

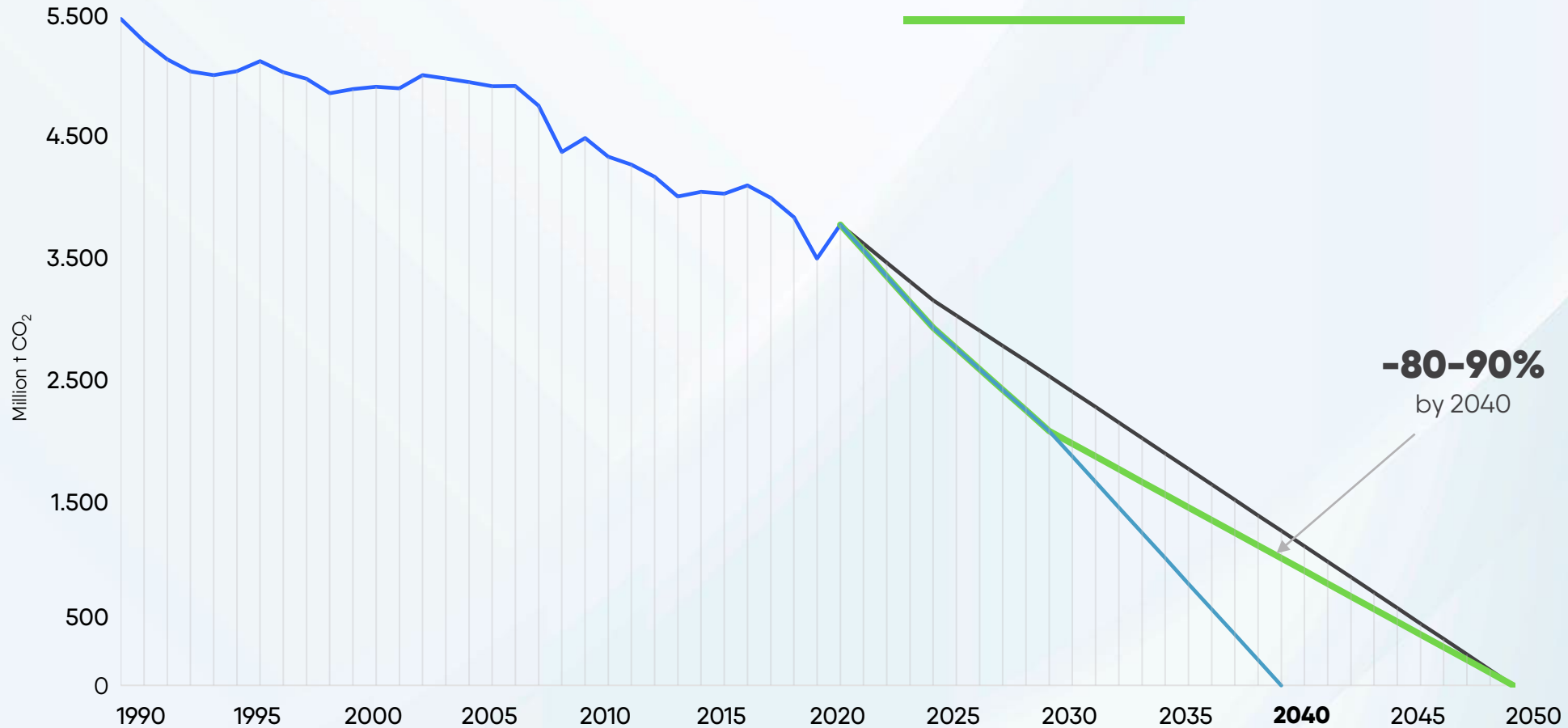
DECARBONISATION SPEEDWAYS

#DecarbSpeedways

eurelectric



The road to 2040: ambitious realism



-80-90%
by 2040

3 scenarios towards 2040 assessed

Decarbonisation Speedways assesses 3 scenarios towards 2040. Since REPowerEU reflects the latest EU policy plan, the rest of the deck only looks at this scenario.

Radical action

RePowerEU

FF55

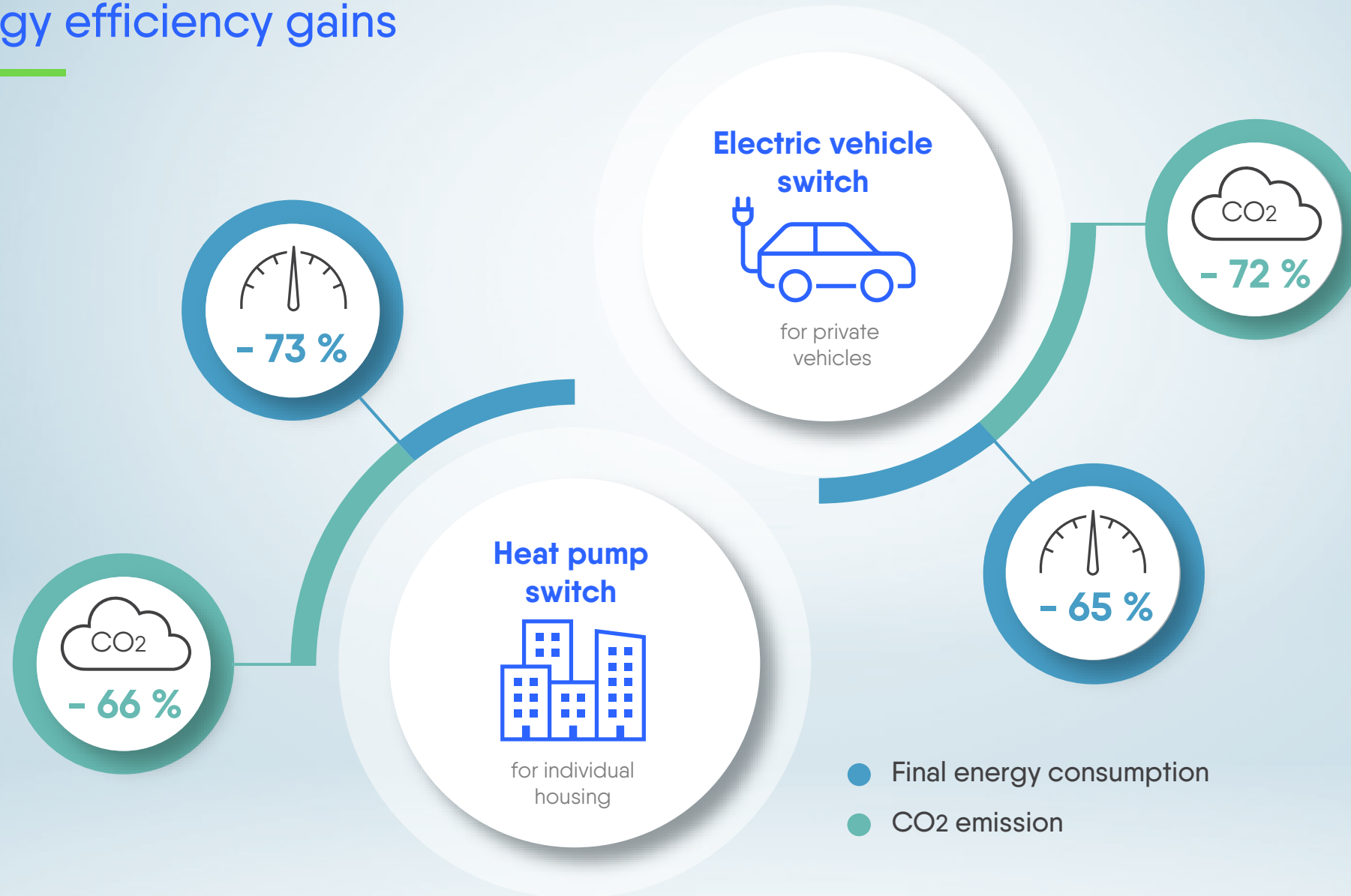




ELECTRIFICATION

The decarbonisation accelerator

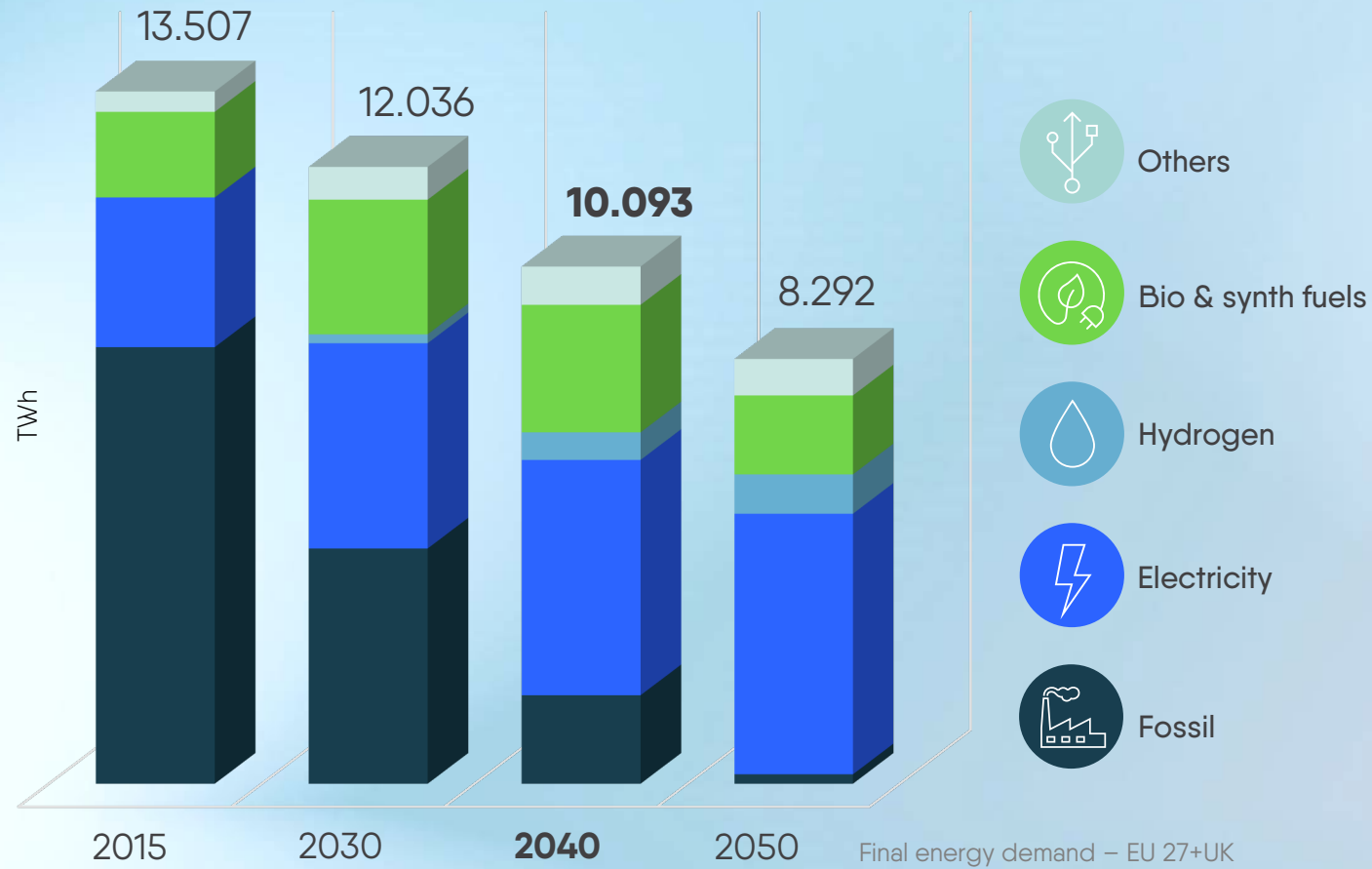
Already today, electrification brings decarbonisation & energy efficiency gains



*Calculations on EU27+UK Level 1. Gas consumption per year 10 MWh 2. Vehicle distance per year 15000 km



Electrification: THE energy efficient solution



15%

29%

39%



Energy efficiency
versus 2015

35%

48%

61%

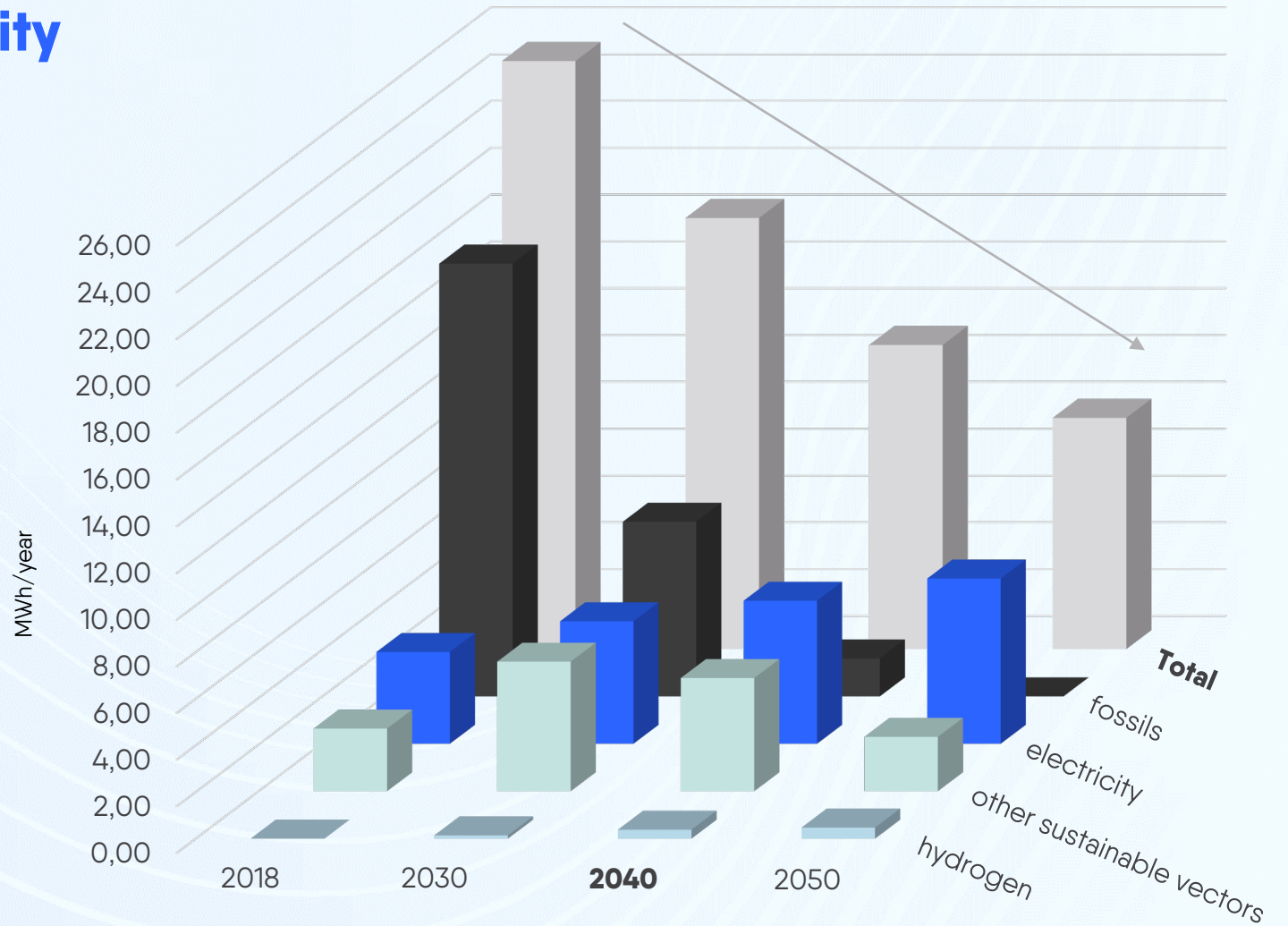


Share of direct electrification



Households: same lifestyle using less energy thanks to electricity

Electrification will unlock higher energy efficiency gains, with household energy consumption decreasing considerably.



Average EU households' consumption measured for residential and transport usage



Decarbonisation through electrification: a no regret solution

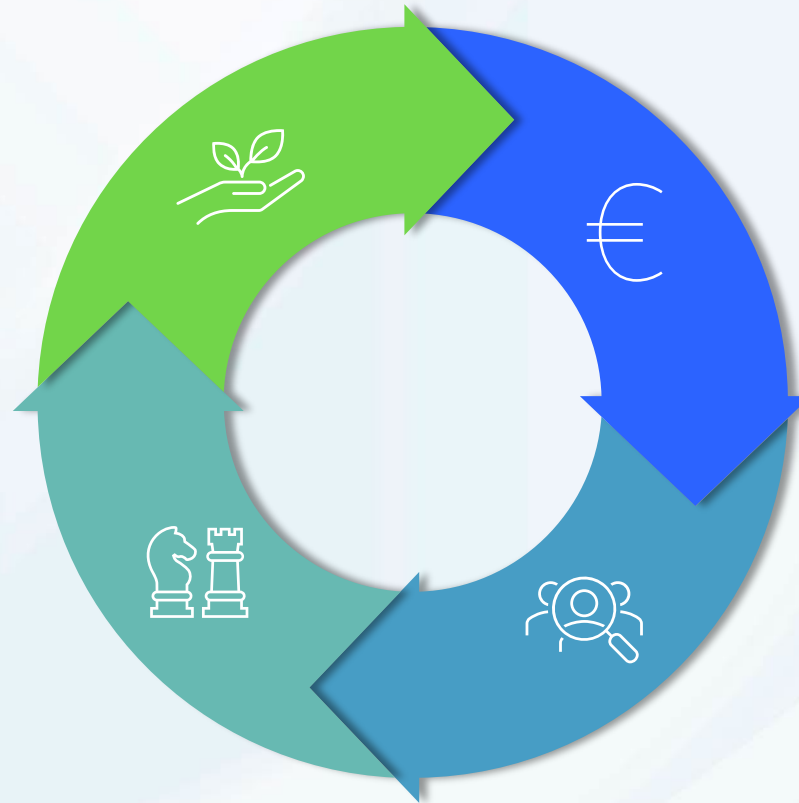


Sustainability

- **€27-22bn** annual CO₂ savings
- **€40-140bn** annual savings in health & air quality
- **58K** premature deaths avoided
- **460 Mtoe** less energy consumption by 2030
- Better preservation of **biodiversity & ecosystems**

Competitiveness

- **Territorial cohesion** & promotion of local economies
- **€28-37bn** average electricity cost reduction
- **€+175bn** annual savings in fuel imports
- Increased **competitive EU position** in clean technologies
- **Lower footprint** of EU produced products

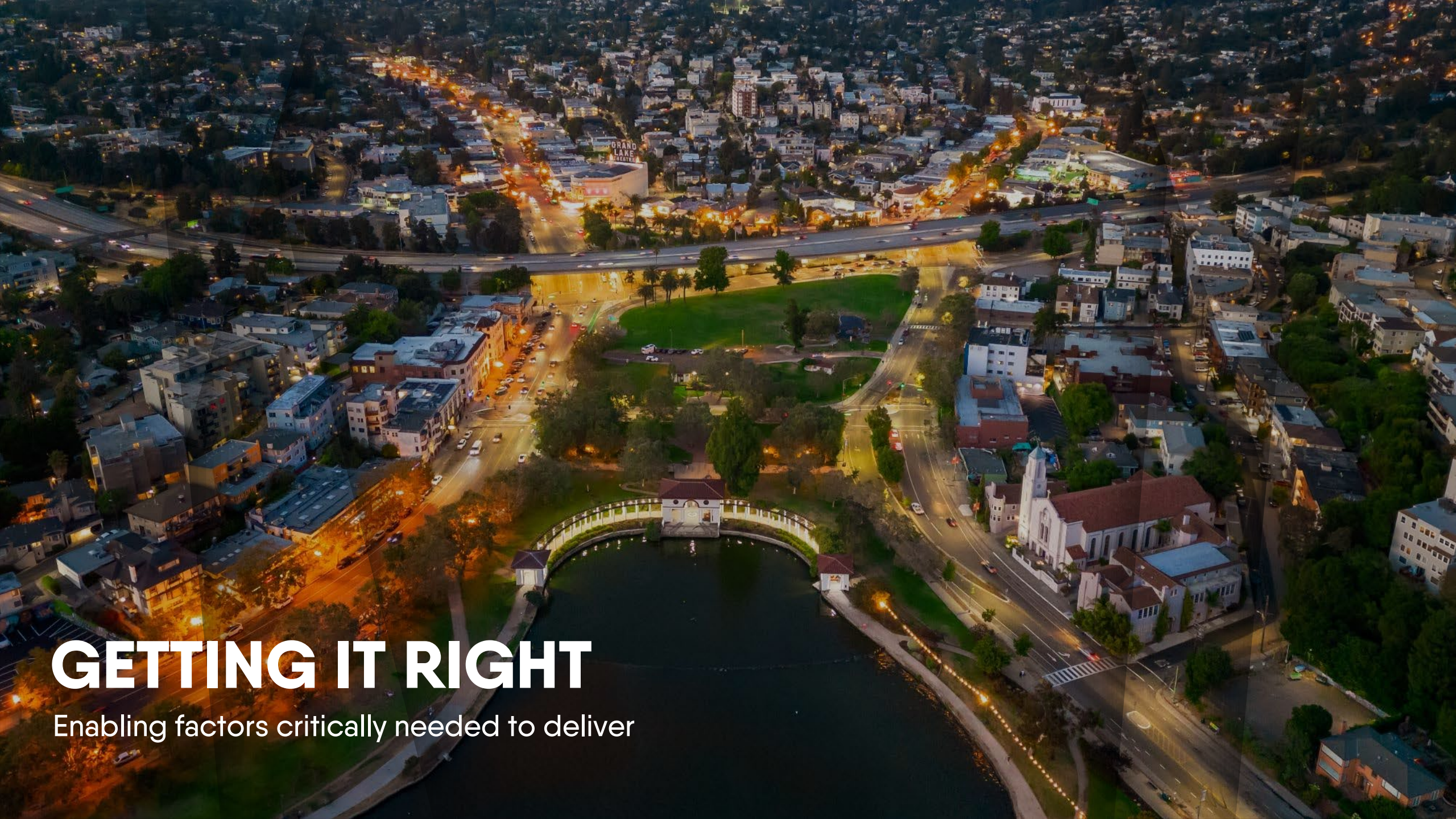


Economy

- **€30-35bn** annual revenues for EU companies
- **440-620k** jobs per year related to DSO grids
- **€30-35bn** annual sales in equipment
- Advantage in **circular economy**

Customer empowerment

- **40 GW** self-consumption capacity added
- **50-70m** EVs with smart charging
- **New services:** storage, electric heating, smart appliances, aggregators
- Higher **food and water** securities

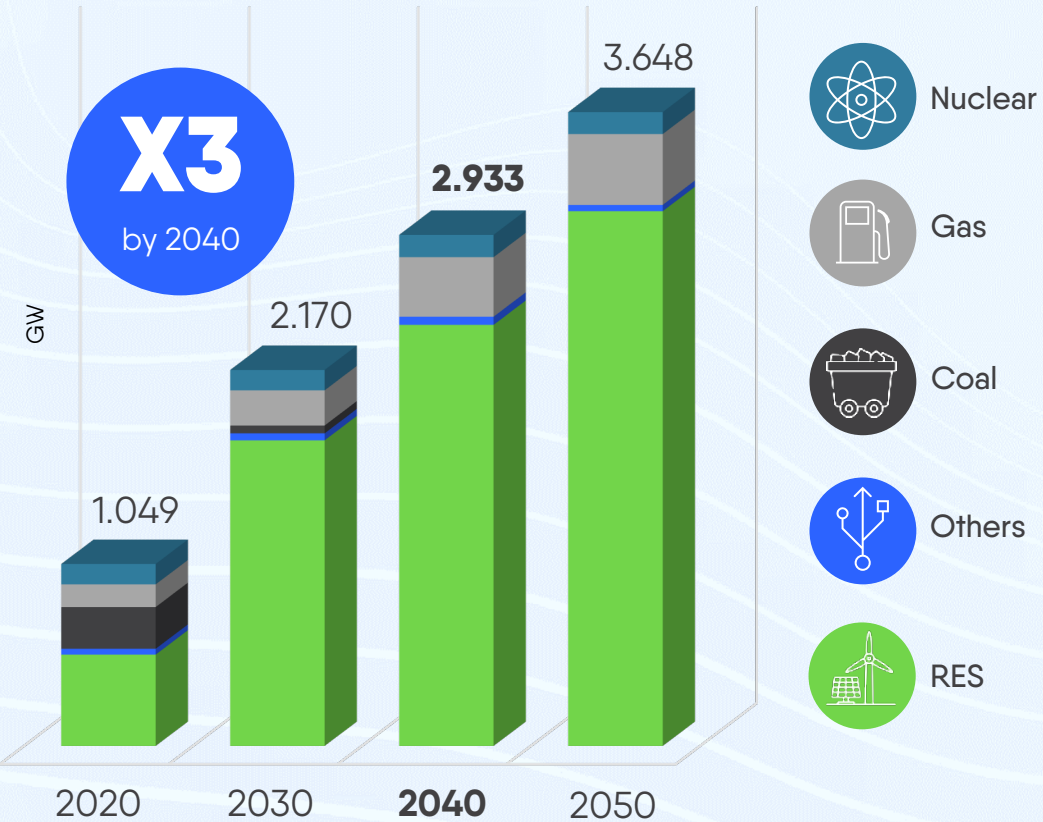


GETTING IT RIGHT

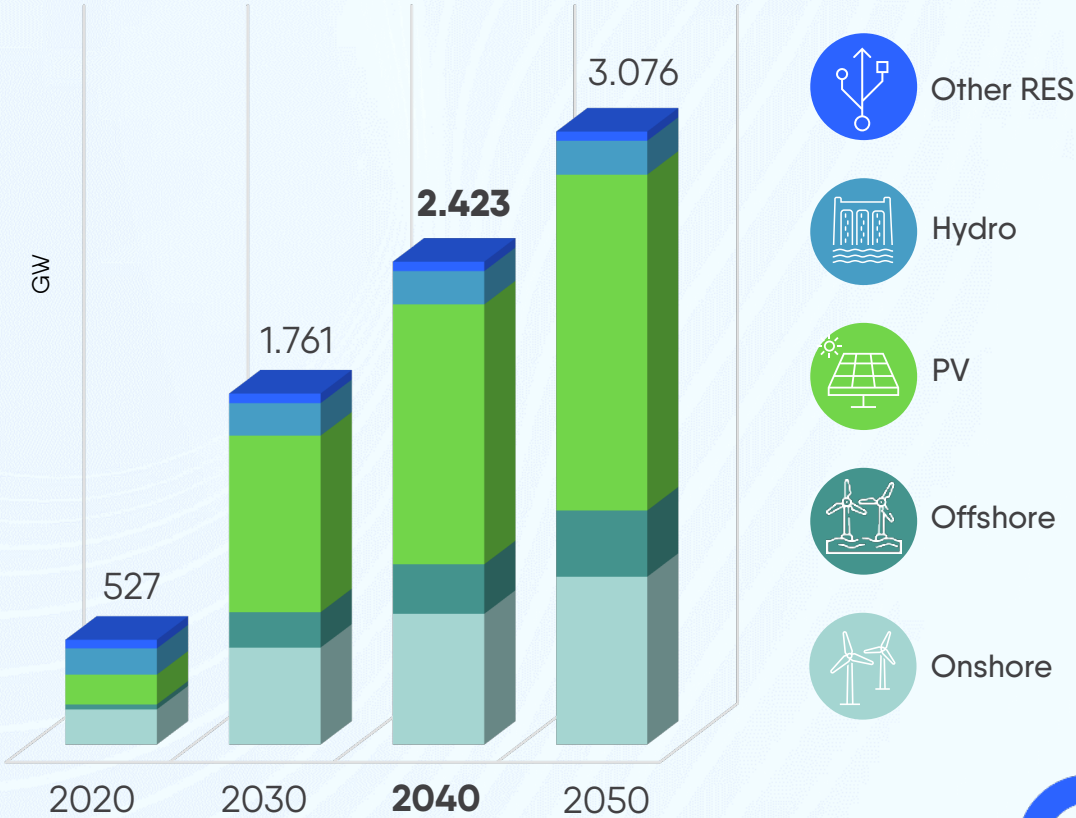
Enabling factors critically needed to deliver

Power progress with **unprecedented capacity growth**

Total electricity capacity



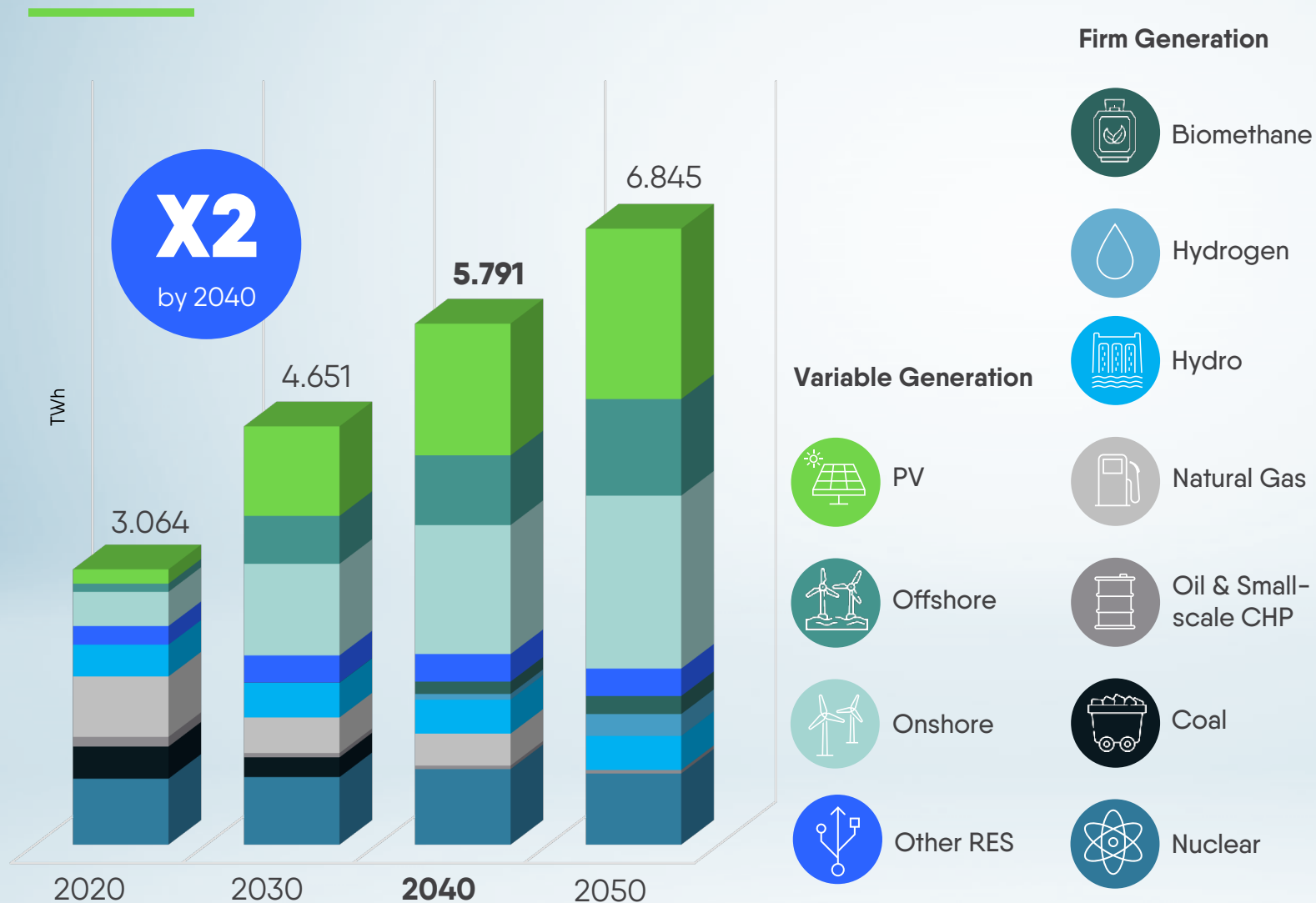
RES capacity



2020–2040: a gigantic build-up perspective



Firm dispatchable technologies needed for system stability



System stability

To ensure security of supply in a system with high shares of renewables, firm and dispatchable technologies will be massively needed.

Doubling down on generation

By 2040, electricity generation will nearly need to double.



Massive investments levels in electricity generation

Annual investments in the EU27+UK, 2020-2050 (bn €)



Business as usual



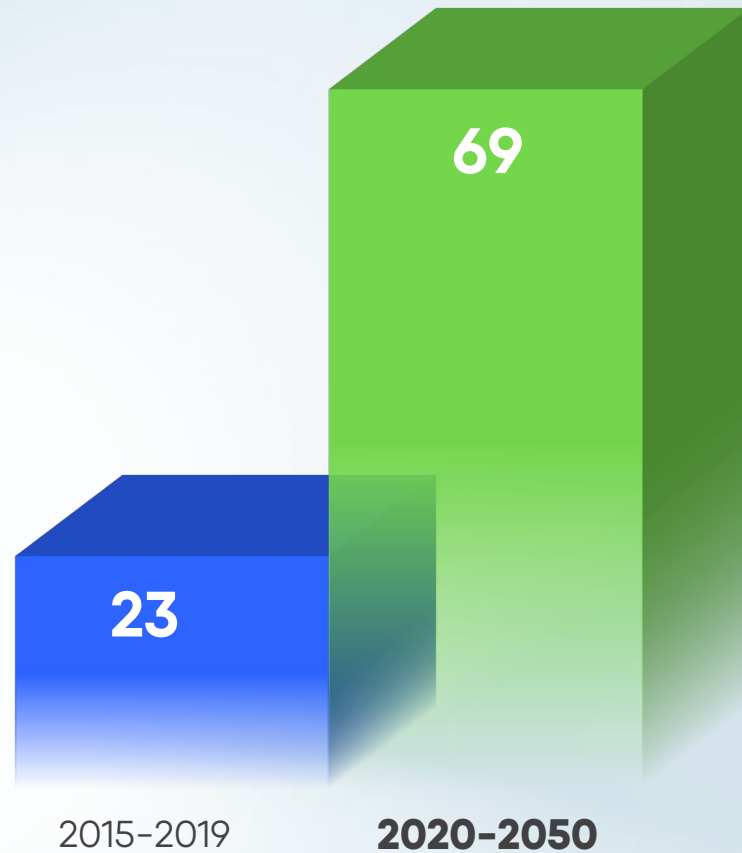
2040



An improved financial framework to catalyse investment and innovation for the next wave of decarbonised power generation technologies is needed



A leap forward in **distribution grid investment**



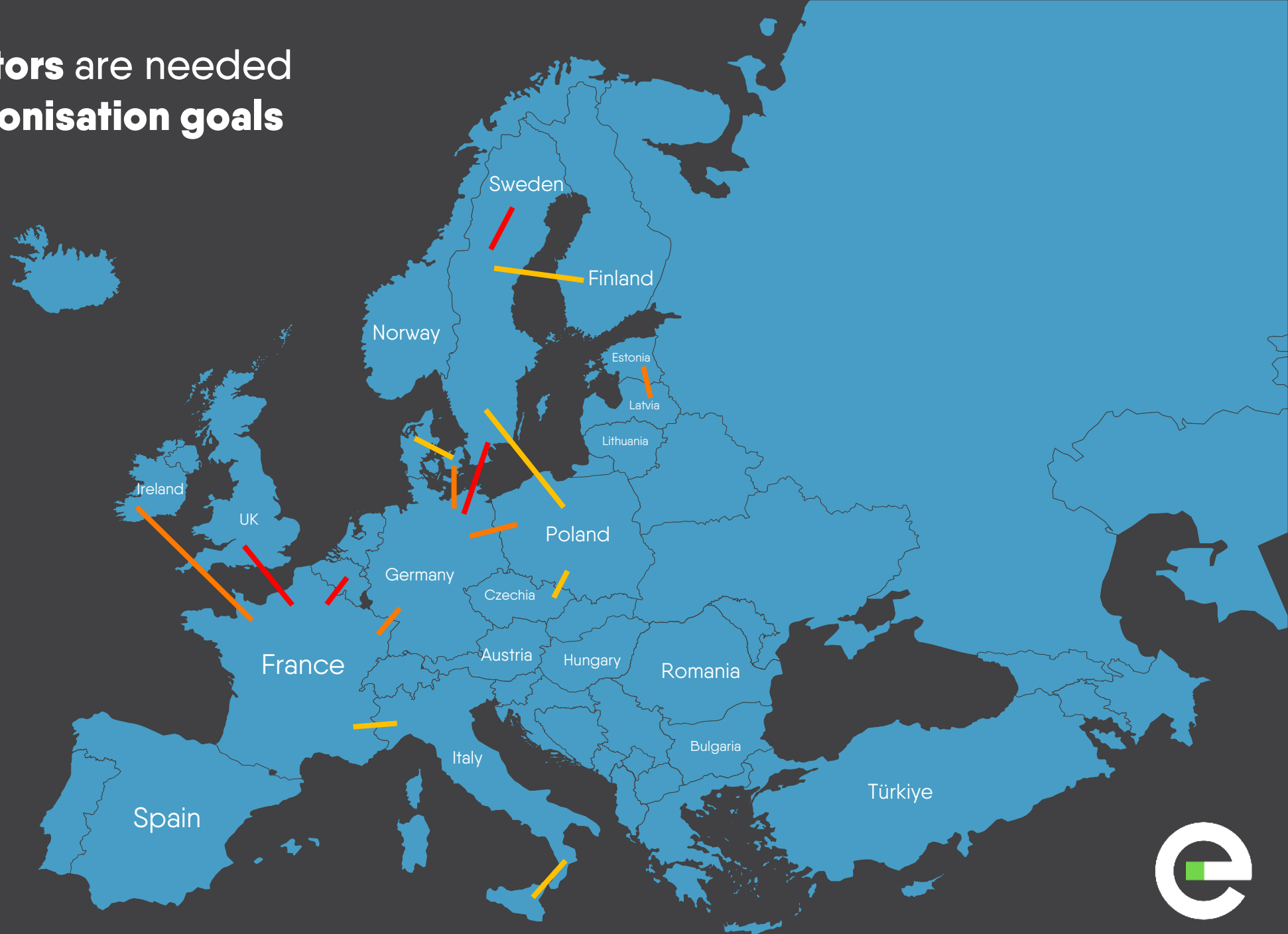
Average annual investments needed in the EU27+UK (bn €)






Between 2020-2050 investment in distribution grid will need to reach between 38-100 bn € per year based on additional TWh demand.



More **interconnectors** are needed to achieve **decarbonisation goals**

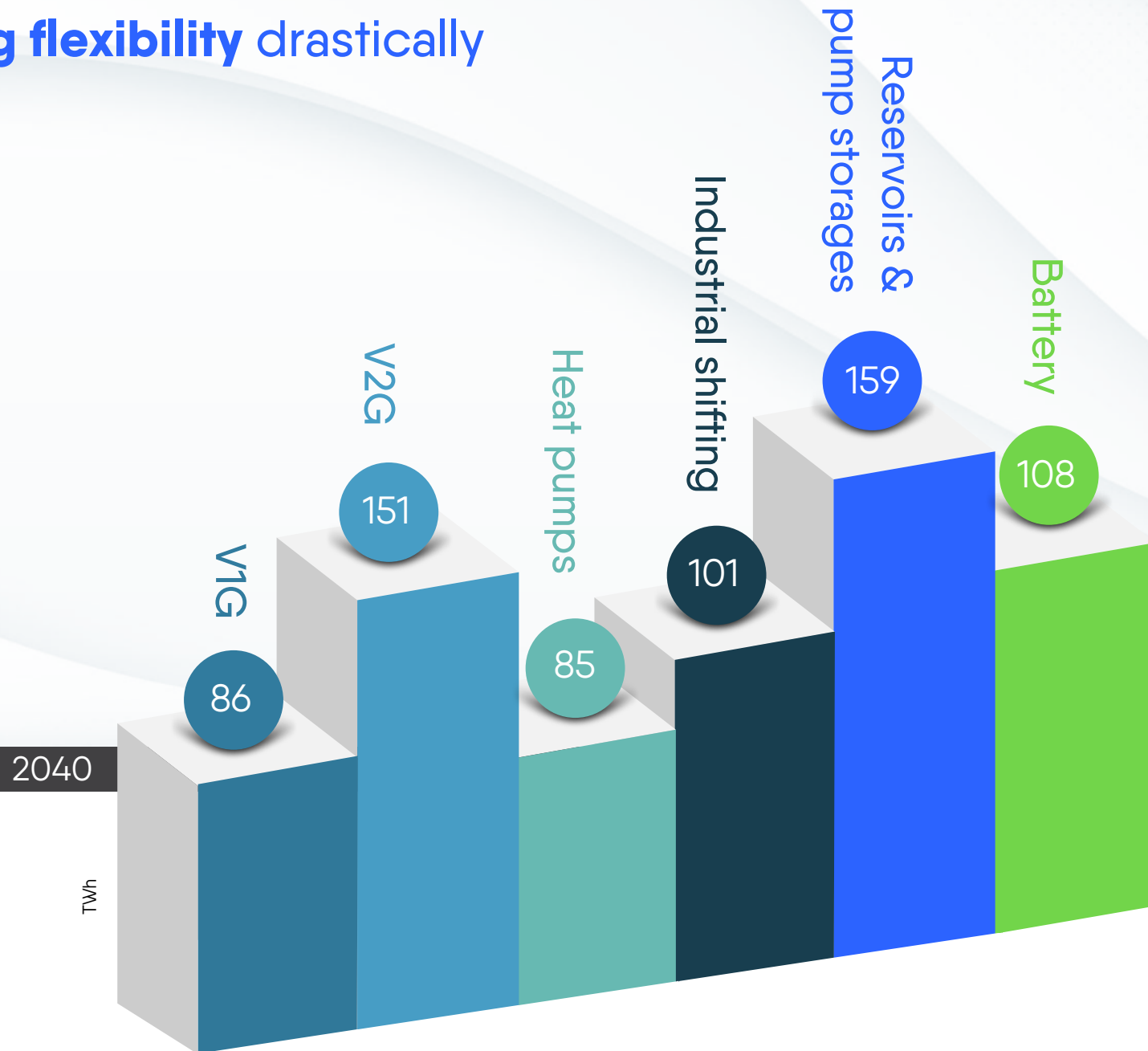


Estimated level of saturation in 2030

-  > 85 %
-  > 80 %
-  > 75 %



Boosting flexibility drastically



In 2022, battery storage reached only 9 GWh. This represents **0,009%** of the 108 TWh needed in 2040. This illustrates how gigantic the leap forward needs to be.

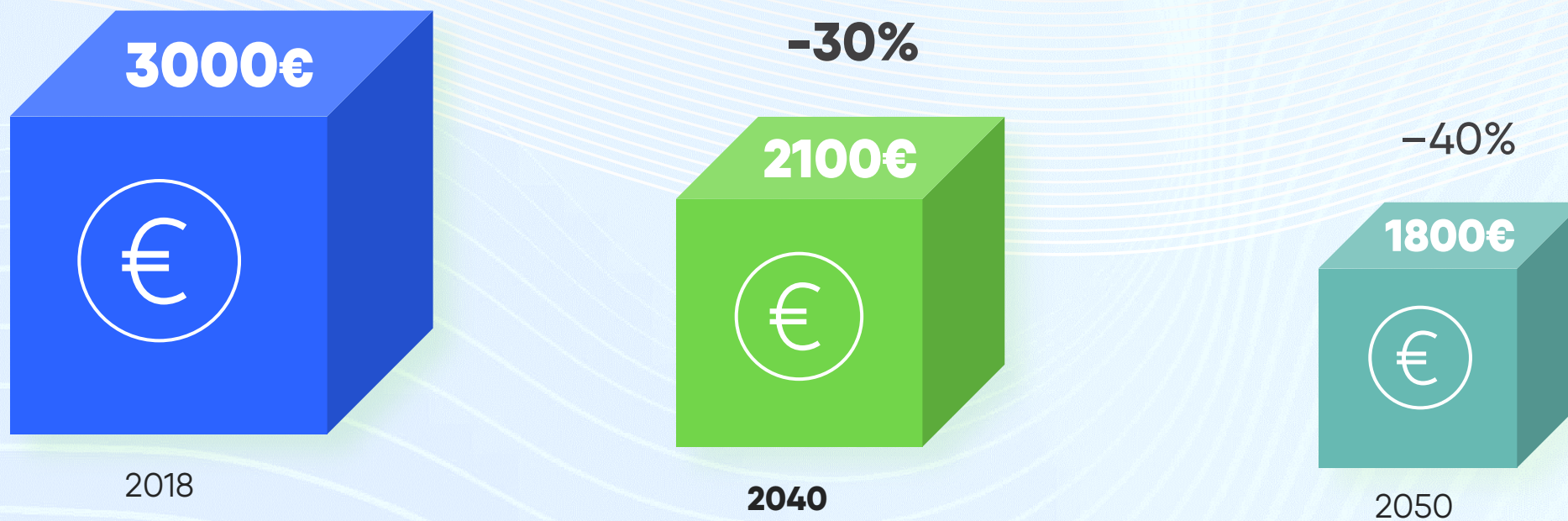


A modern, multi-level living space with a woman holding a tablet. The room features a wooden ceiling with black metal beams, a staircase with a wooden handrail, and large windows. A woman with curly hair, wearing a light blue shirt, stands in the foreground holding a tablet. The background shows a mezzanine level with a sofa and a kitchen area with a sink and faucet. The overall atmosphere is bright and contemporary.

LOWER BILLS

If properly implemented, the transition will lower energy bills

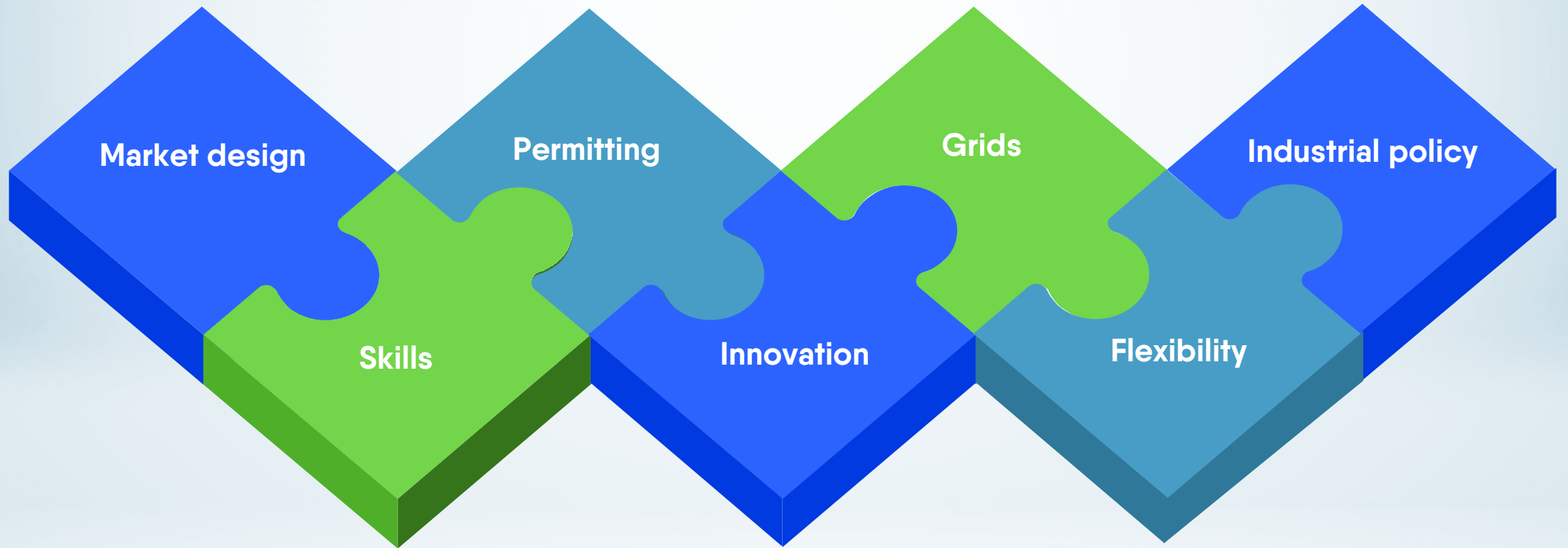
Opportunity to lower households energy bills with increased electrification



Average yearly energy bills for residential and car usage, for an average EU household



High time to put all enabling factors in place





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