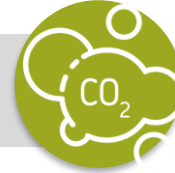


Emerging EU energy- related targets

Margie McCarthy
To CCAC, September 2023

Contents

Fit for 55



Ireland's emerging climate & energy targets



Interplay between targets



Sector by sector



Notable challenges



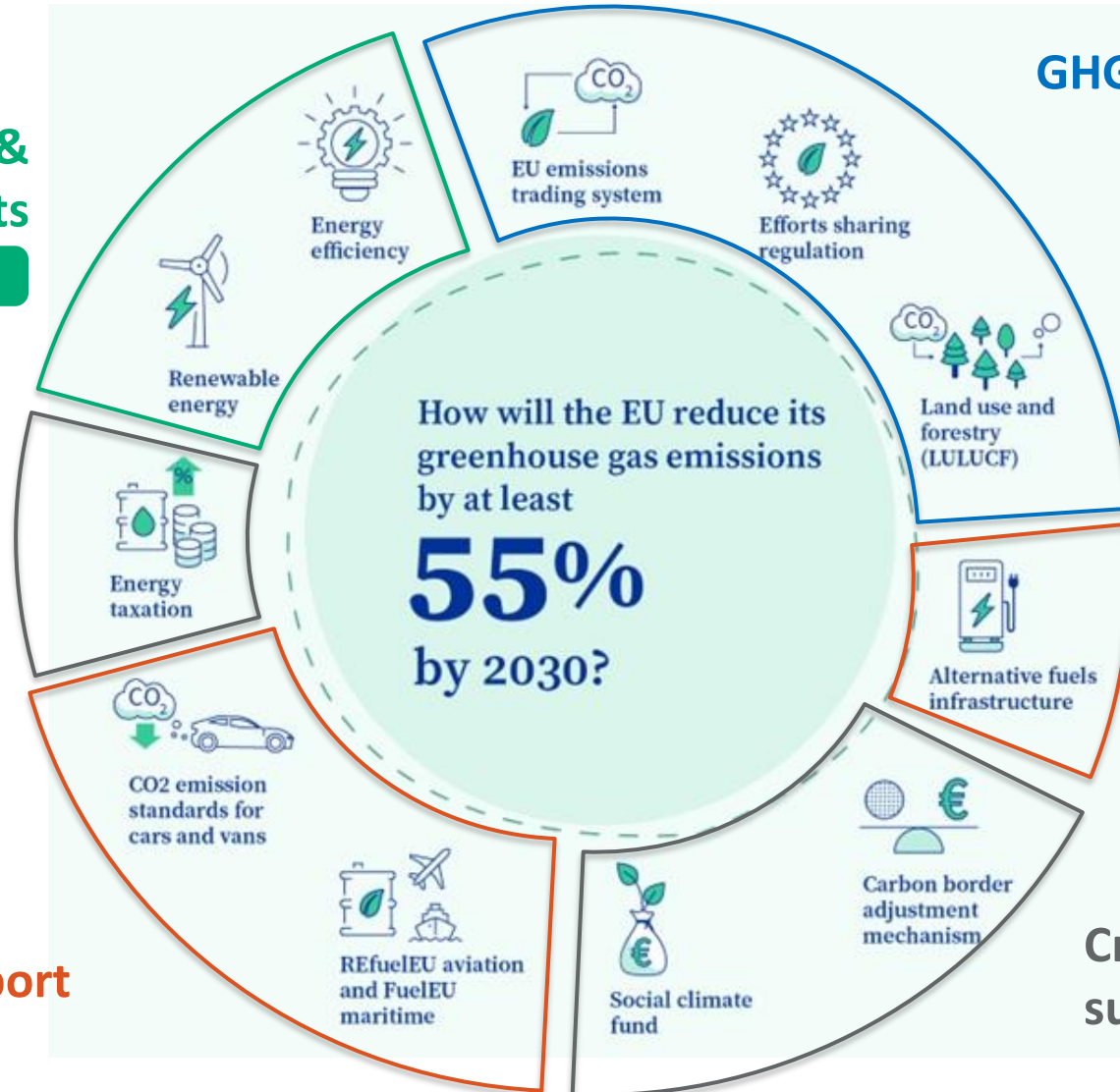
Fit for 55

Renewable energy & energy efficiency targets

RePower EU = ↑ ambition

Cross-sectoral support mechanisms

RePower EU = ↑ measures



GHG reduction targets

Transport

Cross-sectoral support mechanisms

Transport

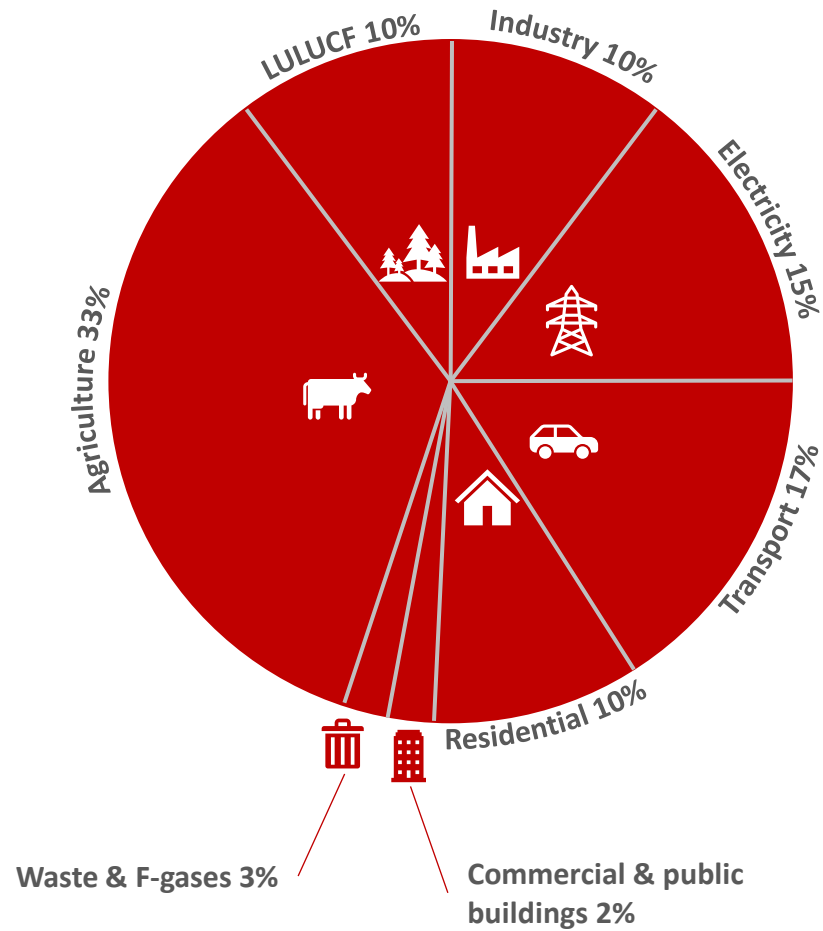
Ireland's emerging climate & energy targets



Ireland's emissions baseline & 2030 target

 **2018**

70.2 MtCO₂eq



 **2030**

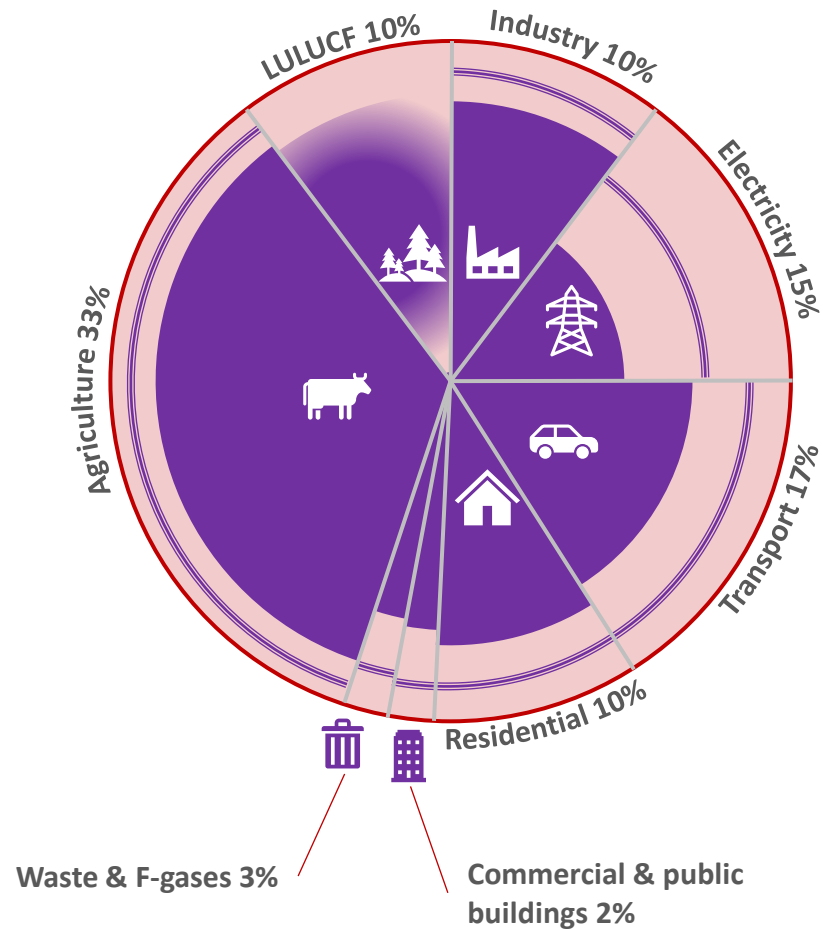
34.4 MtCO₂eq

-51%

Sectoral emissions ceilings

 **2018**

70.2 MtCO₂eq



 **2030**

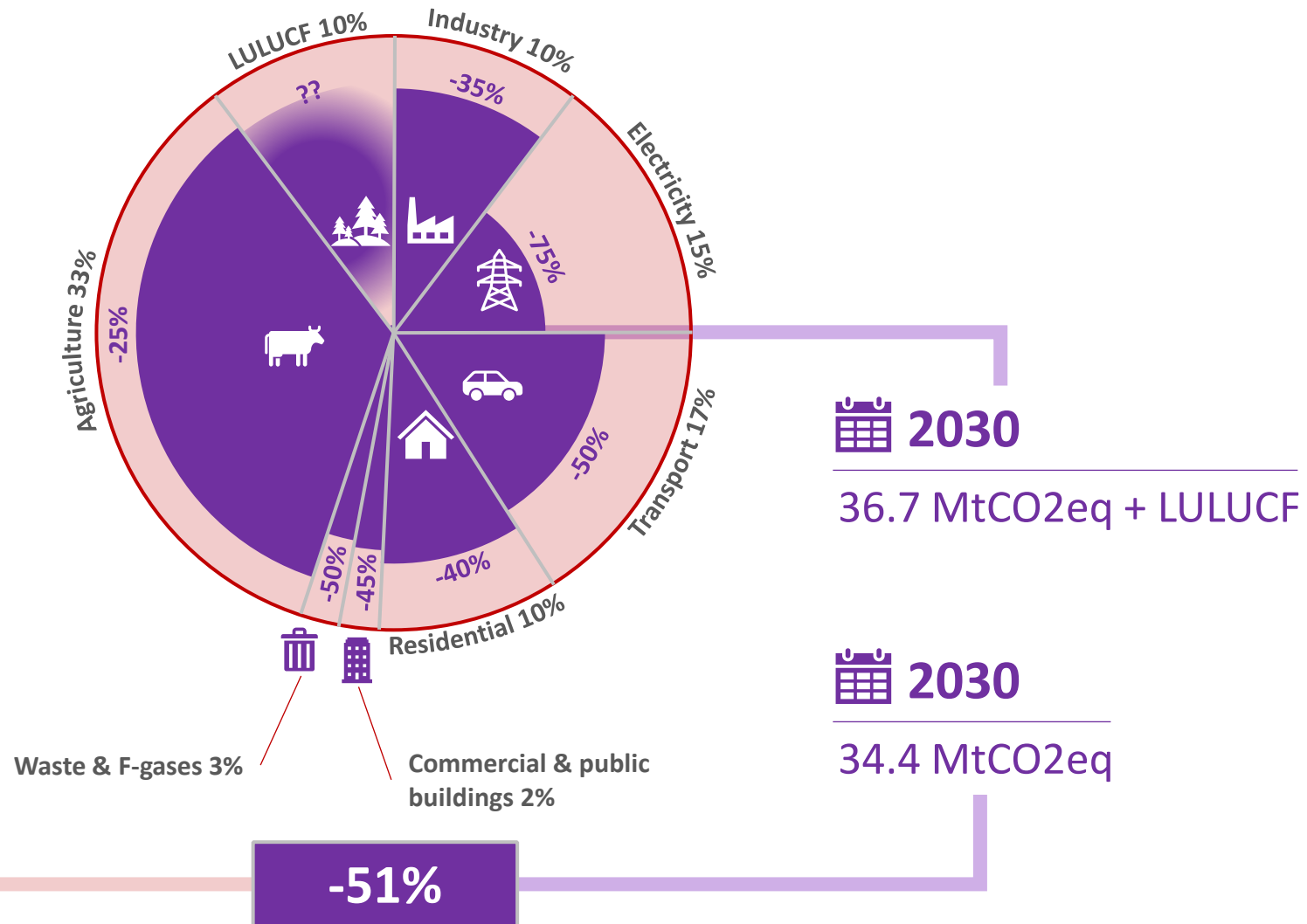
34.4 MtCO₂eq

-51%

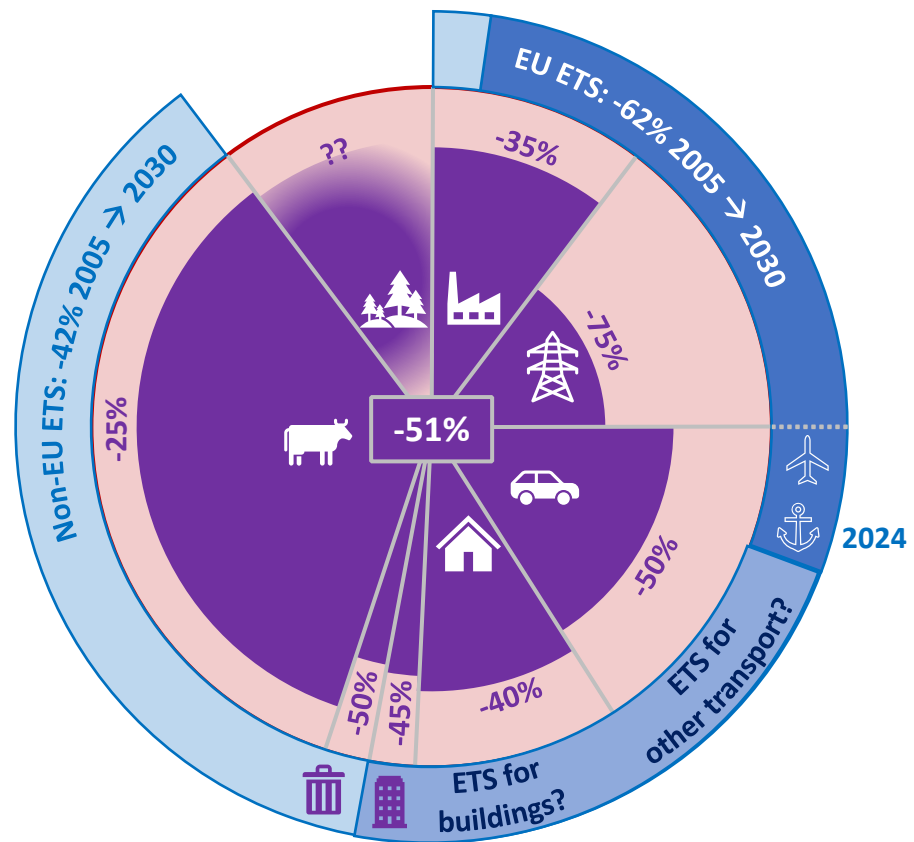
Sectoral emissions ceilings

 **2018**

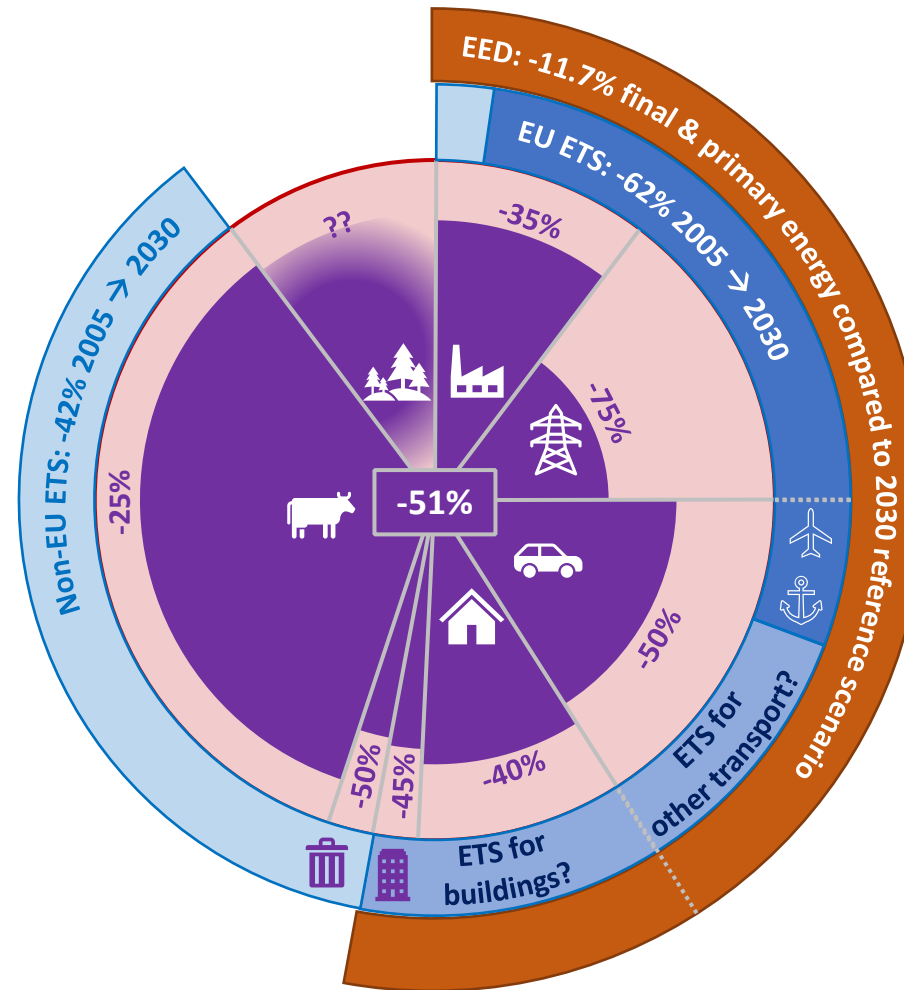
70.2 MtCO₂eq



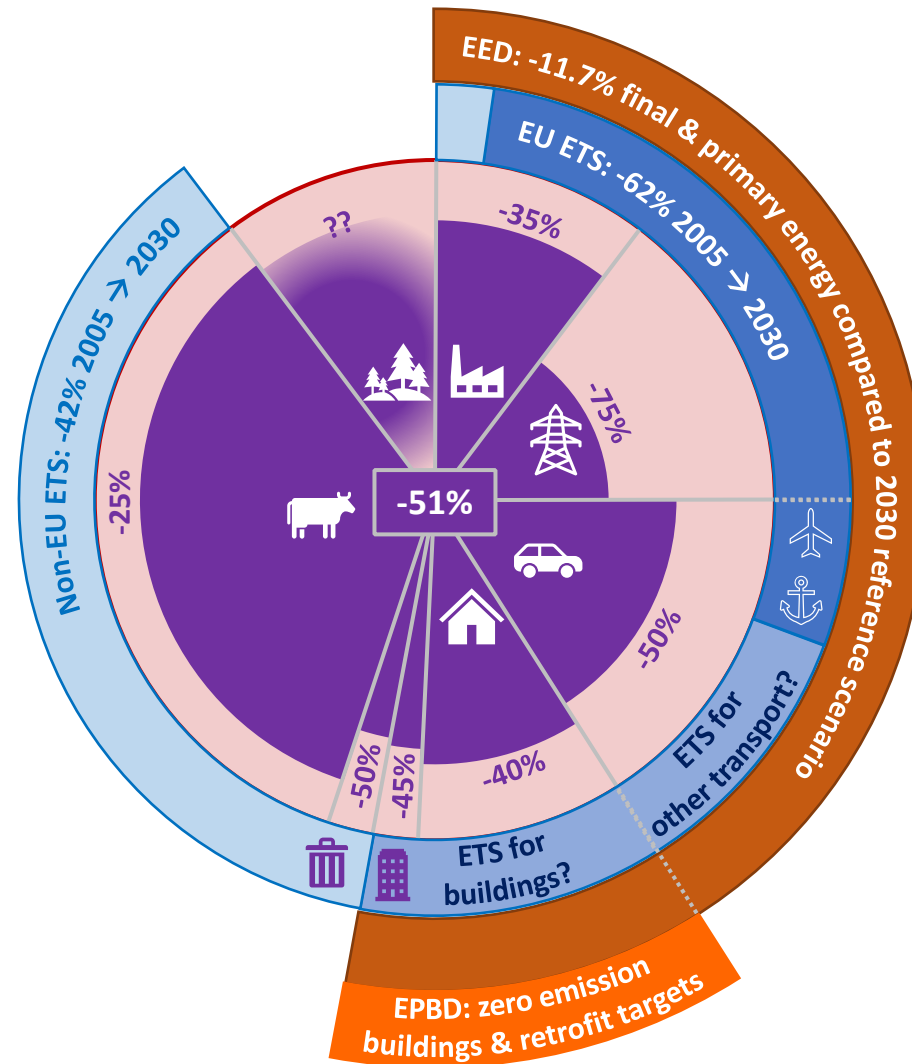
Fit for 55: emissions targets



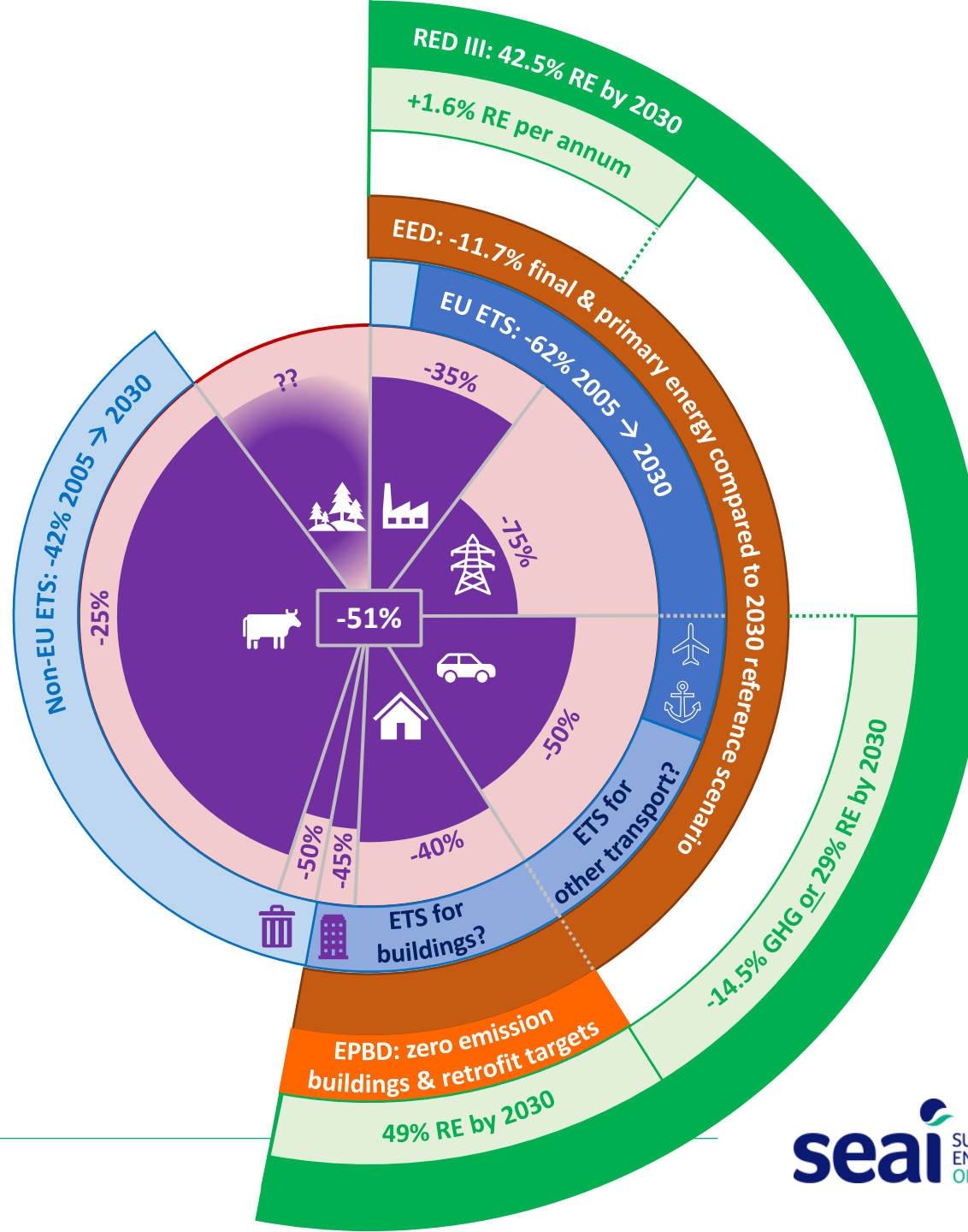
Fit for 55: energy efficiency



Fit for 55: energy performance of buildings



Fit for 55: renewables

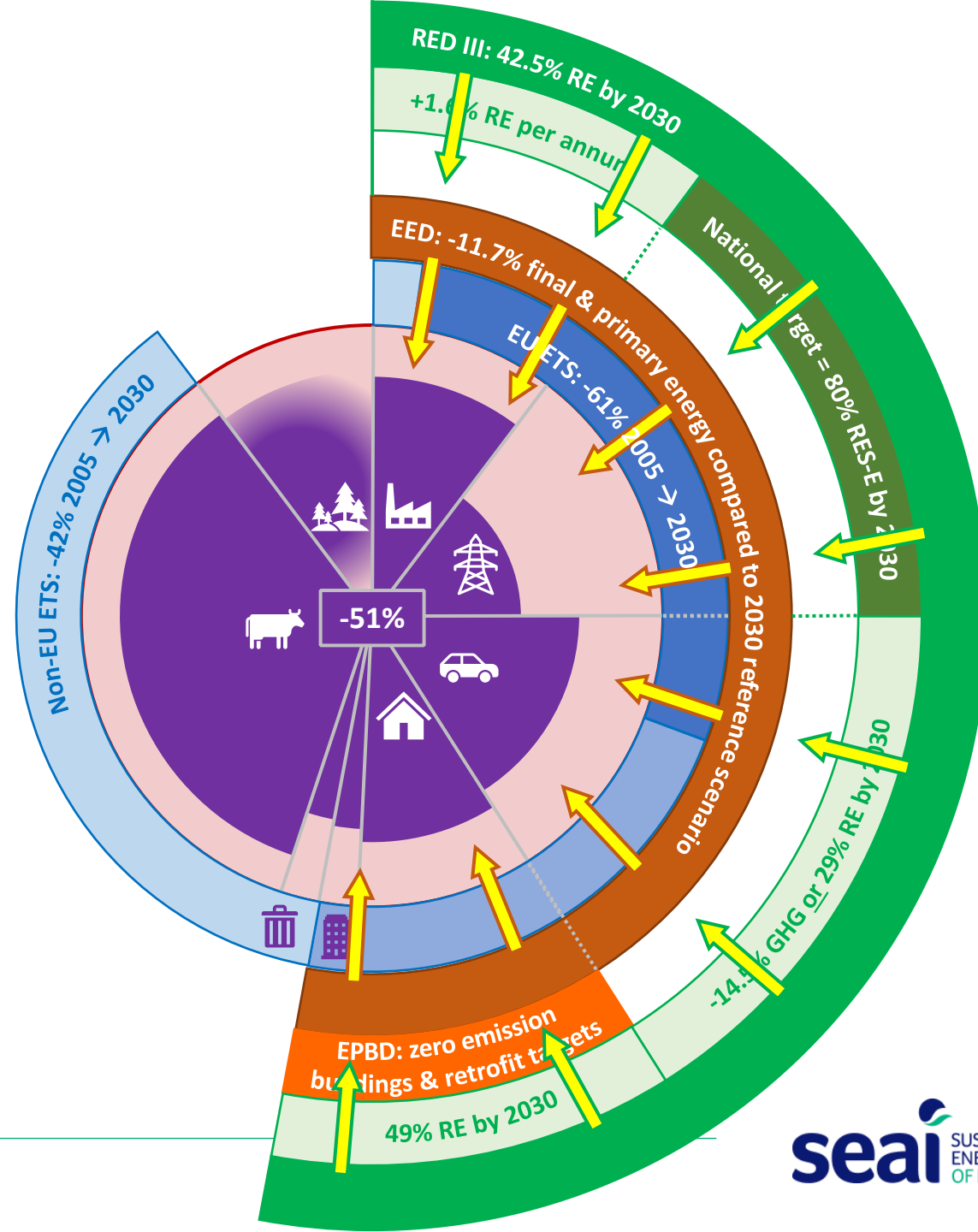


Interplay between targets



Energy efficiency first

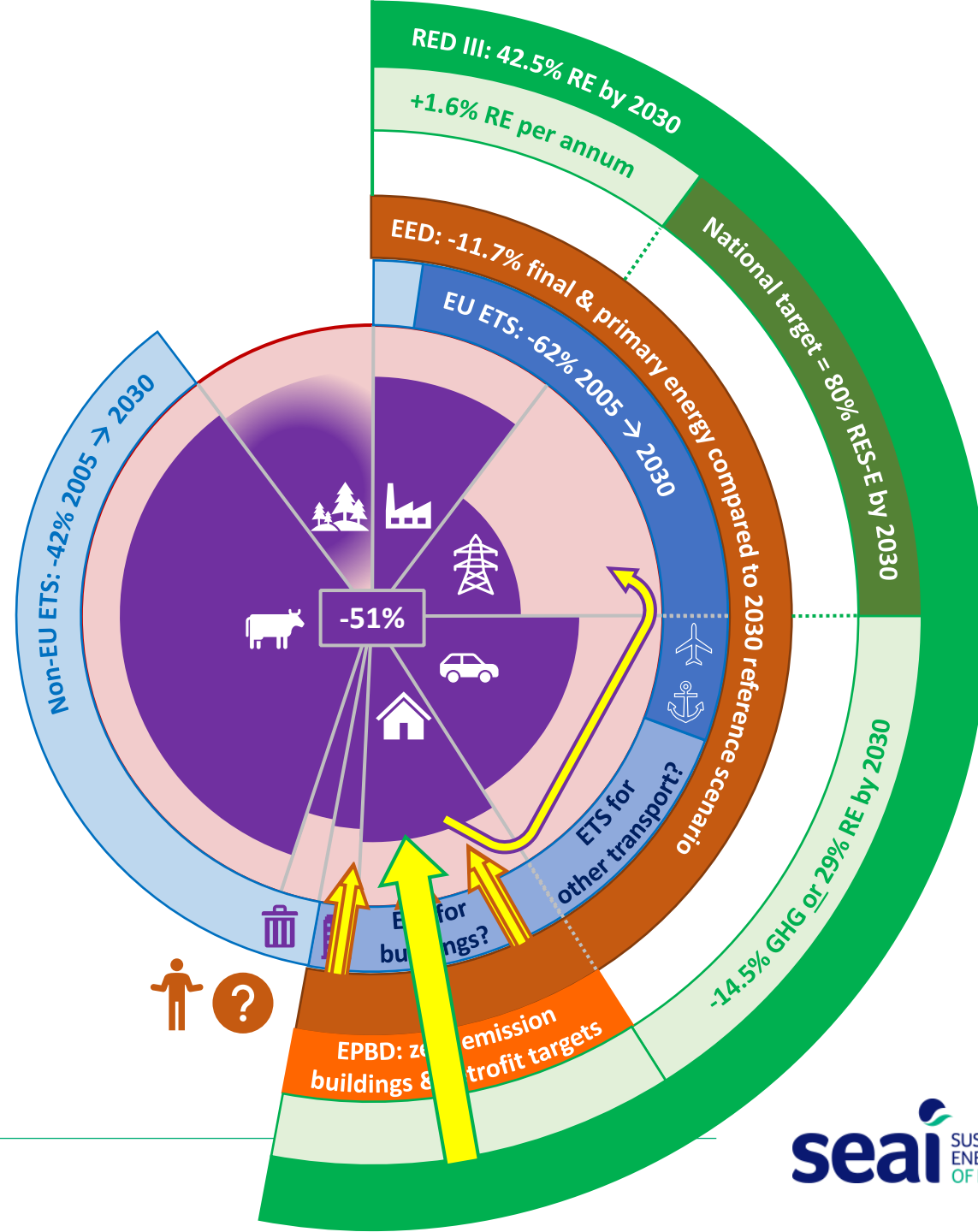
- ↓ energy demand
- ↓ RE supply required to meet % RE targets
- ↓ Essential in light of EE Target (2030 cap on total final energy demand)
- ↓ Consider also energy 'sufficiency' - less with less



District heating

Fabric upgrade & electrify

Decarbonise through DH

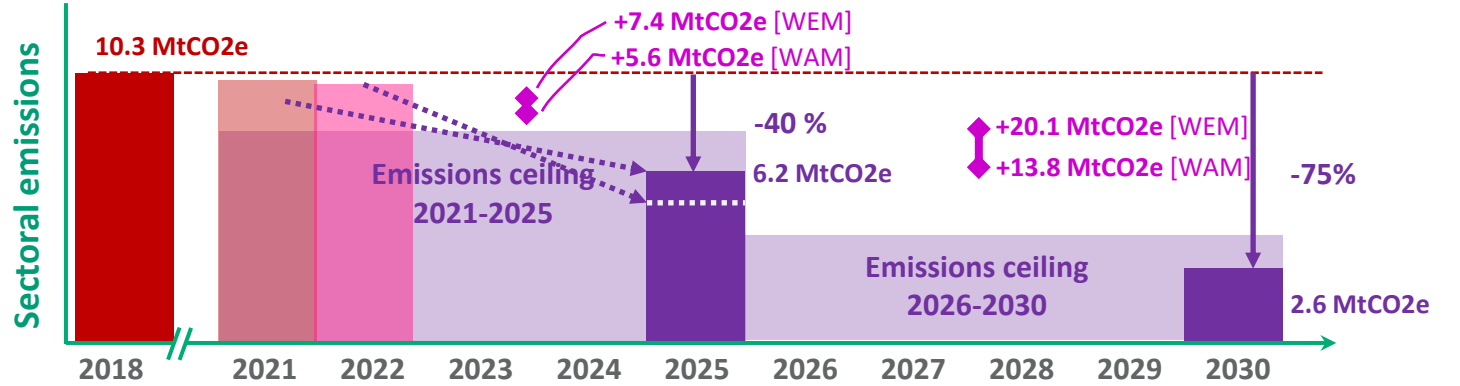


Sector by sector

Electricity

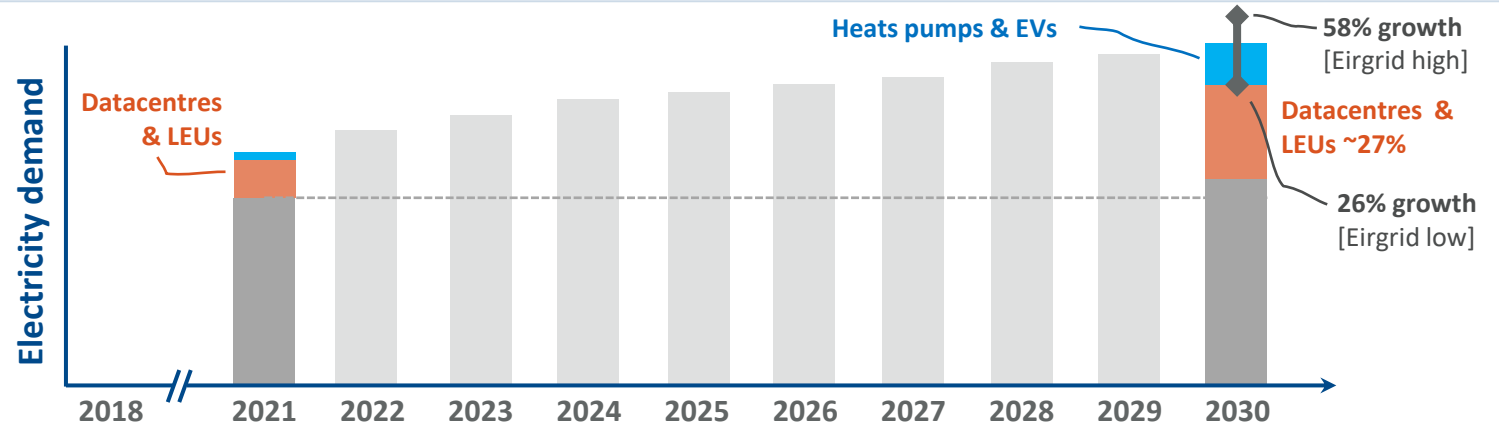


75% emissions reduction by 2030



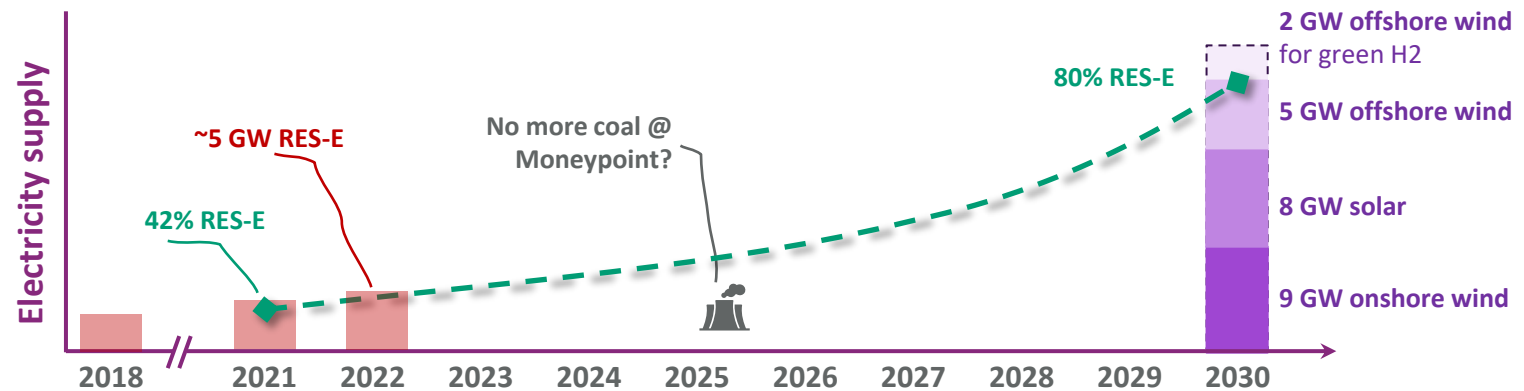
Demand growth

- +42% 2021 → 2030
- Data centres
- Electrification of heat & transport
- 20-30% demand to be flexible by 2030



Electricity generation & supply

- 80% RES-E by 2030
- 5 GW → ~24 GW
- + 2 GW new flexible gas-fired generation
- + 3 interconnectors (NI, GB, EU)
- Significant infrastructure deployment
- 'Abundant' RES-E?



Residential buildings

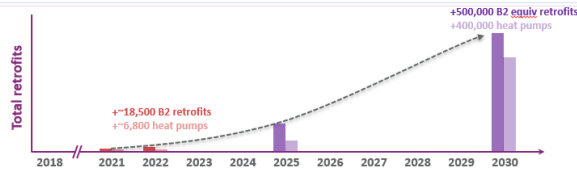
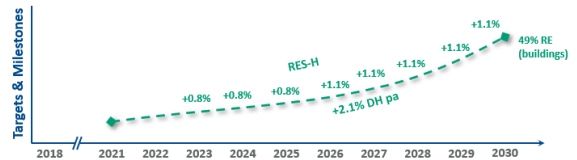
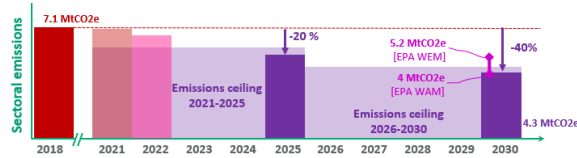
 40% emissions reduction by 2030

Targets & Milestones

- 49% RE by 2030
- DH: +2.1% pa (CAP 23: 2.7TWh DH by 2030)
- RES-H: +0.8% pa to 2025; +1.1% pa 2026-2030
- EPBD – numerous milestones

Retrofit Pathway

- +500,000 B2 equivalent home retrofits
- +400,000 heat pumps in existing dwellings
- NDP of €8 billion for retrofit
- National Retrofit Plan



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Commercial & PS buildings

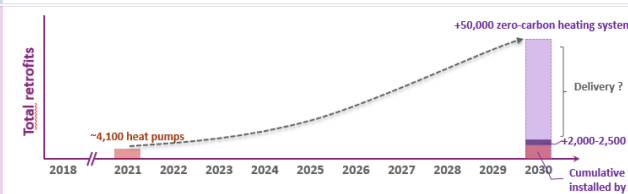
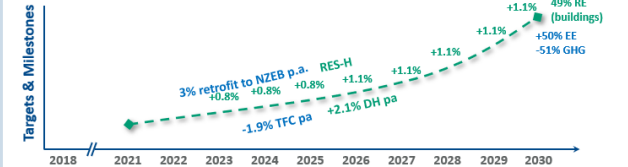
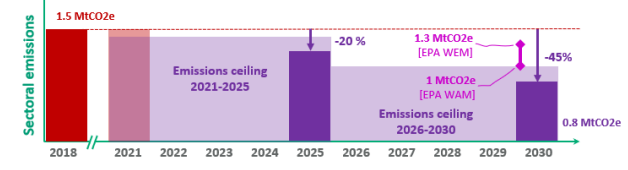
 45% emissions reduction by 2030

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- Public sector: multiple national targets @ public body level and 3% retrofit pa and -1.9% TFC pa
- EPBD milestones

Retrofit Pathway

- +50,000 zero-carbon heating systems
- SSRH expected to deliver 2,000-2,500 installations
- NDP of €?? for retrofit



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Industry

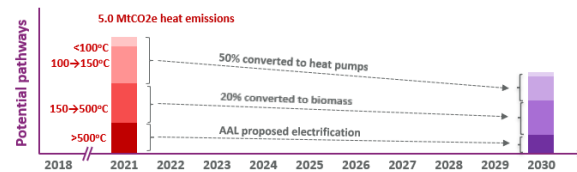
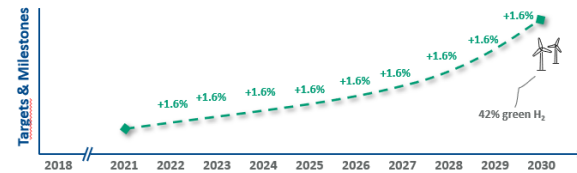
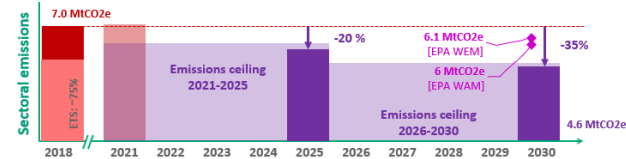
 35% emissions reduction by 2030

Targets & Milestones

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- RED III: 1.6% increase in RE pa
- RED III: 42% hydrogen from green hydrogen
- Renewable Heat Obligation

Decarbonisation Pathway

- Electrification of steam generation at AAL
- Biomass for higher grade heat
- Electrification of low & medium grade heat
- Biomethane grid injection



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Transport

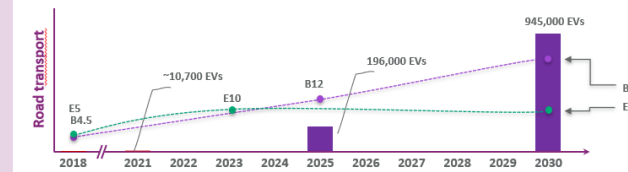
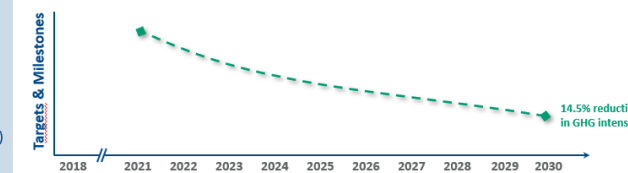
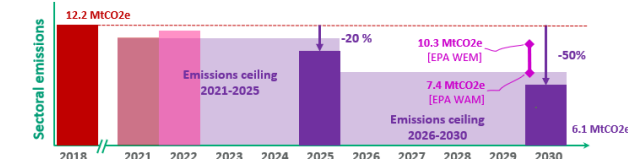
 50% emissions reduction by 2030

Targets & Milestones

- RED III: 14.5% GHG intensity / 29% RE by 2030
- RED III: advanced biofuel = 5.5% by 2030, including 1% RFNBO (min)
- Maritime: -6% GHG intensity by 2030 (Fuel EU)
- Aviation: 5% sustainable fuel by 2030 (Refuel EU)
- Clean Vehicles Directive – public procurement

EV & Biofuel pathway

- 945,000 EVs
- Biofuel blend rate increase to:
 - 10% for petrol
 - 20% for diesel
- ZEV & RTFO (BOS)

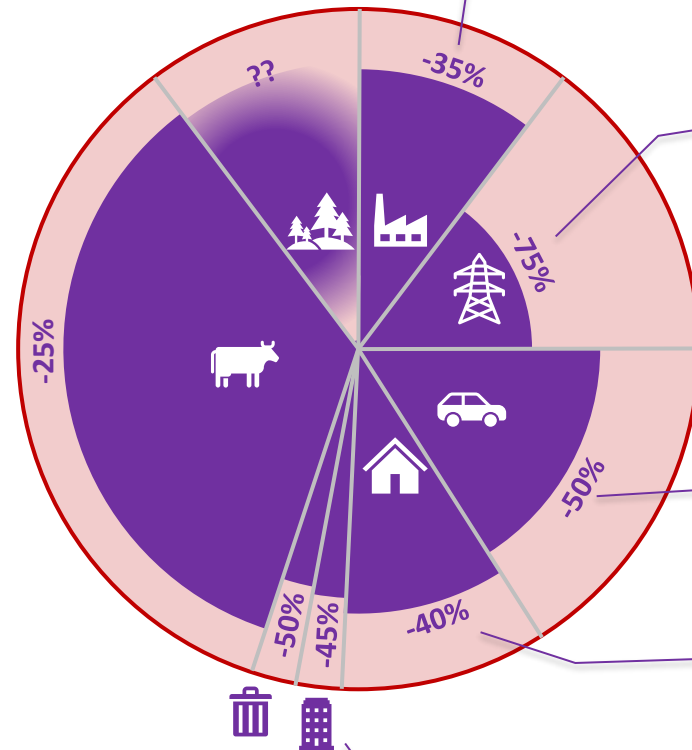


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Notable challenges

Summary of key challenges

1. Trade-offs between EE, RE & decarbonisation
2. Already 'overbudget' in some sectors
3. 2030 projections > 2030 budget
4. Scale & pace of ramp-up of EE & RE by 2030
5. Optimum deployment of limited energy commodities



- Long lifespans (heating)
- Role of H2 & biomethane
- Wariness wrt biomass



- Significant demand growth
- Scale of infrastructure delivery
- Compatible with EED cap?



- 70,000 → 900,000+ EVs by 2030
- RTFO = attractive market for limited resources



- B2 target: end goal or HP enabler?
- Role of district heat & trade-offs with EE
- Funding gap & supply chain constraints



- Efficiency ↔ decarbonisation
- Target overload in public sector
- Delivery mechanism for commercial buildings?

A stronger focus on addressing risks and structural change

- Data highlights **significant challenges and risks** around achieving the required rates of massive technology deployment (EE and renewables)
- **Achievement of WAM-CAP23 still falls short of carbon budgets and sectoral ceilings** (energy). Technology deploy targets likely maxed out
- Clear from the data that **deeper structural changes must be considered** if we are to live up to our climate and energy obligations
****in parallel and in addition to scaling up technology deployment****

5 conversations to take deeper

**Streamline
Government
Processes**

**Decoupling of
energy and
emissions**

**More sticks (and
carrots!)**

**Costs of action in
net-zero context**

**Driving the
movement**

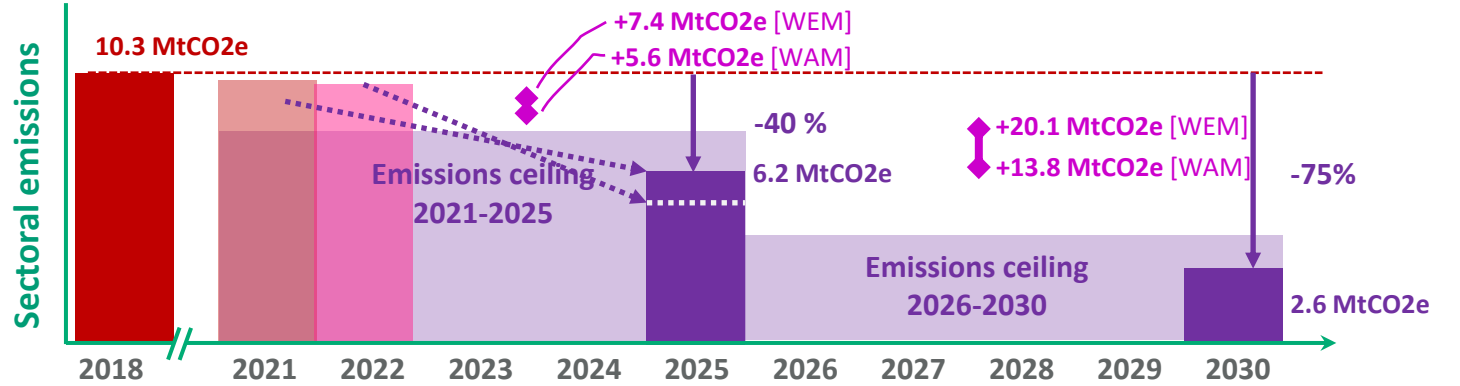
Discussion

Detailed sectoral slides

Electricity

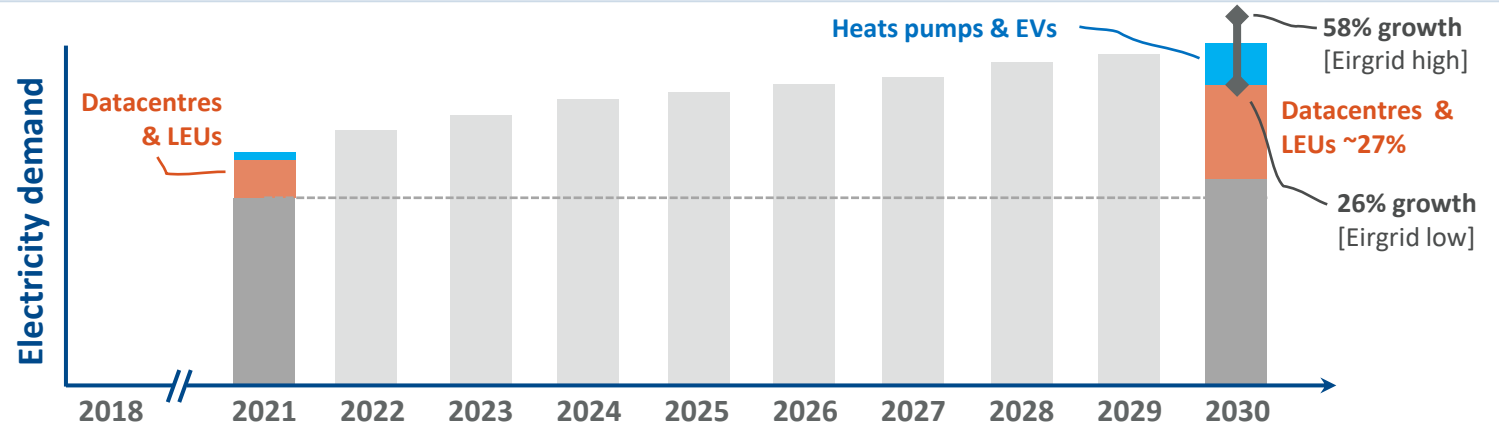


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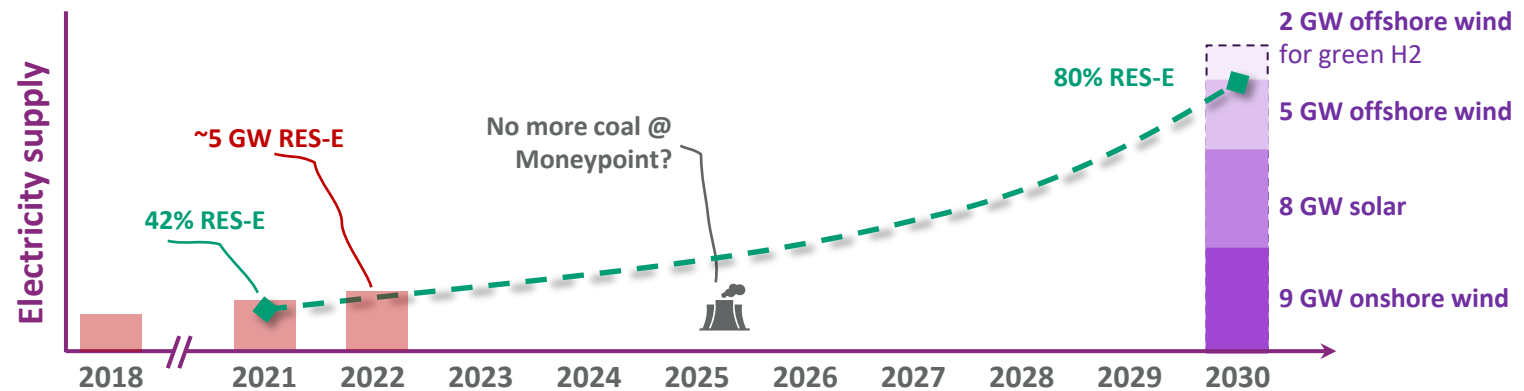
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Electricity generation & supply

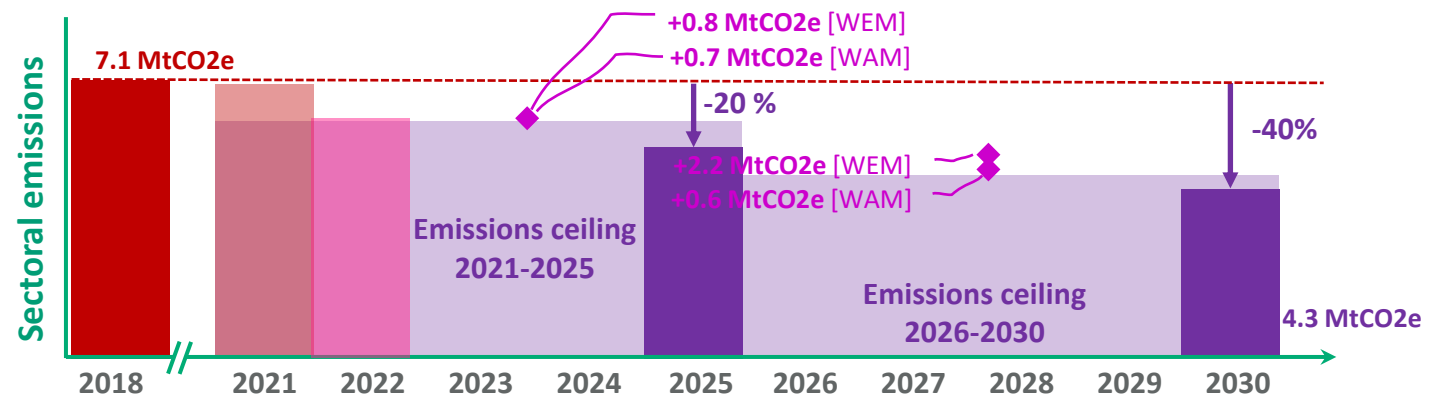
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Residential buildings

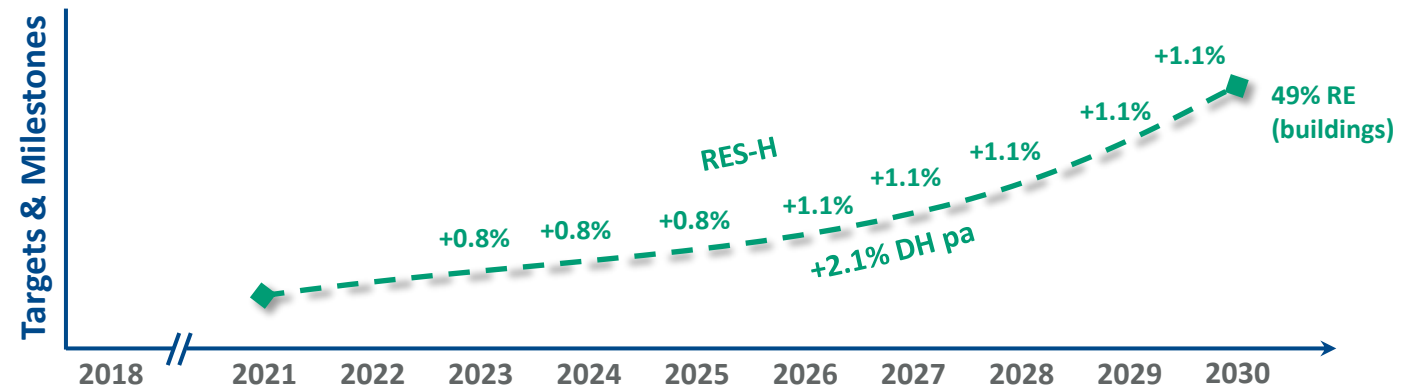


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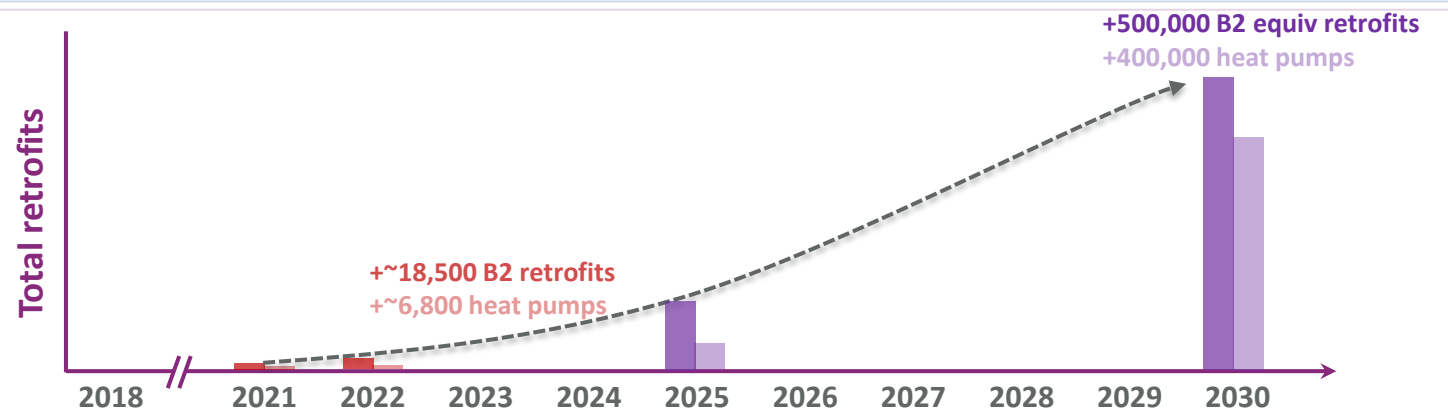
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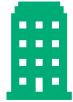


Retrofit Pathway

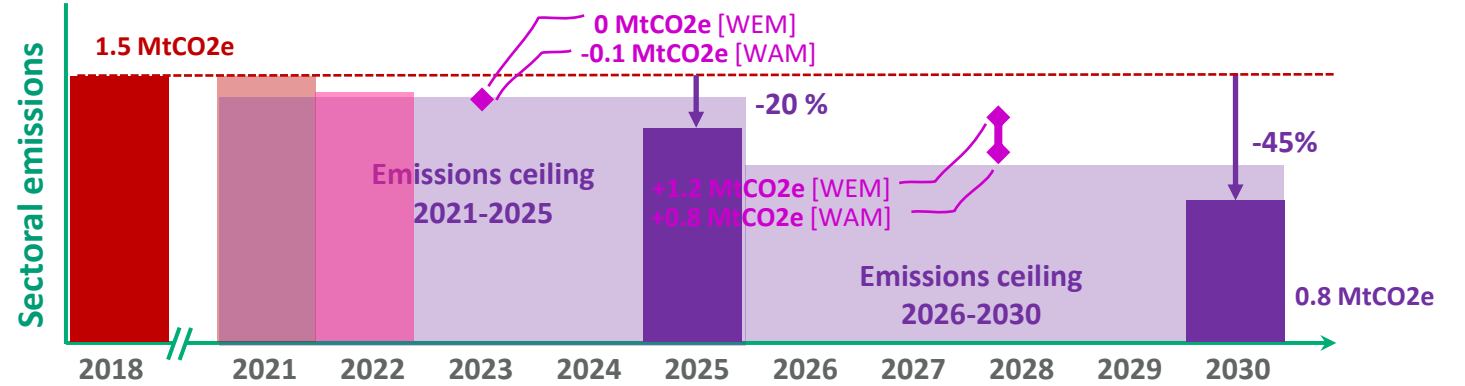
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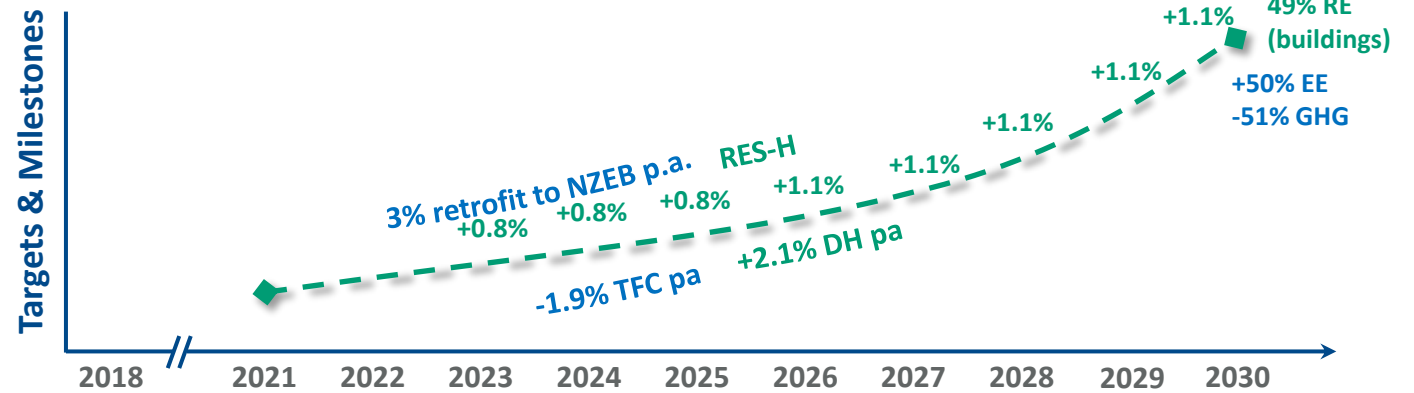


45% emissions reduction by 2030



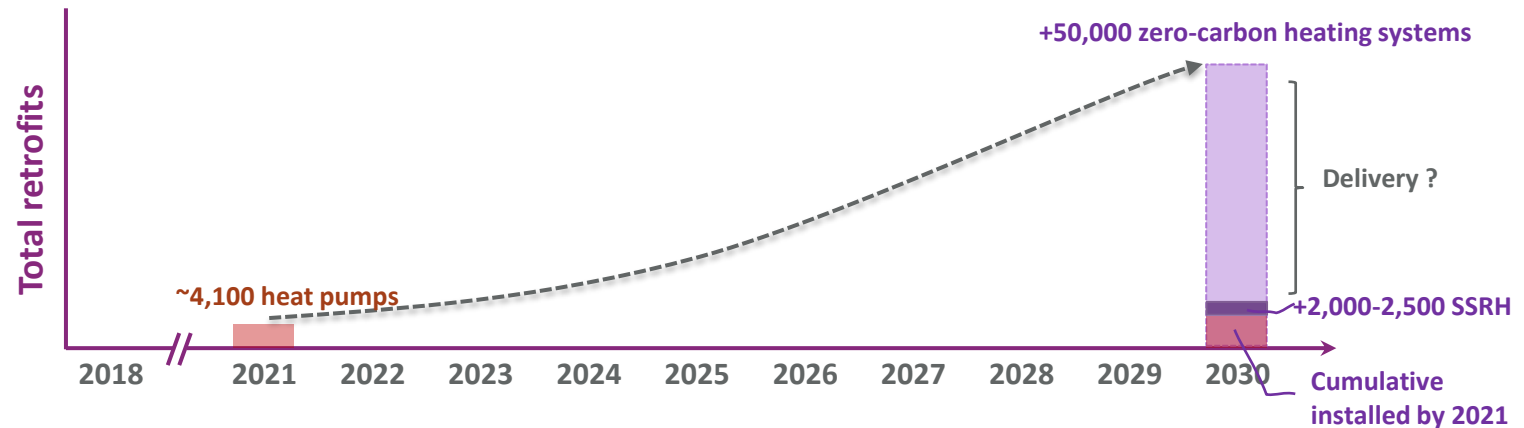
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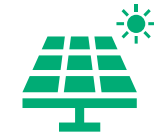


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Buildings – targets & measures



New Residential



NZEB → ZEB

2023

2024

2025

2026

2027

2028

2029

2030

Post 2030



Renovation passports



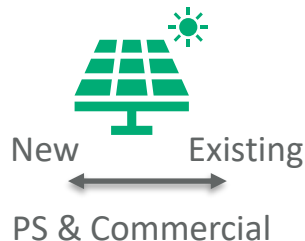
Recalibrate BER



PS NZEB → ZEB



Upgrade bottom 15%



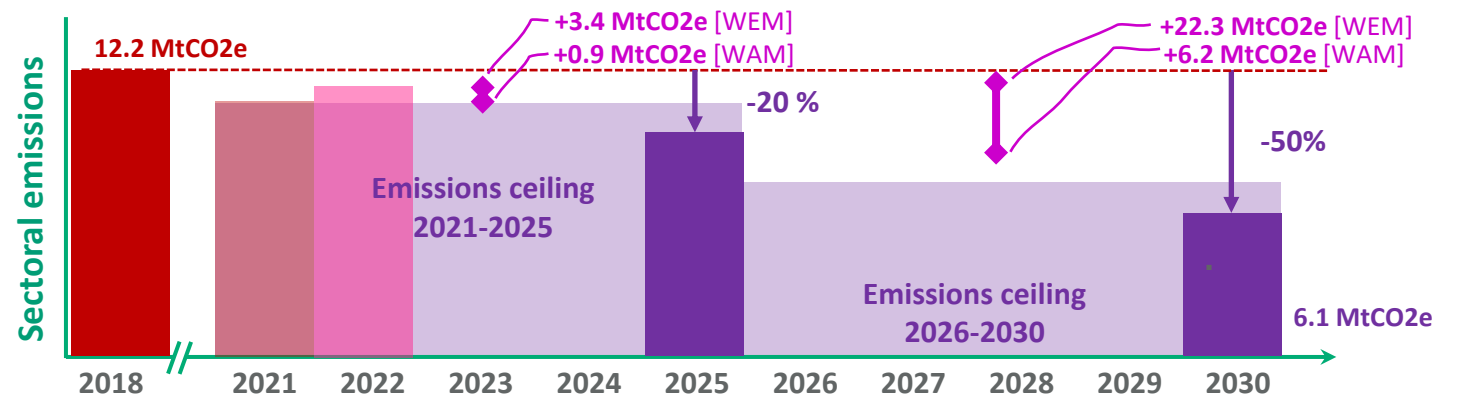
DH: 80 schemes

- 132,000 residential
- 18,000 commercial
- 5,500 public sector

Transport

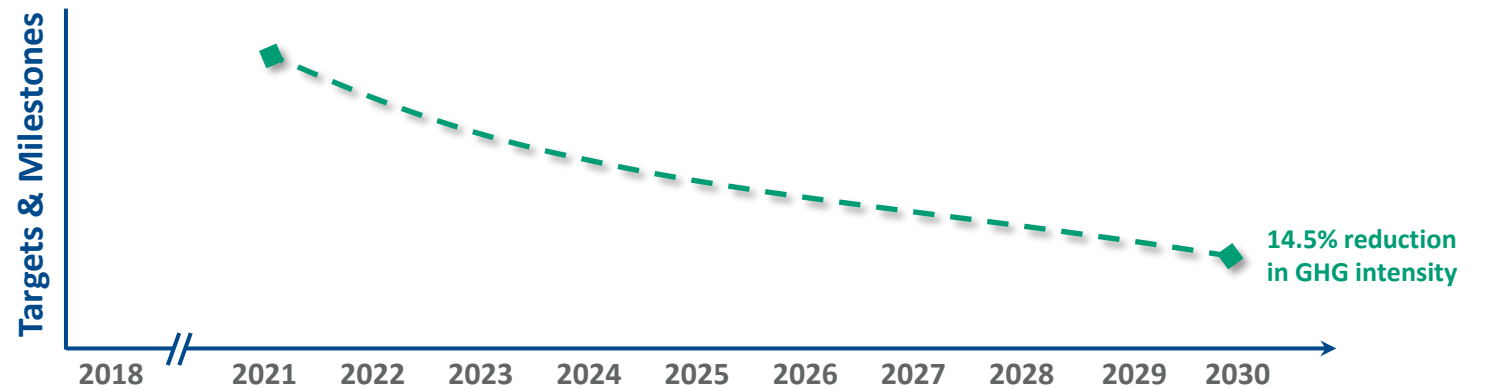


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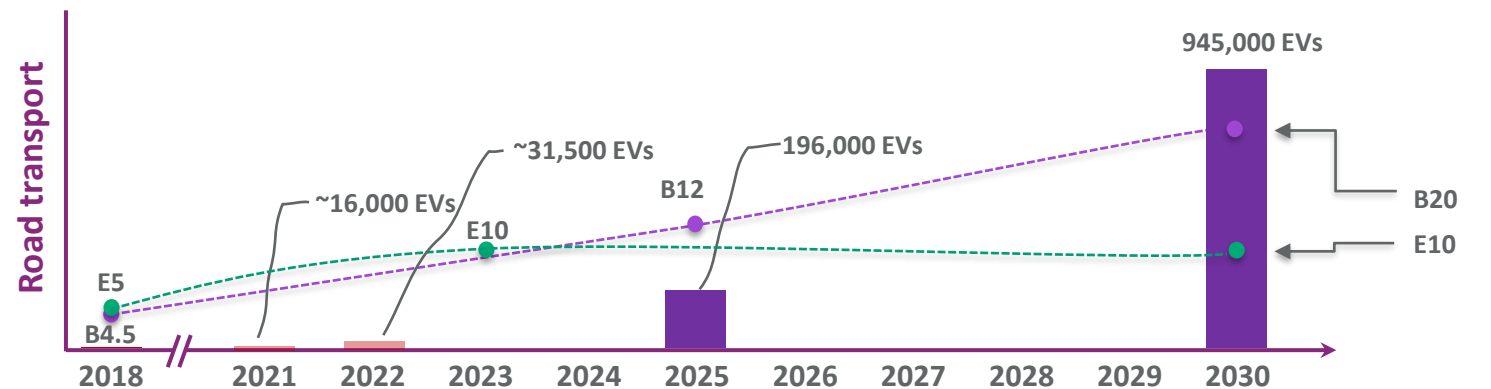
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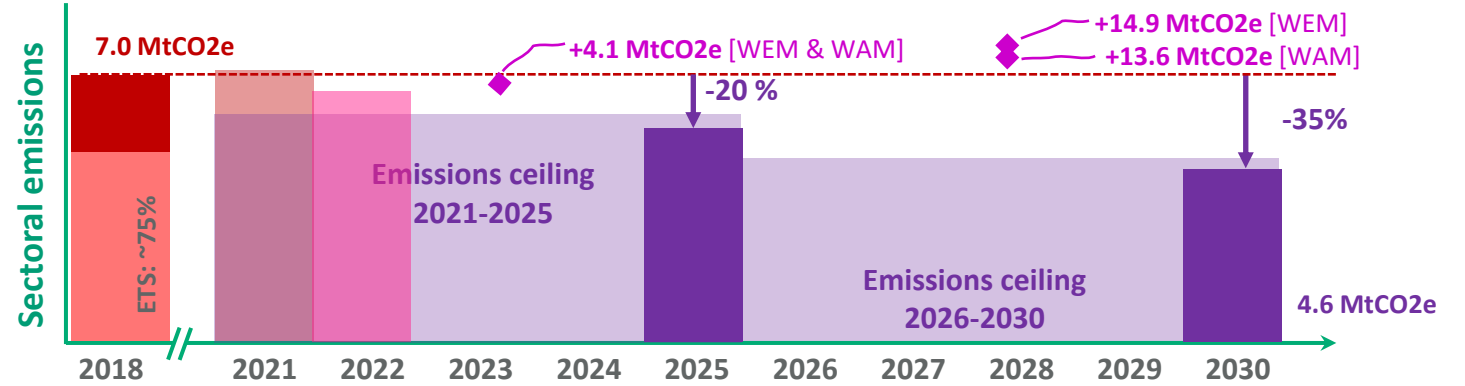
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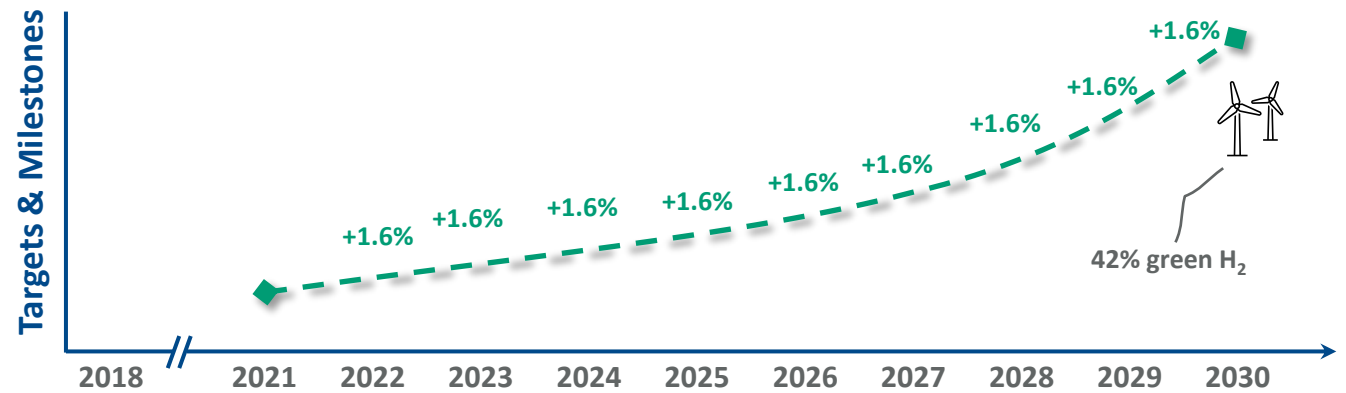


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