

GREENFUTURES

Lesson 4: Climate Justice, Futures Thinking and Green Innovation

Teacher Guide

This is the final GreenFutures lesson and it is deliberately framed differently from the first three. Where earlier lessons covered difficult material such as climate change, AI risk, hard trade-offs, this lesson pivots toward fairness, future possibility and the students' own sense of capability.

Time	~65 minutes (flex to a 40-minute class by trimming discussion time and one activity, as noted in the walkthrough below)
Background	Builds directly on all three previous lessons and draws on each lesson's climate journal entries for the closing capstone task. Allow extra time if possible, this is the longest and most important session to run in full.
Materials Needed	PowerPoint presentation, laptop, screen, timer, students' climate journals from Lessons 1–3, worksheet or slide template for the climate action proposal, certificates of completion (can be also presented at the follow-up celebration event, per the module's NCCA-aligned design).

Curriculum Links

GreenFutures is designed as an NCCA-compliant, cross-curricular Transition Year module (Science, Geography, CSPE, Digital Media). Its interactive and reflective activities build the five key skills central to Transition Year:

- Information processing
- Critical and creative thinking
- Communicating
- Working with others
- Being personally effective

Leaving Certificate subject links: Geography, Politics and Society, Technology, Computer Science, Business, Economics.

Learning Intentions

By the end of this lesson, students will be able to:

- Explain the concept of climate justice
- Discuss how climate change affects different communities differently, including within Ireland
- Evaluate the role of technology, policy and behaviour in climate action
- Reflect on possible future climate scenarios
- Identify emerging green careers, and complete a personal climate action proposal

Module Overview

Framing and Introduction (~6 mins)

Deliberately open with acknowledgement and hope, before outcomes.

Climate Justice (~11 mins)

Global and Irish inequality, and a reflective discussion with no single right answer.

Futures Thinking (~11 mins)

Possible climate scenarios and a scenario-choice activity.

Reasons for Hope and Green Futures (~9 mins)

Innovation, collective action, green careers and the honest AI/jobs conversation.

Capstone: Climate Action Proposal (~20 mins)

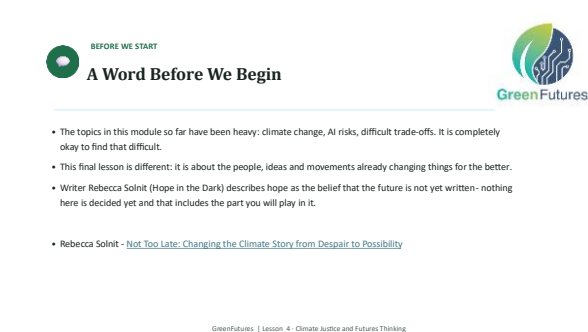
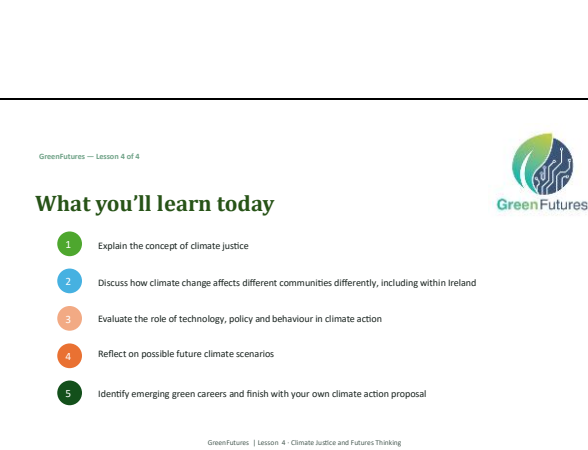
The module's assessable culmination, followed by closing reflection prompts.

Recap and Close (~3 mins)

Full-module recap and celebration-event bridge.

Lesson 4 Module Walkthrough

Each row below shows the slide alongside facilitation notes. Timings are approximate and add up to the total above; trim discussion prompts first if running short on time.

Introduction (~3 mins)	
 LESSON 4 Climate Justice, Futures Thinking and Green Innovation <i>Who is most affected, what futures are still possible and what part you can play.</i> UNESCO Greening Curriculum concepts: Climate Justice - Resilience Building - Post Carbon Economies GreenFutures Lesson 4 - Climate Justice and Futures Thinking	LECTURE (~1 min) Title slide, keep this brief; the framing happens on the next slide.
 BEFORE WE START A Word Before We Begin - The topics in this module so far have been heavy: climate change, AI risks, difficult trade-offs. It is completely okay to find that difficult. - This final lesson is different: it is about the people, ideas and movements already changing things for the better. - Writer Rebecca Solnit (Hope in the Dark) describes hope as the belief that the future is not yet written- nothing here is decided yet and that includes the part you will play in it. - Rebecca Solnit - Not Too Late: Changing the Climate Story from Despair to Possibility GreenFutures Lesson 4 - Climate Justice and Futures Thinking	LECTURE, FRAMING, READ CAREFULLY (~3 mins) This slide matters more than its short time allocation suggests. Acknowledge openly that the module's content has been heavy, and that it's okay to have found it difficult. Pivot explicitly: this final lesson is about the people, ideas and movements already changing things. The Rebecca Solnit idea of hope as the belief that the future is not yet written is offered here as a framing thought, not a quotation to read verbatim from a text, put it in your own words to the class. Rebecca Solnit - Not Too Late: Changing the Climate Story from Despair to Possibility
 GreenFutures — Lesson 4 of 4 What you'll learn today 1 Explain the concept of climate justice 2 Discuss how climate change affects different communities differently, including within Ireland 3 Evaluate the role of technology, policy and behaviour in climate action 4 Reflect on possible future climate scenarios 5 Identify emerging green careers and finish with your own climate action proposal GreenFutures Lesson 4 - Climate Justice and Futures Thinking	LECTURE (~2 mins) Walk through today's five learning outcomes.

 FAIRNESS AND CLIMATE Climate Justice and Global Inequality - Climate justice recognises that those who contributed least to climate change are often affected first, and worst. - Global North vs. Global South: wealthier nations have historically emitted the most, while many lower-income nations face the sharpest impacts - Intergenerational justice: today's decisions shape the world younger and future generations will inherit GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~3 mins) Present the Irish wind-energy example and Bord na Móna's shift from peat to wind, framed as a real 'just transition' story. LECTURE (~4 mins) Introduce climate justice: those who contributed least are often affected first and worst. Cover Global North/South responsibility and intergenerational justice. Mary Robinson hosted a major climate justice conference in her hometown in June 2026, on the theme of communities working together. What do you think that has to do with fairness? Her YouTube Channel on Climate Justice https://www.youtube.com/@MRFCJorg
 11 Irish Example Climate Justice Is Not Just Global, It Is Local Too - Climate impacts fall unevenly within Ireland too, not just between countries - Older people and those in energy poverty are more exposed to cold-related harm and rising energy costs (The Irish Times) - Rural communities can bear a disproportionate share of the cost of agricultural transition - Traveller and some coastal communities face particular exposure to environmental and climate risk (National Women's Council) GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~3 mins) Bring climate justice home: older people and energy poverty, rural communities and agricultural transition, Traveller and coastal communities. This shows justice isn't only a global-scale issue. https://www.nwci.ie/learn/article/new_report_shows_irelands_climate_policy_is_failing_women_and_marginalised https://www.irishtimes.com/news/environment/ireland-s-poorest-communities-are-not-sufficiently-heard-on-climate-major-report-finds-1.4834574
 Reflection - There is no single right answer Is it fair to ask individuals to change their lifestyle when corporations cause most emissions? Follow-up: Should Ireland reduce its national herd to meet climate targets and who should decide? GreenFutures Lesson 4: Climate Justice and Futures Thinking	DISCUSSION - NO SINGLE RIGHT ANSWER (~4 mins) Pose the fairness question and the national-herd follow-up question. Let the discussion run without steering toward a 'correct' answer. The value is in the reasoning, not a resolution. Keep this discussion time-boxed; it can run long given how open-ended it is. https://www.rte.ie/news/ireland/2025/1117/1544305-irish-ai-climate/

BACK TO AI, BRIEFLY Fairness in AI Systems, Revisited - In Lesson 2 we saw that AI systems can be biased when their training data doesn't reflect everyone fairly - The same justice questions we are asking about climate apply to AI: who designs these systems, whose data trains them, and who is left out? - Fairness and climate justice are two versions of the same underlying question: who benefits and who bears the cost? - World Economic Forum asks "How can we ensure climate justice in the age of AI?" GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~3 mins) Briefly connect back to Lesson 2's bias discussion: the same 'who benefits, who bears the cost' question applies to AI systems as much as to climate policy. WEF: https://www.weforum.org/stories/sustainable-development/climate-justice-in-the-age-of-ai/
LOOKING AHEAD Possible Climate Futures Global agreements aim to limit warming to 1.5°C above pre-industrial levels. Every fraction of a degree beyond that increases risk - A 2–3°C future looks meaningfully different: more extreme weather, greater sea-level rise, more disruption to food and water systems (Carbon Brief Interactive) - The gap between these futures is not fixed yet and it depends on choices being made now - Technology alone will not get us there: policy, culture and collective action all matter too. How is Ireland doing in 2026? GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~4 mins) Cover the 1.5°C vs. 2–3°C scenario contrast. Carbon Brief Interactive: Useful tool to explore with the students International Panel on Climate Change Report (https://www.ipcc.ch/2023/03/20/press-release-ar6-synthesis-report/) Policy, culture and collective action all matter too. (EU Climate Days) How is Ireland doing in 2026?
ACTIVITY ⌚ ~10 minutes Choose a Future - Your teacher presents a short scenario: a decision Ireland (or the world) faces on the path to a low-carbon future - In small groups, choose your response and predict its likely consequences - Compare with another group who chose differently. What trade-offs did each choice involve? - One sentence each: what surprised you about this exercise? GreenFutures Lesson 4: Climate Justice and Futures Thinking	3-NOP Winter Milk Trial https://teagasc.ie/animals/dairy/dairy-levy-research/winterliquid-milk-production/ GreenFeed Research Update: https://teagasc.ie/environment/climate-change-air-quality/signpost-programme/research-updates/ ICBF Methane https://www.icbf.com/methane/ Present a scenario (decision on the path to a low-carbon future). Groups choose a response, predict consequences, then compare with a group that chose differently. Example of a scenario: With the explosion in AI and digitisation, computing demand is rising, and so is power consumption. In the backdrop of an energy crisis caused by the wars between Ukraine and Russia, and Iran blocking the Strait of Hormuz, energy costs are going

	up, and there may be a situation where energy needs to be prioritised between data centres and residential users. Should the Irish Government bring in laws / regulations to limit the total energy consumed by Data Centres to 25%. https://www.rte.ie/news/business/2026/0707/1582175-cso-data-centre-energy-figures/ https://www.iiea.com/blog/data-centres-in-ireland-the-state-of-play
 REASONS FOR HOPE Innovation and Collective Action <i>Innovation, near and far</i> - From solar microgrids bringing power to rural communities in Kenya, to mangrove restoration protecting coastlines in Bangladesh - Ireland's own examples from today's lesson, Bord na Móna's transition, Dublin's transport shift, and many others are part of this same story <i>People making it happen</i> <i>Fridays for Future</i> Ireland and the work of Irish youth climate councils show young people already shaping this agenda - Change does not only come from governments and companies, movements and communities drive it too GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~3 mins) Cover global innovation examples (solar microgrids in Kenya, mangrove restoration in Bangladesh) alongside Ireland's own examples from Lesson 3, and youth-led collective action (Fridays for Future Ireland, Irish youth climate councils).
 YOUR FUTURE Green Jobs and Future Skills - A real and understandable worry for your generation: as AI automates more tasks, what happens to entry-level jobs? There's no clear answer yet and this is worth discussing openly - Emerging green careers in Ireland include: ecological restoration technician, energy systems analyst, sustainable food systems designer but also climate policy analyst, environmental data scientist, circular economy consultant/economist, agriculture-environment advisor - Employers already working in this space include Colliette, Bord na Móna, the EPA, and a growing number of Irish green-tech startups - Many of these roles combine environmental knowledge with digital and data skills (<i>green skills</i>), exactly the combination this module has covered GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~3 mins) Cover Irish green career examples and employers. This is a good moment to invite questions about what skills or subjects lead toward these careers. Trades and hands-on roles: - Solar PV installer - Wind turbine technician - Retrofit installer (insulation, heat pumps) - EV charging infrastructure electrician - Farm technician (Teagasc apprenticeship route) Professional and technical roles: - Offshore wind engineer - ESG (Environmental, Social, Governance) analyst - BER assessor/energy auditor - Battery storage/grid technician - Sustainability consultant More employers to add:

- SSE Airtricity/SSE Renewables
- ESB and ESB Networks
- EirGrid
- Uisce Éireann
- Teagasc
- GridBeyond — Dublin-founded AI energy company

Social science-friendly green job titles:

- Climate policy analyst
- Environmental/climate economist
- ESG (Environmental, Social, Governance) analyst, a genuinely fast-growing finance-sector role
- Sustainability/CSR manager
- Climate communications or campaigns officer
- Environmental or climate lawyer
- Local authority climate action officer / environmental planner
- Behavioural scientist for sustainable behaviour change

Irish employers for these:

- ESRI (Economic and Social Research Institute)
- Central Bank of Ireland has a climate risk unit
- Local authority Climate Action Regional Offices (e.g. Codema, Dublin's energy agency); local, relatable, hires planners/communications people
- An Taisce and Friends of the Earth Ireland; environmental NGOs with policy/campaigns roles
- Big firms like KPMG, Deloitte, PwC all now have dedicated ESG/sustainability advisory teams
- Banks like AIB and Bank of Ireland growing sustainable finance teams



With the support of:



This project is funded within the framework of the UNESCO and Huawei collaboration, Digital Futures for a Smart Europe: A Feasibility Study on Digital Transformation and Green Innovation

APPLY IT ~15 minutes  Your Climate Action Proposal – Module Capstone Drawing on everything from this module, including your climate journal entries from Lessons 1-3, design and present a climate action proposal: one realistic action or idea (personal, school-based, or community-based) that responds to something you have learned. Support it with at least one piece of evidence or example from the module. <i>How they show their work:</i> Written or sketched proposal (worksheet or slide), presented briefly to the class or in small groups. This is the assessable capstone task for GreenFutures. GreenFutures Lesson 4: Climate Justice and Futures Thinking	APPLY - MODULE CAPSTONE (~15 mins) Students design a climate action proposal drawing on their climate journal entries from all three previous lessons, supported by at least one piece of evidence from the module. This is the assessable culmination of GreenFutures. Do not compress this into a take-home handout. A shared moment of presenting (to the class or in small groups) is what builds the sense of capability the whole module has been working toward.
ACTIVITY ~5 minutes  Closing Reflection 1. Fear, hope, action: write or sketch one thing about the future you fear, one thing you hope for and one small thing (however small) that you personally could do, learn, or pursue that connects to that hope. 2. One-word takeaway: what is one word to describe what you are taking away from this module? 3. Optional closer: what is one thing within your sphere of influence, however small, that connects to what we have discussed today? GreenFutures Lesson 4: Climate Justice and Futures Thinking	ACTIVITY, CHOOSE 1-2 PROMPTS (~5 mins) Offer the fear/hope/action sketch, the one-word takeaway, and the sphere-of-influence question. Choose one or two based on time remaining rather than running all three.
 What have we learned across all four lessons? ✓ Lesson 1: how scientists study a changing climate and why data matters ✓ Lesson 2: what AI is, how it helps climate science, and the ethical questions it raises ✓ Lesson 3: how energy, nature, food and cities connect to sustainability, with real Irish examples ✓ Lesson 4: climate justice, possible futures, and your own climate action proposal Congratulations! You have completed GreenFutures. GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~2 mins) Recap across all four lessons, not just today. This is the module's full-arc summary.
 Thank you for taking part in GreenFutures Developed by the ADAPT Research Centre in partnership with Huawei and UNESCO. GreenFutures Lesson 4: Climate Justice and Futures Thinking	LECTURE (~1 min) Close by confirming the certificate of completion will be given, a template can be requested from ADAPT Research Centre. Possibility of presenting a number of certificates at the module's celebration event TBC.