NNWI

CONFERENCE

Powering Industrial Decarbonisation: SMRs for Materials Processing Industries

14 MAY 2026 | LONDON, UK

PANEL 3

Policy, Economics, and Regulatory Frameworks for Industrial SMRs

Chaired by Tim Yeo, Chairman, New Nuclear Watch Institute

- Keisuke Sadamori, Director, Energy Markets and Security, **International Energy Agency**
- Diane Cameron, Head of the Nuclear Technology Development and Economics Division, **OECD Nuclear Energy Agency**
- Raquel Heredia Silva, Senior Programme Lead, Strategic Partnerships, **World Nuclear Association**
- Patrick Matthewson, Head of Energy and Net Zero Policy, **Make UK**

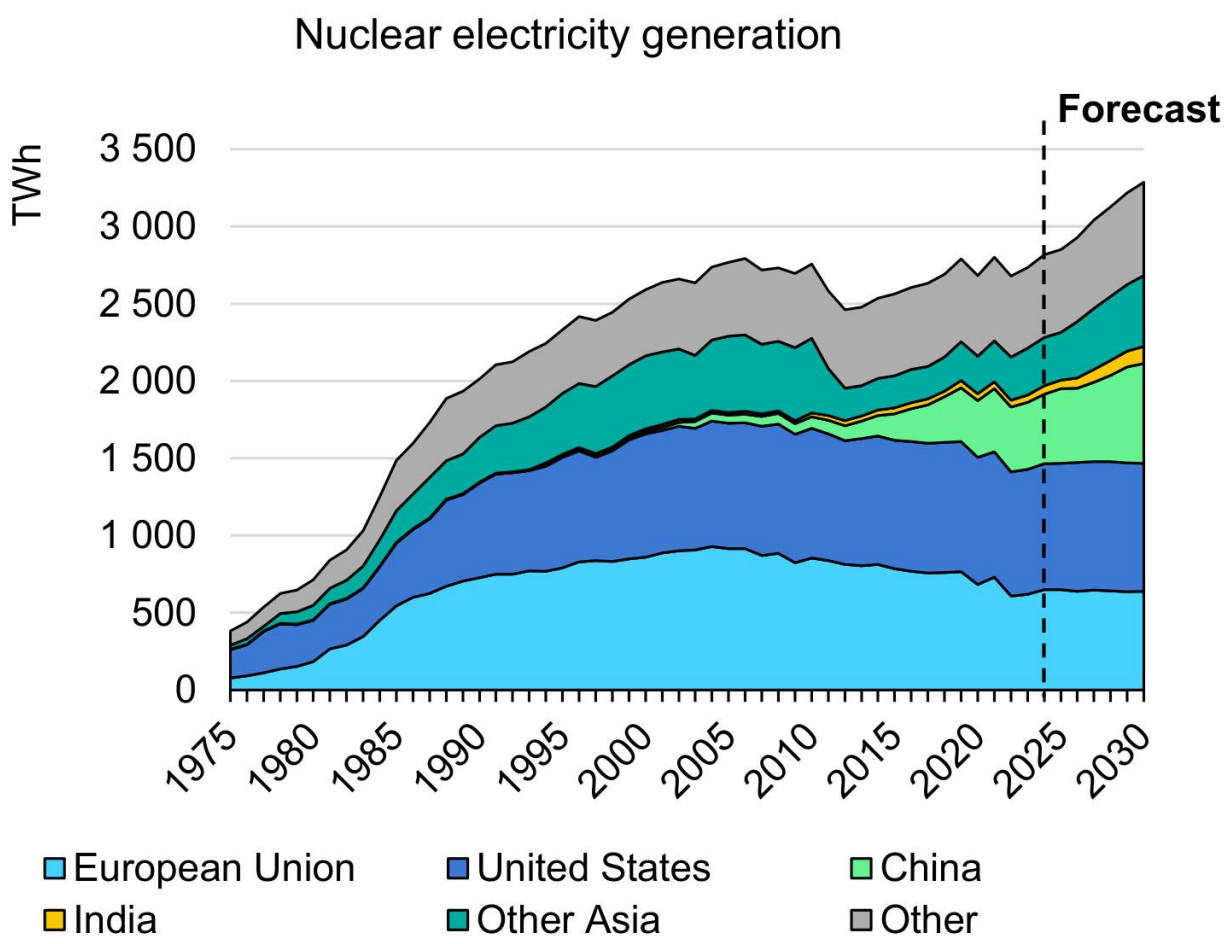
International Energy Agency

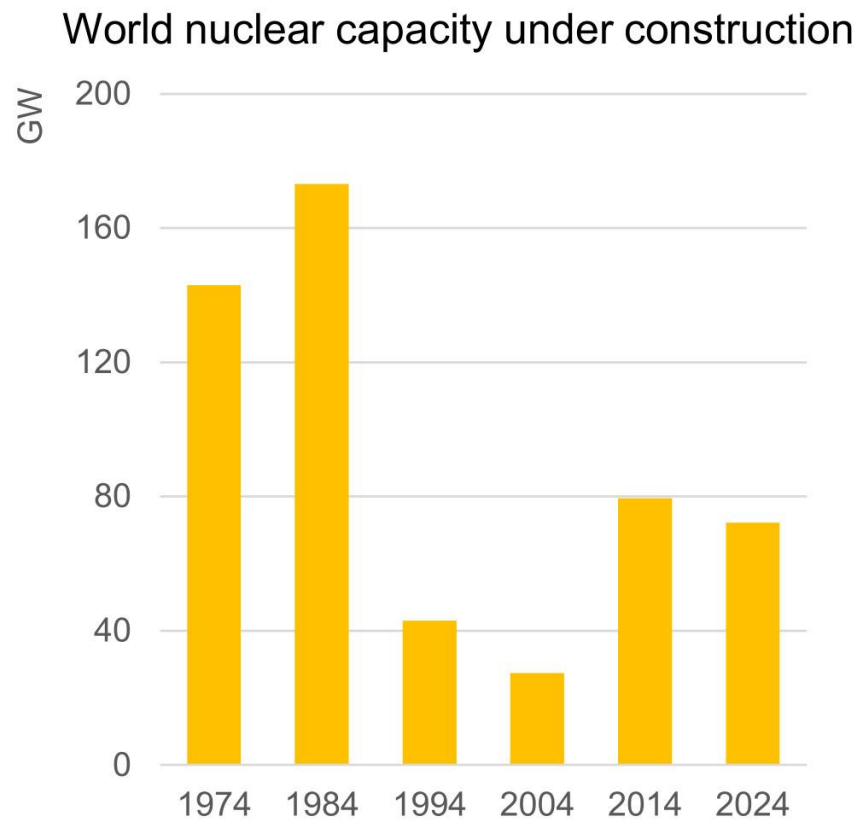
Powering Industrial decarbonisation: SMRs for Materials Processing Industries

Keisuke Sadamori – Director of Energy Markets and Security Directorate

14 May 2026 – NNWI Conference

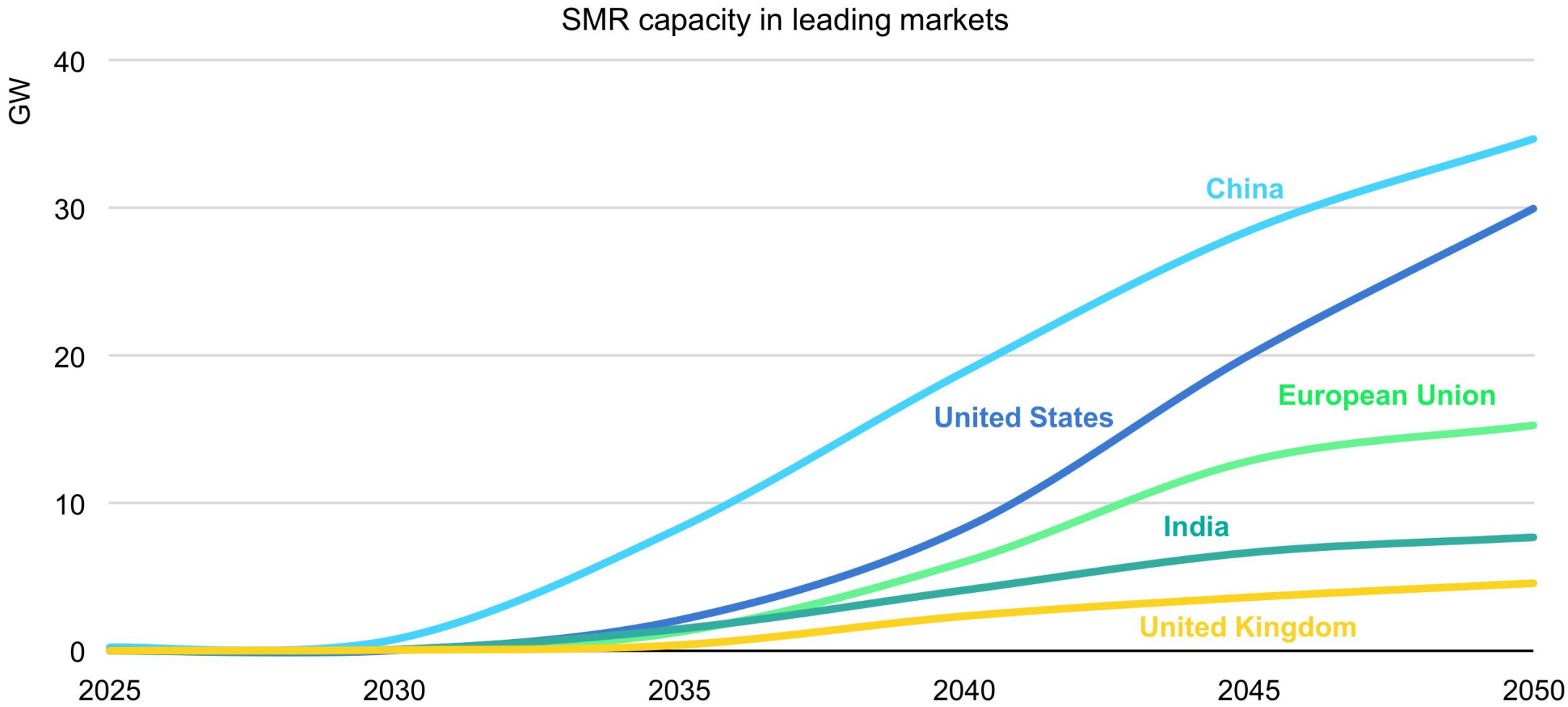
Nuclear generation sets new record in 2025 and is poised to keep rising





There are several reasons for optimism about the future of nuclear energy: record high output, robust construction in the industry, technology innovation for large and small reactors, and plans to expand its role in over 40 countries

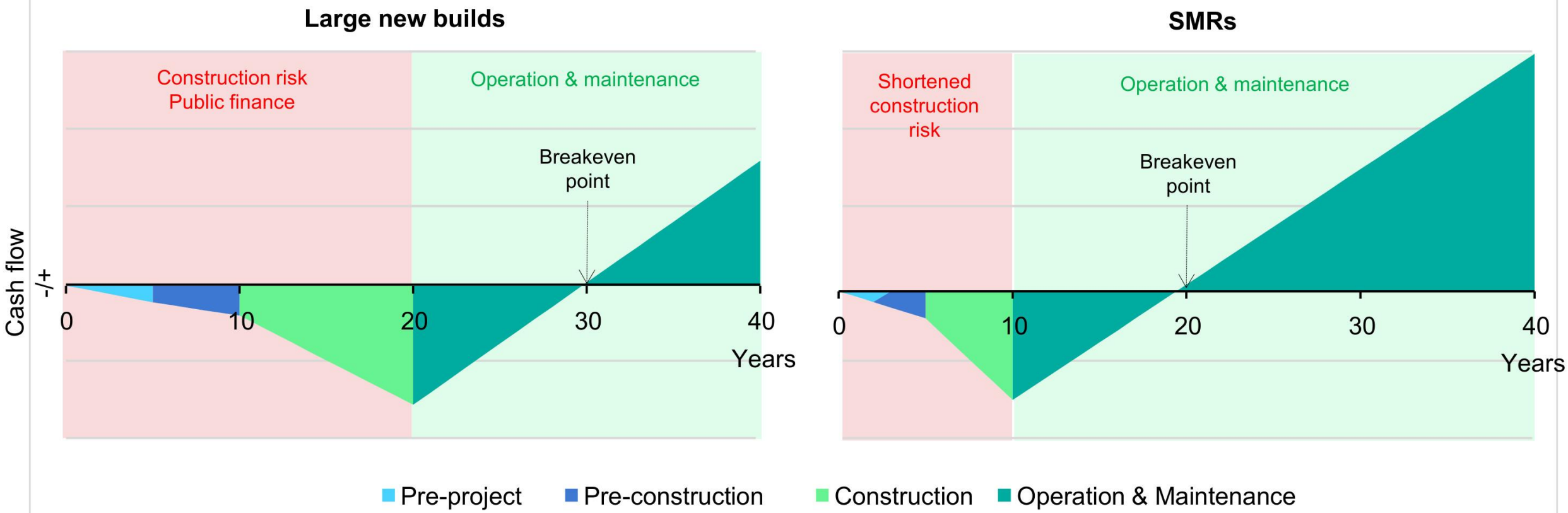
SMRs show strong potential in many regions



Innovation, government support and new business models can open a new era for nuclear energy, with over a thousand SMRs totalling 120 GW by 2050, and cumulative investment of USD 670 billion.

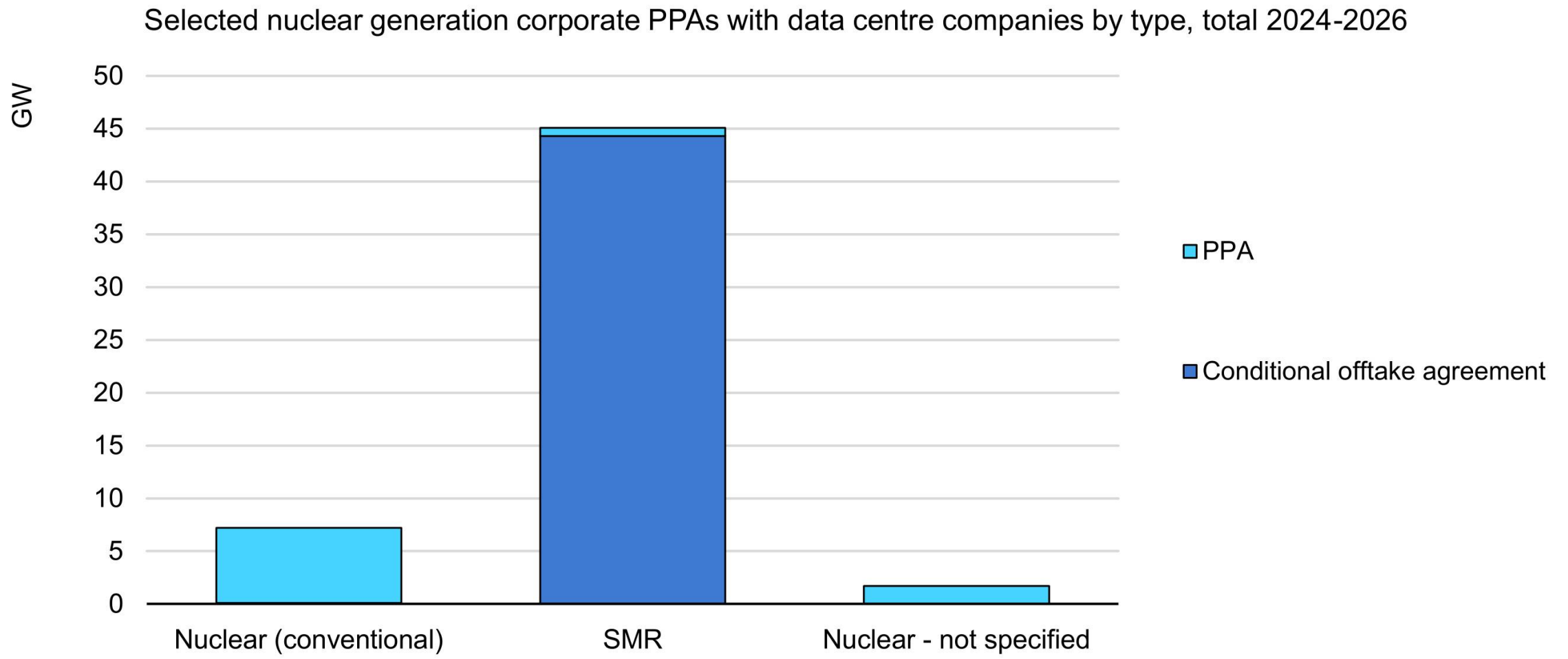
Investment in SMRs could lead to faster profitability

Illustrative cumulative cash flow profile of nuclear plants



The cash flow profile of large new builds means it is challenging for the private sector to finance construction. The investment case for SMRs is more optimistic.

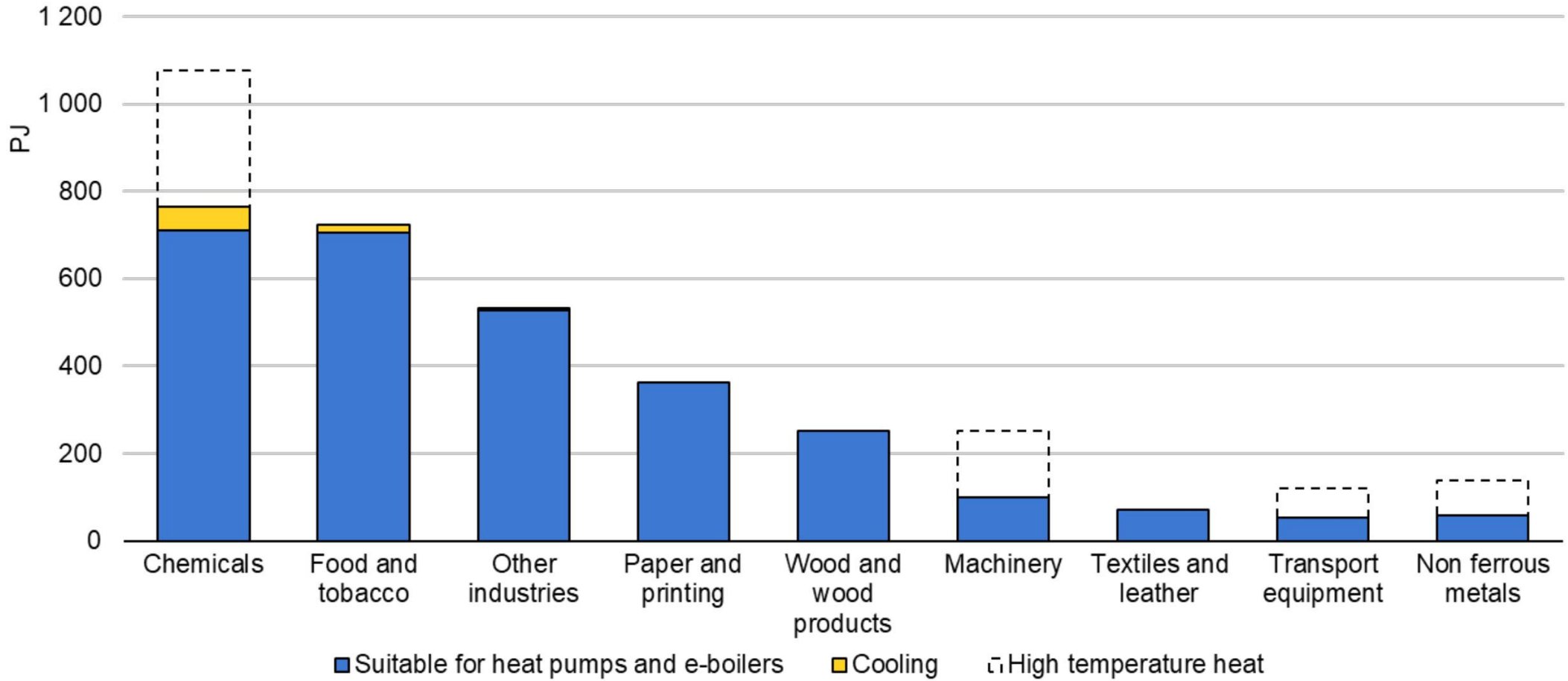
Data centres are emerging as a new dedicated market for SMRs



Most PPAs for data centres have been for existing nuclear generators, but tech companies have signed 45 GW of other off-take agreements with SMRs

Electrification can cut industrial use of fossil fuel for heat in the EU by 56%

Technical potential for heat electrification in EU industry sectors with commercially available technologies (2023)



Heat electrification in the EU would reduce direct natural gas use for industrial heat by 35 bcm, equal to 70% of the remaining imports from Russia.

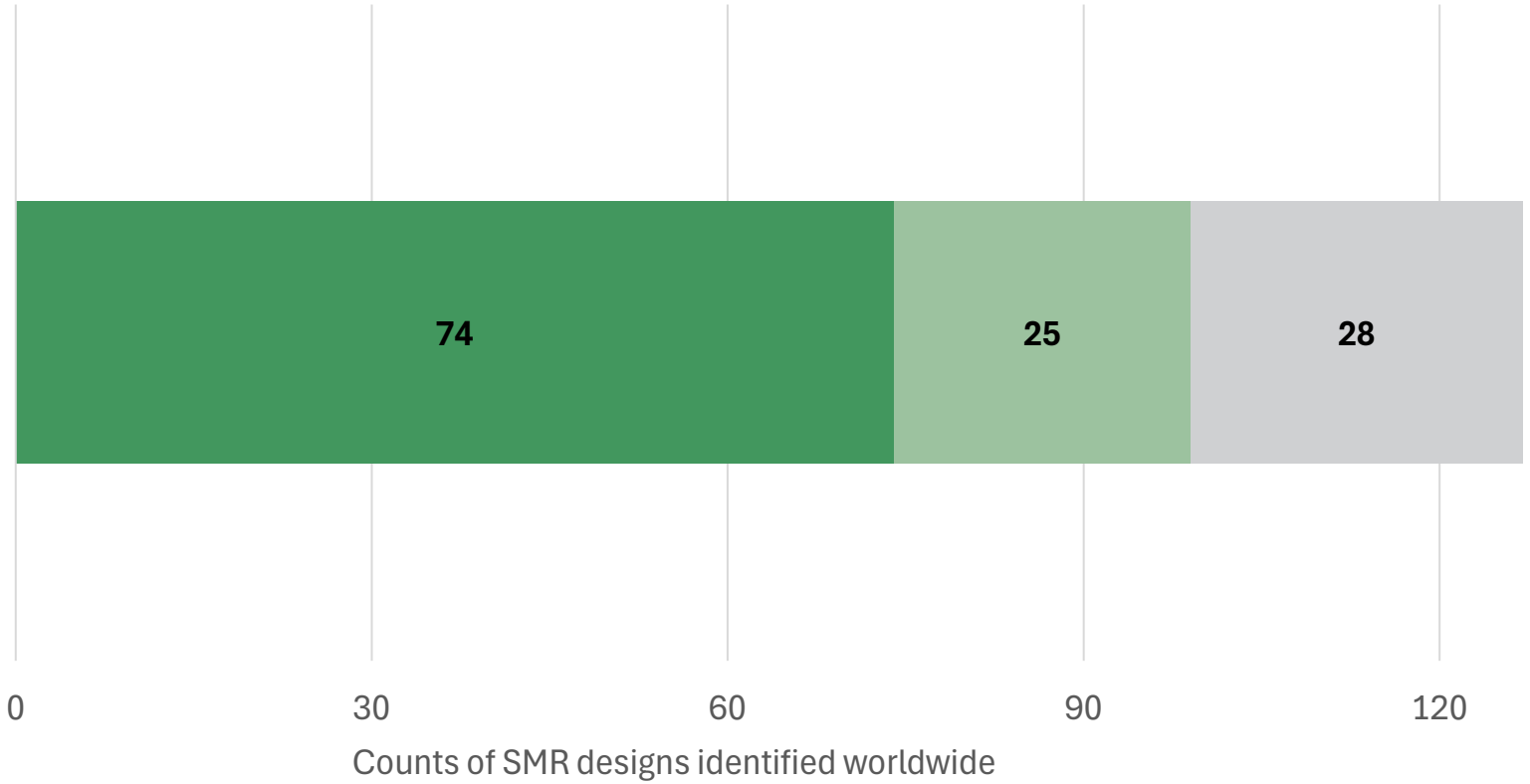
NEA
NUCLEAR ENERGY AGENCY

Small Modular Reactors:
The potential to power industrial decarbonization in rapidly changing times

Diane Cameron

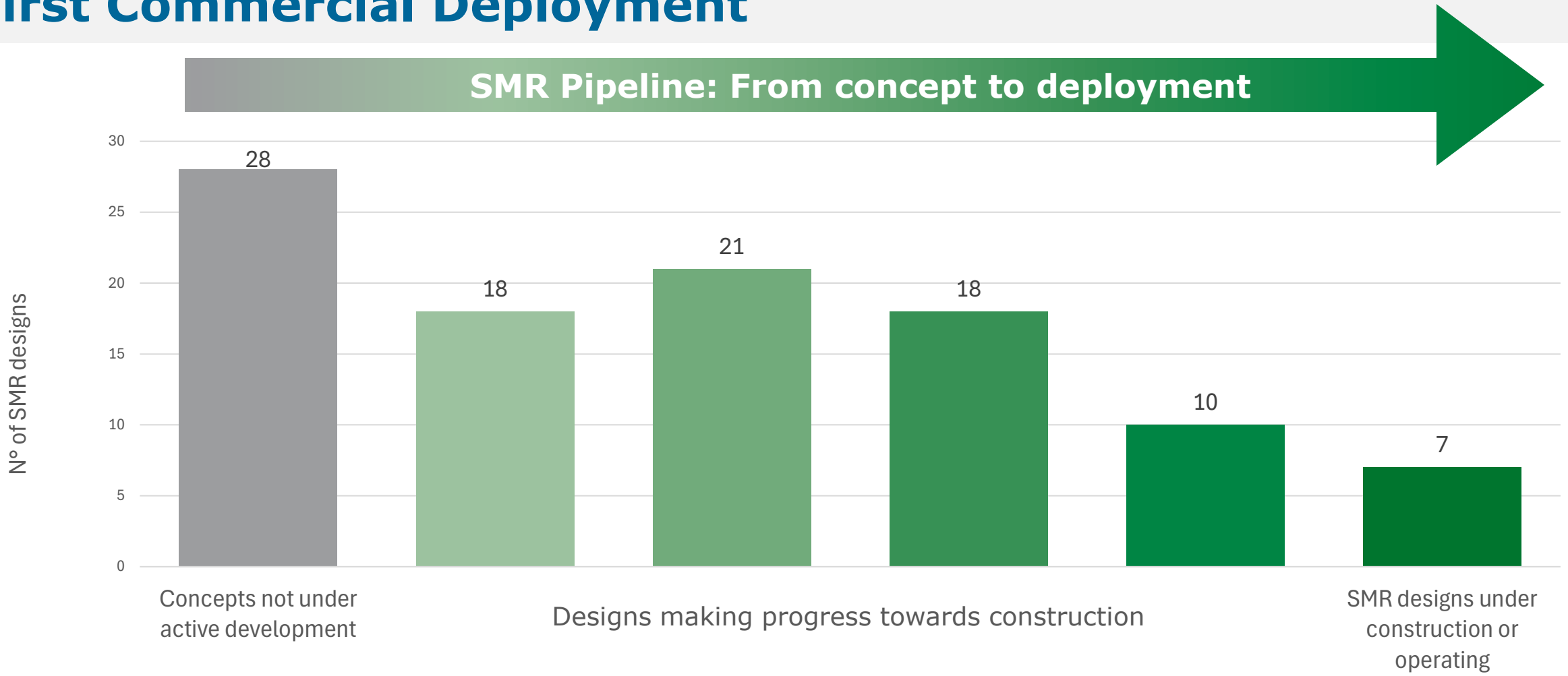
Head of Division
Division of Nuclear Technology Development and Economics (NTE)

The most comprehensive assessment to date of the progress towards SMR commercialisation



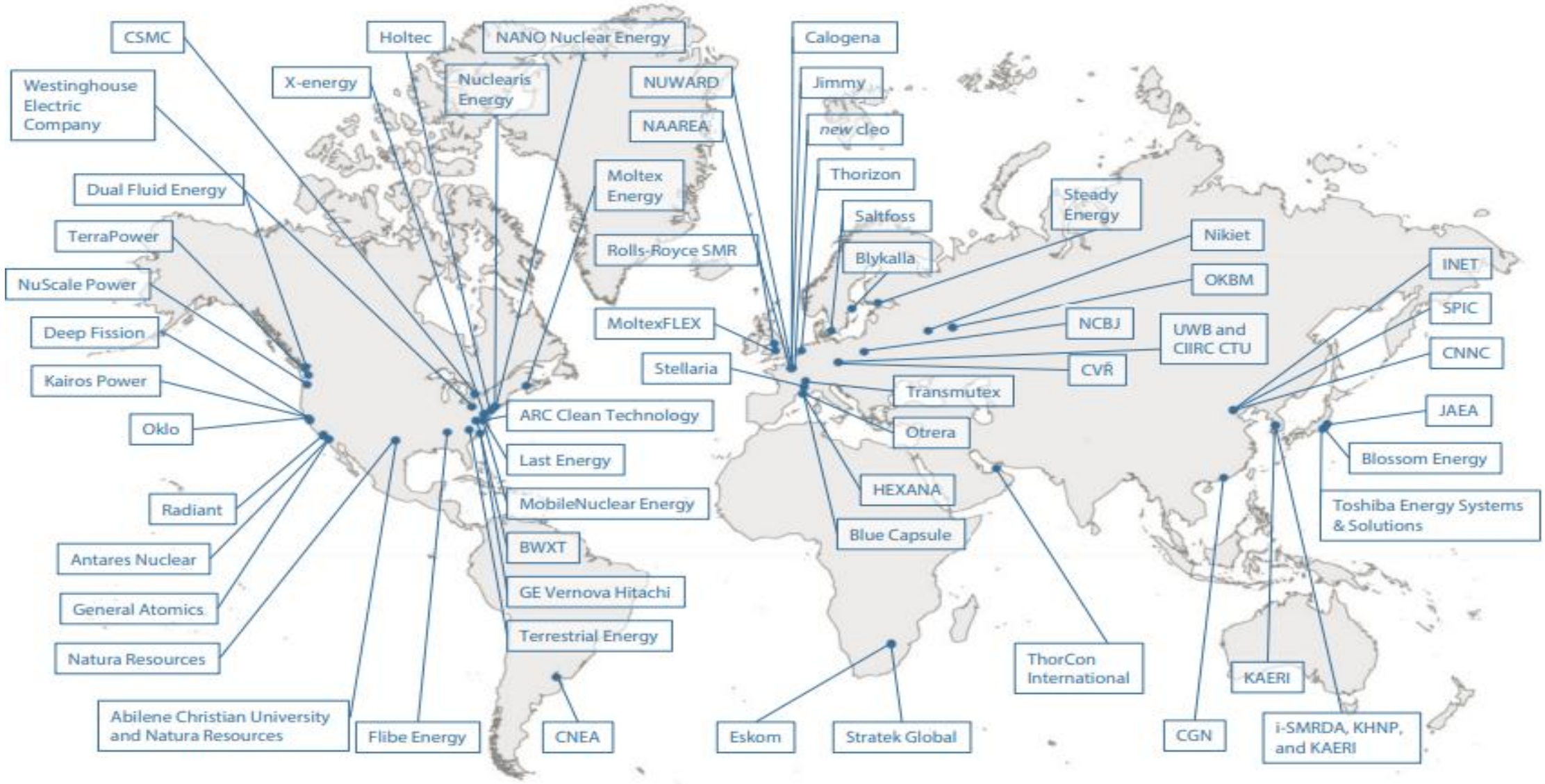
✓ From the 127 SMR designs identified around the world in the 3rd edition of the SMR Dashboard, around 60% are under active development.

SMR Pipeline: Progress from Concept towards First Commercial Deployment



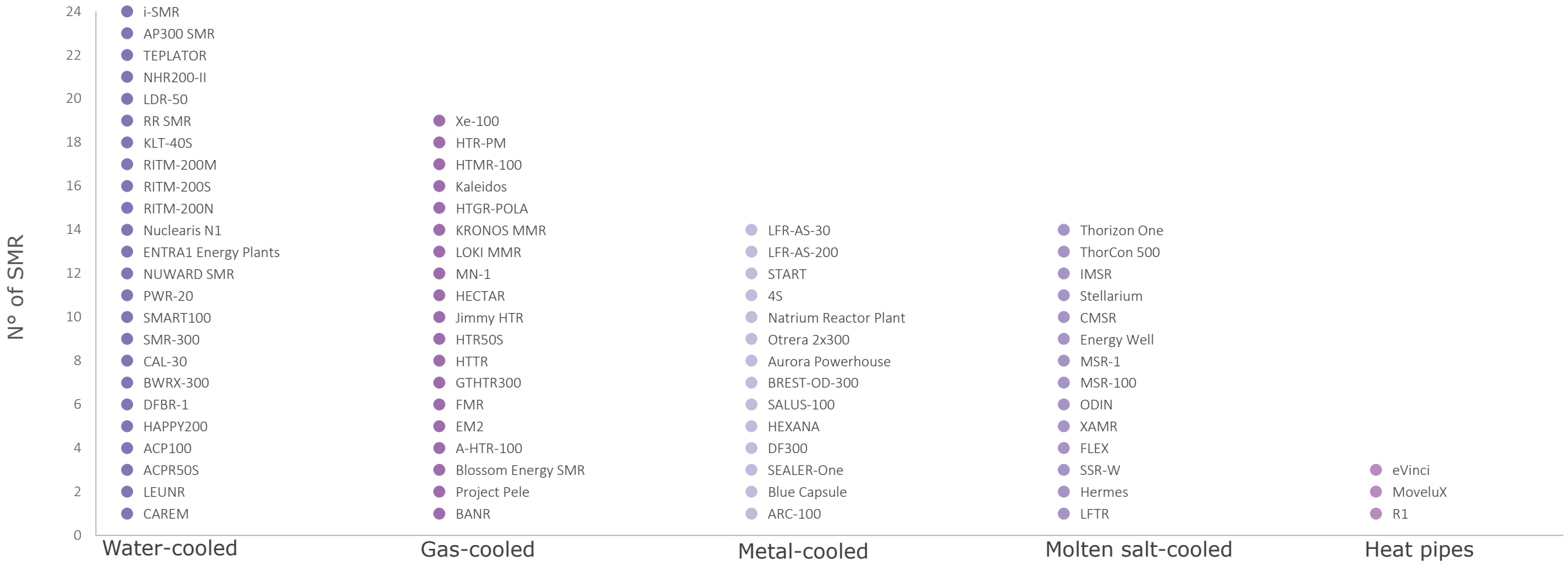
✓ A few designs are already operating, and there is a robust pipeline of SMRs making progress towards first-of-a-kind deployment.

Headquarters of SMR designs around the world

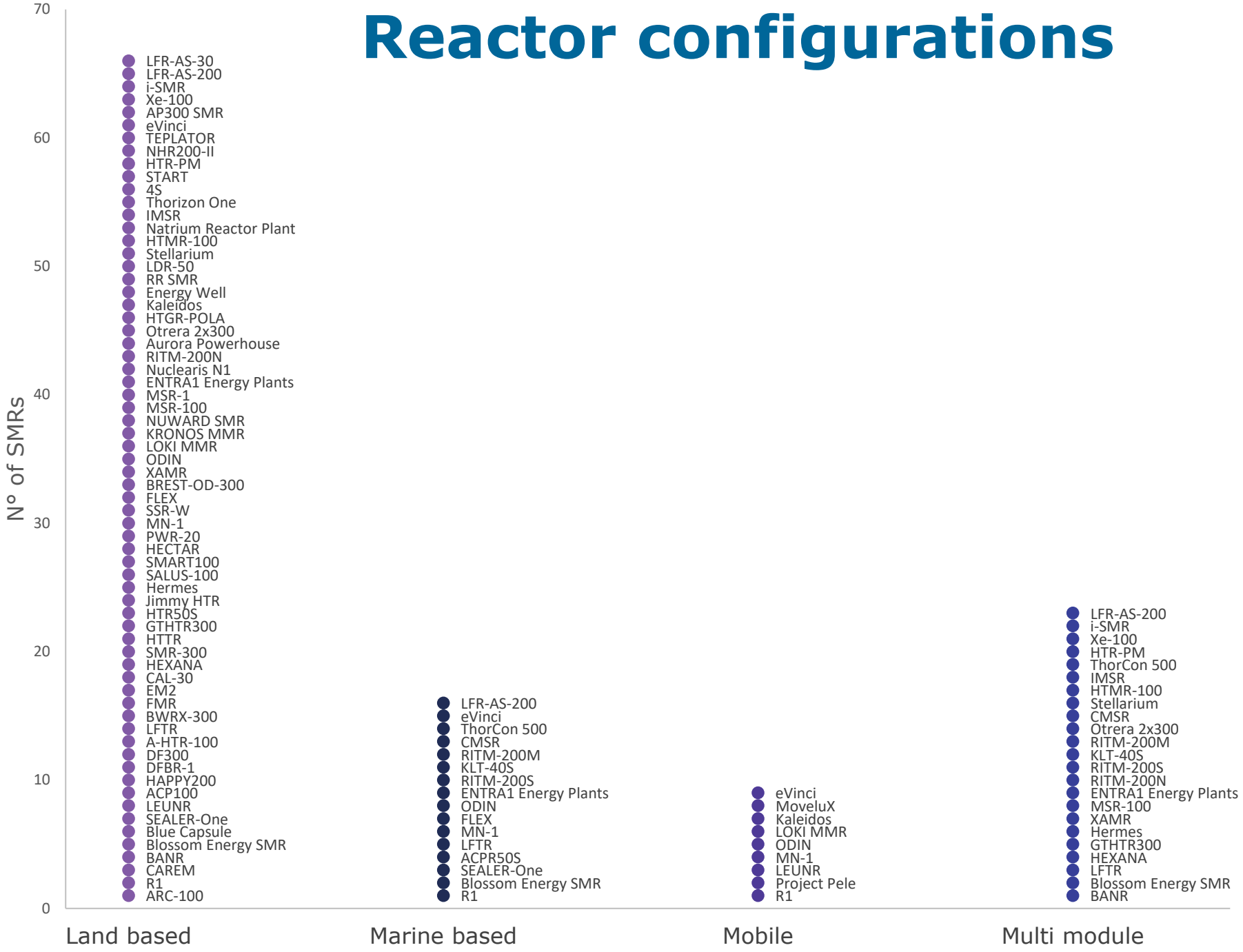


✓ Headquarters are located on 5 of 7 continents (all except Australia and Antarctica)

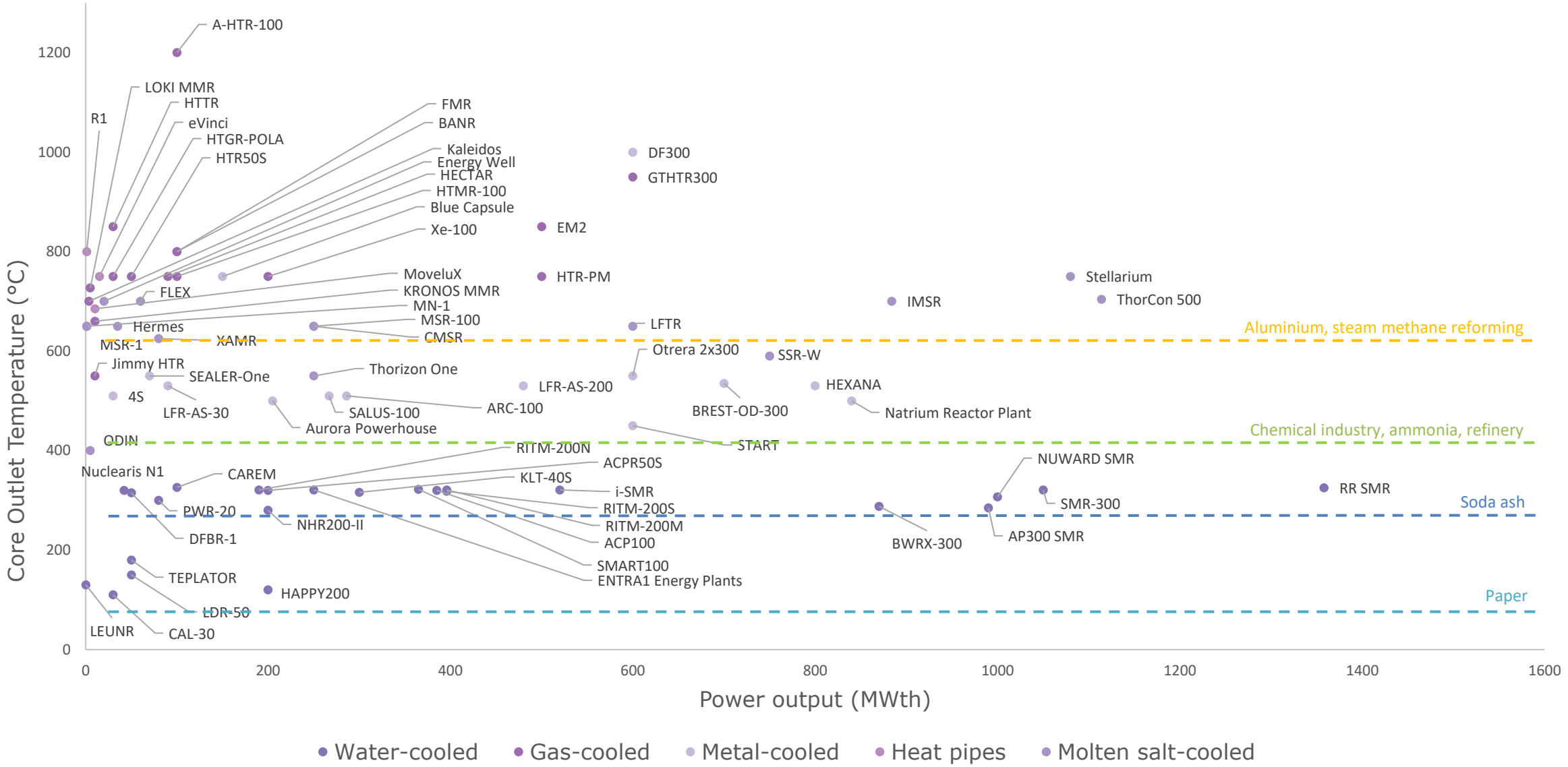
Reactor concepts



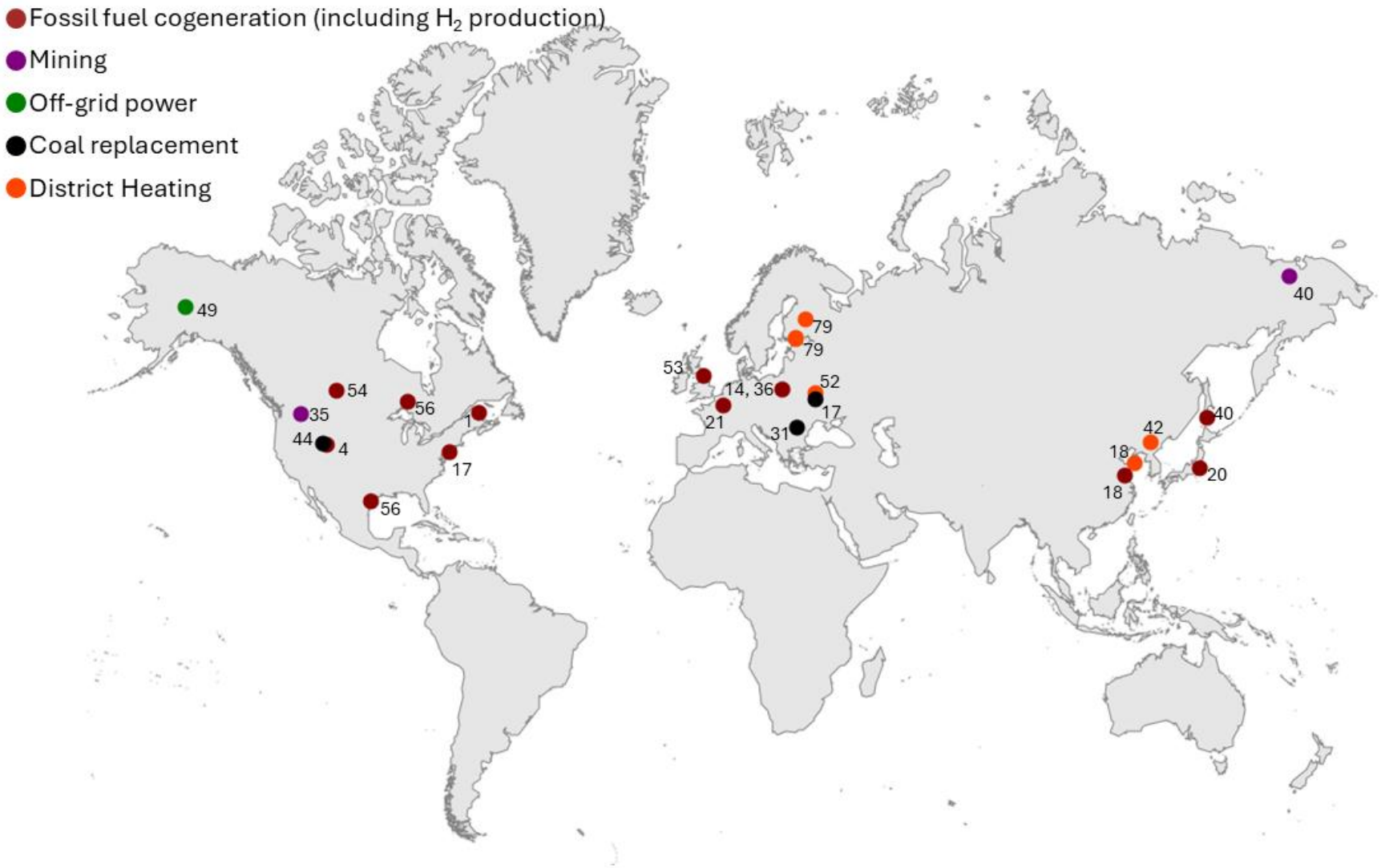
Reactor configurations



Sizes and core outlet temperatures

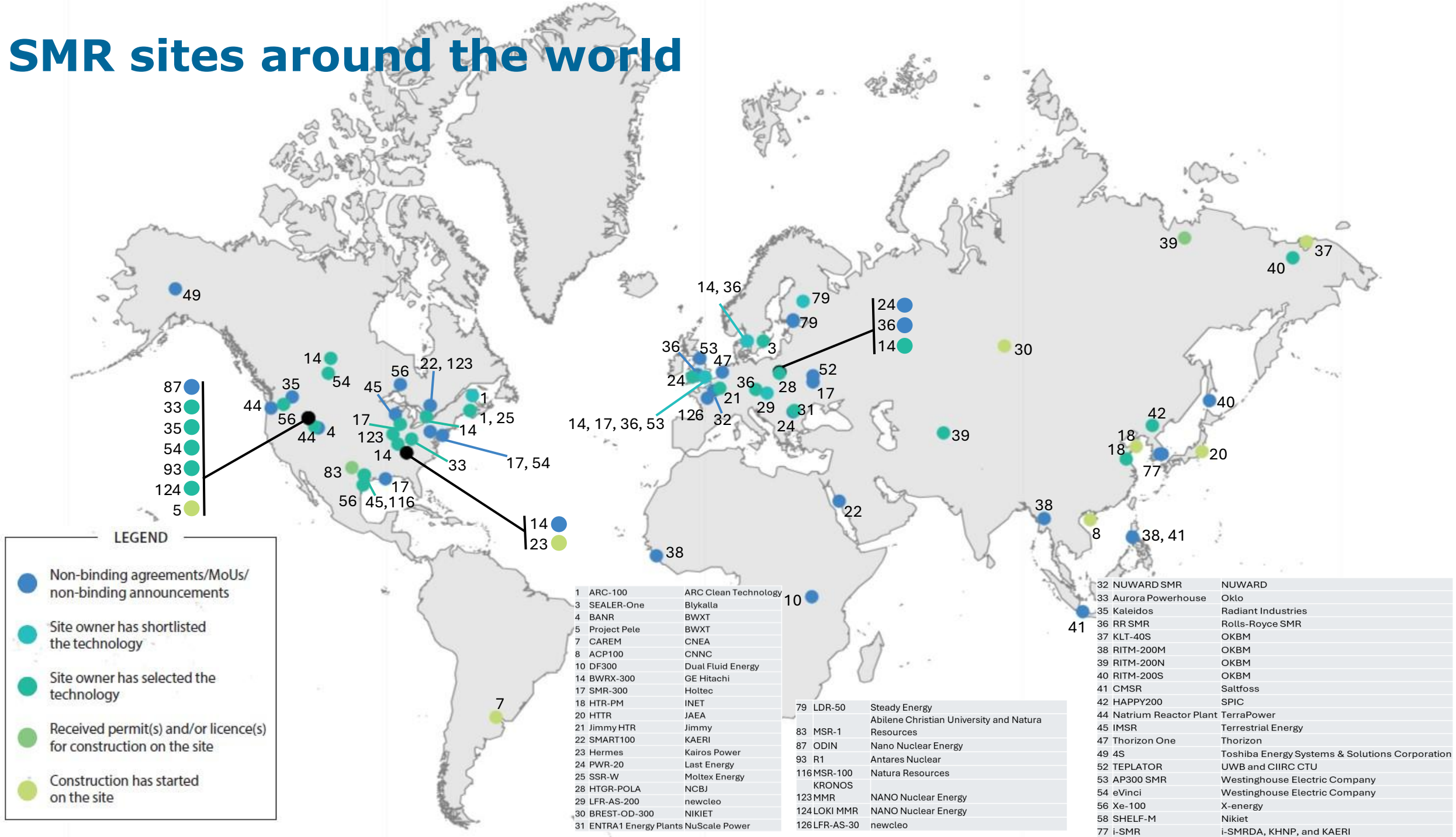


Examples of sites of near-term markets for SMRs



1	ARC-100	ARC Clean Technology
4	BANR	BWXT
8	BWRX-300	GE Vernova Hitachi
14	SMR-300	Holtec
18	HTR-PM	INET
20	HTTR	JAEA
21	Jimmy HTR	Jimmy
31	ENTRA1 Energy Plants	NuScale Power
35	Kaleidos	Radiant
36	RR SMR	Rolls-Royce SMR
40	RITM-200S	OKBM
42	HAPPY200	SPIC
44	Natrium Reactor Plant	TerraPower
49	4S	Toshiba Energy Systems
52	TEPLATOR	UWB and CIIRC CTU
53	AP300 SMR	Westinghouse Electric
54	eVinci	Westinghouse Electric
56	Xe-100	X-energy
79	LDR-50	Steady Energy

SMR sites around the world

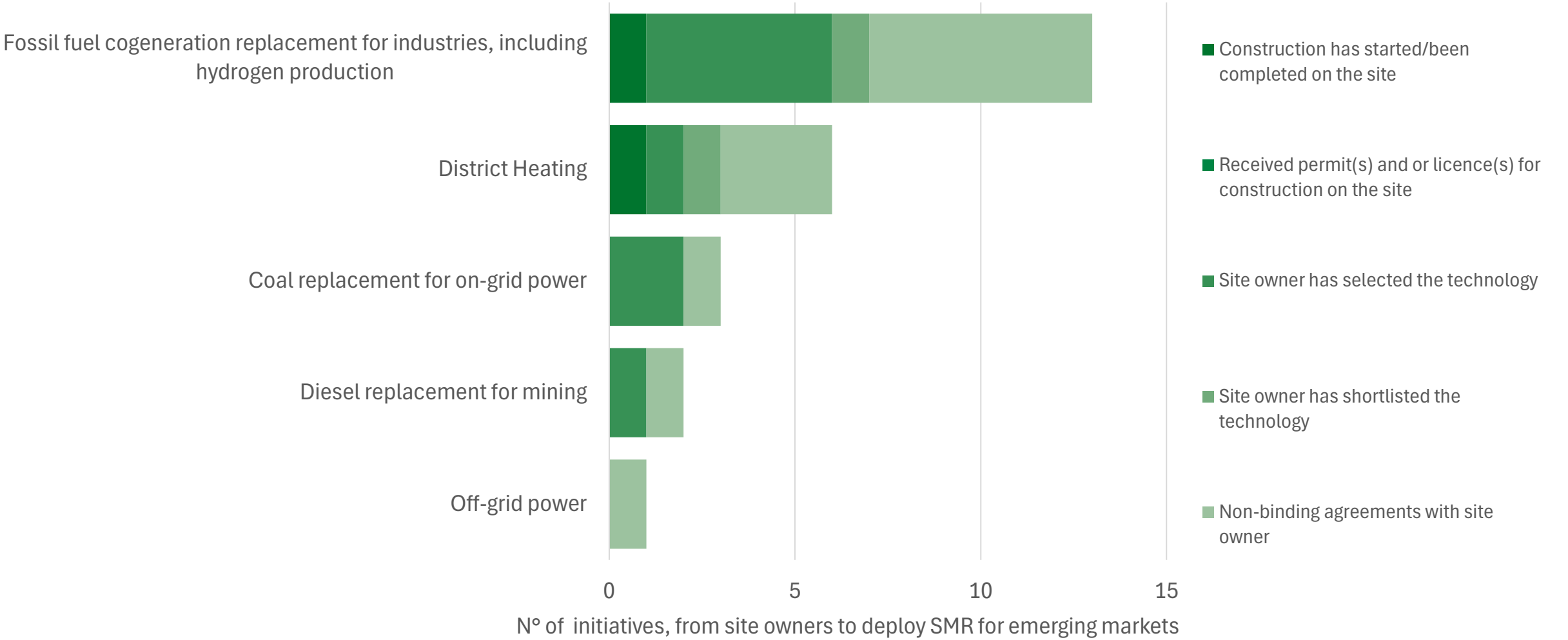


1	ARC-100	ARC Clean Technology
3	SEALER-One	Blykalla
4	BANR	BWXT
5	Project Pele	BWXT
7	CAREM	CNEA
8	ACP100	CNNC
10	DF300	Dual Fluid Energy
14	BWRX-300	GE Hitachi
17	SMR-300	Holtec
18	HTR-PM	INET
20	HTTR	JAEA
21	Jimmy HTR	Jimmy
22	SMART100	KAERI
23	Hermes	Kairos Power
24	PWR-20	Last Energy
25	SSR-W	Moltex Energy
28	HTGR-POLA	NCBJ
29	LFR-AS-200	newcleo
30	BREST-OD-300	NIKIET
31	ENTRA1 Energy Plants	NuScale Power

79	LDR-50	Steady Energy
83	MSR-1	Abilene Christian University and Natura Resources
87	ODIN	Nano Nuclear Energy
93	R1	Antares Nuclear
116	MSR-100 KRONOS	Natura Resources
123	MMR	NANO Nuclear Energy
124	LOKI MMR	NANO Nuclear Energy
126	LFR-AS-30	newcleo

32	NUWARD SMR	NUWARD
33	Aurora Powerhouse	Oklo
35	Kaleidos	Radiant Industries
36	RR SMR	Rolls-Royce SMR
37	KLT-40S	OKBM
38	RITM-200M	OKBM
39	RITM-200N	OKBM
40	RITM-200S	OKBM
41	CMSR	Saltfoss
42	HAPPY200	SPIC
44	Natrium Reactor Plant	TerraPower
45	IMSR	Terrestrial Energy
47	Thorizon One	Thorizon
49	4S	Toshiba Energy Systems & Solutions Corporation
52	TEPLATOR	UWB and CIIRC CTU
53	AP300 SMR	Westinghouse Electric Company
54	eVinci	Westinghouse Electric Company
56	Xe-100	X-energy
58	SHELF-M	Nikiet
77	i-SMR	i-SMRDA, KHNP, and KAERI

Siting Progress by Near Term Markets



*Data centres are not included in this figure as announcements by data centres to date are not site-specific.

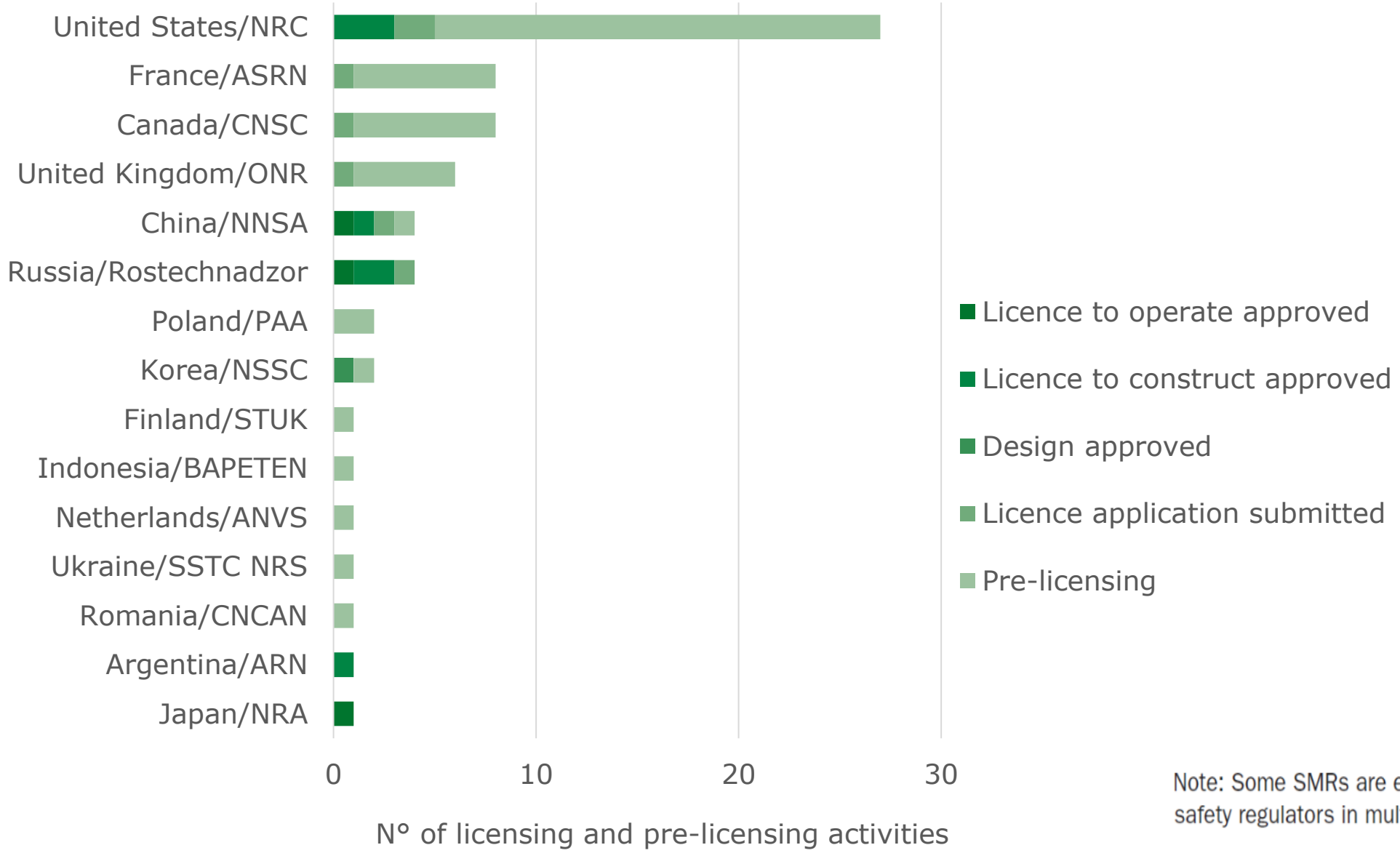
Enabling Conditions:

Licensing

Financing

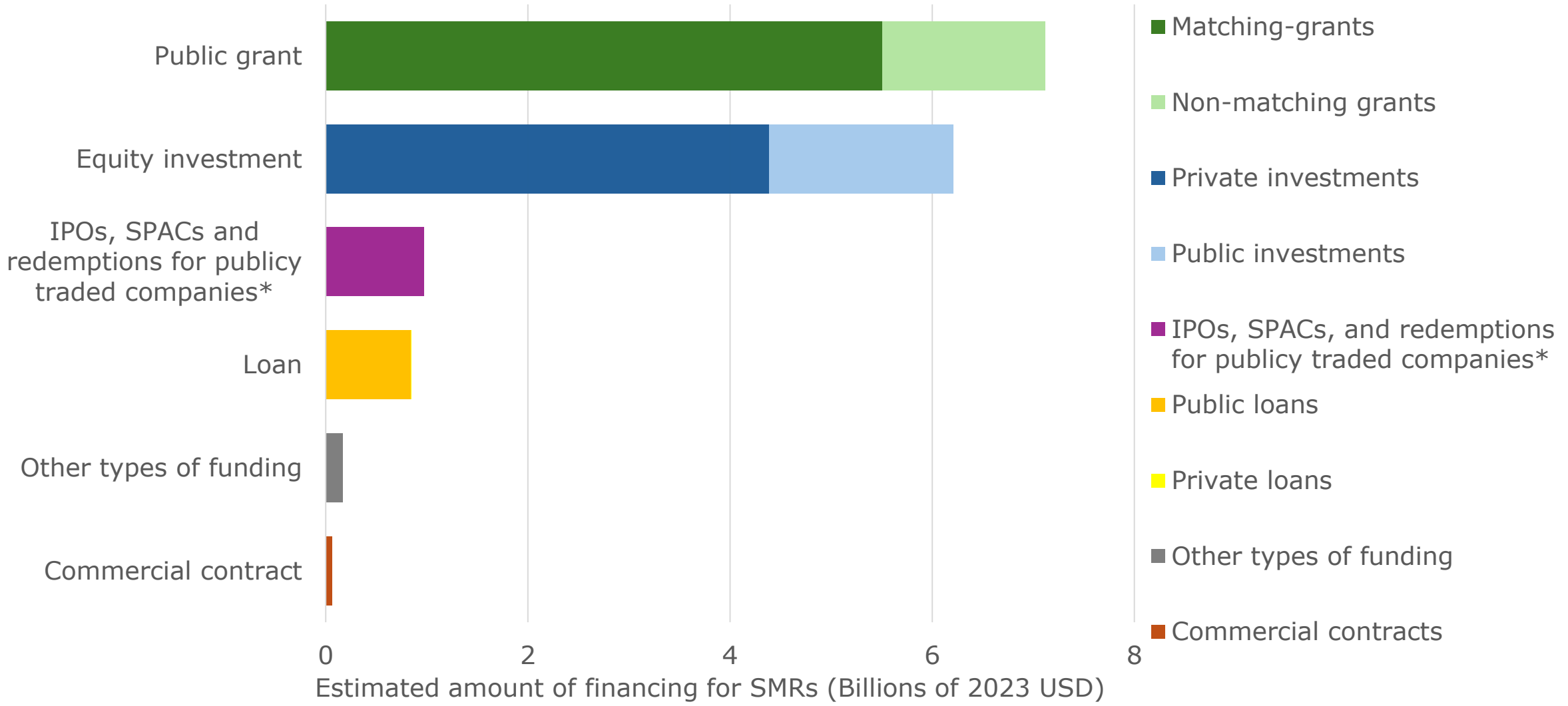
Fuel

Count of SMRs in pre-licensing or licensing activities with nuclear safety regulators, by country



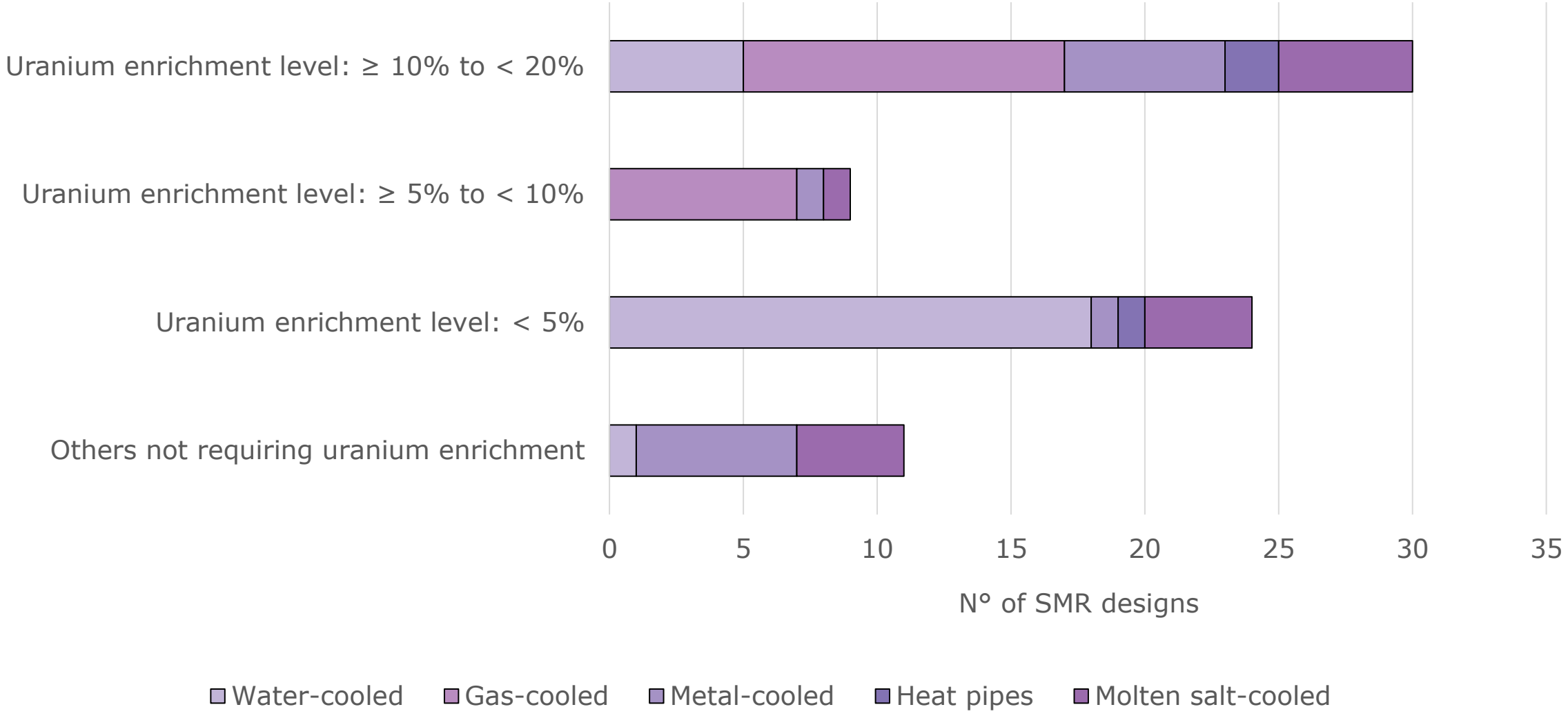
Note: Some SMRs are engaged with nuclear safety regulators in multiple countries.

Sources of financing for SMR designs from OECD countries

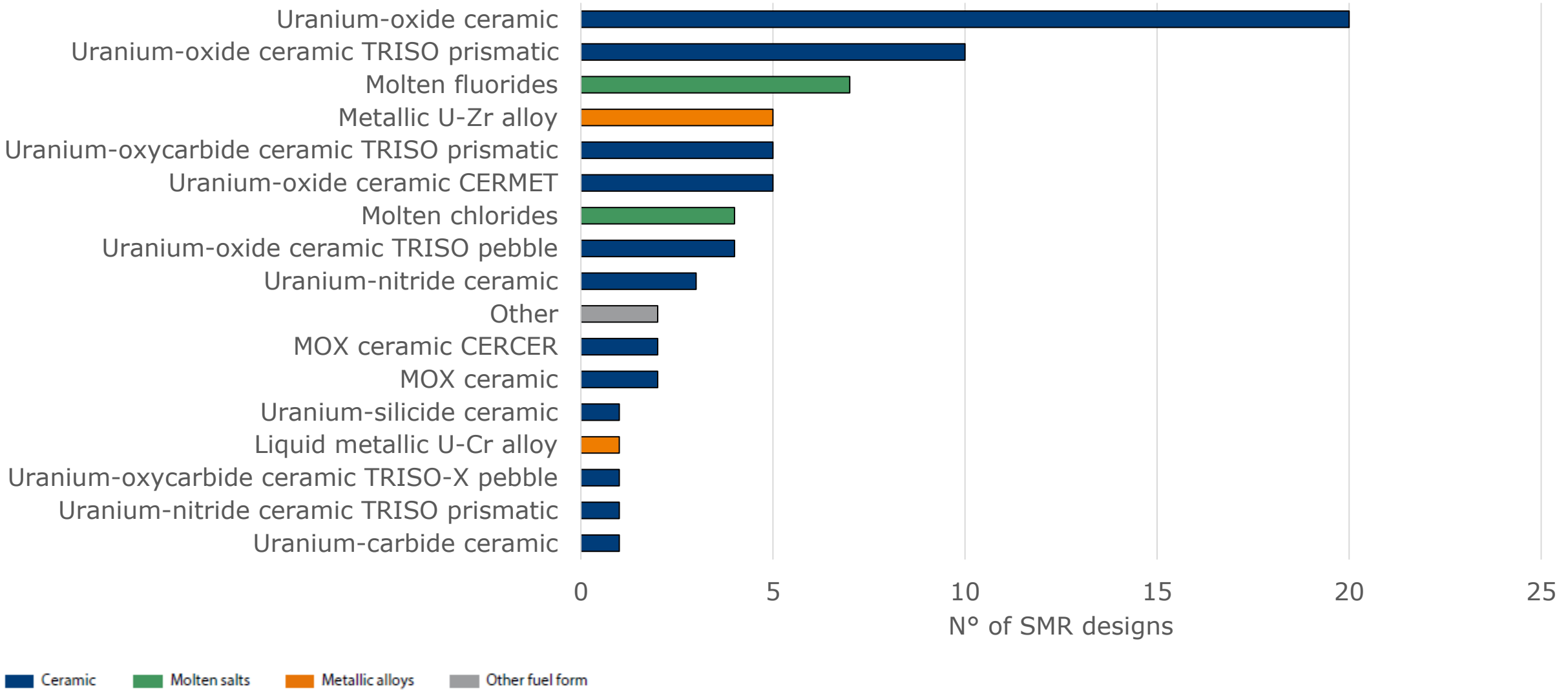


*IPOs: initial public offerings; SPACs: special-purpose acquisition companies.

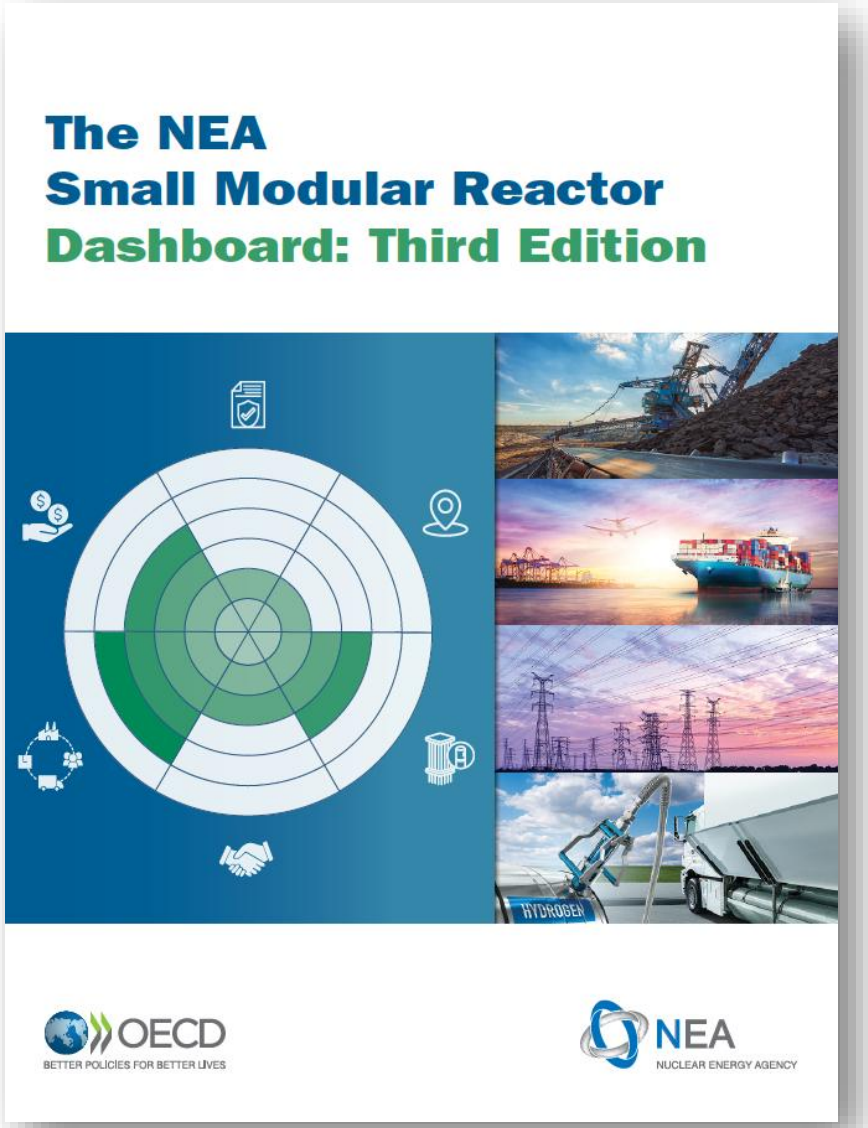
Uranium enrichment requirements



Diverse SMR fuels: Aggregate physical-chemical forms and composite fuel architectures



The NEA SMR Dashboard



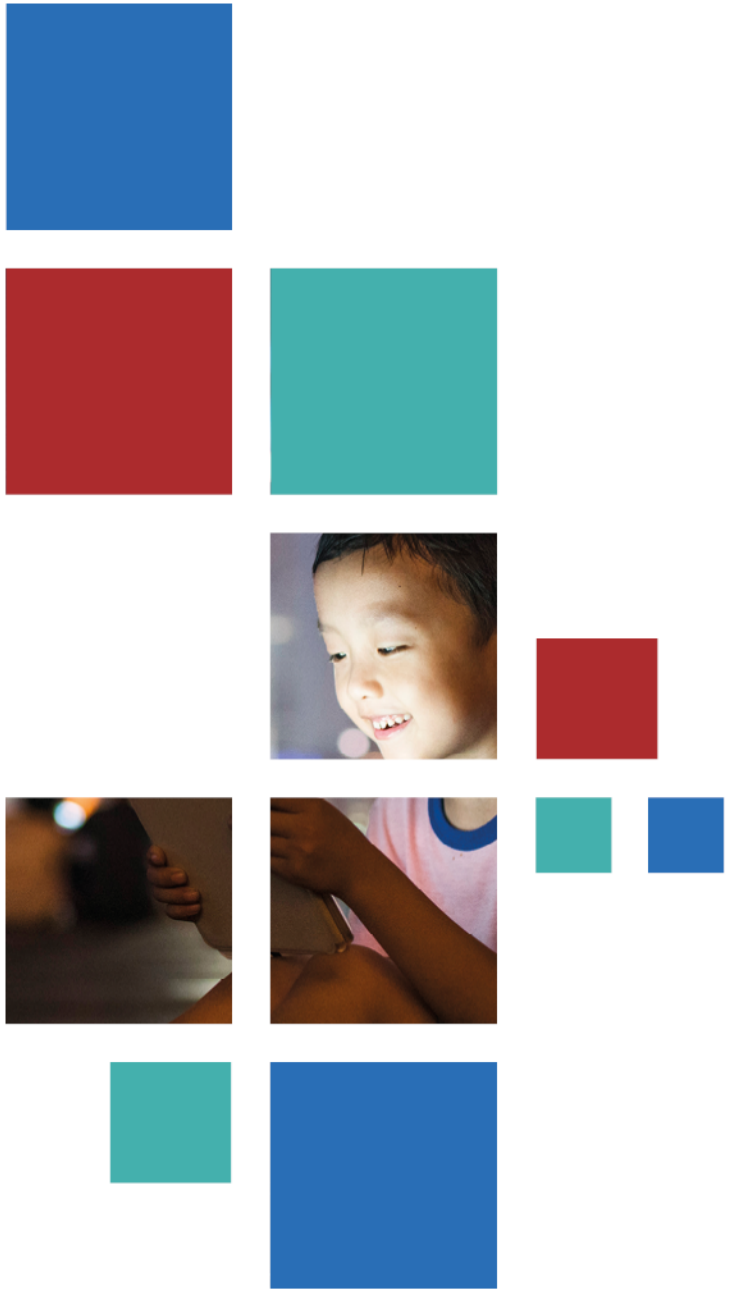
NEA SMR **Dashboard: Third Edition**

http://www.oecd-nea.org/7737

NEA SMR Digitial Dashboard

www.oecd-nea.org/smr-digital-dashboard

Thank you



WORLD NUCLEAR ASSOCIATION

Celebrating 25 Years

NNWI Conference 2026: Powering Industrial Decarbonisation

Raquel Heredia Silva - Senior Programme Lead, Strategic Partnerships

raquel.heredia-silva@world-nuclear.org

Nuclear’s contribution to a clean energy mix

- Clean low-carbon energy
- Reliable generation
- Energy security
- Supports grid stability through electrical inertia
- Small environmental footprint
- 1 MWe-1700 MWe scalability
- Long operating life
- Flexible operation
- Diverse applications

31 Nations have signed the Declaration to Triple Nuclear Energy


Armenia


Bulgaria

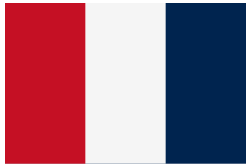

Canada


Croatia


Czech Republic


El Salvador


Finland


France


Ghana


Hungary


Jamaica


Japan

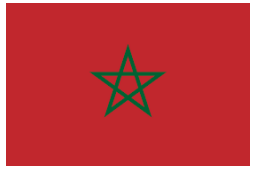

Kazakhstan


Kenya

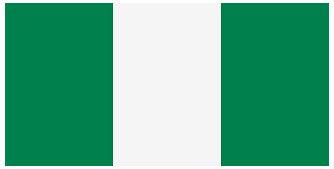

Kosovo


Moldova


Mongolia


Morocco

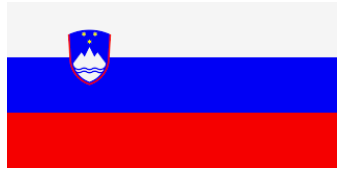

Netherlands


Nigeria


Poland


Romania


Slovakia


Slovenia


South Korea


Sweden


Turkey


Ukraine


UAE


UK


USA

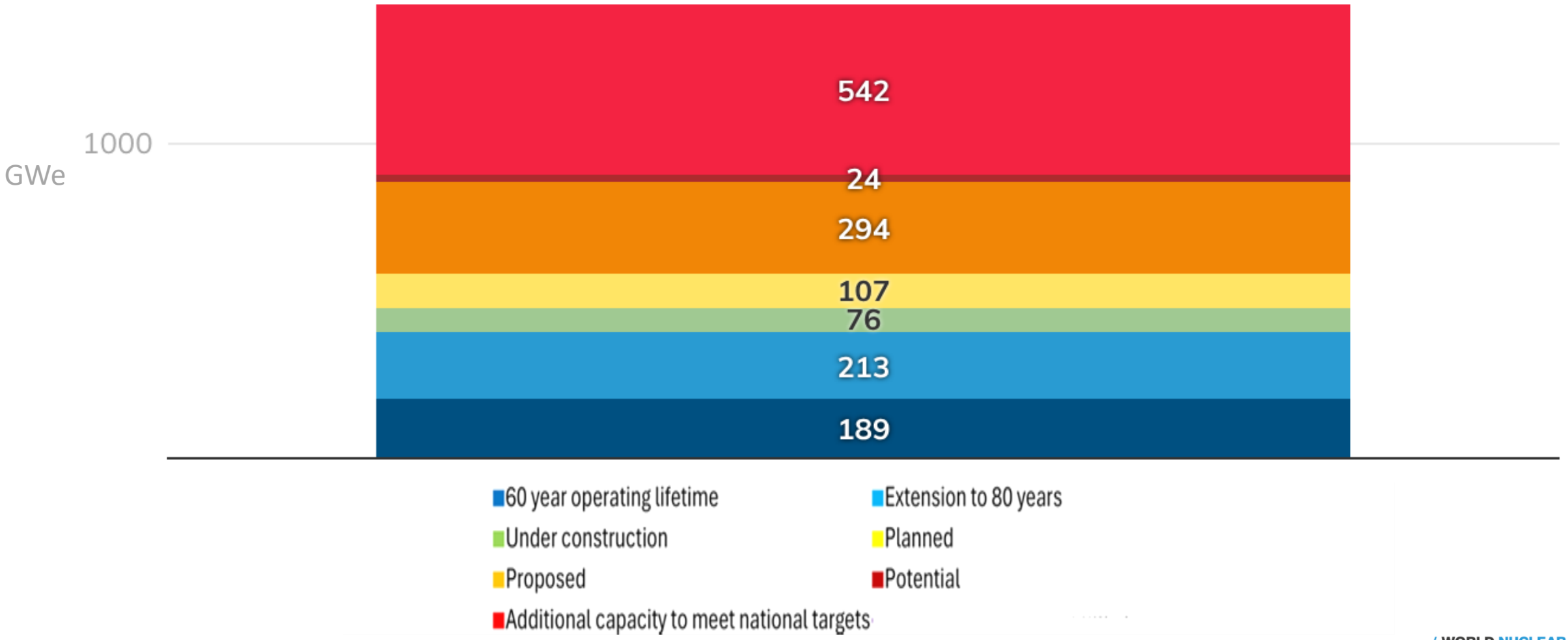
WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

At COP28 the first signatories committed to a goal to triple nuclear energy by 2050

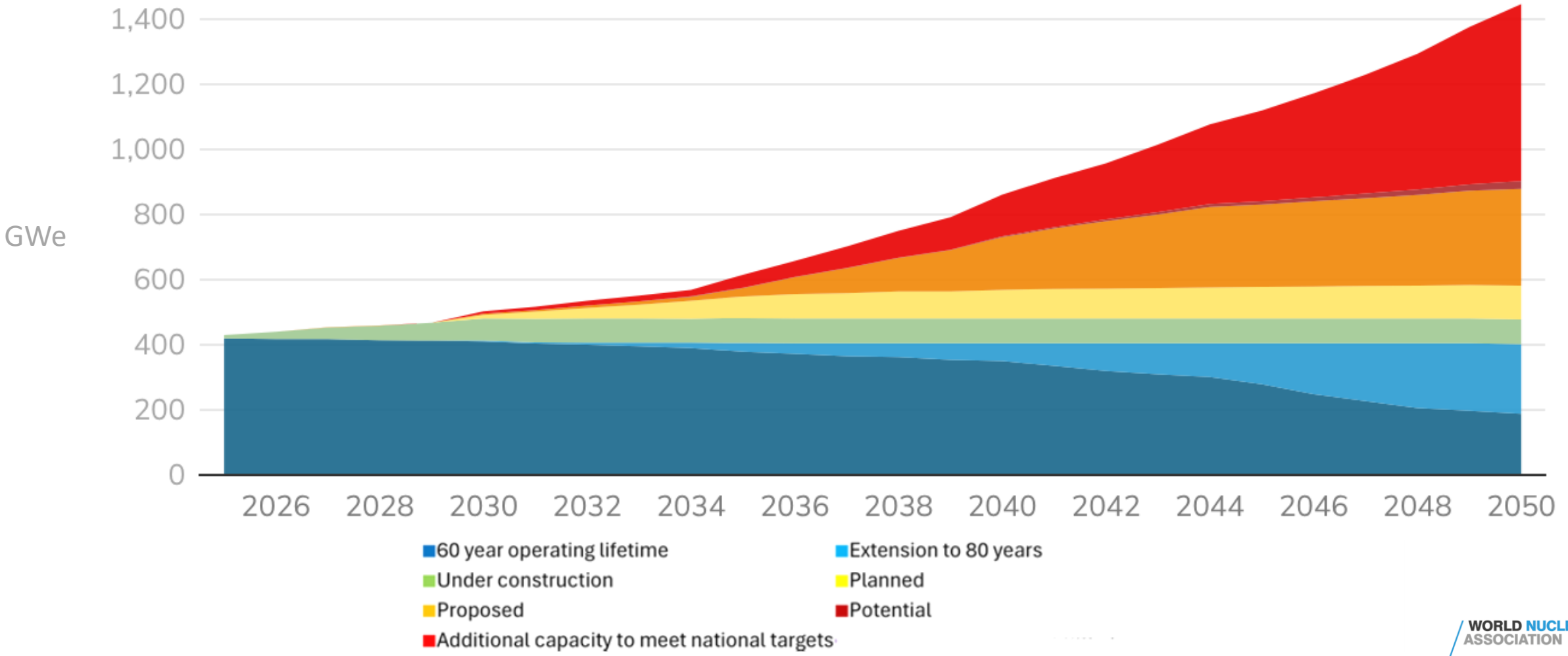
The Participants in this pledge: Commit to work together to advance a global aspirational goal of tripling nuclear energy capacity from 2020 by 2050

This would require around 1200 GWe nuclear capacity

Global nuclear capacity would reach 1446 GWe in 2050 if national targets are met



Global nuclear capacity to 2050, based on reactors currently operable, under construction, planned, proposed and potential, incorporating national nuclear capacity targets



WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

Engaging end users

We are deepening our engagement with end-energy users through the **End Energy Users Panel**. The panels' workplan is structured around three strategic pillars across sectors with high potential for nuclear-enabled decarbonisation and system value.

- Transport - Engaging aviation, maritime and synthetic fuel producers
- Industrial process heat & energy-intensive industries - Working with sectors requiring high-temperature heat and continuous energy services
- Data & digital sector - Connecting with data centre developers, operators and digital infrastructure providers

Across these sectors, we will look to map concrete use cases quantifying the scale of opportunity (when possible) develop business and building partnerships to position nuclear technologies as a credible, enabling solution for end-use decarbonisation and energy security.

End Energy Users Workshop

Organized by

NIATR
NUCLEAR INDUSTRY ASSOCIATION OF TÜRKİYE

WORLD NUCLEAR ASSOCIATION

From Demand to Deployment: Shaping nuclear solutions for large energy users

8 June 2026

Istanbul, Türkiye

worldnuclear.org/events

Supported by

İTÜ

İSTANBUL TEKNİK ÜNİVERSİTESİ 1773

TÜRKİYE ENERJİ, NÜKLEER VE MADEN ARAŞTIRMA AJANSI · TENMAK ·

WORLD NUCLEAR ASSOCIATION

Celebrating 25 Years

Helping the global nuclear industry deliver 24/7 clean energy for all

www.world-nuclear.org
info@world-nuclear.org

WORLD NUCLEAR ASSOCIATION

Celebrating **25** Years

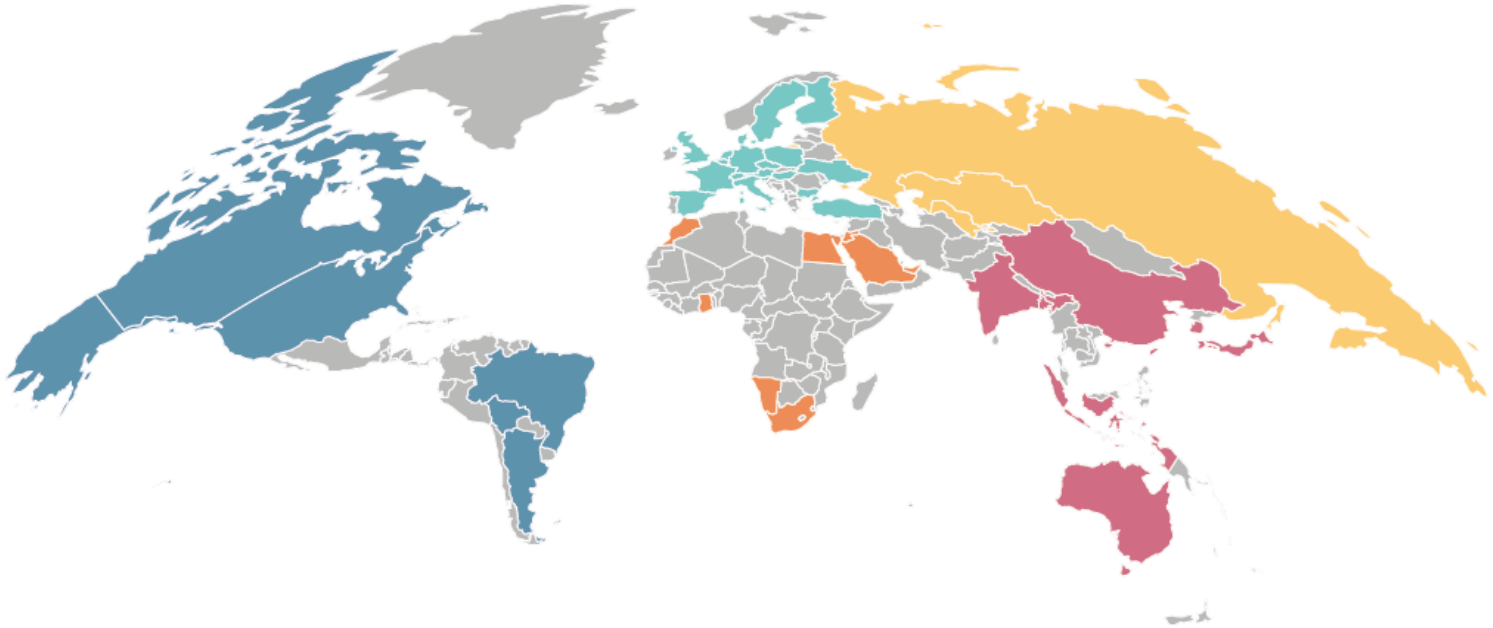
Our members

253
Members

44
Countries

Membership comprises:

- 75% of global generating capacity
- Virtually all GW-scale reactor vendors
- Most major SMR vendors
- All major fuel cycle companies
- Leading EPC companies and equipment manufacturers
- Large energy users



Africa and Middle East
Egypt, Ghana, Jordan, Kenya, Namibia, Saudi Arabia, South Africa, United Arab Emirates

Americas
Argentina, Bolivia, Brazil, Canada, USA

Asia-Pacific
Australia, Bangladesh, Mainland China and Taiwan, India, Indonesia, Japan, South Korea

Europe
Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, UK

Russia and Central Asia
Kazakhstan, Russia, Uzbekistan

Strategic objectives

WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

Connect

leaders and experts across all aspects of the nuclear value chain to enable them to conduct research, develop best practices, and shape joint positions.

Represent

the nuclear industry in major global forums that influence the development, deployment and operation of nuclear energy.

Inform

key audiences on nuclear energy in an authoritative, comprehensive and accessible manner.

Influence

decision-makers, organizations and media
to position nuclear energy as an essential contributor to sustainable development.

Priority topics:

- Promoting global energy policies that recognize the attributes of nuclear
- Enabling nuclear project financing
- Facilitating nuclear deployment (supply chain, fuel, workforce, licensing)

Flagship Events in 2026

WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

WORLD NUCLEAR FUEL CYCLE

14 – 16 April - Monaco
wnfc-event.com

WORLD NUCLEAR UNIVERSITY
Established 2003

31 May – 4 July - Lyon, France
world-nuclear-university.org

WORLD NUCLEAR SYMPOSIUM | 2026
From Ambition to Action

9 – 11 September - London, UK
wna-symposium.org

WORLD NUCLEAR SUPPLY CHAIN

20 – 21 October - Manila, Philippines
world-nuclear.org/events

Upcoming international events

WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

African Energy Week

12 – 16 October - Cape Town, South Africa
aecweek.com

SIEW
SINGAPORE INTERNATIONAL ENERGY WEEK

26 – 30 October - Marina Bay Sands, Singapore
siew.gov.sg

UNFCCC

COP 31, 9 – 20 November - Antalya, Turkey
unfccc.int

Please contact us if you plan to participate in these events or if you would like further information about the Association's activities and engagement plans.

Read our flagship publications

WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

Available now: At Work 2026 Report

At Work is an annual report of World Nuclear Association's activities. The report provides details of the Association's everyday work. The 2026 edition presents World Nuclear Association's activities according to our four key strategic objectives – Connect, Represent, Inform, and Influence. The report also presents our Secretariat, governance and membership.

Upcoming publications for 2026

- **World Nuclear Outlook Report 2026**
- **World Nuclear Supply Chain Report 2026**
- **Nuclear Investment Guide**

World Nuclear Fuel Report 2025

World Nuclear Performance Report 2025

World Nuclear Outlook Report

Our information services

WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

World Nuclear News and Podcast

→ Join more than 45k subscribers staying up to date with the latest nuclear developments through WNN's daily and weekly updates, news and regular podcast.

Information Library

→ Explore the new SMR database and Nuclear Power Plant Explorer. The Library received more than 3 million site visits in 2025.

Member Dashboard

→ Access working group details, member-only briefings, Association reports, and the member directory. New AI Agent providing access to the Association's archives coming soon.

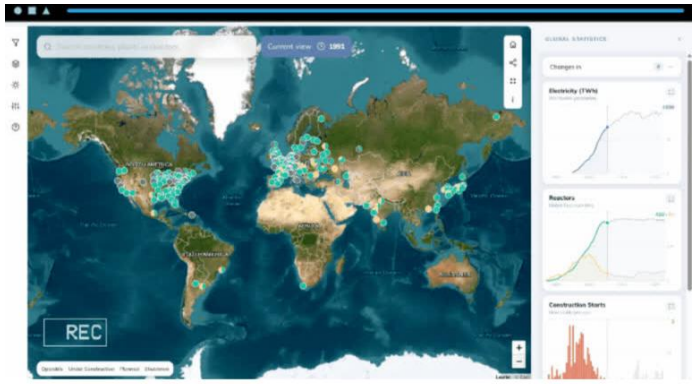
Our information services

WORLD NUCLEAR ASSOCIATION
Celebrating 25 Years

Nuclear Power Plant Explorer

Access an interactive view of the world's nuclear fleet

Explore the Nuclear Power Plant Explorer, an interactive tool offering clear insight into the global nuclear fleet from 1954 to today. Track growth, filter by status and capacity, and access detailed country and plant-level data to support smarter analysis and strategic planning.



world-nuclear.org/information-library/facts-and-figures/nuclear-power-plant-explorer

Substack

World Nuclear Association has launched a Substack to share leading expertise from across the organisation.

Subscribe to read bi-monthly long reads about everything that involves the nuclear energy industry - from energy markets to radiological protection to regulatory reform and more!

Subscribers get every article delivered straight to your inbox and help us to contribute to the global civil discussion about nuclear energy by liking, commenting and re-stacking.

Subscribe to us on substack

WORLD NUCLEAR ASSOCIATION

Celebrating 25 Years

world nuclear news

WORLD NUCLEAR UNIVERSITY
Established 2003

net zero nuclear

MAKE uk
The Manufacturers' Organisation

Energy Market – From Crisis to Future Stability

Status update

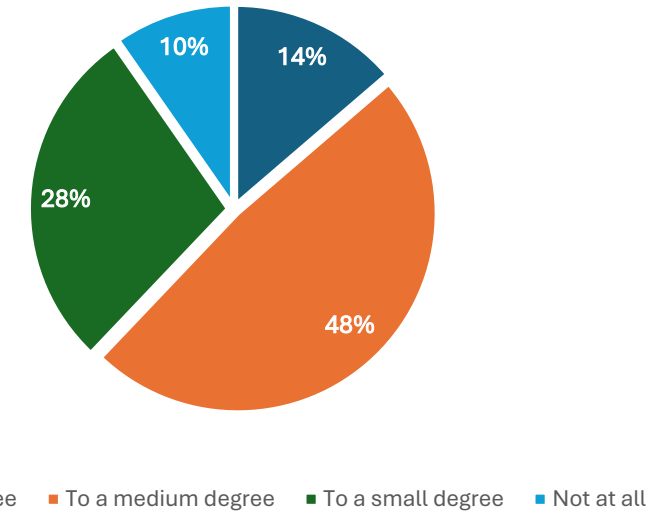
- The war in Iran has caused significant concern over the world's supply of oil and gas which has driven price rises.
- This has potential impacts across the supply chain with high energy prices increasing production costs and hitting businesses hard which will filter through to consumers. If prices continue to rise, this could impact order books with consumer demand likely to drop due to worsening economic conditions.

How are Manufacturers experiencing this

Our recent data has shown that energy costs have increased substantially since the last energy crisis and indicates that there has been limited movement on those high prices

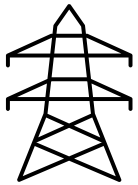
We may not know the full extent of the current crisis as over 1/3 of manufacturers still have over a year left on their contracts. There is a potential pinch point towards AW26/SS27.

Many manufacturers consider the current crisis to be difficult but manageable however there is a small percentage that feel that it could be fatal to their business

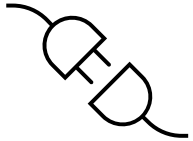


Response of Manufacturers

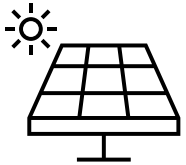
Overall manufacturers remain committed to net zero understanding that it has commercial and efficiency benefits.



Electrification – 63% of manufacturers have taken steps towards electrification. The balance of CAPEX/OPEX halts further adoption.

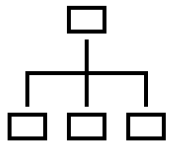


Energy efficiency – 46% of manufacturers are thinking about improving their energy efficiency technology. This may involve utilise technological advancements such as AI

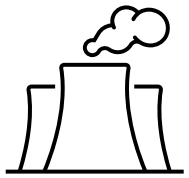


On-site renewables – 38% of manufacturers have been exploring installation of on-site renewables and storage facilities

Energy Market REFORMS



Resounding support from manufacturers for continuing to push toward a renewables led energy system. They are considering structural reforms that would assist that by bringing down the cost of energy and allow a swifter transition.



Our members would consider themselves to be technology agnostic. They are looking for cost effective ways to power operations in a clean fashion, if nuclear provides those routes, then manufacturers will engage on those concepts.

Q&A Discussion

Policy, Economics, and Regulatory Frameworks for Industrial SMRs

Chaired by Tim Yeo, Chairman, New Nuclear Watch Institute

- Keisuke Sadamori, Director, Energy Markets and Security, **International Energy Agency**
- Diane Cameron, Head of the Nuclear Technology Development and Economics Division, **OECD Nuclear Energy Agency**
- Raquel Heredia Silva, Senior Programme Lead, Strategic Partnerships, **World Nuclear Association**
- Patrick Matthewson, Head of Energy and Net Zero Policy, **Make UK**