

# International Outlook for Nuclear Energy

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## **COP28 Ministerial Declaration on Tripling Nuclear Energy by 2050**

25 nations committing during COP28 to tripling nuclear energy by 2050



- Referenced NEA analysis that demonstrates the need to triple nuclear energy and a pathway to achieve this target
- Emphasis on the role of Multinational Development Banks (MDBs) and International Developmental Finance Institutions (IFIs)

### **2022 NEA Publication: Global installed nuclear capacity needs to triple by 2050 for Net Zero**





IPCC 1.5°C scenarios (2050 average) = 1 160 GW nuclear capacity (based on the average of IPCC 1.5°C scenarios)

#### **Conservative projections**

Small modular reactors (2035 market outlook)
Large-scale new builds (under construction)
Long-term operation (planned)

#### **Ambitious projections**

Small modular reactors (post-2035 market extrapolation) Large-scale new builds (planned) Long-term operation (to 80 years)

#### https://www.oecd-nea.org/jcms/pl 69396/meeting-climate-change-targets-the-role-of-nuclear-energy

## **International Outlook for Nuclear Energy**



Existing capacity: Nuclear power plants in operation

Construction: Nuclear new build projects are considered 'under construction' after construction has started on site and before the plant is commissioned.

Planned: Nuclear new build projects are considered as 'planned' once the decision has been taken by either the government or the utility, including selection of the site and the reactor technology.

**Proposed:** Nuclear new build projects are considered as 'proposed' based on policy or industry statements of intention.

#### **SMR Pipeline: Progress from Concept towards First Commercial Deployment**



 A few designs are already operating, and there is a robust pipeline of SMRs making progress towards first-of-a-kind deployment.

### **Financing Progress Worldwide**



#### **SMR Siting Progress around the World**



1	ARC-100	ARC Clean Technology		
2	Blue Capsule	Blue Capsule Technology		
3	SEALER-55	Blykalla		
4	BANR	BWXT		
5	Project Pele	BWXT		
6	ACPR505	CGN		
7	CAREM	CNEA		
8	ACP100	CNNC		
9	Energy Well	CVR		
10	DF300	Dual Fluid Energy		
11	A-HTR-100	Eskom		
12	LFTR	Flibe Energy		
13	SC-HTGR	Framatome		
14	BWRX-300	GE Hitachi Nuclear Energy		

15	Calogena	Gorgé		
16 HEXANA		Hexana		
17 SMR-300		Holtec International		
18	HTR-PM	INET		
19	GTHTR300	JAEA		
20	HTTR	JAEA		
21	Jimmy SMR	Jimmy		
22	SMART	KAERI		
23	Hermes	Kairos Power		
24	PWR-20	Last Energy		
25	SSR-W	Moltex Energy		
26	FLEX	MoltexFLEX		
27	XAMR	NAAREA		
28	HTGR-POLA	NCBJ		

29	LFR-AS-200	newcleo	43	HTMR-100	Stratek Global
30	BREST-OD-300	NIKIET	44	Natrium Reactor Plant	TerraPower
31	VOYGR	NuScale Power	45	IMSR	Terrestrial Energy
32	NUWARD SMR	NUWARD	46	ThorCon 500	ThorCon International
33	Aurora Powerhouse	Oklo	47	Thorizon One	Thorizon
34	Otrera 300	Otrera Nuclear Energy	48	MoveluX	Toshiba Energy Systems & Solutions Corporation
35	Kaleidos	Radiant Industries	49	45	Toshiba Energy Systems & Solutions Corporation
36	RRSMR	Rolls-Royce SMR	50	MMR	USNC
37	KLT-405	ROSATOM	51	Pylon D1	USNC
38	RITM-200M	ROSATOM	52	TEPLATOR	UWB and CIIRC CTU
39	RITM-200N	ROSATOM	53	AP300 <sup>™</sup> SMR	Westinghouse Electric Company
40	RITM-2005	ROSATOM	54	eVinci microreactor	Westinghouse Electric Company
41	CMSR	Seaborg Technologies	55	Westinghouse LFR	Westinghouse Electric Company
42	HAPPY200	SPIC	56	Xe-100	X-energy

30

55

22

0,10

42

#### **Near-term Emerging Markets for SMRs**



# **NEA SMR Dashboard: Second Edition**





#### www.oecd-nea.org/SMR-Dashboard-2nd-edition

