





One Future is the people's campaign calling for Faster and Fairer Climate Action. We need Government to deliver dramatic transformation within a short period of time. We want energy, transport, housing, food and economic systems that have zero climate impact. Through strategic investment, our communities can flourish, with improved public services, greater equality and social justice. Using our influence internationally, Ireland can become a powerful voice for faster and fairer global climate action.

#ClimateVote2020 #GE2020

Supporting Organisations include: National Women's Council of Ireland, Union of Students in Ireland, Dóchas, The Environmental Pillar, Stop Climate Chaos Coalition and Fridays for Future Ireland.

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The science is clear. Climate breakdown poses an existential threat to human civilization. We need to get to zero climate pollution as fast as possible. Already, with just 1°C of global warming, we are seeing devastating climate change around the world with increasingly severe storms, floods, heatwaves, droughts and wildfires. Everywhere, those who are already struggling with poverty, discrimination and racism are the ones most vulnerable.

According to the UN, the current climate action pledges made by governments are completely inadequate. The world is on course for global heating of more than 3°C, which would bring climate chaos, profound disruption of human life on earth and mass extinction of wildlife. To prevent this, the UN calculates we need to reduce global emissions by 7.6 per cent a year, year-on-year, from now to 2030.¹ Rich countries, that have done more to cause climate change, will have to reduce emissions even faster. Postponing radical action is morally indefensible, and in the end makes the needed responses more abrupt, more disruptive and more expensive.

Ireland has been a laggard on climate action, with vague policy commitments over the years and missed targets. In the last couple of years however, civil society campaigning, the Citizens' Assembly and the special all-party committee on climate action have laid the ground for a step change in Irish climate policy. All of these bodies are simply asking Ireland to do its fair share. And it is in our vital national interest to do so.

We know climate change exacerbates existing inequalities and discrimination, hitting those with less power and money harder. It is also the case that badly designed climate policies can exacerbate existing inequalities and discrimination. To date the Irish government has relied first and foremost on taxes and subsidies to incentivise individual behaviour change, rather than investment in low carbon infrastructure and regulatory measures to deliver systematic decarbonisation throughout the economy. Those with lower disposable incomes and who suffer from other forms of social exclusion are hit harder by higher taxes. Such households are less likely to be able to afford to invest in electric cars and solar panels, subsidies notwithstanding.

Getting to zero climate pollution will bring immediate benefits, beyond reducing air pollution and traffic congestion, to all parts of the country. Co-benefits are to be expected in the shape of warmer homes, better accessibility with improved bus, train, cycling and walking infrastructure, and opportunities to share in the ownership of the energy system that will power our future. There is also potential for job creation in a low carbon, circular economy and new economic opportunities for greener exports.

Earth is our only home. The climate system that has made human civilization possible is at real risk of breaking down because of our pollution. The only future is one where we in Ireland do our fair share of eliminating those polluting emissions much faster than currently planned. That transformation, involving investment in new and greener public services for the benefit of all, can create jobs, support flourishing communities across the country, and reduce inequality and discrimination.

1 United Nations (2019) UN Emissions Gap Report. Available at: <https://www.unep-wcmc.org/news/2019-emissions-gap-report>



We want a Government that
will **deliver MUCH FASTER**
action to avert climate
breakdown.

Deliver annual reductions in climate-polluting greenhouse gas emissions of at least 8% a year over the lifetime of the next Government, i.e. the legally binding Carbon Budget for the period 2021 to 2025 would be equivalent to 8% reductions every year compared to 2020.²

According to the United Nations Environment Programme Emissions Gap Report of 2019, 2020 marks the beginning of a decade in which global emissions must reduce by 7.6% per annum by 2030 if the 1.5°C limit in the Paris Agreement is to remain at all feasible.³ The 2019 Climate Action Plan commits to just 2% emissions cuts per annum from now to 2030. 2% emission cuts per annum is insufficient to deliver Ireland's fair share of the global temperature target, which means that a much greater and costlier effort to shift to a zero carbon future will be required in the future. If Ireland was doing its fair share, we would see at least an 8% average annual reduction from 2020 over the five year period 2021-2025.^{4 5} Postponing deep emission cuts also creates the risk of further fossil fuel 'lock-in' in the meantime if we do not see a clean break with fossil energy investments.

This need for accelerated ambition was recognised by the report of the special all-party Oireachtas committee on climate action in 2019, which noted the evidence from the Marine and Renewable Energy Ireland Centre (MaREI) experts to the Committee that to be consistent with the Paris Agreement, Ireland's GHG emissions should reduce by 5-10% per year, compared to the 4% growth that was witnessed in 2016, in order to achieve net zero GHG emissions by 2030-2050.⁶ In its submission to the National Energy and Climate Plan in January 2020, the Committee unanimously acknowledged that the 2% annual reduction set out in the Climate Action Plan will be insufficient to achieve net zero emissions by mid-century, and recommended that the Department of Communications, Climate Action & Environment respond to the need for immediate and sustained reductions in greenhouse gas emissions by revising the NECP and Climate Action Plan to include immediate year-on-year reductions to 2030, as well as a pathway to 2050, that are quantitatively consistent with the achievement of article 2 of the Paris Agreement, a global 1.5°C target and the UNEP Global Emissions Gap report.⁷

2 This means that cumulative emissions over the 5 year period 2021-2025, aggregated on a GWP-100 basis, must be limited to an absolute maximum which is at least 22% less than the baseline (of no change to annual emissions compared to 2020).

3 United Nations (2019) UN Emissions Gap Report.

4 McMullin et al. (2019). Assessing Negative Carbon Dioxide Emissions from the Perspective of a National 'Fair Share' of the Remaining Global Carbon Budget. Available at: <http://www.eeng.dcu.ie/~mcmullin/etc/MASGC-McMullin-2019-AAM/MASGC-McMullin-2019-AAM.pdf>

5 Stop Climate Chaos (2019). Stop Climate Chaos Coalition submission to Ireland's Long-Term Strategy. Available at: https://www.stopclimatechaos.ie/assets/files/pdf/stop_climate_chaos_submission_long_term_strategy.pdf

6 Joint Oireachtas Committee on Climate Action (2019). Report of the Joint Committee on Climate Action Climate Change: A Cross-Party Consensus for Action March 2019. Available at: https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/joint_committee_on_climate_action/reports/2019/2019-03-28_report-climate-change-a-cross-party-consensus-for-action_en.pdf

7 Joint Oireachtas Committee on Climate Action (January 2020). Consultation on Ireland's final integrated National Energy & Climate Plan 2021 – 2030. Available at: https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/joint_committee_on_climate_action/reports/2020/2020-01-13_report-on-

Support the European Commission's proposal to put emissions reduction targets of 50%-55% by 2030 and net-zero by 2050 into European law.

The new European Commission has committed the EU to work towards carbon-neutrality by 2050. The European Commission's Green New Deal published in late 2019 includes a legally binding 50-55% emissions reduction target for 2030. However, Ireland has thus far failed to support even the least ambitious proposals of the Commission, or to back the Member States who are calling for an increase in the EU's 2030 reduction target to 55%. It is essential that the Irish government now offer clear support to an increase of the 2030 EU target to at least 55%. The Irish government needs to acknowledge that much more needs to be done at both national and EU level, and that Ireland supports the adoption of an EU climate law with binding sectoral targets that are in line with the Paris Agreement. This must be done well in advance of the UN climate change conference taking place in Glasgow in November 2020.⁸

Enshrine a national net zero target for the whole economy in law, and implement, at a minimum, the package of policies and measures recommended in the cross-party report of the special Oireachtas Committee on Climate Action.

Ireland's 2015 climate law did not set either medium- or long-term climate targets, or put in place a mechanism for setting targets, or achieving them. The legislation relied on an out of date and unambitious national policy position set back in 2014, before the Paris Agreement was adopted. The result was that there was essentially no benchmark against which to measure progress, and because of these key weaknesses in the 2015 legislation, Ireland is not on course to reaching mandatory EU 2020 and 2030 obligations. In 2019, the special all-party committee on climate action recommended that new climate legislation be enacted without delay which would contain a legally binding target for net zero emissions by 2050.⁹ Getting a target into law will lock in sustained emission reductions and coherent policy delivery in the coming decades, and ensure consistent and credible commitments to guide investments across the economy. Such a framework would mean that regardless of which parties make up the next few governments, the climate programme should be broadly the same. This is a much needed step forward.

The committee also proposed far-reaching yet practical sectoral recommendations that provided important policy building blocks that had cross-party political support. Only some of these recommendations were included in the 2019 Climate Action Plan, despite their potential to deliver additional and sustained emissions reductions.

consultation-on-ireland-s-final-integrated-national-energy-climate-plan-2021-2030_en.pdf

8 Climate Home News. (December 2019). The EU releases its Green Deal. Here are the key points. Available at: <https://www.climatechangenews.com/2019/12/12/eu-releases-green-deal-key-points/>

9 Joint Oireachtas Committee on Climate Action (2019). Report of the Joint Committee on Climate Action Climate Change: A Cross-Party Consensus for Action March 2019.

Revise the legal mandates for key state and semi-state agencies, such as Coillte, Teagasc and the ESB, to require that they perform their functions in a manner consistent with Ireland's climate and biodiversity obligations.

All public bodies, including local authorities, semi-state companies and statutory agencies, have a role in addressing climate action. It is important that state agencies do not work in silos, and that their aims, objectives, budgets and policies further the national transition effort and help meet Ireland's obligations under the Paris Agreement. A legal requirement for all public bodies to adhere to the climate targets was also recommended by the special all-party committee on climate action established to consider the Citizens' Assembly recommendations.



We want a Government that
will **deliver MUCH FAIRER**
climate action to ensure
no one gets left behind

We need substantial government investment, with new and innovative sources of public finance in public transport, warmer homes and community energy to make zero carbon options available for everyone.

Ensure affordable and accessible transport for all

- **Invest 2/3 of the transport budget in public transport, cycling and walking.**
- **Invest an additional €50 million annually into the Rural Transport Programme.**
- **Free public transport for life for everybody since 2008, the year of the bank guarantee, starting with the under 12's age cohort in Budget 2021.**

The EPA estimates that transport emissions will increase by between 6%- 11% (depending on the policies that are implemented) over the next decade.¹⁰ This is due to population and economic growth, along with high rates of car dependency and urban sprawl. Reducing emissions from the transport sector must be tackled urgently and aggressively if Ireland is to have any hope of reaching our 2030 obligations under the Paris Agreement. Progress in tackling transport emissions has been very limited, despite the fact that there are many potential co-benefits to reducing transport emissions for public health, better air quality, and improved mobility for all. The UN has recommended that 20% of the transport budget is dedicated to clean, healthy, safe cycling and walking infrastructure.¹¹ We currently only invest 2%. What is urgently required is a rebalancing of existing funding from new roads and the prioritisation of investment in walking, cycling and zero emissions public transport fleets.

Deliver a 'warmer homes for all' programme to reduce energy use and save money

- **Commence and finance a deep retrofit programme for all local authority housing with an initial investment of €200 million, to be rolled out annually.**
- **Introduce a Government-backed low-cost loan scheme for home-owners to finance large scale deep retrofitting of homes with low BER ratings.**
- **Create a "One-Stop-Shop Energy Agency" for every county to give householders the project management support they need to retrofit their homes.**
- **Introduce measures to ensure that energy standards in the private rental sector are increased to a minimum BER rating by 2030 without penalising tenants.**

10 Environmental Protection Agency (2019) Ireland's Greenhouse Gas Emissions Projections 2018-2040. Available at: https://www.epa.ie/pubs/reports/air/airemissions/ghgprojections2018-2040/Greenhouse_Gas_Projections.pdf

11 UN News. (October 2016) Put 'people, not cars' first in transport systems, says UN environment chief. Available at: <https://news.un.org/en/story/2016/10/543292-put-people-not-cars-first-transport-systems-says-un-environment-chief>

Deep retrofitting of Ireland's existing housing stock - which means bringing all housing up to a minimum A3 standard - is recognised as one of the main energy efficiency challenges, but it also offers a significant opportunity with major health, economic and employment benefits. The Climate Change Advisory Council has noted that the rate of retrofit of the existing building stock to near zero emissions levels needs to be scaled up if Ireland's existing 2030 targets are to be met.¹² Significantly greater resources by way of grants, financing and project management support is required in order for households to upgrade their homes in an efficient manner. Energy communities are struggling however, and require more resources and core funding from the government. There is no national target for community owned energy and many practical barriers to community energy exist, barriers which can be removed through policy changes. Initiatives such as the Tipperary Energy Agency SuperHomes scheme should be scaled up and replicated nationwide to enable and empower communities make the transition to a zero carbon future.

Support communities to develop and own renewable energy projects

- **Deliver microgeneration supports to unleash a community energy revolution across Ireland, and start by making every school a solar school by 2025.**
- **Support community energy groups with access to grid connection so that communities can lead the renewable energy transition, and build resilient, diversified local economies.**

There is huge unmet potential for community energy initiatives to deliver both energy conservation and renewable energy generation, the two key elements of meeting our energy targets. The ability of householders, farmers and small enterprises including community groups to generate their own renewable energy, and trade it and share it has been a key factor in the renewable energy revolution in other countries, notably Germany¹³, Denmark and Scotland. Without a payment for small scale or community owned generation, including solar, this "rooftop revolution" will not happen in Ireland. Facilitating community ownership of renewable projects, as is done in other European countries, can help achieve public acceptance of renewable energy projects and climate policy more generally. Key steps must include a fair price for rooftop solar electricity supplied to the grid, measures to enable community-led projects such as simplifying grid access, and a Danish-style shared ownership scheme mandating that developer-led projects offer 20% of the equity to local people.

12 Climate Change Advisory Council (2019) Annual Review 2019. Available at: <http://www.climatecouncil.ie/media/Climate%20Change%20Advisory%20Council%20Annual%20Review%202019.pdf>

13 1.5 million Germans generate solar electricity on their roofs, and over 50% of all renewable energy in Germany is owned by communities and households. See: Claudia Fruhmann and Nina Knittel (2016): "Community Energy Projects: Europe's Pioneering Task", Climate Policy Info Hub, 03 March 2016. Available at: <http://climatepolicyinfohub.eu/community-energy-projects-europes-pioneering-task>

Speed up the move away from peat and coal while ensuring fair treatment of workers

- **Sit down with the trade unions and other stakeholders to negotiate, in 2020, a Just Transition Agreement for peat and coal workers and their communities.**
- **End the burning of peat and coal for electricity by 2021.**

The Government was first advised to plan to stop burning coal and peat for electricity in 1998. EPA figures for 2018 show that emissions reductions in the energy sector were, in part, attributed to maintenance works at the Moneypoint generating station which meant it closed for a number of months.¹⁴ Closing Moneypoint sooner than 2025, and peat-burning stations before 2028, as proposed in the 2015 Climate Action Plan, can help deliver faster emissions reductions. But to achieve this, it is crucial that a fair, inclusive, comprehensive, well-managed and well-resourced Just Transition Taskforce is established to ensure the social protection of workers and their communities, and to support the redevelopment of skills and redirection of employment into sustainable sectors. This requires a mandate from the government to negotiate a deal between workers, their trade unions and the ESB and Bord na Móna, community representatives and environmentalists for an "orderly exit" from fossil fuel related industries in the affected region, and to bring about long-term security for affected communities.

End support for any new fossil fuel exploration and infrastructure

- **Ban the issuing of new exploration licences for fossil fuel exploration in Irish waters.**
- **Ban the import of fracked gas and building of fossil gas infrastructure at Shannon and Cork.**

Continued investment in fossil fuel exploration, extraction, and network infrastructure is incompatible with global and domestic climate objectives of limiting warming to 1.5°C.¹⁵ Any new gas infrastructure built between now and 2035 risk becoming stranded or devalued assets, or assets that are transformed into liabilities. Such investment, especially if backed by public finance, will amplify the economic and environmental risks associated with fossil fuel lock-in, bearing in mind that even current planned infrastructure is projected to result in emissions that will breach the global carbon budget for 1.5°C.¹⁶ Ceasing the issuing of permits for fossil fuel exploration may also have the effect of increasing the ambition and the effectiveness of climate policies.¹⁷

14 Environmental Protection Agency (2019). Press release: Ireland exceeds its emissions budget by 5 million tonnes and moves further from climate commitments. Available at: <http://www.epa.ie/newsandevents/news/pressreleases2019/name,67153,en.html>

15 McGlade C, Ekins P (2015) The geographical distribution of fossil fuels unused when limiting global warming to 2°C. *Nature* 517:187–190 Smith et al. (2019), 'Current fossil fuel infrastructure does not yet commit us to 1.5 °C warming', *Nature Communications*, Vol. 10, 101. Available at: <https://www.nature.com/articles/s41467-018-07999-w#Sec8>

16 Anderson and Broderick (2017), *Natural Gas and Climate Change*. Friends of the Earth Europe. Available at: https://www.foeeurope.org/sites/default/files/extractive_industries/2017/natural_gas_and_climate_change_anderson_broderick_october2017.pdf

17 Green, F. & Dennis, R. *Climatic Change* (2018) 150: 73. <https://doi.org/10.1007/s10584-018-2162-x>

There should be no further exploration for natural gas in Irish waters (for gas which we already know will not come on stream until after 2030), and undeveloped licences should be revoked. In view of the verified methane leakage rates associated with fracking, as well as its detrimental impact on communities around the world, Ireland should not import gas from fracked sources, including in the form of Liquefied Natural Gas. Ireland does not need more fossil gas to ensure energy security; overemphasis on the role of fossil gas in the transition is undermining, rather than supporting, secure energy pathways.¹⁸ A more ambitious, secure energy system transition is possible. What is required is an urgent programme to phase out existing natural gas and other fossil fuel use as an imperative of any scientifically informed and equity-based policies designed to deliver a safe climate. This requires prioritised investment in renewable energy, storage, synthetic fuels, and demand response and efficiency ahead of more gas capacity.¹⁹

Help poorer countries to cope with climate change impacts

- **Ireland should contribute its fair share to international climate finance, prioritising public finance for adaptation in the poorest countries.**

Even with existing and planned measures to mitigate climate change, vulnerable developing countries will need to increasingly adapt to climate change impacts. It has been estimated that developing nations will face 75% of the cost of the climate crisis, and the lives and livelihoods of millions of people are at risk.²⁰ Predictable public finance is essential for developing countries to deal with the unavoidable impacts of climate change, such as drought or inundation due to sea-level rises. Public money is also needed to support emissions reductions in developing countries with smaller economies, and less developed financial infrastructure – all factors that discourage private investment. In 2018, Ireland contributed just €80 million to international climate finance. However, the annual climate finance contributions would need to increase to nearly €475 million of the €91 billion a year agreed by donors at the Paris Agreement in 2015 in order to fairly support developing countries to take climate action.²¹

18 See Stop Climate Chaos briefing: 'Sheikhs and Oligarchs' Debunking the myths and media spin on Ireland's need for fossil gas. July 2019. https://www.stopclimatechaos.ie/assets/files/pdf/sheikhs_and_oligarchs_-_debunking_the_myths_about_irelands_need_for_fossil_gas.pdf

19 McGlade et al. (2018), The future role of natural gas in the UK: A bridge to nowhere?, *Energy Policy*, 113, pp. 454-465. Carbon Tracker Initiative (2019) The trillion dollar energy windfall. Falling renewable costs and intermittency solutions drive a tipping point for the Inevitable Policy Response. Available at: <https://www.unpri.org/download?ac=7034> Stockman & Muttitt (2018), Gas is not a Bridge Fuel Why Ireland's Climate Goals Cannot be Met with More Gas. Oil Change International. Available at: http://priceofoil.org/content/uploads/2018/07/Ireland-Fossil-Gas-Briefing_final.pdf

20 Carrington, D. (25 June 2019). 'Climate apartheid': UN expert says human rights may not survive. Available at: <https://www.theguardian.com/environment/2019/jun/25/climate-apartheid-united-nations-expert-says-human-rights-may-not-survive-crisis>

21 Christian Aid Ireland (December 2019). Ireland must increase climate finance contributions six-fold. Available at: <https://www.christianaid.ie/news/ireland-must-increase-climate-finance-contributions-six-fold>



We want a Government
that will **align agriculture
and land-use with our
climate and biodiversity
obligations**

Support rural livelihoods and reduce agricultural pollution and emissions

- **Develop an agriculture policy that is in line with our climate, biodiversity and water quality obligations; improves national food security and supports farmers in a just transition away from intensive livestock production.**
- **Support reform of the EU's Common Agricultural Policy to ensure it supports public money for public goods including High Nature Value farming and a just transition for farmers and rural communities.**
- **Place limits on nitrogen fertiliser and pesticides import and usage.**

The latest IPCC assessment on land and climate change (published in August 2019) warned that intensive human activity has turned how we use our land into a major source of pollution. The report concludes if we are to avert catastrophic environmental breakdown, we must transform how we produce and consume food, and how we use and manage land.²²

As a result of Government policy, emissions from agriculture are set to rise by up to 4% over the next decade due to increased cattle numbers, increased fertiliser use and ongoing carbon losses from peatlands, degraded commercial forestry and soils.²³ Agriculture is responsible for the largest share (47%) of Irish emissions not covered by the EU Emissions Trading Scheme (EU ETS). The intensification of the dairy sector in recent years presents significant challenges for achieving our climate, biodiversity and water quality obligations.

Ireland can chart a different course. The special all-parliamentary committee on climate action recommended in 2019 that a national land use plan be devised to put the land-use sectors back on track with the Paris Agreement. Excessive use of nitrogen fertilisers generates nitrous oxide emissions and increases grass growth that in turn increases methane emissions from cattle. Reductions in total nitrous oxide emissions and environmental pollution can only be guaranteed by limiting the total reactive nitrogen fertiliser input into the system. An immediate imposition of limits on the import of reactive nitrogen in nitrogen fertiliser and animal feed, to bring usage down to 2011 levels in 2020, followed by a more gradual reduction would help drive down emissions.

The livelihoods of farmers must be protected in the move away from intensive livestock production. Reform of the CAP must address income inequality in the agricultural sector and must further incentivise agricultural practices that do not jeopardise Ireland's environmental thresholds. However, in addition to CAP reform, a broader, more holistic approach to a just transition for agriculture is required.

22 IPCC, 2019: Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. Available at: <https://www.ipcc.ch/srcc1/>

23 Environmental Protection Agency (2019) Ireland's Greenhouse Gas Emissions Projections 2018-2040. Available at: <https://www.epa.ie/pubs/reports/air/airemissions/ghgprojections2018-2040/>

Reconnect, restore and protect nature

- **Establish, in mid 2020, the Citizens' Assembly on biodiversity loss mandated by the Dáil's declaration of a climate and biodiversity emergency on 9 May 2019.**
- **Reverse the budget cuts suffered by the National Parks and Wildlife Service, allocating at least €100 million in Budget 2021 to protect habitats for nature and people.**
- **Develop a continuous cover forestry policy with the right trees in the right place under the right management, focusing on native tree species underpinned by ecological assessment of land to be planted.**
- **Ensure that 30% of land and sea is managed for biodiversity and achieve favourable conservation status for 50% of habitats and species by 2030.**

Limiting global temperature needs resilient, healthy and diverse ecosystems.²⁴ Ireland's natural ecosystems, many of which are internationally important habitats, are in poor condition. 30% of wild bee species are threatened with extinction, and only 30% of hedgerows have good ecological quality. There has been a 40% decline in waterbirds in less than 20 years and over 60% of our regularly occurring birds are in trouble.²⁵ Inadequate investment in nature conservation means that our ecosystems are not prepared to withstand climate change, or to provide flood protection, carbon storage, and habitat for wildlife.²⁶

Currently, Ireland is heavily reliant on afforestation to offset rising emissions from the agri-food sector, but even the annual planting targets are not currently being met. In the absence of rapid emissions reductions, achieving carbon sequestration through land use policy will do little in the short term relative to the scale of the challenge. Furthermore, if incorrectly sited, widespread afforestation can threaten biodiversity and aquatic systems over the long-term. Policy must have regard to the far-reaching environmental implications of afforestation alongside the social and economic impacts. Continuous cover forestry policy with the right trees in the right place under the right management, focusing on native tree species offers a more sustainable alternative.

In May 2019, the Dail voted to declare a climate and biodiversity emergency and to establish a Citizens' Assembly to examine how the state can improve its response to biodiversity loss. Ireland must put nature on a path to recovery, and ecosystems on a path to resilience if we are to avert climate breakdown and adapt to climate change impacts.

24 Rockström et al. (2016) Earth's Future, The World's Biggest Gamble, Available at: <https://doi.org/10.1002/2016EF00039>

25 Kevin O'Sullivan. (15th May 2018). Irish bumblebee population in decline. Irish Times. Available at: <https://www.irishtimes.com/news/environment/irish-bumblebee-population-in-decline-1.3495040>

26 Joint Committee on Culture, Heritage and the Gaeltacht debate -Tuesday, 2 Jul 2019. Bird Population in Ireland: BirdWatch Ireland. Available at: https://www.oireachtas.ie/en/debates/debate/joint_committee_on_culture_heritage_and_the_gaeltacht/2019-07-02/3/

