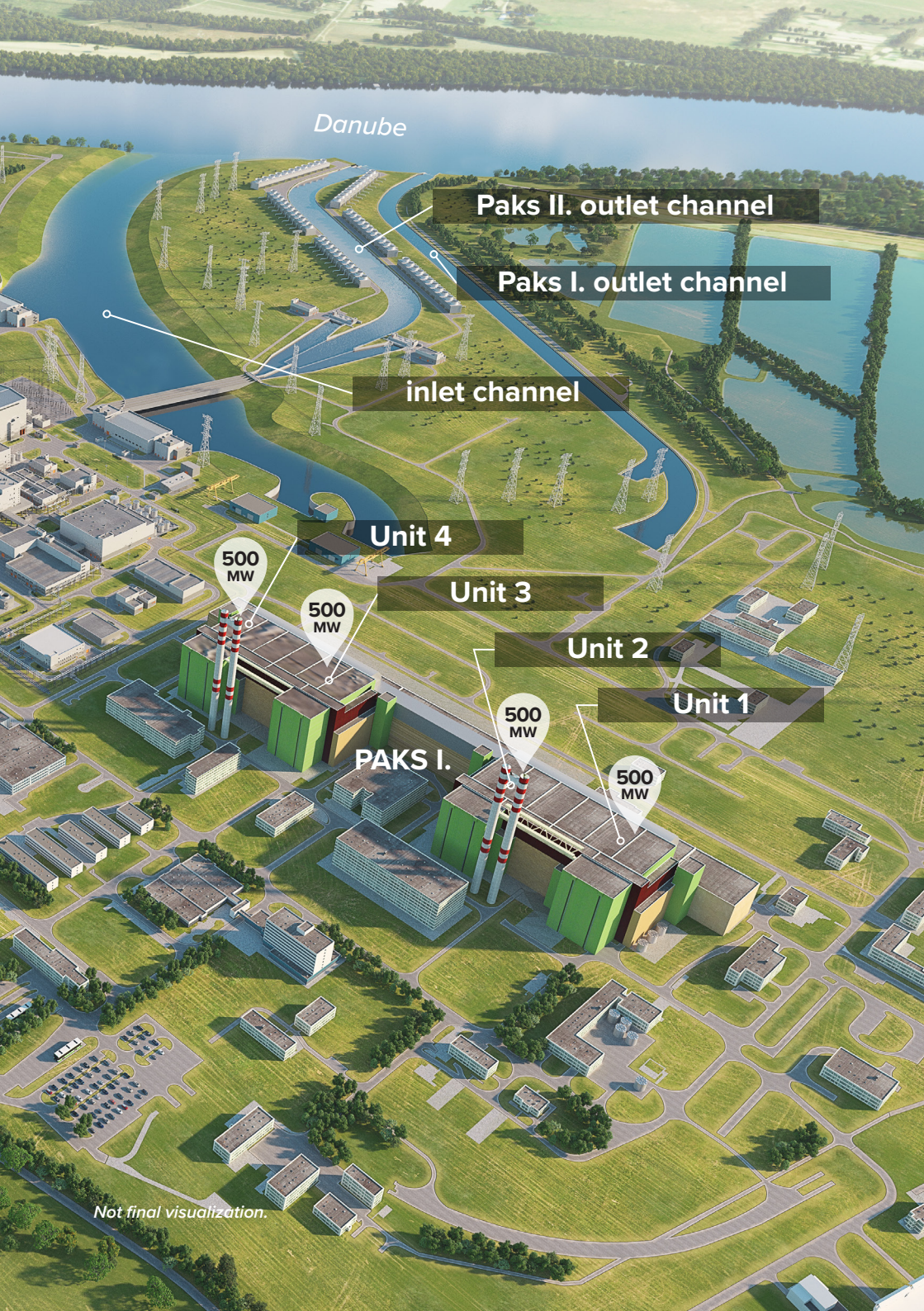
PAKS II.

Unit 6

Unit 5

THE PAKS II. INVESTMENT

Within the framework of the Paks II. project, two modern 1200 MW nuclear power plant units will be constructed adjacent to the current four units. Paks II Nuclear Power Plant Private Company Limited by Shares (Paks II. Ltd.) is responsible for preparing the construction of the new units, obtaining the necessary licenses, carrying out the investment, and then operating the new units.



Danube

Paks II. outlet channel

Paks I. outlet channel

inlet channel

Unit 4

Unit 3

Unit 2

Unit 1

500
MW

500
MW

500
MW

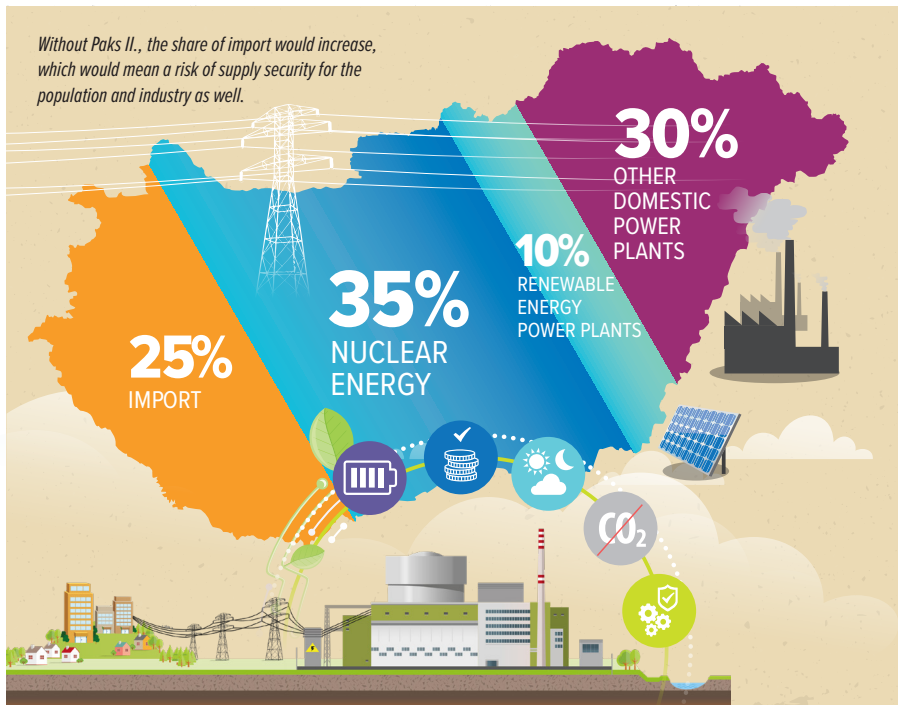
500
MW

PAKS I.

Not final visualization.

WHY DO WE NEED NUCLEAR ENERGY?

The largest domestic power producer is the Paks Nuclear Power Plant, which currently provides half of the electricity produced in our country. The two new units in Paks will be intended for the long-term maintenance of nuclear capacity.



Electricity is always needed: day and night, winter and summer, in all weather conditions. Since electricity cannot be stored on an industrial scale in our country, the units in Paks cannot be replaced by weather-dependent renewable energy producers (e.g. wind, solar).

Hungary imports about a third of the electricity used, making our country among the most exposed to electricity imports in the European Union. Through the investment, we reduce this dependence.

TOGETHER FOR CLIMATE PROTECTION!

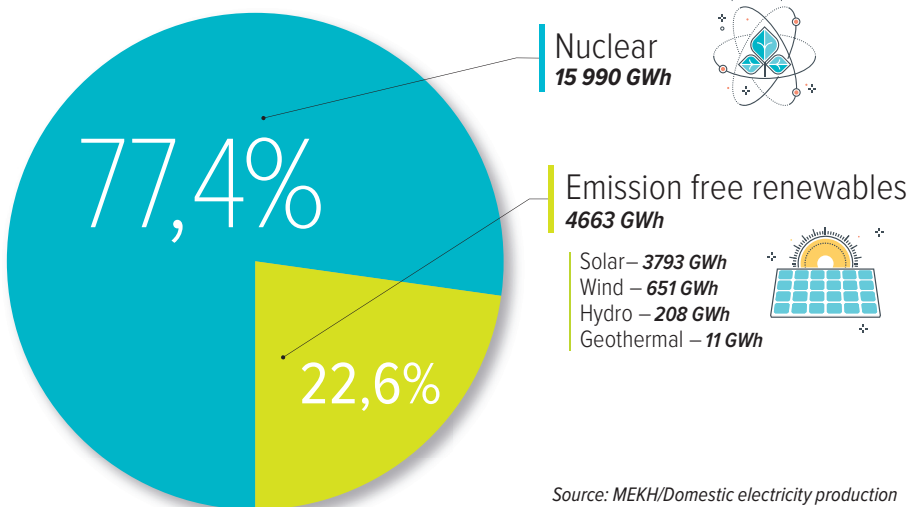
An important goal of Hungary is to make our energy production climate neutral. Without a nuclear power plant, our country cannot achieve this.

Our country is at the forefront of the fight against climate change, the Paks II. investment makes it possible that by the 2030s 90% of Hungarian electricity production will be carbon neutral.

The two new units will prevent the annual emission of 17 million tons of carbon dioxide. For comparison: the annual output of the Hungarian transport sector is 12 million tons.

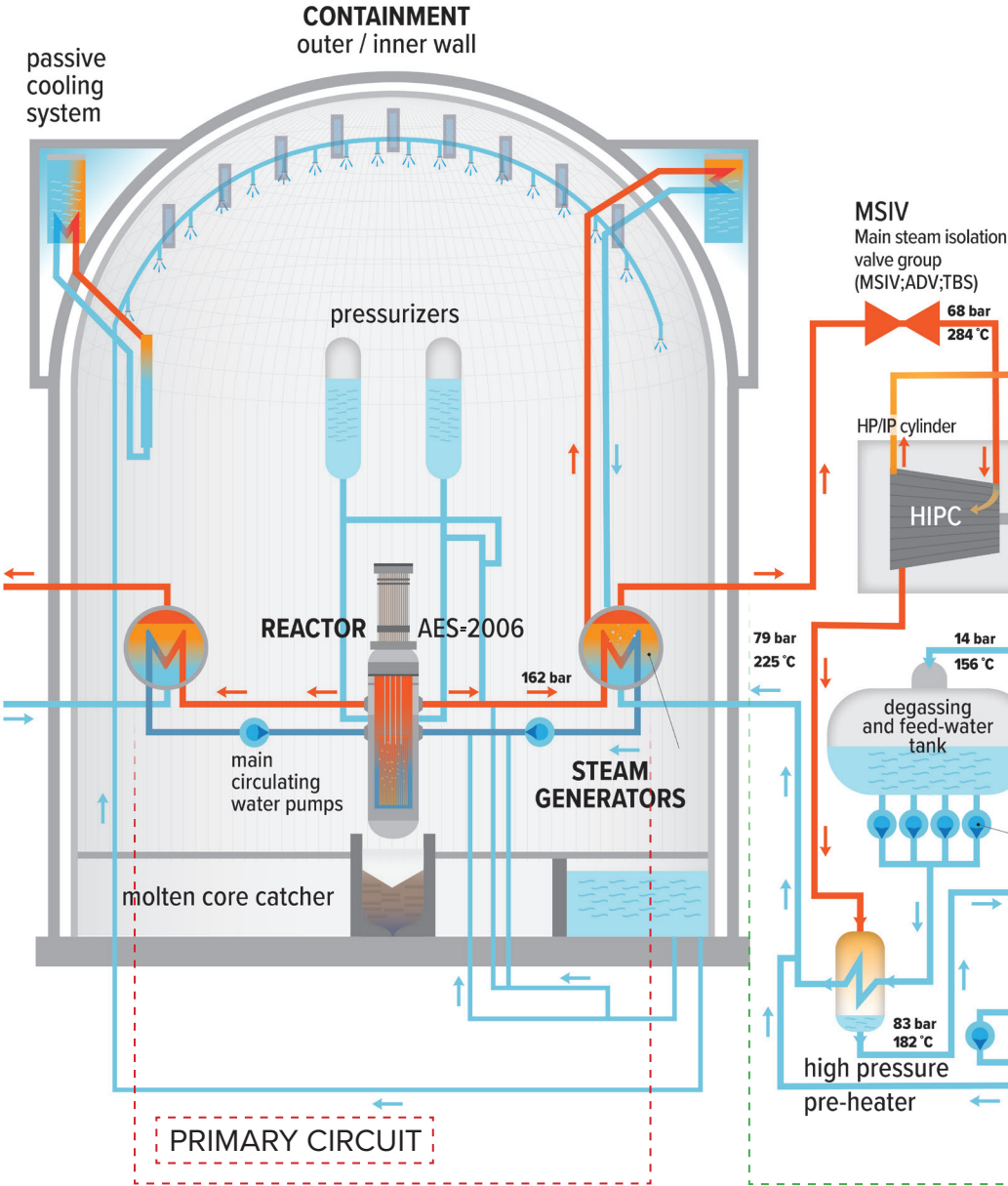


EMISSION-FREE ENERGY PRODUCTION IN HUNGARY IN 2021

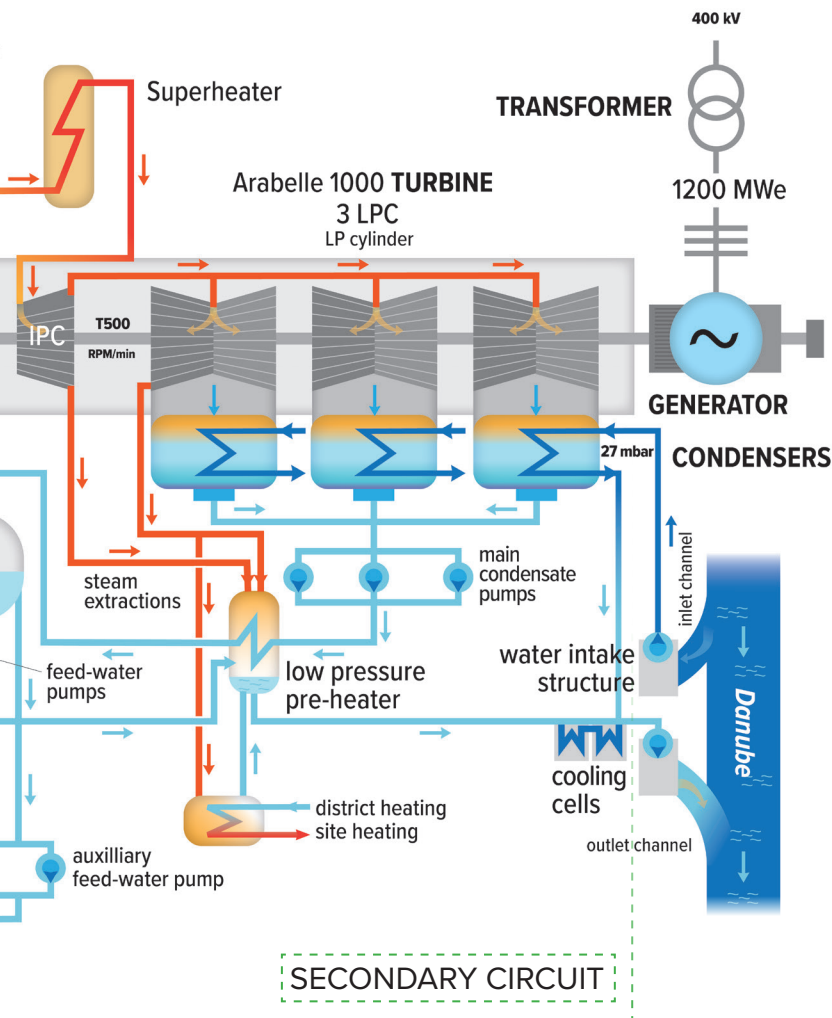


Source: MEKH/Domestic electricity production

HOW DOES THE NUCLEAR POWER PLANT WORK



In a nuclear power plant, belonging to thermal power plants, the heat is produced in the reactor, the heat generating unit of the plant, through controlled chain reaction. The generated heat is transported to the steam generators by high-pressure, high-temperature water, circulating in a closed system. This is the primary circuit. Each of the steam generators produces high-pressure steam that rotates the shaft of the turbines, thus converting the thermal energy produced in the reactor into kinetic energy. This rotational motion generates electricity in the generators, which is fed into the national grid through transformers and switchgears. Meanwhile, the steam working in the turbines condenses in the condenser, and the condensed water is returned to the steam generator. This is the secondary circuit.



WER-1200

INTERNATIONAL PROJECT

The Paks project is an international investment: in addition to the Contractor, the Russian Rosatom, such large Western European and American companies as the turbine manufacturer General Electric, as well as the French Framatome and the German Siemens responsible for the delivery of the I&C systems are involved in the project. International cooperation is also a guarantee that safe units will be built again in Paks.





THE DOMESTIC INVESTMENT OF THE CENTURY

The project is the largest domestic investment of the 21st century, which boosts not only Paks and its region, but the entire economy as well, thanks to the 40% domestic supplier share. In certain works, for example during the establishment of the construction and erection base, the proportion of Hungarian suppliers can significantly exceed 40%. The investment will provide employment to around 10000 people at peak times, and another 10000 to 15000 jobs may be created across the country thanks to the related tasks and works.



Not final visualization.

THE SAFEST TECHNOLOGY AVAILABLE

The nominal unit capacity of the VVER-1200 (AES-2006) units being constructed in Paks will be 1200 MW. The new Paks units are the safest currently available, they represent the safest, so-called 3+ generation technology, and thanks to their active and passive safety systems, they meet the strictest standards. The reactors will be located in a double-walled protective building (containment). On the one hand, containment protects the equipment in the building from external hazards (they are protected even in the event of an aircraft impact), on the other hand it ensures the protection of the environment from the release of radioactive materials even in an extremely unlikely event of a complex malfunction or serious accident.

WHAT KIND OF EXTERNAL HAZARDS DOES THE CONTAINMENT PROTECTS FROM?



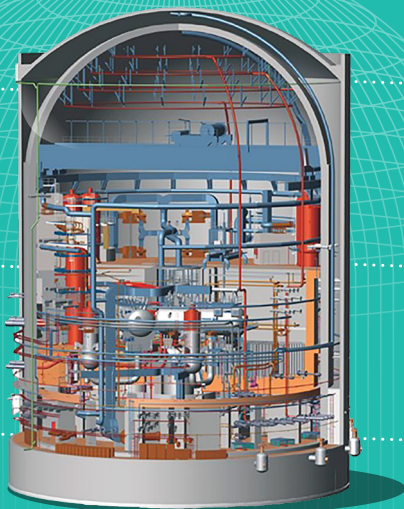
EXTREME TEMPERATURE



EXTREME WEATHER



EARTHQUAKE



AIRPLANE CRASH



EXPLOSION, FIRE



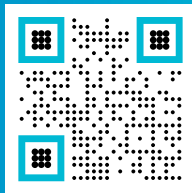
FLOOD



3+ GEN. TECHNOLOGY



Not final visualization.



www.paks2.hu/en



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