KU LEUVEN

Critical Raw Materials Act

THE EU'S PATHWAY TO 2030 GOALS

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Eurometaux

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Five necessary pillars for Europe's metals & clean energy bridge

STARTING POINT

NOW

- Acceleration of clean energy transition
- Aim to improve strategic autonomy for energy

STRONGEST IMPACT: NOW → 2040

2035 ONWARDS

PILLAR 1

Fulfil domestic mining potential

PILLAR 2

Maintain and increase domestic refining output

PILLAR 3

Secure sustainable imports from reliable partners

PILLAR 4

Maximise recycling, including new streams

PILLAR 5

Drive technological & behavioural change

END POINT

2050

- Clean energy system with higher level of strategic autonomy & right level of sustainability

Critical Raw Materials Act sets 2030 benchmarks for building this bridge

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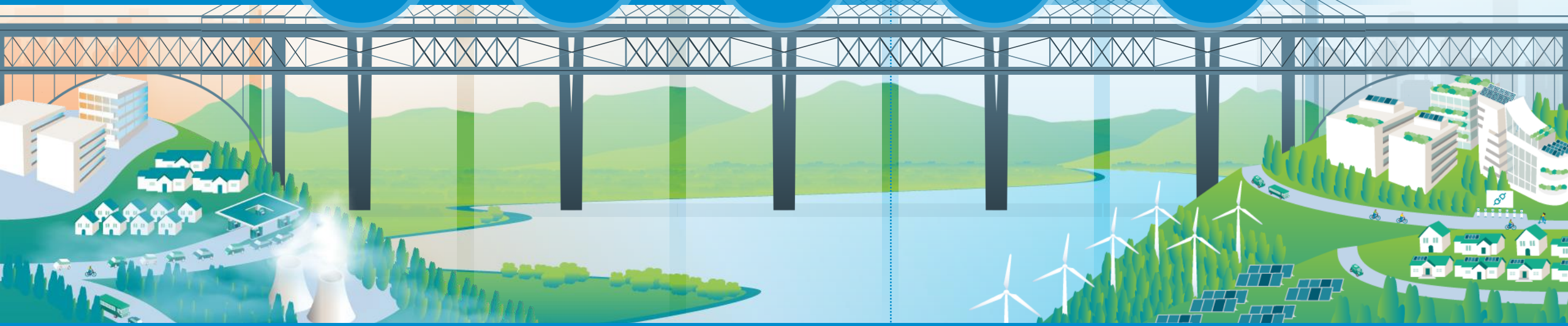
EU 2030 BENCHMARKS:

- **>10%** from domestic
- **>40%** from domestic
- **<65%** Single source
- **>15%** of EU demand
- **Stronger innovation focus**



The burning question for our work ahead

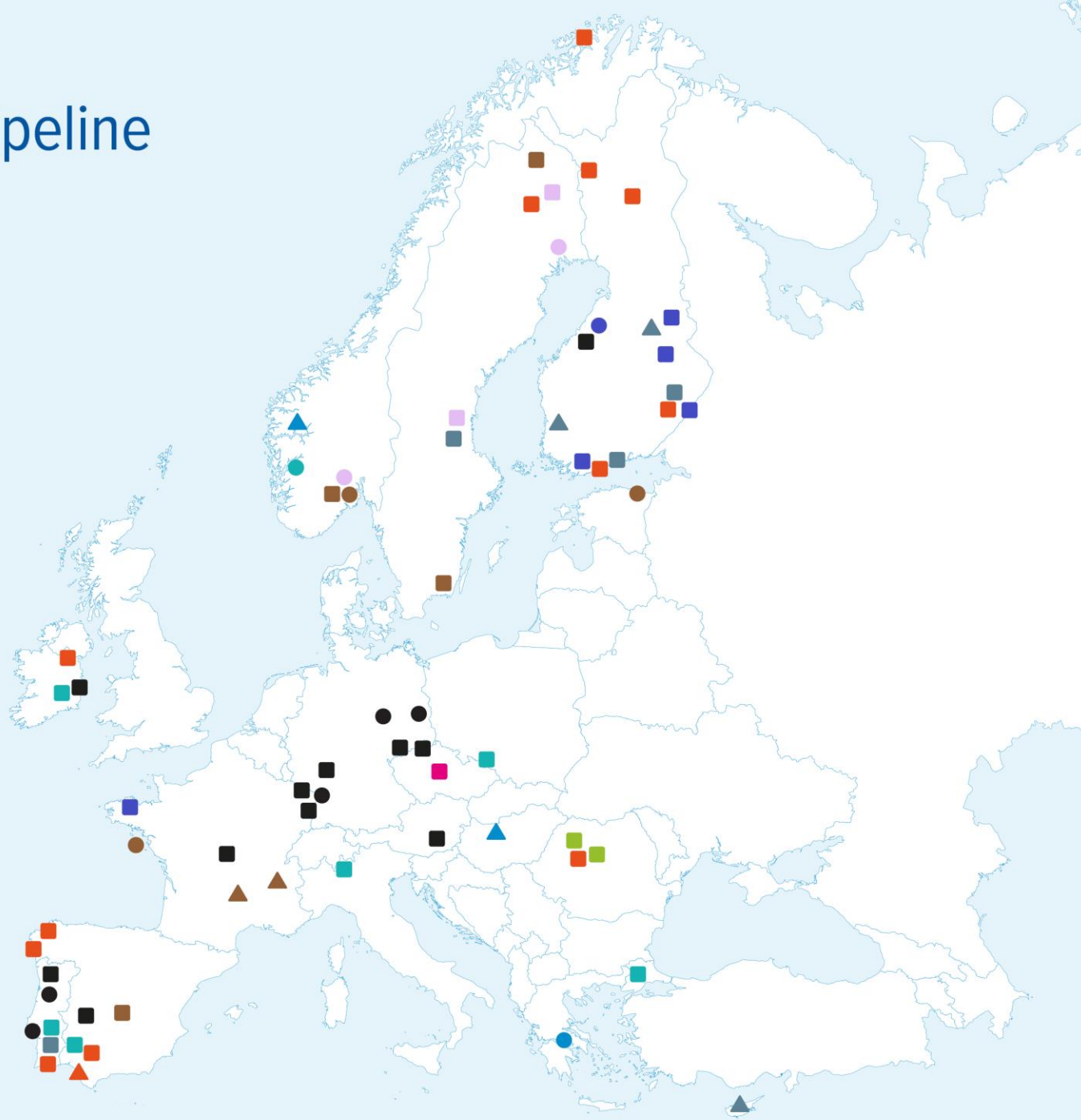
To what extent is Europe on track in meeting these four 2030 benchmarks?

Europe's 2030 potential projects pipeline for strategic metals and minerals

- Aluminium
- Copper
- Nickel
- Zinc
- Cobalt
- Lithium
- Rare Earths
- Manganese
- Graphite
- Magnesium

- Mines
- Processing
- Recycling

Note: Electric Vehicle battery recycling projects not included on map, but the main recycling source for lithium, cobalt, nickel, manganese etc.



Europe’s 2030 potential is there, but what’s the current forecast?

Base metals

Copper, Aluminium, Zinc, Silicon

Overcast

Key battery materials

Nickel, Lithium, Cobalt

Rain with a little sunshine

Other key materials

Graphite, Rare earths, Manganese

Heavy rain ahead

And we all know the energy crisis has brought major **thunderstorms for everyone**

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Base Metals & Silicon: Existing EU capacity mostly already exceeds 2030 benchmarks

	2030 Europe supply projection (max)			Diversification	
	MINING (>10% GOAL)	PROCESSING (>40% GOAL)	RECYCLING (>15% GOAL)	MINING (<65% TOP IMPORTER)	PROCESSING (<65% TOP IMPORTER)
Cu Copper	40%	85%	55%	20% (Chile)	20% (Chile)
Zn Zinc	50%	100%	40%	20% (Peru)	-
Al Aluminium	3%	43%	45%	65% (Guinea)	20% (Russia)
Si Silicon		73%	4%*		40% (Brazil)

*Silicon is also already widely recycled today within aluminium alloys

But the energy crisis has brought existential storms

50%

EU aluminium & zinc capacity offline in 2023

+

30%

EU silicon capacity offline in 2023

→

Priority question

Can Europe afford to deindustrialise further?

Key battery metals: 2030 benchmarks are mostly achievable *if* uncertain projects are taken forward by latest 2025

	2030 EU supply projection (max)			Diversification	
	MINING *(>10% GOAL)*	PROCESSING *(>40% GOAL)*	RECYCLING *(>15% GOAL)*	MINING *(<65% TOP IMPORTER)*	PROCESSING *(<65% TOP IMPORTER)*
Ni Nickel	22%	50%	10%*	50% (Canada)	30% (Russia)
Li Lithium	39%	54%	8%*	-	55% (Chile)
Co Cobalt	7%	40%	20%*	75% (DRC)	20% (USA)

*Recycling estimates from Transport & Environment (2023). Nickel is also recycled today in stainless steel alloys.

Other key raw materials: Europe off track today for meeting 2030 benchmarks

	2030 EU supply projection (max)			Diversification	
	MINING (>10% GOAL)	PROCESSING (>40% GOAL)	RECYCLING (>15% GOAL)	MINING (<65% TOP IMPORTER)	PROCESSING (<65% TOP IMPORTER)
Mn Manganese (high purity)	20%	20%	10%	-	**90+%** (China)
C Graphite (battery)	20+%	20%	<5%		**100%** (China)
Rare earths	20-80%*	20%	<5%		**99%** (China)
Mg Magnesium	25%	25%	15%		**93%** (China)

*Sweden's Norra Karr rare earths mine could theoretically supply 80% of the EU's 2030 dysprosium needs

Whatever the forecast, Europe's raw materials bridge must be built

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How can you help create the strong foundation for a lasting raw materials bridge?

OPERATIONAL COMPETIVENESS

More action to address high EU operating costs across supply chain

Take inspiration from Inflation Reduction Act's clarity and simplicity

PERMITS THAT WORK FOR ALL

Endorsement of the Commission's permit acceleration goal

Accelerate timelines & fix policy inconsistencies, while keeping environment checks & consultation

EU: A STRONGER GLOBAL PLAYER

A bolder global agenda for strategic raw materials partnerships

Offer a valid EU alternative in priority countries to China "resources at all costs"

Read more!

www.eurometaux.eu/metalscleanenergy

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Metals for Clean Energy:

Pathways to solving Europe's raw materials challenge

POLICYMAKER SUMMARY