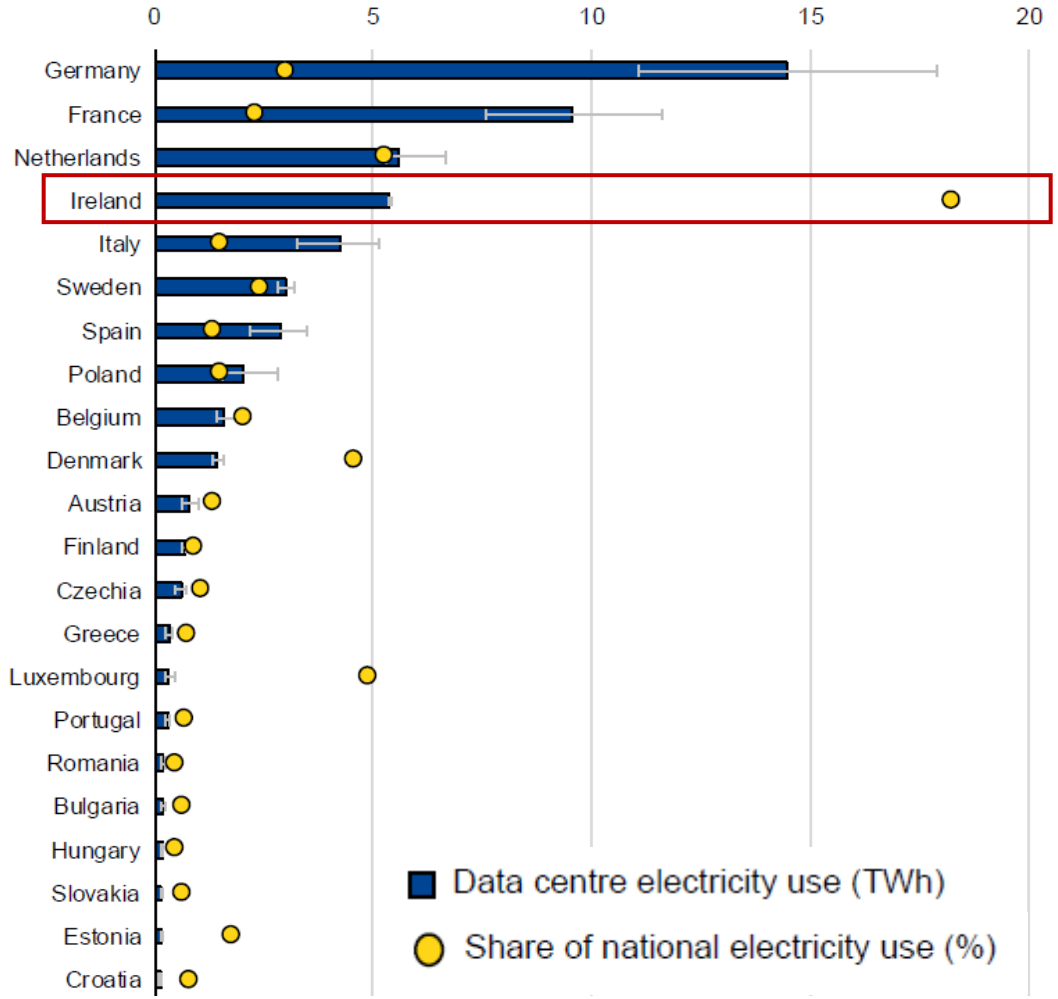
Potential impact of the Large Energy User Connection Policy on energy and climate targets

Dr. Teresa Bonserio, Prof. Hannah Daly

14th Annual MaREI-ESRI-UCC Seminar
09/06/2026

UCC
Coláiste na hOllscoile Corcaigh
University College Cork, Ireland

Ireland as a test case for Europe's digital sector



- Ireland holds the continent's highest data centre (DC) electricity demand share (**22% in 2024**).
- Due to grid constraints, a **moratorium** on new DC connections in **Dublin** was enforced in 2020.
- In December 2025, the Commission for the Regulation of Utilities (CRU) published its new **Large Energy Users (LEU) Connection Policy**.

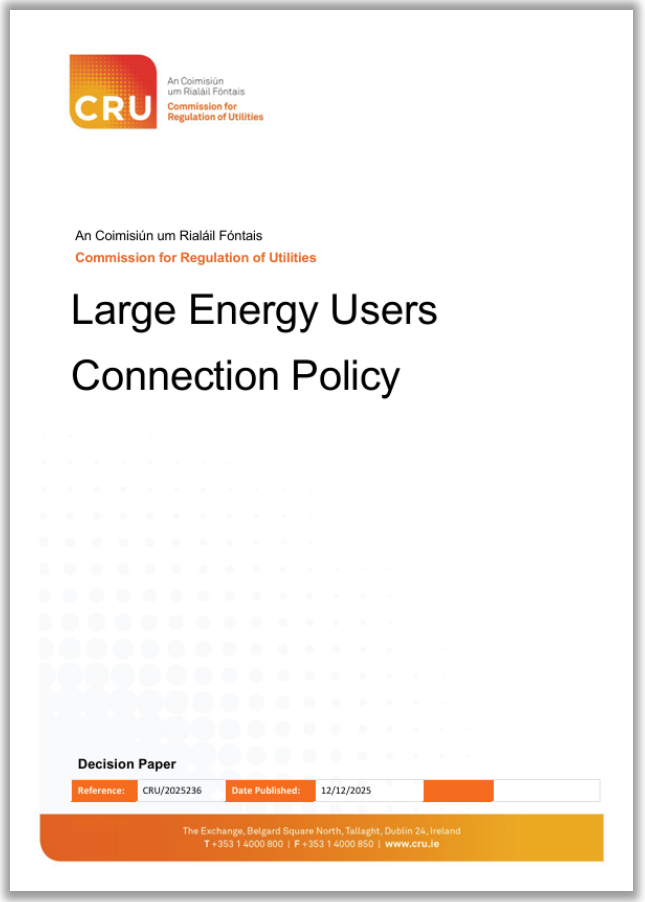
Source: JRC, 2022

CRU's Large Energy Users (LEU) Connection Policy

DCs seeking connection to the grid must:

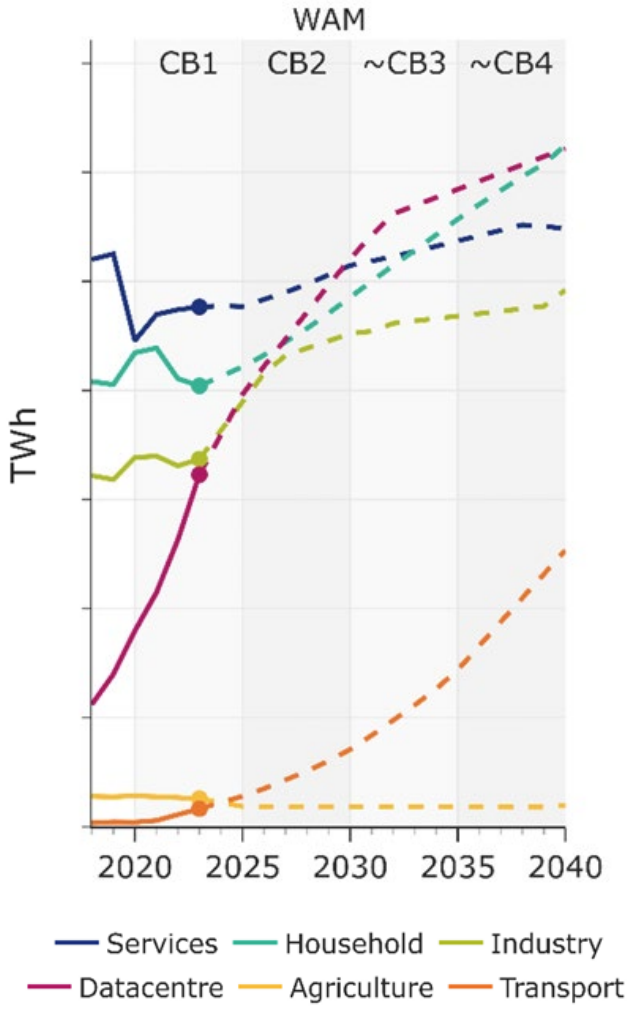
- Secure **dispatchable generation** (on-site or proximate) equal to their maximum demand,
- After a **six-year glide path**, during which they can rely on fossil fuels, match **80%** of their annual electricity demand with new domestic **renewable energy.**

A Market Intelligence exercise indicates this policy could enable an **additional 5.8 GW of DC demand.**



Source: CRU, 2025

Scope and methodology

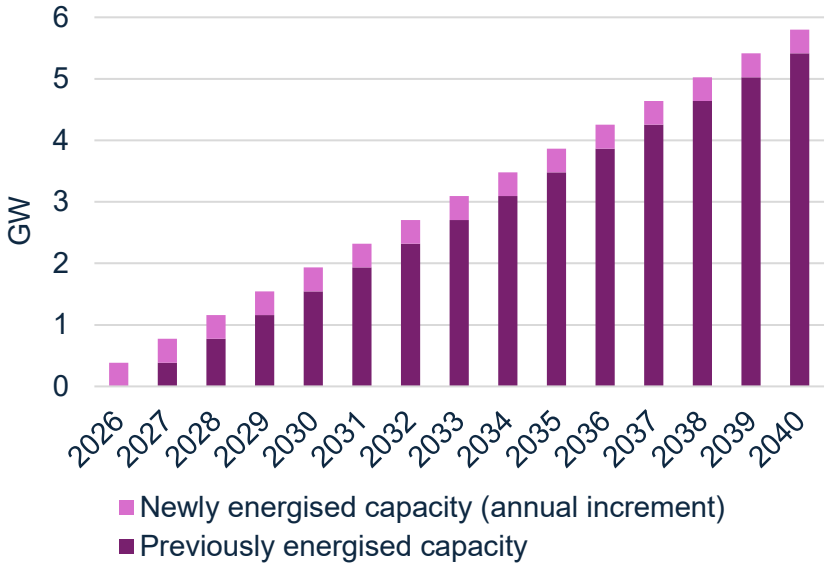


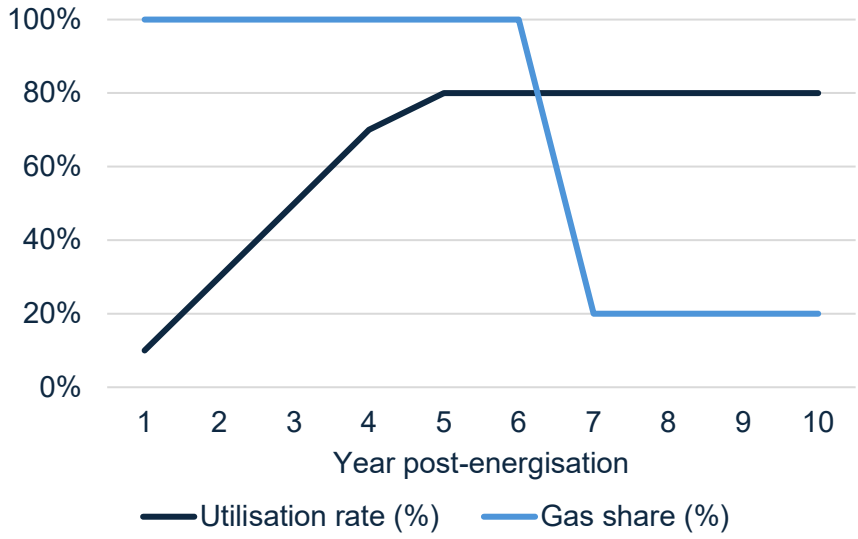
Source: SEAI, 2025

Goal: Evaluate the policy impact on **Ireland's energy and climate targets**

Baseline: Sustainable Energy Authority of Ireland's (SEAI) National Energy Projections' "With Additional Measures" (WAM) scenario.

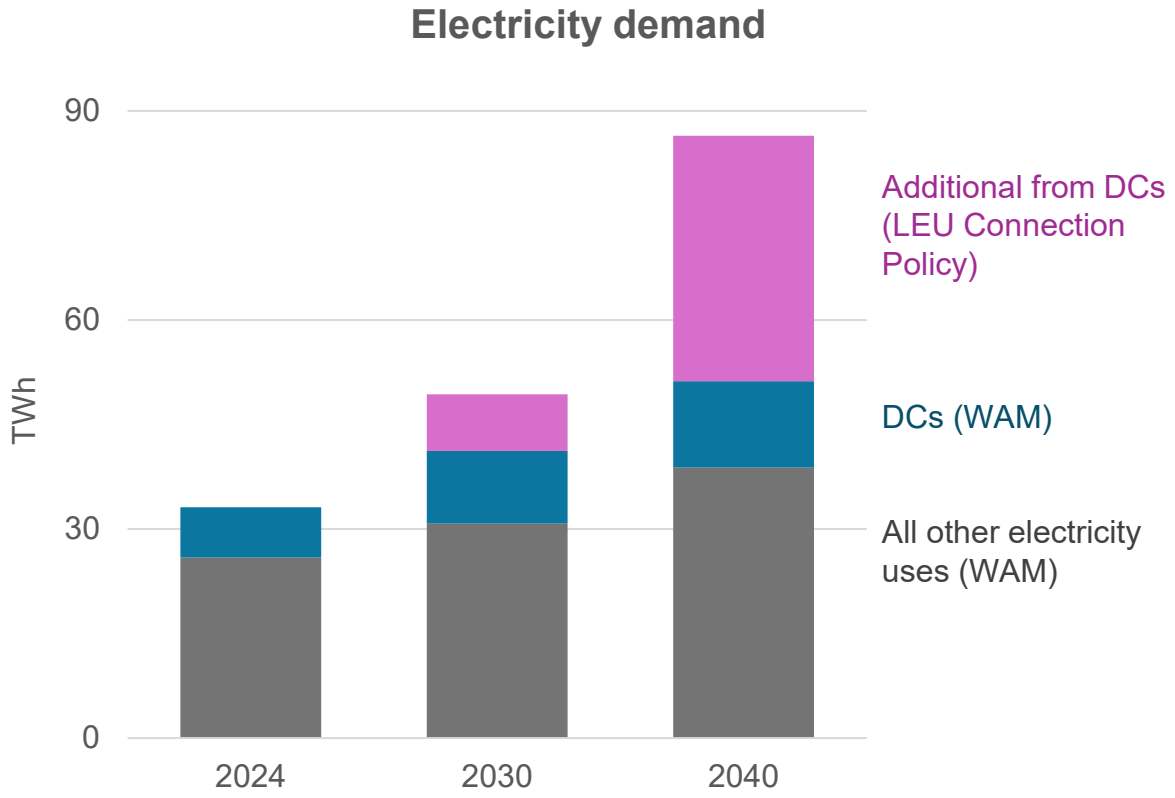
Assumptions:

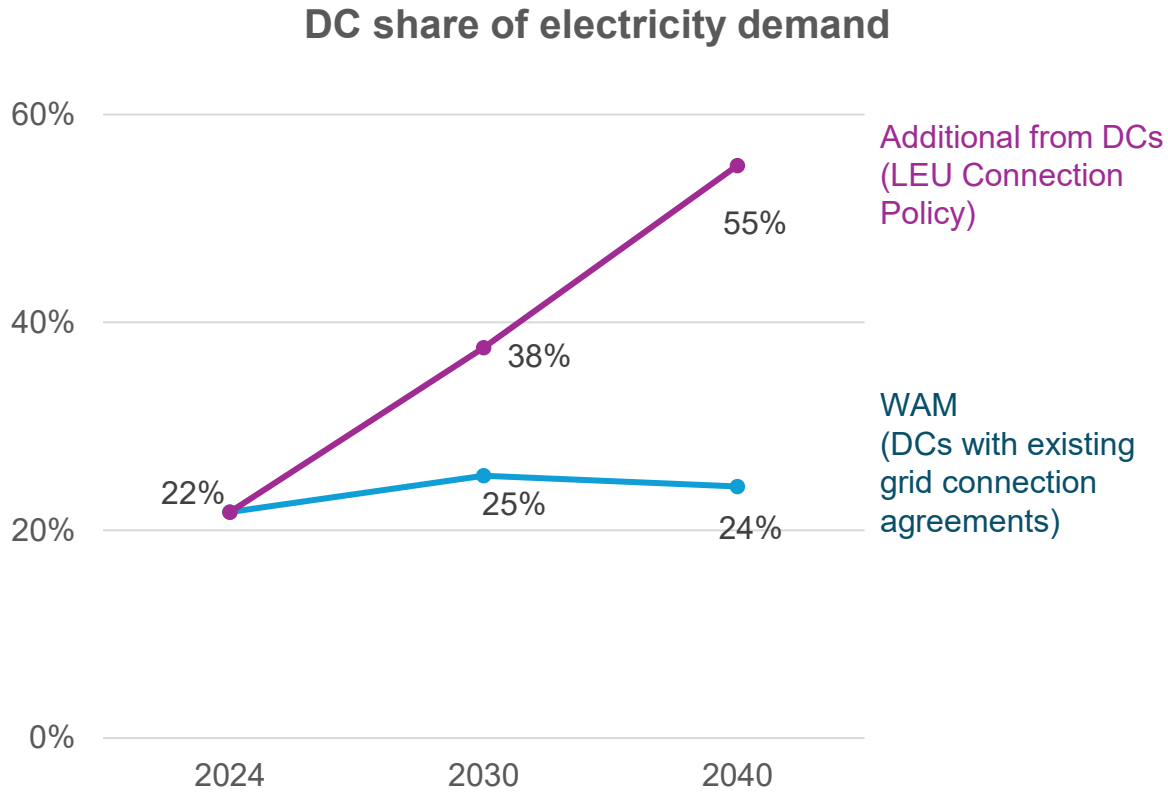




Gas emission factor: 400 gCO_2/kWh

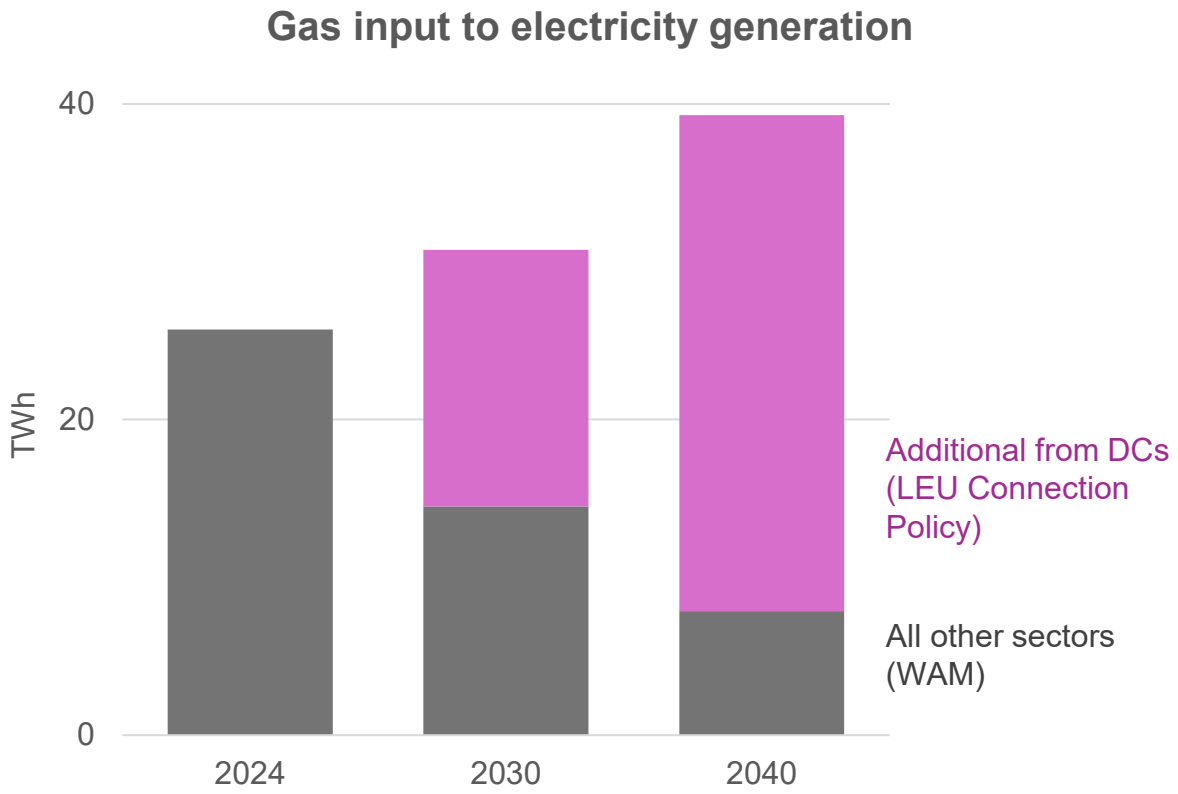
Results: policy impact on electricity demand

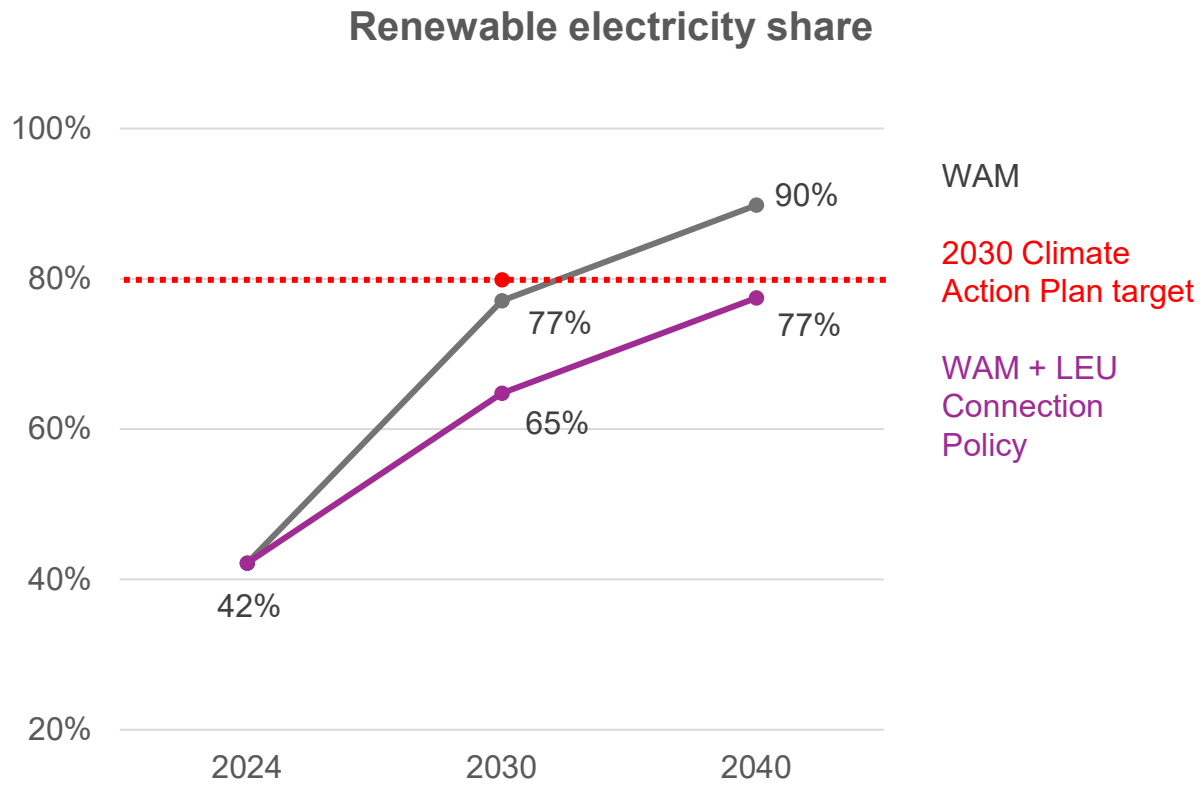




By 2035, DCs will drive more **peak grid demand** than all other sectors combined. Ireland will also overshoot its EU EED 2040 **final energy consumption** target.

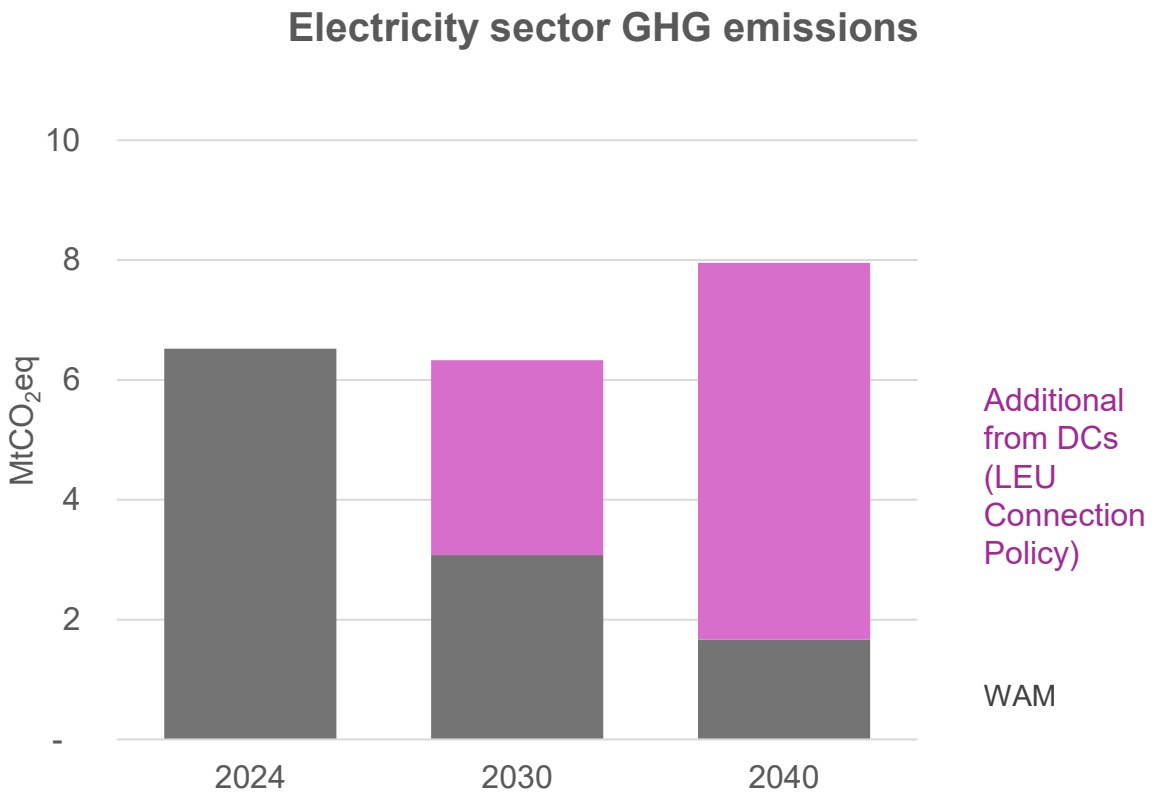
Results: policy impact on renewable deployment

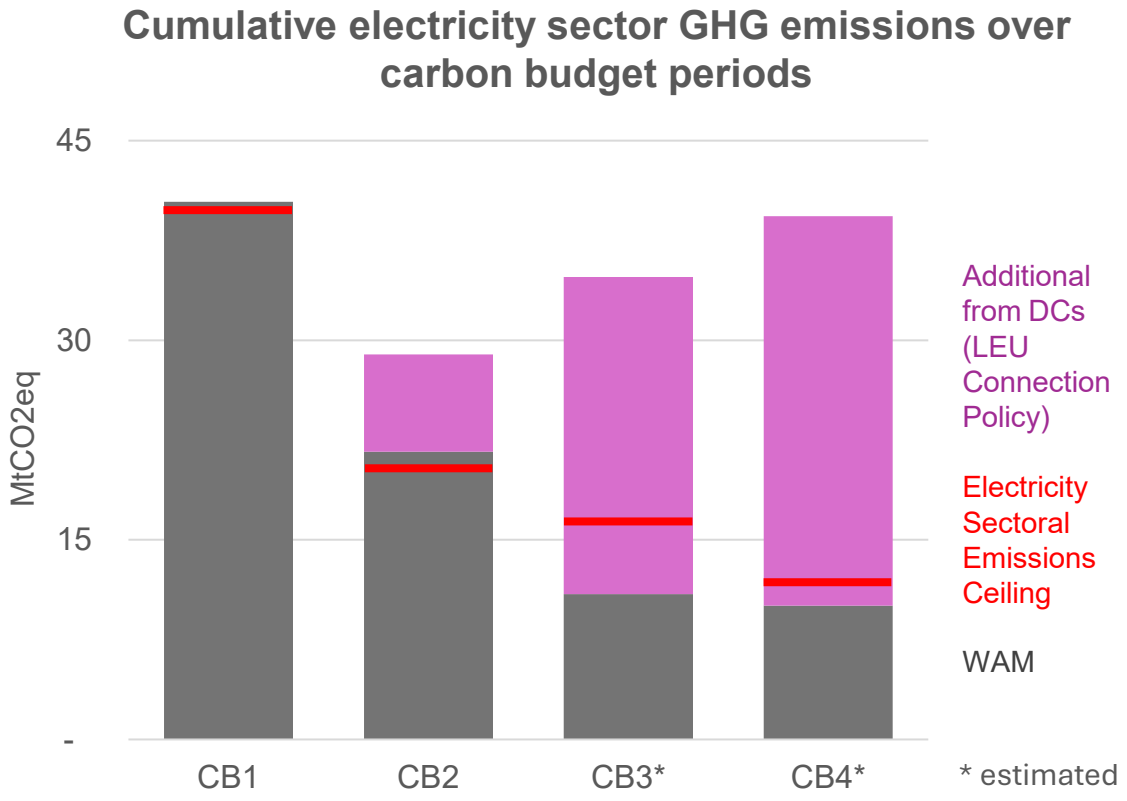




Short-term gas reliance will drive an overshoot of the 2030 RES-E target, while the **subsequent pivot to renewables** will require a capacity equal to the entire 2030 national offshore wind target.

Results: policy impact on GHG emissions

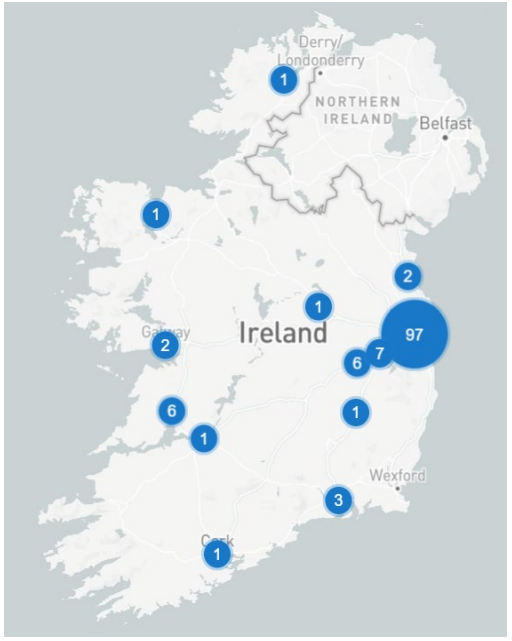




The resulting carbon budget overshoots would demand **impossible compensatory cuts** in other already **heavily constrained sectors.**

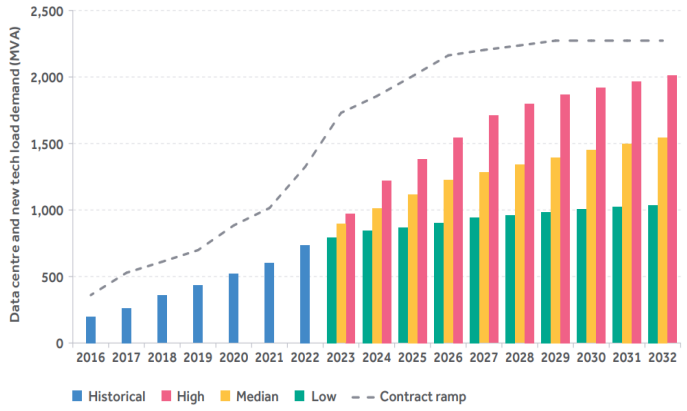
Next steps: from top-down to bottom-up

1. Map DC facilities and collect openly-available **energy info**



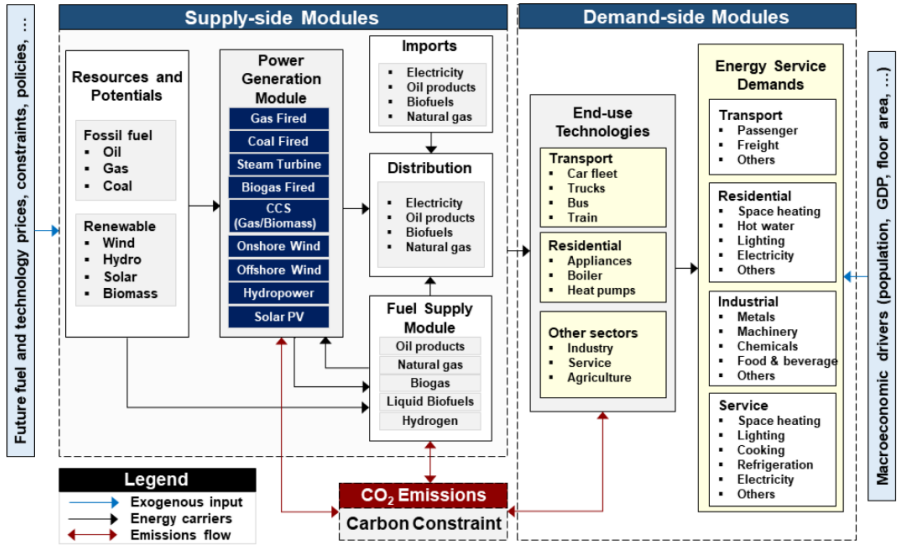
Source: datacentermap.com

2. Build DC **demand profiles** and create demand **scenarios to 2040**



Source: EirGrid, 2024

3. Integrate demand scenarios in **TIMES-Ireland** and evaluate their energy system effects



Source: Balyk, O. et al., 2022

Conclusion and policy recommendations

UCC
Coláiste na hOllscoile Corcaigh
University College Cork, Ireland

- Ireland is internationally recognised as a **cautionary tale**
- The current policy formulation creates significant conflict between large **demand growth** and **Ireland's commitments** on climate, energy efficiency and fossil fuel phase-out:
  - It allows gas-supported development
  - Renewables additionality does not imply decarbonisation
- **Evidence gap** due to lack of transparent and granular DC data

Thank you!

Questions are welcome

Link to our working paper.
We'd love to hear your feedback.

Dr. Teresa Bonserio
tbonserio@ucc.ie

Prof. Hannah Daly
h.daly@ucc.ie

Energy Policy and Modelling Group |
University College Cork