

Finland has grand nuclear energy aspirations, but Russia still looms large

Article

The news: Finland has big plans for expanding its nuclear energy program to free itself of Russian energy, but a major roadblock stands in its way. Russian-state-owned nuclear power supplier **Rosatom** is under contract to build the **Hanhikivi 1** nuclear plant project.

Given the war in Ukraine, the Finnish government stated it would be “absolutely impossible” to grant Rosatom construction permits, [per](#) Reuters.

More on Finnish energy: In March, Finland's first new nuclear plant in 15 years opened. The **Olkiluoto 3 nuclear reactor** is expected to supply **14% of the country's electricity demand** at full capacity, [per](#) The Guardian.

- Meanwhile, Finland is gearing up to open the **world's first permanent nuclear waste storage vault** to store spent fuel **1,411 feet underground**. It will be entombed in multiple robot-sealed protective layers for 100,000 years, when the waste will become nontoxic, [per](#) SingularityHub.
- Fuel disposal company **Posiva** plans to open the storage repository in 2024, after a 25-year effort.

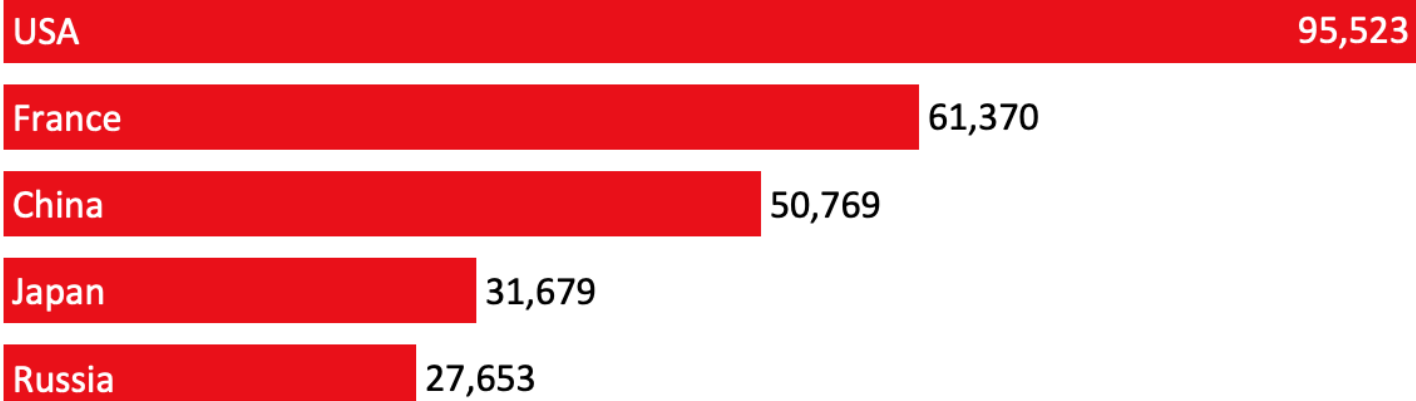
What it means: Finland is one of many European countries grappling with how to rapidly shift away from dependence on Russian energy. The effort is fraught with barriers, mainly caused by a lack of sufficient planning.

- The decision to double down on nuclear energy is poised to **lower energy prices and carbon emissions and reduce the need for energy imports** from Norway, Sweden, and Russia.
- Other countries are divided on nuclear energy. [France](#) joins Finland in building more reactors, [Germany](#) shuts down its plants, and [Italy's government](#) is split on the issue.

The long view: As nations scramble to revise their energy strategies, Russia has for years been positioning itself as one of the world's primary energy dealers that's proving hard to quit. When it comes to sustainably powering society, ongoing technological research needs to accompany long-term development and geopolitical planning.

- Russia doesn't merely supply the world with oil and natural gas, it also leads in [uranium enrichment](#) and maintains expertise in [reactor development](#). The rest of the world should look for reactor contractors and uranium sources elsewhere.
- Most countries lack clear plans for nuclear waste storage. The Finnish project's goal of 100,000-year entombment relies on a distant geologic future that's unknown. Plus, permanent storage could diminish the possibility of [fuel recycling](#).
- Monetary investment in nuclear fission projects could be diverted toward nuclear fusion research that's getting closer to [commercial realization](#). However, it's hindered by a lack of funding despite its promise of unlimited, waste-free energy.

Total Operable Reactor Net Capacity (Top 5 countries) (MWe)



Source: World Nuclear Association, 2021

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