

Halting Climate Change: an island-wide challenge

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Irish Association Lecture

Introduction

- The Challenge
 - Reaching net zero by 2050
- Northern Ireland
 - Emissions today
 - Decarbonising by 2050
- Sectoral Policies
- Border effects

Climate Change – the Challenge

- Greenhouse gases – causing Global Warming
 - Carbon dioxide from fossil fuels – gases last indefinitely in atmosphere
 - Methane and NOx from agriculture – methane very damaging but short lived
 - Safe stopping distance is very long – if ice caps melt we are under water
- Facing dramatic changes as a result of human behaviour
 - Changes are happening now
- Impacts will become more severe as century progresses
 - The burden will fall more heavily on coming generations
 - Reason for taking action – altruism: a moral question?
 - However there will also be immediate benefits for us from action today – air quality, better insulated homes are more comfortable etc.

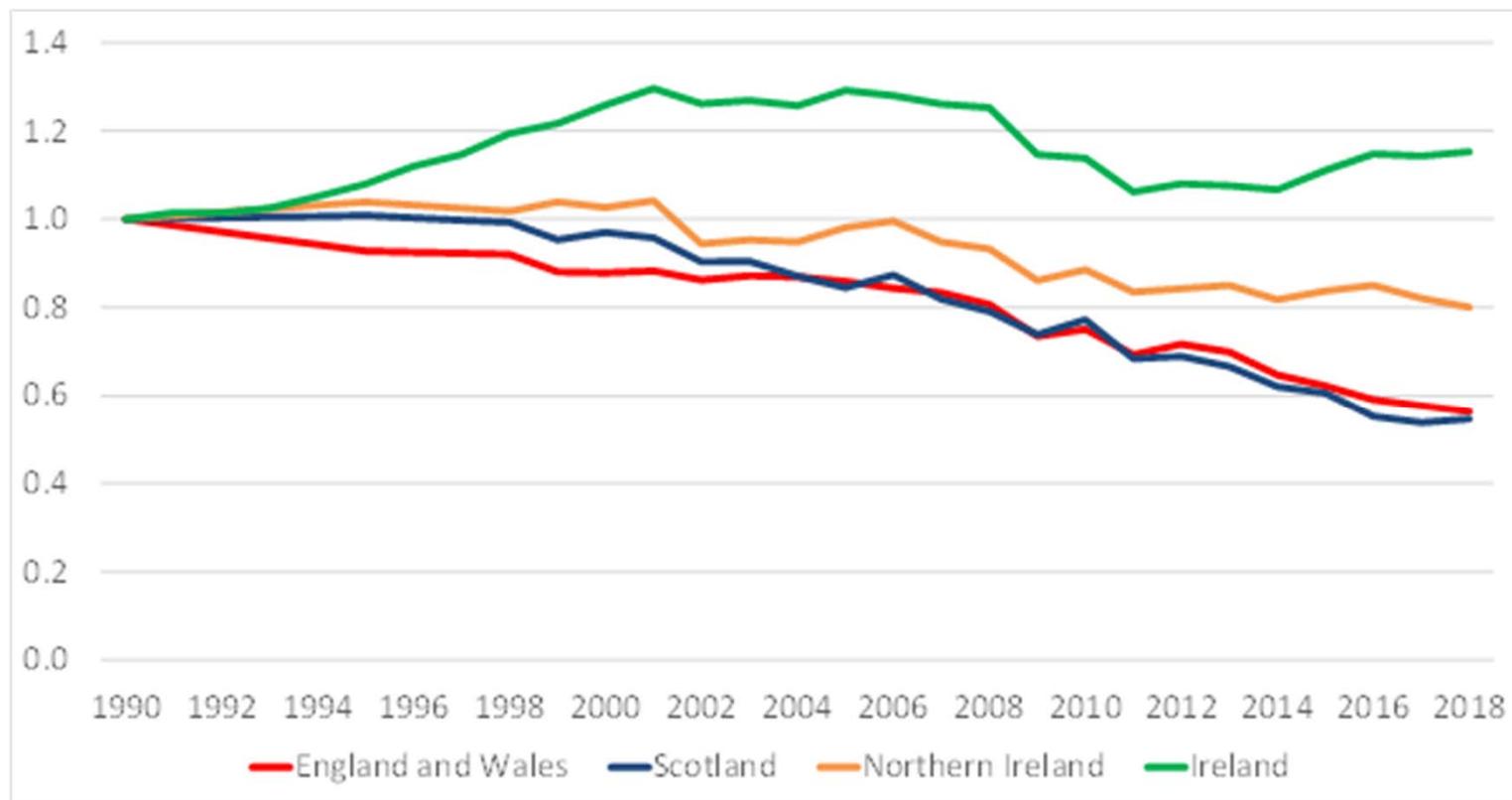
Climate Change – the Challenge

- The Science is well understood, but complex
- No simple answer
 - No “silver bullet”, but urgent action needed
- Many distractions
 - Covid, Brexit etc.
 - Politicians are human: only work 24 hours a day. Getting attention is difficult.
 - Forming coalitions for action difficult – winners are future generations
- How to communicate
 - Human behaviour – complex response to information
 - Ability of people to absorb information
 - Moment of inspiration does not produce lifetime of action
 - The role of the market as a simple signal is, therefore, vital
 - The market is always imperfect. Many other approaches needed as well.

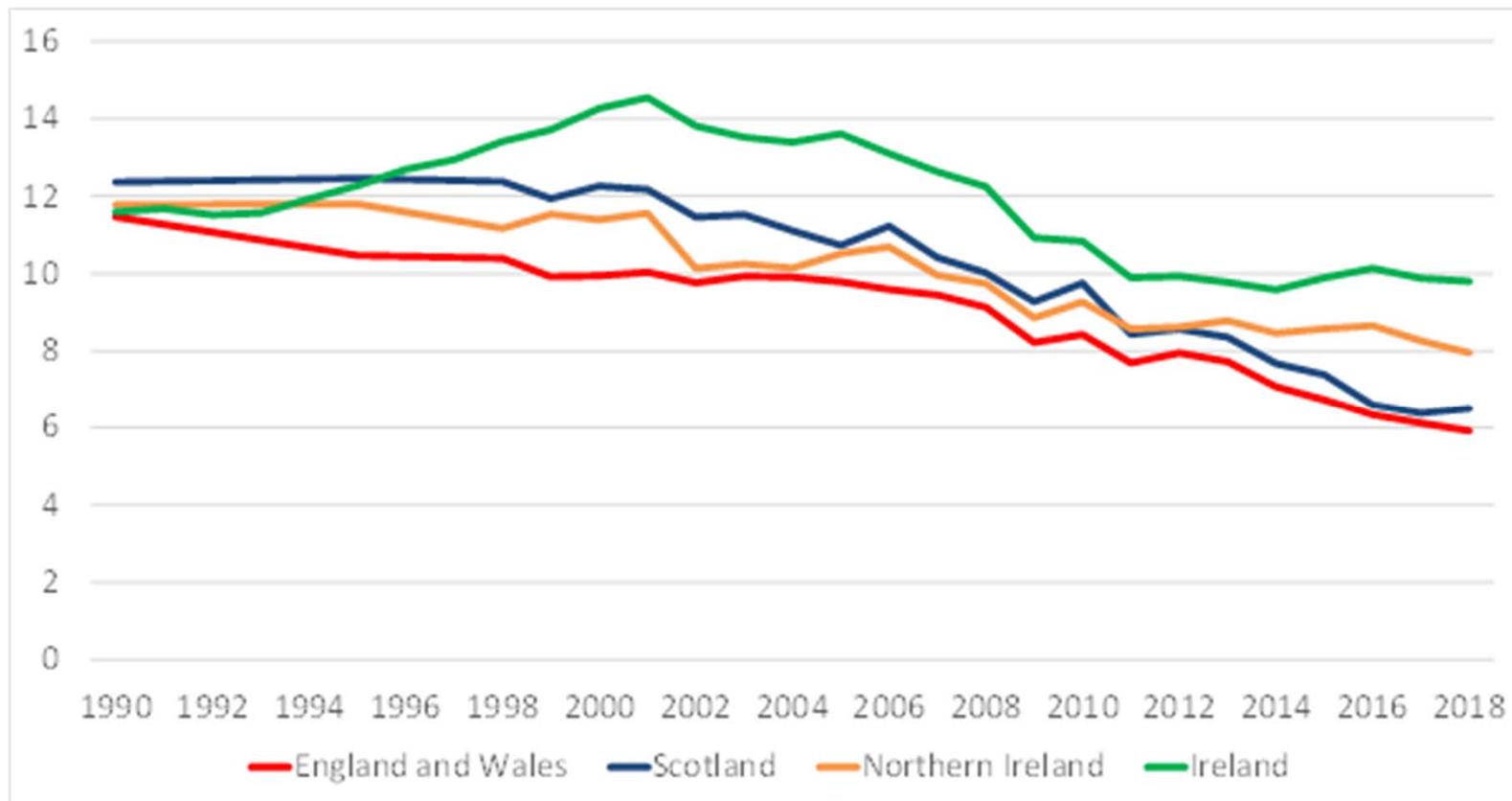
Climate Change – the Challenge

- One option – revert to the standard of living of 100 years ago
 - Unworkable: would be rejected by developing & developed worlds
- Technology offers an alternative path
 - If technology can deliver at reasonable cost – will be adopted
- Challenge – how to develop the technology
 - Requires both public and private research
 - Private research – incentivised by prospect of profitability
- Developed world must pay for development of technology
 - Developing world will adopt it if and only if it is the cheap solution

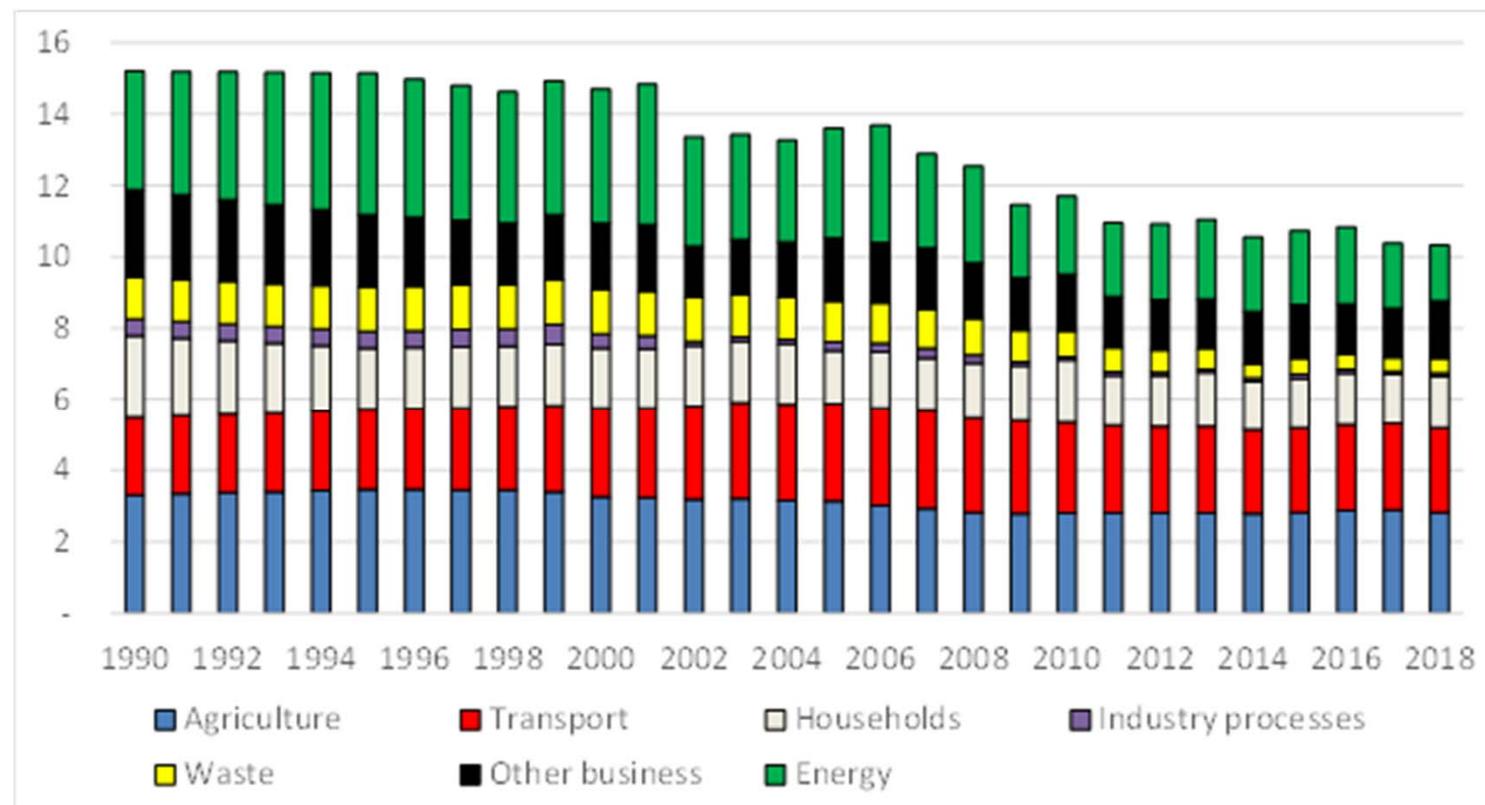
Greenhouse Gas Emissions, Index 1990=1



Greenhouse Gas emissions per head excluding Methane, Tonnes per head



Greenhouse Gas Emissions per head, Northern Ireland, by sector



Greenhouse Gas Emissions per head, tonnes, 2018

	England & Wales	Scotland	Northern Ireland	UK	Ireland
Agriculture	0.6	1.4	2.8	0.7	4.5
Residential	1.0	1.1	1.5	1.0	1.5
Energy	1.6	1.3	1.6	1.6	2.2
Transport	1.8	2.4	2.4	1.9	2.5
Waste	0.3	0.3	0.4	0.3	0.2
Industrial Processes	0.2	0.1	0.1	0.2	0.5
Other Business	1.1	1.1	1.6	1.2	1.6
Total	6.6	7.7	10.3	6.8	12.9

Northern Ireland's challenges

- Agriculture – making it sustainable
- Transport
- Heat – households
- Electricity

Policy Toolkit

- Get the price right – an issue for UK government in first place
 - Needs to be implemented in Northern Ireland if introduced in GB
- Regulation also essential
 - e.g. EU car emissions standards
- Essential to ensure just transition
 - Protect those on low incomes
- Environment a devolved responsibility
 - Problem if lag behind GB (also possibly RoI)
 - e.g. GB carbon price floor in electricity – would have reduced electricity emissions faster on the island if introduced in Northern Ireland
 - Achieving just transition more difficult for Northern Ireland – lack policy levers

Agriculture

- NOx and CO2 are long-lived – will be there forever
- Methane a short-lived gas but very damaging
 - The major part of agricultural emissions
- If cut methane emissions by 40% by 2040 – contribute to cooling
 - e.g. cut herd numbers by 10% to 20% and develop technological solutions
 - Beef farmers earn little – alternative land use could be more profitable
 - Huge opportunity in planting trees to sequester carbon
 - In ROI, planting 7.5% of agricultural land with trees by 2050 could make huge contribution. Northern Ireland?
 - Evolving land use key part of developing an environmentally and economically sustainable agriculture

Transport

- UK-wide solution needed
- Should involve carrots and sticks
- Essential that Northern Ireland does not lag policy in GB
- Electrification of cars. Hydrogen? Densification and public transport

Household Heating

Heating type	NI %	GB %	ROI %
Oil	68	4.2	42.1
Gas (including LPG)	26	84.9	41.2
Solid fuels	3	0.8	9.3
Electricity (including renewables)	2	8.5	6.3
Other	1	1.6	1.1

Major problem – dependence on oil
Reflects dispersed population
Finding solutions for individual homes essential
Likely to be very expensive
Who will pay?

Electricity

- To date reduction in emissions has come at little or no cost to consumers
- Costs will probably be higher over coming decade
 - Will need to be financed by consumers
 - Need to do it efficiently in an all-island context
- Strengthening the grid will be essential
 - Failure so far to build the second North-South interconnector has resulted in unnecessary emissions and costs
 - Additional interconnection needed – to UK and or France

The Way Forward

- DETI developing a new appropriate energy strategy for Northern Ireland
- Climate Change Committee (UK)
 - Decarbonising scenarios for Northern Ireland – significant costs for households
 - Getting the price right through taxation
 - Best if at UK level – could provide compensation to losers
 - Northern Ireland
 - Solving heating problem for households will be expensive and complicated
 - Housing Executive responsible for own housing stock – will need resources
 - Transport – part of a UK and EU-wide solution
 - Agriculture – policy must evolve, as in GB. However, a sustainable solution is possible – need proper understanding of the problem.

Border Effects

- Republic of Ireland has an even bigger problem
 - Last week's Climate Act has set RoI a huge challenge
 - Will be expensive. Special problems for households and agriculture
- While similar objectives North and South, there will be dangers that mismatched policies will have negative side-effects
 - E.g. banning sale of coal and peat in RoI could see major cross-border trade
- Mismatched policies on transport and EVs between GB, Northern Ireland, Ireland and EU could see one jurisdiction becoming a dumping ground for dirty vehicles
- However, if climate change taken seriously, working together would be better than working apart

Conclusions

- Tackling climate change in all its manifestations is essential.
- At a global level, the rich world, including Ireland and Northern Ireland, must carry the bulk of the burden of adjustment.
- In the first place this will come by investing in the development of new technologies.
 - Developing and implementing the new technologies will benefit the rest of the world
 - Clean technology must be the cheap technology to be adopted world-wide
- Much of the work on this island will involve significant investment.
 - Financing this investment will pre-empt resources that might be used for other purposes.
 - Managing a significant investment programme will pose challenges for all economies to ensure that they can deliver the necessary changes.