



Multilateral Assessment

Luxembourg

SBI 61 - Baku - 16 November 2024



LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Environnement, du Climat
et de la Biodiversité



National circumstances



2020 - 2030 - 2050 targets



GHG emissions & removals trends



Climate policy & governance



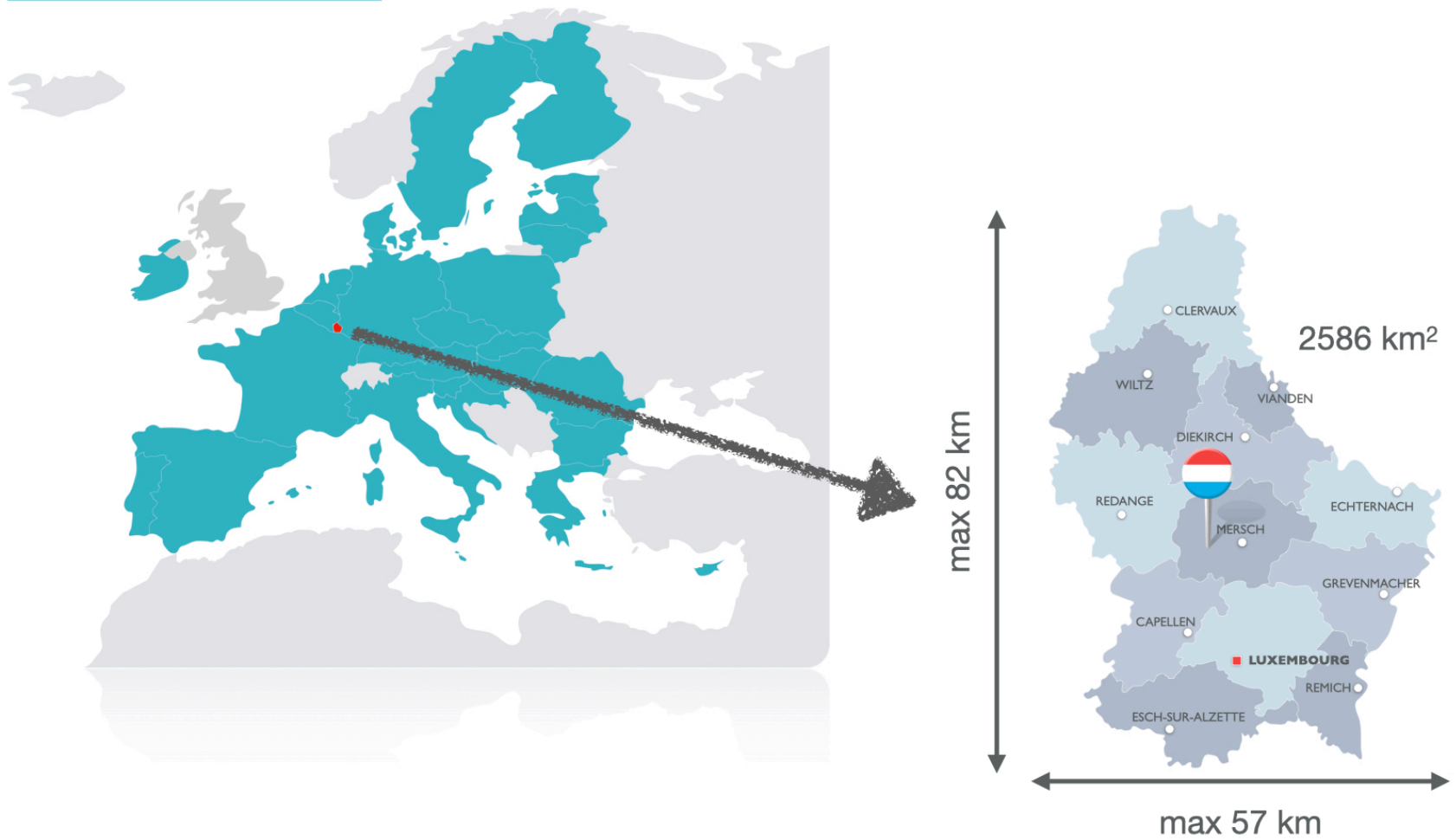
Key policies & measures



Experiences with the IAR process



National circumstances





National circumstances



Country location



at the heart of the main Western European N-S & E-W transit routes for both goods & passengers

Strong population growth due to immigration



- 31st Dec. 2023: 672,050
- 2005-2023: + 43%
- est. 2050: 926,000 (*NECP projections*)

Strong cross-border commuters growth due to economic development



- 31st Dec. 2023: 227,900
- 2005-2023: + 98%
- est. 2050: varies from scenario to scenario; 360,000 for the NECP update

Country & economy sizes



- potential significant impact of a single new industrial project or of a shutdown
- only a few large energy consumers

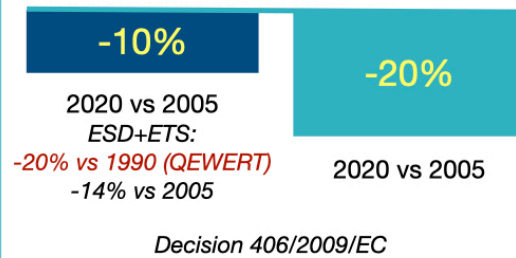
Energy



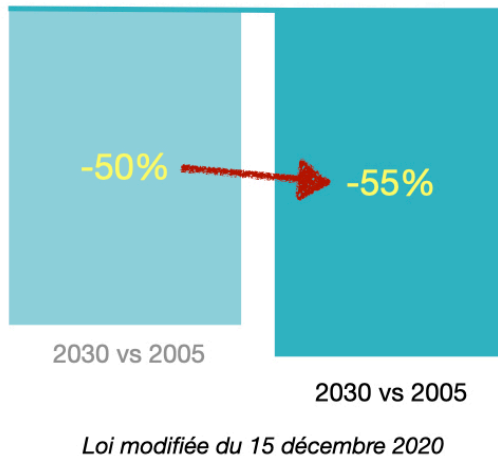
- high dependence on energy imports (oil, gas & electricity)
- limited RES potential
- focus on solar, wind, heat pumps, biomass

2020 - 2030 - 2050 targets

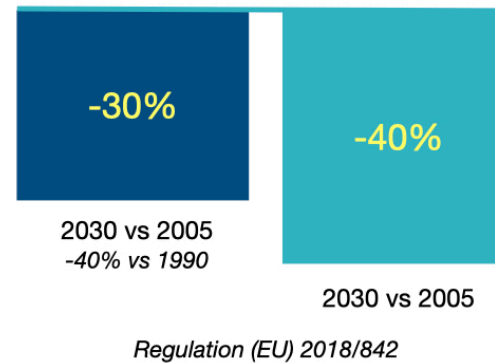
Effort Sharing Decision (ESD)



Luxembourg's Climate Law



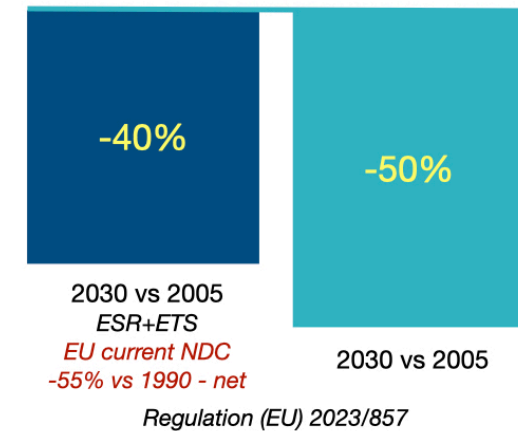
Effort Sharing Regulation (ESR)



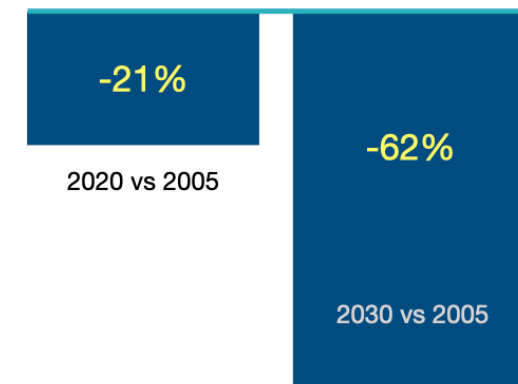
2050 targets

- net-zero GHG emissions domestically
- net zero GHG emissions domestically (incl. LULUCF & CCU; excl. CCS, nuclear energy & credits)

Revised ESR



EU Emissions Trading System (EU ETS)

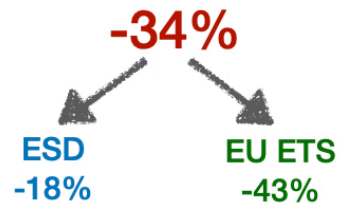
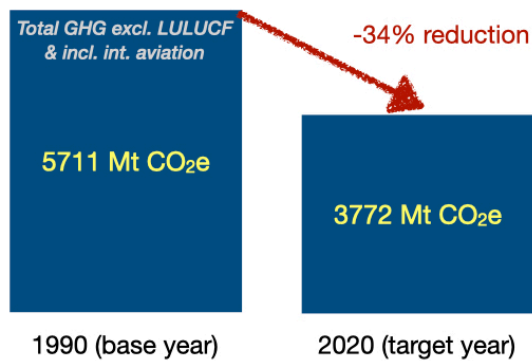




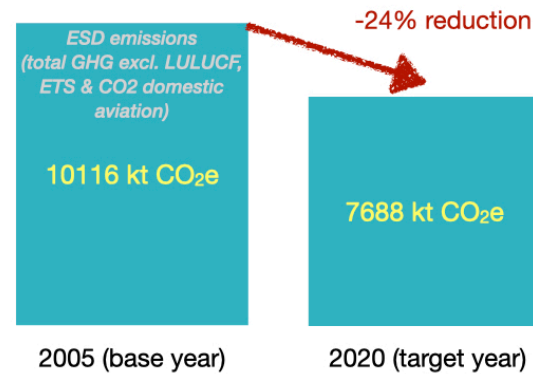
2020 target



- The EU, its Member States and the United Kingdom collectively met their target
- The target has been over-achieved, even before 2020



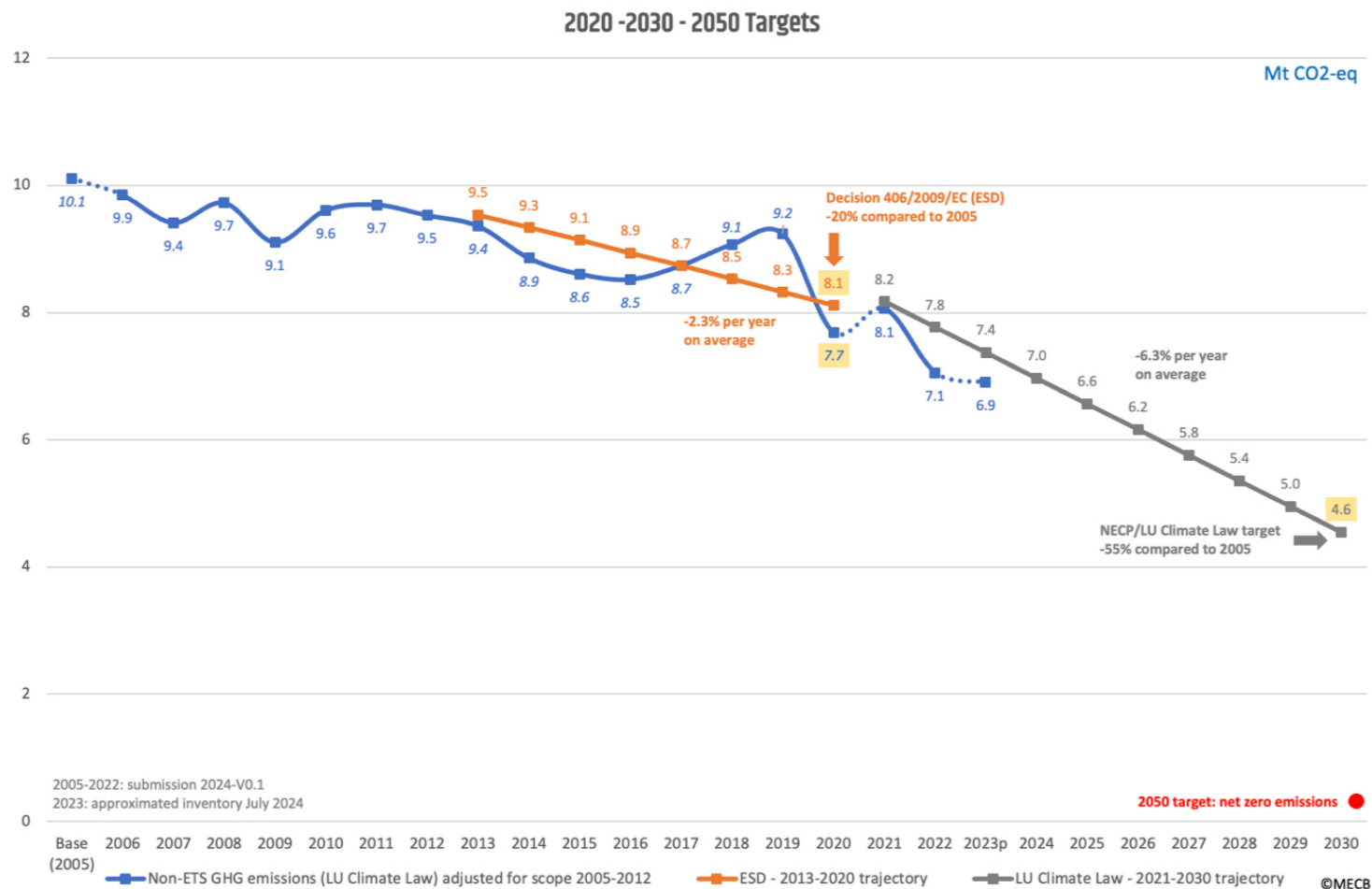
- Luxembourg met and **over-achieved its -20% target**
- For the commitment period 2013-2020, Luxembourg has a surplus of 571 kt CO₂e



- For the record, the reduction in total emissions, excluding LULUCF & international bunkers is -30% ...
- ... and -52% for the ETS emissions (adjusted for the 2005-2012 scope)

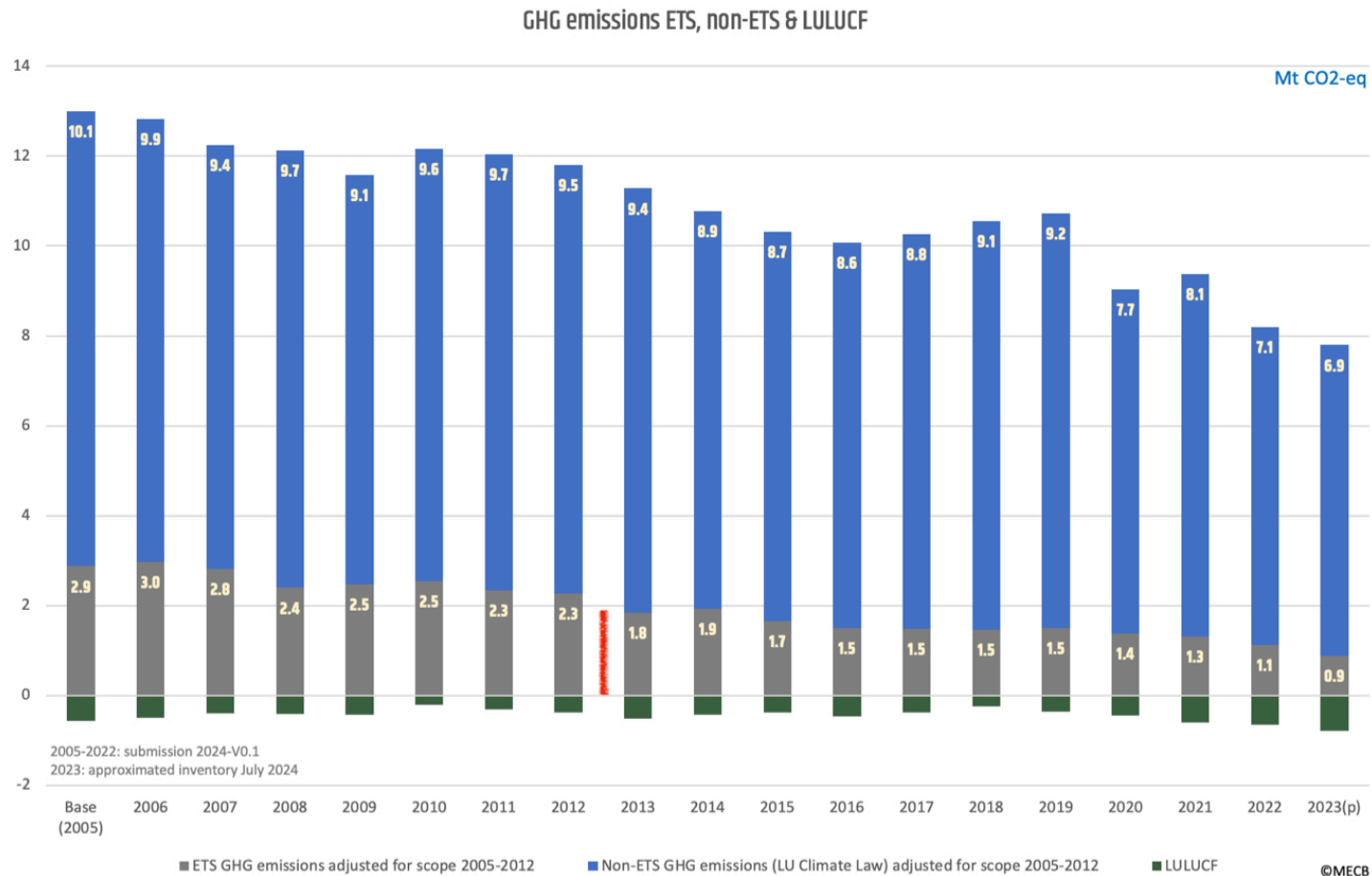


2020 - 2030 - 2050 targets





GHG emissions & removals trends



without LULUCF

7.80 Mt CO₂e
(2023prov)

-39% vs 1990

-40% vs 2005

with LULUCF

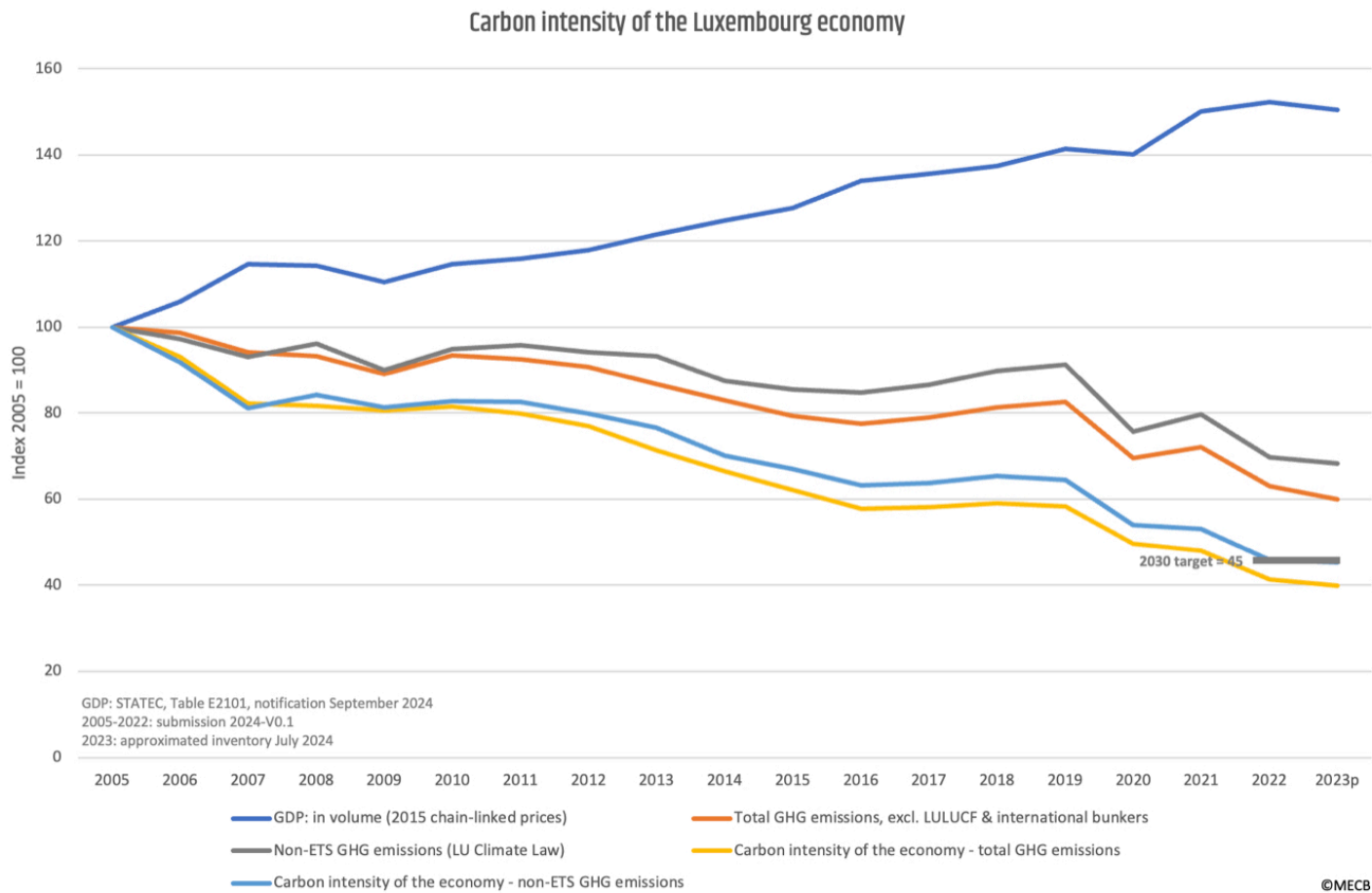
7.02 Mt CO₂e
(2023prov)

-45% vs 1990

-44% vs 2005



GHG emissions & removals trends



In 2022, Luxembourg was the second EU Member State with the lowest GHG intensity measured as emissions per gross value added, or the first if measured as emissions per unit of output

Source: Eurostat

total emissions intensity

306.3 t/EUR (2005)

122.1 t/EUR (2023prov)

-60%

non-ETS emissions intensity

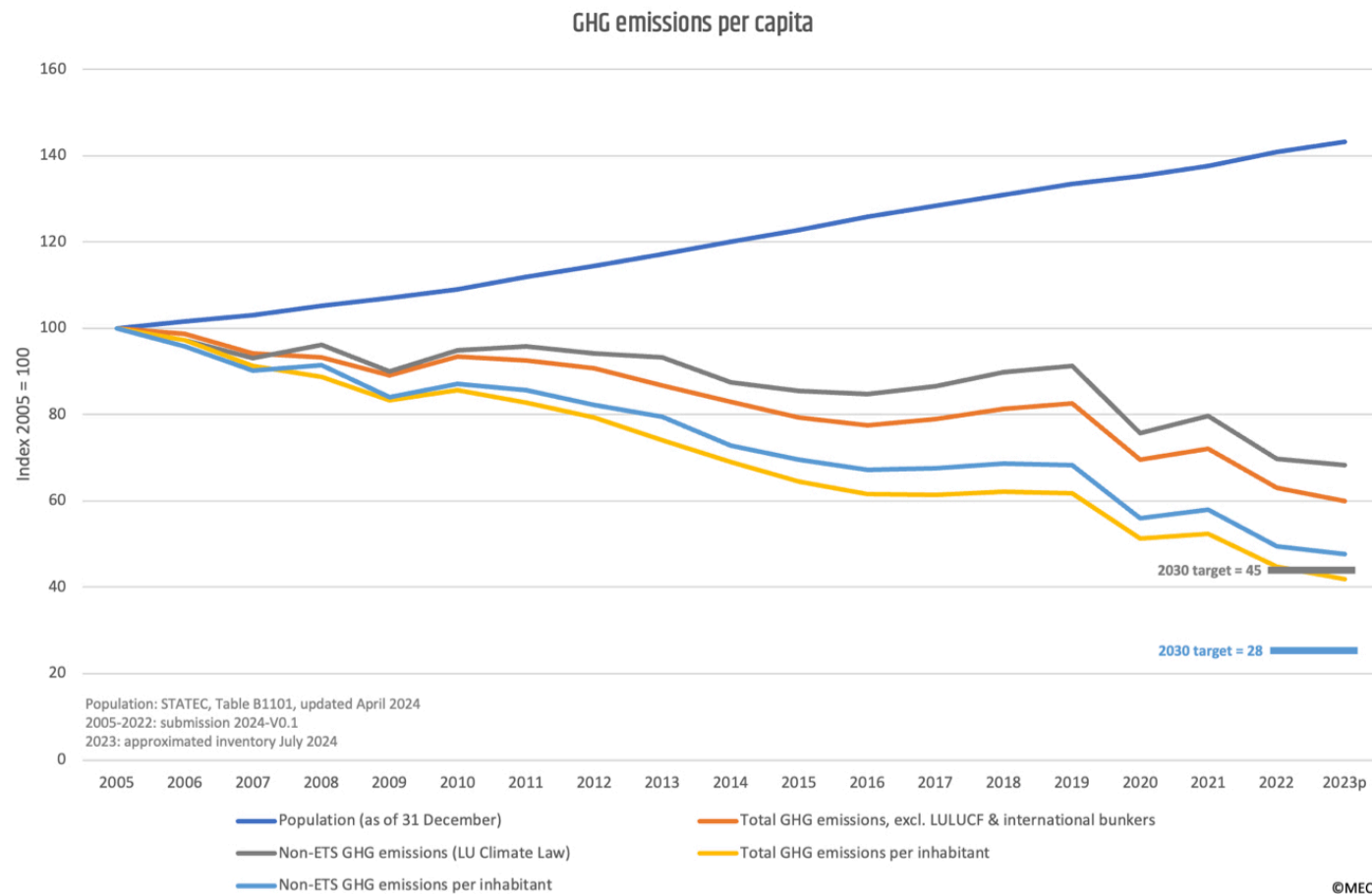
238.5 t/EUR (2005)

108.1 t/EUR (2023prov)

-55%



GHG emissions & removals trends



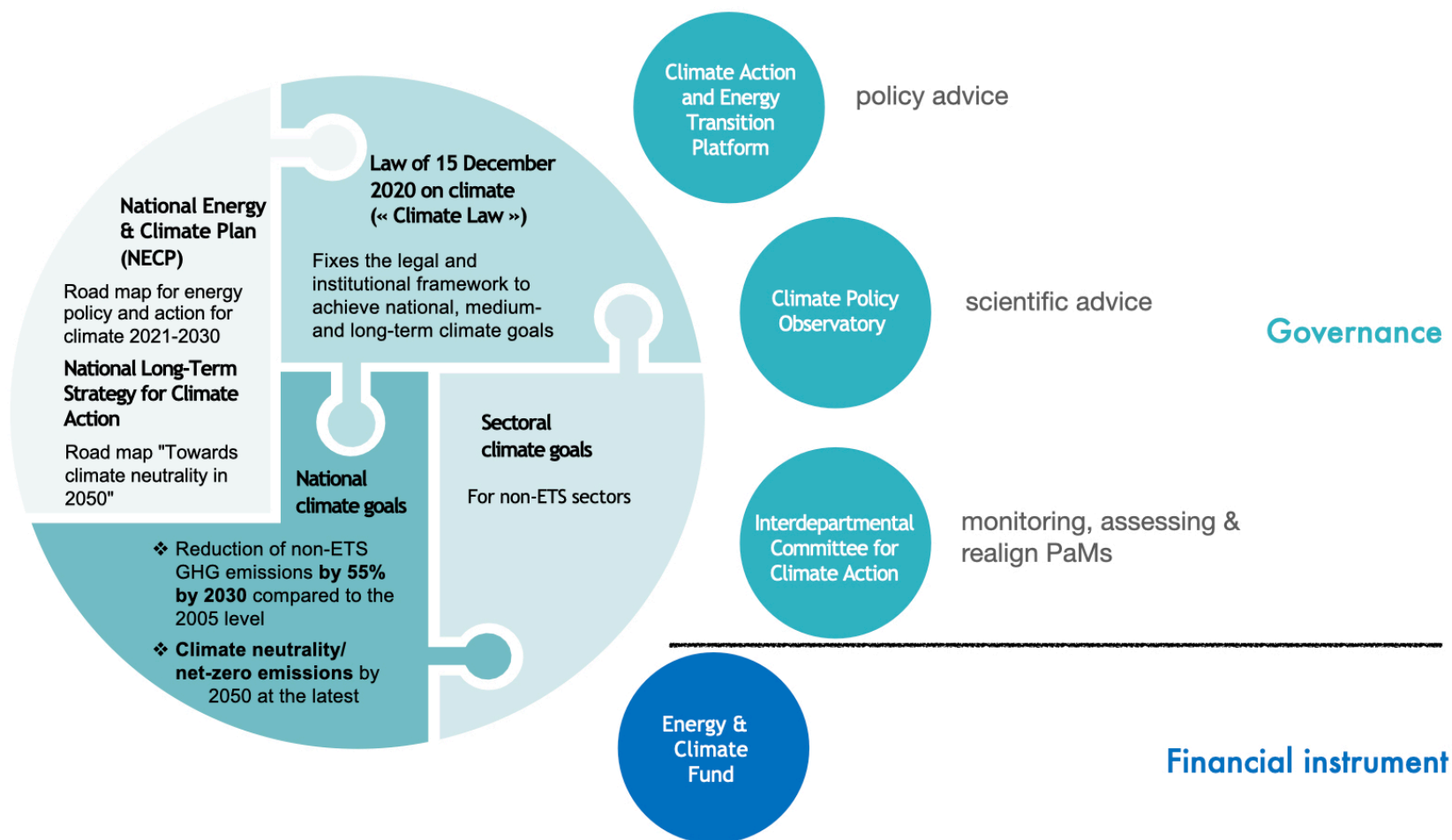
total emissions p.p.
27.7 t CO₂e (2005)
11.6 t CO₂e (2023prov)
-58%

non-ETS emissions p.p.
21.6 t CO₂e (2005)
10.3 t CO₂e (2023prov)
-52%

2030 target
(NECP/Climate Law)
6.1 t CO₂e (2005)

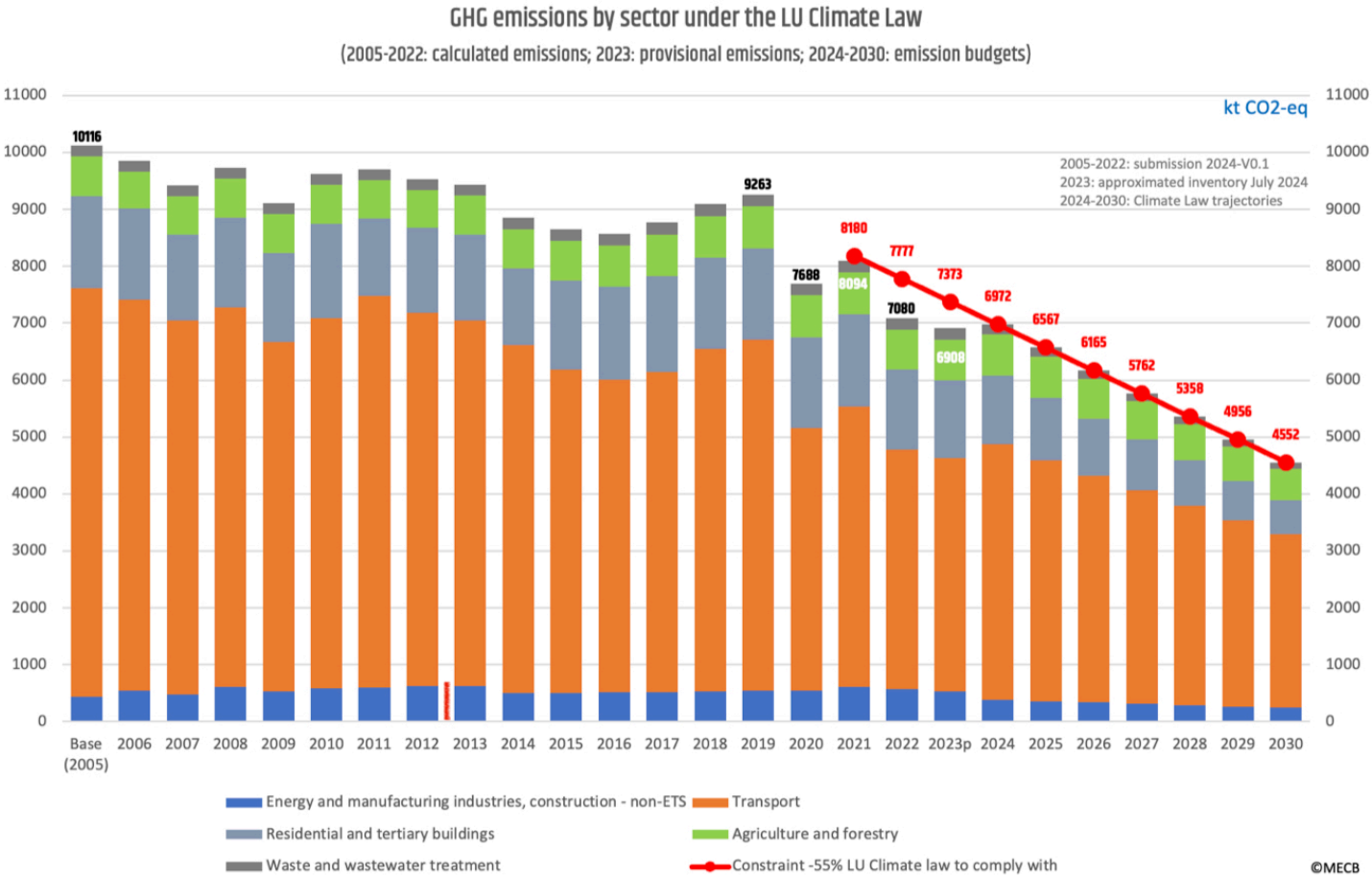


Climate policy & governance





Climate policy & governance

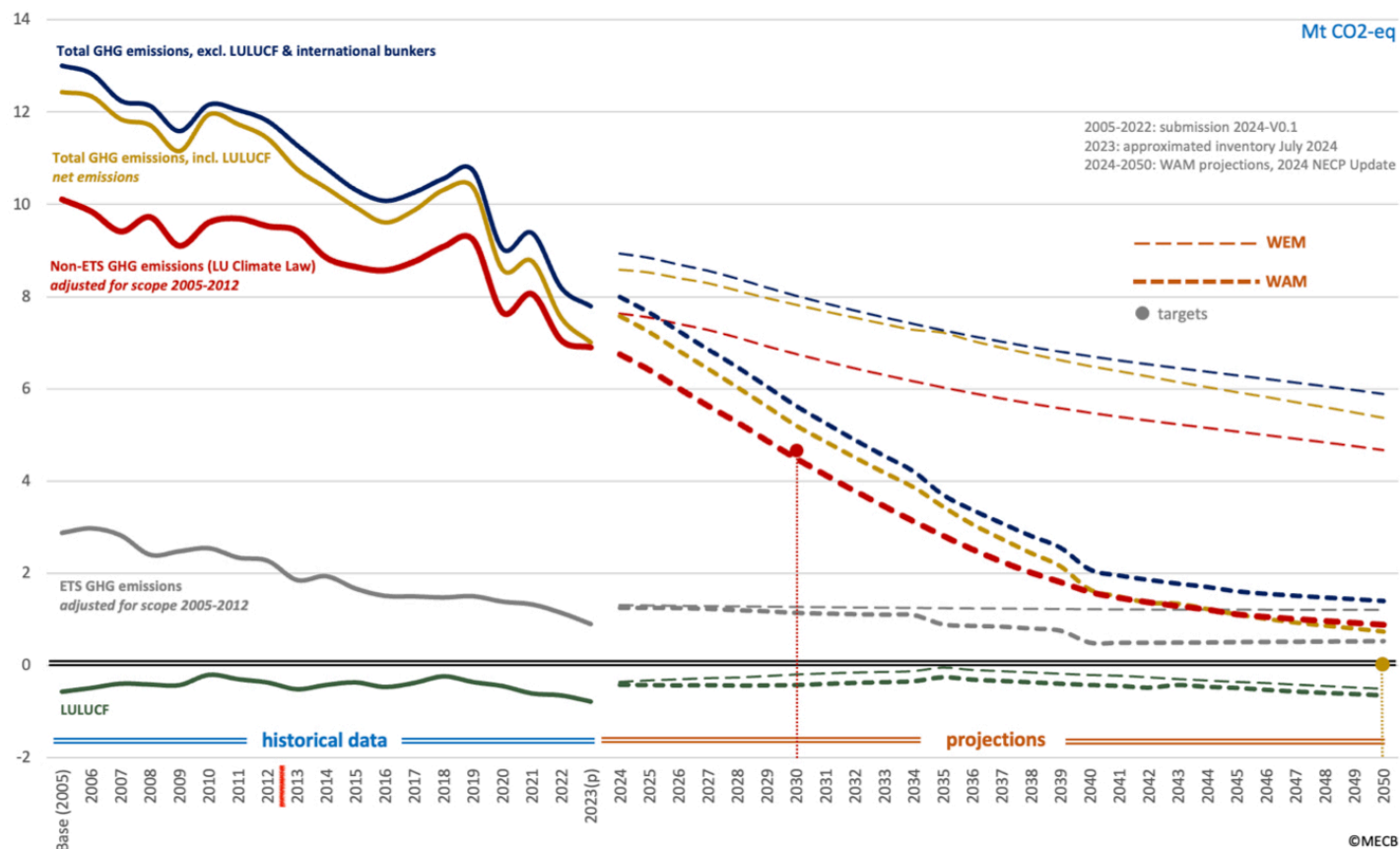


National targets have been met in 2021 and 2022, and most likely in 2023



Climate goals & projections

GHG emissions 2005-2023 & projections 2024-2050

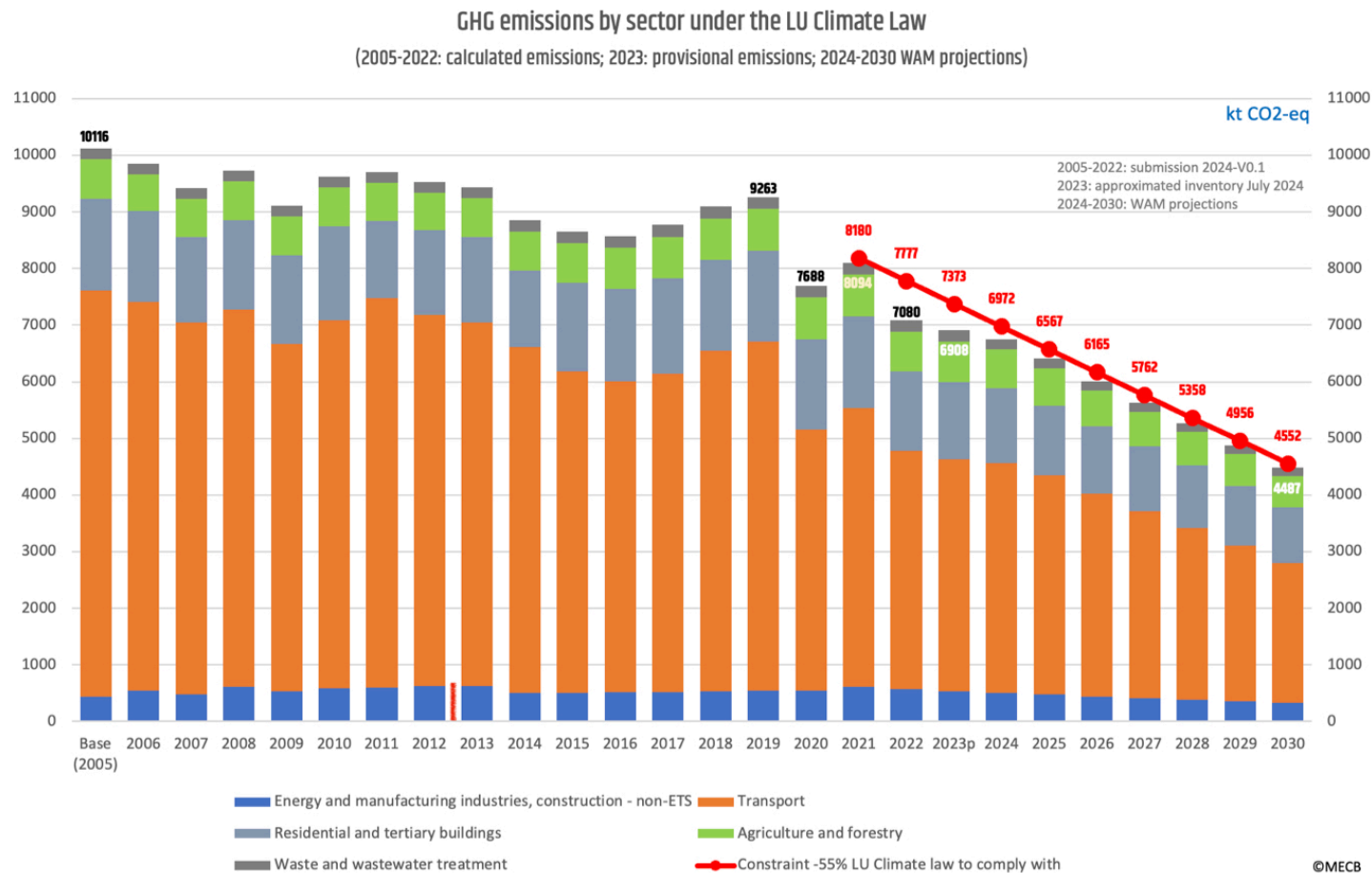


WAM projections

- 2030 - the national target of -55% set by the Climate Law should be met
- Climate neutrality by 2050 will not be fully achieved



Climate goals & projections

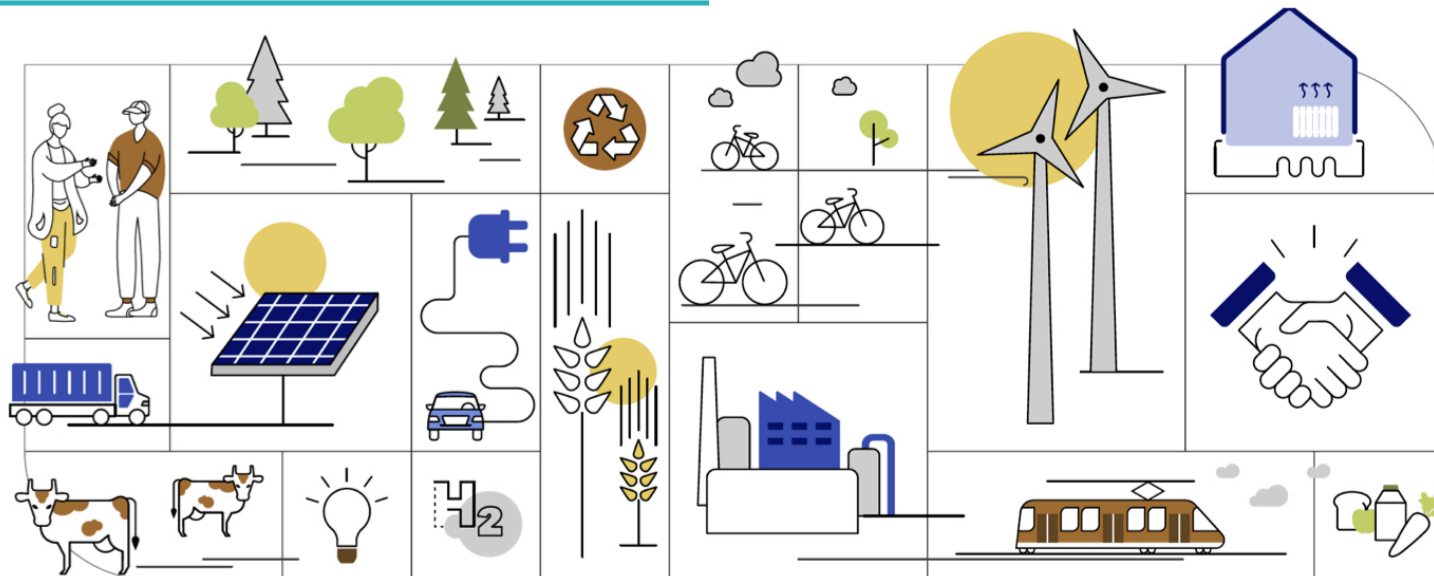


WAM projections

- 2030 - the national target of -55% set by the Climate Law should be met, with emissions 64.6 kt CO₂e below the 2030 target
- The cumulative figure for 2021-2030 would be a surplus of 2140.1 kt CO₂e over the emissions budget for the period

National Energy and Climate Plan - 2024 update

Energie- a Klimaplang fir Lëtzebuerg
2021 → 2030



5 dimensions

1. Decarbonation (incl. renewables - RES)
2. Energy efficiency
3. Energy security
4. Internal energy market
5. Research, innovation & competitiveness

3 objectives

1. Reducing GHG emissions
2. Share of RES in gross final energy consumption
3. Energy efficiency

7 sectors impacted





National Energy and Climate Plan - 2024 update

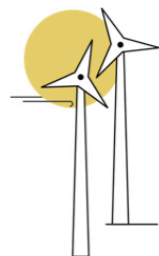
Energie- a Klimaplang fir Lëtzebuerg
2021 → 2030

Main 2030 objectives

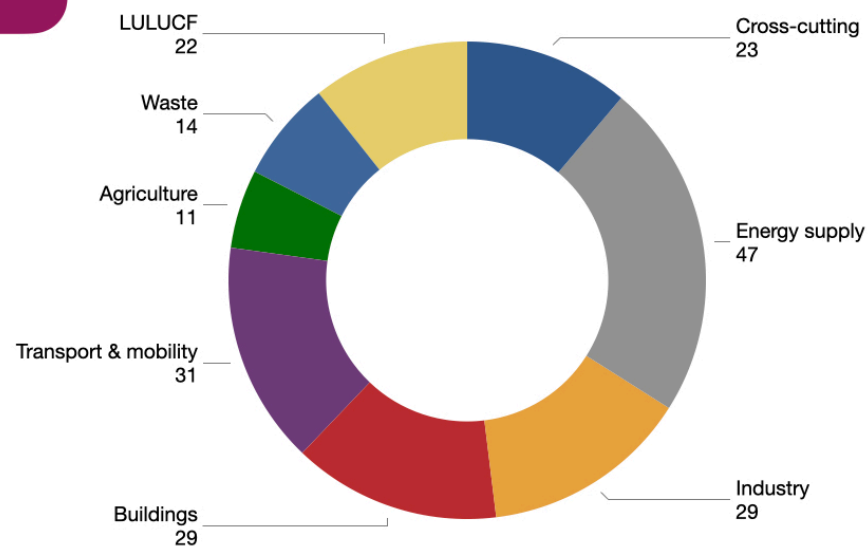
A 55% reduction in non-ETS
GHG emissions compared
with 2005



Renewable energies
account for 37%
of gross final energy
consumption



An energy efficiency target
of 42%



206 Policies & Measures



Key policies & measures

Energie- a Klimaplang fir Lëtzebuerg
2021 —————→ 2030



Cross-cutting PaMs

- Climate Law that defines the institutional framework and governance of climate policy at the national level, including national and sectoral climate targets. Seeking the active participation of all actors in the transition.
- CO₂ pricing and review of tax and subsidy policies. Through an annual surcharge of EUR 5 per tonne of CO₂, the "CO₂ tax will gradually increase to EUR 45 per tonne of CO₂ by 2026. The revenue generated will be used to finance climate and energy transformation initiatives and social compensation measures for low-income households.
- Ongoing development of the "Climate Pact 2.0" with municipalities and development of a Climate Pact for inter-municipal syndicates.
- Spatial and urban planning.
- Decarbonisation strategy with the aim of carbon neutrality of the State administration by 2040.
- Wide range of financial incentives (*Klimabonus Wunnen*, *Klimabonus Mobilität*, *Klimabonus Bësch*, business support schemes, etc.) and consolidation of financial instruments ("Climate and Energy Fund »).
- Simplifying and speeding up procedures to get more decarbonisation projects approved faster.
- Support for citizens and businesses through awareness-raising, education, information and advisory services and programmes.
- Vocational education and training in the skills needed for energy transition and climate protection.
- Designing measures to ensure the implementation of a just transition and developing a "Social Climate Plan" in line with Regulation (EU) 2023/955 establishing a "Social Climate Fund".



Key policies & measures

Energie- a Klimaplang fir Lëtzebuerg
2021 → 2030



Residential and tertiary buildings PaMs

- "Nearly Zero Energy Buildings" (nZEB) must comply with energy performance regulations for decarbonised buildings and heating systems. A heat pump is the reference for all new construction (decarbonisation through electrification).
- Prioritise the renovation of the existing building stock, with a focus on supporting energy renovation measures.
- Prioritise decarbonisation of existing residential buildings through heat pumps, with a phased voluntary fossil fuel phase-out and significant financial incentives.
- Accelerate the transition away from fossil fuels in existing functional buildings over 1000 m², prioritising those in the non-administrative tertiary sector, through the use of heat pumps.
- Provide financial incentives for the decarbonisation of residential buildings through the *Klimabonus Wunnen* scheme, complemented by a social top-up programme.
- Gradual introduction of pre-financing schemes under the *Klimabonus Wunnen* subsidy schemes, facilitating access to low-carbon solutions for all citizens.
- Since 2015, the "Energy Efficiency Obligation Scheme" (EEOS) has been implemented with annual targets and alternative strategies to achieve energy savings for end users. It is currently being modified and strengthened.
- Pioneering role of the state and municipalities, especially in their respective fields of buildings and lighting.



Key policies & measures

Energie- a Klimaplang fir Lëtzebuerg
2021 → 2030



Transport & mobility PaMs

- The National Mobility Plan 2035 (PNM2035) will be implemented, together with the promotion of public transport (including free public transport) and active mobility.
- The development of electric mobility will be accelerated through support programmes for the purchase of zero-emission vehicles and the installation of charging points (*Klimabonus Mobilitéit*, social leasing of electric cars and business support schemes). The *Klimabonus Mobilitéit* aid scheme is prolonged beyond 30 June 2024 and comes with an adapted level of aid according to environmental and social criteria and the introduction of aid for used electric cars from 1 October 2024.
- Expanding the charging infrastructure through aid schemes and facilitating the installation of charging points (*Klimabonus Mobilitéit*), particularly in buildings with shared ownership and active spaces.
- Continue to reduce "fuel sales to non-residents" by gradually increasing the "CO₂ tax".



Key policies & measures

Energie- a Klimaplang fir Lëtzebuerg
2021 → 2030



Energy and manufacturing industries, construction PaMs

- EU ETS.
- Industry Decarbonisation Roadmap: implementation and update.
- A "Climate Pact for Business" (aimed mainly at SMEs).
- Voluntary agreement on decarbonisation and energy efficiency in industry.
- Mandatory energy audits (with revised criteria and identification of decarbonisation potential).
- Amended and strengthened "Energy Efficiency Obligation Scheme" (EEOS) to identify the largest energy savings potential in industry.
- Revise business support schemes to align with European state aid rules by introducing contracts for difference (OPEX support) in addition to investment support (CAPEX support).
- Establish a risk-sharing mechanism for energy efficiency and decarbonisation projects in industry.
- Study on CCU/CCS technologies.



Key policies & measures

Energie- a Klimaplang fir Lëtzebuerg
2021 → 2030



Agriculture PaMs

- Establish a legal framework to implement the Luxembourg National Strategic Plan for the implementation of the Common Agricultural Policy 2023-2027, including farm advisory services and support for sustainable and environmentally friendly agriculture.
- Strengthening the regulatory framework for the use of nitrogen fertilisers in agriculture.



Forestry & LULUCF PaMs

- Consolidate the sustainable management of public and private forests.
- Promote the *Klimabonus Bësch* scheme for private forests.
- Increase the use of wood from Luxembourg's forests as a construction material.
- Provide financial incentives for arable land management to improve organic carbon content, alongside support for agroforestry.



Key policies & measures

Energie- a Klimaplang fir Lëtzebuerg
2021 → 2030



Waste & wastewater treatment PaMs

- Implementation and continuous development of waste legislation and the "National Waste and Resource Management Plan".
- Promotion of the circular economy, including through the implementation of the *Kreeslafwirtschaft Lëtzebuerg* (circular economy) and *Null Offall Lëtzebuerg* (zero waste) strategies.
- Upgrading and expansion of wastewater treatment plants and implementation of the sewage sludge recovery strategy.



Policies & measures - barriers & challenges



- Size of the country (impact of individual projects, risk of "fiscal leakage", ...).
- High number of cross-border commuters, implying common policies with neighbouring countries (generally cross-border cooperation is needed to set up various projects).
- New infrastructure projects take time to develop and implement.
- High energy dependency due to limited energy production capacities & opportunities.
- Risk of energy poverty (just transition "leaving no one behind »).
- Municipal autonomy.



Experiences with the IAR process

#Together4Transparency

Experiences

Positive experience with regard to the IAR process:

1. drafting reports require interdepartmental collaboration and fosters links; it helps creating a "network".
2. reviews contribute to improve reporting and reports quality making them more useful for third persons.
3. MA allows to share experiences and practices, as well as to learn from other Parties.

Questions received

Luxembourg received 10 written questions from Australia, Canada, New-Zealand, the United States, the UK :

- GHG emissions calculations: 2 questions
- QEWRT & progress: 2 questions
- governance: 1 question
- PaMs and related projections: 5 questions



Thank you for your kind attention