



**Nicolas Maes**  
CEO, Orano  
France

OPI1 : DIFFUSION LIMITE



**Sam Riggall**  
CEO, Sunrise Energy Metals  
Australia



**Jason Feist**  
Senior VP, Seagate  
USA



**Daniel Gheno**  
Senior VP, Schneider Electric  
France



**Mickael Mauger**  
Dir of Engineering, GridBlock  
USA



**Hervé Beuffe**  
CEO, Tiamat Energy  
France



**Pierre Desjardins**  
CEO, C12  
France



Moderator : Stéphane Mangin

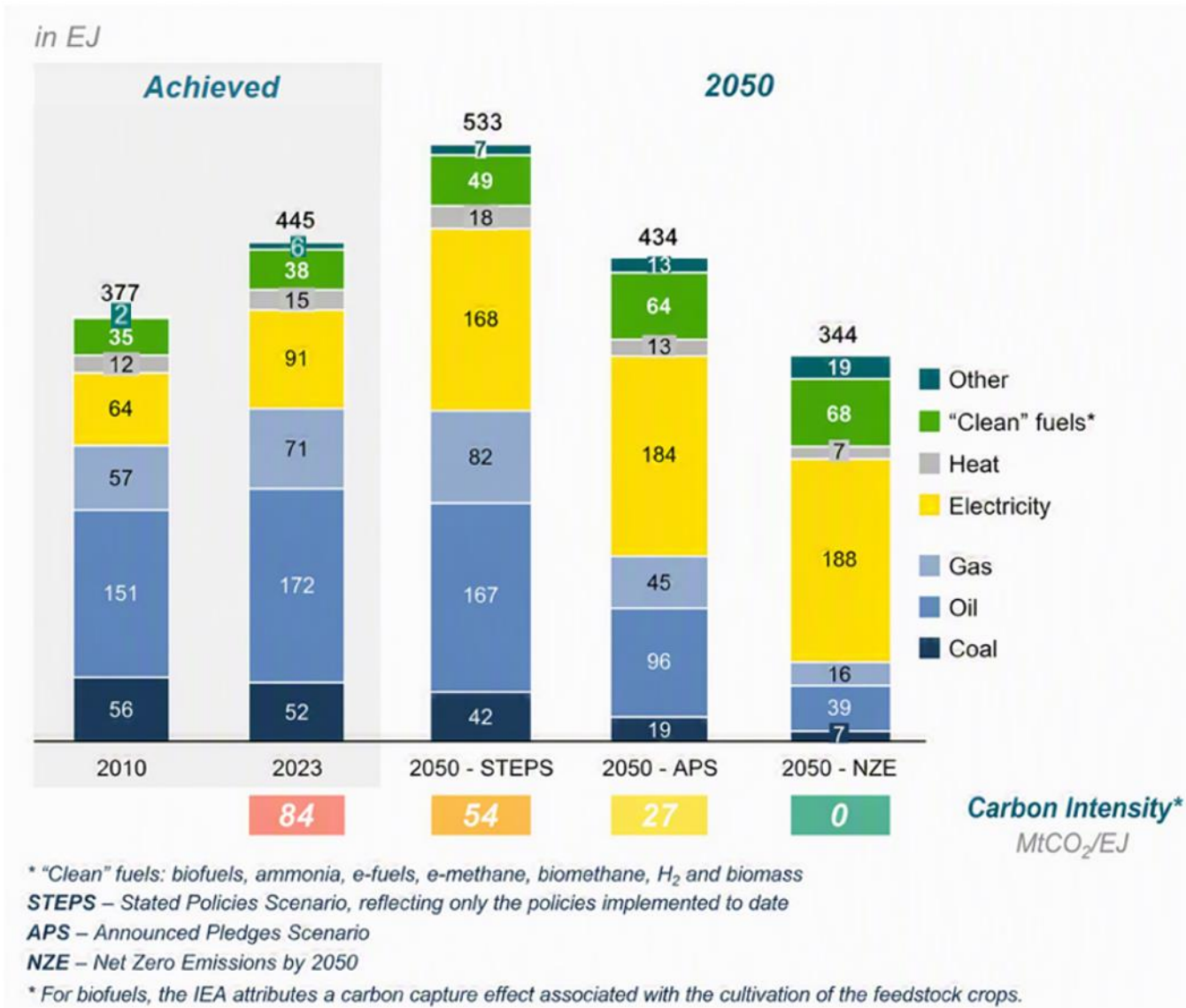


Gauthier Roussilhe (Royal Melbourne Institute of Technology)



# EVOLUTION OF ENERGY CONSUMPTION

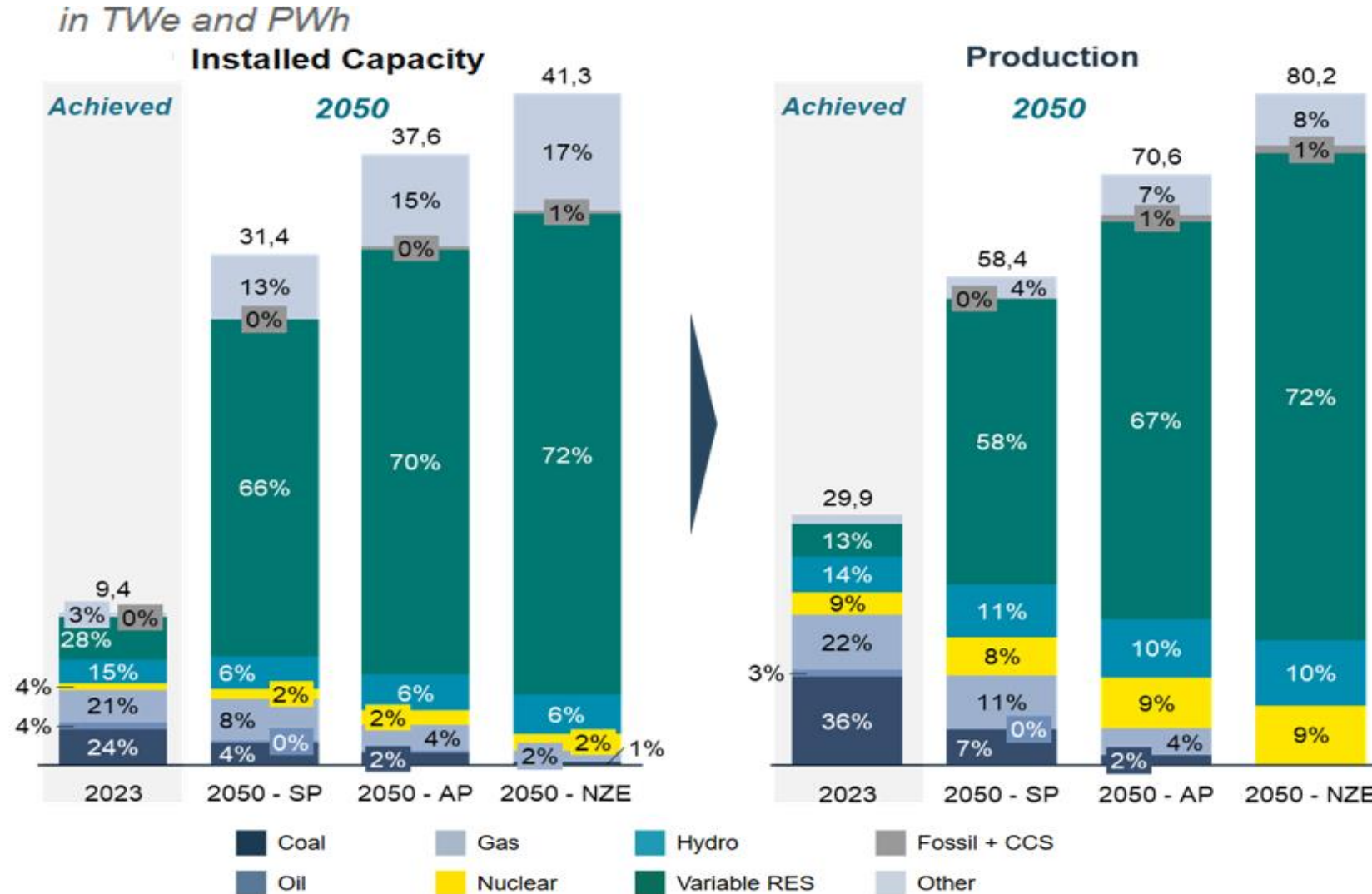
## PAST AND FORWARD



Source : IEA

# EVOLUTION OF ELECTRICITY PRODUCTION

## INSTALLED CAPACITY AND PRODUCTION, PAST AND FORWARD



Source : IEA

# THE THIRST FOR ELECTRICITY IMPACTS SOCIAL ACCEPTANCE OF AI, AND INFLUENCES INVESTMENT DECISIONS FOR DATACENTER LOCALIZATION AND POWER SOURCES

## Microsoft deal propels Three Mile Island restart, with key permits still needed

By Reuters

September 21, 2024 6:58 PM GMT+2 · Updated September 21, 2024



**wnn**  
world nuclear news

Home · Energy & Environment · New Nuclear · Regulation & Safety · Nuclear Policies · Corporate · Uranium Fuel

Google has agreed to purchase energy from small modular reactors under a deal that will support the first commercial deployment of Kairos Power's reactor by 2030 and a fleet totalling 500 MW of capacity by 2035.



## 'Hidden datacentre tax' costing Irish households millions, report says

Datacentres used 22% of country's electricity last year, pushing up household bills, study suggests



**The Guardian**

## More than 200 environmental groups demand halt to new US datacenters

Exclusive: Congress urged to act against energy-hungry facilities blamed for increasing bills and worsening climate crisis

**Bloomberg**

• Live TV Markets ▾ Finance Economics Industries Tech Politics Businessweek Opinion Video More ▾

Jun 1st, 2026

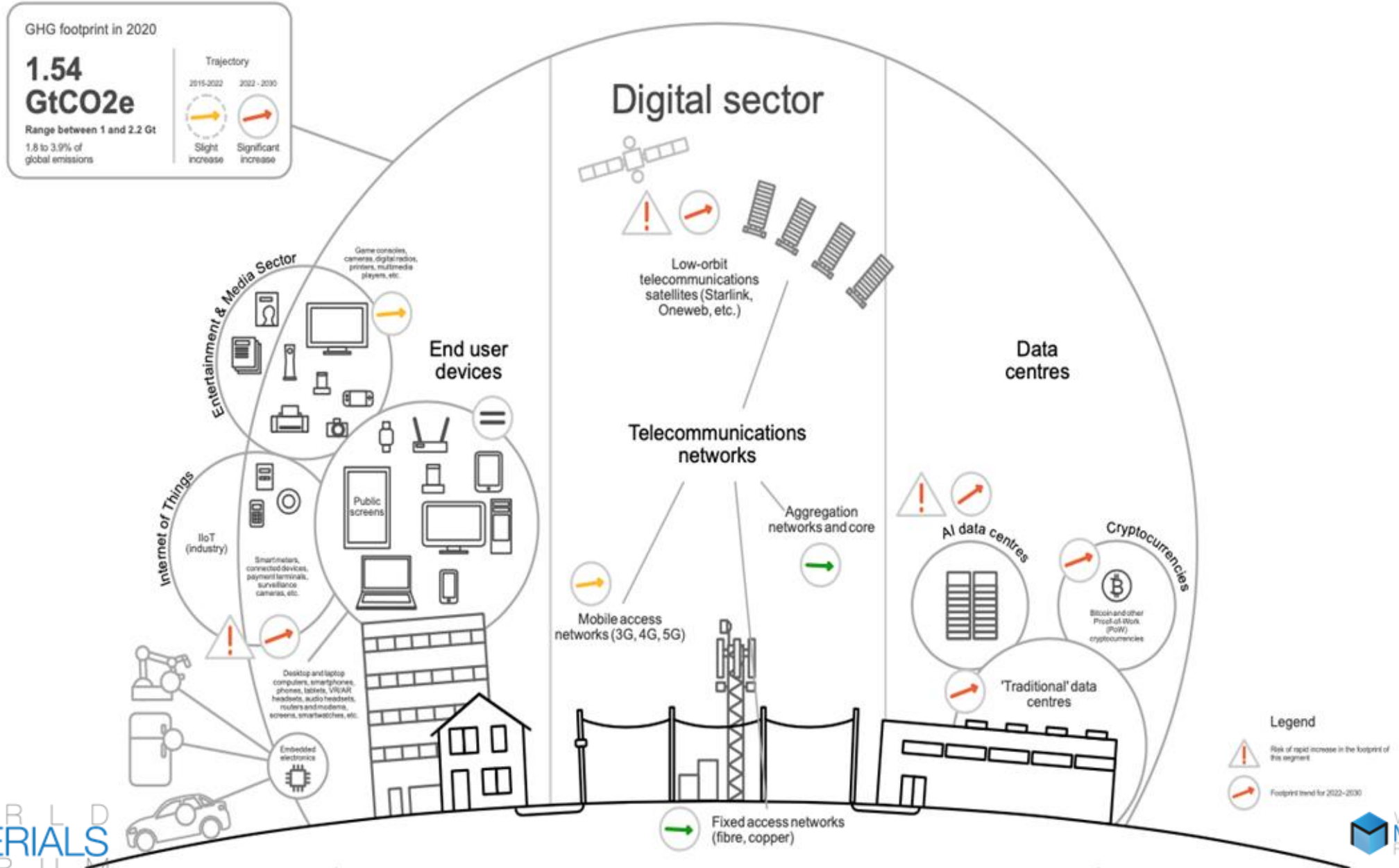
## SoftBank Announces €75 Bln AI Data Center Plan in France

SoftBank plans to invest as much as €75 billion (\$87 billion) to build 5 gigawatts of artificial intelligence data center capacity in France, saying the country is poised to become a top European hub for AI infrastructure. SoftBank founder Masayoshi Son met French President Emmanuel Macron in Paris today to discuss the plan. Bloomberg's Peter Elstrom and Caroline Connan report.

**wnn**  
world nuclear news

## France tempts AI firms with its nuclear electricity

# The footprint of digital infrastructure

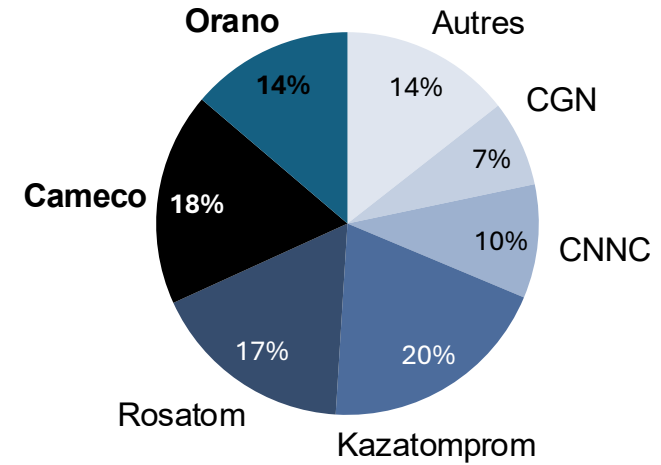


# URANIUM SUPPLY AND TRANSFORMATION : A RESILIENT SUPPLY CHAIN

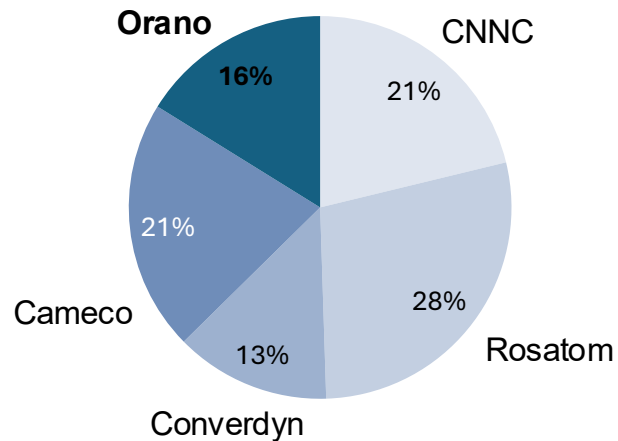
## Major uranium-producing countries



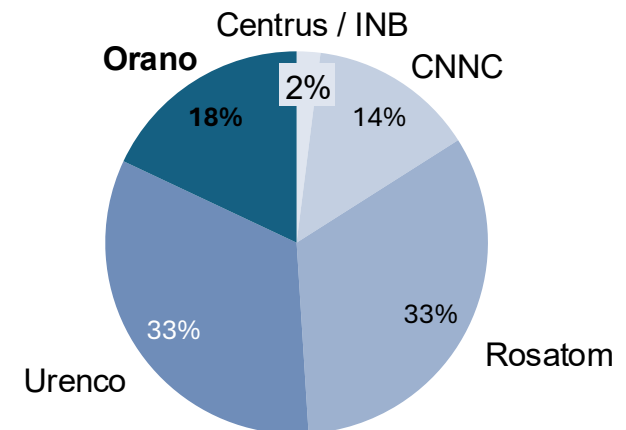
## Uranium ( $U_3O_8$ )



## Conversion ( $UF_6$ )



## Enrichment (SWU)

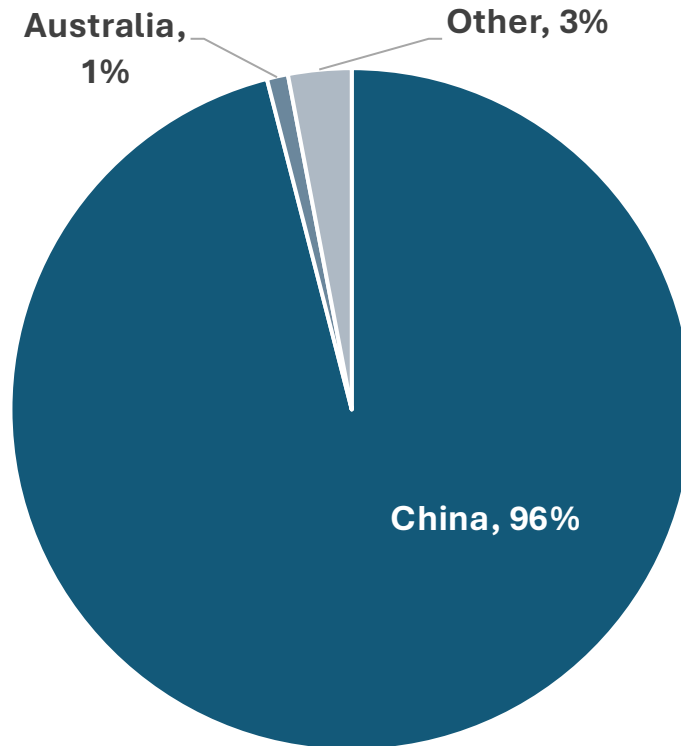


Source : Orano Analysis / Market share distribution by player (2022–2024 average)

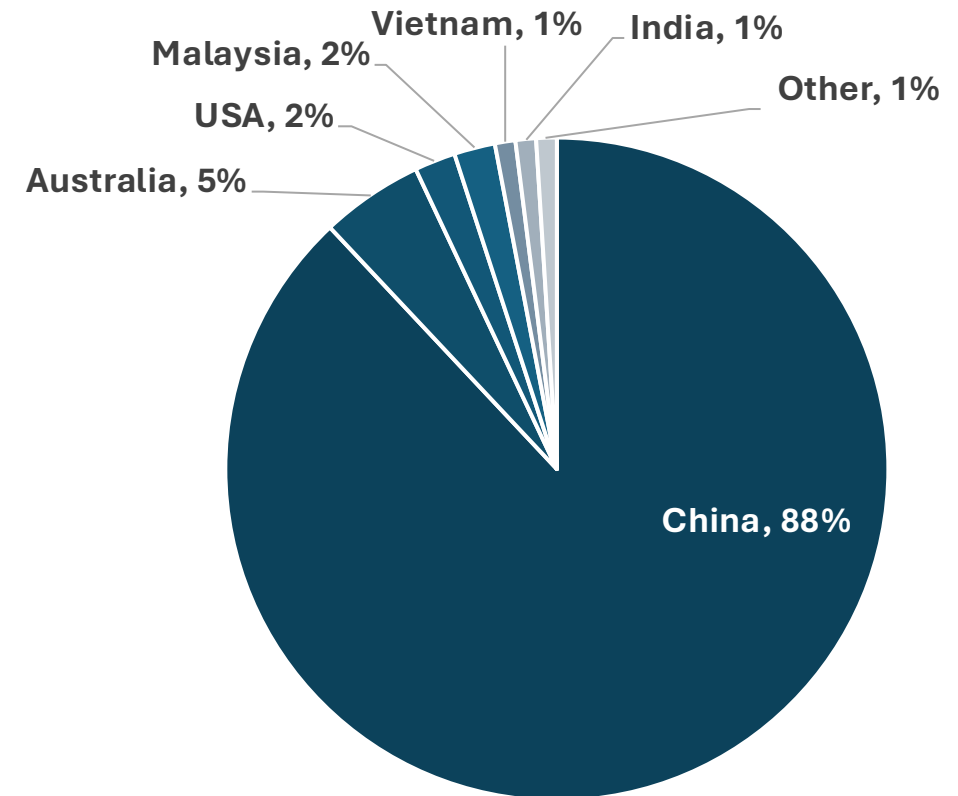
# RARE EARTH ELEMENTS :

## HIGHLY CONCENTRATED PROCESSING

Dysprosium ( $Dy_2O_3$ )



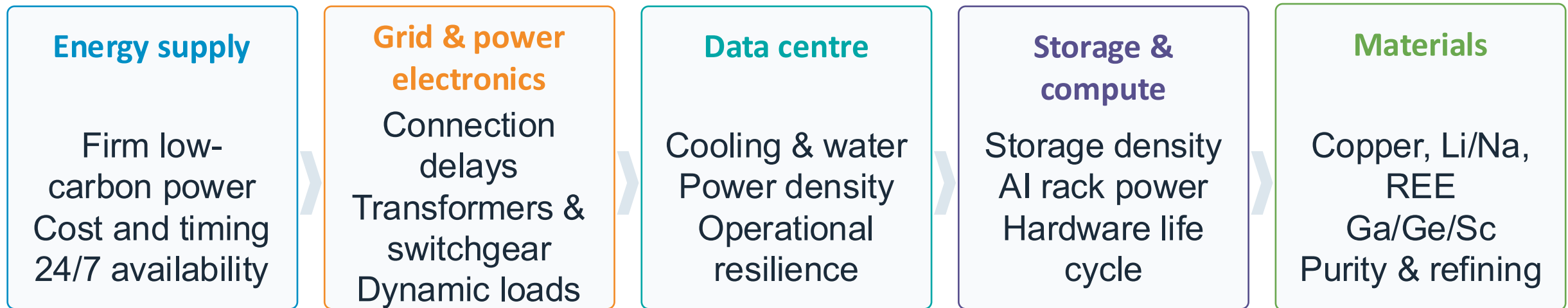
Néodyme ( $Nd_2O_3$ )



*These two rare earth elements are essential to produce the high-performance magnets required for electric vehicle traction motors and wind turbine generators, while accounting for approximately 50% of the production costs of such magnets.*

Source : Orano Analysis, market share

# Bottlenecks are not isolated: they move along the chain



Internal sources: Schneider Electric constraints in Session\_\_Prep pages 20–23; GridBlock bottlenecks pages 24–27; Session 3 brief value-chain perspective. External sources: IEA, DOE/LBNL, USGS, IEA Critical Minerals.

# Speaker contributions: a complete value chain



Reliable low-carbon electricity  
Nuclear as firm industrial power



Storage density  
Lifecycle and embodied carbon



Energy management  
Orchestration and efficiency



Flexible power architecture  
Interconnection and bridging



High-power sodium-ion buffer  
Peak shaving and slack bus



Next-generation of computing  
Carbon nanotube quantum route



Critical materials  
Mining, refining, sovereignty



**Nicolas Maes**  
CEO, Orano  
France

OPI1 : DIFFUSION LIMITEE / RESTRICTED



**Sam Riggall**  
CEO, Sunrise Energy Metals  
Australia



**Jason Feist**  
Senior VP, Seagate  
USA



**Daniel Gheno**  
Senior VP, Schneider Electric  
France



**Mickael Mauger**  
Dir of Engineering, GridBlock  
USA



**Hervé Beuffe**  
CEO, Tiamat Energy  
France



**Pierre Desjardins**  
CEO, C12  
France



Moderator : Stéphane Mangin



Gauthier Roussilhe (Royal Melbourne Institute of Technology)

