# Multilateral Assessment
# *Luxembourg*

## SBI 52-55 - Glasgow - 5 November 2021

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THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of the Environment, Climate
and Sustainable Development

National circumstances

2020 - 2030 - 2050 targets

GHG emissions & removals trends

Climate policy & governance

Key policies & measures

Experiences with the IAR process
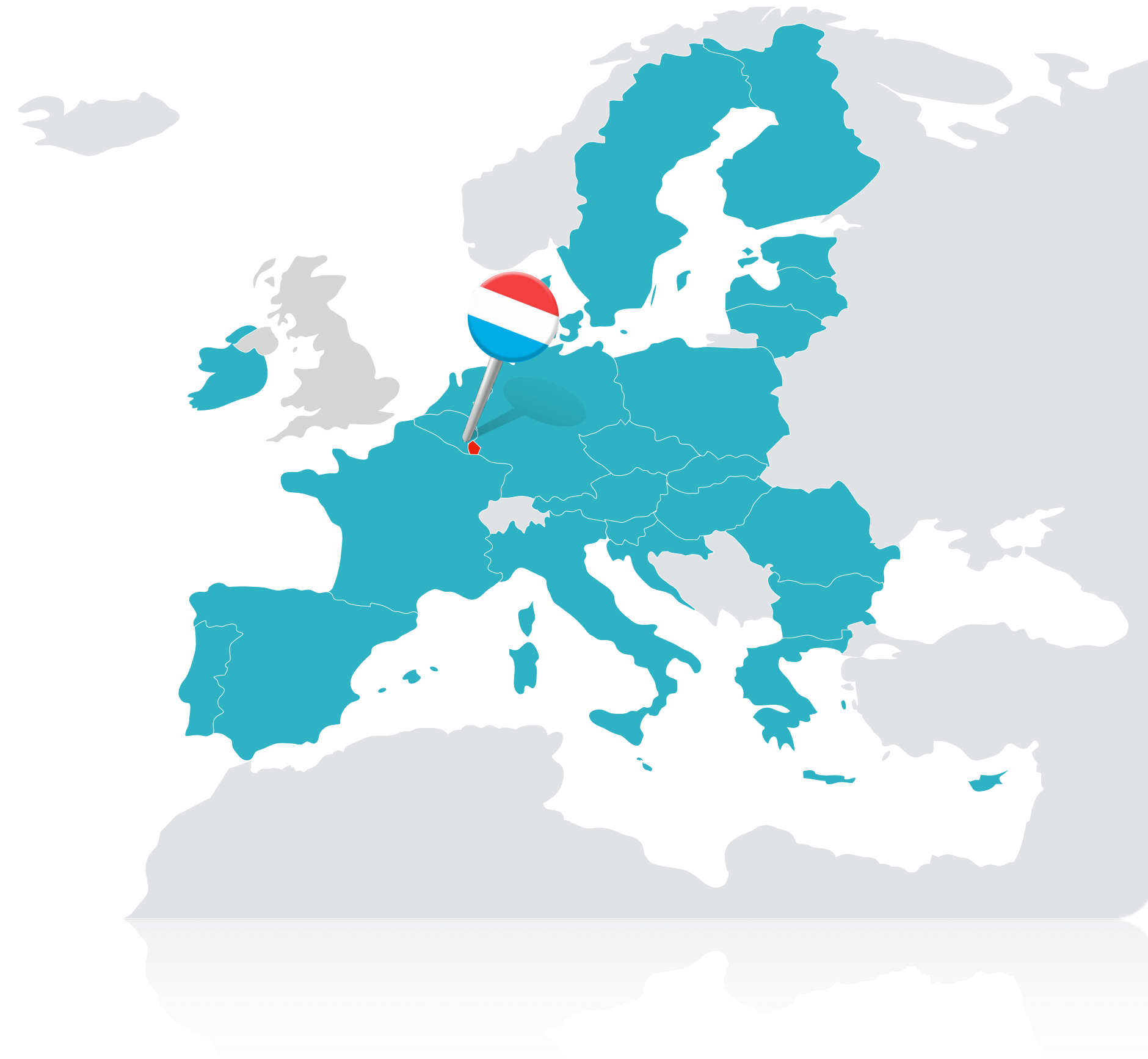
# National circumstances



2586 km²

max 82 km

max 57 km

CLERVAUX

WILTZ

VIANDEN

DIEKIRCH

REDANGE

ECHTERNACH

MERSCH

GREVENMACHER

CAPELLEN

LUXEMBOURG

REMICH

ESCH-SUR-ALZETTE

# 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. 2020: 634,700
- 2005-2020: + 35%
- est. 2050: 981,900

## Strong cross-border commuters growth due to economic development

- 31st Dec. 2020: 200,800
- 2005-2018: + 65%
- est. 2050: 320,000

## Country & economy sizes

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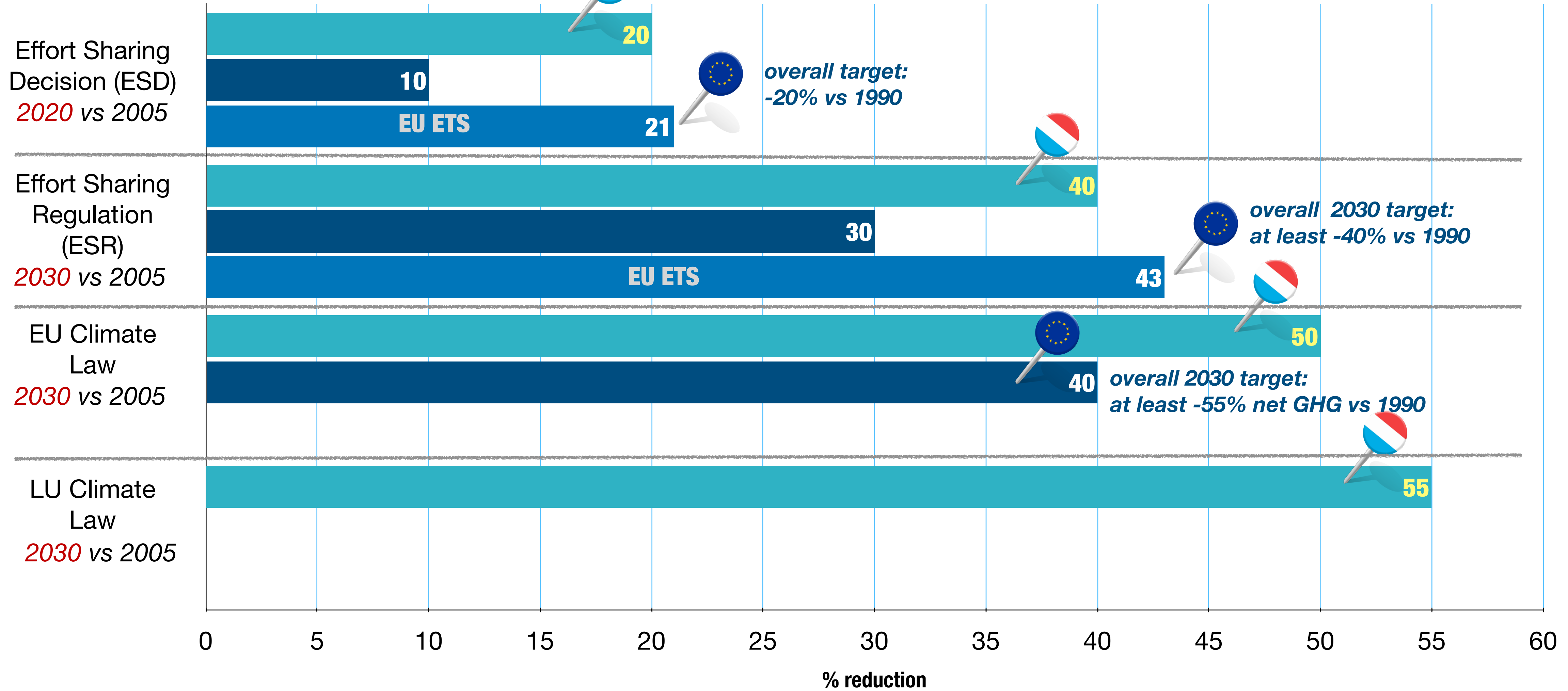- only a few large energy consumers

## Energy

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

# 2020 - 2030 - 2050 targets

% reduction vs 2005

**Effort Sharing Decision (ESD)**
*2020 vs 2005*
- 20
- 10
- EU ETS 21

overall target: -20% vs 1990

**Effort Sharing Regulation (ESR)**
*2030 vs 2005*
- 40
- 30
- EU ETS 43

overall 2030 target: at least -40% vs 1990

**EU Climate Law**
*2030 vs 2005*
- 50
- 40

overall 2030 target: at least -55% net GHG vs 1990

**LU Climate Law**
*2030 vs 2005*
- 55

% reduction

**2050 targets**

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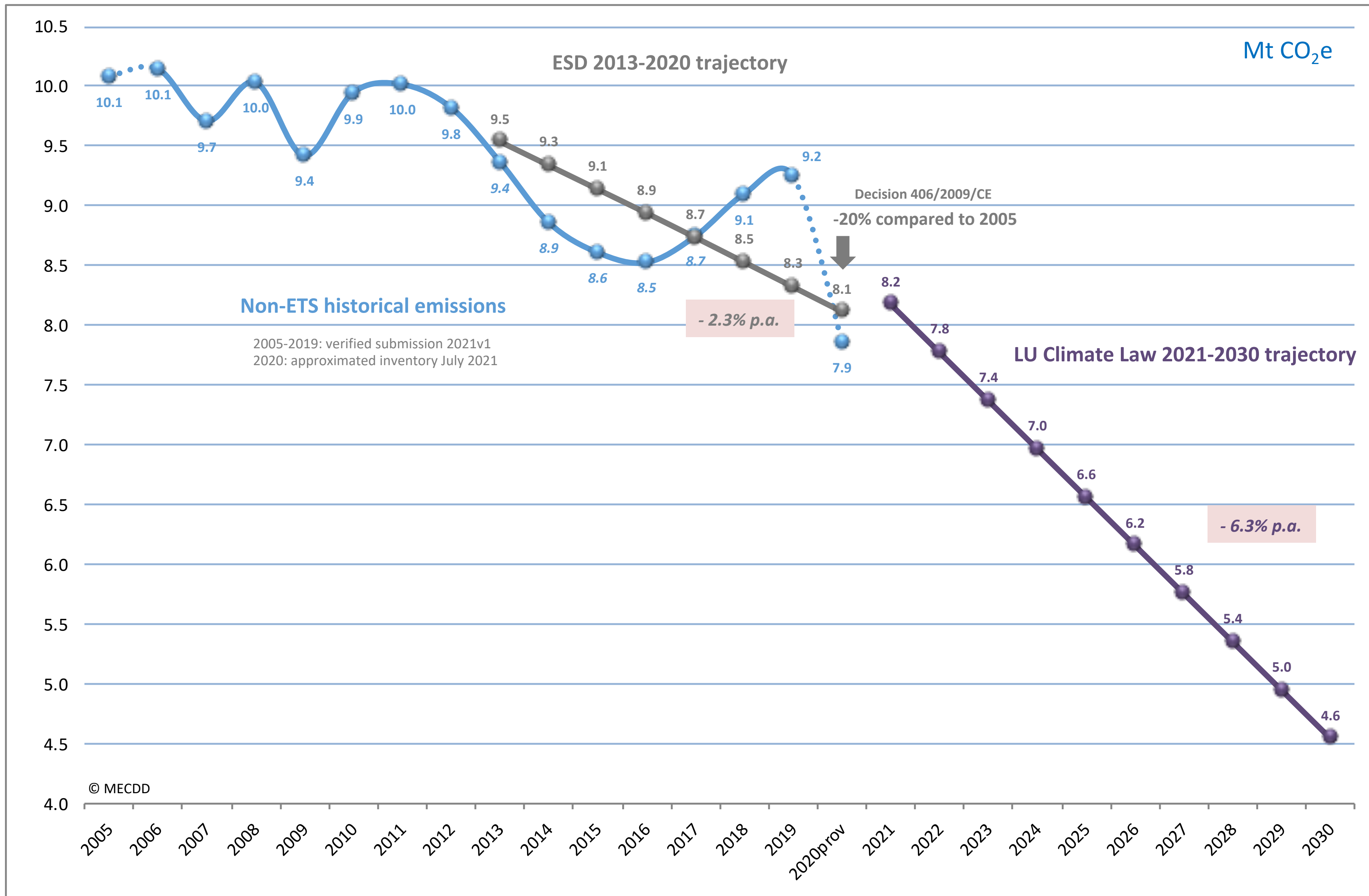
net-zero GHG emissions domestically

ESD: Decision 406/2009/EC
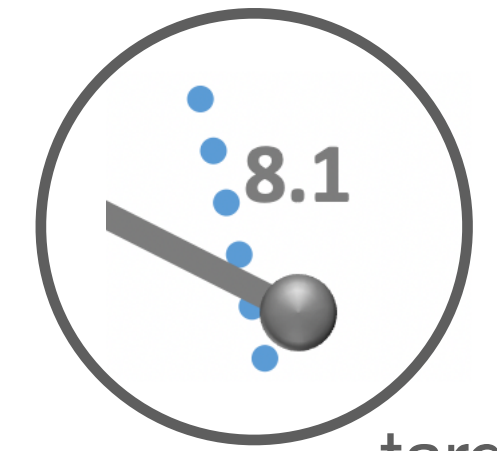
ESR: Regulation (EU) 2018/842

EU Climate Law: Proposal amending Regulation (EU) 2018/842
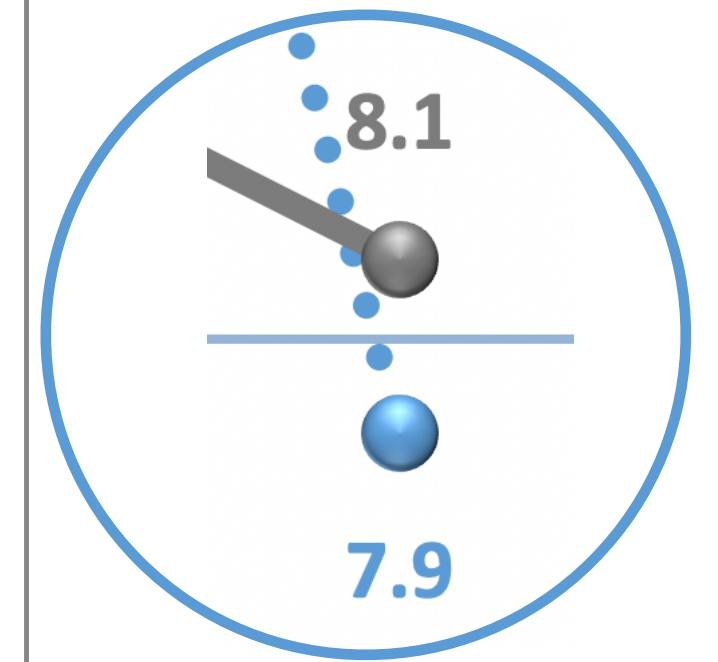
# 2020 - 2030 - 2050 targets

non-ETS GHG emissions

Mt CO$_2$e

**ESD 2013-2020 trajectory**

10.1  10.1  9.7  10.0  9.4  9.9  10.0  9.8

9.5  9.3  9.1  8.9  8.7  8.5  8.3  8.1

9.4  8.9  8.6  8.5  8.7  9.1  9.2

Decision 406/2009/CE
-20% compared to 2005

**Non-ETS historical emissions**

2005-2019: verified submission 2021v1
2020: approximated inventory July 2021

*- 2.3% p.a.*

7.9

**LU Climate Law 2021-2030 trajectory**

8.2  7.8  7.4  7.0  6.6  6.2  5.8  5.4  5.0  4.6

*- 6.3% p.a.*

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2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020prov 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

## 2020 target

8.1

target: –20%

8.1

7.9

target reached: –22%

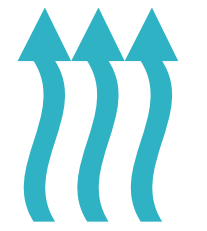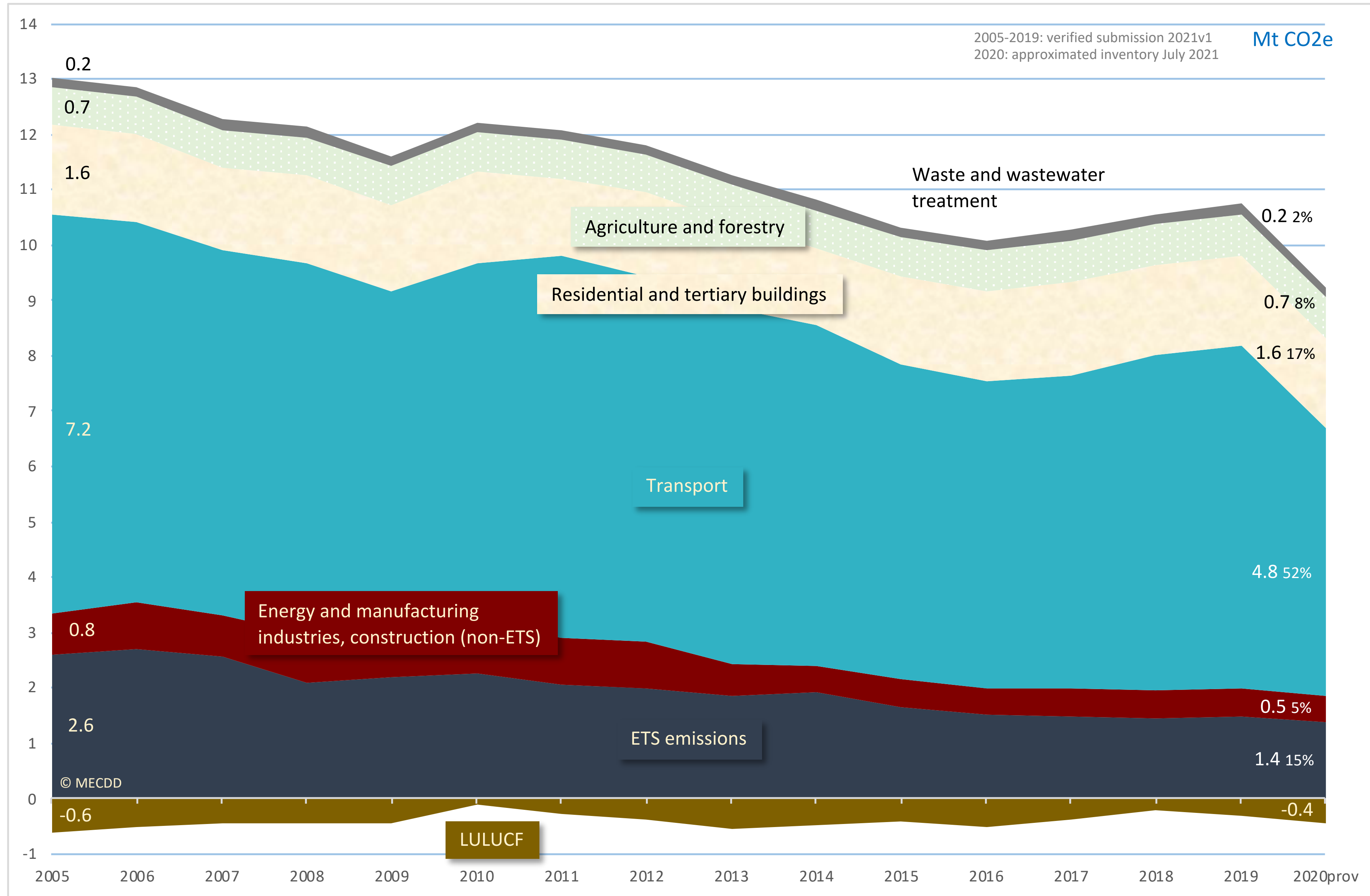## 2030 target

4.6

NECP/Climate Law target:
-55% compared to 2005

# GHG emissions & removals trends

## 5 sectors of the Climate Law, ETS & LULUCF



2005-2019: verified submission 2021v1
2020: approximated inventory July 2021

Mt CO2e

Waste and wastewater treatment

Agriculture and forestry

Residential and tertiary buildings

Transport

Energy and manufacturing industries, construction (non-ETS)

ETS emissions

LULUCF

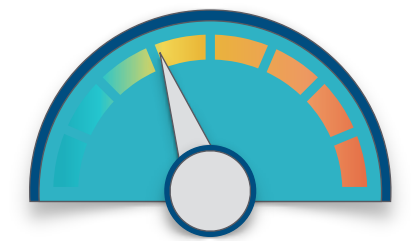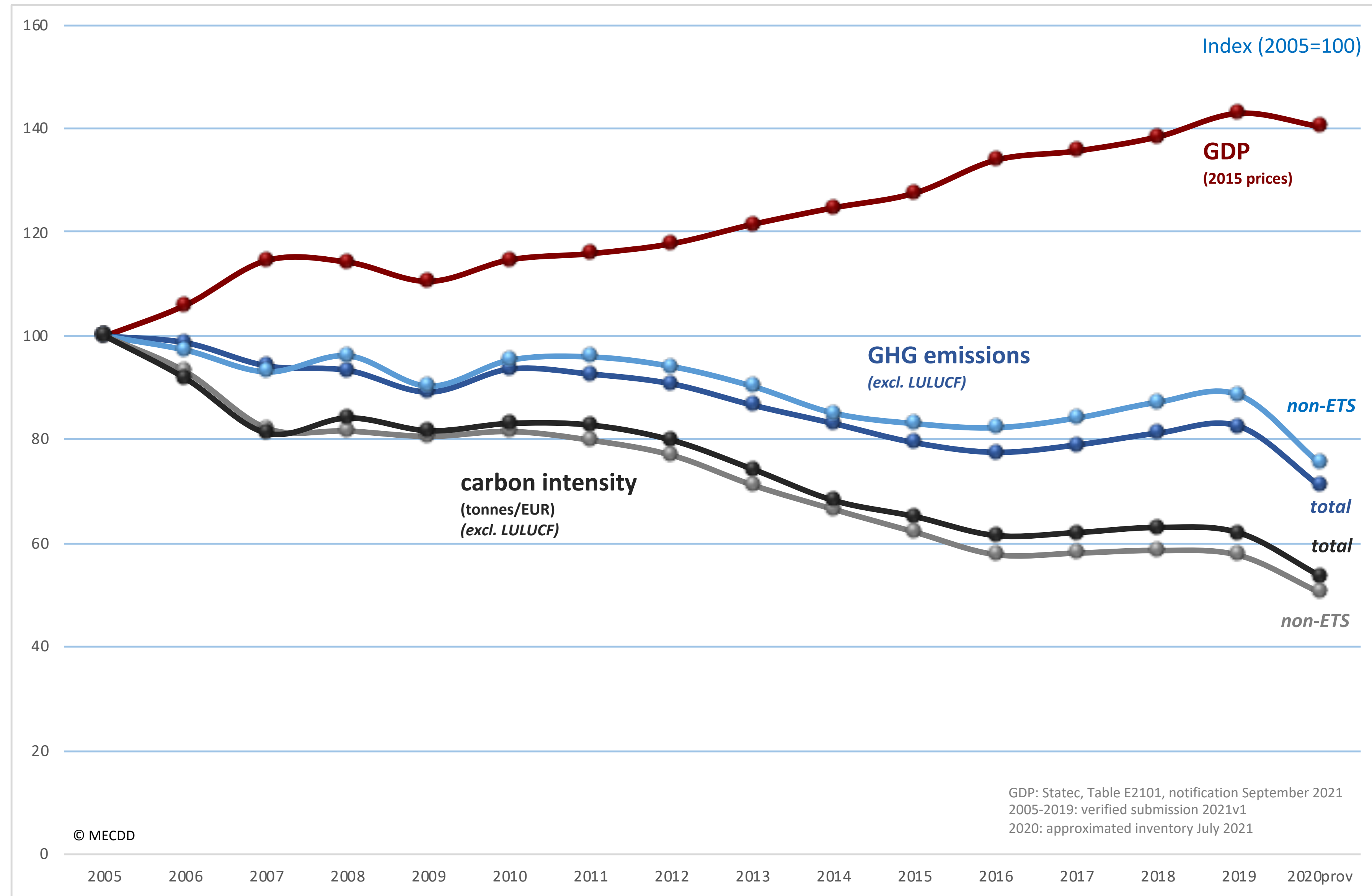© MECDD

**w/o LULUCF**

9.24 Mt CO₂e (2020)

-27% vs 1990
-29% vs 2005

**with LULUCF**

8.81 Mt CO₂e (2020)

-31% vs 1990
-29% vs 2005

# GHG emissions & removals trends



## total & non-ETS GHG emissions

Index (2005=100)

GDP
(2015 prices)

GHG emissions
(excl. LULUCF)

non-ETS
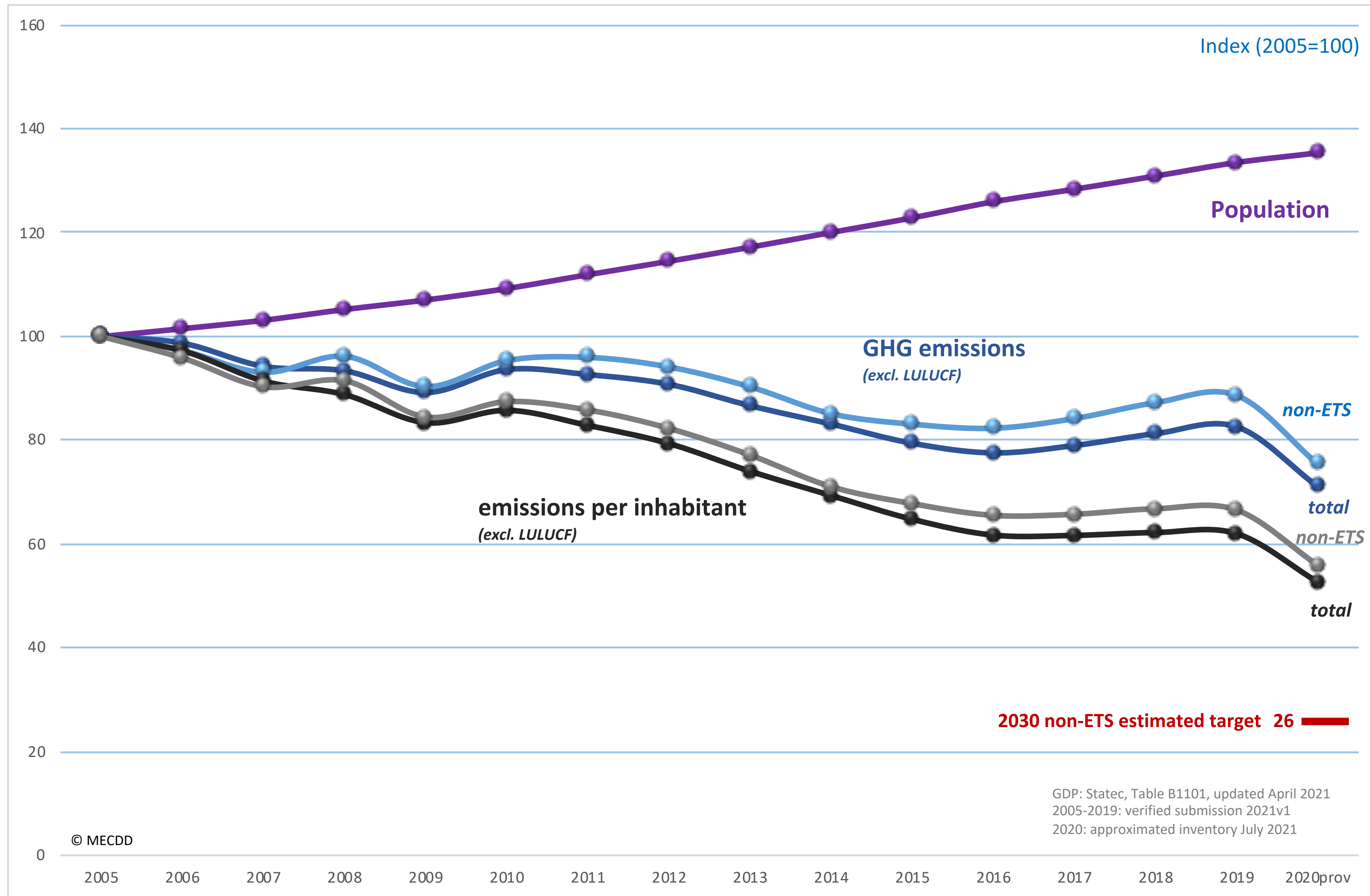
total

carbon intensity
(tonnes/EUR)
(excl. LULUCF)

total

non-ETS

GDP: Statec, Table E2101, notification September 2021
2005-2019: verified submission 2021v1
2020: approximated inventory July 2021

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In 2019, Luxembourg was the second EU Member States with the lowest GHG intensity
*source: Eurostat*

-49 % (total)

-46% (non-ETS)

# GHG emissions & removals trends

## total & non-ETS GHG emissions



160

Index (2005=100)

140

Population

120

100

GHG emissions
*(excl. LULUCF)*

80

non-ETS

emissions per inhabitant
*(excl. LULUCF)*

60

total
non-ETS

total

40

**2030 non-ETS estimated target  26** ▬

20

GDP: Statec, Table B1101, updated April 2021
2005-2019: verified submission 2021v1
2020: approximated inventory July 2021

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0

2005  2006  2007  2008  2009  2010  2011  2012  2013  2014  2015  2016  2017  2018  2019  2020prov

## total emissions p.p.

27.8 t $CO_2$e (2005)
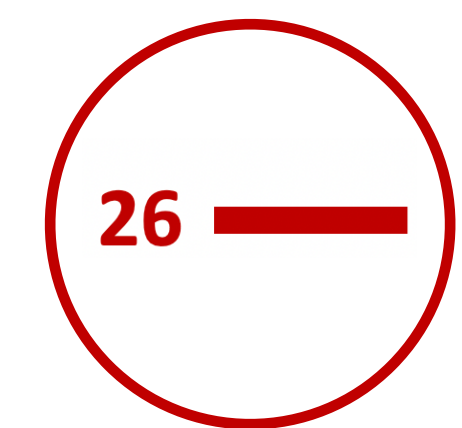
14.6 t $CO_2$e (2020)

-47%

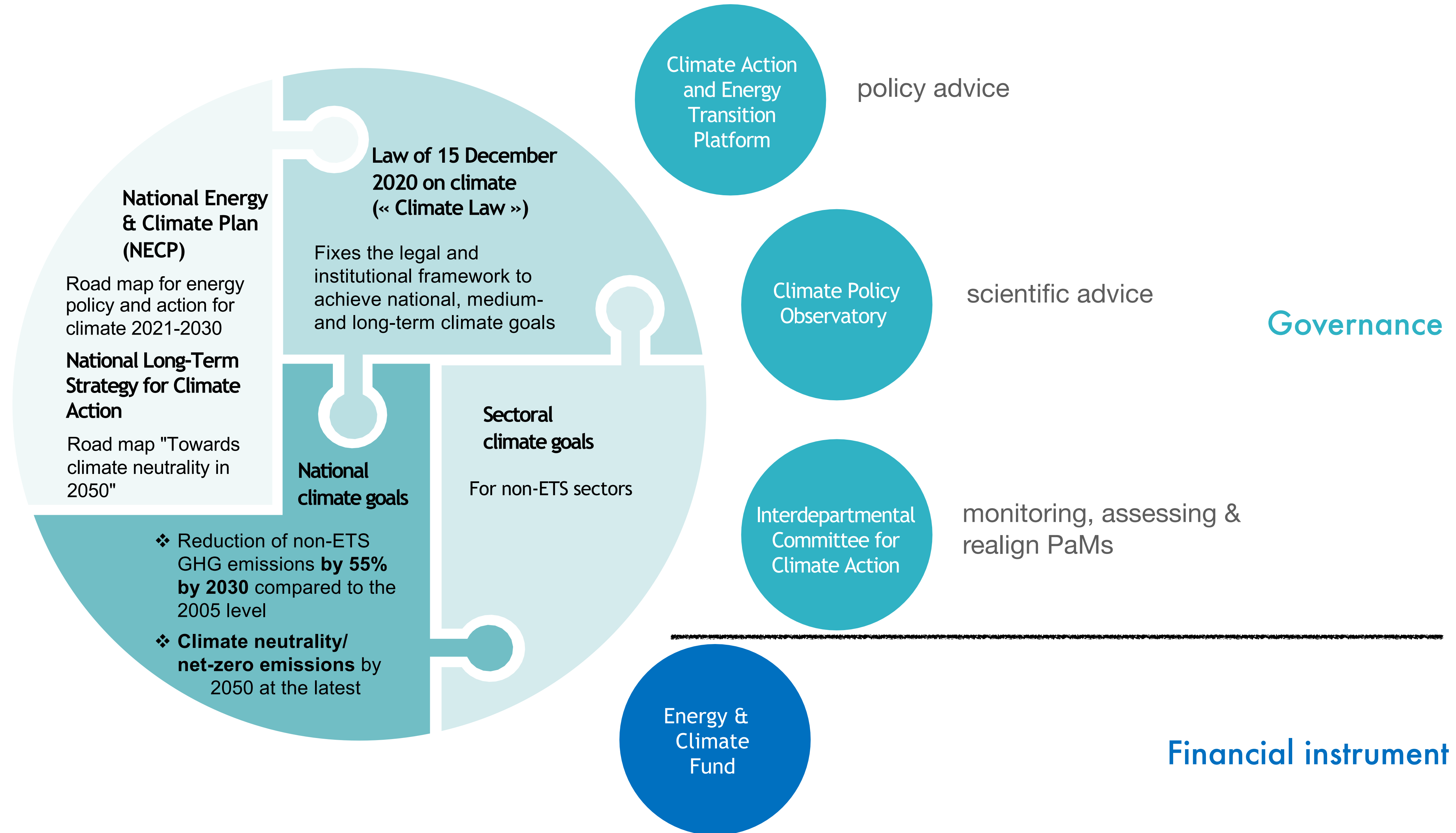## non-ETS emissions p.p.

22.3 t $CO_2$e (2005)

12.4 t $CO_2$e (2020)
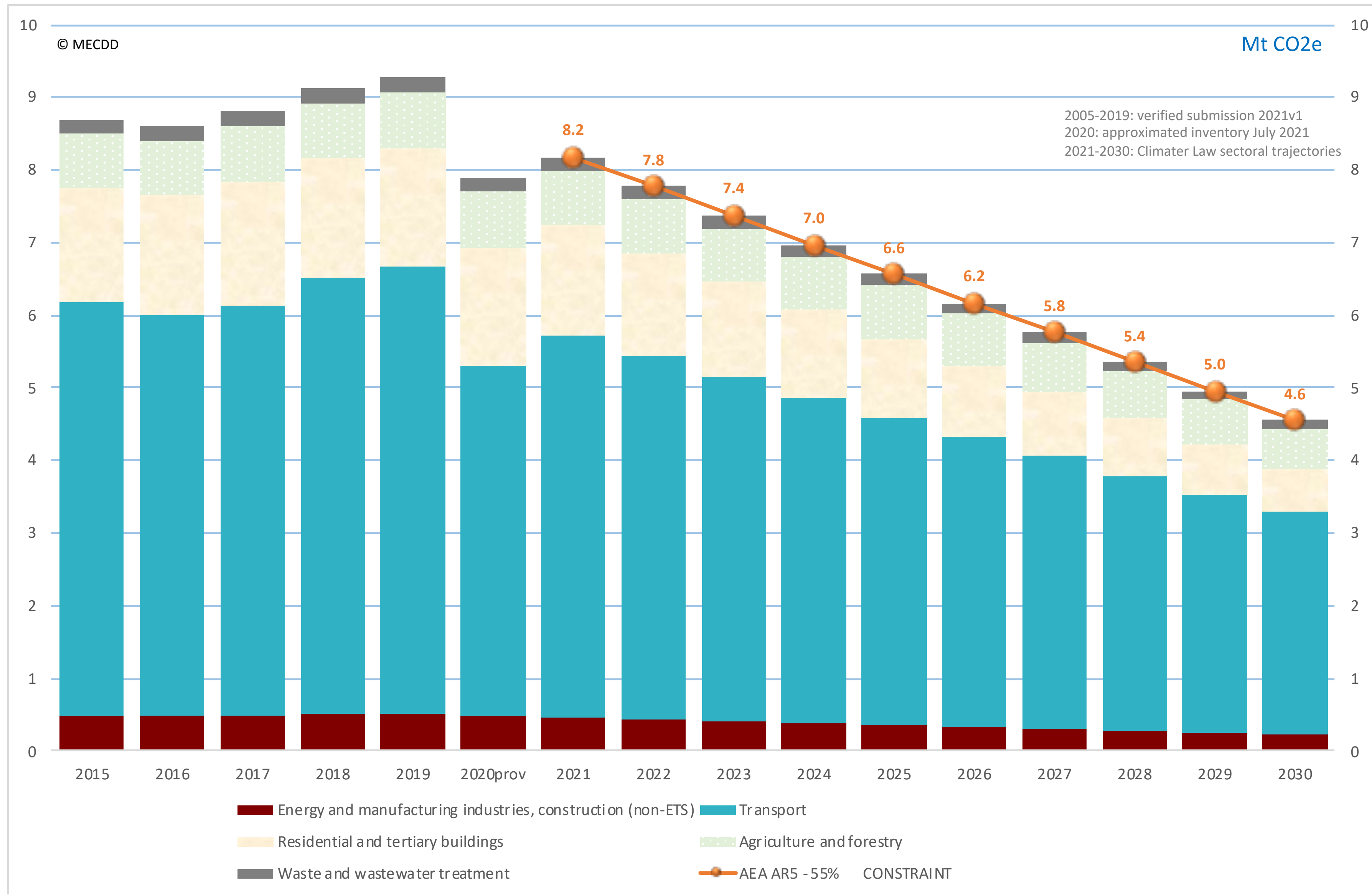
-44%

## 2030 target

**26** ▬

NECP/Climate Law
estimated target:
5.9 t $CO_2$e p.p.

# Climate policy & governance



**National Energy & Climate Plan (NECP)**

Road map for energy policy and action for climate 2021-2030

**National Long-Term Strategy for Climate Action**

Road map "Towards climate neutrality in 2050"

**Law of 15 December 2020 on climate (« Climate Law »)**

Fixes the legal and institutional framework to achieve national, medium- and long-term climate goals

**National climate goals**

❖ Reduction of non-ETS GHG emissions **by 55% by 2030** compared to the 2005 level

❖ **Climate neutrality/ net-zero emissions** by 2050 at the latest

**Sectoral climate goals**

For non-ETS sectors

Climate Action and Energy Transition Platform — policy advice

Climate Policy Observatory — scientific advice

Interdepartmental Committee for Climate Action — monitoring, assessing & realign PaMs

**Governance**

Energy & Climate Fund

**Financial instrument**

# Climate policy & governance

## 5 sectors of the Climate LawGHG emissions



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Mt CO2e

2005-2019: verified submission 2021v1
2020: approximated inventory July 2021
2021-2030: Climater Law sectoral trajectories

Legend:
- Energy and manufacturing industries, construction (non-ETS)
- Transport
- Residential and tertiary buildings
- Agriculture and forestry
- Waste and wastewater treatment
- AEA AR5 -55%  CONSTRAINT

# Climate policy & governance

## Sectoral climate 2030 goals for the 5 sectors defined in the framework of the Climate Law (non-ETS emissions)

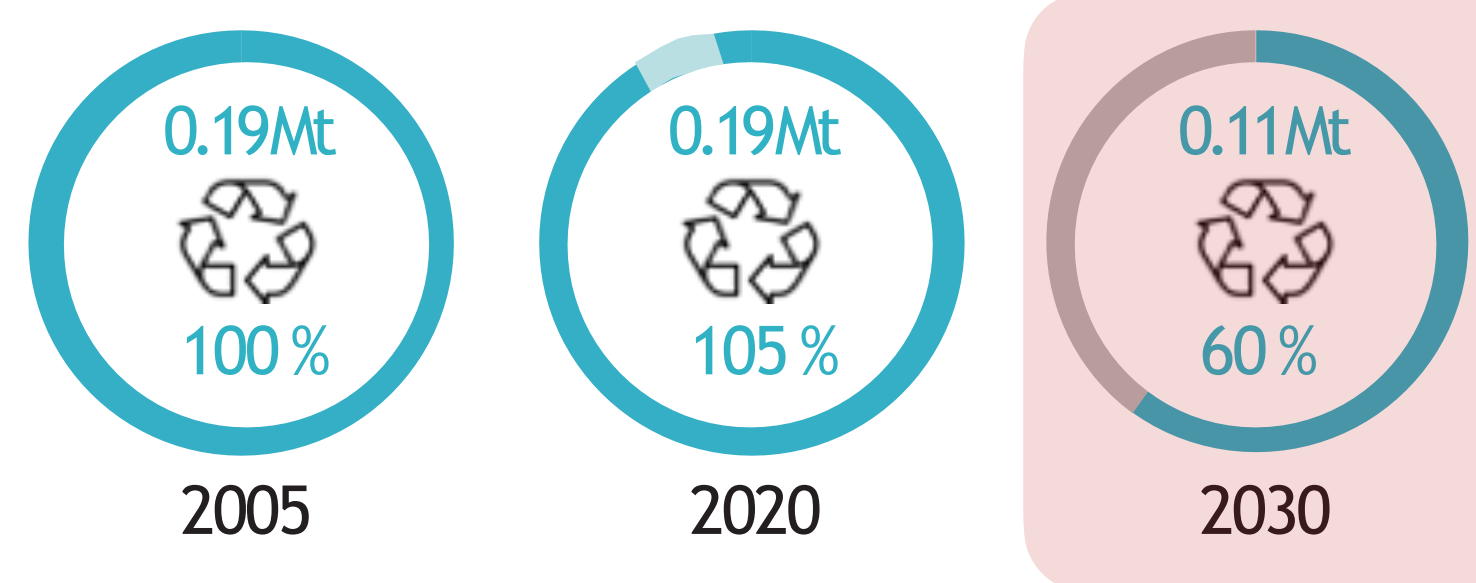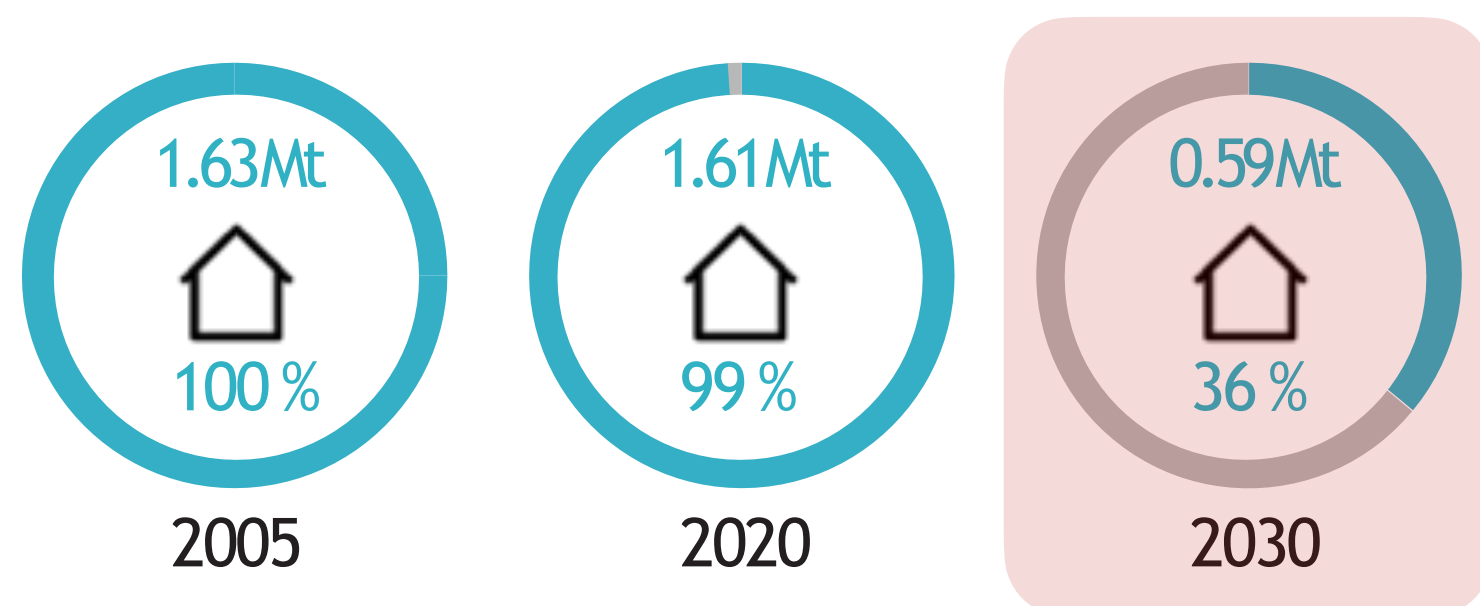### Energy and manufacturing industries, construction (non-ETS)
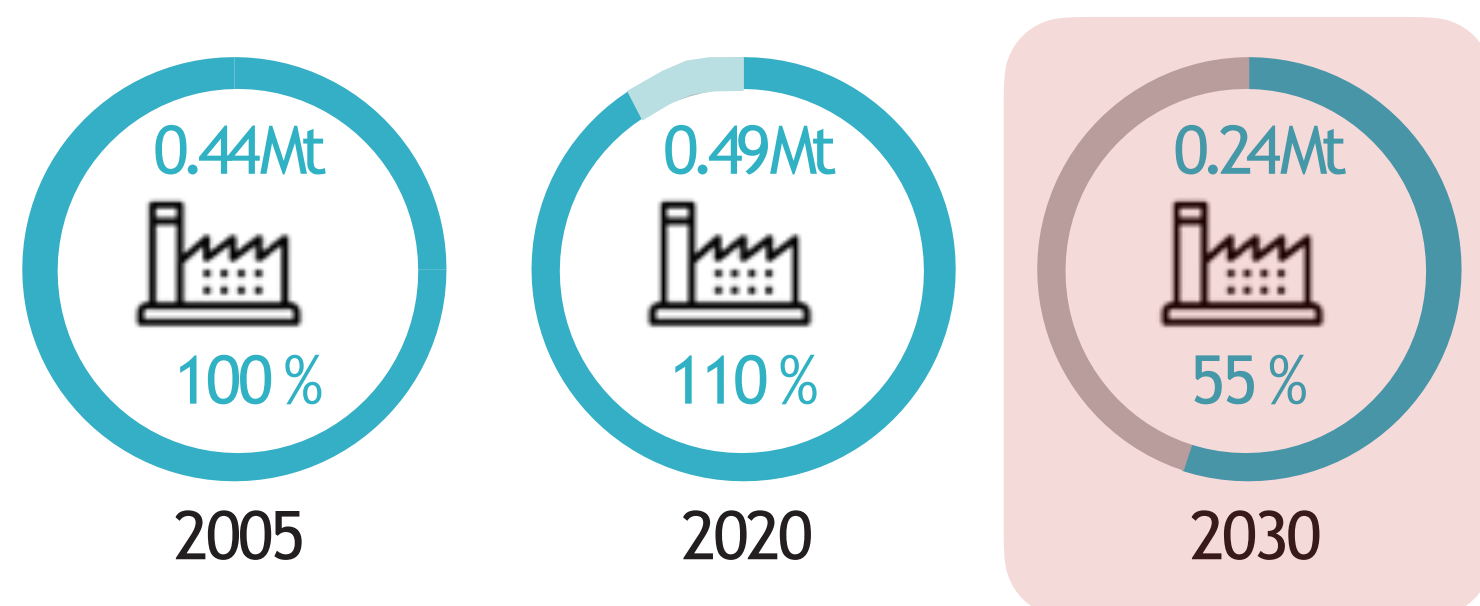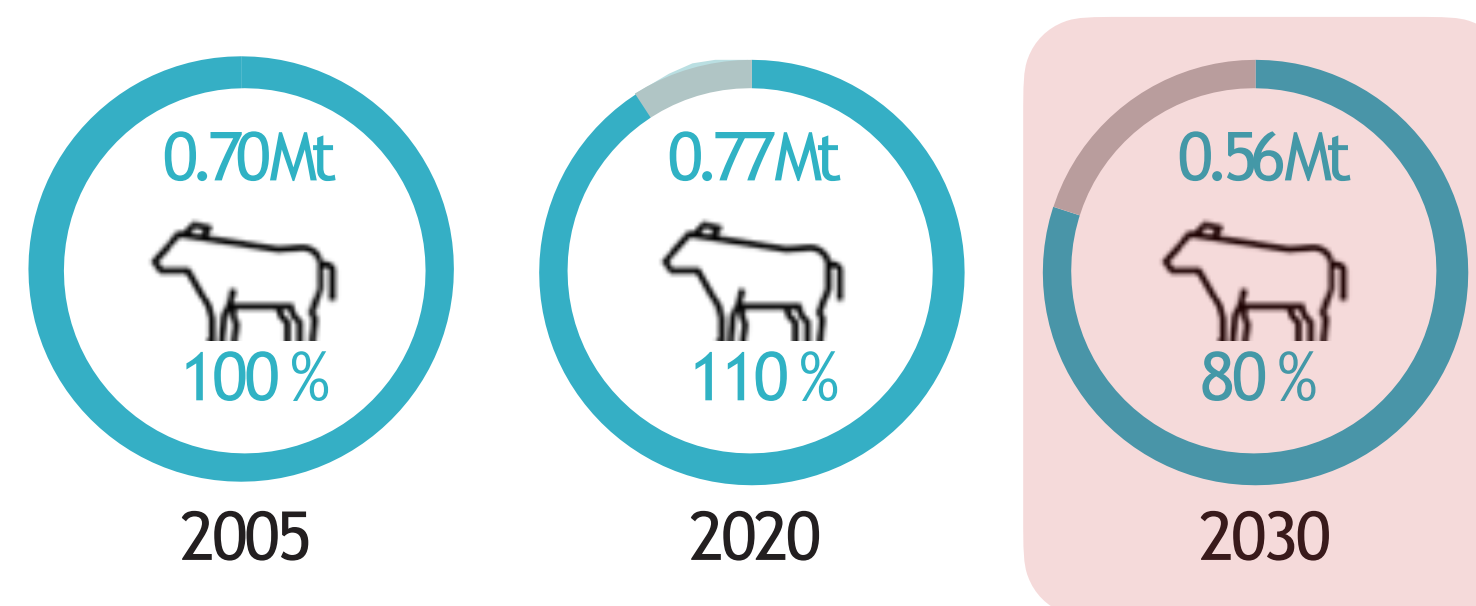
| 0.44Mt | 0.49Mt | 0.24Mt |
| --- | --- | --- |
| 100 % | 110 % | 55 % |
| 2005 | 2020 | 2030 |

### Transport

| 7.18Mt | 4.83Mt | 3.05Mt |
| --- | --- | --- |
| 100 % | 67 % | 42 % |
| 2005 | 2020 | 2030 |

### Residential and tertiary buildings

| 1.63Mt | 1.61Mt | 0.59Mt |
| --- | --- | --- |
| 100 % | 99 % | 36 % |
| 2005 | 2020 | 2030 |

### Agriculture and forestry

| 0.70Mt | 0.77Mt | 0.56Mt |
| --- | --- | --- |
| 100 % | 110 % | 80 % |
| 2005 | 2020 | 2030 |

### Waste and wastewater treatment

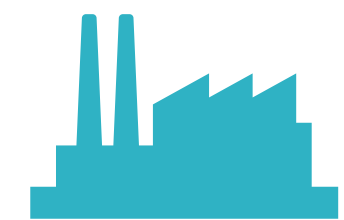| 0.19Mt | 0.19Mt | 0.11Mt |
| --- | --- | --- |
| 100 % | 105 % | 60 % |
| 2005 | 2020 | 2030 |
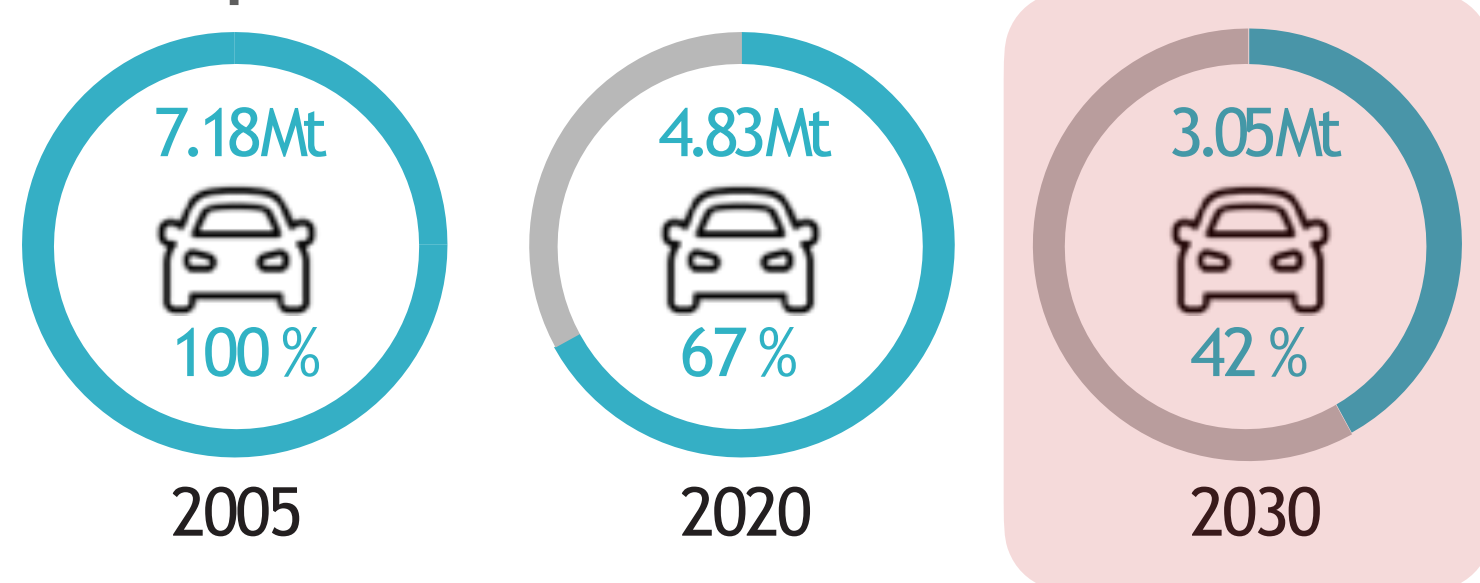
# Key policies & measures

## Cross-cutting PaMs

- $CO_2$ pricing and revision of tax & subsidies policies
- Climate Pact 2.0 with municipalities
- Territorial and urban planning
- Climate governance and active participation of all actors in the transition
- Awareness raising, education & training
- Research & innovation

## Energy and manufacturing industries, construction PaMs

- EU ETS and EU Regulation on F-gases
- Voluntary agreement between the State and the business federation FEDIL
- Promoting energy efficiency and the use of RES
- Decarbonisation roadmap

## Transport PaMs

- Free public transport and further development of public transport infrastructures & offer (Sustainable Mobility Plan (MoDu 2.0)
- Promoting e-mobility and soft mobility, notably though subsidies & better dedicated infrastructures
- Revision of private & company vehicle tax policies
- Decarbonisation roadmaps for freight transport and the logistics sector
- Second generation biofuels

# Key policies & measures
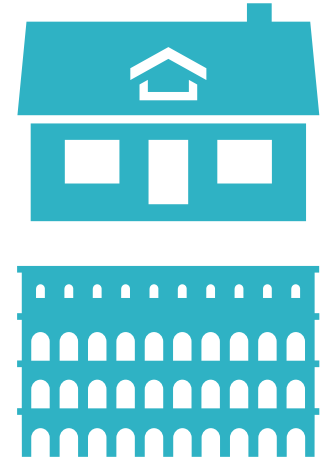
## Residential and tertiary buildings PaMs

- Near-zero energy standard for new constructions (NZEB)
- Renovation Strategy and energetic renovation of public buildings
- Promoting energy efficiency and the use of RES through subsidies schemes & feed-in tariffs
- Phasing-out of the use of fossil fuels for heating and warm water
- Development of eco-neighbourhoods

## Agriculture and forestry PaMs

- Developing further biological farming
- Reducing the use of nitrogen fertilisation
- Assessment of the livestock composition and valorisation of breeding effluents
- Protection and restoration of soil and forests
- Developing natural carbon sinks

## Waste and wastewater treatment PaMs

- Zero-waste Strategy
- Food waste reduction
- Circular Economy Strategy
- Strategy for the valorisation of sewage sludge
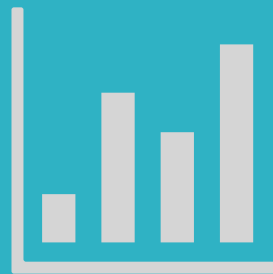
# Policies & measures - barriers & challenges

- Country size (impacts of single projects, risk of fiscal 'leakage', …)
- High-number of cross-border commuters implying common policies with neighbouring countries (in general, cross-border cooperation is needed for setting-up various projects)
- Development and implementation of new infrastructure projects is taking time
- High energy dependence due to limited energy production capacities & possibilities
- Energy poverty risk (just transition 'leaving no one behind')
- Municipalities autonomy
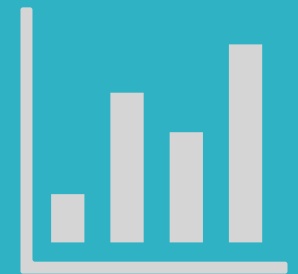
# Experiences with the IAR process

## 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 14 written questions from Canada, Japan, New-Zealand, the United States, the UK :

• QEWRT & scenarios: 2 questions

• governance: 2 questions

• gender & human rights perspective: 1 question

• energy sector: 3 questions

• transport sector: 2 questions

• agriculture & forestry sectors: 4 questions
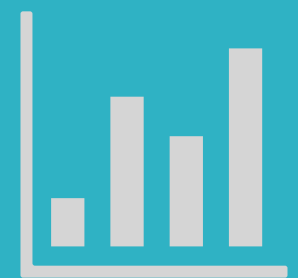
Thank you for your kind attention