EKOSVEST GAS CONFERENCE – 17 OCTOBER 2024

CHALLENGES OF PHASING-DOWN GAS IN THE EU

WHAT IS E3G?

What: E3G is an global climate change think tank.

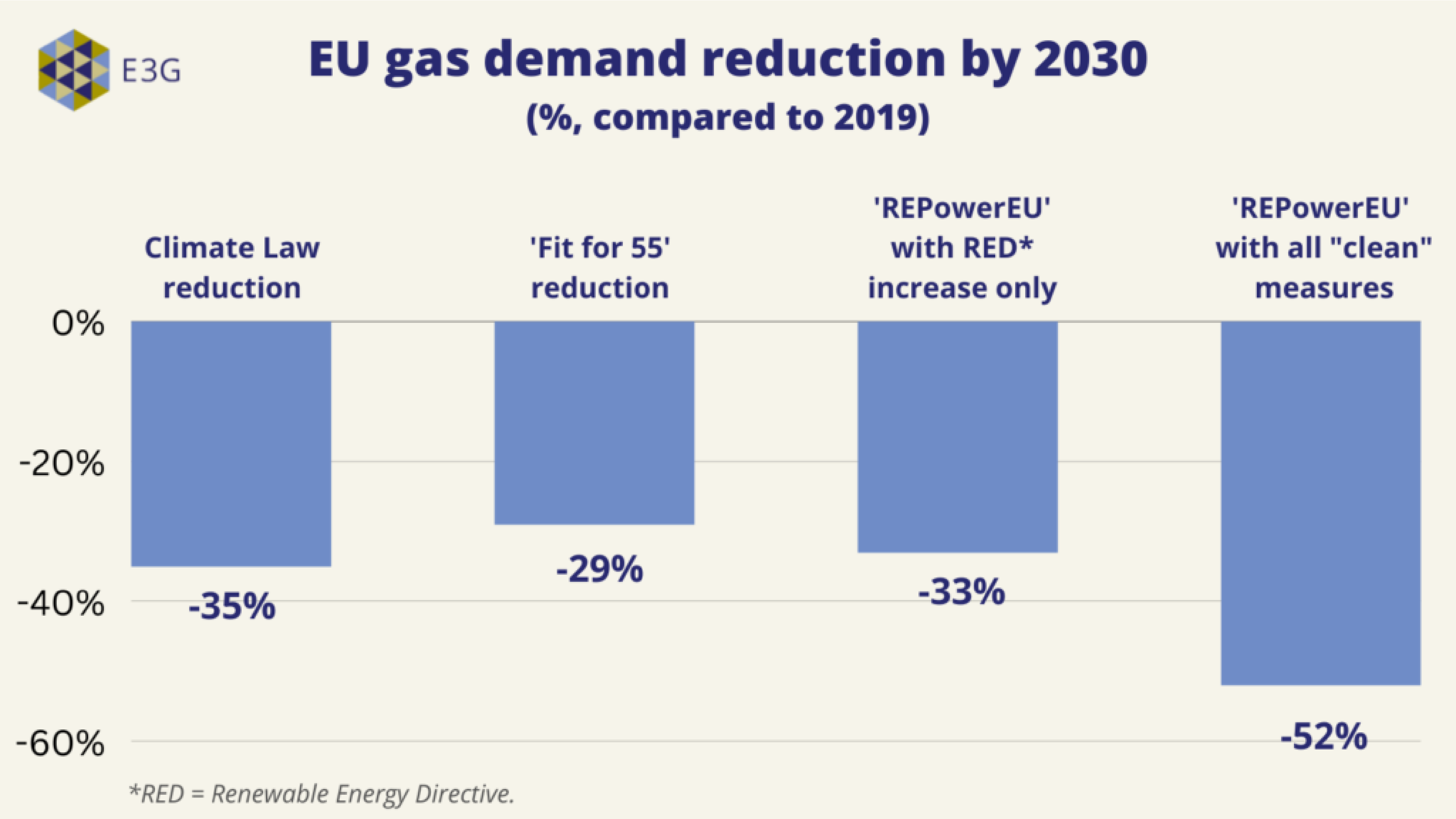
Mission: To achieve climate safety for all.

Where: London, Brussels, Berlin, and Washington D.C. and staff in seven other countries worldwide.

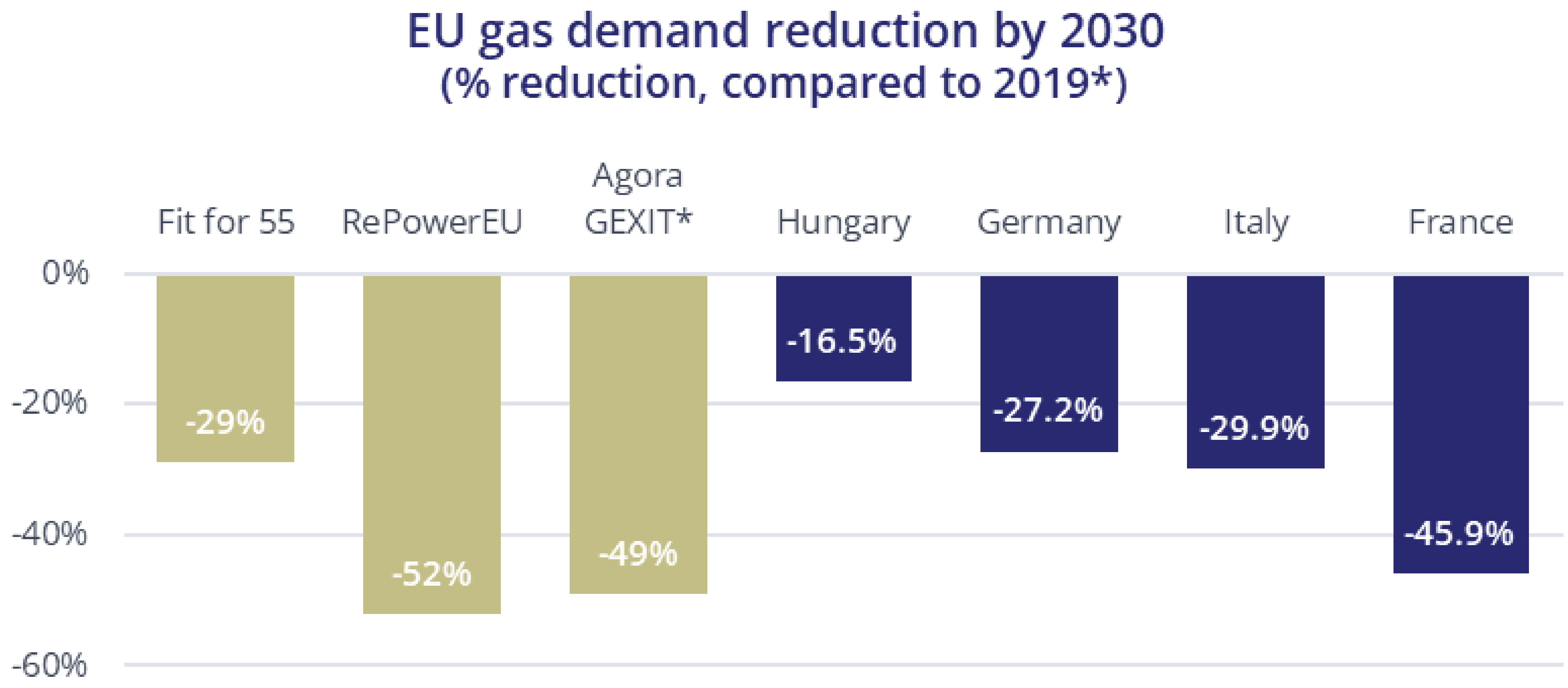
How: We deliver outcomes through coalitions with partners in government, politics, NGOs, science & media.

Funding: Primarily from philanthropic foundations.

THE EU'S FOSSIL GAS DEMAND TRAJECTORY BY 2030

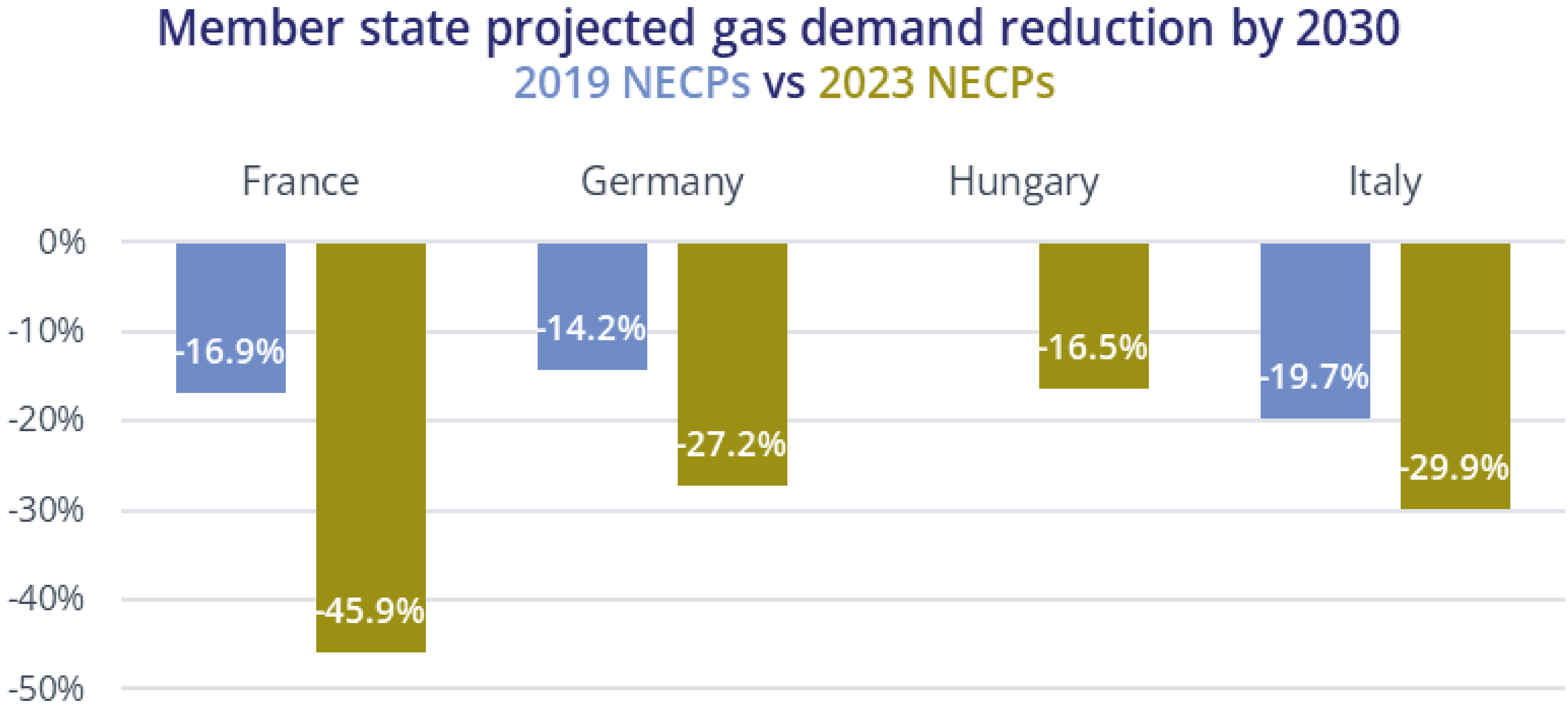


SELECTED MEMBER STATES' FOSSIL GAS PATHWAY



* Baseline for the Agora gas exit study is 2018

ON A STEEPER TRAJECTORY THAN EXPECTED



ADDITIONAL CONSIDERATIONS

- Fossil gas phase-down will occur sooner and faster than previously anticipated.
- By 2049, all long-term contracts should be phased-out, as per the Gas Package regulation
- It will also have broader economic impacts: failure to manage this transition could lead to higher consumer prices, reduced investor certainty and potential waste of public funds.
- This will pose a challenge to the energy system overall, particularly affecting gas infrastructure and workers.

HOW TO ADDRESS IT?

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The EU's fossil gas transition: What's next?

PLANNING AND GOVERNANCE

The challenge ***Long-term and comprehensive planning*** *to manage the EU's declining fossil gas demand is needed.*

Recommendations

- Review energy system planning processes and governance to enable a forward-looking approach that integrates sectors and energy vectors for an increasingly electrified and decarbonised future.
- Adopt well-defined projections of future fossil gas demand to provide clarity for planning and policymaking.

HOW TO ADDRESS IT?

ENERGY SECURITY

The challenge

Build a new energy security approach *based on flexibility and storage, not fossil fuel access.*

Recommendations

- Plan for energy systems without fossil gas power generation and update practices to manage systems based on renewables, flexibility and storage.

HOUSEHOLDS

The challenge

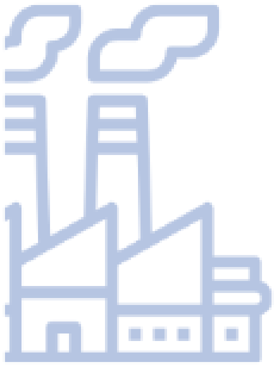
Avoid the risk of a 3–10x[1] rise in gas grid fees *for consumers locked into fossil gas usage.*

Recommendations

- Develop a citizen-focused strategy to deliver a mass shift from fossil gas space heating by addressing the cost and social implications.

HOW TO ADDRESS IT?

INDUSTRY



The challenge

Prioritise industrial direct electrification *to displace well over half[2] of industry fossil gas consumption.*

Recommendations

- Develop a strategy that enables industry to bridge the gap between short- and long-term economics.
- Enable access to affordable renewable electricity and upfront support for clean investments.

WORKERS AND REGIONS

The challenge

Transition the ***EU gas sector's >150,000 workers[3]*** *already impacted by declining gas demand.*

Recommendations

- Create a strategy to transition gas industry workers and enable them to benefit from a clean energy future.
- Address regional differences in fiscal space and exposure to fossil gas demand across the EU.

WHAT ABOUT SKILLS?

Employment by economic sector, million people	2020	2021	2022
Fossil fuel sectors	0.46	0.41	0.37
Electricity, gas, steam and air conditioning supply	1.46	1.50	1.48
Energy intensive industry	4.90	4.87	4.98
Services	123.20	124.85	128.15
Construction and architecture services	15.37	15.68	16.25

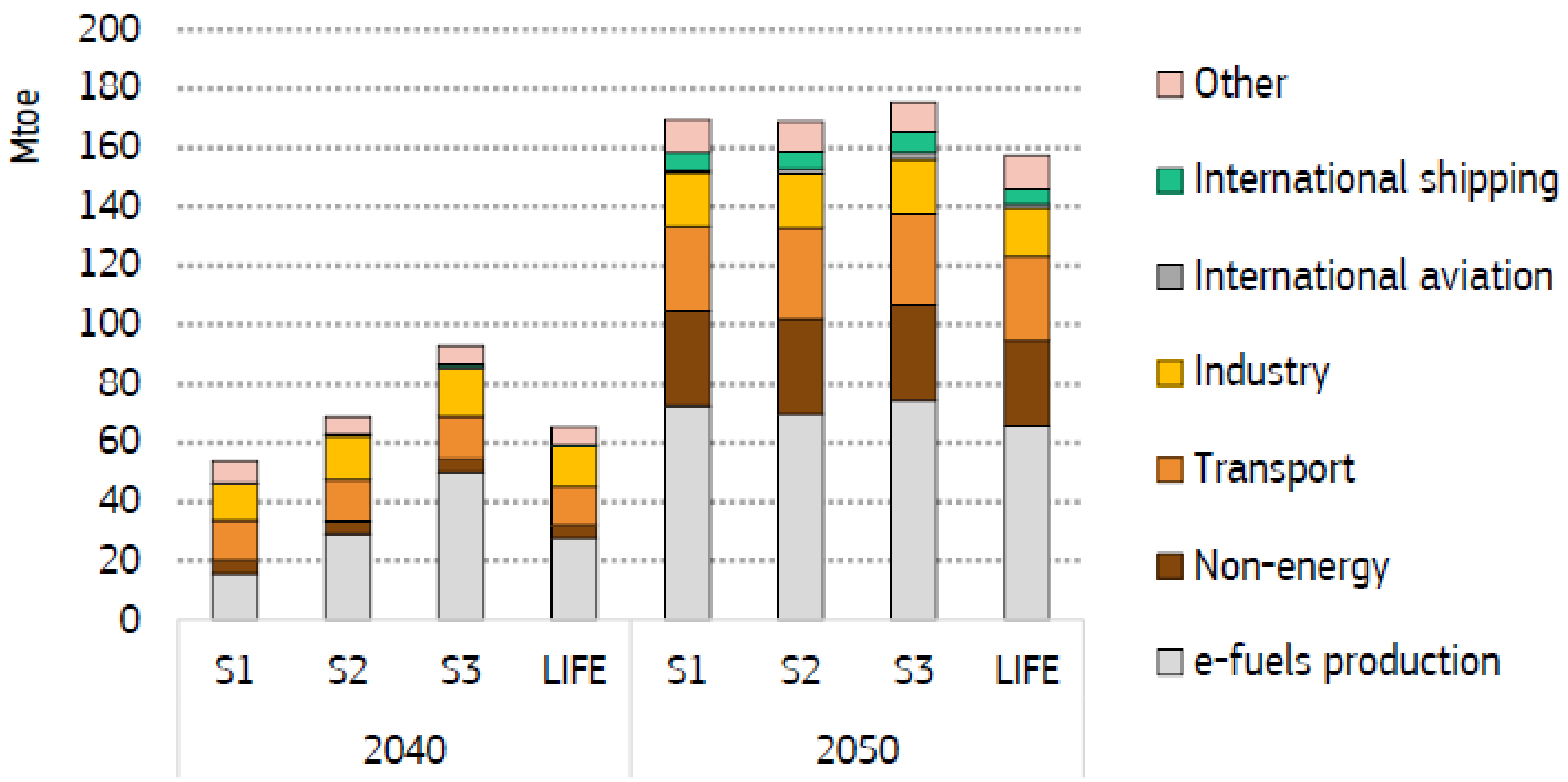
The impact of the fossil fuel transition is already seen in falling employment in fossil fuel sectors. However, many more people are employed in related industries, where the transition away from fossil gas is likely to result in decreased demand for some skills and increased demand for others.

THE EU'S HYDROGEN DEMAND TRAJECTORY

The 2040 IA corrected the 2030 REPowerEU targets: instead 20Mt renewable hydrogen in 2030, the modelling here indicates only about 3Mt (9Mtoe) of hydrogen production/ demand in 2030.

The expected share of imported hydrogen by 2050 is extremely small, at 5Mtoe (about 1Mt).

Figure 31: Consumption of hydrogen by sector, 2040-2050



Source: PR

THE H2 BUBBLE IS BURSTING

Hydrogen

		AT	BE	DK	DE	IT	NL	UK
Amount of H_2 used in 2030	TWh/a	24	6	2-3	95-130	2% of final energy demand	Not specified	5- 40
Total electrolysis capacity	GW	1	Target of 0.15 in 2026	1-7	10	5	3-4	up to 10
H_2 production at home	TWh/a	Not specified	Not specified	5	Not specified	Not specified	22.2	Not specified
H_2 imports	TWh/a	Not specified	20 in 2030, 200-350 in 2050, half for export	Exports from 2030	45-90	Not specified	100-167	Not specified
Length of core hydrogen network	km	1,050	Not specified, start with 100-160 km in 2026	350	9,700	Not specified	1,200	Not specified
Share of rededicated pipelines planned (predominantly transmission)	%	64	not quantified, expected to be major part	Not specified	60	Not specified	84	Not specified

GREEN HYDROGEN PARTNERSHIPS?

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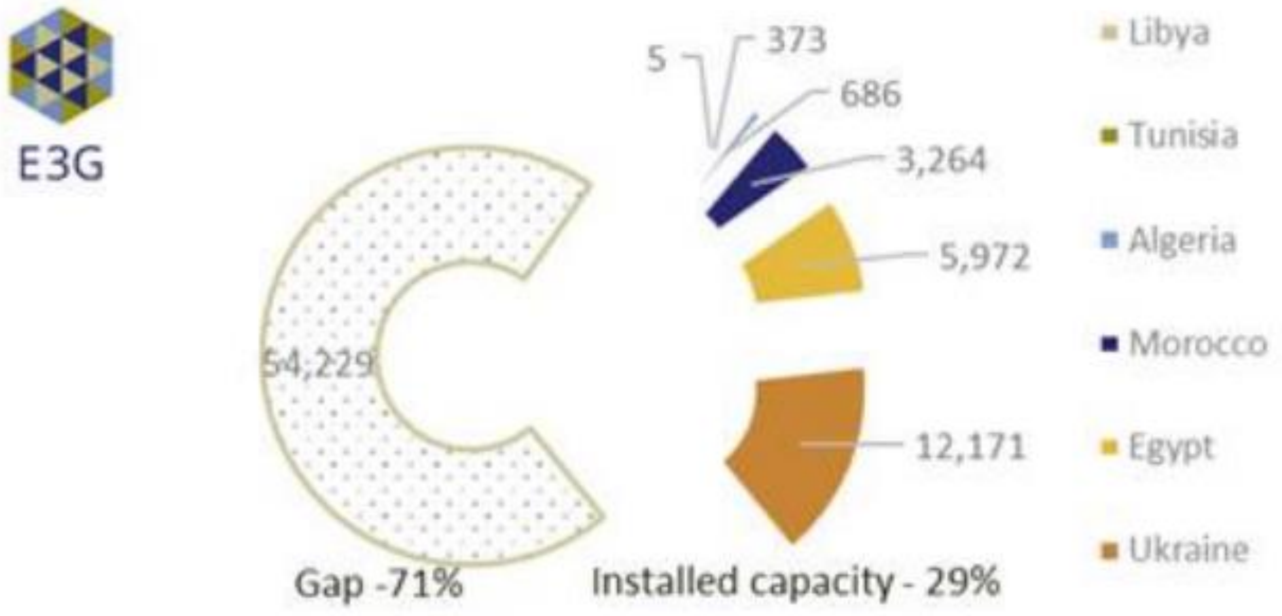
Feasibility

- **Importing hydrogen from neighbouring countries raises concerns on social, environmental, geopolitical and technical issues.**
- The installation of 40GW of electrolysers by 2030 would require 77 GW of renewable energy capacity **- far above the currently installed 22 GW in Ukraine and North Africa.**
- Catering for export capacity alone **would require tripling renewable energy capacity in these countries** over the next ten years.



Only 29% of the renewables capacity required for the Hydrogen Europe target of 40GW to 2030 are installed to date. This is before taking into account exporting countries own domestic decarbonisation and growing demand.

Source: IRENA 2020, Hydrogen Europe 2020

HOW TO AVOID IT ALTOGETHER?

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Contributing to energy security and resilience

1 **Put clean heat and energy efficiency at the core of any new definition of energy security** developed by the European Commission.

Realising health and social benefits

9 **Enshrine healthy, affordable and energy-efficient homes as a fundamental social right.**

10 **Provide a European template identifying common overarching criteria** for designing grants and funding schemes and use the National Building Renovation Plan across member states.

HOW TO AVOID IT ALTOGETHER?