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REGULATORY
ASSISTANCE PROJECT

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System-friendly electrification (of industry) → grids

REKK Regional Energy Policy Forum 2026

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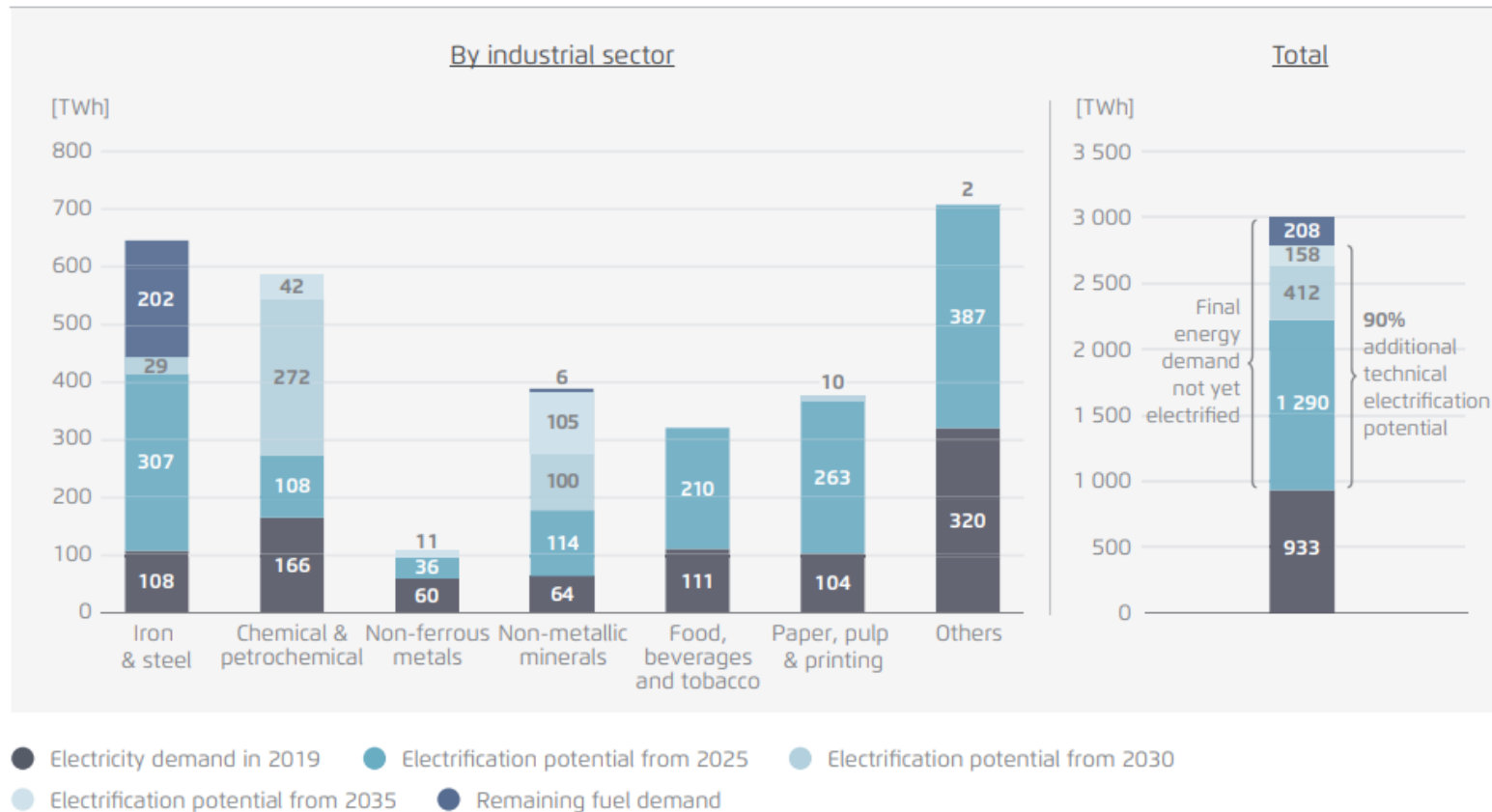
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Electrifying industry has many social benefits

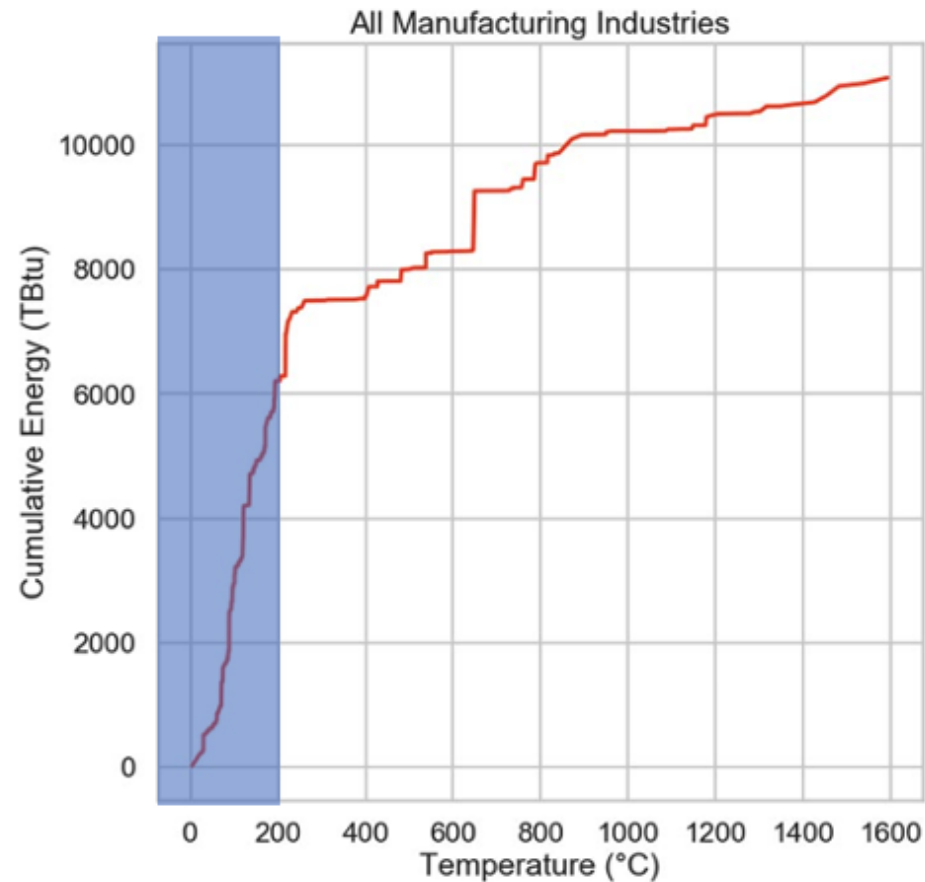
- Decarbonisation \approx industrial heat is equivalent to 50% of all European buildings heat demand
- Electrification = energy efficiency
- Getting off gas: security of supply

Electrification potential is large



Source: Fraunhofer ISI. (2024). Direct Electrification of Industrial Process Heat: An Assessment of Technologies, Potentials and Future Prospects for the EU

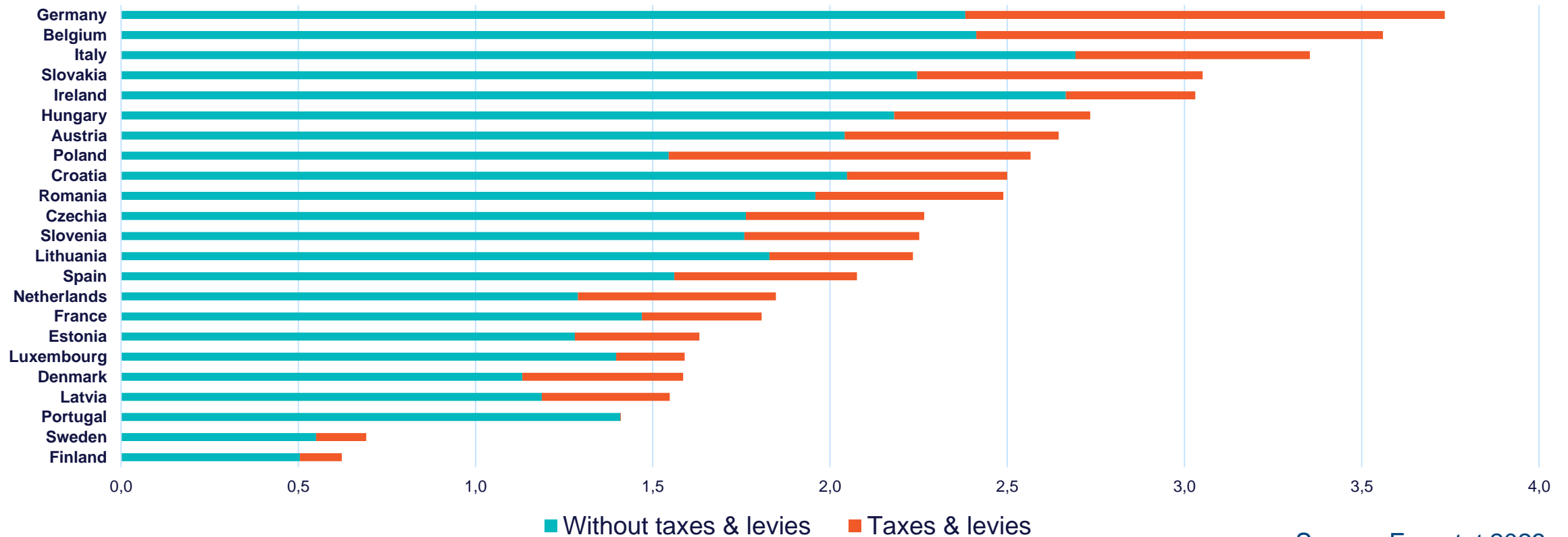
Almost half of all industry process heat is below 200°C and suitable for heat pumps



Source: McMillan 2019

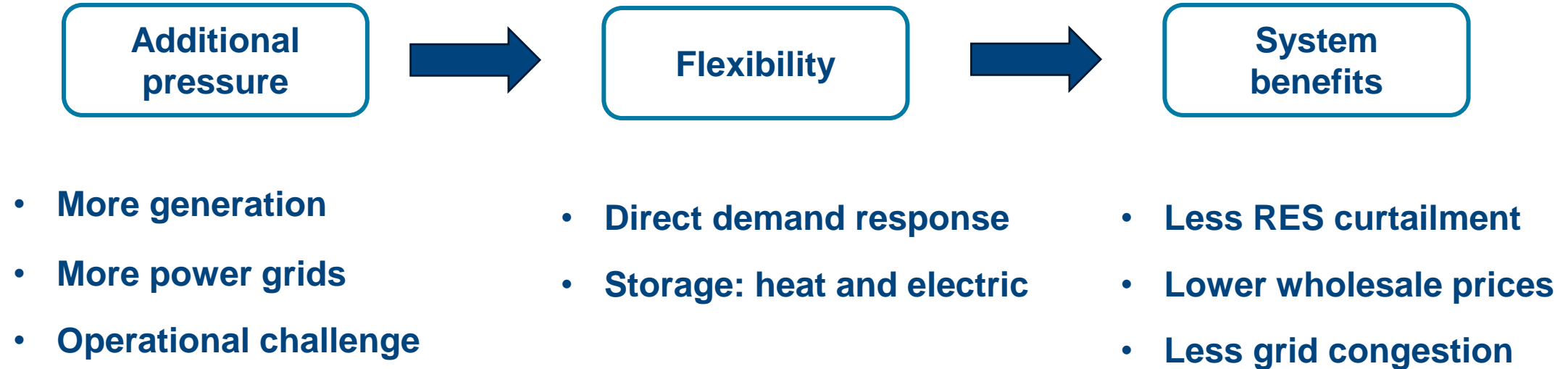
Key barrier to industry electrification

Ratio electricity to gas price for medium-sized industrial consumers in 2022 with and without taxes and levies



Source: Eurostat 2023

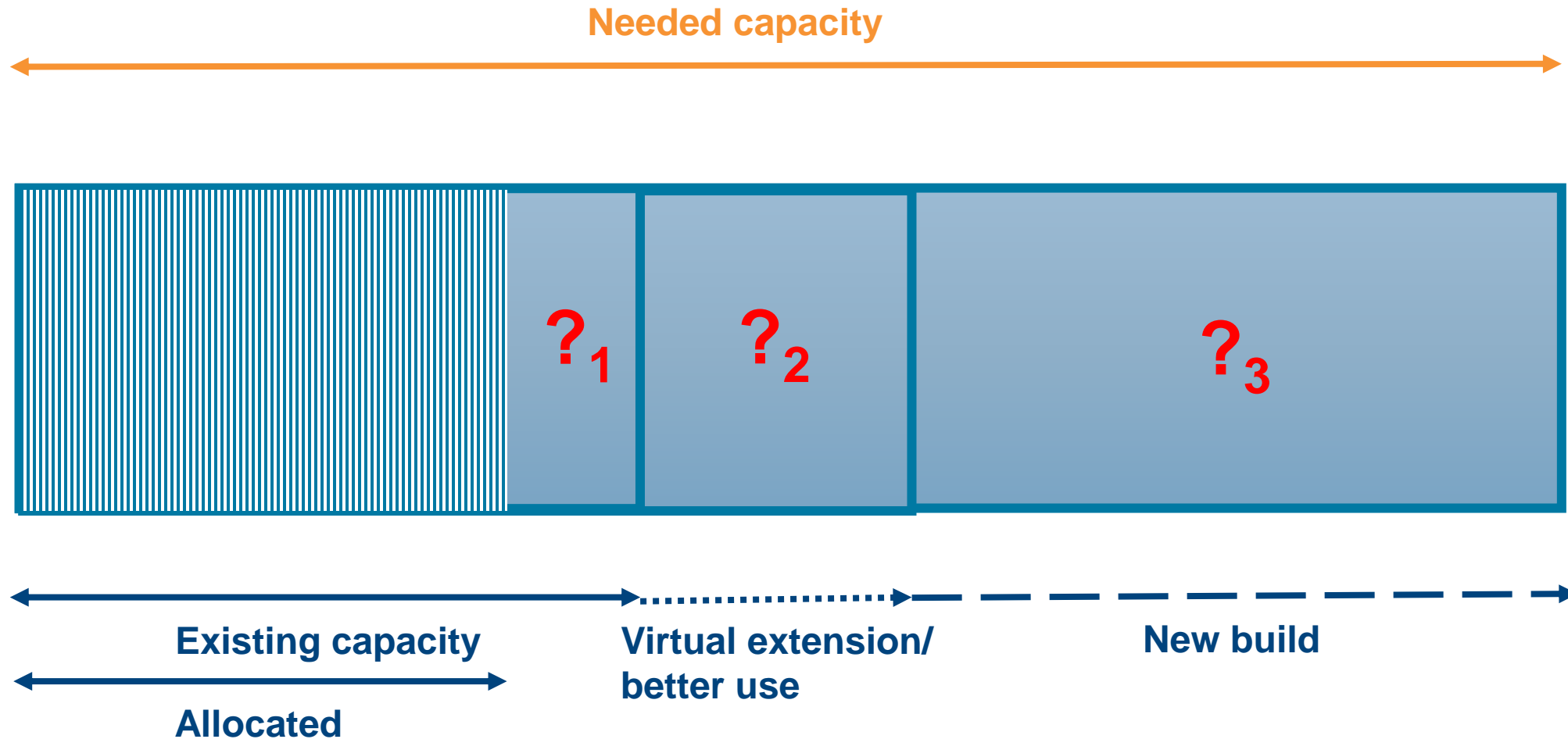
System impacts of electrification



How to mobilise flexibility?

	Markets	Grid
Price	Wholesale/retail price	Network tariff
Access	Balancing, flexibility	Flexible connection agreements (FCAs)

How can you enhance grid capacity?



?₁: (Re)allocation of remaining grid capacities

Make existing known

Free up non-used

Forget first-come-first-served

Cluster applications

Auction it



?₂: Utilization of existing grid capacities

Allow colocation/pooling

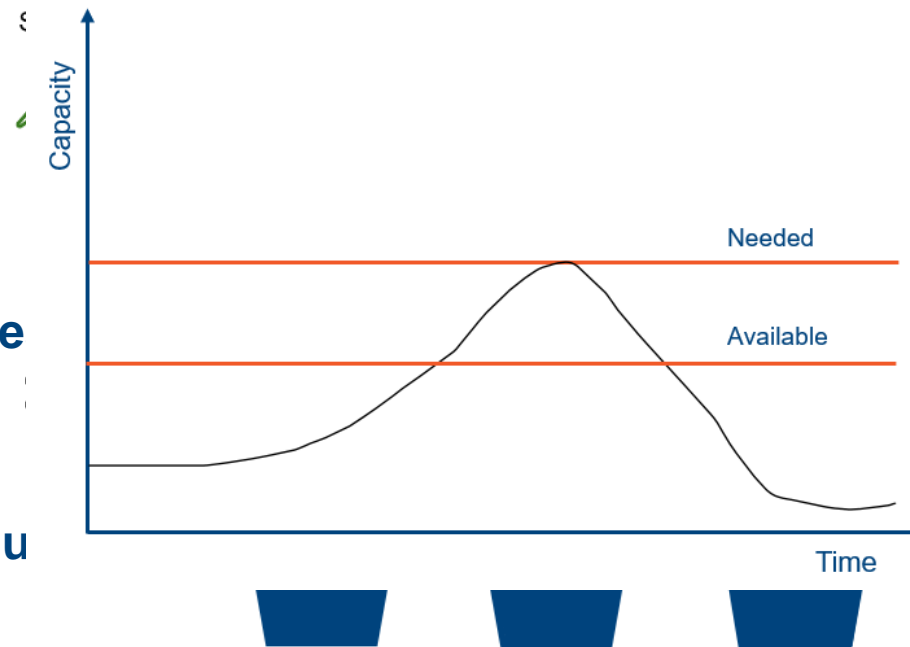
Allow flexible connections

Incentivise DSOs/TSOs to:

Use grid enhancing technologies

Procure flexibility

Provide price signals for grid u

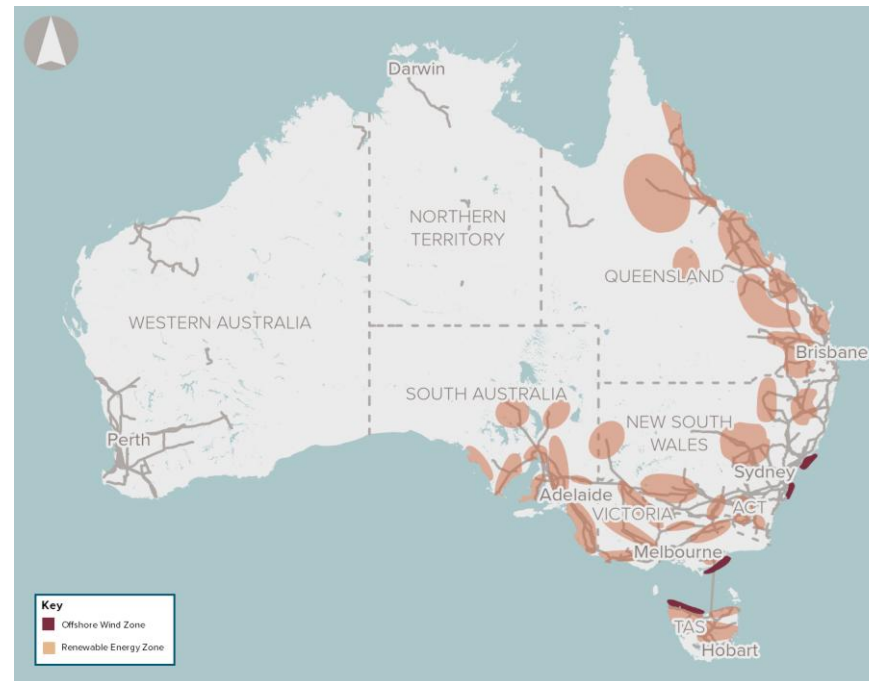


?₃: Creating new grid capacities

Coordinate siting with RES and new load

Allow contestable grid buildout

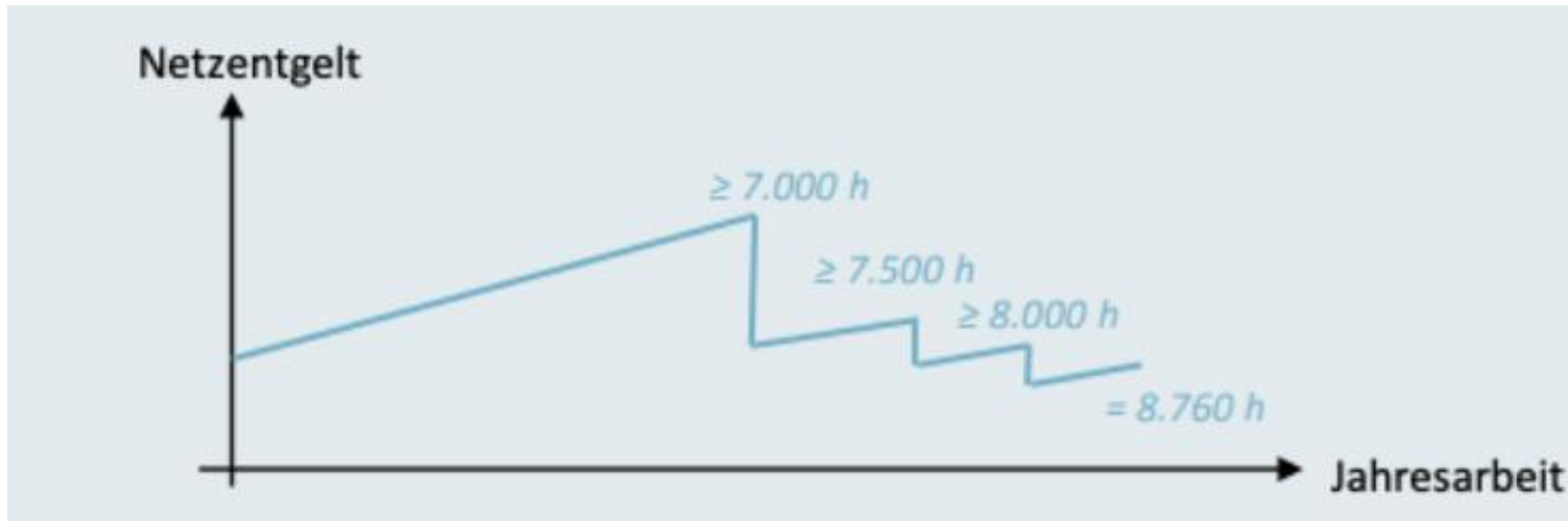
Share benefits with locals



Source: Australian Government

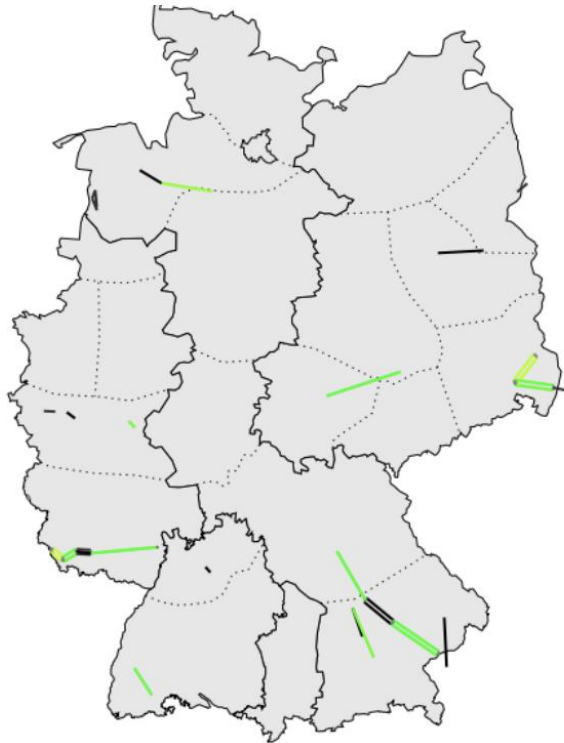
Source: Lasher, W. (2014). [The competitive renewable energy zones process](#)

Bad incentives: The 7000-hour rule in Germany



Source: [Agora/RAP/FIM \(2025\): Industrielle Energie flexibilität ermöglichen](#)

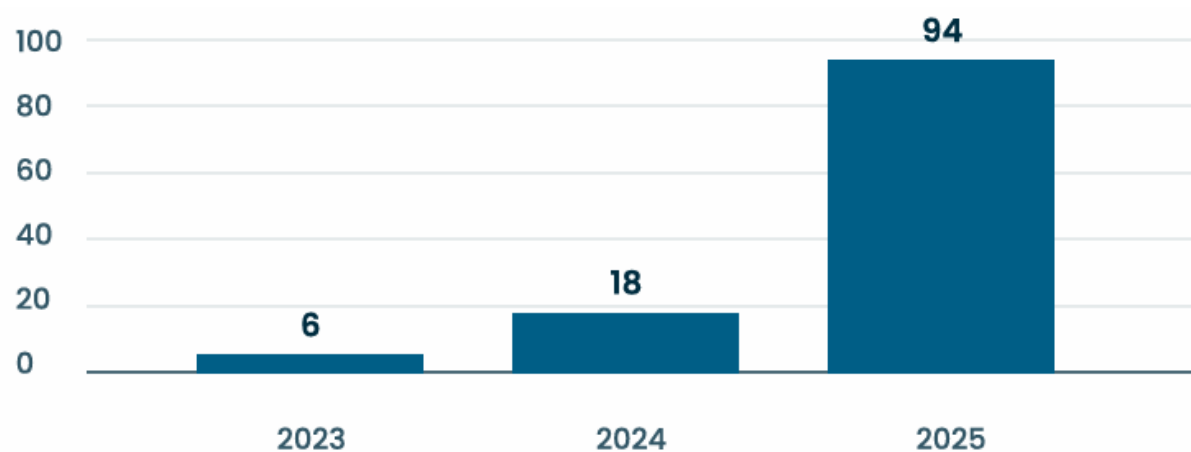
Proposed locational dynamic network tariffs



- To reduce redispatch cost
- 22 zones
- On HV from 2029
- 15-minutes granularity announced DA, positive and negative

Source: [DYNAMISCHE NETZENTGELTE DISKUSSIONSPAPIER DER VIER ÜBERTRAGUNGSNETZBETREIBER](#)

FCAs in the NL contracted with load



Types:

19 ,residual' (*Reststroom*) - DSO/TSO

73 ,ToU' (*Blokstroom*) - DSO

2 ,time limited grid use right'
(*Tijdsduurgebonden transportrecht*) - TSO

Source: [Netbeheer Nederland \(2025\)](#). Stand van de Uitvoering De voortdurende beweging op het gebied van elektriciteit

Resources

- <https://www.raonline.org/toolkit/rip-first-come-first-served/>
- <https://www.raonline.org/knowledge-center/flexing-industrial-muscle-electrifying-process-heat-with-electro-thermal-energy-storage/>
- <https://www.raonline.org/toolkit/transparent-grids-for-all/>
- <https://www.raonline.org/knowledge-center/navigating-power-grid-scarcity-in-the-age-of-renewable-energy-policy-and-regulatory-context-and-tools/>



About RAP

Regulatory Assistance Project (RAP)[®] is an independent, global NGO advancing policy innovation and thought leadership within the energy community.

Learn more about our work at raponline.org

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