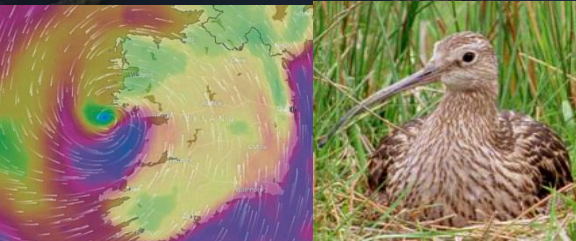


Repositioning Ireland as a Progressive Influence in Tackling Climate Change



“Today one cannot be a leader on hunger without also being a leader in climate change.”

(Ban Ki-Moon Dublin, May 2015)

“We have to go to zero carbon emissions by about 2050 if we are going to stay below 2°C of warming.”

Mary Robinson



All of Ireland is 0.5°C warmer than 30 years ago

1961-90 and 1981–2010 averages for Temperature: Dublin

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Casement Aerodrome													
Mean Temperature 1981-2010	5.1	5.1	6.8	8.2	10.9	13.6	15.7	15.4	13.3	10.3	7.2	5.4	9.7
Mean Temperature 1961-1990	4.9	4.6	6.0	7.5	10.1	13.1	15.2	14.8	12.6	10.1	6.7	5.6	9.3

1961-90 and 1981–2010 averages for Temperature: Cork

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Cork Airport													
Mean Temperature 1981-2010	5.6	5.7	6.9	8.4	10.9	13.5	15.3	15.2	13.3	10.5	7.8	6.1	9.9
Mean Temperature 1961-1990	5.1	5.0	6.2	7.7	10.2	12.9	14.8	14.5	12.7	10.3	7.2	6.1	9.4

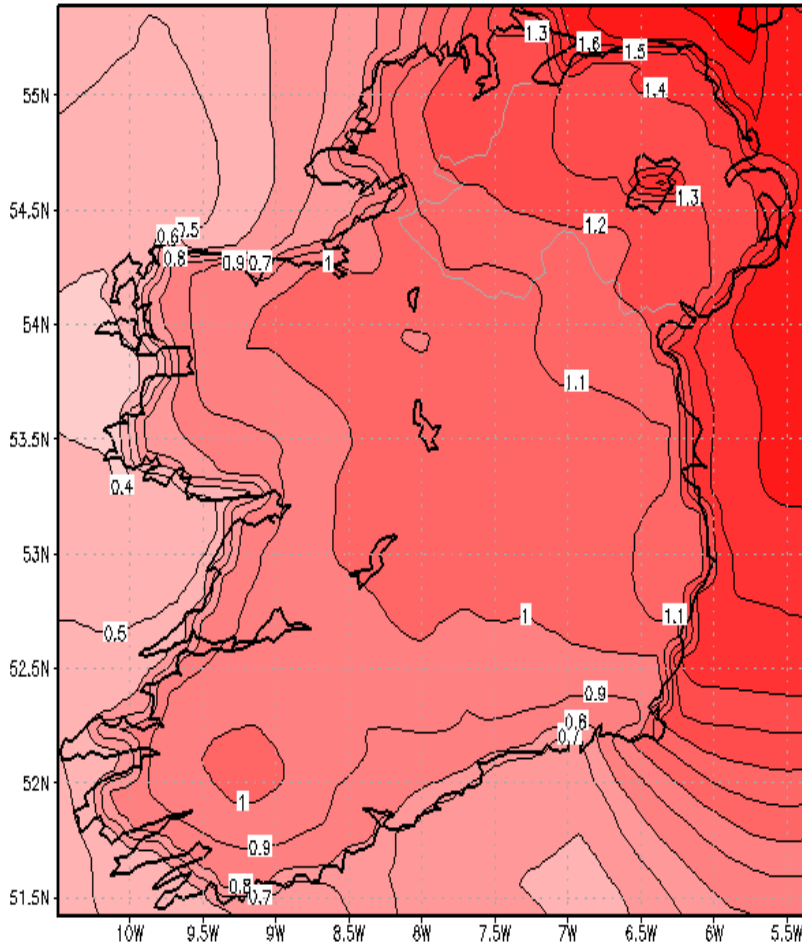
1961-90 and 1981–2010 averages for Temperature: Donegal

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Malin Head													
Mean Temperature 1981-2010	5.9	5.8	6.9	8.3	10.5	12.7	14.5	14.7	13.3	10.8	8.2	6.4	9.8
Mean Temperature 1961-1990	5.4	5.2	6.2	7.6	9.9	12.3	13.8	14	12.7	10.7	7.5	6.3	9.3

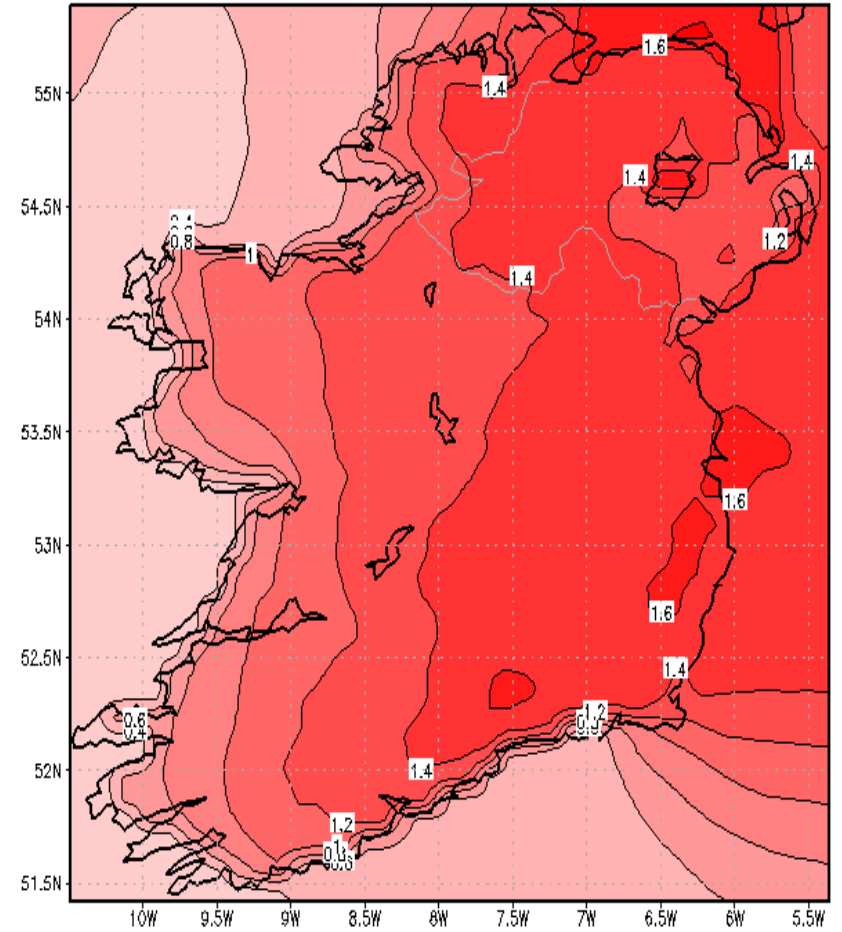
During the next 30 years Ireland will warm by a further 0.5-1.0°C

Regional Climate Model Projected Temperature Changes from 1961-90 to 2021-50

DJF 21-50 WRFmax-temp anomaly in (°C) from 61-90



JJA 21-50 WRFmax-temp anomaly in (°C) from 61-90



GCM: EC-Earth RCP8.5 RCM: WRF

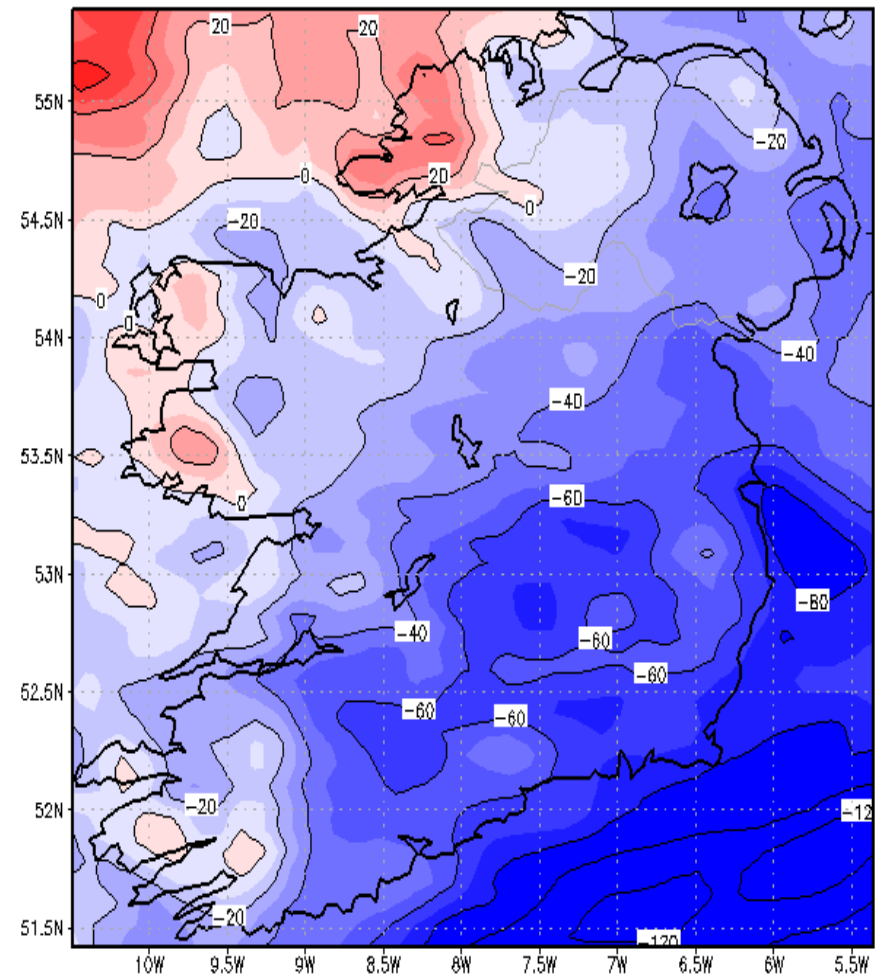
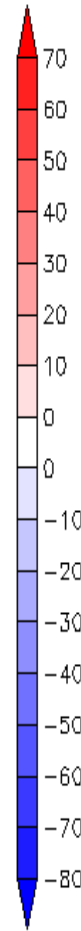
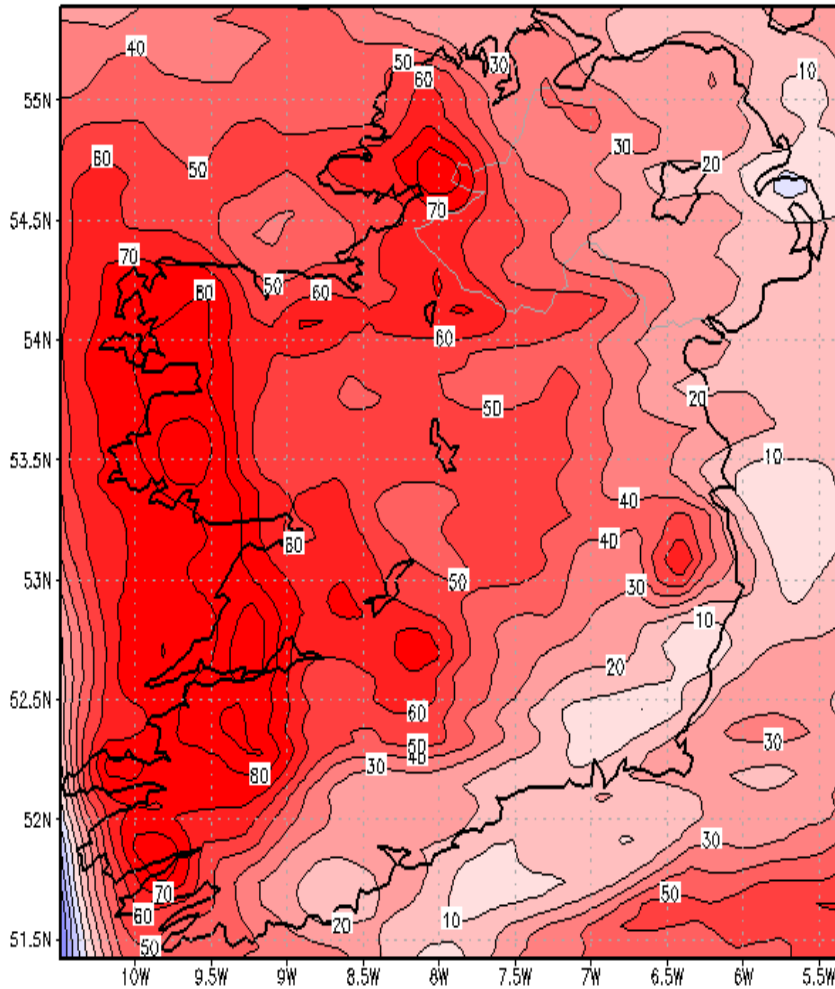
(ICARUS, NUIM)

Rainfall changes present the principal impacts for Ireland

Regional Climate Model: Projected Rainfall Changes from 1961-90 to 2021-50

DJF 21-50 WRFprecip anomaly (mm) from 61-90

JJA 21-50 WRFprecip anomaly (mm) from 61-90



GCM: EC-Earth

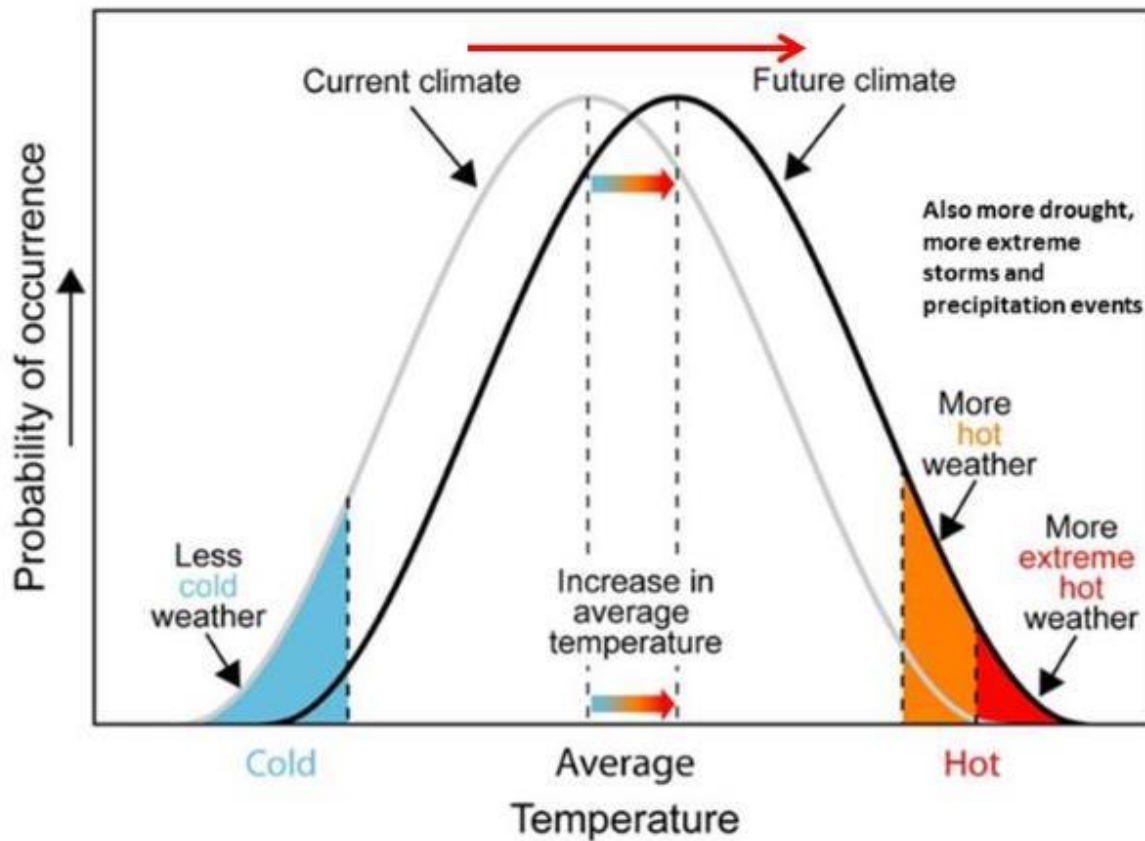
RCP8.5

RCM: WRF

(ICARUS, NUIM)

Climate shift

Climate change more worse extremes



Winter 2013/14



Stormiest Winter on Record and at least for 143 years

Winter 2015/16

Wettest Winter on Record over half of Ireland



Highest Daily Flow Recorded on the River Moy - December 2015

Donegal: 22nd August 2017 63mm of rain in a six-hour period

(Total 2016/17 Winter Rainfall for Dublin Airport (December, January, February): 110mm)



Mountmellick November 2017



Galway January 2018



Paris Obligations



COP21-CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE

Effort-sharing (sharing of emission rights)

- protect climate for benefit of present & future generations **on basis of equity... in accordance with common but differentiated responsibilities and respective capabilities**....developed countries should take lead.

Temperature reference – Acceptance of Risk

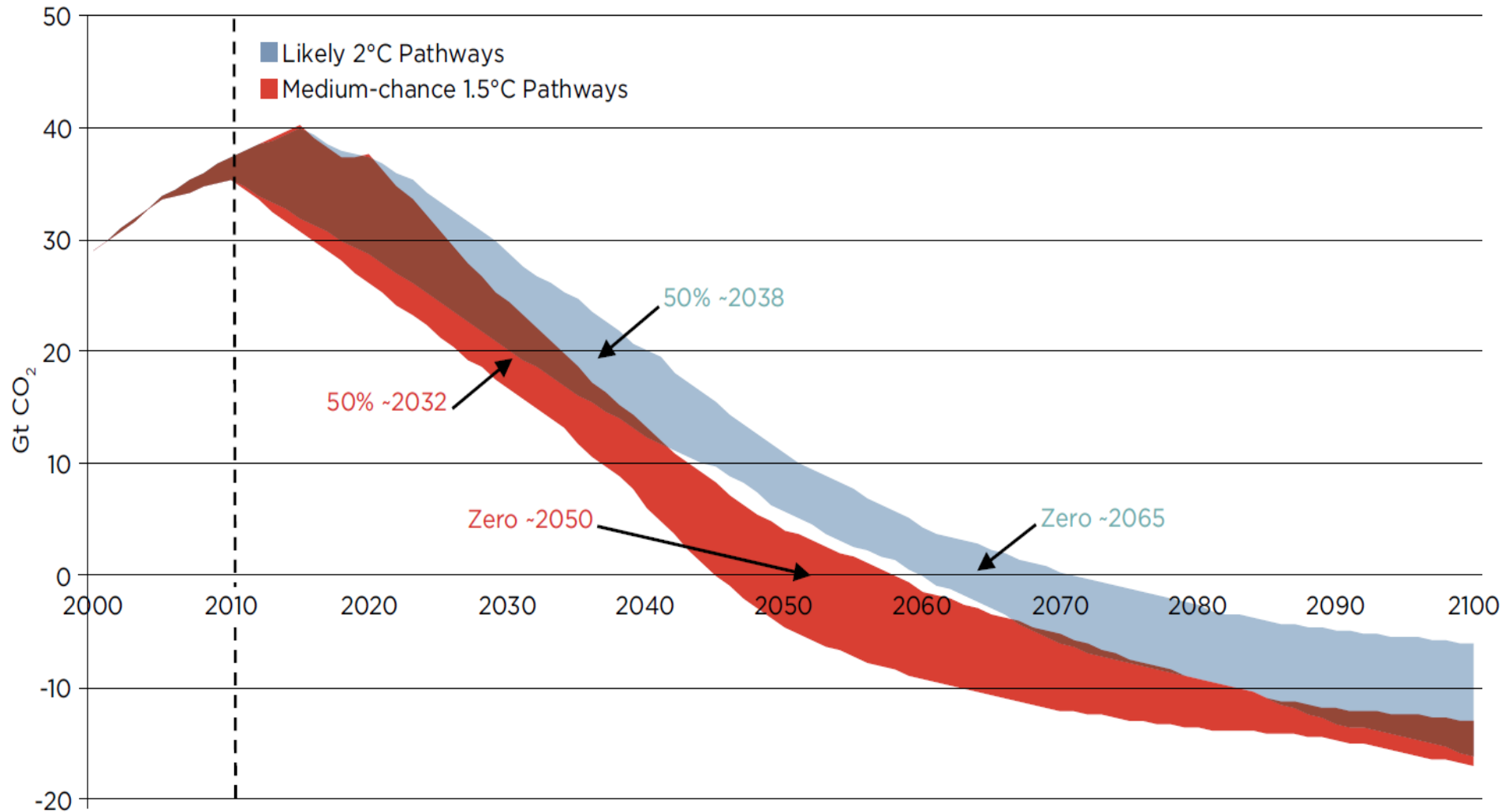
- To hold increase in global temperatures to **well below 2 °C** and pursue efforts to **limit increase to 1.5 °C**.

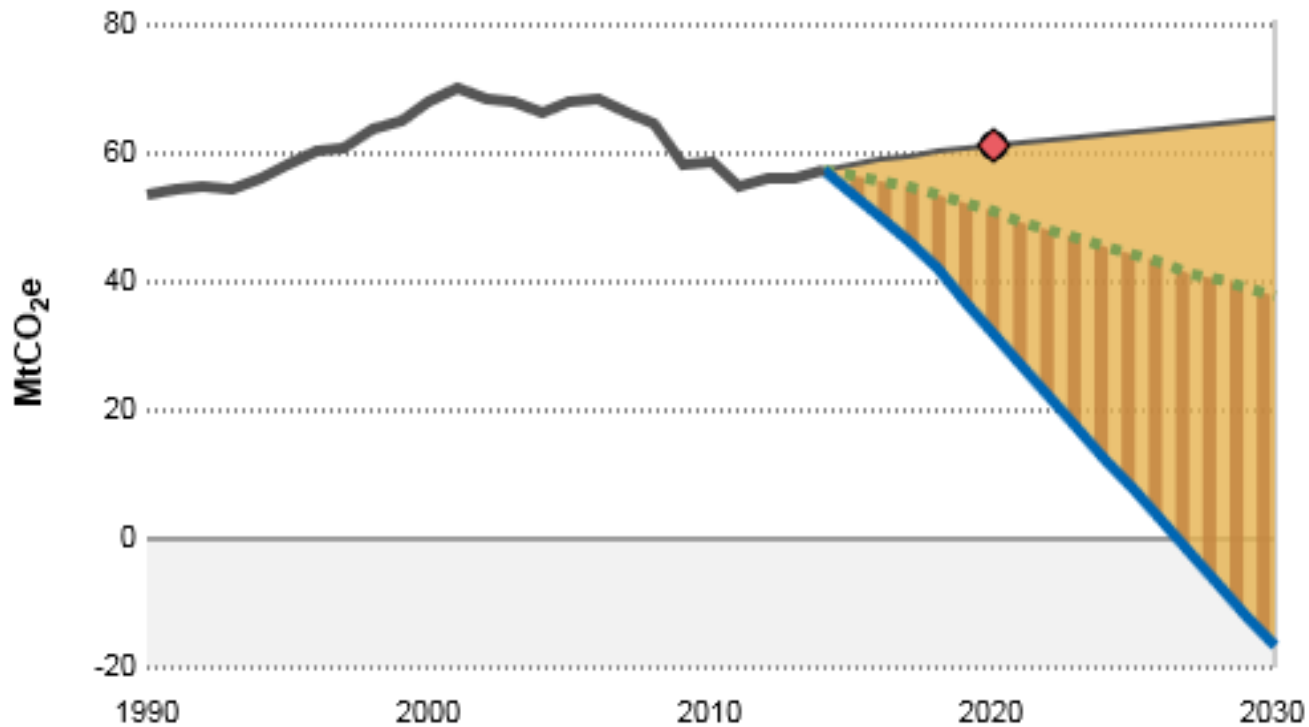
Long-term Commitment

- ‘...aim to reach **global peaking** of greenhouse gas emissions **as soon as possible**’, and ‘undertake rapid reductions thereafter...’
- ‘to achieve a **‘a balance between...emissions by sources and removals by sinks.... in the second half of this century**’

To avoid 2°C will require major emission reductions starting today

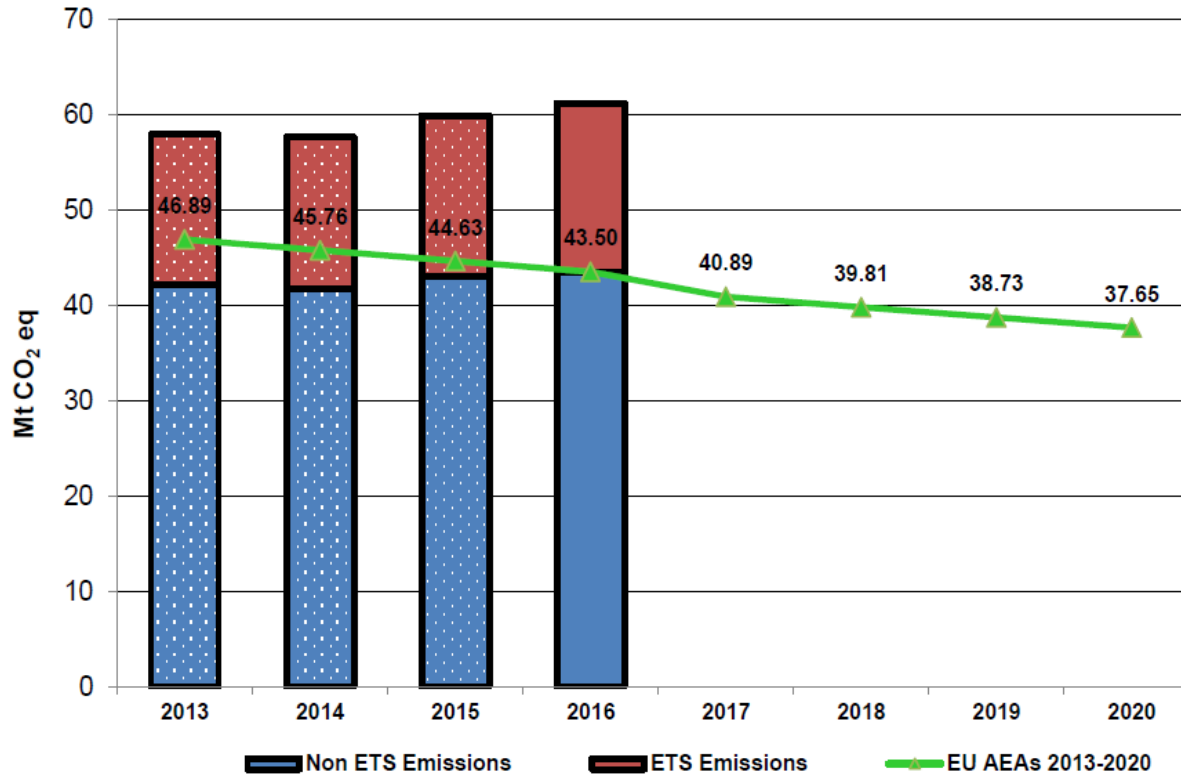
Figure 1: Range of Global Emissions Pathways in Scenarios Consistent with Likely Chance of 2°C or Medium Chance of 1.5°C¹⁸





The Stockholm Climate Equity Reference Calculator output for Ireland. The main blue line shows the 'fair share' mitigation pathway for a 2°C warming limit based on the remaining carbon budget allocation for Ireland. After the middle of the 2020s the line crosses the zero axis, indicating Ireland will have used up its fair share. The top line indicates the present trajectory based on 'business as usual' in Ireland. The dashed line shows the trajectory necessary to conform with the global objectives. The gap between the top and bottom lines indicates Ireland's climate justice debt to the Developing World. (Source: Stockholm Environment Institute (<https://climateequityreference.org/>))

EU Obligations



Ireland will fail to meet its 2020 emission reduction obligations by a large amount. For 2020 it is estimated that non-ETS sector emissions are projected to be only 4% - 6% below 2005 levels. This compares to the agreed target reduction of 20%.

The 2020 Obligations were endorsed by all major Irish political parties

- 2020 targets agreed by Heads of Government (Brian Cowen) 11-12th December 2008 European Council
- The European Parliament voted overwhelmingly in favour of the energy and climate change 'package', on 17th December 2008 with 610 votes for and 60 against and 29 abstentions.

The **EPP-ED Group** of MEPs talked of an "historic victory for the European Parliament." (Fine Gael is a founder Member of EPP)

The **Conservatives in the European Parliament** gave "two cheers" to the package, expressing disappointment over the weakening of the original Commission proposals.

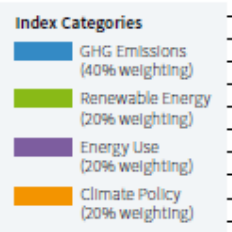
UEN (FF group) "This legislation will give stability to markets, the business sector, scientists and investors".



Rank	Country	Score**	
1*	-	-	
2.	-	-	
3.	-	-	
4.	Sweden	74.32	
5.	Lithuania	69.20	
6.	Morocco	68.22	
7.	Norway	67.99	
8.	United Kingdom	66.79	
9.	Finland	66.55	
10.	Latvia	63.02	
11.	Malta	61.87	
12.	Switzerland	61.20	
13.	Croatia	61.19	
14.	India	60.02	
15.	France	59.80	
16.	Italy	59.65	
17.	Denmark	59.49	
18.	Portugal	59.16	
19.	Brazil	57.86	
20.	Ukraine	57.49	
21.	European Union (28)	56.89	
22.	Germany	56.58	
23.	Belarus	56.38	
24.	Slovak Republic	56.04	
25.	Luxembourg	55.54	
26.	Romania	55.32	
27.	Mexico	54.77	
28.	Egypt	54.02	
29.	Cyprus	52.29	
30.	Estonia	52.02	
31.	Slovenia	50.54	
32.	Belgium	49.60	
33.	New Zealand	49.57	
34.	Netherlands	49.49	
35.	Austria	49.49	
36.	Thailand	49.07	
37.	Indonesia	48.94	
38.	Spain	48.19	
39.	Greece	47.86	
40.	Poland	46.53	
41.	China	45.84	
42.	Bulgaria	45.35	
43.	Czech Republic	45.13	
44.	Hungary	44.00	
45.	Algeria	43.61	
46.	Argentina	41.21	
47.	Turkey	41.02	
48.	South Africa	40.61	
49.	Ireland	38.74	
50.	Japan	35.76	
51.	Canada	33.98	
52.	Malaysia	32.61	
53.	Russian Federation	29.85	
54.	Chinese Taipei	29.43	
55.	Kazakhstan	28.17	
56.	United States	25.86	
57.	Australia	25.03	
58.	Republic of Korea	25.01	
59.	Saudi Republic of Iran	23.05	
60.	Saudi Arabia	11.20	

Ireland 49

Being the worst performing European country in the CCPI, Ireland ranks 49th. According to national experts, Ireland is one of the few EU countries to miss its 2020 emission reduction targets under the EU effort-sharing decision, which is one reason why the country rates *very low* in climate policy. Its performance in the field of GHG emissions is also *very low* as the country is nowhere close to being on track concerning its well-below-2°C compatible pathway with both its current level as well as its 2030 target. We observe a very positive trend in the development of renewable energy in energy supply—as well as the 2030 target—are insufficient, Ireland rates only *medium* in the renewables category.



*None of the countries achieved positions one to three. No country is doing enough to prevent dangerous climate change. **rounded © Germanwatch 2017





AN BILLE UM GHNÍOMHÚ AERÁIDE AGUS UM FHORBAIRT ÍSEALCHARBÓIN,
2015
CLIMATE ACTION AND LOW CARBON DEVELOPMENT BILL 2015

Mar a tionscnaíodh
As initiated

CONTENTS

Section

1. Interpretation
2. Effect of Act
3. Low carbon transition
4. National low carbon transition and mitigation plan
5. National climate change adaptation framework
6. Sectoral adaptation plan
7. Matters of which account is to be taken, and consultation, for the purposes of sections 5 and 6
8. Establishment of National Expert Advisory Council on Climate Change
9. Membership of Expert Advisory Council and related matters
10. Disclosure of interests
11. General functions of Expert Advisory Council
12. Annual review by, and annual report of, Expert Advisory Council
13. Periodic review by Expert Advisory Council
14. Annual transition statement to Dáil Éireann
15. Duties of certain bodies
16. Short title

National Policy Position

- The *National Policy Position* establishes the fundamental national objective of achieving transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050. It sets out the context for the objective; clarifies the level of GHG mitigation ambition envisaged; and establishes the process to pursue and achieve the overall objective. Specifically, the *National Policy Position* envisages that policy development will be guided by a long-term vision based on:
 - An aggregate reduction in carbon dioxide (CO₂) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors
 - In parallel, an approach to carbon neutrality in the agriculture and land-use sector, including forestry, which does not compromise capacity for sustainable food production.

Changing the culture of Ireland's Climate negotiators

While the public impression is of a progressive approach, the reality of negotiations at EU or UNFCCC level is very different.

- National self interest guided by sectoral priorities is paramount.
- Sheltering behind intransigent countries
- Concessions and 'flexibilities' sought to water down Commission proposals



Growing reputational damage both within Europe and Developing Countries
Domestic policy failure in addressing medium term emission targets

Member States watering down of Commission proposals in the Revision of the National Emissions Ceiling Directive

- Complete removal of Methane from the basket of pollutants considered for compliance with the revised National Emissions Ceiling directive
- Ammonia cuts of 30% proposed by the Commission for 2030 reduced to 17%
- “Member States may ‘adjust’ downwards their emission inventories if non-compliance with the national ceilings is caused by countries having applied improved emission inventory methods in accordance with updated scientific knowledge since the time the 2010 ceilings were originally set.”

“As a result of the new Directive, the health impact of air pollution in the EU is expected to be halved by 2030, compared to 2005 levels. But close to 250,000 Europeans are still expected to die prematurely because of air pollution in 2030, even after full implementation of the Directive. Greater progress would have been made if original proposals from the European Commission and Parliament had not been watered down by national governments in the Council. (European Environment Bureau)

	2030 target compared to 2005	One-off flexibility from Emissions Trading System to Effort Sharing Regulation	Flexibility from land use sector to Effort Sharing Regulation	2020 target
LU	-40%	4%	0.2%	-20
SE	-40%	2%	1.1%	-17
DK	-39%	2%	4.0%	-20
FI	-39%	2%	1.3%	-16
DE	-38%		0.5%	-14
FR	-37%		1.5%	-14
UK	-37%		0.4%	-16
NL	-36%	2%	1.1%	-16
AT	-36%	2%	0.4%	-16
BE	-35%	2%	0.5%	-15
IT	-33%		0.3%	-13
IE	-30%	4%	5.6%	-20
ES	-26%		1.3%	-10
CY	-24%		1.3%	-5
MT	-19%	2%	0.3%	5
PT	-17%		1.0%	1
EL	-16%		1.1%	4
SI	-15%		1.1%	4
CZ	-14%		0.4%	9
EE	-13%		1.7%	11
SK	-12%		0.5%	13
LT	-9%		5.0%	15
PL	-7%		1.2%	14
HR	-7%		0.5%	11
HU	-7%		0.5%	10
LV	-6%		3.8%	17
RO	-2%		1.7%	19
BG	0%		1.5%	20

Effort Sharing Regulation for 2030

Watering down the 2030 Effort Sharing Regulation

- ❖ Efforts to match mitigation effort to gdp/capita distorted by political lobby
(Ireland has the 2nd highest gdp/capita in the EU but only the 11th highest headline reduction figure)
 - ❖ Refusal to use any more recent gdp figures than 2012.
(Irish gdp has increased by 20-40% since 2012)
 - ❖ Modellers instructed to use IPCC AR4 (2007) coefficients for methane conversions (25) instead of IPCC AR5 (2014) (34)
(Irish agricultural emissions constitute 33% of total emissions.)
 - ❖ Starting date for reduction calculations changed from 2020 to pre2020.
(Countries with increasing emissions 2018-2020 face a smaller reduction total)
 - ❖ No compliance check for 2030 until 2027
 - ❖ 'Creative' accounting for forestry credits and no counting of degraded peatland emissions
(Ireland receives the highest flexibility land use change offset (5.6%) of any EU country)
- Ireland potentially has a 2030 requirement of near zero increase on its 2020 target

Even this huge concession may not be enough to comply with the 2030 target, avoid fines and advance the National Policy Position

Forestry planting rates are not sufficient to provide confidence that agricultural emissions can be neutralised

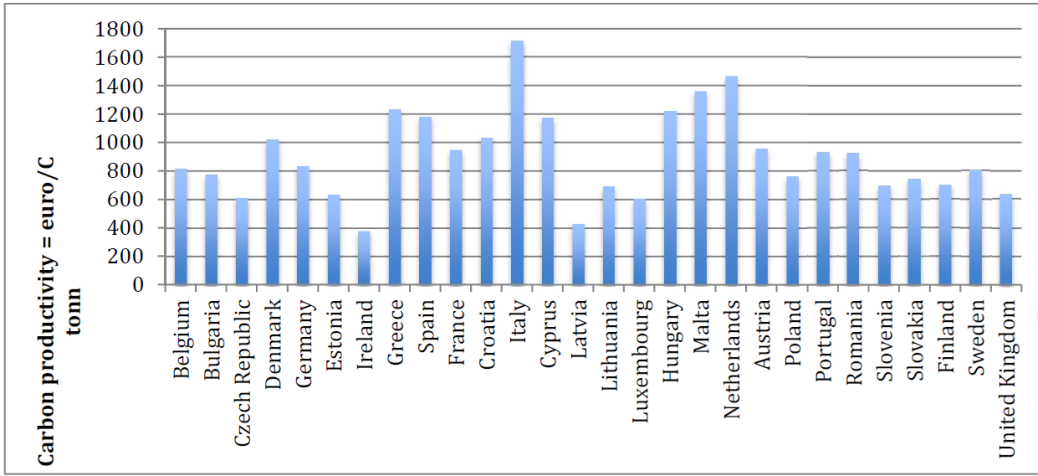
- Afforestation rates 2012-15 average 6,338Ha
- Deforestation rate 2015 7,465Ha
- Forest conversion to Grassland 2015 6,664Ha

Harvest 2020/Foodwise 2025

Proposals

- 50% increase in milk production
- 20% increase in value of beef production
- 20% increase in value of sheep production
- 50% increase in value of pig production
- Foodwise 2025 foresees an 85% increase in agrifood exports

Figure 5: Agricultural GHG productivity in the EU /average 2012-2014)

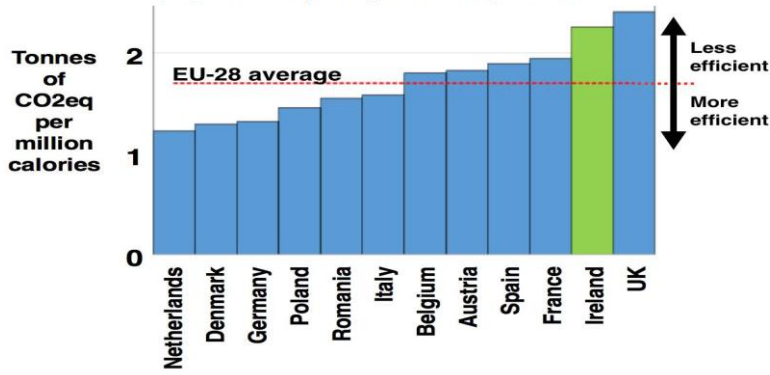


Source: Eurostat.

Issues

- Teagasc do not envisage agricultural emissions peaking before 2025-30
- Over 1M extra cattle since 2014 create increased vulnerability to weather related stresses
- “Efficiency” arguments do not produce absolute emissions reduction when herd increases on the current scale are occurring.
- Promises of potential efficiencies/Marginal Abatement Cost Curves etc. are not delivering on-the-ground mitigation of emissions

Comparing Efficiency of Milk and Beef Production (Top 10 European producers) See Doyle, 2016

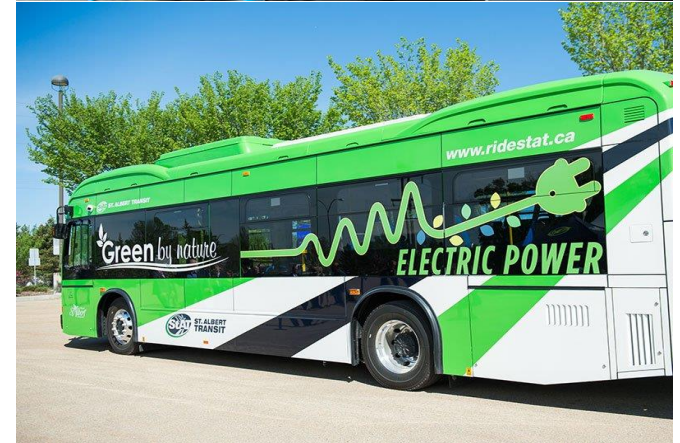


Transport

- Emissions have increased by 139% since 1990. Currently increasing by 3.7% p.a.
- Average Irish private car travels 17,000 km per year, 33% more than the average UK car
- Traffic levels which fell during the recession are increasing rapidly again
- Growth of employment in the Greater Dublin Area is stimulating renewed long distance commuter flows

Issues

- Rebalancing of capital expenditure towards public transport and other forms of sustainable transport
- Urgent need to stimulate EV take up
- Electrification of rail on routes with frequent services
- Bus fleet replacement should be electric
- Implementation of the National Planning Framework offers an opportunity to minimise work/home separation



The window of opportunity is closing and increasingly hard choices lie down the line

- Emission reduction policies have failed for 30 years to deliver on objectives due to a lack of political leadership and conviction.
- Policies not delivering emission reductions are damaging Ireland's international reputation. Ireland is currently a climate laggard and may under a continuation of present trends be increasingly labelled a climate vandal.
- Current failures to meet agreed international obligations have serious adverse consequences for citizens and taxpayers. The era of ineffective, target-less, plans must give way quickly to effective actions, not least to ensure Ireland is positioned to exploit opportunities presented by the post fossil-age economy now rapidly developing elsewhere.
- The polluter pays principle should not be waived for key sectoral interests. The atmosphere is oblivious to economics and 'efficiencies' – gross emissions are all that matter.
- A culture change is needed in how the balance between sectoral interest groups and the public good is mediated through the emission reductions negotiation process.

This Oireachtas Committee can, and should, exert intrusive oversight in this key strategic area.