







Project funding

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Authors

Dr Katharine Steentjes, Research Associate, Cardiff University steentjesk@cardiff.ac.uk

Jill Montgomery, Rural Resilience Project Coordinator, Northern Ireland Environment Link jillm@nienvironmentlink.org

Charis Nevin, Research Assistant, Northern Ireland Environment Link **charis@nienvironmentlink.org**

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Key findings

Perceptions of climate change and beliefs

- 58% of respondents stated political and economic concerns (not including Brexit) as the biggest issue for Northern Ireland in the next 20 years. Only 4% mentioned climate change as the top issue (5% in 2022).
- Despite that, a clear majority (64%) believed that addressing climate change requires high or extremely high levels of urgency.
- Most respondents (67%) perceived climate change as very or extremely serious to people in developing countries, an increase from 42% in 2022. 33% believed it to be a serious or extremely serious problem for Northern Ireland and 43% for the UK, as a whole.

Risk perception

- Hotter weather, wetter weather and more unpredictable weather patterns were the most mentioned effects of climate change on local communities.
- When asked about a series of potential climate impacts, heavy rainfall, storms, flooding and coastal erosion remained the most serious threats for Northern Ireland (≥67% fairly/very serious).
- The specific event respondents were most concerned about was poor harvests due to extreme weather, pushing up food prices (56%), a result similar to 2022 data.

Support for climate change adaptation strategies

- Adaptation policies that received strong public support (65%-82%) include nature-based solutions to reduce flood risks, reducing dependency on imported goods, and introducing climate-resilient building regulations.
- Spending public money to support local farmers in adjusting their business to climate change was supported by two thirds of respondents (66% support/strongly support).
- Introducing water charges remained a controversial strategy in 2023 and was opposed by 60% of respondents (23% tend to support/strongly support).
- The most popular behavioural intention was reducing energy usage at home, with 84% stating it is likely they will do that. Other popular behaviours were reading up on how to avoid heat stress (63% likely) and paying more for locally sourced food (52% likely).



Project description

RESIL RISK 2023 Northern Ireland describes insights from a survey that forms part of the Rural Resilience Project, which is designed to support farmers in Northern Ireland with adaptation to climate change.

The project is raising awareness amongst the agri-sector of climate risks and opportunities for farm businesses, and practical approaches to adjust and prepare. Findings from engagement with key stakeholders is shared with government policy makers, and the research elements of the project are helping to identify gaps around adaptation in agriculture for the sector.

The aim of the survey and this report is to improve our limited understanding of public perceptions of climate risks in Northern Ireland and, through that, to help design effective climate communications within the local population, in order to foster civil society action and climate resilient communities. Associated recommendations are summarised to inform government policy, in an attempt to improve the evidence base for national policies such as the NI Climate Change Adaptation Programme.

This report outlines results from a survey that builds on previous surveys conducted as part of the RESIL RISK research project, which investigated public perceptions of climate change, associated risks, and support for adaptation and resilience-building strategies across the UK (Steentjes, Demski, Seabrook, Corner,

& Pidgeon, 2020). The initial project involved a comprehensive survey carried out in 2019 (with 1,401 respondents from various regions across Great Britain), which was repeated in 2020.

In recognition of the unique circumstances and challenges of devolved UK administrations, and the value of understanding how these translate into potential variations in risk perceptions, the first RESIL RISK survey for Northern Ireland was conducted in 2022 (Steentjes, McCamley, Berman, & Pidgeon, 2022). In May 2023, we repeated this survey with minor adjustments (371 respondents) and the outcomes are documented in this report.

Background of Northern Ireland

With a population of 1.9 million (Census, 2021), over a third of which live in rural areas, Northern Ireland, as part of the United Kingdom and part of the island of Ireland, holds a unique political, economic and environmental context. Politically, Northern Ireland is a post-conflict society. While the Good Friday Agreement of 1998 brought relative stability, political divisions have resulted in the region being without a functioning local government for a total of 4 of the last 6 post-Brexit years. This has implications on progress for all parts of society.

Economically, Northern Ireland has made progress in recent years, with sectors such as manufacturing, services, and tourism contributing to its growth (NISRA, 2022). However, it faces challenges related to its geographical location, relatively small population, the legacy of political instability, Covid-19 and, more

recently, Brexit. Efforts are underway to attract investment, promote innovation, and develop sustainable economic strategies to enhance prosperity and bridge socio-economic disparities.

Northern Ireland's marine, temperate climate usually is cool and relatively wet, with notable local variability. Climate projections have shown that Northern Ireland is expected to have warmer, wetter winters and hotter, drier summers, and an increased intensity in extreme weather events. In recent years, this has included flooding in 2022 and 2020, record hot conditions and widespread gorse fires in 2021, heavy snowfalls in 2018, 2013 and 2010 - the latter associated with record cold conditions, and multiple

named storms. For a variety of reasons, including climate change, habitat degradation and pollution, Northern Ireland ranks 12th worst for biodiversity loss, out of 240 countries analysed globally (Natural History Museum, 2021). Northern Ireland only received its first Climate Change Act in 2022.



Methodology

The RESIL RISK 2023 survey is a repeat survey of the 2022 Northern Ireland RESIL RISK survey (Steentjes, McCamley, Berman, & Pidgeon, 2022). To inform the original project, an engagement workshop was conducted, prior to survey design, to gather input from various stakeholders such as local councils, national government, climate communicators, and policy advisors. The workshop was conducted online, utilising an interactive engagement platform.

The RESIL RISK 2023 survey closely resembles the 2022 survey, with only minor modifications and the inclusion of one additional question. This approach allows for direct comparison between the data collected in 2022 and 2023, as outlined in this report. Since the research is part of the Rural Resilience Project to support farmers in Northern Ireland with adaptation to climate change, additional questions were included to provide insight into public attitudes to local food and farming. Supplementary information was also provided on the

The survey was conducted using the online platform, Qualtrics, and respondents were recruited through Qualtrics panels. Various recruitment methods were employed by the supplier, including double opt-in panels, publishing networks, social media platforms, and other online communities. Fieldwork was carried out between 16th and 30th May 2023, with respondents taking on average 15 minutes to complete the survey. To ensure that the sample represented the Northern Irish population at a national level, quotas were set for age, gender and region. Sample size and number of quotas were restricted by the practical challenges of recruiting respondents in Northern Ireland.

The study was approved by the Ethics Committee of Cardiff University, School of Psychology (psychethics@cardiff.ac.uk).



TABLE 1. 2023 Northern Ireland Sample description						
	NI 2022	NI 2023		NI 2022	NI 2023	
Sample size	380	371		380	371	
Age			Gender			
18-24 years	14%	14%	Male	68%	34%	
25-34	25%	21%	Female	32%	66%	
35-44	26%	30%	Other	<1%	<1%	
45-54	19%	21%				
55 years or above	16%	15%				
Education			Local Government Districts			
University degree (BA, BSc, etc)	22%	31%	Antrim and Newtownabbey	10%	9%	
Post-graduate degree (MSc, PhD)	10%	8%	Ards and North Down	12%	10%	
Trade qualification	5%	4%	Armagh City, Banbridge and Craigavon	15%	12%	
Professional qualification	7%	6%	Belfast	20%	19%	
No academic or professional qualification	1%	2%	Derry City and Strabane	9%	7%	
GCSE O-level/BTEC equivalent	26%	24%	Fermanagh and Omagh	5%	6%	
A-level or equivalent	26%	24%	Lisburn and Castlereagh	8%	9%	
Still studying	3%	2%	Mid and East Antrim	5%	8%	
			Mid Ulster	5%	6%	
			Newry, Mourne and Down	6%	8%	

Perceptions of climate change

At the beginning of the survey, respondents were asked to provide their unprompted responses to a question asking what they believed would be the most significant issue facing Northern Ireland over the next 20 years. In 2023, the most mentioned issues related to political concerns (not including Brexit), mentioned by 36%, followed by the economic situation (22%), and the NHS/health (10%). Brexit was only viewed as the top issue by 5% of respondents, which is a decrease

from 24% in 2022 when this was the most mentioned concern for people. Only 4% of respondents mentioned climate change as the top issue for Northern Ireland (5% in 2022).

Despite the focus on other issues, almost a third (27%) of respondents expressed that they were very worried or extremely worried about climate change (28% in 2022) and a large majority (64%) expressed that addressing climate change requires a high or extremely high level of urgency.

FIGURE 1. Issue relevance: "What would you say will be the most important issue facing Northern Ireland in the next 20 years?" (Open response coding)

NI 2023

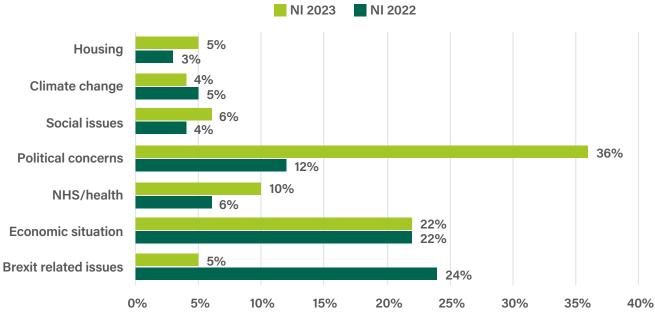
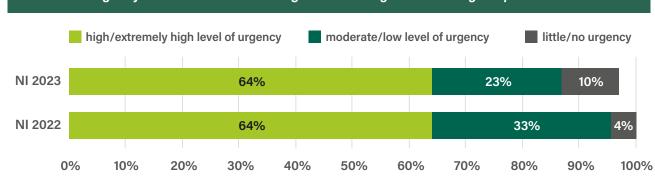


FIGURE 2. Urgency to address climate change: "Addressing climate change requires..."



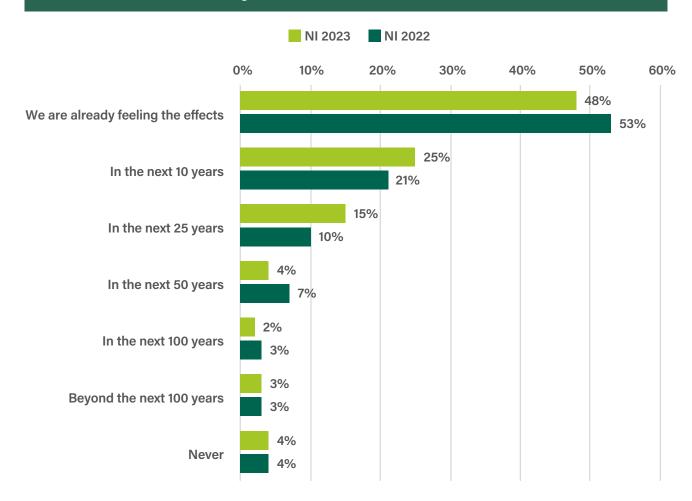
Climate change beliefs

Psychological distance refers to the categorisation of beliefs regarding climate change as distant or close in time or place. Extensive literature supports the importance of these beliefs in shaping concerns about climate change and influencing personal behaviours (Spence, Poortinga, & Pidgeon, 2012).

In 2023, 48% of respondents believed that we are already feeling the effects of climate change. When queried about the severity of climate change for the UK, it was observed that 43% of respondents regarded climate change as either very serious or extremely

serious, decreased from 62% recorded in 2022. One third of 2023 respondents perceived climate change as very or extremely serious for Northern Ireland (32% in 2022). The 2023 survey further revealed that 67% of respondents thought climate change is very serious or extremely serious to people in developing countries, which is an increase from 42% in 2022.

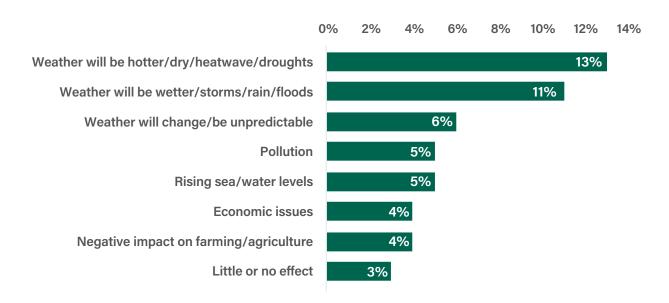
FIGURE 3. Psychological distance: "When, if at all, do you think Northern Ireland will start feeling the effects of climate change?"



Risk perception

Respondents were asked what they believed to be the most important impact of climate change on their local community (open response question). The coded responses show that 30% of respondents mentioned weather related issues, including hotter or wetter weather. Other responses included pollution, rising sea levels and negative impacts on farming and agriculture.

FIGURE 4. Climate change impacts: "What do you think will be the most important effect of climate change on your local community?" [open response]

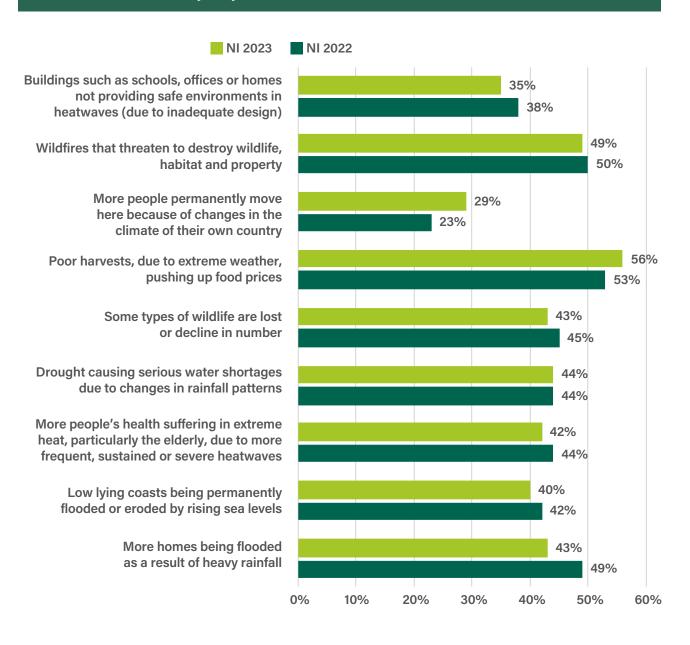


To measure risk perception regarding specific impacts of climate change, respondents were asked about their concern associated with different climate change related events. In 2023, heavy storms (70%), flooding (68%) and coastal erosion (67%) were the events that most people classified as fairly or very serious. However, the survey revealed that Northern Irish citizens were less concerned about heavy storms in 2023 (70%), compared to in 2022 (83%).

Awareness of the risks associated with heatwaves amongst the UK public had only increased in the last 10 years (K. Steentjes, Demski, Seabrook, Corner, & Pidgeon, 2020). In 2023, 50% of respondents classified heatwaves as a fairly or very serious event (49% in 2022).

In both 2023 and 2022, the issue most respondents were concerned about was poor harvests due to extreme weather, pushing up food prices; with 56% of respondents and 53%, respectively. This was followed by concern around wildfires which would threaten to destroy wildlife, habitat, and property (49%).

FIGURE 5. Risk perception: "How concerned would you be if the following did happen in Northern Ireland?" * Fairly/Very concerned



Personal experiences with climate impacts can shape personal beliefs about climate change and responses to climate risks (e.g. Demski, Capstick, Pidgeon, Sposato, & Spence, 2017). In 2023 and 2022, 60% of Northern Irish respondents stated that they directly experienced discomfort or an inability to sleep during a heatwave. Moreover, 45% experienced travel disruptions or loss of power due to heavy storms and winds.

TABLE 2. Experience: "Have you, or someone close to you, ever experienced any of the following extreme weather events?"								
	Yes - to me		Yes – someone close to me		No			
	NI 2023	NI 2022	NI 2023	NI 2022	NI 2023	NI 2022		
Flood damage to your home	5%	8%	22%	14%	74%	79%		
Water restrictions/shortages due to low rainfall	33%	36%	15%	10%	52%	55%		
Heatwave (discomfort/being unable to sleep)	60%	60%	14%	11%	26%	29%		
Heatwave (health significantly affected)	16%	17%	14%	15%	64%	69%		
Wildfire during drought periods (disruption to travel, loss of natural habitat)	6%	6%	13%	8%	81%	86%		
Heavy storms/winds (Disruption to travel/loss of power)	45%		25%		30%			

Support for climate change adaptation

Policy support

In the survey, respondents were presented with a range of different policies and strategies that address climate change risks and then asked to indicate their support or opposition to each strategy.

Most adaptation policies, such as adopting nature-based solutions to reduce flood risks, reducing Northern Ireland's dependency on imported goods, and introducing climate-resilient building regulations, were supported by large majorities of respondents (66%-82%) in 2023. Also of note, a new option to this question, spending public money to support local farmers in adjusting their business to climate, received support from a large majority (66%) of respondents. A smaller majority (60%) expressed support for ambitious climate legislation for Northern Ireland eg Climate Change Act 2022.

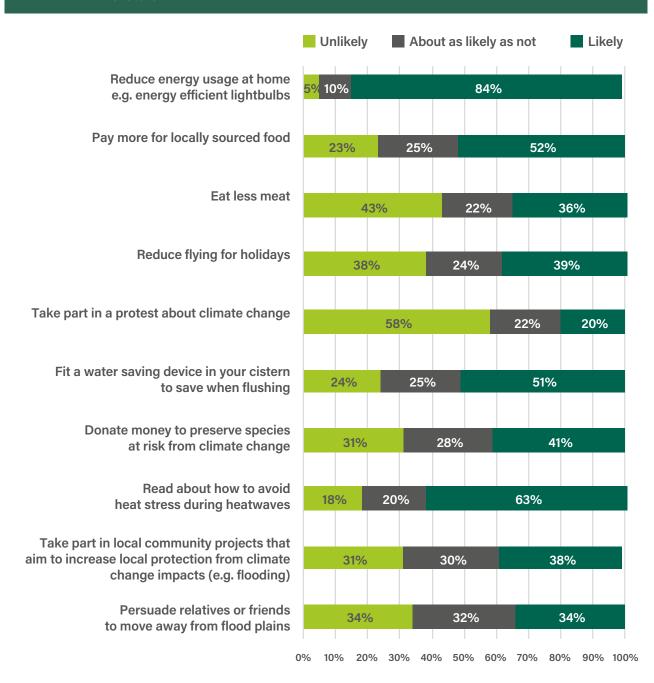
Among the policies discussed in this survey, the introduction of water charges received the least amount of support from the respondents. Only 23% of the 2023 and 2022 sample expressed their approval, which aims to discourage overuse. Conversely, over half of the respondents from the Northern Ireland sample stated their opposition to this policy (60% 2023).

Behavioural intentions

Respondents were presented with various climate change mitigation and adaptation actions and were asked to assess the likelihood of their engagement with each action. In 2023 and 2022, taking part in a protest about climate change was the least favourable action to take, with 58% of respondents stating this as fairly or very unlikely. However, many other actions in 2023 were viewed in a more positive light, for example reducing energy usage at home (84% fairly/very likely), reading how to avoid heat stress during heatwaves (63% fairly/very likely), fitting a water saving device in the toilet cistern (51% fairly/very likely) and paying more for locally sourced food (52% fairly/very likely).



FIGURE 6. Behavioural intentions: "Please indicate how likely or unlikely you are to take each action in the future."



Priorities for adaptation

In order to comprehend the existing public support for building climate resilience, it is crucial to ascertain the specific aspects that people desire to safeguard. The survey presented respondents with a catalogue of goods and services that could potentially be impacted by climate change, followed by inquiring about the level of protection they would like to see for each item when preparing for a changing climate in Northern Ireland.

In 2023, the areas that respondents stated should have high or extremely high levels of protection include affordable food supplies (92%), the running of existing social services (89%), and the well-being of the most vulnerable in society (89%). It is noteworthy that 81% of respondents expressed that sustainably and locally produced food should have high or extremely high protection, as evidenced by their response to the newly introduced option in this question. The lowest priorities in 2023 were maintenance of historical sites and buildings (56%).



TABLE 3. Priorities: "For each of the following items, please indicate what level of priority they should receive when preparing for a changing climate in Northern Ireland."

	No/minor protection		High/extremely high protection	
	NI 2023	NI 2022	NI 2023	NI 2022
Affordable food supplies	9%	12%	92%	88%
Running of existing social services (e.g. emergency services)	12%	12%	89%	88%
Well-being of the most vulnerable in society (e.g. elderly, poor, young people)	11%	13%	89%	88%
Health and well-being of Northern Irish citizens	13%	13%	88%	87%
Uninterrupted water and energy supplies for citizens and businesses	17%		83%	
Sustainably and locally produced food	19%		81%	
Protection of plants, animals and people from new pests and diseases	20%	19%	81%	80%
Increasing growth of economy	19%	23%	80%	77%
Quality of infrastructure such as roads and buildings	21%	21%	79%	79%
Protection of the coastline	24%	24%	77%	76%
Protection of natural landscapes and biodiversity	26%	28%	74%	71%
Quick and reliable help for people and businesses affected by extreme events (e.g. storms)	24%	21%	73%	79%
Maintenance of historical sites and buildings	45%	47%	56%	53%

Perception of actors

Respondents were asked who they believed to be mainly responsible for preparing the country for the impacts of climate change, and 33% of respondents believed that to be the Northern Irish government and the UK government, respectively. Across both years, only a small percentage of respondents, (<9% in 2022 and <7% in 2023), identified the international community, business and industry, and local communities as being accountable for climate adaptation.

The level of trust placed in actors is an important factor influencing the effectiveness of climate change communication and the mobilisation of climate action (Cologna & Siegrist, 2020). In the 2023 and 2022 sample, the actors who were the least trusted were journalists/the media and the UK and Northern Irish governments. On the other hand, the most trusted actors included scientists (36%) and scientific advisory institutions, such as the Climate Change Committee (21%), environmental charities (20%) and the Met Office (17%).

FIGURE 7. Responsibility: "Who is mainly responsible for preparing Northern Ireland for the impacts of climate change?"

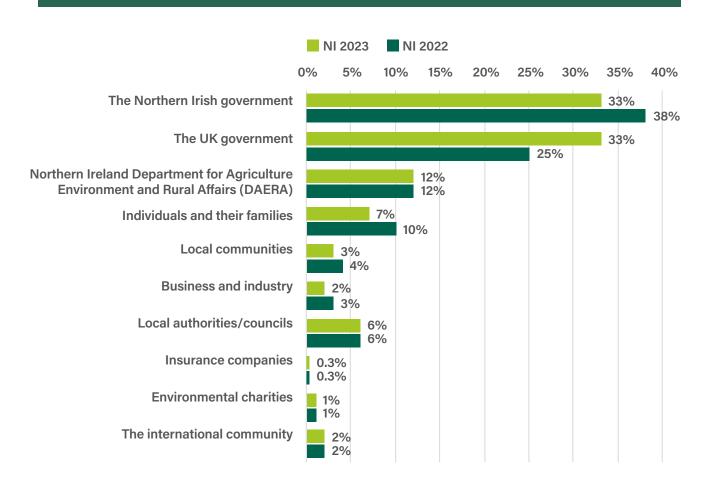
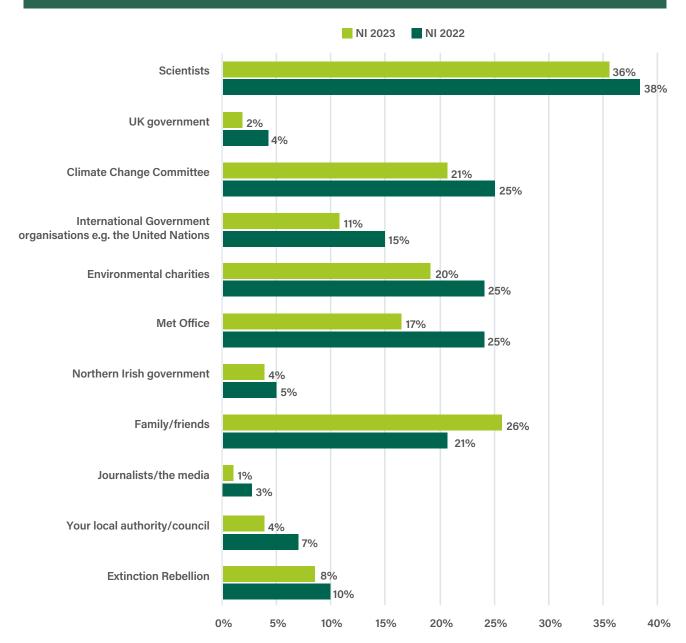


FIGURE 8. Trust: "How much do you trust or distrust the following agencies, organisations, groups or people as sources of information about climate change and its potential impacts?" *Strongly trust



Recommendations for public engagement

Acknowledge and address the impact of political and economic

concerns on public engagement with climate change. Results show that in both 2022 and 2023, despite a clear majority believing climate change needs addressing with high urgency, issues related to political instability were seen as the most pressing. Addressing the impact of prolonged absence of a Northern Irish government on public trust and progress on policies, and implementation of actions, is crucial for meaningful public engagement.

of impacts of extreme weather events in their local area and practical ways to adjust and prepare (adaptation strategies). 67% of respondents perceived weather-related issues as the most serious risks to their local community. Engaging with local community groups, providing information on adaptive responses in creative ways and linking communities with the local council resilience group will facilitate actions that are relevant and improve their preparedness.

Support communities to better

understand the potential range

Draw on public support for immediate action to support longer term resilience. Almost half of respondents believe Northern Ireland is already feeling the effects of climate change with one third perceiving it as very or extremely serious for the region. Furthermore, the Northern Ireland and UK governments are expected to prepare Northern Ireland for the impacts of climate change - this is a mandate for embedding resilience actions into new and existing programmes.

Increase public understanding of the importance of local food and sustainable farming practices in building future resilience and **food security.** A large majority of respondents (81%) believed that sustainably and locally produced food should be a priority when preparing for the impacts of climate change, with over half of our sample indicating they would pay more for it. Respondents also expressed concern about the risk of extreme weather on pushing up food prices and the importance of affordable food, with 66% supporting spending of public money to help farmers adapt their businesses to climate change. Lobbying government to prioritise support for local, sustainable food production for society, the economy, the environment and health is key to progress in this area.

Ensure adaptation strategies address public priority issues

including nature-based solutions to flood risks, reducing dependency on imported goods, climate-resilient building regulations, along with protection of affordable, local food and adequate care for the most vulnerable in society. Raising awareness of water waste and the collective benefits of reducing water scarcity could begin to soften public opposition to water charges.

Address rising concerns about

heatwaves and the impacts of extreme heat (e.g. overheated buildings, wildfires) by providing information on potential risks to Northern Ireland, and advice on adaptive responses to avoid heat stress and enhance the preparedness of businesses, such as fire action plans.

Highlight the importance of a global responsibility for action on climate change. Public concern for the impact of climate change on people in developing countries increased significantly in the 2023 survey, reflecting greater awareness of events across the world. Promoting the value of collective responsibility and encouraging individual actions, such as reducing personal and domestic energy usage and emissions will help

Consolidate key climate messages and communicate with the public through trusted actors

progress towards systemic change.

such as scientific advisory bodies and environmental organisations. Create opportunities to build relationships between local government, business and industry sectors, academics and environmental organisations to resolve conflict, identify common goals and communicate a united vision to the media and local people.

Appendix

TABLE 4. Worry about climate change: "How worried, if at all, are you about climate change?"						
	Not at all worried	Not very worried	Fairly worried	Very worried	Extremely worried	
NI 2023	7%	15%	52%	19%	8%	
NI 2022	7%	20%	45%	18%	10%	

TABLE 5. "How serious, if at all, is climate change to each of the following?"							
	Survey	Not At All/Not Very Serious	Fairly Serious	Very/Extremely Serious			
You and your family	2023	37%	47%	17%			
ramily	2022	38%	47%	16%			
Northern Ireland	2023	25%	43%	33%			
	2022	23%	47%	32%			
The UK as a whole	2023	17%	40%	43%			
whole	2022	11%	27%	62%			
People in developing countries	2023	11%	22%	67%			
	2022	17%	41%	42%			

TABLE 6. Risk perception: "How serious of a problem do you think the following currently are for Northern Ireland, or do you not think they are a problem at all?"						
	Fairly/very serious					
	2023	2022				
Snow	35%	38%				
Cold winders	55%	57%				
Mild winters	40%	43%				
Dry period without rain	52%	48%				
Heatwaves	50%	49%				
Flooding	68%	77%				
Periods of heavy rainfall	67%	74%				
Hot summers	45%	42%				
Coastal erosion	67%	76%				
Heavy storms with strong winds/rain/hail	70%	83%				

TABLE 7. Policy support: "To what extent do you support or oppose the development of the following policies in Northern Ireland?"

	Support		Neither support nor oppose		Oppose	
	NI 2022	NI 2023	NI 2022	NI 2023	NI 2022	NI 2023
Introducing regulations on buildings to be able to deal with hotter and drier weather (e.g. insulation, air-conditioning)	72%	73%	20%	21%	8%	7%
Spending public money now to prepare the UK for the impacts of climate change (e.g. building flood defences)	71%	65%	21%	25%	9%	11%
Reducing NI's dependency on imported goods, especially essentials such as food, gas and energy	71%	66%	20%	24%	10%	10%
Initiating 'nature based solutions' such as planting trees and restoring saltmarsh to reduce risks such as flooding	82%	82%	27%	14%	3%	4%
Introducing water charges to discourage overuse	23%	23%	27%	18%	50%	60%
Ambitious Climate legislation for Northern Ireland (E.G. Climate Act 2022)	64%	60%	26%	29%	11%	11%
Spending public money to support local farmers in adjusting their business to climate change		66%		22%		13%

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Northern Ireland Environment Link 89 Loopland Drive Belfast BT6 9DW

Facebook: @EnvironmentNI
Twitter: @EnvironmentNI

Website: www.nienvironmentlink.org **E-mail:** info@nienvironmentlink.org