

Lesson 04

Climate Change and You

Learning Intentions

At the end of this lesson students should be able to

- Explain the difference between weather and climate.
- Discuss global, national and local efforts that are/should be made to positively impact climate change.
- Identify ways that they and their family can facilitate Ireland's efforts to impact climate change positively.

Climate vs weather – what is the difference?

- **Weather** - Short term atmospheric conditions.
- **Climate** - The long-term pattern of weather in a particular area averaged over a long period of time.
- **Climate Change** - Relates to long-term changes in the Earth's climate system, including shifts in weather patterns and average temperatures.

The carbon cycle is key to understanding climate change



[Click here to watch](#)



Explore this interactive storymap about Ireland's climate

[Click here to explore](#)



TRANSLATE

Standardised data for climate-smart decision making across Irish sectors.

Met Éireann

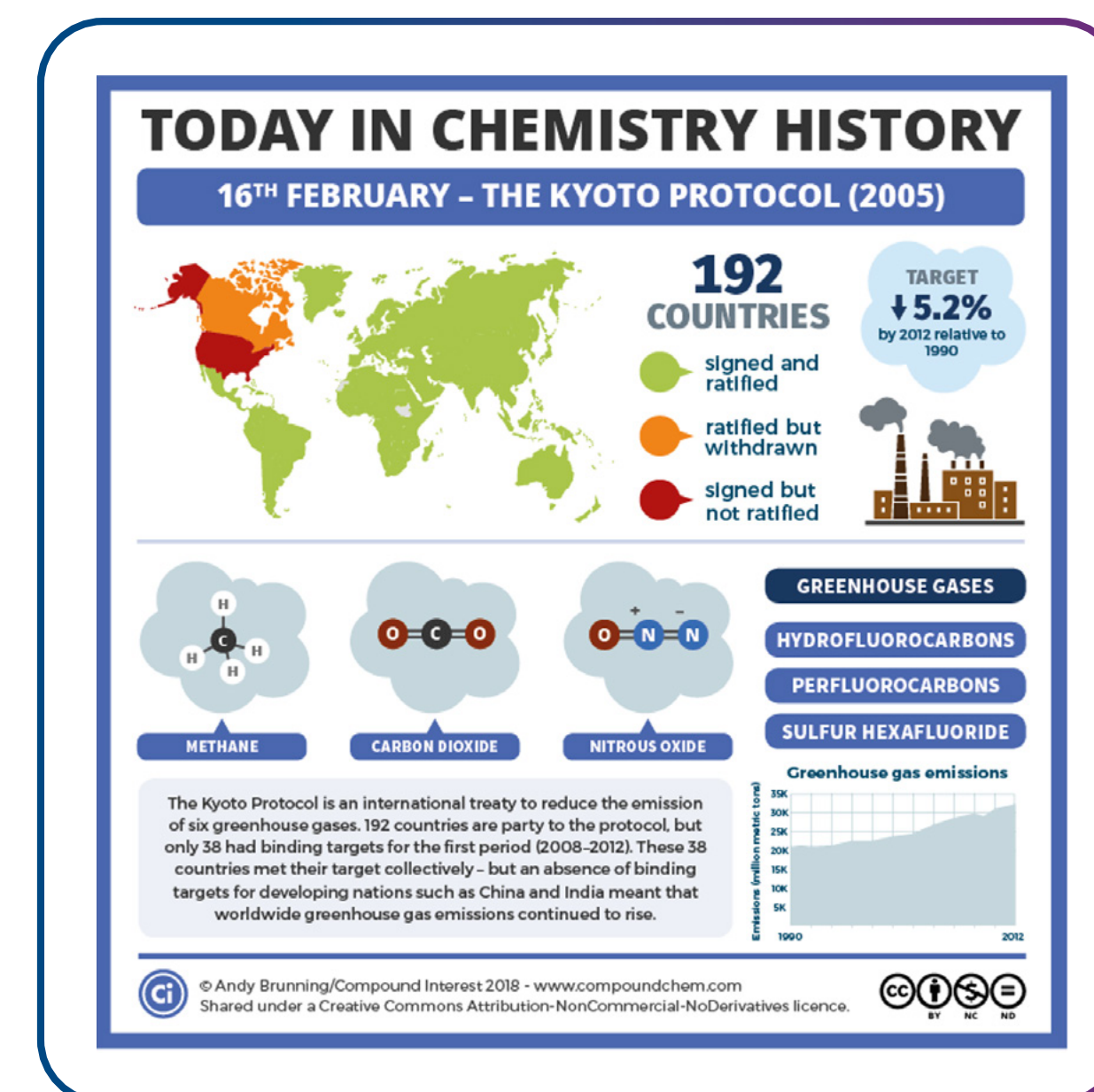
What is happening globally?

- Climate change is a global emergency issue, it concerns the whole world.
- Our actions in Ireland can impact people in other countries significantly. Their actions impact us. It is already happening.
- Because all countries are impacted, it is important that the solutions have buy-in from as many countries as possible.
- Countries get together at annual “Conference of the Parties” (COP) conferences to discuss climate change and what can be done.



Kyoto Protocol (COP 3) – what is it?

- The Kyoto Protocol was an agreement between many countries that aimed to reduce carbon dioxide emissions and the presence of other greenhouse gases.
- The main goal was for the world's industrialised nations to reduce Co2 emissions.
- The Kyoto Protocol was adopted in Kyoto, Japan in 1997.



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The Paris Agreement (COP 21) – what is it?

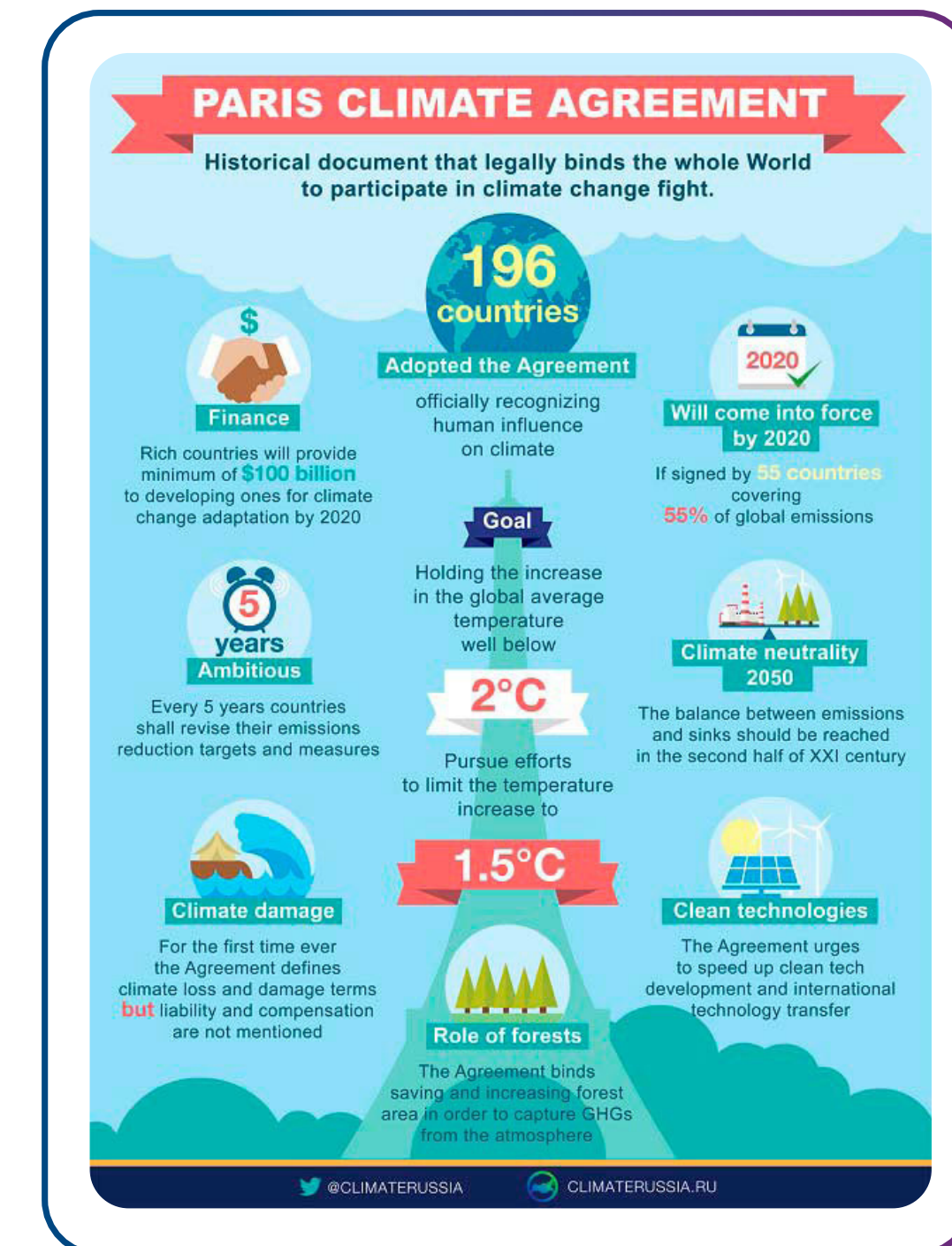


- The United Nations (UN) holds international climate conferences where world leaders meet and discuss climate issues.
- At the conference in Paris in 2015, long-term goals for all nations were set.
- This was called the Paris Agreement.
- The Paris Agreement replaced the Kyoto Protocol in 2016.

Secretary John Kerry holds granddaughter Isabelle Dobbs-Higginson while signing COP21 Climate Change Agreement at UN General Assembly Hall in New York.

What are the goals of the agreement?

- To pursue efforts to limit global temperature rises to 1.5°C, and to keep them “well below” 2.0°C.
- To increase countries' ability to adapt to the adverse impacts of climate change.
- To achieve low carbon economic development.



Chacín, A. (2021, February 21). What are the objectives of the Paris Agreement? SGK-Planet. <https://sgkplanet.com/en/what-are-the-objectives-of-the-paris-agreement/>

Chacín, 2021

How the Paris Agreement will work

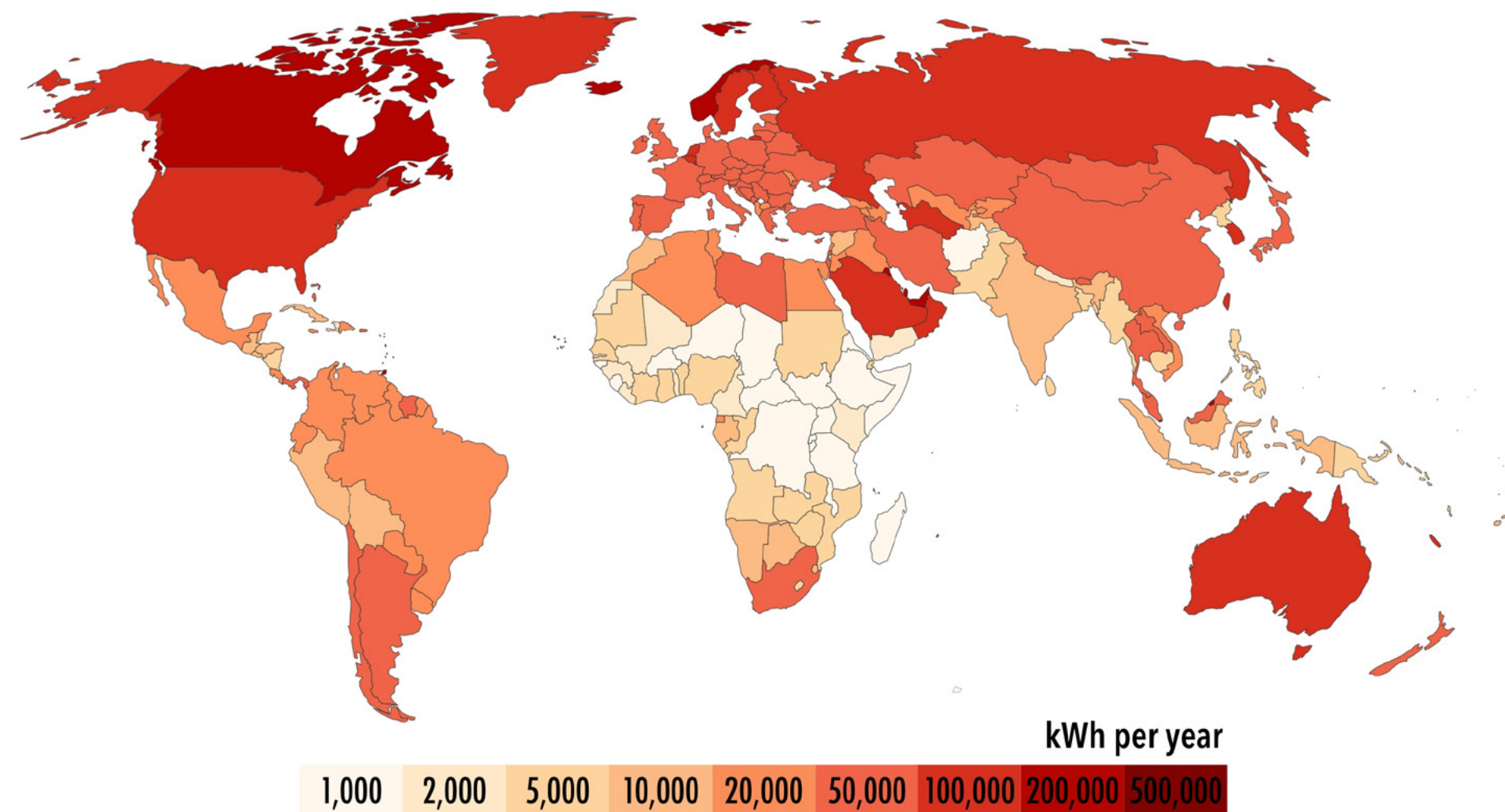


- **Watch the video** and answer the questions
- How many countries have signed up to the Paris Agreement?
- Name one thing each nation has to report back on every five years.
- Who is responsible for finding any new ways of doing things?

[Click here to watch the video](#)

How is the world doing at working towards climate change?

Annual energy use per person

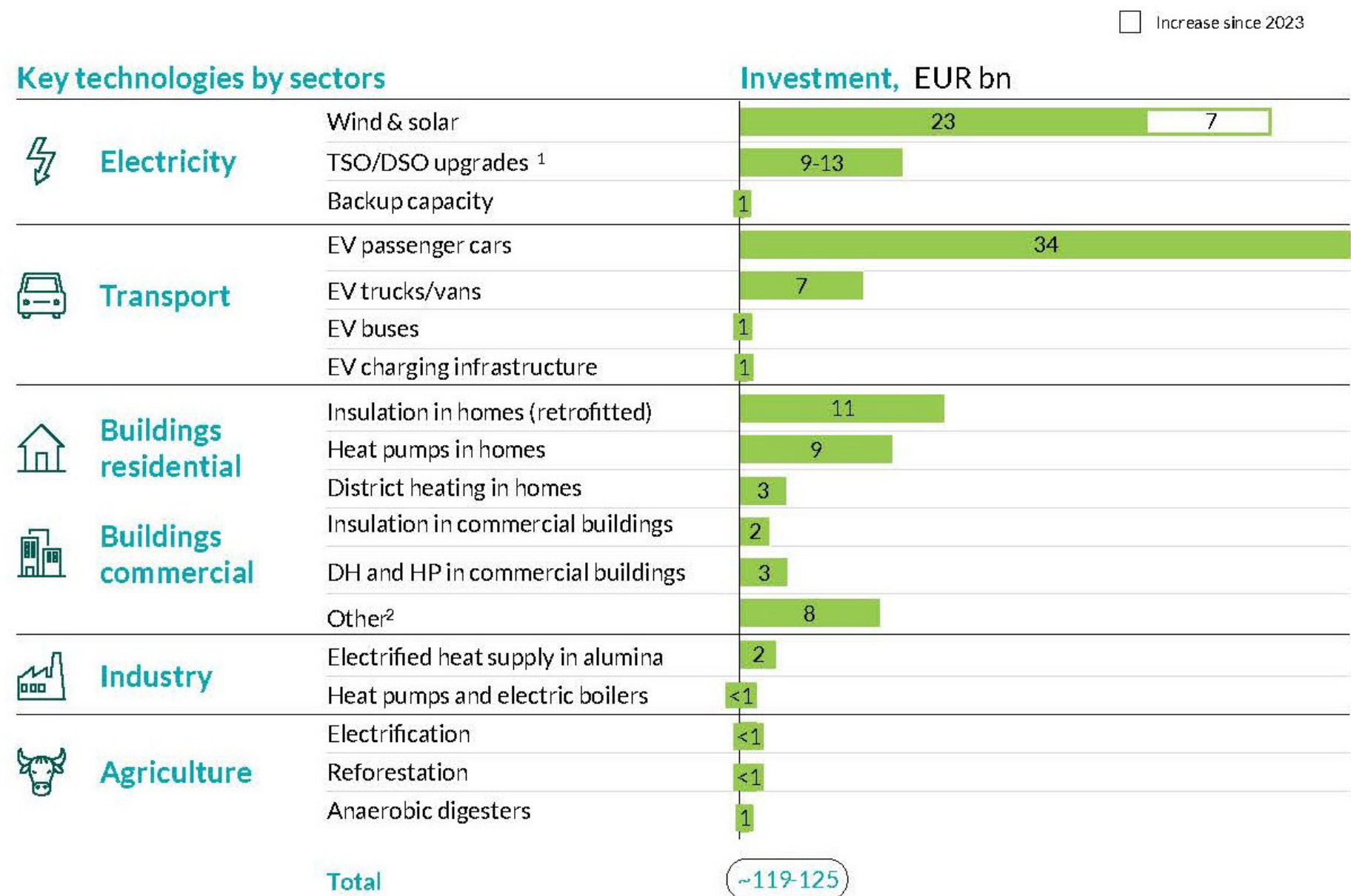


2024 was the first full calendar year that the average global temperature exceeded 1.5°C above its pre-industrial level.



Ireland’s investment by the government

Figure 5.3 – Estimated Investment Required to Mobilise Key Technologies

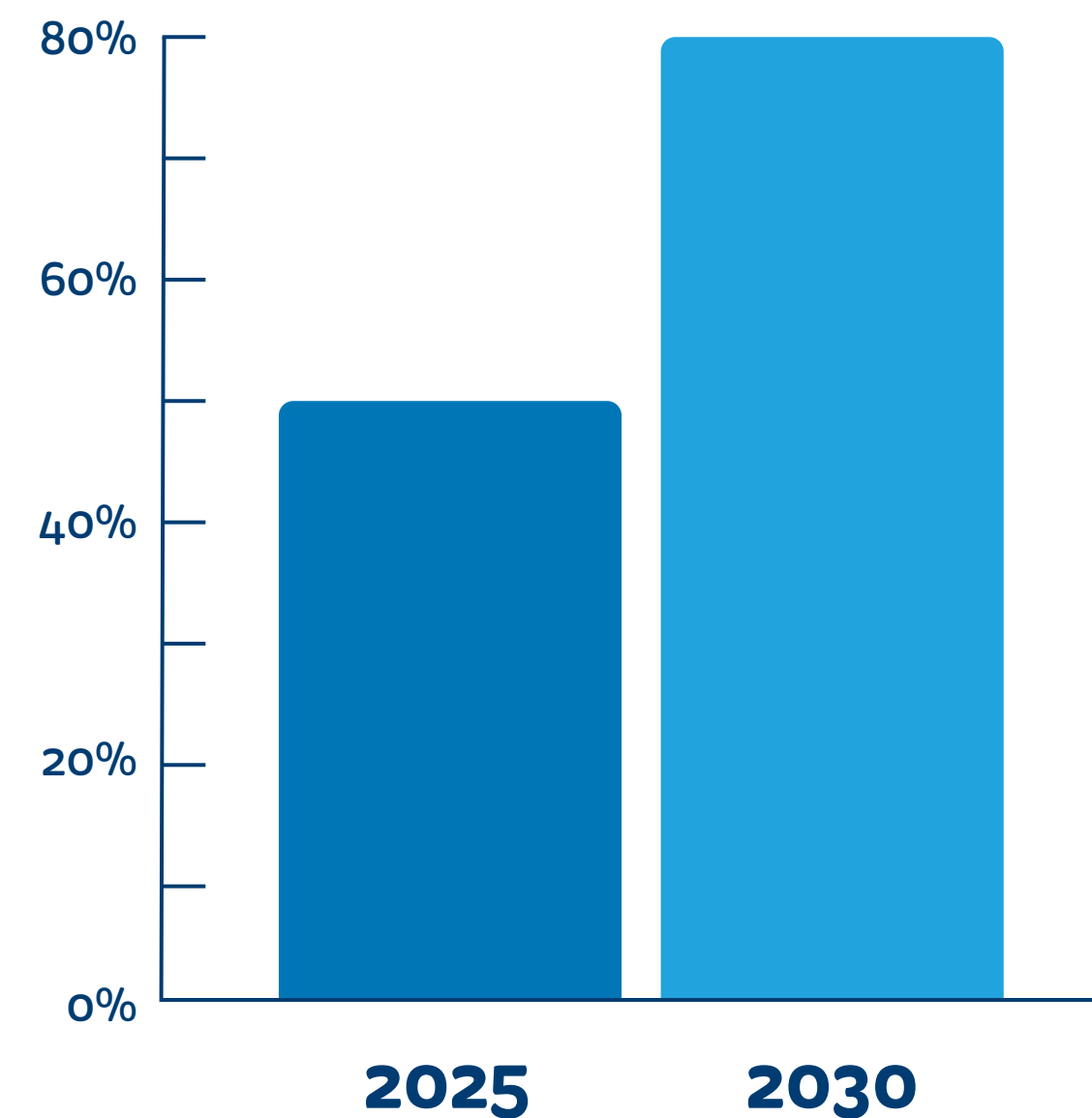


1. Including interconnection | 2. Includes e.g. residential and commercial electric cooking

The information was taken from page 68 of this climate report.

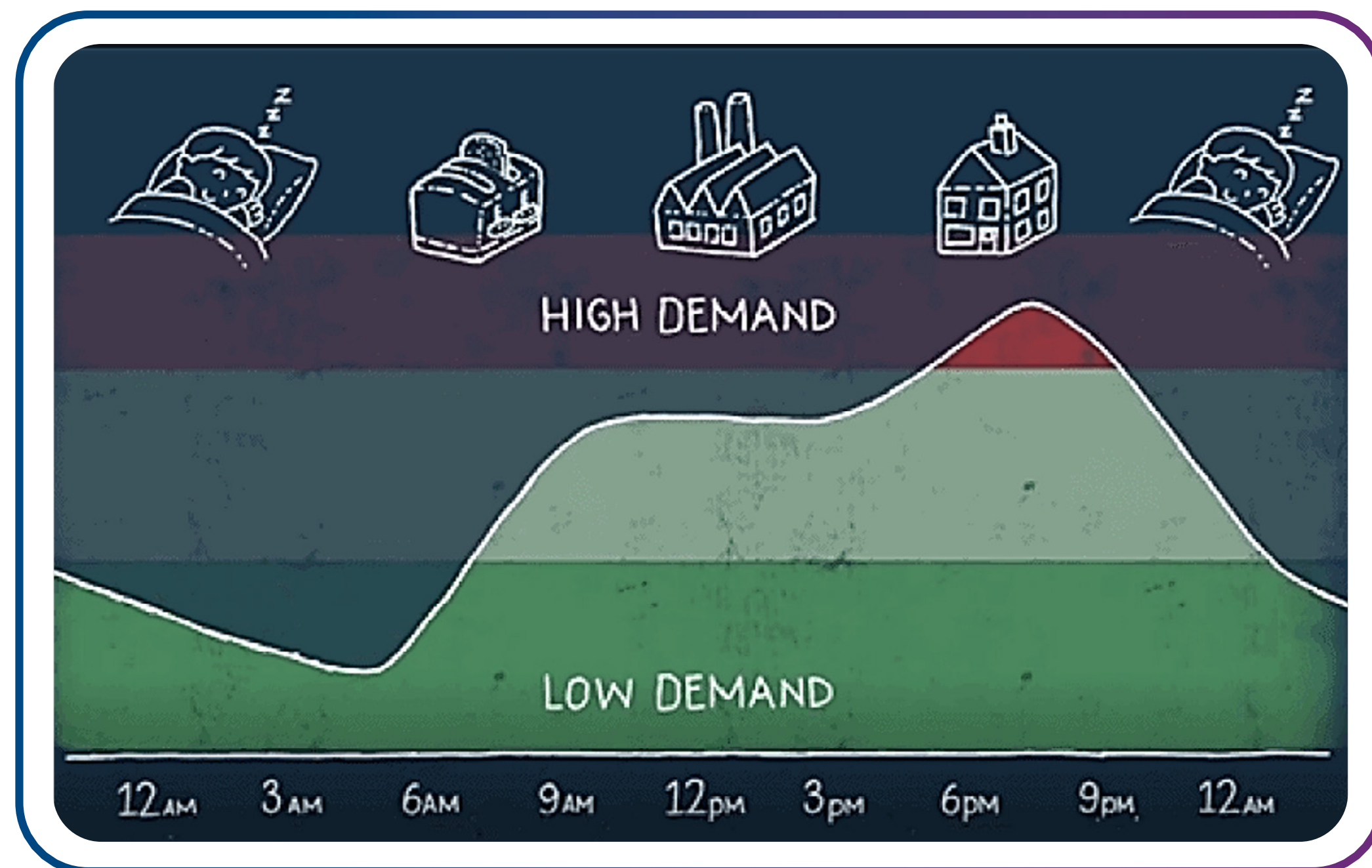
Some goals from Ireland's climate action plan

National Targets	2025	2030
Renewable Electricity Share	50%	80%
Onshore Wind	6GW	9GW
Solar	Up to 5GW	8GW
Offshore Wind	-	At least 5GW
New Flexible Gas Plant	-	At least 2GW
Demand Side Flexibility	15-20%	20-30%



Key Targets

How can we achieve Ireland's goals?



How can we be responsible citizens to help achieve Ireland's goals?

- Flexibility or Flexible Demand refers to the ability to adjust or shift electricity usage in response to changes in supply or demand.
- By shifting energy demand to times when lots of renewable energy is being generated locally, we can **reduce our national energy costs and carbon footprint.**

Flexible Demand

What does Flexible Demand mean for us as individuals?

- Being flexible with our energy consumption.
- Using domestic appliances outside the peak times of 5-7pm or when the country has a good power supply from renewable sources.

What's the weather like now?

Is it a good time to use electrical appliances?

- Check your Weather Station data – is it windy out now?
- If it's windy, it's a good time to use appliances as wind generates renewable energy and Ireland will be relying on that more and more.



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The journey to net zero



Net zero emissions refers to achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere. This short video explains ESB Networks' Net Zero Strategy.

[Click here to watch the video](#)

Class & Take-Home Activity

- Visit ESB Networks' Community Data page:
- Is your county performing better or in line with the national average (green) or poorer than the national average (red)?
- How many people responded to a flexible event (when ESB Networks provided an alert to say it was a good time to use appliances)?
- Which county uses the most/least energy? Why might that be?
- How can you encourage people at home to meet these targets?



Well Done!

You have completed Lesson 4.