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REMOVING BARRIERS TO SMR DEPLOYMENT IN EUROPE

Lessons from the US regulatory environment

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THE ENERGY TO

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85K

Global employees

100

Countries

~25%

of the world's electricity today is generated with GE Vernova installed base

POWER	Gas Power, Hydro Power, Nuclear (GVH), Steam Power
WIND	LM Wind Power, Onshore Wind, Offshore Wind
ELECTRIFICATION	Electrification Software, Grid Solutions, Power Conversion, Solar & Storage Solutions
ACCELERATORS	Advanced Research, Consulting Services, Financial Services

BWRX-300 COMMERCIAL

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TVA, OPG, Synthos Green Energy, Duke Energy, and GVH sharing in the +$400M investment to develop the

BWRX-300 standard

Canada

Ontario Power Generation (OPG)

Construction of the first BWRX-300 SMR at OPG's Darlington site is underway; three additional units are planned.

SaskPower

Has entered an agreement with GE Vernova Hitachi to collaborate on project planning and to share expertise for the BWRX-300.

United States

Tennessee Valley Authority (TVA)

Construction Permit Application docketed by the US NRC for a BWRX-300 at TVA's Clinch River site. US DOE awarded TVA-led coalition a $400M grant to advance the BWRX-300

Japan investment

Considering up to $100B for construction of BWRX-300 SMRs.

Japan and US Dept of Commerce announced $40B for 3GW in Tennessee and Alabama

Europe

Poland

GVH and Orlen Synthos Green Energy (OSGE) have an agreement to advance the Polish generic design of the BWRX-300, including investment.

Nordics

GVH has been down selected by Fortum for potential deployment.

Estonia

Fermi Energia submitted an application to begin the site selection process for deployment of two BWRX-300 SMRs.

UK

GVH BWRX-300 SMR has completed Step 2 of the Generic Design Assessment (GDA) process in the UK.

EUROPE'S SMR AMBITION VS STRUCTURAL BARRIERS

THE SCALE OF THE EU GAP

Investment need

~€241bn

Nuclear investment need identified in the Nuclear Illustrative Programme (PINC)

EU guarantee

€200m

The InvestEU guarantee available to SMRs to 2028 – modest against that need

Licensing regimes

27

Separate national processes force vendors to repeat design assessments in every market

FOUR BARRIERS TO SMR DEPLOYMENT IN EUROPE

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Technology neutrality

Lack of nuclear financing focus from EU funds. For example the Innovation Fund has no dedicated nuclear calls, and eligibility varies across instruments and state-aid practice.

Uneven treatment raises the cost of capital and deters private investors.

Access to finance

First-of-a-kind SMRs face high capital costs and deployment risk, and EIB lending to new nuclear remains limited in practice despite its 2026–2030 Energy Sector Orientation now covering SMRs.

Licensing and regulation

27 separate national licensing regimes force vendors to repeat design assessments in every market, eroding the core economic advantage of SMRs: standardization.

Transatlantic cooperation

Designs already licensed in the US or Canada must restart assessments in Europe. No EU–US framework exists to reuse completed safety reviews.

THE US HAS ALREADY ANSWERED EACH OF THESE

HOW THE US REMOVED THE SAME BARRIERS

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Barrier	US instrument	Documented result
Technology neutrality	Sections 45Y/48E clean electricity credits; NRC pathways	Nuclear kept full eligibility for facilities beginning construction before 2034, with a 10% adder for advanced nuclear in nuclear energy communities; 45U left intact. Part 53 is risk-informed and technology-inclusive by statute allowing new nuclear multiple paths to licensing.
Access to finance	DOE Generation III+ SMR Program; Executive Order 14300 DOE Loan Program financing Export Import Bank & Development Finance Corporation financing for international markets	$900m cost-share announced October 2024; roughly $800m awarded to TVA for the BWRX-300 and Holtec in December 2025. Low interest loans and loan guarantees available through government financing domestic deployment. ExIm and DFC financing available to support exports and international development.
Licensing	ADVANCE Act (PL 118-67); Executive Order 14300; Part 53	31 of 36 NRC implementation actions complete by November 2025; the advanced-reactor review fee cut from $337 to $154 per hour (–54%); an 18-month statutory deadline for final decisions on new reactor applications.
Transatlantic cooperation	NRC–CNSC Memorandum of Cooperation; NRC/CNSC/ONR trilateral (2024); Atlantic Partnership (Sept 2025)	Joint US–Canada review reports on the BWRX-300 feed both national reviews; the US–UK partnership reuses completed assessments, cutting expected licensing time from 3–4 years to around 2.

KEY TAKEAWAY

Major barriers Europe faces already has a working, documented remedy across the Atlantic.

FOUR POLICY RECOMMENDATIONS FOR THE EUROPEAN UNION

POLICY RECOMMENDATIONS

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1. Embed technology neutrality

Write strict neutrality into the 2040 framework, Innovation Fund calls and Net-Zero Industry Act implementation and extend EU-supported PPA and CfD instruments to nuclear on an equal footing, as the PINC recommends.

2. Fund first-of-a-kind projects

Ring-fence a dedicated SMR envelope within the EIB's €75 billion energy financing for 2026–2028, including construction risk-sharing, pre-FID instruments, and let Member States deploy CfD and Regulated Asset Base models under streamlined state-aid rules.

3. Review once, accept everywhere

Establish a European joint design-review process with mutual recognition of assessments, building on the EU SMR Strategy (COM/2026/117), and introduce binding statutory review timelines for national regulators.

4. Join the transatlantic architecture

Negotiate an EU–US/Canada regulatory cooperation agreement so assessments passed in one jurisdiction support reviews in another and align transatlantic fuel supply chains and export frameworks.

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THE ENERGY TO CHANGE THE