



Ireland's Climate Action Plan 2023

A summary and what it means for citizens, communities and enterprise

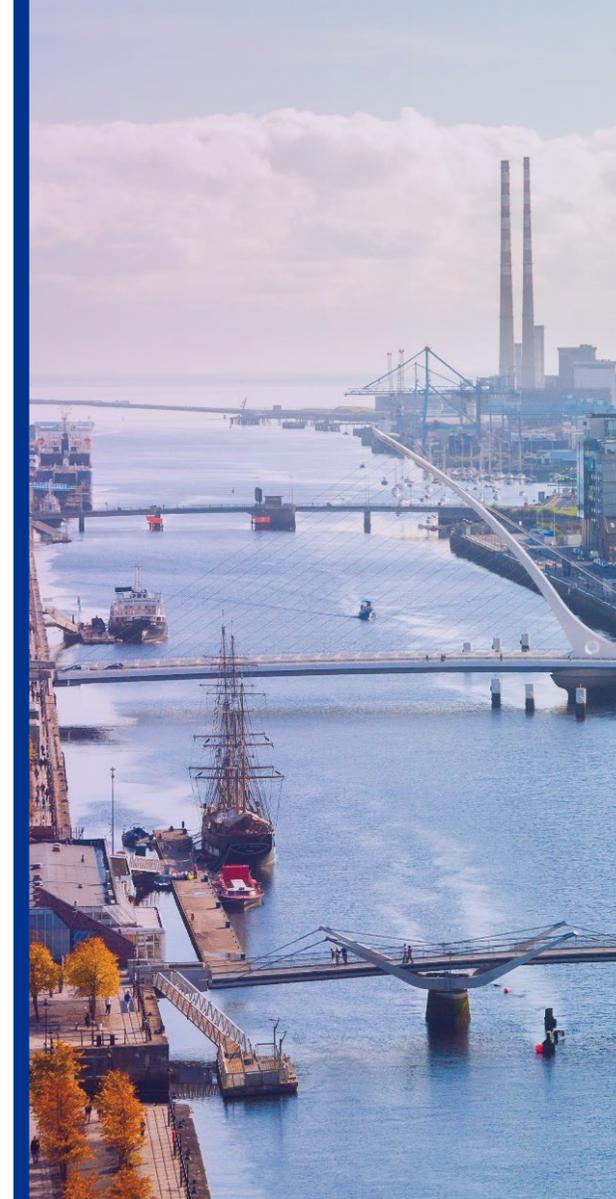
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#TalkToAction

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01. Executive Summary

Climate Action Plan 2023 (CAP 23) is the first updated plan to be published since the introduction of the Climate Action and Low Carbon Development (Amendment) Act 2021. CAP 23 aims to keep Ireland's emissions within its mandatory carbon budget and achieve the legally binding target of reducing emissions by 51% (from a 2018 baseline) by 2030. Preliminary analysis suggests that this will require c€120bn in investment between 2022 and 2030.

CAP 23 sets out a substantial increase in ambition, incorporating the carbon budgets and sectoral emission ceilings which put Ireland on a trajectory to net zero emissions by 2050, if achieved. However, according to Ireland's Climate Change Advisory Council, CAP 23 still doesn't deliver all the emission savings required between now and 2030.

With delivery of actions from Climate Action Plan 2021 often being delayed and Ireland's history of missed renewable energy and climate targets, it is crucial that the focus shifts in 2023 from talk to action.

This report summarises the CAP 23 and provides our perspective on the scale of the challenge. It is broken down into ten key sections from CAP 23 and is the second guide prepared by KPMG, which will be updated annually alongside the Climate Action Plans.



Patrick Farrell
Partner
Head of ESG Consulting



CAP 23 outlines ambitious plans for both private and public sectors. The scale of change means that organisations need to act now if we are to meet our climate obligations.

Although Ireland has committed to reducing emissions 51% by 2030, energy related emissions were up by over 5% in 2021 with provisional 2022 data showing another c. 5% increase. CAP 23 is aiming to reverse these increases and put Ireland back on a trajectory to its 2030 goals.



Russell Smyth
Partner
Head of KPMG Sustainable Futures



02.

Highlights by Sector

Sector Summaries

Electricity 14.4% of current emissions*	Built Environment 12.3% of current emissions	Agriculture 33.3% of current emissions	Industry 10.2% of current emissions	Transport 15.7% of current emissions	Land Use, Land Use Change, Forestry 11.2% of current emissions
75% Reduction in emissions by 2030	45% Commercial/Public 40% Residential Reduction in emissions by 2030	25% Reduction in emissions by 2030	35% Reduction in emissions by 2030	50% Reduction in emissions by 2030	Exact reduction target for this sector still to be set
<ul style="list-style-type: none"> Develop a total of 9 Gigawatts (GW) and 7 GW of onshore and offshore wind generation capacity respectively, with solar PV providing 8 GW. Increase flexibility of electricity supply-demand through a range of initiatives. Ensure that renewable energy generation projects and associated infrastructure are considered to be in the overriding public interest. 	<ul style="list-style-type: none"> Reduce building emissions through the ambitious national retrofit plan supported by SEAI grants. Install heat pumps at scale in buildings and district heating in communities. Eliminate fossil fuels in building heating through use of renewable gases. 	<ul style="list-style-type: none"> Support existing and implement new incentives for livestock farmers to diversify into tillage, organics, forestry and biomethane production. Reduce chemical Nitrogen usage through increased uptake of protected urea and fertiliser spreading technology. Utilise biomethane produced on farms to increase supply of renewable gas into the gas grid. 	<ul style="list-style-type: none"> Decouple fossil fuels and economic progress by electrifying manufacturing processes, using low carbon substitutions for construction materials, and utilising zero emission gas. Expand and enhance supports and grants offered by SEAI and Enterprise Agencies for emission reduction measures. 	<ul style="list-style-type: none"> Transform the transport system to reduce reliance on car use and meet emissions targets. Increase proportion of walking, cycling and public transport journeys to account for 50% of journeys by 2030. Achieve target of 30% of private car fleet switched to electric by 2030. 	<ul style="list-style-type: none"> Increase Ireland's afforestation rate, from 2k hectares to 8k hectares per annum. Enhance the store of carbon across all land types through reduced management intensity and peatland restoration. Grassland contributed 7.57 Mt CO2 eq. in 2021 making it the largest emitted of all land types, while forests and wood products net removed 2.04Mt CO2 eq.

The Public Sector
1% of current emissions

- Target a 51% reduction in GHG emissions from the public sector by 2030.
- Increase energy efficiency in the sector from the 33% target in 2020 to 50% by 2030.
- Procure only zero emission vehicles from Jan 1st 2023 onwards in the Public Sector, and use low carbon construction methods and materials for directly procured construction projects by 2030.

Marine Environment

- Achieve 30% Marine Protected Area coverage by 2030 through regulating Ireland's Maritime Area under the Maritime Area Planning Act 2021
- Continue to designate and manage more Marine Protected Areas.
- Find a balance between offshore renewable energy development and marine biodiversity.

Circular Economy
2.8% of current emissions

- Drive single-use cup levies, moving toward a total ban as part of the Whole-of-Government Circular Economy Strategy.
- Roll out of deposit and return scheme for plastic and aluminium beverage containers.
- Develop Roadmap for the prevention of food waste.

Carbon Pricing and Cross-cutting Policies

- Continue successive carbon tax increases until the carbon tax rate reaches €100/tonne by 2030.
- Support private finance and EIB investment in climate projects.

*Other: Circular Economy (2.8%) and The Public Sector (1.0%). Sectoral emission reduction targets do not account for 26m tonnes of CO2e which are expected to be reduced through emerging technology / other means by 2030.

Highlights by Sector | Electricity

OUR PERSPECTIVE

Ireland's renewable electricity sector has been one of the success stories, with renewable generation now accounting for c.42% of Ireland's annual electricity production. However, despite this success, emissions still haven't fallen quickly enough to keep the electricity sector in line with its agreed carbon budget.

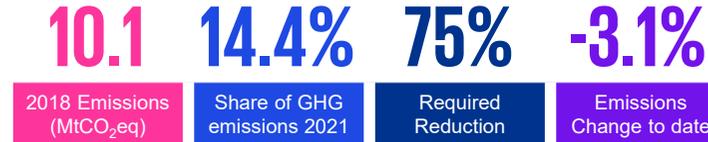
Over the next seven years, Ireland is looking to deploy over four times more renewable generation capacity than was installed over the past 25 years. This level of ambition is required to keep Ireland within its carbon budget, while accommodating growth in electrical demand from the proposed electrification of heat and transport. While the electricity sector's target of 80% renewable electricity by 2030 is world-leading, it is a necessity.

While the rollout of renewable generation has generally been successful, we are seeing increasing challenges in delivering new, incremental generation capacity and grid infrastructure. With the required natural resources available in abundance, many vital issues could be resolved by appropriate resourcing in grid and planning sectors.

Increased flexibility will be essential during Ireland's transition to a renewable electricity grid. The development of dynamic tariffs to incentivise consumers to move their demand to times of high renewable penetration will reduce the strain on the network at peak times and the level of investment required in local grid upgrades.

While counter-intuitive to the decarbonisation agenda, the development of 2 GW of new flexible gas generation will provide essential stability and security to the grid during times of low variable renewable output. While this infrastructure is non-renewable, we must be prepared to invest in necessary infrastructure in the short and medium term to decarbonise in the long-term.

Key Metrics



Key changes from CAP 21 to CAP 23:



4x Increase in solar PV capacity target



Policies to incentivise flexible electricity demand



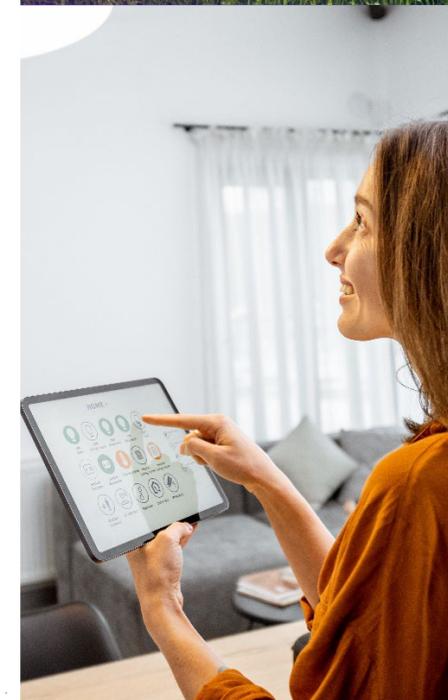
+1 GW Increase in onshore wind energy target



Colm O'Neill, Partner
Head of Energy, Utilities & Telecoms
KPMG Ireland



Over the next seven years, Ireland is looking to deploy over four times more renewable generation capacity than was installed over the past 25 years. We must be properly resourced for this challenge.





Electricity (continued)



KEY TAKEAWAYS

- Develop a total of 9 gigawatts (GW) and 7* GW of onshore and offshore wind generation capacity respectively, with solar PV providing 8 GW.
- Increase flexibility of electricity supply-demand through a range of initiatives.
- Ensure that renewable energy generation projects and associated infrastructure are considered to be in the overriding public interest.

KEY MEASURES TO DECARBONISE THE ELECTRICITY SECTOR

Accelerate Renewable Energy Generation

- Renewable electricity to account for **80% of demand by 2030**.
- Scale onshore and offshore wind capacity to **9 GW and 7* GW respectively**.
- Achieve **8 GW solar PV capacity**, which includes **2.5 GW of new small scale solar**.
- Enable **hybrid technology grid connections**, maximising the utilisation of existing grid infrastructure, to accelerate connection of new renewable generation.

Accelerate Flexibility

- Deliver at least **2 GW of new flexible gas-fired generation**.
- Introduce local **flexibility market arrangements**, designed to incentivise investment in commercial storage facilities at scale.
- Procurement of low-carbon inertia energy services e.g. batteries.
- Deliver **three new interconnectors** to NI, the UK, and the EU.

Electricity Demand Management

- Ensure that **20-30% of electricity system demand is flexible** to reduce peak demand when renewable sources aren't available.
- **Develop dynamic "green electricity tariffs"** to incentivise demand at times of high wind or solar output.
- **Moderate demand** from large energy users, such as **data centres**.
- Work with **large energy users** to increase carbon-free demand through **enhanced reporting** and usage of **low carbon energy sources**.

*2 GW of offshore wind earmarked for green hydrogen production.

Highlights by Sector | Built Environment

OUR PERSPECTIVE

Ireland's housing stock is one of the least energy efficient within the EU. A combination of this, alongside the lowest levels of renewables in our heating sector, means domestic properties face a significant decarbonisation challenge. In addition, the ongoing energy price crisis has highlighted Ireland's dependence on imported fossil fuels, which provide c. 75% of our home heating. This leaves Irish households vulnerable to global energy prices for heating which impacted our economy significantly in 2022. However, decarbonising the sector has however lacked momentum for several reasons including capital costs, access to and availability of low-cost finance, and resources. Heat pumps remain the preferred technology to decarbonise our residential buildings. However, CAP 23 introduces ambitious targets for both district heating and renewable gases as decarbonised heat solutions, which are welcomed considering the scale of the challenge.

CAP 23 aims to phase out gas for domestic heating and mandates all buildings to switch to heat pumps or district heating by 2050. This requires large expensive changes to Ireland's housing stock and will add pressure on the supply chain that must deliver new homes during the housing crisis. Retrofitting 500,000 homes by 2030 is expected to cost households north of €10bn but is supported by grants covering up to 50% of costs and an Exchequer investment of €8bn that will enable the supply chain to scale up. However, it is critical that retrofitting is delivered in a just and equitable manner and adequate levels of support are provided to low-income households to retrofit their homes, alongside those on higher incomes. If not, low-income families could be subject to higher energy costs as part of this transition.

Given the current media scrutiny of the challenges within the housing sector in Ireland and the high number of vacant and derelict buildings here, an emphasis on the re-use of existing buildings would have been welcomed in CAP 23. Typically, the re-use of an existing building would have a lower carbon footprint than the construction of a new building.

Key Metrics

	2018 Emissions (MtCO ₂ eq)	Share of GHG emissions 2021	Required Reduction	Emissions Change to date
Residential:	7	10.2%	40%	-0.62%
Commercial:	1.5	2.1%	45%	-2.76%

Key changes from CAP 21 to CAP 23:



NZEB → ZEB

Construct buildings to a higher carbon zero standard, moving from NZEB to ZEB, by 2030



Increased ambition for residential and commercial heating being supplied with renewable gases



Michele Connolly, Partner
EMA Head of Global Infrastructure



To realise the CAP's ambitious targets we need to look at supply chain concerns including the availability of sufficient skilled labour, as well as how we can drive further efficiency into the construction sector.





Built Environment (continued)



KEY TAKEAWAYS

- Reduce building emissions through the ambitious national retrofit plan supported by SEAI grants.
- Install heat pumps at scale in buildings and district heating in communities.
- Eliminate fossil fuels in building heating through use of renewable gases.

KEY MEASURES TO DECARBONISE THE BUILT ENVIRONMENT SECTOR

The National Retrofit Plan

- Retrofit **500,000 dwellings** to BER B2 cost optimal or carbon equivalent, including 400,000 heat pumps.
- Enhance current SEAI financial supports for carbon reduction technologies and the deployment of work force upskilling programmes to meet retrofitting goals.

Decarbonisation of Residential Heating

- Reduce building emissions through the continued roll out of the ambitious **national retrofit plan** supported by SEAI supports.
- Large-scale implementation of **heat pumps and district heating** in buildings.
- Use renewable gases to eliminate fossil fuels in building heating.

Decarbonise Commercial and Public Heating

- Deliver up to **0.7 TWh of heating** through renewable gases by 2030.
- Support public and commercial buildings through SEAI schemes to **deliver savings of 735k tonnes of CO₂**.
- Achieve up to **0.2 TWh of district heating by 2030**.

Standards and Regulations

- Ensure all new buildings and dwellings are designed and constructed to **ZEB standard, supported by a target of 280,000 new dwellings** that utilise heat pumps by 2030
- Amend the Building Regulations to help effectively phase out fossil fuel boilers.

Highlights by Sector | Agriculture

OUR PERSPECTIVE

Agriculture is on the frontline of climate change, as it both contributes to and is affected by climate change. Somewhat unique to the sector is its ability to mitigate climate change by providing natural carbon sinks. As a result, the focus for the industry is on the two pillars (1) food security and nutrition and (2) climate mitigation and adaptation. Restructuring agri-food systems to maximise their potential to reduce emissions while adapting to climate change and ensuring a just transition has emerged as one of the most important global political and economic goals.

As Ireland's largest contributor to national greenhouse gas emissions at 33%, agriculture is a crucial sector to decarbonise whilst maintaining food availability and affordability. Over the last decade, emissions in the industry have increased by 19% - primarily related to the expansion of the dairy sector. The approved carbon budget allocates 106 MtCO₂eq for the industry for the period 2021-2025 - based on the CAP 23 this equates to an annual reduction of 4.1% for 2022, 2023, 2024 and 2025. Recognising the challenge of meeting these targets, CAP 23 sets out a range of measures to be implemented over the coming years aligned with Food Vision 2030 and AgClimatise.

Core targets in CAP 23 include reducing chemical Nitrogen use to a maximum of 300,000 tonnes, earlier finishing of beef cattle and improved animal breeding focusing on low methane traits. The CAP 23 also sets out a target to support land use diversification options for livestock farmers, such as anaerobic digestion, forestry and tillage to incentivise voluntary livestock reductions - whilst not a direct cap, it signals the ambition to reduce herd numbers.

Key Metrics



Key changes from CAP 21 to CAP 23:



300k tonnes maximum usage of chemical nitrogen by 2030 (previous target <325k tonnes)



22-23 months average finishing age by 2030 (previous target of 24 months)



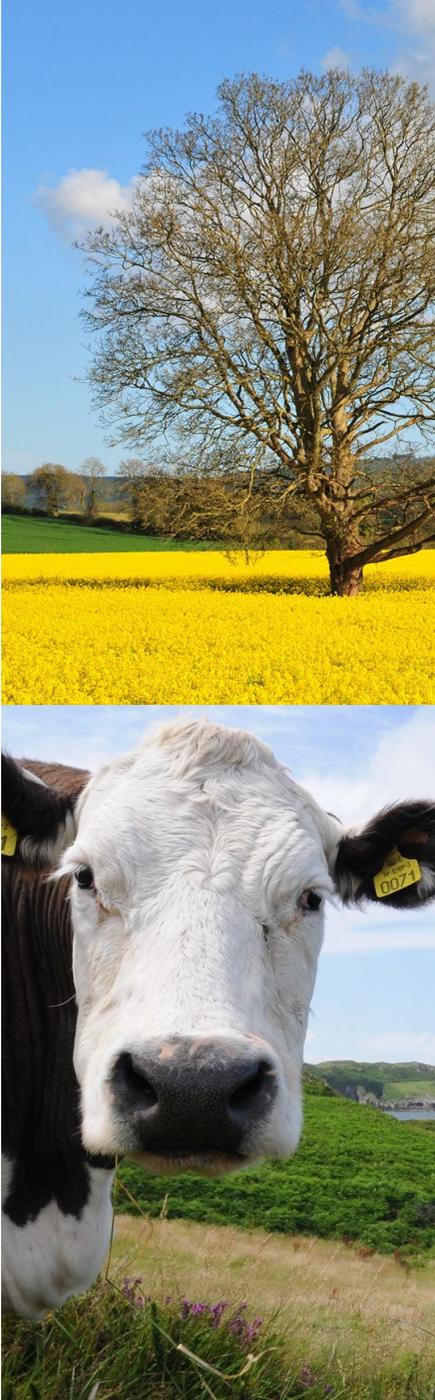
3x Increase in biomethane production target from 1.6TWh to 5.7TWh by 2030



Russell Smyth, Partner
Head of KPMG Sustainable Futures



Ireland has one of the largest potentials for biomethane production in Europe on a per capita basis. Policy support has finally realised the importance of developing this opportunity with a substantial 2030 production target.



Agriculture (continued)



KEY TAKEAWAYS

- Support existing and implement new incentives for livestock farmers to diversify into tillage, organics, forestry and biomethane production.
- Reduce chemical Nitrogen usage through increased uptake of protected urea and fertiliser spreading technology.
- Utilise biomethane produced on farms to increase supply of renewable gas into the gas grid.

KEY MEASURES TO DECARBONISE THE AGRICULTURE SECTOR

Providing Diversification Options to Livestock Farmers

- Diversification options for farmers include tillage, organics, forestry and biomethane production.
- Increase Ireland's organics area from 75k ha in 2021 to **450k ha in 2030**. The Irish tillage area will increase from 349k ha currently to **400k ha in 2030**.
- Support for the **Protein Aid Scheme** in 2023 to incentivise the production of legumes.

Reduced Chemical Fertiliser Usage & Improved Efficiency of Animals

- Target for grassland farms of **90-100% uptake** of protected urea by 2030.
- Set maximum chemical Nitrogen (N) usage of **300k tonnes by 2030**.
 - Introduce a national fertiliser database in 2023 to accurately track fertiliser sales.
- Increase focus on Low Methane Traits in Breeding Programmes.

Development of Domestic Biomethane Industry

- Inject biomethane produced from animal manures, silage etc. into the gas grid.
- **Produce 5.7 TWh of biomethane** by 2030 from farm based Anaerobic Digestion (AD).
- To meet this ambition **150- 200 AD plants** will need to be built by 2030.
- Department of Agriculture, Food and the Marine (DAFM) and the Department of the Environment, Climate and Communications (DECC) to mobilise funds where available.

Highlights by Sector | Industry

OUR PERSPECTIVE

Responsible for 10.2% of Irish GHG emissions, decarbonising the industrial sector is a key part in reaching the net-zero targets. As the sector often involves energy-intensive processes, the 2022 energy crisis incentivised industrial players to reduce costs, improve efficiencies, and reduce their fossil fuel dependency. In decarbonising industry, CAP 23 outlines ambitious targets for decoupling the linkages between fossil fuel use and economic growth ensuring that the Irish industry and its economy remain competitive in the future.

Industrial emissions come from two main activities: combustion for heat used in manufacturing and process emissions. The temperature and volume for industrial heating vary greatly depending on industry types, which calls for various parallel solutions to decarbonise. Irish industry will see an influx of heat pumps, biomass, and electrification solutions to cover low-to-medium temperature heat demands. Biomethane and hydrogen are required for high-temperature heat processes.

Process emissions, which are those generated in the manufacturing of materials are targeted through a series of measures including a reduction in the clinker content of cement where possible, carbon capture and storage to capture CO₂ at large emissions points, and introducing product substitutions for construction materials.

While adopting these technologies accelerates competitiveness in a landscape with increasing environmental consumers and carbon pricing, government support will still be required both to help cover upfront costs and establish the necessary infrastructure. The SEAI, IDA Ireland, and Enterprise Ireland will implement expanded and enhanced support schemes to achieve the CAP 23 targets and align the industry.

Key Metrics



Key changes from CAP 21 to CAP 23:



3x Reduction target for embodied carbon in construction materials



Further increase to target for carbon-neutral heating's share of total fuel demand



Cian Kelliher, Partner
Corporates and Life Sciences



CAP 23 outlines ambitious targets for decoupling the linkages between fossil fuel use and economic growth ensuring that Irish industry remains competitive in the future.





Industry (continued)



KEY TAKEAWAYS

- Decouple fossil fuels and economic progress by electrifying manufacturing processes, using low carbon substitutions for construction materials, and utilising zero emission gas.
- Expand and enhance supports and grants offered by SEAI and Enterprise Agencies for emission reduction measures.

KEY MEASURES TO DECARBONISE THE INDUSTRY SECTOR

Carbon-neutral Heating in Manufacturing

- Achieve **50-55% share of carbon-neutral heating** in manufacturing processes by 2025; 70-75% by 2030.
- Provide carbon-neutral heating by e.g., heat pumps powered by renewables and biomethane.
- Support manufacturers to invest in carbon-neutral heating through supports provided from the **Green Transition Fund**.
- Review and implement the **Support Scheme for Renewable Heat (SSRH)**.

Increasing use of Zero-emission Gas for Industrial Heating

- At least **1.2 TWh consumption** by 2025; at least 2.1 TWh by 2030.
- Identify industry clusters near biomethane suppliers.
- Enterprise agencies will support their clients to implement zero-emission gas.
- Develop a roadmap for **green hydrogen use**
- Advance policy position on carbon capture storage.

Fossil Fuel Demand Reduction & Energy Efficiency Measures

- Reach a **7% reduction of industry fossil fuel demand** in the manufacturing process by 2025 and 10% by 2030.
- Reduce industry's fossil fuel use from 64% of final consumption* in 2021 to **45% by 2025** and further by 2030.
- Ireland's Top 15 energy users required to report energy performance and emissions annually.

*Final consumption: the energy type consumed by the end user (in this case, industry).

*Clinker: emission intensive material, releasing CO₂ from limestone.

Reduction in Embodied Carbon in Construction Materials for Industry

- Ensure **10% reduction in emissions by 2025** and 30% by 2030 (against 2018).
- **Reduce clinker* content** and use lower carbon materials in cement.
- Switch to lower carbon fuels in **cement production**.
- Incentivise greener supply chains through the new **Green Public Procurement Strategy** and Action Plan.

Highlights by Sector | Transport

OUR PERSPECTIVE

With the growing focus on mitigating climate risks and achieving Ireland's goal to half its greenhouse gas emissions by 2030, it might be surprising to learn that Ireland's road transport emissions are increasing, according to the Environmental Protection Agency (EPA). Despite this, we realise the importance of decarbonising the transport sector, and CAP 23 presents us with an opportunity to shape and participate in building a significantly decarbonised transport sector whilst also positively improving societal wellbeing.

The transport sector must reduce its emissions by 50% by 2030, and the targets outlined in CAP 23 will be pivotal in encouraging a shift to 'active travel' and overcoming the challenges deeply embedded through our settlement patterns, policies, and mindsets which favour private car usage over more sustainable transport modes.

Successfully decarbonising transport will depend on investment and innovation efforts into electric vehicles (EVs), increased charging facilities, and alternative fuels. It will also require re-inventing how we use public transport, especially in rural areas. These targets will require a transformational shift in how we travel. CAP 23's emphasis on rural transport routes and sustainable mobility will open up new opportunities and connections, whilst also challenging ingrained mindsets and reducing the number of people living in certain areas which are 'locked-in' to car ownership.

The increased development of EVs will be one of the most significant developments, with considerable investment required for commercialising this throughout Ireland. However, while these targets are expected, they are only half the picture. Importantly CAP 23 also captures the broader concept of a future transport system that will enhance societal wellbeing through active travel and reduced noise, traffic, and air pollution, and one which aims to ensure that the default becomes walking, cycling, or public transport.

Key Metrics



Key changes from CAP 21 to CAP 23:



2x Increase in vehicle kilometres reduction target



100% Of new car registrations to be electric by 2030



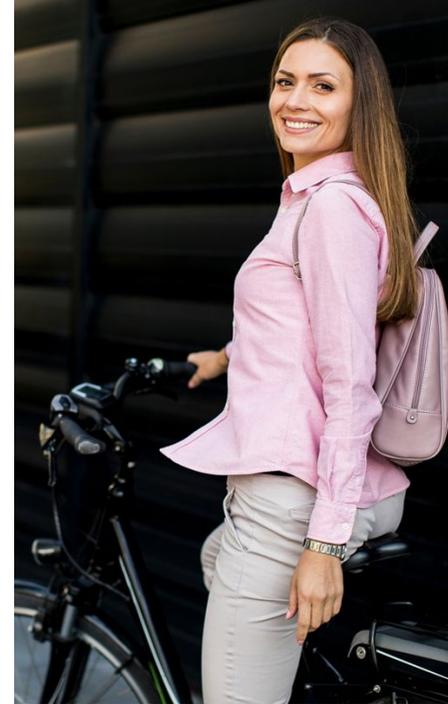
50% Reduction in fuel usage by 2030



Russell Smyth, Partner
Head of KPMG Sustainable Futures



Decarbonising the transport sector is essential to meeting our targets and is also an opportunity to drive enhancements in rural mobility and social wellbeing.





Transport (continued)



KEY TAKEAWAYS

- Transform the transport system to reduce reliance on car use and meet emissions targets.
- Increase proportion of walking, cycling and public transport journeys to account for 50% of journeys by 2030.
- Achieve target of 30% of private car fleet switched to electric by 2030.

KEY MEASURES TO DECARBONISE THE TRANSPORT SECTOR

Avoid (or reduce need for travel)

- Overall 2030 target:
 - **20% reduction** in total vehicle kilometres.
 - **50% reduction** in fuel usage.
- Measures to meet target:
 - Road space reallocation to cyclists and pedestrians.
 - Reduce availability and increase price of parking.
 - Shared mobility solutions.
 - Rural transport solutions.
 - Remote/blended working policies.
- Measures to be implemented through:
 - Sustainable Mobility Policy (SMP).
 - Enhanced special and land use planning.
 - Local Authority Climate Action Plans.

Shift (to more environmentally friendly modes)

- Overall 2030 target:
 - **50% increase** in daily active travel.
 - **130% increase** in public transport.
 - **25% reduction** in daily car journeys.
- Daily transport mode share 2030 target:
 - **28% active travel.**
 - **19% public transport.**
 - **53% car journeys.**
- **Connect 70% of rural Ireland** to bus routes by 2030, offering at least 3 trips daily to a nearby town.
- Advance **1,000 km of walking/cycling infrastructure** and other sustainable transport initiatives.
- Sustainable modes of escort-to-education journeys to **account for 30% by 2030**; providing 500 Safe Routes to School schemes by 2025.

Transport (continued)



KEY TAKEAWAYS

- Transform the transport system to reduce reliance on car use and meet emissions targets.
- Increase proportion of walking, cycling and public transport journeys to account for 50% of journeys by 2030.
- Achieve target of 30% of private car fleet switched to electric by 2030.

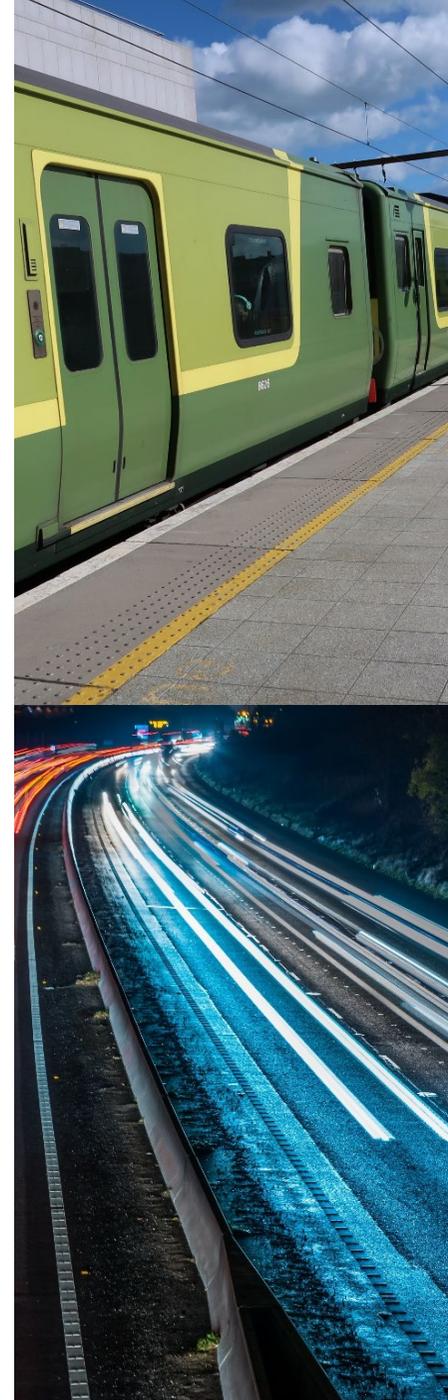
KEY MEASURES TO DECARBONISE THE TRANSPORT SECTOR

Improve (energy efficiency of vehicles)

- **945,000 EVs** to be on the road by 2030:
 - 845,000 private cars.
 - 95,000 commercial EVs.
 - 3,500 HGVs.
 - 1,500 EV buses.
 - Expanded electric rail (Dart).
- Public charging infrastructure to be launched by **Zero Emission Vehicles Ireland (ZEVI)**.
- **Roll out shared electricity mobility** (EVs, e-bikes, e-scooters) charging infrastructure in 5 cities.
- Achieve blend rate targets of **E10:B12 (2025)** and E10:B20 (2030) by regulating for higher biofuel blends in existing technologies.

Measures spanning across Avoid-Shift-Improve framework

- Raise awareness on systemic changes in public and active travel and encourage behavioural change through communications campaigns.
- Project Management Office and Leadership Group to drive implementation of the Sustainable Mobility Policy (SMP) action plan.





Highlights by Sector | Land Use, Land Use Change, Forestry

OUR PERSPECTIVE

Ireland is an outlier in the EU with a Land Use, Land Use Change and Forestry sector that is a net source of emissions and emissions from this sector are projected to increase significantly by 2030. This is due in part to carbon emissions from wetlands and grassland.

The challenges in this sector are mounting amid a rapidly changing policy landscape, with changes to the National Forestry Strategy, the National Land Use Review, the EU Nature Restoration Law, CAP Strategic Plan, and many more.

That said, there are significant opportunities in this sector. Taking the right actions in the right places can potentially deliver not only carbon savings but also wins for biodiversity, water and climate resilience.

However, we need a robust evidence base to achieve these co-benefits. That's why the commitment to upgrade our land use and habitat mapping systems will be essential under wider efforts to improve our land-use planning.

Key Metrics

6.9

2018 Emissions
(MtCO₂e)*

11.2%

Share of GHG
emissions 2021

TBC

Required
Reduction

+13%

Emissions
Change to date

Key changes from CAP 21 to CAP 23:



12k hectares Increase in peatland rehabilitation targets



Upward revision of LULUCF 2018 emissions baseline from 4.8 Mt to 6.9 Mt



68k hectares of new forest targeted by 2030 (previously no target)



Orlaith Delargy, Associate Director
Natural Capital and Biodiversity Lead



Ireland's LULUCF sector can potentially deliver not only carbon savings but also wins for biodiversity, water and climate resilience.

**Based on rebaselined 2018 emissions in CAP '23*

Land Use, Land Use Change, Forestry (continued)



KEY TAKEAWAYS

- Increase Ireland's afforestation rate, from 2k hectare to 8k hectares per annum.
- Enhance the store of carbon across all land types through reduced management intensity and peatland restoration.
- Grassland contributed 7.57 Mt CO₂ eq. in 2021 making it the largest emitted of all land types, while forests and wood products net removed 2.04Mt CO₂ eq.

KEY MEASURES TO DECARBONISE THE LAND USE, LAND USE CHANGE, FORESTRY SECTOR

Cropland & Grassland Management

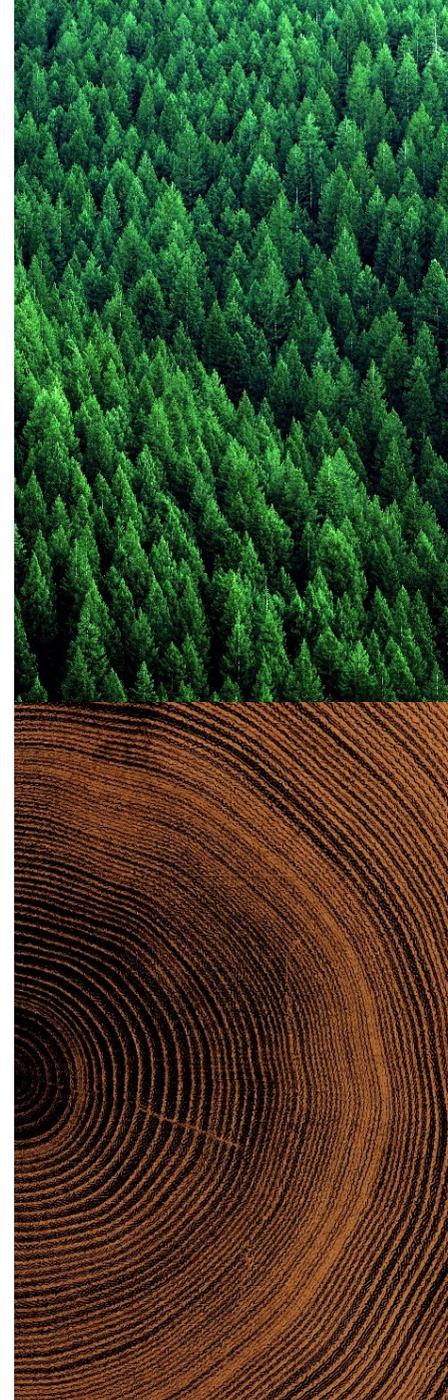
- The Common Agricultural Policy Strategic Plan (CSP) provides supports/incentives for the following targets:
 - **55k hectares of straw** incorporation on total tillage area by 2030.
 - **50k hectares of cover crops** planted by 2030.
 - **450k hectares of mineral grassland** managed better to increase carbon sequestration.
 - **80k hectares of drained organic soils** to be managed less intensely.

Peatland Management & Rehabilitation

- **77.6k hectares of rehabilitated peatlands** by 2030; increasing carbon stored, and improving water quality and species richness.
 - 35.9k hectares of which planned under the Bord na Mona EDRRS and LIFE People and Peatlands Programmes.
 - Focus on restoring protected raised bogs (Natura 2000 sites).
- Continue funding the RePEAT Project to support and improve peatland mapping.

Increased Afforestation Rates

- **68k hectares of new forest** by 2030.
 - **8k hectares annual afforestation** targeted from 2023 onwards (up from 2k hectares in 2021).
- Finalise New Forestry Strategy by DAFM in 2023.
- Launch of not-for-profit to attract corporate funds for **planting native woodland**.
- **Additional carbon capture** in forests and wood products planned up to 2050 through 'Coillte's Strategy Vision'.





Highlights by Sector | Public Sector

OUR PERSPECTIVE

CAP 23 sets ambition for the Public Sector to lead by example by delivering its climate change mitigation and adaptation strategies that encompass buildings, transport, waste, and energy usage, as well as wider society.

One of the primary ways the Public Sector can influence climate action in Ireland is through its procurement choices. Under the Public Sector Climate Action Mandate, all public bodies are now required to implement Green Public Procurement (GPP). This ranges from ceasing the use of disposable cups and cutlery to specifying low carbon construction methods on directly procured or supported construction projects. Implementing GPP will require a significant shift in their practices and the business they contract with and will positively influence supply chains across Ireland towards a green transition.

CAP 23 sets a targets of 51% reduction in GHG emissions from the Public Sector and a 50% improvement in the energy efficiency by the sector by 2030. The Public Sector's building stock comprises of between 12,500-13,700 buildings. These buildings account for approximately 50% of the Public Sector's energy consumption and associated GHG emissions.

A key element of decarbonising the Public Sector's electricity supply and reducing emissions will include the installation of Solar PV on the rooftops of the 4,600 school buildings throughout the Country.

Transport is the sector's next biggest emitter accounting for approx. 30% of the sector's overall GHG emissions. Key elements of the sector's transport decarbonisation are electrifying the vehicle fleets of public sector organisations and promoting more sustainable commuting and business-related travel by public sector employees.



Key Metrics



Key changes from CAP 21 to CAP 23:



Climate Action Roadmaps to be update annually in line with updated Public Sector Climate Action Mandate



Implement Green Public Procurement in line with the EPA Green Public Procurement Guidance



Cormac Deady, Partner
Head of Public Sector



Achieving Public Sector targets will require step changes in how the sector operates and significant focus. Green Public Procurement will shift supply chain practices driving Ireland towards a green transition.

¹Potential overlap in emissions with Built Environment

²Changes in emissions allocations between CAP 21 and 23

Public Sector (continued)



KEY TAKEAWAYS

- Target a 51% reduction in GHG emissions from the public sector by 2030.
- Increase energy efficiency in the sector from the 33% target in 2020 to 50% by 2030.
- Procure only zero emission vehicles from Jan 1st 2023 onwards in the Public Sector (where practical), and use low carbon construction methods and materials for directly procured construction projects by 2030.

KEY MEASURES TO DECARBONISE THE PUBLIC SECTOR

Our People

- Nominate a **Climate and Sustainability Champion** from the Management Board. The Champion will have responsibility for reporting annually on the mandate.
- Facilitate sustainability **training and workshops** for Public Sector staff.
- **Green Teams to be resourced** to drive achievement of sector targets within public sector bodies.
- All senior Management to complete a climate action leadership course in 2023.

Ways of Working

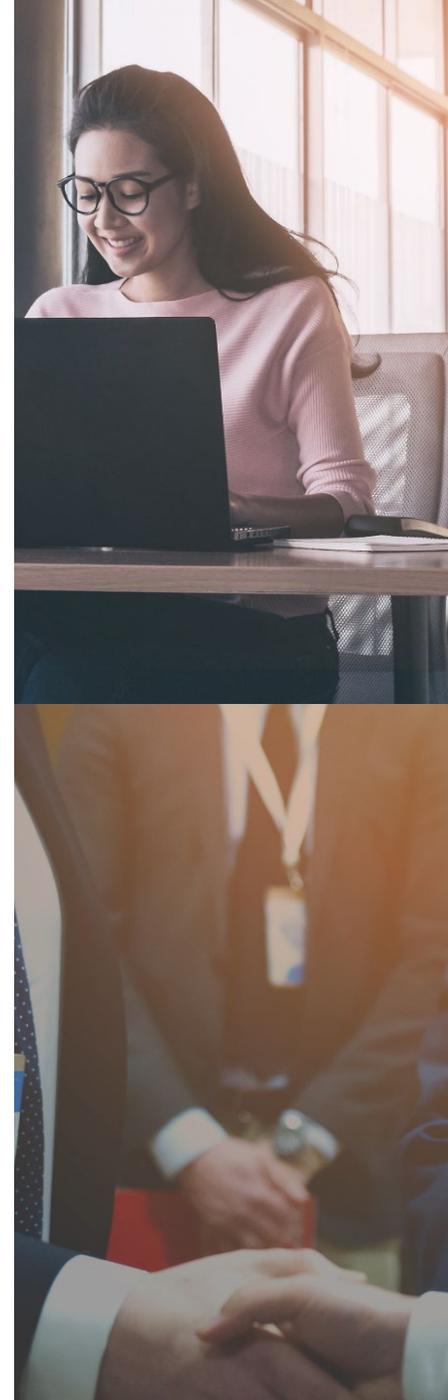
- Public Bodies must report on GHG emissions, implementation of mandate, compliance procedures & sustainability activities.
- **Implement Green Public Procurement Strategy** to specify low carbon construction methods and materials from 2023.
- Large Public Sector Bodies to achieve formal environmental accreditation **ISO 50001 by the end of 2024**.

Building & Vehicles

- Displaying Energy Certificates is mandatory in every building that is open to the public.
- Predominantly **zero-emission vehicles** will be procured from the end of 2022 (a list of exceptions present in CAP 23).
- Large Public Sector Bodies to **conduct a deep retrofit** of at least one building in 2023.
- Provide solar PV panels for all schools financed by the Climate Action Fund.

Excluded Bodies from Climate Action Mandate

- **Local Authorities** must submit a climate action plan detailing their emission reduction and adaption measures by March 2024.
- The **Climate Action Framework** consists of five commitments that each **Commercial Semi-State Body** should adopt:
 1. Governance of climate action objectives;
 2. Emission measurement and reduction target;
 3. Emission valuation in investment appraisal;
 4. Circular economy and green procurement;
 5. Climate-related disclosures.





Highlights by Sector | Marine Environment

OUR PERSPECTIVE

The Marine Environment is set to play a critical role in Ireland's decarbonisation and biodiversity efforts. On the decarbonisation side, there is significant potential for the development of offshore wind energy in Ireland, with a maritime area more than seven times the size of Ireland's landmass. However, despite this considerable resource, Ireland is further behind its European counterparts in developing offshore wind projects due to a historic lack of a clear planning and consenting regime. CAP 23 proposes a new state-led consenting regime to be set up for the maritime area enabled by establishing a new Maritime Area Regulatory Authority (MARA). Industry and investors eagerly await policy and regulations to allow them to progress offshore wind projects, and the Government must deliver on this.

CAP 23 acknowledges the importance of Marine Protected Areas, Special Areas of Conservation and Special Protection Areas that will help Ireland to meet several of its biodiversity commitments.

Decarbonisation and biodiversity are critical topics that should not compete against each other. Instead, we must seek win-win solutions for the management of Ireland's maritime area and act in a way that delivers for decarbonisation, biodiversity and our communities. Broad and deep stakeholder engagement will be crucial to ensure no one gets left behind. The [research and independent analysis](#) on Expanding Ireland's Marine Protected Area Network is an excellent example.

Key Metrics



New Sector in CAP 23; highlighting the focus on Offshore Wind Planning and Infrastructure:



Prepare Maritime Area Plans to designate specified areas for the development of offshore renewable energy



Facilitate substantial investment in the development of grid infrastructure, port development, and ensuring a skilled workforce



Establish the Maritime Area Regulatory Authority (MARA) to be operational in Q2 2023



James Delahunt, Partner
Corporate Finance



Industry and investors are eagerly awaiting policy and regulations to allow them to progress offshore wind projects and it is crucial the Government delivers on this.

Marine Environment (continued)



KEY TAKEAWAYS

- Achieve 30% Marine Protected Area coverage by 2030 through regulating Ireland's Maritime Area under the Maritime Area Planning Act 2021.
- Continue to designate and manage more Marine Protected Areas (MPAs).
- Find a balance between offshore renewable energy development and marine biodiversity.

KEY MEASURES TO DECARBONISE THE MARINE ENVIRONMENT

Consenting Regime for Maritime Area

- Establish **Maritime Area Regulatory Authority (MARA)** to manage licensing and enforcement in the marine environment.
- Support An Bord Pleanála's decision-making by developing Marine Planning Guidelines.
- Progress designation of marine SAC and SPA sites.

Identify, Designate & MPAs

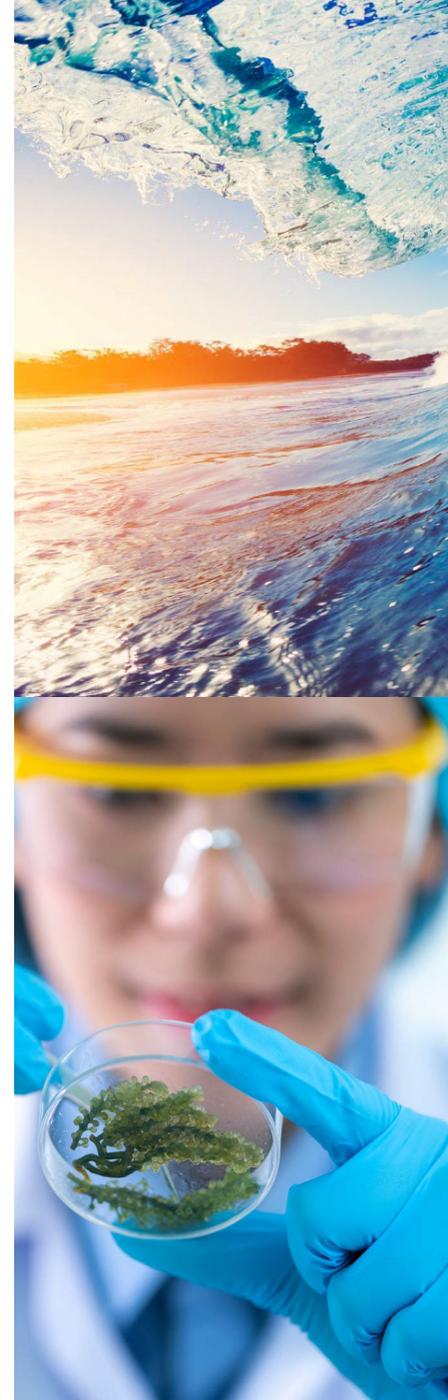
- Introduce **stand alone legislation** for the identification and management of MPAs. Criteria for designation of MPAs based on nature based carbon storage, resilience to climate change and ocean acidification.
- **Realise at least 10% MPA target** as soon as practicable, achieving **30% MPA coverage by 2030**.

Marine Climate Change Monitoring

- Assess the effects of climate change through marine climate indicators, e.g. use of indicator species.
- Develop a **pilot national monitoring and assessment programme** assessing climate change effects on the delivery of EU commitments.

Marine Adaptation & Mitigation

- Develop **Ocean Knowledge 2030**, the new National Marine Research and Innovation Strategy.
- Progress research investment to address fish distribution and abundance challenges and build resilience in the seafood sector.
- **Reduce fossil fuel dependency** in fishery harbour centre.





Highlights by Sector | Circular Economy

OUR PERSPECTIVE

Substantial change is needed from all segments of society to pivot towards a more circular economy in Ireland. Businesses will play a vital role in enabling this change by influencing and facilitating sustainable consumer behaviour.

The introduction of mandatory segregation and incentivised charging regime for commercial waste will require businesses to increase their waste separation practices (if not already in place) to support national recycling rates.

Companies that currently produce by-products in their operations will see an expedited process for end-of-waste and by-product decision-making, increasing the availability of recycled secondary raw materials in the Irish market.

Placing an emphasised focus on resource circularity, matched with the government's policy on keeping fossil fuels in the ground, extraction of raw materials will be reduced to lower GHG emissions.

The phased introduction of environmental levies on single-use products will force companies to seek sustainable alternatives to maintain cost-effectiveness.

The publication of the second Whole of Government Circular Economy Strategy will see the introduction of sectoral roadmaps that will include targets to increase circularity in sectors where significant gains can be made, including transport, construction, agri-food, consumer goods, and product innovation.

Key Metrics



Key changes from CAP 21 to CAP 23:



Whole-of-Government Circular Economy Strategy and National Food Loss Prevention Roadmap on a statutory footing



Re-designating the Environment Fund as a Circular Economy Fund, to remain ring-fenced providing support for environmental and circular economy projects



Streamlining the national processes for end-of-waste and by-products decisions



Shane O'Reilly, Director
ESG Strategy lead



With a current circularity rate of 1.8%, Ireland lags behind the EU average of 12.8%. The Whole of Government Circular Economy Strategy will set a clear action plan for achieving Ireland's circularity targets.

Circular Economy (continued)



KEY TAKEAWAYS

- Drive single-use cup levies, moving toward a total ban as part of the Whole-of-Government Circular Economy Strategy.
- Roll out of deposit and return scheme for plastic and aluminium beverage containers.
- Develop Roadmap for the prevention of food waste.

KEY MEASURES TO DELIVER A CIRCULAR ECONOMY

Prevention

- National Food Waste Prevention Roadmap will describe Ireland's commitment to **reduce food waste by 50% by 2030**.
- Implement the **Waste Action Plan** for a Circular Economy (WAP) focusing on recycling and waste prevention.
- Implement the second **Whole-of-Government Circular Economy Strategy**.
- Continue rollout of CirculEire, the national programme for circular manufacturing and innovation.
- Biodegradable landfill maximum **limit set to 427,000 tonnes**.
- Reduce municipal waste landfilled by **10% by 2035**.

Recycling and Reuse

- Recycle **70%** of packaging waste, **55%** of plastic waste by 2030 and **65%** of municipal waste by 2035.
- Ensure all plastic packaging is reusable or recyclable by 2030.
- Introduce environmental levies on single-use disposable items.
- Deposit and return scheme for drink containers to help achieve **90% collection of drinks** containers by 2029.
- Expansion of Extended Producer Responsibility Scheme.
- **Replace 30% of virgin plastic** with recycled content.

Other Emissions (F-Gases, waste, and petroleum refinement)

- Reduce F-Gas **emissions by 80%** (from 2014 baseline).
- Separate **collection obligations extended** to include hazardous household waste (by end 2024), bio-waste (by end 2023), and textiles (by end 2024).
- Encourage the use of renewables in the petroleum refining process.
- Investigate applicability of use of biomethane in the petroleum refining process.
- Reduce use of petroleum-based fuel.



Highlights by Sector | Carbon Pricing & Cross-Cutting Policies

OUR PERSPECTIVE

Ireland's carbon taxation policy aims to drive behavioural change and a reduction in GHG emissions across the country. In conjunction with this, there is a stated intention to ringfence carbon tax revenues to use for social welfare increases (to combat fuel poverty), sustainable farming and a retrofitting programme.

CAP 21 set the target of implementing successive carbon tax increases up to 2030 which was legislated for in Finance Act 2020. The phased increases are projected to result in €9.5 billion of tax revenues from carbon taxation in the period up to 2030. Carbon tax revenues will then be used to fund future measures including those supporting retrofitting and sustainable farming. For example, the National Retrofit Plan published in February 2022 refers to the investment of €5bn of carbon tax revenues in retrofitting 500,000 homes by 2030.

With significant increases in energy costs over the past 12 months, policymakers may find it challenging to raise carbon prices yearly even where these phased increases are anticipated by legislation. It will be vitally important that carbon tax revenues are used to introduce adequate social welfare increases (and a socially progressive retrofitting programme) to combat fuel poverty and to protect those in society who are most vulnerable to fuel cost increases.

What does this mean for consumers?

In simple terms, the carbon tax on fossil fuels will lead to increased prices of non-renewable energy. For example one litre of petrol will cost c. 25 cent more per litre once carbon tax hits €100 per tonne CO₂e.

Key Progress from CAP 21 to CAP 23:



€7.50 Annual Carbon Tax increase per tonne of CO₂



€3.5B Raised from Ireland's sale of a new 20-year Sovereign Green Bond (ISGB)



€5B Of carbon tax revenue will be used to retrofit Ireland's homes



Paul O'Brien, Partner
Head of Employment and
Investment Incentive



The carbon tax is a key mechanism to drive reductions in emissions, however it is likely to face increasing pressure from the public given the current inflationary environment and ongoing energy crisis.

Carbon Pricing and Cross-cutting Policies (continued)



KEY TAKEAWAYS

- Continue successive carbon tax increases until the carbon tax rate reaches €100/tonne by 2030.
- Support private finance and EIB investment in climate projects.

KEY MEASURES TO DELIVER CROSS-CUTTING POLICY OBJECTIVES

Environmental Taxation and Carbon Pricing

- Continue successive carbon tax increases to continue until the target of **€100 per tonne is achieved by 2030**.
- Allocate **€9.5 billion of the revenues** raised by carbon tax increases to:
 - **Retrofitting** of low-income homes (€5 billion).
 - Addressing **fuel poverty** (€3 billion).
 - **Sustainable agriculture** (€1.5 billion).
- Review Public Spending Code to align with international best practice. DPER is currently revising the shadow price of carbon.

Mobilisation of Investment for Climate Action

- Continue public **investment of c. €4 billion** to fund Project Ireland 2040 Funds, comprising the Climate Action Fund and others.
- Undertake green budgeting reforms.
- Develop the Irish Sovereign **Green Bonds** market.
- Develop a sustainable and climate resilient financial system.
- Leverage private sector capital to meet climate objectives with the support of the commercial sector, NewERA, and other public bodies.

Additional Measures

- Implement spatial and planning policies guided by **The National Planning Framework (NPF)**.
- Promote digital transformation and sustainable remote working practices.
- Deliver high-speed broadband services to over **1.1 million people** and achieve an estimated average net saving of c. 10kWh per day through continued rollout of the **National Broadband Plan (NBP)**.
- Develop and implement National Bioeconomy Action Plan.





03.

**How KPMG can enable
the next steps**

How can we help?

KPMG is supporting Irish organisations at all stages of their ESG journey - from strategy setting, through delivery to reporting and assurance

Our ESG Service offerings



ESG benchmarking and strategy setting



ESG Strategy transformation and change management



Target Operating Model & Operational excellence



ESG Deal Advisory and Renewable M&A



Sustainable supply chains & Green Procurement



Decarbonisation roadmap and Climate Risk advisory



Nature & Biodiversity Strategy and Assessments



Sustainable Finance (green loans, sustainability linked loans and bonds)



ESG Reporting & Assurance (CDSR, EU taxonomy, SFDR)



ESG Data & Technology

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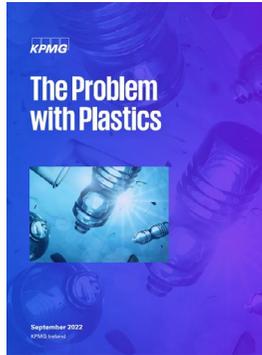
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Want to Know More?



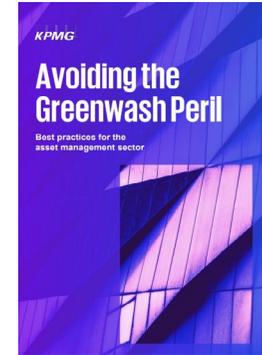
What matters in ESG?



The Problem with Plastics



ESG Compliance by Design



Avoiding the Greenwashing Peril



The 2022 Energy CEO Outlook



Agri-food 2030



From Talk to Action



The heat is on



Emerging Trends in Infrastructure



Big Shift, small steps for Ireland



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