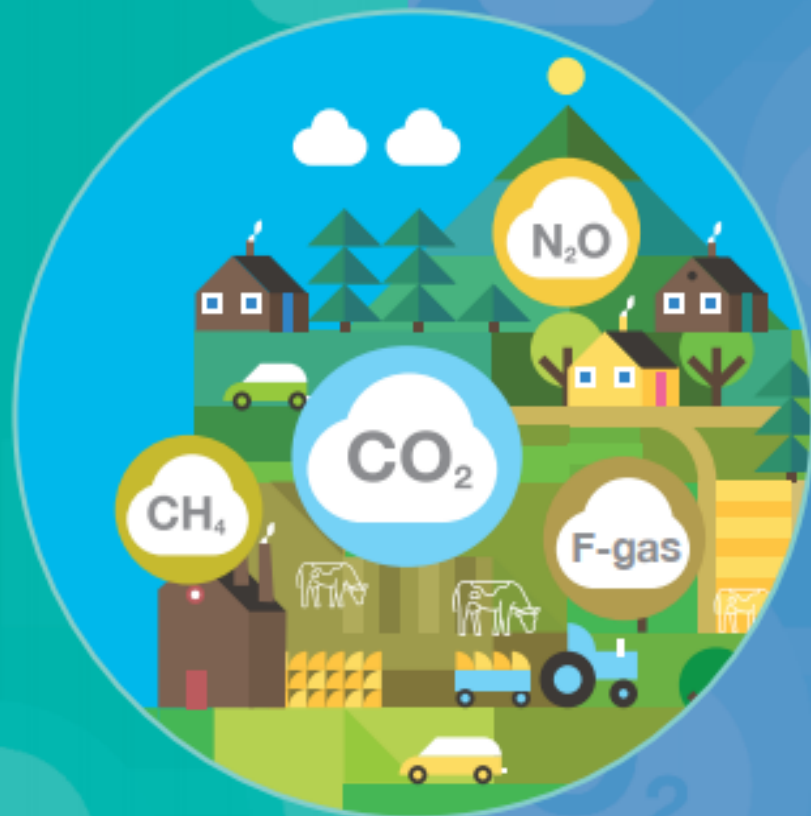


# Input Assumptions for Ireland's Greenhouse Gas Emissions Projections

2023-2050

May 2024



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## 1. Introduction

The Environmental Protection Agency (EPA) is the national body with responsibility to develop, prepare and publish projections of greenhouse gas emissions for Ireland. The EPA produces national greenhouse gas emission projections on an annual basis. The latest EPA Greenhouse Gas Emissions Projections Report provides an assessment of Ireland's total projected greenhouse gas (GHG) emissions from 2023 to 2050.

This document was produced to supplement the above report and provides information on the input assumptions that support the development of the scenarios used to forecast Ireland's emissions 2023-2050.

Two policy scenarios are modelled, using EU recommended harmonised fuel price trajectories, the scenarios are:

- **Projections With Existing Measures (WEM)**
- **Projections With Additional Measures (WAM)**

Both scenarios include a varying carbon tax that increases by €7.50 per annum and reaches €100 per tonne by 2030. Post 2030 the carbon tax remains constant at €100 per tonne to 2050. Both scenarios also include a varying Emissions Trading Scheme (ETS) price that increases annually to €80 per tonne by 2030 and €160 per tonne by 2050. Energy Projections for WEM transport activity are based on projections of private car and goods vehicle activity from The National Transport Authority's (NTA) Reference Case scenario for 2030. Fuel price assumptions are implicit in the NTA Reference Case scenario modelling. For the WAM scenario these projections align with the NTA CAP23 scenario and do not assume any reduction in transport activity due to fuel price changes.

## 2. Input Assumptions

Policy Input Assumptions for each sector are set out in Table 1 below.

The first scenario, **With Existing Measures** (WEM), forecasts Ireland's emissions including all national policies and measures implemented by the end of 2022. Implemented policies and measures such as those in the National Development Plan (NDP), Climate Action Plan 2019 and Climate Action Plan 2021 are included in this scenario. Many Climate Action Plan policies and measures are not in the WEM scenario as they are still considered to be planned rather than implemented.

The **With Additional Measures** (WAM) scenario has a higher level of ambition and includes government policies and measures to reduce emissions such as those in Ireland's Climate Action Plan 2024. This was published in December 2023 and the included policies and measures have not yet moved into implementation phase.

**Table 1: Policy Input Assumptions**

Electricity	With Existing Measures	With Additional Measures (CAP24)												
<b>Coal (Moneypoint)</b>	Assuming Moneypoint shut down by March 2029 with primary fuel switching from coal to HFO by end of 2025, see CRU <i>Security of Electricity Supply – Retention of Moneypoint Units information <a href="#">paper</a></i> .	<p><b>Measure:</b> “Phase out and end the use of coal and peat in electricity generation” No date given.</p> <p><b>Modelling assumptions:</b> = WEM.</p>												
<b>Peat (Edenderry)</b>	Assumed Edenderry ED1 100% biomass 2024-2030 and close thereafter.	<p><b>Measure:</b> “Phase out and end the use of coal and peat in electricity generation” No date given.</p> <p><b>Modelling assumptions:</b> = WEM</p>												
<b>Oil (Heavy Fuel Oil - Tarbert)</b>	All 592 MW capacity shut down by 2023. (Source: EirGrid and SONI, GCS2023-2032).	<p><b>Measure</b> No defined target.</p> <p><b>Modelling assumptions:</b> = WEM</p>												
<b>Oil (Distillate Oil)</b>	All 324 MW capacity assumed to shut down by 2035 due to reaching end of life.	<p><b>Measure</b> No additional defined target.</p> <p><b>Modelling assumptions:</b> = WEM</p>												
<b>RES-E</b>	<p>Assumed trajectories from best estimate of renewables provided by DECC. The RES-E yield achieved in the WEM scenario is 68.9% by 2030 using the following GW best estimates:</p> <table border="1" data-bbox="427 1015 826 1182"> <tbody> <tr> <td>Onshore wind</td> <td>6.8 GW</td> </tr> <tr> <td>Offshore wind</td> <td>2.7 GW</td> </tr> <tr> <td>Solar PV</td> <td>5.6 GW</td> </tr> </tbody> </table>	Onshore wind	6.8 GW	Offshore wind	2.7 GW	Solar PV	5.6 GW	<p><b>Measure</b>  <b>2025 50% RES-E</b> (% of electricity demand from renewable energy)  <b>2030 80% RES E</b> (% of electricity demand from renewable energy).</p> <p><b>Modelling assumptions:</b> The 2030 RES-E target of 80% of electricity demand from renewable energy has been modelled, rather than the GW targets stated in CAP24. The following GW targets were modelled:</p> <table border="1" data-bbox="1225 1161 1684 1329"> <tbody> <tr> <td>Onshore wind (CAP)</td> <td>7.2 GW</td> </tr> <tr> <td>Offshore wind (CAP)</td> <td>3.5 GW</td> </tr> <tr> <td>Solar PV (CAP)</td> <td>6.0 GW</td> </tr> </tbody> </table>	Onshore wind (CAP)	7.2 GW	Offshore wind (CAP)	3.5 GW	Solar PV (CAP)	6.0 GW
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<b>Onshore Wind</b>	<p>Assume best estimate trajectory to 2030 provided by DECC (Measure Assumption based on future RESS auctions and indicative schedule).</p> <p><b>2030</b> 6.8 GW</p>	<p><b>Measure</b>  <b>2025</b> 6 GW  <b>2030</b> 9 GW</p> <p><b>Modelling assumptions:</b>  <b>2025</b> 5.8GW  <b>2030</b> 7.2GW</p>
<b>Solar PV</b>	<p>Assume best estimate trajectory provided by DECC for annual delivery of utility-scale solar PV between now and 2030, plus rooftop PV.</p> <p><b>2030</b> 5.6 GW</p>	<p><b>Measure</b>  <b>2025</b> up to 5GW  <b>2030</b> 8GW.</p> <p><b>Modelling assumptions</b>  <b>2025</b> 2.2 GW  <b>2030</b> 6.0 GW</p>
<b>Offshore Wind</b>	<p>Assume best estimate trajectory provided by DECC.  Assume best estimate trajectory provided by DECC for annual delivery of utility-scale VRES between now and 2030, with some assumed delay in delivery.</p> <p><b>2030</b> 2.7 GW</p>	<p><b>Measure</b>  <b>2025</b> -no target  <b>2030</b> "at least" 5 GW  Plus <b>2 GW</b> for green hydrogen post- 2030</p> <p><b>Modelling assumptions</b>  <b>2025</b> 0.03 GW  <b>2030</b> 3.5 GW</p>
<b>Gas fired generation</b>	<p>1.3 GW of net gas capacity added (1.4 GW new – 0.09 GW gas plant closures).  Source: EirGrid and SONI, GCS2023-2032.</p>	<p><b>Measure</b>  At least 2GW new Flexible gas fired generation by 2030</p> <p><b>Modelling assumptions</b>  = WEM</p>
<b>Other</b>	<p>Interconnection in-service dates: Greenlink (01/01/2025) 500MW; North-South (01/01/2027) 400 MW to end of 2025, increasing to 1350 MW from 2026; Celtic (01/01/2027) 700MW.</p> <p>Demand Side Unit: 745 MW as per GCS23</p> <p>Energy Storage: 1 GW with fleet weighted-average duration of 1.7 hours by 2030, as per GCS23.</p> <p>No ocean energy until after 2030.</p>	<p><b>Measure</b>  <b>2025:</b>  Max level of renewables on the grid at any one time: 85%  Ensure that 15-20% of electricity demand is flexible  <b>2030:</b>  Max level of renewables on the grid at any one time 95-100%.  Dispatch down &lt;7%  Storage 4 hrs plus  Increasing to flexible demand 20-30% by 2030 to reduce peak demand and move to times of high renewable output.</p>

	No growth in biomass CHP, hydro, waste to energy	<p><b>Modelling assumptions</b>  Interconnection in-service dates: As per WEM, with addition of LirIC and MARES from 2031.  Demand Side Unit: As per WEM  Energy Storage: 1.8 GW by 2030 with 3.3-hour fleet average. 400 MW 8-h included by 2030 as proxy for successful LDES scheme  Biomass CHP, hydro, waste to energy: as per WEM</p>
<b>Zero-carbon Gas</b>	<p>Hydrogen: 0 TWh No assumption meeting WEM criteria.</p> <p>Biomethane: 0 TWh (No assumption meeting WEM criteria.</p>	<p><b>Measure</b>  <b>Hydrogen:</b>  <b>2030:</b> Green hydrogen production from renewable electricity surplus  <b>Post-2030:</b> 2 GW of Offshore wind to produce green hydrogen</p> <p><b>Biomethane:</b>  <b>2025:</b> Up to 0.6 TWh of heating provided by biomethane  <b>2030:</b> Up to 5.7 TWh biomethane production.</p> <p><b>Modelling assumptions</b>  2 GW for Green hydrogen post-2030 not modelled.  5.7 TWh biomethane production by 2030</p>
<b>Large Energy Users (Data centres)</b>	Eirgrid median data centre demand scenario from 10-year median forecast (EirGrid's best estimate) taken for both WEM and WAM, with data extrapolated for remaining projections horizon. 2030 range: from 7.2 (Low) to 10.4 (Median) to 14 (High) TWh.	<p><b>Measure</b>  CAP23: "growth from large energy users, such as data centres, will have to be moderated to protect security of supply and ensure consistency with the carbon budget programme"</p> <p><b>Modelling assumptions</b>  = WEM</p>

Transport	With Existing Measures	With Additional Measures (CAP24)								
<p>Energy Projections for transport activity are based on projections of private car and goods vehicle activity from the National Transport Authority (NTA). This ensures broad alignment between the EPA Projections of transport energy use and Department of Transport projections of transport activity and the impact of demand reduction measures. The NTA projections were carried out on behalf of the Department of Transport to demonstrate a pathway to meeting the 2023 Climate Action Plan (CAP23) targets for the sector. NTA modelling was not updated for CAP24.</p>										
<b>Biofuels</b>	<p><b>Measure</b></p> <table border="1" data-bbox="432 451 954 515"> <thead> <tr> <th>2025</th> <th>2030</th> </tr> </thead> <tbody> <tr> <td>E10, B12</td> <td>E10, B12</td> </tr> </tbody> </table> <p><b>Modelling assumptions</b> Based on 2021 Policy statement, assume increase to E10 and B12 by 2025 and remaining at these levels to 2030, flat thereafter.</p>	2025	2030	E10, B12	E10, B12	<p><b>Measure</b></p> <table border="1" data-bbox="1223 451 1744 515"> <thead> <tr> <th>2025</th> <th>2030</th> </tr> </thead> <tbody> <tr> <td>E10, B12</td> <td>E10, B20</td> </tr> </tbody> </table> <p><b>Modelling assumptions</b> Based on 2021 Policy statement, assume increase to E10 and B12 by 2025. Then increasing to CAP24 targets post 2025: Further increase to E10 and B20 by 2030, flat thereafter.</p>	2025	2030	E10, B12	E10, B20
2025	2030									
E10, B12	E10, B12									
2025	2030									
E10, B12	E10, B20									
<b>Electric Vehicles</b>	<p>Electric Vehicles increase to the following levels:</p> <p><b>2030:</b> <b>Private Fleet:</b> Private Car BEV 430,296 Private Car PHEV 263,023 <b>Private Car Total</b> 693,319 (29% of total car stock)</p> <p><b>Commercial fleet:</b> LGV BEVs: 23,750 LGV PHEVs: 23,750 HGV BEVs: 1,750</p> <p><b>Total EV's:</b> 742,569</p>	<p><b>Modelling Assumptions</b></p> <p><b>2030:</b> <b>Private Fleet:</b> Private Car BEV 573,775 Private Car PHEV 271,381 <b>Private Car Total</b> 845,156 (35% of total car stock)</p> <p><b>Commercial fleet:</b> LGV BEV 71,250 LGV PHEV 23,750 HGV BEV 3,500</p> <p><b>Public Transport:</b> Electric Buses 1,344</p> <p><b>Total EV's:</b> 945,000</p>								
<b>'Avoid' (Reduction in ICE Vkm) &amp; 'Shift' (behavioural and sustainable transport)</b>	<p><b>Modelling Assumption</b> Activity of private cars and goods vehicles based on the NTA's REF case scenario. The WEM scenario does not include the impact of the basket of demand reduction measures that the NTA modelled to illustrate a pathway to achieving the 20% reduction in road-transport activity targeted in CAP23.</p>	<p><b>Measures</b></p> <p><b>2030 'Avoid' measures:</b> 20% reduction in total vehicle kms; 20% reduction in total car kms; 20% reduction in commuting car kms;</p>								

		<p>50 % reduction in fuel usage.</p> <p>To be achieved by 'shift' (behavioural and sustainable transport measures):</p> <ul style="list-style-type: none"> <li>• 50% increase in daily active travel journeys</li> <li>• 130% increase in daily public transport journeys.</li> <li>• 25% reduction in daily car journeys.</li> <li>• Shift in Daily Mode Share 2018: 72% (car), 8% (PT), 20% (AT) 2030: 53% (car), 19% (PT), 28% (AT)</li> <li>• 30% shift of all E-to-E car journeys to sustainable modes</li> </ul> <p><b>Modelling assumption:</b> Activity of private cars and goods vehicles based on the NTA's REF case scenario plus the impacts of the basket of demand reduction measures that the NTA modelled to illustrate a pathway to achieving the 20% reduction in road-transport activity targeted in CAP23 (with the exception of fuel price increase).</p>
<b>Alternative Fuel Vehicles</b>	150 CNG vehicles by 2030 from the National Policy Framework.	<p><b>Measures</b></p> <p><b>Modelling assumption</b> WEM Plus: 100% of CNG assumed to be from Biomethane i.e. direct use of AD biomethane assumed.</p>
<b>Energy Efficiency in Transport</b>	<p><b>Modelling assumption:</b> Real world data has shown that improvements in technical energy efficiency of ICE vehicles have largely been cancelled out by a shift to larger and heavier vehicles over the past 10 years. Based on this observation we have not assumed any improvement in ICE engine efficiency, apart from the effects of switching to more efficient PHEV and BEV vehicles.</p>	<p><b>Measures</b> As for WEM</p>

<b>Manufacturing, Built</b>	<b>With Existing Measures</b>	<b>With Additional Measures (CAP24)</b>
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<b>Environment and Public Sector</b>		
<b>Support Scheme for Renewable Heat (SSRH – Business Grant)</b>	<p>Current SSRH tariffs to be simulated to 2034 (modelling supports to newcomers until 2034)  Scheme extended to Large Energy Users (&gt; 1 MW) and ETS archetypes from 2025.</p>	<p><b>Measures</b>  Overall target is 70-75% share in renewable heating.</p> <p><b>Modelling assumption</b>  Current SSRH tariffs simulated to 2050 (modelling supports to newcomers until 2050)  Scheme extended to ETS archetypes from 2025  Scheme extended to Large Energy Users (&gt; 1 MW) and ETS archetypes from 2025.</p>
<b>District Heating</b>	<p>Based on expected completion of schemes currently under development. Flat thereafter.</p> <p>Tallaght:  Scheme already operating and looking to expand.  Based on discussions with CODEMA, assume:  Assume 4.5 GWh delivered in 2022, increasing to 10.0 GWh by end 2026, 30.0 GWh by 2030.</p> <p>Dublin City:  Scheme hitting delays but looking to complete by 2030.  Assume linear increase from 0 GWh in 2025 to 45 GWh in 2030 and 106 GWh by 2040.</p> <p>75 GWh total 2030 District Heat (or 0.075 TWh).</p>	<p><b>Measure</b>  <b>2025:</b> Up to 0.8 TWh of district heating installed capacity (Residential 0.7 and Commercial/Public Services 0.1).   <b>2030:</b> Up to 2.7 TWh District Heating (2.5 Residential/0.2 Commercial)</p> <p><b>Modelling assumption</b>  Assume WEM trajectory followed to 2025  This equates to 8.5 GWh heat delivered (0.0085 TWh).</p> <p><b>2030 Services 1.5 TWh</b>  <b>2030 Residential 1.2 TWh</b>  <b>Total: 2.7 TWh</b></p> <p>(The total district heating target yields a more even split between Residential and Commercial/Public Services, rather than the Residential-heavy emphasis in CAP24).</p>
<b>Domestic heat pumps</b>	<p>February 2022 grant rates for domestic heat pumps modelled until 2030.  Assumption that there will be no new oil boilers (from 2022) and gas boilers (from 2025) in new dwellings.</p>	<p><b>Measure:</b>  <b>2025:</b>  45,000 heat pumps in existing homes  170,000 heat pumps in new builds.</p> <p><b>2030:</b>  400,000 heat pumps in existing homes  280,000 heat pumps in new builds.</p> <p><b>Modelling assumption:</b></p>



		Assumption that there will be no new oil boilers (from 2022) and gas boilers (from 2025) in new dwellings.
<b>Biomethane</b>	No measures as evidence of implementation meeting requirements for WEM.	<p><b>Measure:</b>  <b>2025</b>  Ag-based supply chain where target is 'up to' 1 TWh biomethane production  <b>2030</b>  Ag-based supply chain where target is 'up to' 5.7 TWh biomethane production</p> <p><b>Modelling Assumption</b>  Assume 5.7 TWh of Biomethane delivered in 2030 as per CAP24 target.  Assume that all gas used in road transport is biomethane. (This is a very small amount by 2030)  Assume that remaining biomethane use is split between Industry, Commercial Services and Public Services sectors, based on the ratio of their natural gas use.</p>
<b>Residential energy efficiency programmes</b>	February 2022 grant rates modelled until 2030.	<p><b>Measure:</b>  <b>2025:</b>  Equivalent of 120,000 dwellings retrofitted to BER B2 'or cost optimal equivalent'  <b>2030</b>  Reaching 500,000 dwellings</p> <p><b>Modelling assumption</b>  Cost optimal equivalent savings achieved.</p>
<b>Public sector energy efficiency programmes</b>	Current levels of Community Energy and EXEED grants assumed to continue until 2030. Mandatory energy audits for large organisations.	<p><b>Measure</b>  As per WEM and  See District Heating measure  See Heat Pump Measure  See Biomethane Measure  See Carbon-Neutral Heating measure</p>
<b>Commercial sector energy efficiency programmes</b>	Current levels of Community Energy and EXEED grants until 2030. Mandatory energy audits for large organisations.	<p><b>Measure</b>  See Biomethane Measure  See Carbon-Neutral Heating measure</p> <p><b>Modelling Assumption:</b>  Current levels of Community Energy and EXEED grants until 2033 (i.e. the year before the effective ban on new fossil fuel boilers in existing buildings is assumed to come into force). See CAP24 Section 14.4.2.2</p>

		Mandatory energy audits for large organisations (see and Legislation <a href="https://www.seai.ie/business-and-public-sector/energy-auditing/">https://www.seai.ie/business-and-public-sector/energy-auditing/</a> )
<b>Energy Efficiency Obligation Scheme (EEOS)</b>	Assume 2021 level of savings (that are uniquely attributable to EEOS) continues until 2030.	<b>Modelling Assumption</b> Assume 60% of Article 8 target will be met through EEOS. (See CAP21 Section 14.2.8 EEOS)
<b>Building Regulations (Res and Commercial)</b>	All new buildings are NZEB	<b>Measure</b> All new buildings NZEB by 2025. All new buildings ZEB by 2030. (ZEB =new standard which does not cause any on-site carbon emissions from fossil fuels).  <b>Modelling Assumption</b> As per CAP24
<b>Decrease embodied carbon in construction materials</b>	Not in WEM	<b>Measure</b> 2025: Decrease by 10% for materials produced and used in Ireland 2030: Decrease by 30% for materials produced and used in Ireland  <b>Modelling Assumption</b> Not modelled
<b>Accelerate uptake of carbon neutral heating in industry</b>	Not modelled explicitly - the growth in RES-H is an outcome of the model depending on demand growth and the assumptions on individual renewable heat sources.	<b>Measure</b> <b>2025:</b> 50-55% share in carbon neutral heating <b>2030</b> 70-75% share of carbon neutral heating in total fuel demand made up of:  <b>Modelling Assumption</b> Uptake of renewable heating technologies based on SEAI's uptake modelling rather than hard-coding the targets until there is a direct measure to apply in input assumptions. In the High-WAM scenario, the share of low carbon energy in industry (electricity + renewables, including biomethane) is 67%.
<b>Construction Materials and CCS</b>	Not in WEM	<b>Measure</b> <b>2025:</b> Decrease by 10% for materials produced and used in Ireland. Products substitution and reduction of clinker content in cement. <b>2030</b>

		<p>Decrease by at least 30% for materials produced and used in Ireland. Products substitution and reduction of clinker content in cement.</p> <p><b>Modelling Assumption</b> Not modelled in WAM.</p>
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<b>Industrial Processes</b>	<b>With Existing Measures</b>	<b>With Additional Measures (CAP24)</b>
<b>Cement Industry</b>	Process Emissions from clinker production based on an Industry-provided cement growth rate of 1.4% per annum with a cap of 4.7MT cement per annum (max capacity). 4.7MT cement is reached by 2035 and flatlined thereafter.	As per WEM

<b>Waste</b>	<b>With Existing Measures</b>	<b>With Additional Measures (CAP24)</b>
<b>Waste</b>	Based on projected reduction of waste going to landfill and the age of existing waste in landfill.	As per WEM

Agriculture	WEM	WAM measures from - AgClimatise, Nitrates Action Plan, Teagasc MACC, CAP21, CAP23, CAP24
<b>Projected activity data</b>	Activity data (animal numbers, crop areas and fertiliser use) projected from Teagasc Base Case Scenario.	As per WEM
<b>Low Emission Slurry Spreading - Bovines</b>	Nitrous oxide savings from Ammonia abatement measures: Target of 60% of all slurry spread by low emissions slurry spreading by 2022; 80% by 2025; and 90% by 2027.	Nitrous oxide savings from Ammonia abatement measures: Target of 60% of all slurry spread by low emissions slurry spreading by 2022; 80% by 2025; and 90% by 2027.
<b>Low Emission Slurry Spreading – Pigs</b>	100% use of low emission slurry spreading after 31/12/2022 as per Nitrates Action Plan	As per WEM.
<b>Reduction in Crude protein for Dairy cows</b>	Not in WEM (target achieved)	Further 1% reduction in the crude protein content of Dairy cow concentrates during grazing season. (NAPCP)
<b>Increased Liming for mineral soils</b>	Reduced N fertiliser use due to improved nutrient use efficiency from liming (target liming usage of 2 Mt per annum). Increase in direct CO <sub>2</sub> emissions from lime application to soils	As per WEM.
<b>Reduction in Crude protein of pig feed</b>	Not in WEM	Reduced crude protein in finishing pig diets as per Teagasc GHG MACC and AgClimatise.
<b>Manure management measures</b>	Not in WEM	Manure additives to reduce NH <sub>3</sub> (and thus indirect N <sub>2</sub> O) and CH <sub>4</sub> emissions. Covering of uncovered manure stores as per AgClimatise for both cattle and pigs. Drying of poultry manure.  Miscellaneous measures including roll of methane reducing slurry additive
<b>Fertiliser use measures</b>	Not in WEM	Reduce fertiliser nitrogen use to 330,000 t by 2025 and 300,000 t by 2030.
<b>Increased adoption protected urea</b>	Not in WEM	80-90% uptake of protected urea on grassland farms by 2025 and 90-100% uptake by 2030. Includes increased direct emissions of CO <sub>2</sub> from urea application to soils.
<b>Earlier finishing of Beef Cattle (26 to 22-23 months)</b>	Not in WEM	Target 24-25 months by 2025 and 22-23 months by 2030.
<b>Reduced age at first calving of suckler beef cows</b>	Not in WEM	Reduce age of first calving by 2 months by 2025 and 3.9 months by 2030.
<b>Dairy economic breeding index improvements</b>	Not in WEM	Continuation of trend in Economic Breeding Index (EBI) by €10 per annum leading to decreased CH <sub>4</sub> emissions.  Improved animal breeding by focusing on low methane traits
<b>Use of Methane</b>	Not in WEM	Initial focus on winter milk systems fed total mixed rations, progressing to

<b>inhibitors</b>		spring calving cohort of herd and in later years development of a slow-release bolus. Addition of a slow-release bolus pasture-based feed additive.
<b>Limit Straight Urea sales</b>	Not in WEM	Limit sales of straight Urea to 20,000 t per annum from 2025 on.
<b>Increased slurry application on tillage land</b>	Not in WEM	14% of available manures applied on 112 kha of cropland" this is pathway 2 from MACC 23.
<b>Cover crops on cropland</b>	Not in WEM	75kha of spring crops had cover crops applied.
<b>Water table management of organic soil grasslands</b>	Not in WEM	Water Table Management (Peat soils) Pathway 2 80kha of water table manipulation
<b>Diversification</b>	Not in WEM	Not in WAM

<b>LULUCF</b>	<b>WEM</b>	<b>WAM measures (MACC 2023 Pathway 2 plus wetland rewetting)</b>
<b>Forestry</b>	Afforestation rates of 2000 ha/year	Afforestation rates of 8,000ha/year for 2026-2030 Prevent deforestation on 495 kha Afforestation: 2 kha agroforestry Extended rotation on 31% of managed forests
<b>Cropland</b>	Not in WEM	75k ha of cover crops planted. 85k ha of cereal area to incorporate straw directly into soil. Increased manure application to cropland – 112 kha
<b>Grasslands</b>	Not in WEM	Optimal management of 750 kha grassland on mineral soils 80k ha of grasslands on drained organic soils with reduced management intensity/water table management.
<b>Wetlands</b>	33.5 kha of peatlands rehabilitated as part of Bord na Móna EDRRS and LIFE People and Peatlands.	35.9 kha of peatlands rehabilitated as part of Bord na Móna EDRRS and LIFE People and Peatlands. Additional 30 kha exploited peat rewetted.

### 3. Policy Input Assumptions not included in the WAM Scenario

#### Electricity

##### Policies and Measures up to 2030

- The target of 80% share from renewable electricity by 2030 is projected. In the models, this equates to onshore wind of 7.2 GW, offshore wind of 3.5 GW and 6 GW of solar PV by 2030. This compares with 9 GW onshore wind, 5 GW offshore wind and 8 GW of solar PV from CAP 2024.
- The full 2 GW target for new flexible gas fired generation is not modelled. However, Eirgrid data was used to produce an adjusted trajectory yielding new gas fired generation of 1.4 GW by 2030.

##### Policies and Measures post-2030

- 2 GW offshore wind for green hydrogen use in industry post-2030 (as outlined in Chapter 12 of the Climate Action Plan 2024) is not currently included.

#### Transport

##### Policies and Measures up to 2030

- Climate Action Plan 2023 introduced an Avoid/Shift policy to achieve an abatement of 2.09 Mt CO<sub>2</sub> eq by 2030. This policy remains in Climate Action Plan 2024 and encompasses a range of behavioural change and sustainable transport measures that were modelled by the National Transport Authority. One of these modelled measures relating to price increases in petrol and diesel out to 2030 has no supporting policy and is not included in the EPA projections.

#### Enterprise, Built Environment and Public Sector

##### Policies and Measures up to 2030

- Measures aimed at achieving emissions savings from a decrease in embodied carbon in construction materials (1.0 Mt CO<sub>2</sub> abatement by 2030) are not currently modelled.
- The Climate Action Plan 2024 target of a 70-75% share in renewable heat in industry has no pathway to implementation outlined in the Plan and is not specifically modelled.

##### Policies and Measures post-2030

- Post-2030 Emissions reductions associated with Carbon Capture and Storage.

#### Agriculture

##### Measures up to 2030

- Diversification measures in Agriculture with savings by 2030 of 1.5 Mt CO<sub>2</sub> eq. Further information is needed to model an implementation pathway for these measures as they imply a reduction in herd numbers which impacts quantification of all of the other proposed measures.

## Overall

- Climate Action Plan 2023 identified unallocated emissions savings of 26.25 Mt CO<sub>2</sub> eq in the second carbon budget period from 2026 to 2030. These savings are not modelled in these projections. It is noted that the Climate Action Plan 2024 addresses the issue of unallocated emissions savings and identifies five themes that could deliver savings.
- Further Measures post-2030 detailed in the electricity, industry, built environment, transport and agriculture sectors where no specific measures or emissions savings have been identified are not modelled. These savings combined are estimated to provide a conservative additional abatement of 8.75 Mt CO<sub>2</sub> eq in 2030, based on the modelling used to prepare the Climate Action Plan 2024.