Socioeconomic impacts of Climate Action Plan, 2021

Discussion Document

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Context and objectives for today

Context:

The Climate Action Plan, 2019 set out a pathway to reduce Ireland's GHG emissions by ~30-35% by 2030. This represents a 3-4% p.a. reduction from 2021 to 2030.

The Climate Action and Low Carbon Development (Amendment) Bill 2021 increased Ireland's climate ambition and committed to reduce emissions by 51% by 2030. This represents a 7% p.a. reduction from 2021 to 2030.

To deliver the PfG ambition:

- Carbon budgets will be proposed for the periods, 2021-2025, 2026-2030, and 2031-2035. These will seek to consider "the need to maximise employment, the attractiveness of the State for investment and the long term competitiveness of the economy"
- A revised Climate Action Plan will be published. This revised plan will be developed over the coming months. The plan will detail Ireland's target emissions reduction pathway and will provide input to the National Development Plan (NDP).

To support the preparation of Climate Action Plan, 2021 an analytical exercise was undertaken to identify potential measures which are incremental to the 2019 plan and could enable the 2030 PfG targets to be met. The analysis on these measures is serving as input to the Working Groups that are detailing the measures and actions to inform the Climate Action Plan.

Objectives for today is to recap and discuss the primary findings shared in the draft report circulated last week There are 4 priority analyses on socioeconomic impacts to inform the setting of carbon budgets

1 Financing need

Use the analysis conducted for Climate Action Plan 2021 to detail the precise financing need to support delivering Climate Action Plan 2021 (i.e., total capital expenditure by sector/ technology and implications on operating expenditure)

2 Employment impacts

Use a multiplier-based approach to identify the potential labour market implications, incl. jobs by sector and reskilling/ support needed

Investment/ competitiveness attractiveness Quantitatively assess the major drivers of Ireland's competitiveness for existing businesses, including total energy costs (electricity costs. Qualitatively, identify major new commercial opportunities which arise from the transition to net-zero (e.g., low carbon cement)

Household impacts

Identify the socioeconomic implications on example households (e.g., impact on consumer bills) both in general, and for specific social groups

This analysis is based on the draft Climate Action Plan 2021



Total greenhouse gas emissions Ireland with core measures executed, MtCO₂e



1 – Financing Need: ~€125bn investments will need to be mobilized in key technologies; share of incremental cost is highest in buildings

Figures may not sum due to rounding

Key technologies b	y sectors	Investment, EUR bn	that is incremental, %	
与 Electricity	Wind & solar	22		
2	TSO/DSO upgrades	12		
	Interconnection	1	- 49%	
	Backup capacity	1		
Transport	EV passenger cars	40		
	EV trucks/vans	11		
	EV charging infrastructure	1	970	
	Other transport ¹	1		
Buildings	Insulation in buildings	13		
	Heat pumps in homes	12	70 0/	
	Other buildings ²	7	0 / 6 / 0	
	District heating in homes	3		
M Industry	Heat pumps and electric boilers	1		
	Electric boilers and furnaces	<1		
क्रि Agriculture	Electrification	<1		
$\overline{\Theta}$	Reforestation	<1	52%	
	Total	~125		

Includes for example buses, trains, 2&3 wheelers 1.

Includes for example, heat pumps and insulation in commercial buildings, electrical cooking 2.

Source: McKinsey DSE (2021)

Redirected

Share of investment

Incremental

2 – Employment impacts: Implementation of CAP21 measures could create net work needs for +32k direct FTEs in 2030 Thousando

Inousa	anas	_		Increase in job needs Decrease in job needs
	Net change in work needs ¹	Change i Decrease	n work needs breakdown Increase	Rationale
Power	+ 11	-2	13	Job needs driven by growth of renewables capacity and expansion of the grid to support electrification
Transpor	rt 🔺 +1		1	Limited job needs driven by installation and maintenance of electric vehicle charging infrastructure; no vehicle assembly assumed to occur in Ireland given historical precedent
Industry	► ~0	-1		Decline in job needs observed in meat processing but this is offset by a small increase in industrial jobs associated with industrial decarbonisation initiatives
Building	s +24		24	Major growth in jobs needs, driven by comprehensive roll out program for both low-carbon heating (e.g., heat pumps) and retrofits
Agricultu	Jre 🔻 -4	-7	3 Illustrative to show that polic has potential to increase work needs in new agriculture area	Fewer jobs needed in current farming activity; however there will be increased job needs in alternative land uses, such as forestry and bioenergy crops. There has been a decline in farming employment between 2000-2019, implying there may be a c.6k reduction in employment between 2021-30
Total	+ 32	-11	43	

1. May not sum due to rounding

2 – Employment impacts: Wide-ranging occupations require skills shift to adapt to low-carbon world

NOT EXHAUSTIVE

High Medium Low

Sector	Occupation	Scale of skill shift	Description of upskilling requirement
Transport	Passenger and commercial vehicle mechanics	•	New expertise required in electric powertrains, rather than conventional ICE powertrains
Buildings	Plumbers		New expertise required in range of new heating technologies i.e. district heating, heat pumps, electric boilers
	Construction		New expertise required in low-carbon design and implementation (e.g., using new materials like CLT)
Agriculture	Extensification		New expertise required for how to reduce farming inputs (e.g., fertilizer) and the alternative techniques that can be used
Power	Grid operators (TSO/DSO)		New expertise required in the new technologies that are increasing their share of energy generation (e.g., renewables) and balancing technologies (e.g., batteries)
Other	Professional services		New expertise on ESG topics in range of professional services (e.g., knowledge of new regulations for lawyers and knowledge of green finance for financial professionals)

3 – Investment / competitiveness attractiveness: Transitioning is essential for Irish business to maintain competitiveness

Businesses need to respond to changing stakeholder expectations:

Talent



84% of employees are more loyal to a company that contributes to social / environmental issues

B2C customers



+30% of consumers are looking to move towards sustainable companies and products after COVID 19

B2B customers



+81% of companies stated that their commitment to sustainable has increased over 5Y

Businesses need to respond to changing market environments

New / more sustainable products are displacing 'old'



~9%

growth of alternative protein consumption in Ireland 2013-18 – in several EU countries beef consumption is flat or declining

Capital is shifting to sustainability



>30% of capital is ESG; highest scoring ESG players enjoy ~1.1pp cheaper WACC; investors are becoming activists

Stringent targets are the new normal



of Fortune 500 companies have a science-based target, up from <5% 5y ago

If businesses do not act early while options exist, a more sudden decarbonisation journey will cost more, e.g., with stranded assets

 3 – Investment / competitiveness attractiveness: Careful management of CAP21 delivery will be required to minimize costs & maximise the benefits

Careful management of CAP21 delivery will be required to ensure that:

Irish business remains competitive in current markets

Increased energy costs, e.g. driven by build
out of RES



Α

Increased production costs driven by carbon prices



Irish business is well positioned to seize new opportunities



Supplying demand for new products (e.g., alt proteins)



Supplying demand for low-carbon versions of existing products (e.g., lower-carbon cement)



Supplying services that enable the transition (e.g., finance, design)



Deep dive follows

3 – Investment / competitiveness attractiveness: Ireland is well placed to export emerging agriculture products in the near-term as well as energy, buildings end products longer term

		Possible export timeline			Competitive strengths			
	Export opportunities	2021- 25	2025- 30	2030- 35	Existing ad- jacent industry	Natural resources	Relevant skills	Target customers
Agriculture	Alternative proteins end product and ingredients							Global
	Low-carbon dairy end product							Europe
	Carbon credits							Global
	Bioeconomy products				\bigcirc			Europe
Energy	Green hydrogen end product				\bigcirc			Europe
	Green electricity end product				\bigcirc			Europe
Buildings	Heat pumps end product							UK
Industry	Lower-carbon cement know how							Global
Transport	Sustainable aviation fuels end product and know how ¹							UK
Professional	Green finance products and services					n/a		Europe
services and IT	Low-carbon data management							Global

1. Contingent on there being sufficient available land for bioenergy crops, which may require further land uses changes given the competing needs for bioenergy crops Source: McKinsey analysis



Estimated start date Highly relevant Moderately relevant

4 – Household impacts: Delivery of CAP21 expected to only increase the average Irish household's bills by ~0.5-1%

Average household annual spending in Ireland for average household

	2018 Baseline ^{1,}	%	2030	Narrative
Housing & utility ²	24	Housing impacts are a combination of heat pumps and insulation costs, some of the former may have positive cases	+5-15%	On average the combination of heating improvements do not pay back for at least 10 years. Note baseline includes other housing costs, e.g., rent, which is driving down the scale of impact on the bill category
Private transport ³	15	-10-20%		EVs pay back quickly. Similar but slightly smaller savings would also be observed for electrified public transport users
Food ^{5,6}	12		~0%	No material changes from costs in meat or plant based foods in short term
Recreation & Culture	7		~0%	No material changes until aviation decarbonizes significantly; small cost increases may be observed in domestic tourism if businesses pass costs on building decarbonisation through to end customers
Restaurants & hotels		7		
Clothing & footwear		-4		The secondary impacts of decarbonization are minimal
Other ⁷		31		
Total		100	+0.5-1%	Overall, a small increase in 2030 ; this is likely to flip towards a saving by 2050

Future spending % changes⁴

1. Based on Eurostat; 2. Based on 2017 data, excluding ~5% spending in water; 3. Only for passenger cars (i.e. no bus / rail) and exclude the price for green steel production; 4. Assuming only the true costs are passed on to consumer, i.e. there is no additional mark up from the decarbonization costs; 5. Only ~35% of food spending goes to the farmers and assuming 60% of food spending is for animal based products; 6. Excludes the impact of electrification of tractors; 7. Other includes health, communications, education, alcoholic beverages, tobacco, narcotics, furnishings, household equipment, routine household maintenance and miscellaneous goods and services

Source: McKinsey, Eurostat (2019)

4 – Household impacts: Impact on household bills will be unevenly distributed: certain transport and housing circumstances can materially affect the net household bill impact



Low

NON-EXHAUSTIVE

Mitigation area	Characteristic associated with higher cost impact	Magnitude of cost impact	Rationale
Buildings	Home ownership		Home owners will face investment cost of retrofitting whilst renters will often be able to benefit from operating cost savings without investment (which is paid by land lord)
	Old housing stock & low insulation		Those living in old housing stock with low insulation will face higher costs of retrofitting.
	Detached property		Those living in detached houses typically have larger houses and less shared surface area (e.g., walls) so the cost per retrofit is typically higher than for smaller, connected properties
	Later retrofitters		Those who retrofit later may incur higher costs associated with using the gas grid as the cost of managing the gas grids might be distributed over fewer billpayers.
Transport	2 nd hand car buyer		In the short-term, those that buy 2 nd hand cars will have less choice on a BEV because there is a less developed resale market. This may mean they keep an ICE and bear additional cost of fuel from carbon price.
	No access to parking		Those with access to private parking benefit from easier and often cheaper at-home vehicle charging.