

06/02/2025

Shaping Our Electricity Future Advisory Council

Herbert Park Hotel, Dublin

Meeting #10



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Welcome!



A word from our co-Chairs
Liam Ryan & Gerard Carlin



Moderator's Welcome Message



Colleen Savage



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Welcome











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Agenda: SOEF Advisory Council #10

Herbert Park Hotel, 6th Feb, 2024

START TIME	DURATION	TOPIC		PRESENTER/S
10:00	25 min	Introduction, Welcome All Members, Agenda		Liam Ryan, Gerard Carlin, Colleen Savage
10:25	20 min	Thinking differently about grid development: the opportunity of change in Northern Ireland		Gareth Brown
10:45	45 min	Workstreams Panel: Members Questions		Workstream Leads
11:30	15 min	Net Zero Network Consultation		David Noronha
11:45	45 min	The Decarbonisation of the Heat Sector		Tony Collins, Head of Heat Policy, DECC
12:30	50 min	Lunch		
13:20	60 min	Round Table Breakouts: 1. Data centre Fault Ride-through (Non-LEUs) 2. Data centre Fault Ride-through (LEUs) 3. Overcoming Dispatch Down Levels 4. Net Zero Network Consultation		1. Simon Tweed 2. Eoin Kennedy 3. David McGowan/Marc Senouci 4. David Noronha
14:20	15 min	Coffee Break		
14:35	60 min	Round Table Recommendations and Roadmapping		All
15:35	25 min	Reflection, Next Steps and Closing Messages		Liam Ryan, Gerard Carlin, Colleen Savage
16:00		Meeting End		

A pre-read was shared ahead of the meeting introducing content on workstream updates, Net Zero Network, NI transition, and the breakouts



Meeting Chairs:
Liam Ryan & Gerard Carlin



Moderator:
Colleen Savage



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Thinking Differently About Grid Development

The Opportunity of Change in Northern Ireland

Shaping Advisory Council Meeting, Dublin

6th February 2025



Gareth Brown

Head of Corporate Affairs, SONI





Delivering a cleaner
energy future

Thinking differently about grid development : the opportunity of change in Northern Ireland

**Gareth Brown | Head of Corporate
Affairs | SONI**



Agenda

The journey so far, the task ahead

The opportunity to think differently

A Plan-Led Approach

A Strategic Spatial Energy Plan

Q&A



Significant progress to date – 40% (2019), 75% SNSP

80 x 30 (2022): scale and complexity unprecedented

The SOEF Plan: Networks | Operations | Markets | Engagement

Balancing competing stakeholders and priorities

Cost | Decarbonisation | Security of Supply | Time

Prize: cleaner, more secure energy

Challenge: delivery timelines, misalignment in progress and short-term vs. long-term

The journey so far, the task ahead





Interesting policy developments in GB: Winsor report on acceleration, NESO, DESNZ mission control, Clean Power by 2030, Strategic Spatial Energy Plan

Halfway point: DfE's Review of the Energy Strategy – opportunity

Limitations of developer-led approach | tension in SONI's licence

Delivery timelines | efficiency | balance between developer ambitions, network needs, government policy and consumer interests

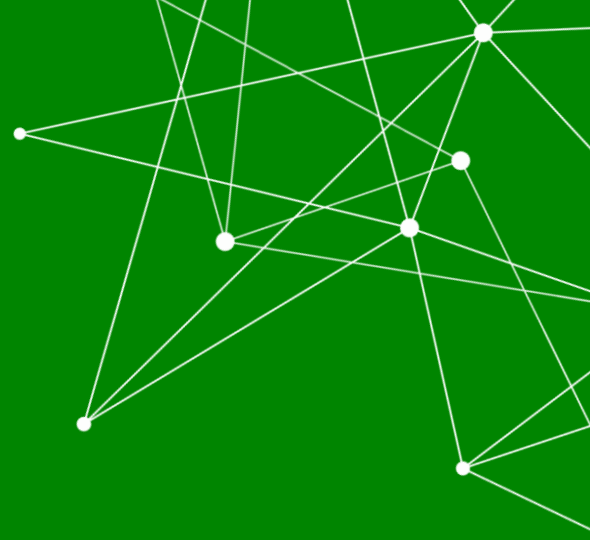
Opportunity to be agile in policy and regulation

Relationship with demand - policy links to other government priorities

Good foundations: SOEF, TES, TESNA

Opportunity
to think
differently





A change of ethos – more collaboration with industry to signal the right generation, in the right places, at the right time

Whole-system approach – position the energy system as an enabler of wider economic and social priorities

A more co-ordinated plan – the “how” and “why” as well as the “what”

Use of better, more specific investment signals | enable prioritisation, flexibility, long-term thinking | enable alignment across the energy system | enabler for other policy development

Better balance between: deliverability | developer priorities | cost | government policy | consumer interests | network needs

More of a Plan-Led approach



Policy vehicle for the Plan-led and whole system approach

Aligning energy policy objectives, demand, network, the need for investment

Enables stronger long-term investment signals in technology and geography

Deliver on DfE core missions: good jobs, regional balance, productivity, decarbonisation

Vehicle for alignment with other policy: industrial policy, FDI, role of gas, decarbonisation, planning

Consumer and regulatory confidence in a plan

Move straight to net zero power system – 2030 as an important milestone

Enabling policies: regulatory approvals reform, planning reform, market design, community benefit

A Strategic Spatial Energy Plan for Northern Ireland



Q&A



Workstreams Panel



David Carroll
Head of Programme
Delivery & Service
Transition, EirGrid



John Ging
Head of Interconnection,
EirGrid



Eoin Kennedy
Director of Innovation
and Planning, EirGrid



Sinead Dooley
Head of Public
Engagement, EirGrid



Jason Kenna
Head of Network
Projects, EirGrid



Eimear Watson
Head of Networks,
SONI



MARKETS

Overall Summary and Status

- **SDP:** The Scheduling and Dispatch Programme (SDP) continues at pace however programme status is red reflecting delays experienced in the Tranche 1 system build with one of our IT system vendors. Expected go-live is now May 2025 for battery changes and September 2025 for the Non-Priority Dispatch Renewables and Wind/Solar Dispatchability Improvements. The Non-Priority Dispatch Renewables initiative is pending SEMC approval of the modification.
- **FASS:** The Future Arrangements for System Services (FASS) Programme continues at pace; however, programme status is red. This is due to contractual challenges with the IT system vendor. There are also risks to the schedule due to overlapping design activities and volume of consultations/recommendations/decision papers.
- **LDES:** EirGrid following direction from CRU and in discussion with DECC on procurement and timelines; drafting consultation paper on procurement models.

Where we need your advice

The TSOs and SEMO are managing complex market changes with many moving parts. We are conscious delays have an impact on participants. Does the Advisory Council have any advice on how we can manage the impact of delays on participants?



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STRATEGIC MARKETS PROGRAMME

Overall Summary and Status

- Programme continuing to progress through requirements gathering and planning activities;
- High Level Requirements gathering activities completed and Detailed requirements gathering underway for changes to systems and processes required to implement scope of programme.
- Programme plan approved for first release of scope items needed for EU Integration following go-live of Celtic Interconnector
- High Level delivery planning for Release 2 scope items (e.g., non-EU Integration items) ongoing;

For Your Consideration

- *The volume of auctions will increase substantially.*
- *We will be on two separate borders concurrently.*





SYSTEM OPERATIONS

Overall Summary and Status

- The SOEF Roadmap and the Operational Policy Roadmap together chart a pathway to delivery of the government climate targets by 2030. The SOEF System Operations programme is progressing as outlined in SOEF version 1.1 published in July 2023. While good progress is being made across a range of areas, the programme currently has an amber status as outcomes are partially delivered with some delays.
- At the September Advisory Council meeting, the TSOs highlighted those areas of the System Operations programme that will have the greatest impact on our ability to evolve operational policy in the period to 2030, which include the following: Operational Capability Enhancements / Delivery of System Services / Transmission Constraint Removal / Resolving Customer Performance Issues. We continue to focus on delivering in this areas.





PUBLIC ENGAGEMENT

Overall Summary and Status

The SOEF Roadmap underpins all Consultations, engagements and initiatives undertaken across the Public Engagement Team and is a key enabler to the delivery of an accelerated grid expansion programme.

Positive public and landowner engagement on recent consultations including Powering up Offshore South Coast.

To support SOEF Roadmap and for information purposes EG have recently published regional plans outlining current grid delivery.

- Northern & Western Strategic Planning Framework
- Eastern & Midland Strategic Planning Framework

Our Ask/Where we need your support

Asking members of the Advisory Council to avail of any opportunities to highlight the need for unequivocal support for grid delivery projects.





NETWORKS INFRASTRUCTURE (ROI)

Overall Summary and Status

- 1 Additional Candidate Reinforcement listed in SOEF 1.0 & 1.1 progressed into Framework for Grid Development in the last quarter.
- Overall SOEF project pipeline, and progression of projects through the framework remains on schedule.





NETWORKS INFRASTRUCTURE (NI)

Overall Summary and Status

- **JPMO:** Joint SONI-NIE Networks Programme Management Office established with baseline programme. SONI & NIEN working to establish programme efficiencies. Estimated completion dates under review by JPMO and will be communicated externally Q1 24.
- **NSI:** 2nd North-South Interconnector has reached TPI/TPA i.e. handed over to NIE Networks. Necessary Wayleave process continues (34 granted to date).
- **Mid-Antrim Upgrade:** Optimum substation site location and overhead line corridor determined. Optimal route selection well advanced & landowner engagement ongoing.
- **Wayleaves v Easements:** SONI's proposal to shift our default approach for land access from wayleave to easements has been agreed in with the UR, communicated with key stakeholders and a model for easements has been finalised. To be implemented with Mid-Antrim Upgrade.



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Opportunity for Members Questions

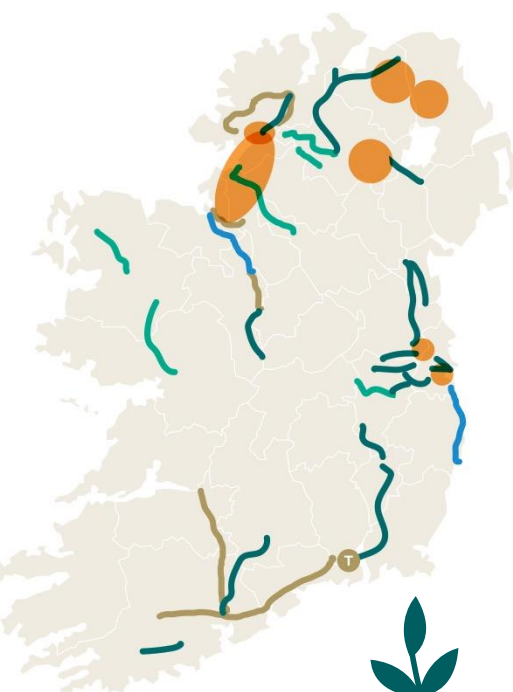


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Shaping Our Electricity Future Roadmap - Recent Achievements



SOEF v1.1: Sept - Dec '24



The TSO Demand Side White Paper was published in December 2024.



Studies to inform a decision on the commencement of an 80% SNSP operational trial were completed and are under review by the Operational Policy Review Committee (OPRC).



The proposed Grid Code modifications for Synchronous Condenser Units were presented at the December Joint Grid Code Review Panel meeting and received positive feedback from industry members.

Markets

- Scheduling and Dispatch (SDP) - "Battery Integration" has been approved by SEM-C. Additional milestones for Tranche 2 delivery published.
- Future Arrangements System Services (FASS) - SEMC decision on Product Review. Charge Recommendation Paper complete and shared with RAs. High-level Readiness Scope document and industry survey results published. Agreement with RAs on Final Assignment Mechanism (FAM) alternative funding approval received from RAs.



Network Infra Enablers & Engagement

- Reclassification of Gorman-Maynooth 220kV to exempted development will accelerate schedule.
- 2nd North-South Interconnector has been handed over to NIE Networks (NIEN).
- Transmission Development Plan NI 2023-31 approved by the Utility Regulator (UR).
- Signing of EU Commission Pact for Public Engagement.

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A Network fit for Net-Zero...

Future Networks and Strategic Offshore Planning

Shaping Advisory Council Meeting, Dublin

6th February 2025



David Noronha

Head of Future Networks and Strategic Offshore Planning, EirGrid



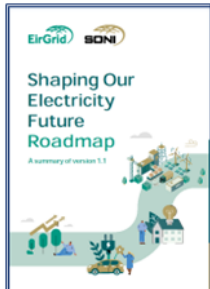
Planning Context



All-Island Generation Capacity Statement



Tomorrows Energy Scenarios



Shaping Our Energy Future



All-Island Ten Year Transmission Forecast Statement



Tomorrows Energy Scenarios System Needs Assessment



A Network Fit for Net-Zero

Long-term strategic vision to deliver a holistic network design to support net zero

Today's focus



Transmission Development Plan

...Where does this fit in?..

Tomorrows Energy Scenarios...

...forms the framework to our analysis for Net Zero Network

Self-Sustaining is the baseline Scenario for the Net Zero Network Plan

- Least regret
- Full electrification
- Domestic Demand met

Self-Sustaining

- Domestic Focus
- Generation scaled to meet domestic demand
- High demand side flexibility
- Rapidly decarbonising Power System



Higher industrial demand / High pace of transition

Offshore Opportunity

- Domestic and international focus
- More interconnection strong electricity exports at times
- High demand side flexibility
- Rapidly decarbonising power system

Lower interconnection / less offshore development


Constrained Growth

- Domestic Focus
- Falling relative disposable incomes
- Supply chain difficulties (RES-E)
- Slower decarbonising Power System



Gas Evolution

- Domestic and international focus
- Renewable gas (inc. hydrogen) economy develops
- Steadily decarbonising Power System



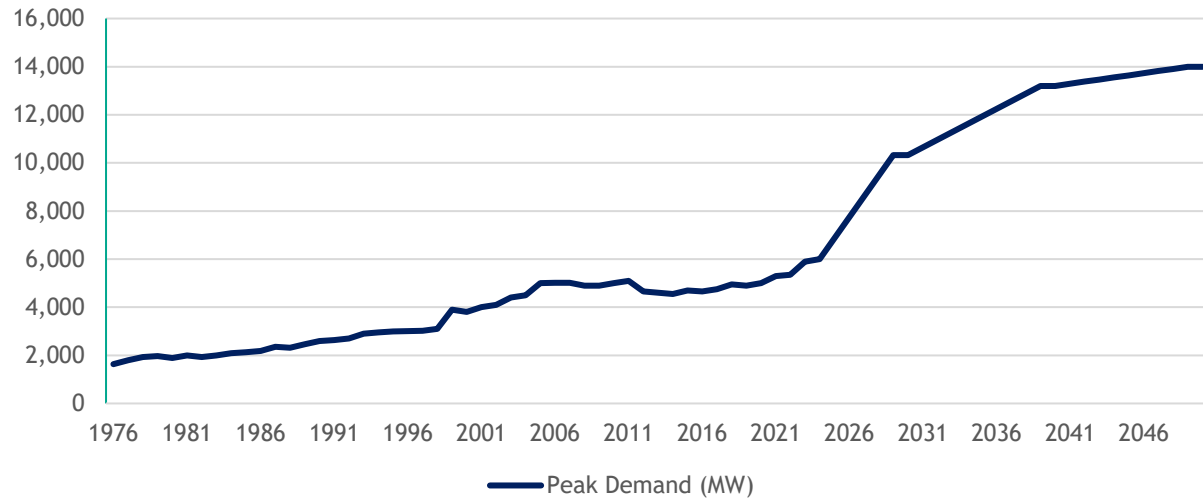
More interconnection & electricity export / High offshore development

Lower demand / Slower societal transition

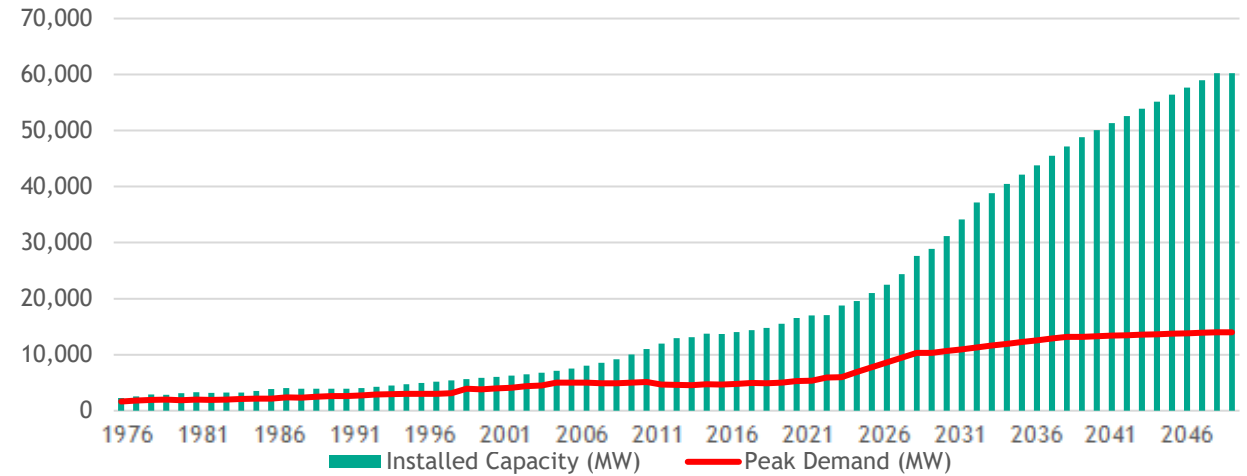


Main Challenge...

Peak Demand Growth



Peak Demand vs Installed Capacity



Peak electricity demand doubled to 5,600MW between 1992 and 2024

In TES, we are now forecasting Peak Demand doubling to 11,000MW in 11 years between 2024 and 2035

- Driven by electrification, economic & population growth



Tomorrows Energy Scenarios

System Needs Assessment

Self-Sustaining - 2040

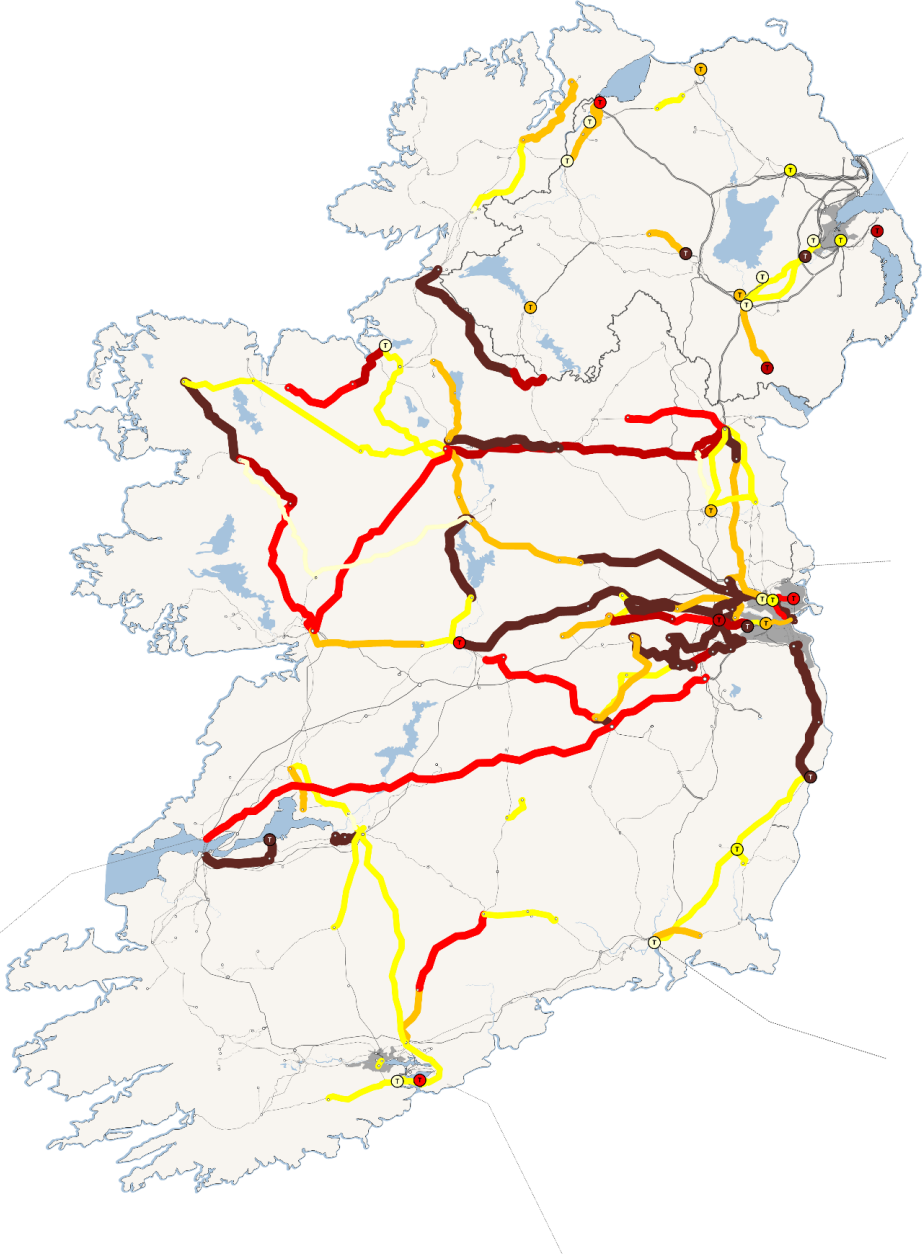
All work forecast in SOEF assumed to be completed

Examines the **impact of demand and installed generation** assumptions on our network

Two years - 2035 & 2040

Backdrop to the Net-Zero Network Analysis

As expected, many circuits are overloaded




Net Zero Networks

Objective


 Define a holistic network masterplan to deliver on Net Zero

 Identify least-regret network improvements

 Identify transmission network development requirements for:

 Maximum Electrification

 Maximum Offshore Wind Potential

 Identify potential for operations, markets, and engagement changes

 Inform early investment in the energy ecosystem



Methodology for Conceptual Network Design Variations

High-level, illustrative overview of conceptual network design process.

2030 Input Data

A base case using:

- Existing 2030 transmission network model;
- TES 2023 outcomes (supply and demand);
- ENTSO-E/G TYNDP 2024;
- Designated Maritime Area Plans (DMAPs)



Figure: Tomorrow's Energy Scenarios 2023 Report.



Figure: Anticipated 2030 transmission network showing 220kV and up.

2030 Nodal Model

Inputs will be developed into a simplified nodal 2030 base case model

Purpose: run a capacity expansion to assess how the All-Island system could optimally develop beyond 2030

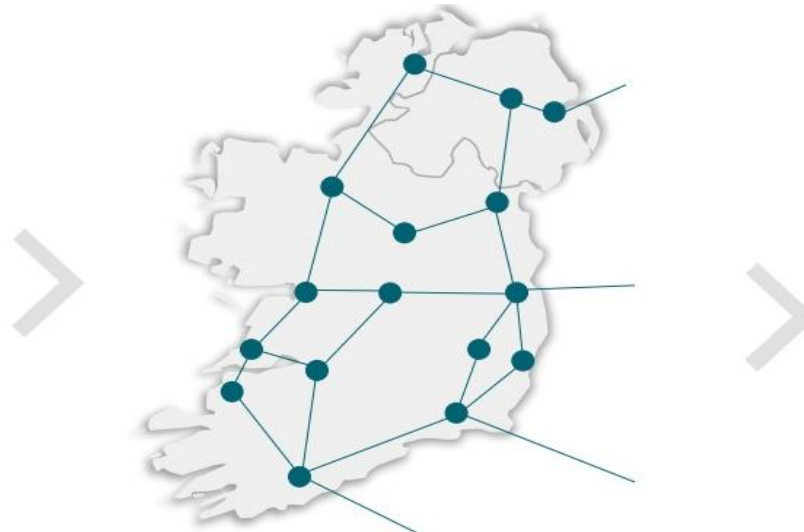


Figure: Illustrative nodal model showing transfer capacities between nodes based on the anticipated 2030 transmission network.

2050 Conceptual Network Designs

- Three variations will be modelled in Plexos.
- Identify potential low-regret electricity infrastructure investment options / capacity corridors.

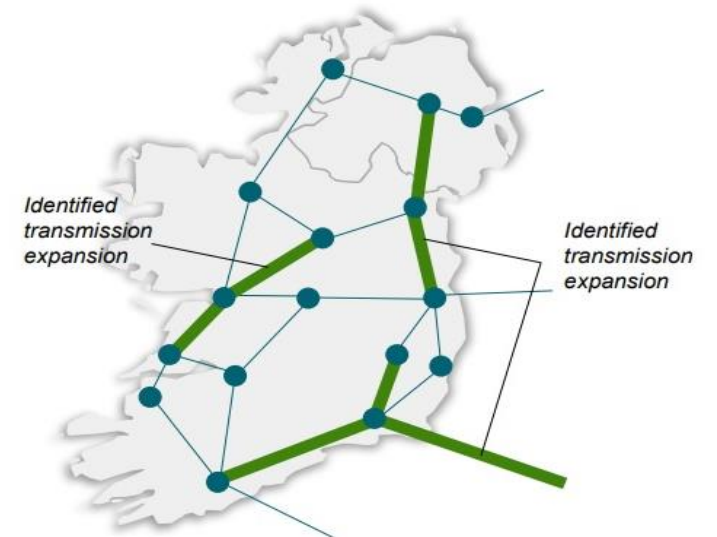
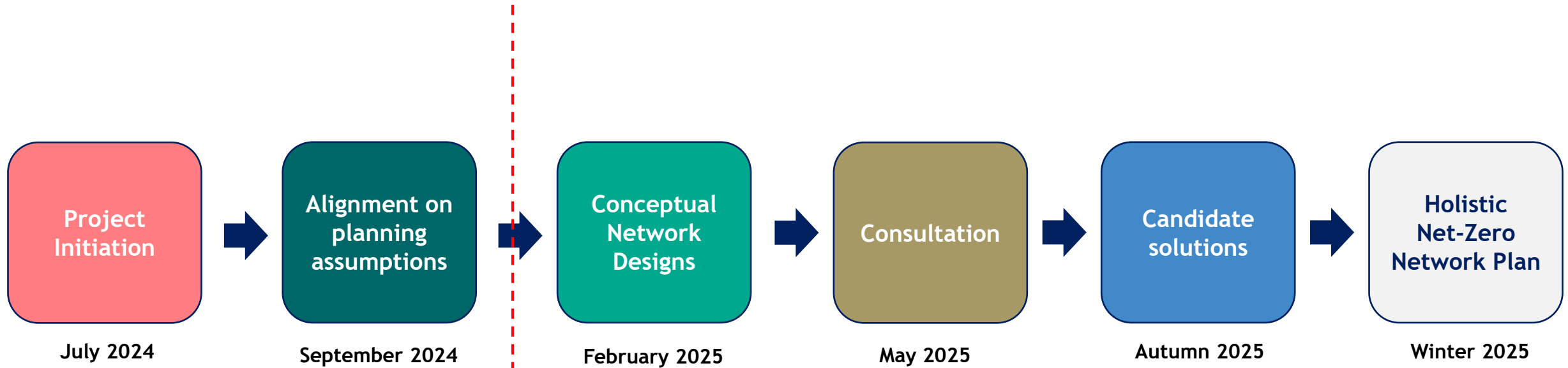


Figure: Illustrative 2050 conceptual network design showing identified transmission expansion.

Net Zero Networks...

...high level timelines



Today

A Network fit for Net-Zero...

Future Networks and Strategic Offshore Planning

Thank You

David Noronha

Head of Future Networks and Strategic
Offshore Planning





An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

The Decarbonisation of Heat District Heating



Tony Collins, Principal Officer, Head of Heat Policy, DECC

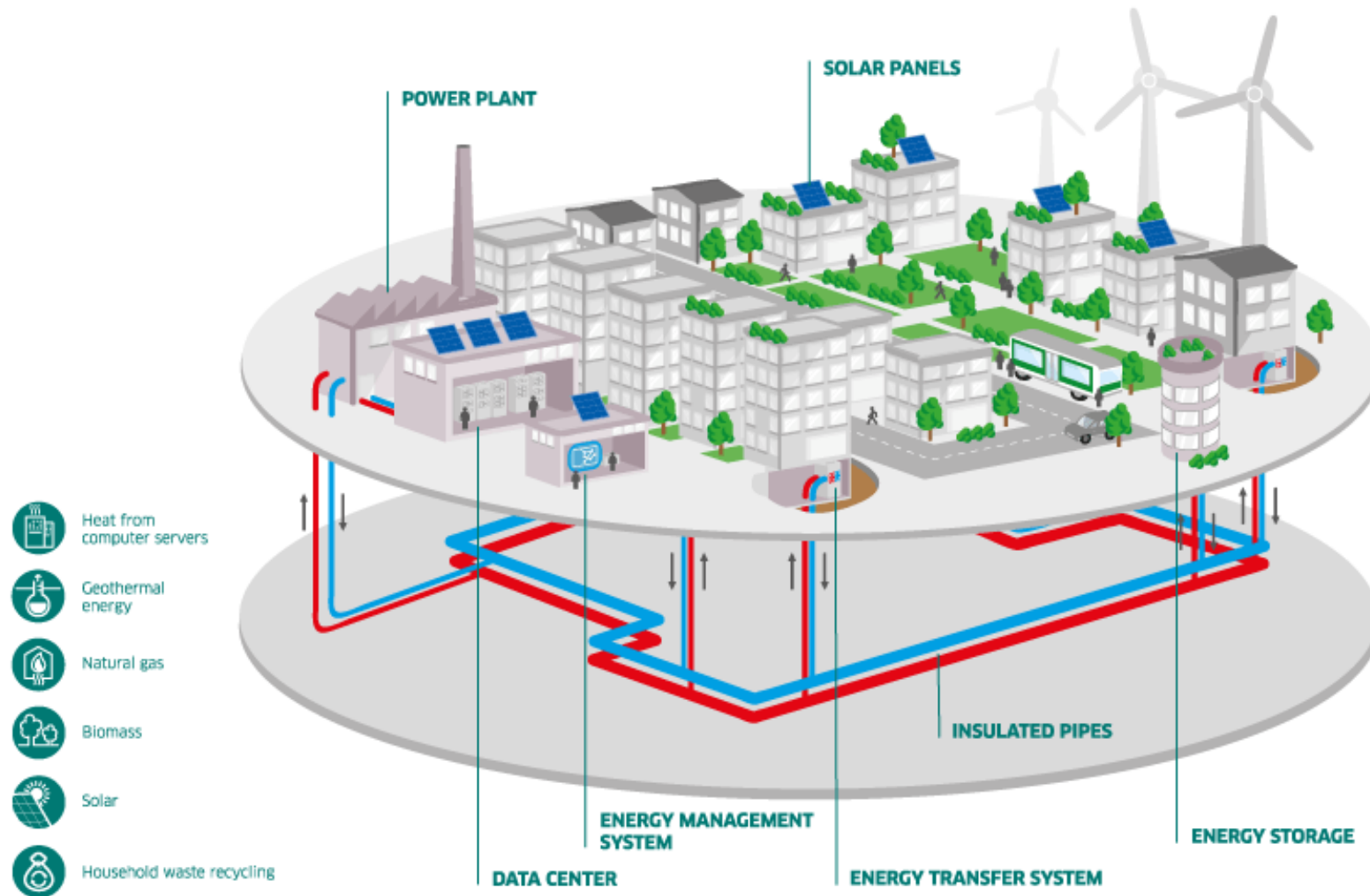
6th February 2025

What is District Heating?



- A system for **distributing heat** generated in one or more central locations, through a **system of insulated pipes**, to individual public, residential and commercial properties **connected to the network**.
- 9% global final heating need and approx 70m customers globally but.....

.....its decarbonisation potential largely untapped – approx. 90% of the heat supplied from fossil fuels



District Heating Internationally



- Denmark
- Sweden
- Netherlands
- United Kingdom
- New York

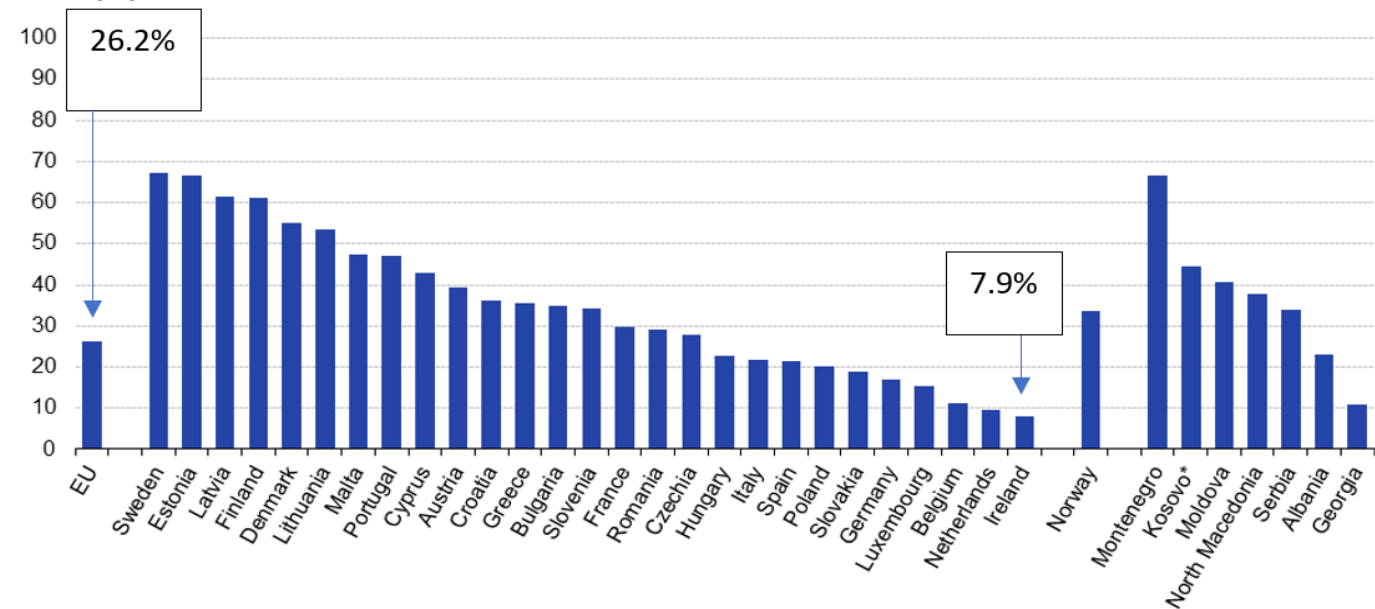


Renewable Heat in Ireland



- EU Directives
 - *RED III – binding targets*
- CAP Targets
 - *2025 & 2030*
- National Heat Study
 - *Technology Options*
 - Heat pumps
 - District Heating

Share of energy from renewable sources for heating and cooling, 2023 (%)



* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

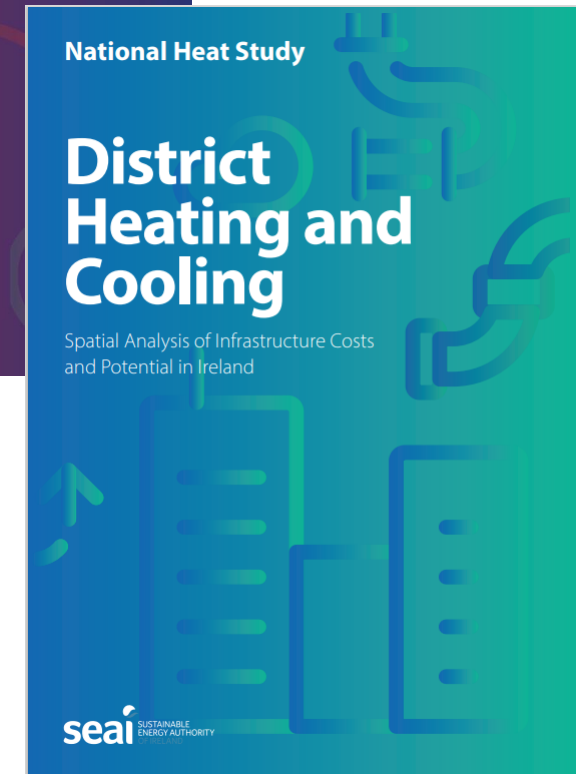
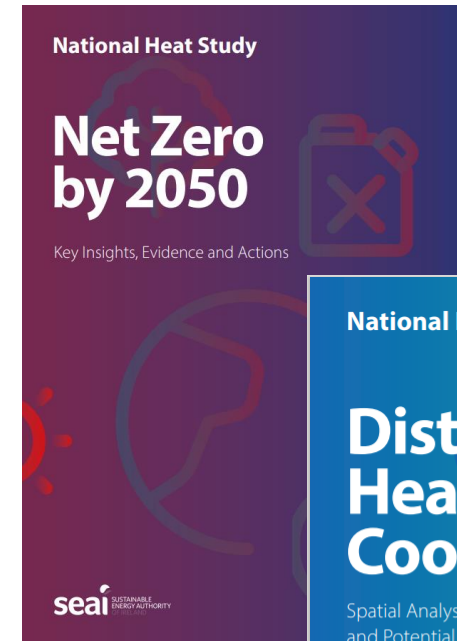
Source: Eurostat (online data code: nrg_ind_ren)



Decarbonisation of Heat in Ireland



- SEAI Heat Study
 - Significant potential for district heating
 - Increased use of electric heating technologies necessary
- Electrification of district heating
 - Diversification of fuel sources
 - Large-scale transition to new energy types



Heat Sources



- Technology agnostic
 - *ASHP*
 - *Biomass*
 - *Waste heat*
 - *Geothermal*
 - *CHP*
- RED III definition:
 - *Unavoidable*
 - *Unusable*
 - *By-product*
 - *Would otherwise dissipate*
- EED:
 - *Defines efficient DH*
 - *Data centre waste heat use*
 - *All energy intensive industry waste heat use*
 - *Local Heating and Cooling Plans*



District Heating in Ireland



- Currently accounts for less than 1% of heating in Ireland.
- Major Infrastructural development
- District Heating Steering Group Report (July 2023)
- Heat Bill (Oct 2024)

The screenshot displays the website of the Irish District Energy Association (IDEA). The main header features the Government of Ireland logo and the text 'Rialtas na hÉireann Government of Ireland'. The central focus is the 'District Heating Steering Group Report 2023', dated Wednesday, 22 January 2025. Below this, the 'eolas' logo is visible, along with navigation links for Digital, Events, and Publications. A dark navigation bar contains links for HOME, ISSUES, REPORTS, PUBLIC AFFAIRS, ADVERTISING, EVENTS, PUBLICATIONS, and ABOUT. The main content area shows a breadcrumb trail 'Home / Issues / New authority for heat network development' and a headline 'New authority for heat network development'. A search bar is present with the placeholder text 'Enter search string'. The footer includes the IDEA logo and the text 'IRISH DISTRICT ENERGY ASSOCIATION Supporting and Promoting District Heating and Cooling in Ireland'. A secondary navigation bar lists HOME, ABOUT, NEWS, POLICY, EVENTS, HEAT ATLAS, JOIN US, MEMBERS DIRECTORY, CONTACT, and LOGIN. Below this, there is a link 'Back to list' and a news article titled 'A New Chapter for District Energy in Ireland' by Anonymous, dated 7 Nov 2024 09:48. The article URL is <https://www.gov.ie/en/publication/3dd66-heat-networks-and-miscellaneous-provisions-bill-2024/>. The article text states: 'The recent release of the General Scheme of the Heat (Networks and Miscellaneous Provisions) Bill 2024 marks a pivotal moment for Ireland's energy transition and the future of district heating. District heating is among one of the oldest form of heating buildings and providing hot water, dating as far back as the Roman Empire, and it already provides heat to 70 million customers across the'.

Work to date



Three inter-related channels:

1. Legislation – Heat Bill
2. Pipeline Development
 - *IrDEA*
 - *CODEMA*
 - *LAs (DCC, SDCC etc)*
3. Funding
 - *SSRH*
 - *CAF*
 - *Options*

A Three-Pronged Approach



South Dublin County Council: Tallaght



- Project began in 2016 as part of a 5-city EU programme
- Collaboration between SDCC, Amazon, Fortum (the contractor), and Codema
- 10MW of waste-heat available
- Hot air -> heat pump -> Energy Centre -> heat pumps (+ back-up electric boiler) -> pipes
- Commenced operation in April 2023 – award winning approach
- Phase 1 is complete
 - 1500 tonnes/ year CO₂ savings
- Phase 2 is in planning





An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

Thank You

Tony Collins, Principal Officer, Head of Heat Policy, DECC

Can you tell us...

Your biggest take-
outs from this
morning's session

(2-3 words)



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Lunch

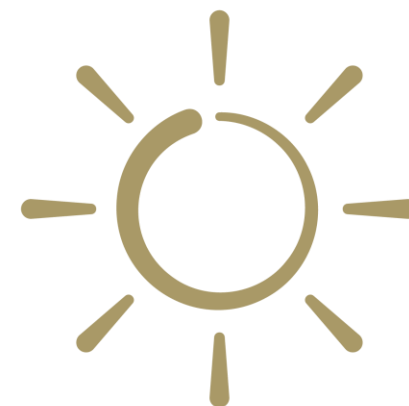
The room will now be converted for the breakout roundtables



Recommence at 13:20

Breakout Groups: Part #1

Discussion of the key challenge



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Roundtable Breakout Groups

	Group 1		Group 2		Group 3		Group 4	
<u>Topic:</u>	Data Centre Fault Ride Through (NON-LEUs)		Data Centre Fault Ride Through (LEUs)		Dispatch Down		Net Zero Networks	
<u>Facilitator:</u>	Simon Tweed		Eoin Kennedy		Marc Senouci + David McGowan		David Noronha	
<u>Key Output:</u>	To ensure clear understanding of the issues from power system and data centre perspectives. To obtain the view of Advisory Council members on solutions and associated implementation challenges.		To ensure clear understanding of the issues from power system and data centre perspectives. To obtain the view of Advisory Council members on solutions and associated implementation challenges.		Ensure clear understanding of the causes and challenges surrounding DD. Gather insights, identify collaborative and innovative solutions to tackling it quickly.		Inform AC members on the core objectives of NZN. Gather reaction, test our assumptions, identify risks of NZN. Build consensus on size, location and timing of large-generation injections and large demand connections.	
	Name	Sector	Name	Sector	Name	Sector	Name	Sector
	Lisa Foley	Consultant	Paddy Fitzgerald	Conv. Production	Harry McCracken	Renewables	Mark Fitch	New Technology
	James Delahunt	Consultant	Stacy Feldmann	Conv. Production	Rory Mullan	Consultant	David Graham	Renewables
	Peter Harte	New Technology	Noel Cunniffe	Renewables	Brendan Kelly	Renewables	John Fitzgerald	New Technology
	Robin McCormick	Consultant	Paddy Finn	Demand Response	Laura Mehigan	Renewables	Kate Garth	Renewables
	Jonathan Wisdom	TSO	Brian Mongan	Demand Response	Margaret Nee	Renewables	Seamus Howard	Manufacturer
	Mark Alexander	TSO	Graeme McWilliams	Large Energy Users	Siobhan O'Halloran	Gas Networks	Franke Burke	Storage
	David Laverty	Academia	Joseph McCann	Large Energy Users	Jag Basi	Conv. Production	Paul Blount	Storage
			Thomas O'Sullivan	Large Energy Users	Bobby Smith	Storage		

Coffee break



Recommence at 14:35

Breakout Groups: Part #2

Recommendations &
roadmapping



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Thank You - Let's Reflect



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Reflection

In one word, how do you feel about today's session?



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Thank You!



A message from our co-Chairs
Liam Ryan & Gerard Carlin



Thank You

