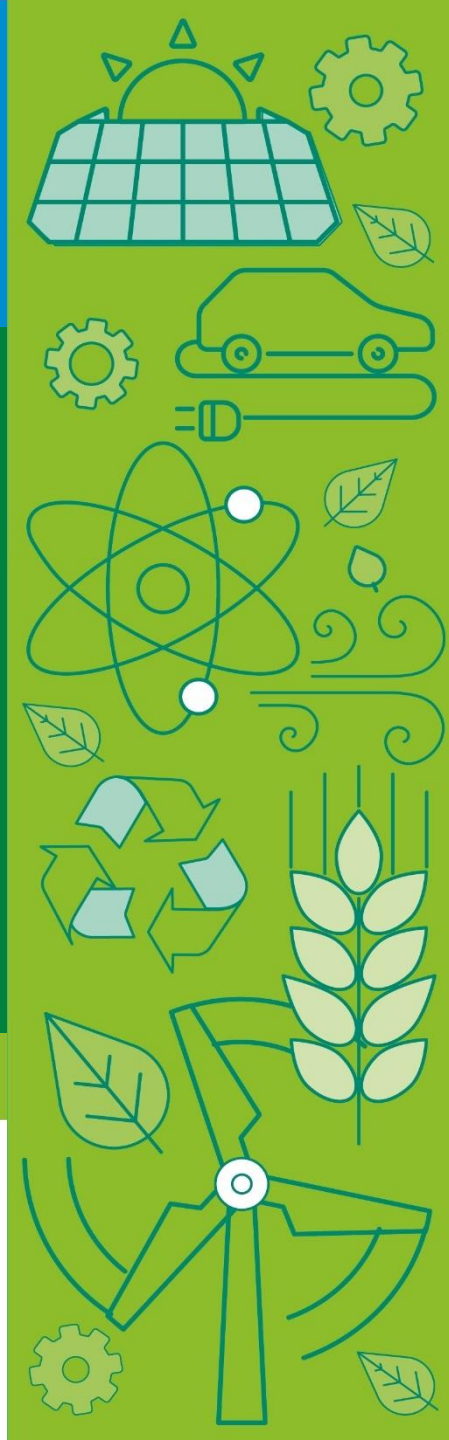


# *Ireland's greenhouse gas emissions*

Laura Burke – November 2019





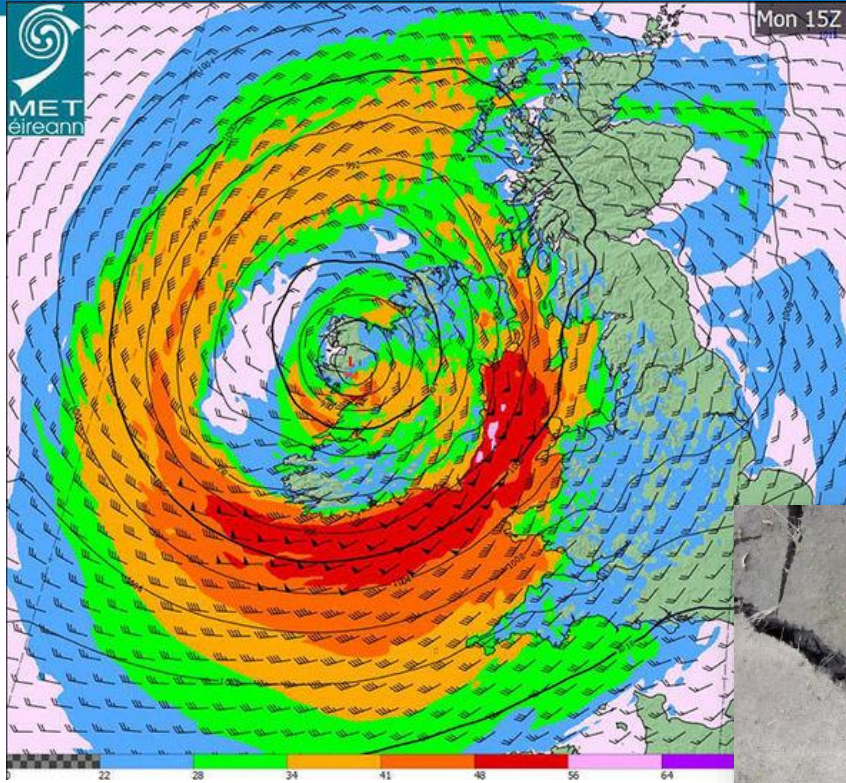


## Mission

**'To protect and improve the environment as a valuable asset for the people of Ireland. To protect our people and the environment from the harmful effects of radiation and pollution.'**



# Impacts of Climate Change



ex-Hurricanes







Snow blizzards



Drought

# Climate Change Impacts & the Built Environment

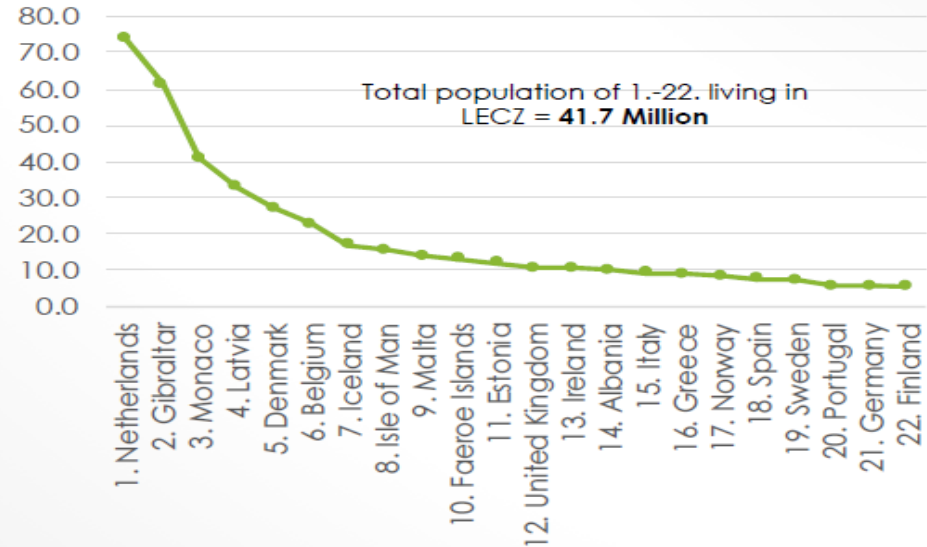
SECTOR	CHANGES IN CLIMATE VARIABLES	IMACTS	ADAPTATION OPTIONS	
<b>Built Environment and Construction</b>	Temperature Increases		Changes in energy demand (heating and cooling)	Enhanced design criteria to meeting changing energy demands
	Precipitation Patterns		Performance and durability of building stock	Building materials should be designed and selected for future exposure conditions
	Sea Level Rise		Implications for location, performance and durability of housing stock in low lying coastal or flood prone areas	Changes in planning regulations, building design, materials, codes and standards
	Extreme Weather Events		Implications for location, performance and durability of housing stock	Buildings should be located to avoid future exposure to extreme conditions

# Population in Low Elevation Coastal Zone

## IMPACTS OF CLIMATE CHANGE ON CITIES

- Climate change is expected to have significant impacts on **four sectors** in most cities;
  - The local energy system;
  - Water supply, demand, and wastewater treatment;
  - Transportation; and
  - Public health.
- Hazards include **Heat** (more intense, more frequent), **Water** (more intense, less frequent) and **coastal inundation** (less frequent, more intense)

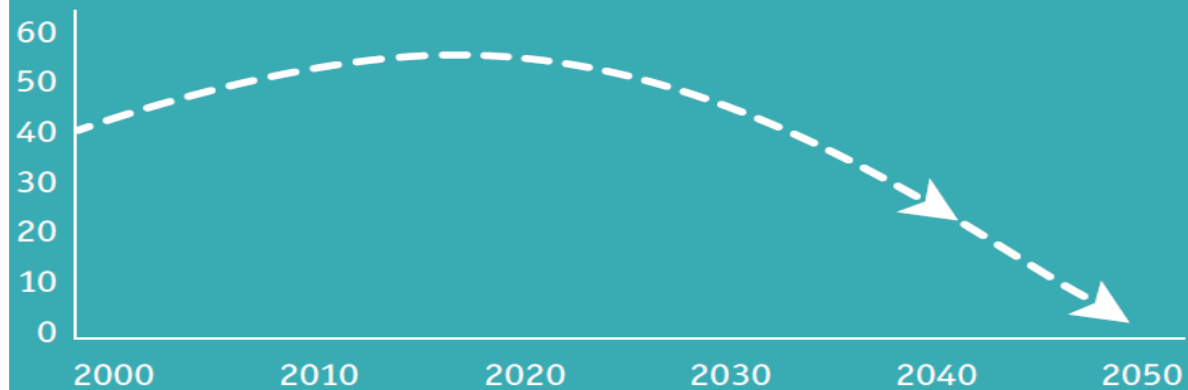
% of National Population in EU countries living in LECZ  
If % was < 5 countries were omitted from this list





# The Paris Agreement goal

To limit global warming to 1.5°C, **global carbon emissions need to fall to 55% of 2010 levels by 2030** and continue a steep decline to zero net emissions by 2050.



Ireland is one of 187 parties to have **ratified the Paris Agreement.**

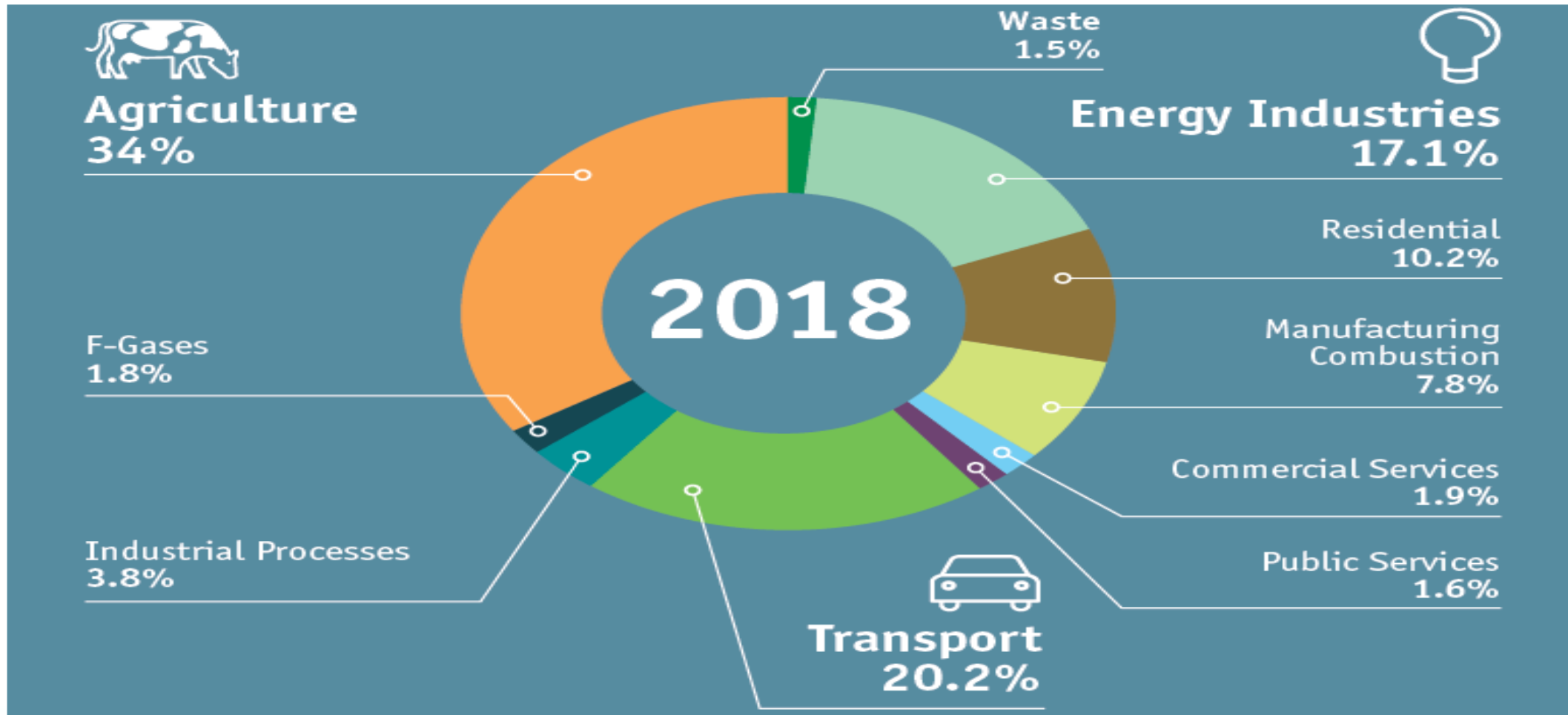


The global mean temperature in 2018 is approximately **1°C above the pre-industrial baseline.**

# National Policy on Climate Change (2015)

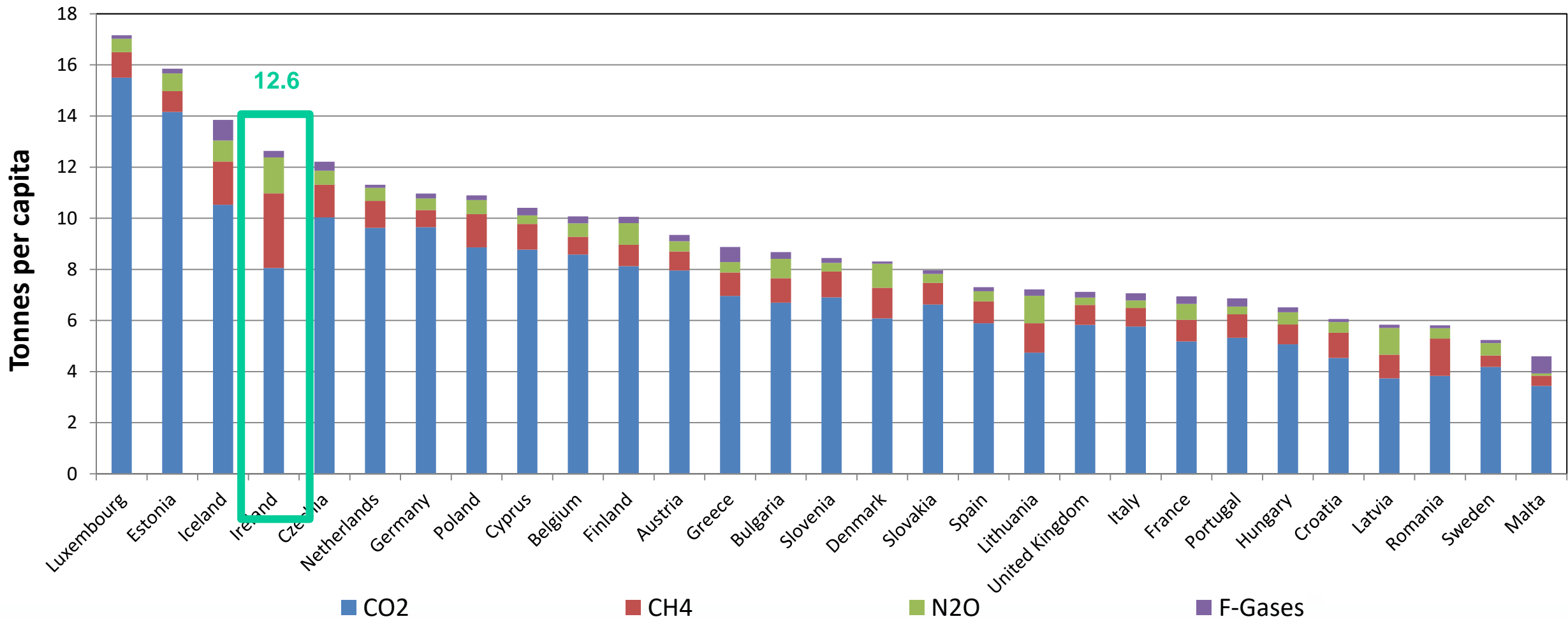
The *National Policy Position* states that policy development will be guided by a long-term vision of low- carbon transition based on:

- an aggregate reduction in carbon dioxide (CO<sub>2</sub>) emissions of at least 80% (compared to 1990 levels) by 2050 across the **electricity generation, built environment** and **transport** sectors
- in parallel, an approach to carbon neutrality in the **agriculture** and land-use sector, including forestry, which does not compromise capacity for sustainable food production.

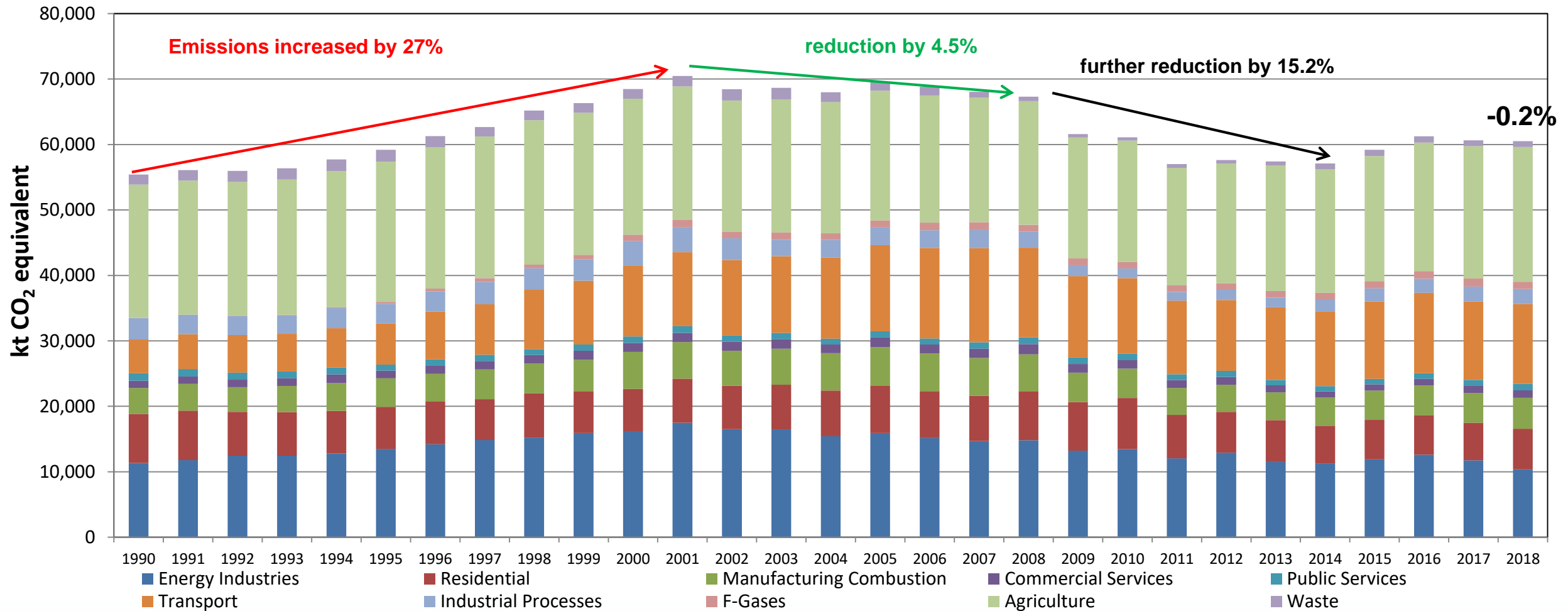




# GHG emissions/capita (source EEA)

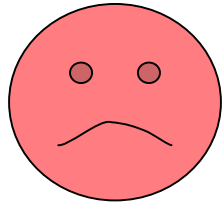


# GHG emissions 1990-2018

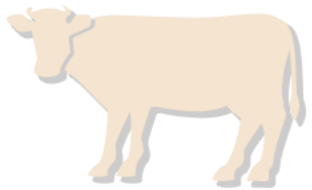




## Highlights - Latest 2018 Inventory



Ireland exceeded its 2018 ESD emissions allowance by over 5 Mt CO<sub>2</sub> eq... having exceeded by 3 Mt in 2017



*Agriculture* emissions continued to increase, up by 1.9%. Dairy cow numbers are up 27% in the last 5 years.



*Transport* emissions increased by 1.7% increasing for 5 out of the last 6 years, and by over 12% in that time

# Highlights - Latest 2018 Inventory



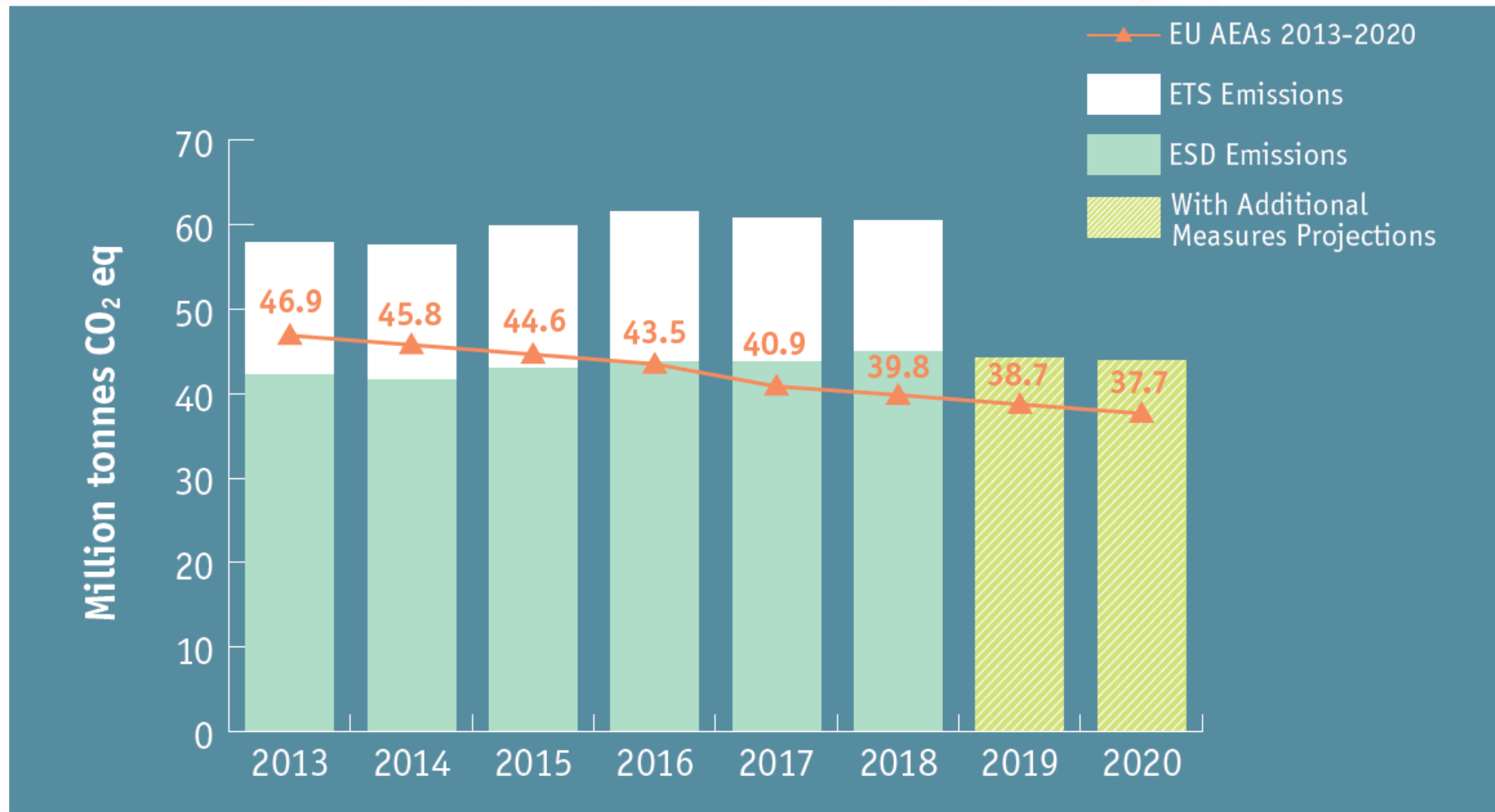
*Energy Industries* emissions decreased by 11.7% in 2018 mainly due to a 44% reduction in coal but wind generation also increased by 14%



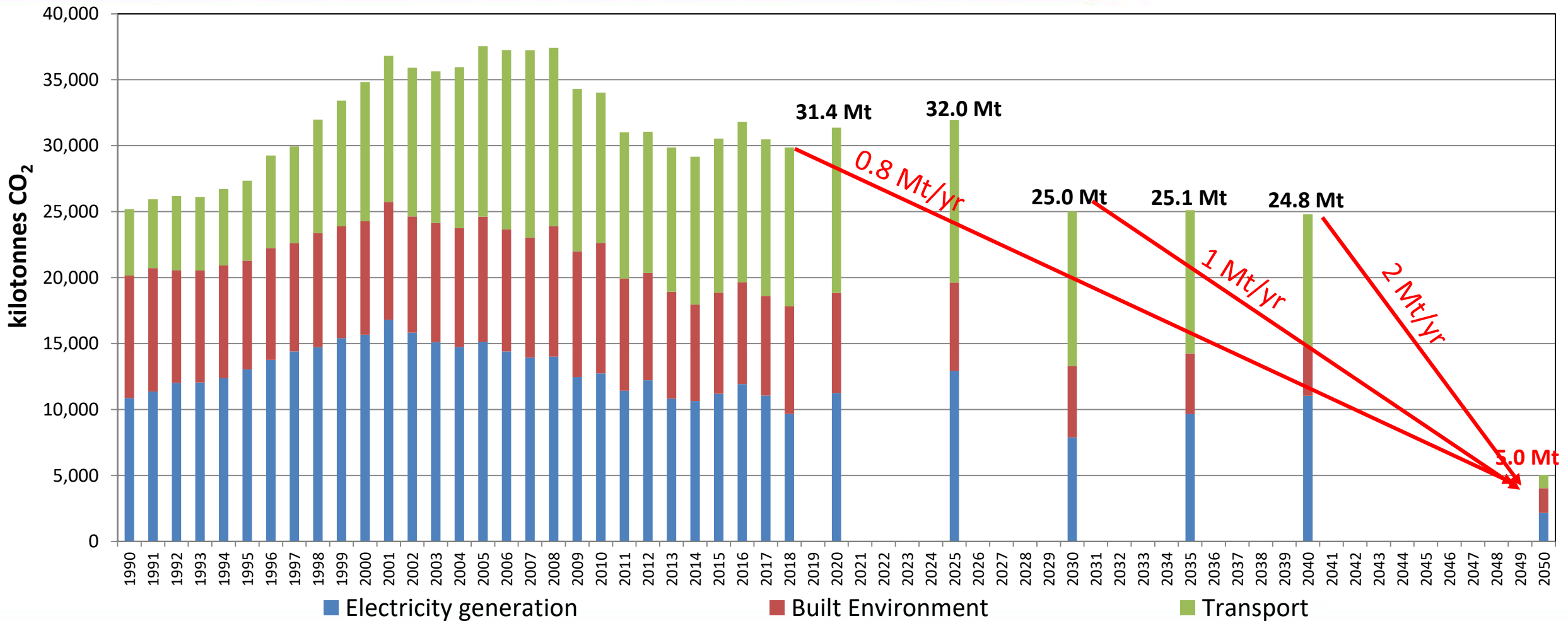
*Residential* emissions increased by 7.9% in 2018, following a colder winter, indicating the inefficiency of our housing stock.



# Effort Sharing Decision Compliance



# 2050 National Policy Position

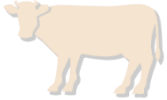





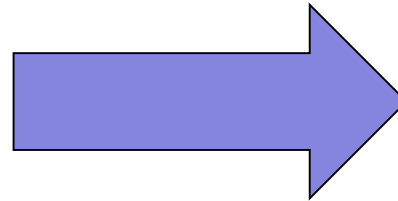


# Share of GHG emissions 2018 and 2030

## 2018

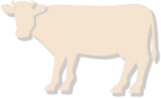








60.51 Mt

Agriculture		34%
Transport		20%
Energy Ind.		17%
Residential		10%
Other		18.4%

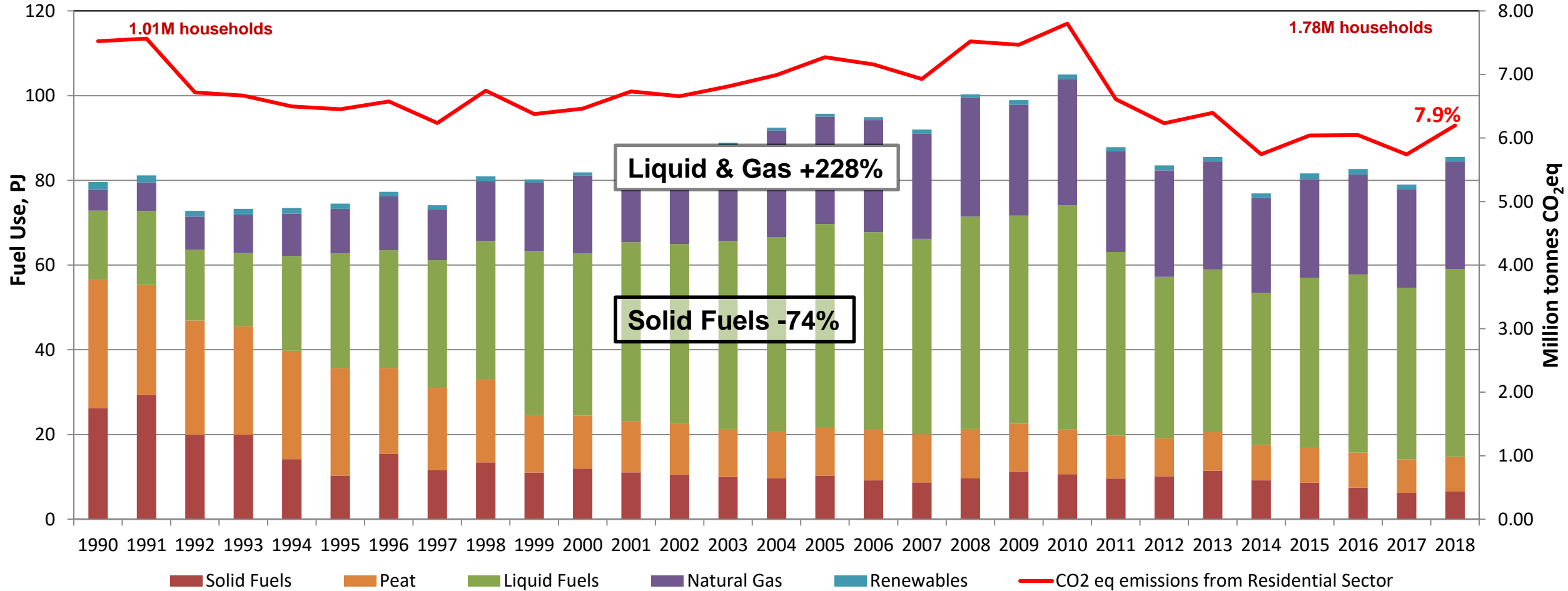


## 2030

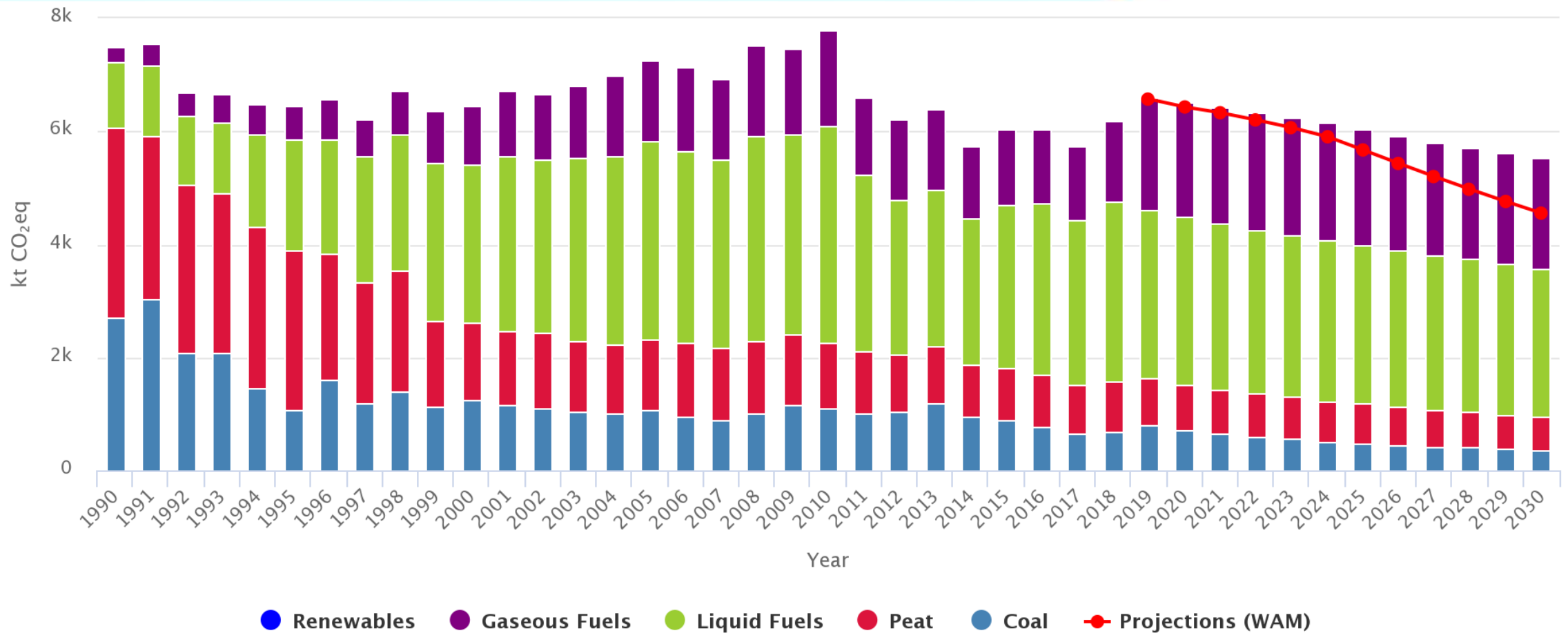
54.5 Mt (WAM)

Agriculture		38%	
Transport		22%	
Energy Ind.		16%	
Residential		8%	
Other		16%	

# Drivers in Residential sector



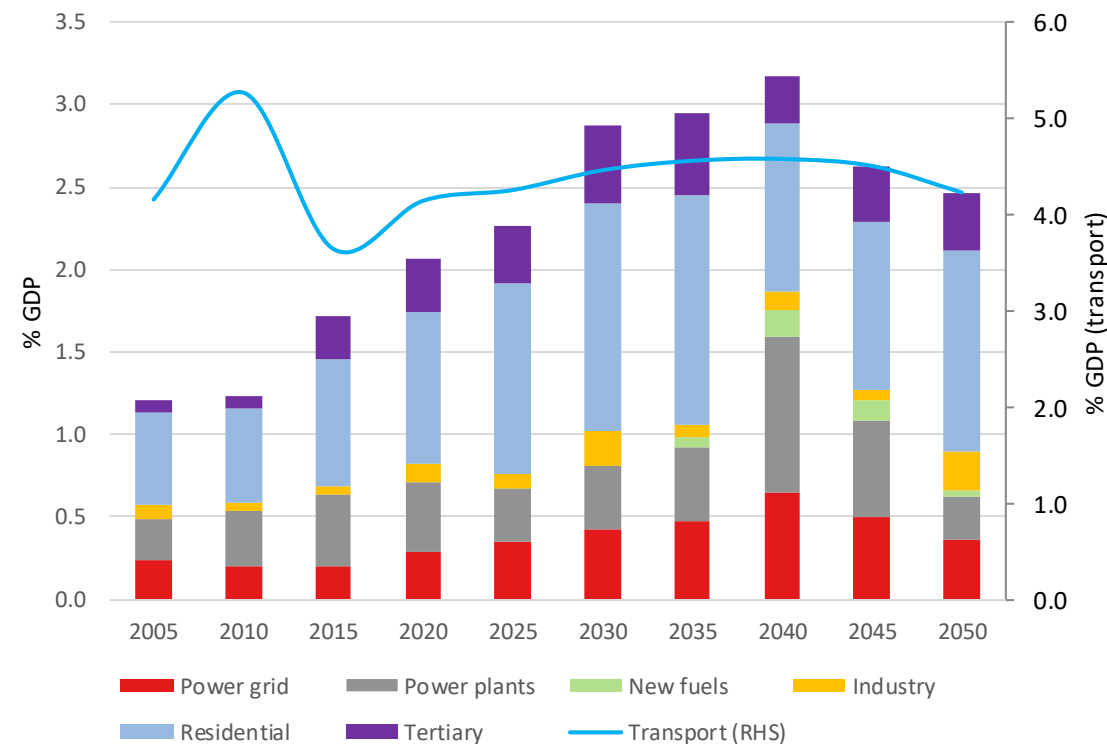
# Projected future residential emissions





## Investments needs by sector (1.5°C)

- Investment builds up significantly to 2030 already in most sectors and peaks around 2040
- All LTS scenarios share a common path to 2030, based on recently adopted and proposed legislation
- Investment needs will be particularly large in the residential sector (energy efficiency) and the power sector (generation and grid)
- Investment needs will be large in transport, though a significant share is the replacement of vehicles





# Climate Action Plan 2019

- Aim- close the gap on where we need to be by 2030
- Road map to achieve net zero carbon emissions by 2050
- Built Environment
  - Reduce CO2 emissions to 5Mt CO2 by 2030
  - Sharply reduce Fossil Use
  - Complete 500,000 building retrofits to achieve a B2 BER
  - Install 600,000 heat pumps residential
  - Increase number of Sustainable Energy Communities
  - Complete roll out of Support Scheme for Renewable Heat (SSRH)
  - Deliver two initiatives of municipal scale- potential to provide heat for about 50,000 homes

## Conclusion

- Ireland is significantly exceeding annual limits for the 2013-2020 period and projected to exceed the cumulative budget by ~ 10Mt CO<sub>2</sub> eq
- A reduction in coal use and increase in renewable energy are welcome developments in the Energy sector but an increase in Residential emissions highlights the inefficiency of our housing stock
- Swift implementation of Climate Action Plan measures will be needed to put Ireland on the right track for the 2021-2030 period and to achieve our long-term decarbonisation ambitions.

Ireland's Environment

Licensing and  
Permitting

Enforcement

Monitoring and  
Assessment

Research and  
Education

Publications and  
Downloads

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**CURRENT  
SITUATION**

**FREQUENTLY  
ASKED  
QUESTIONS**

**INDICATORS/  
TARGETS**

**DOCUMENTS /  
REPORTS**



Greenhouse Gas  
**EMISSIONS**

