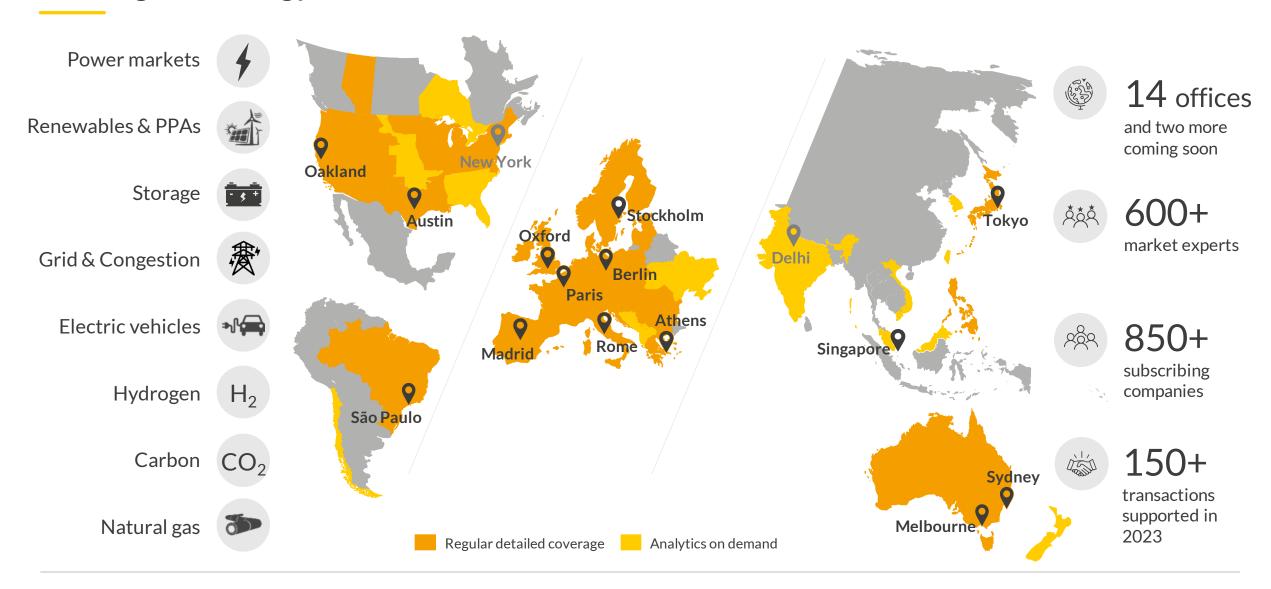# Outlook for demand users: Ireland I-SEM Retail Price Forecast

May 2024

Aurora provides market leading forecasts & data-driven intelligence for the global energy transition

AUR●RA

Power markets

Renewables & PPAs

Storage

Grid & Congestion

Electric vehicles

Hydrogen H_2

Carbon CO_2

Natural gas

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Aurora Renewables Summit London 2024
Wednesday 26 June, IET London: Savoy Place

A U R O R A

Renewables Summit

London 2024

The Aurora Renewables Summit London is returning in the afternoon of Wednesday, 26 of June, at IET London: Savoy Place.

Book your ticket now to hear from leading experts in the energy industry as they assess the opportunities and challenges within the UK and wider European renewables sector, as well as benefitting from unparalleled networking opportunities.

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Today's presenters and other key information

AUR☀RA

Marc Hedin

**Head of Research,
UK and Ireland**

Steph Unsworth
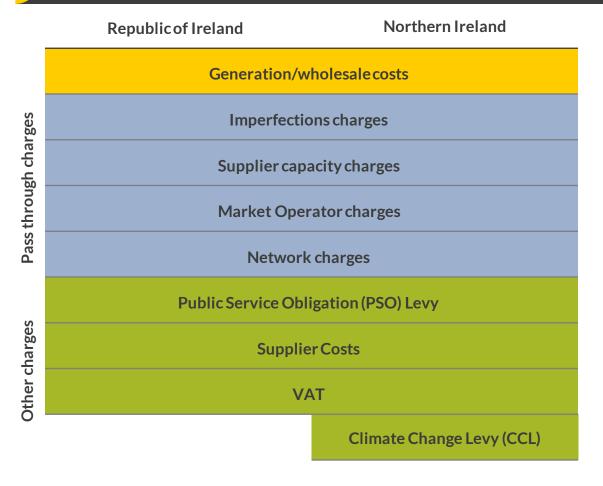
Senior Associate

Ruairi McIlhatton
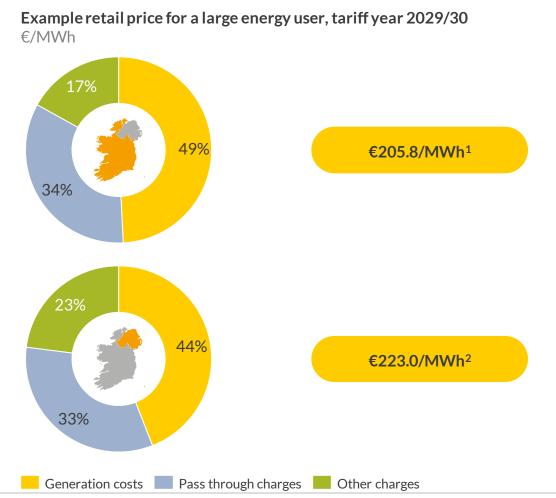
Analyst

Aurora's bespoke offerings

For more information on scenario analysis, site-specific asset economics including comparison of revenue models, bespoke forecasting, competitor analysis and auction bidding support, please contact our advisory team or Commercial Associate, Rebecca Cabrera (details below).

The retail electricity price is comprised of nine key components relating to industry charges and the wholesale power price

Wholesale prices are only a portion of the total retail price since all the costs of operating the system are borne by the consumer. Aurora's retail price forecast provides a comprehensive view of the total costs and outlooks for wholesale costs, imperfection charges, supplier capacity charges, and the PSO levy

Republic of Ireland / Northern Ireland

Pass through charges

- Generation/wholesale costs
- Imperfections charges
- Supplier capacity charges
- Market Operator charges
- Network charges

Other charges

- Public Service Obligation (PSO) Levy
- Supplier Costs
- VAT
- Climate Change Levy (CCL)

Example retail price for a large energy user, tariff year 2029/30
€/MWh

Republic of Ireland chart:
- 49% Generation costs
- 34% Pass through charges
- 17% Other charges

€205.8/MWh[1]

Northern Ireland chart:
- 44% Generation costs
- 33% Pass through charges
- 23% Other charges

€223.0/MWh[2]

Legend:
- Generation costs
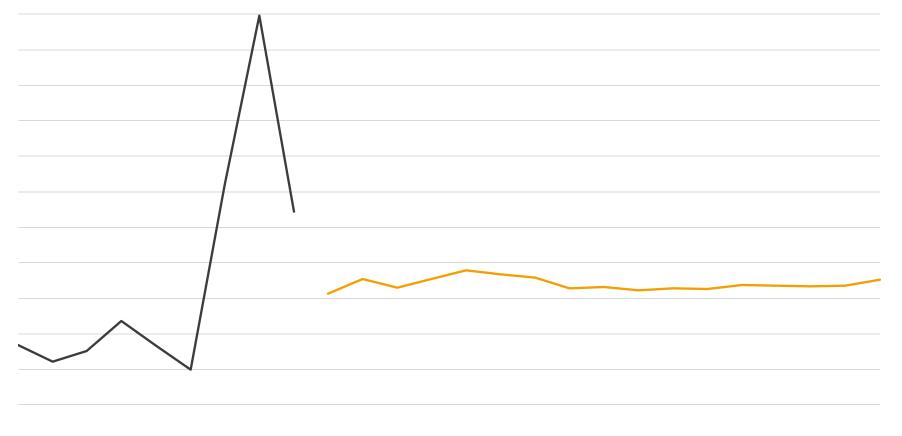- Pass through charges
- Other charges

1) Assuming 100MW MIC and imports of 100MWh per hour, DUoS schedule DG9, time of use meter, and TUoS schedule DTS-D1. 2) Assuming 100MW MIC and imports of 100MWh per hour, DUoS schedule T302, Climate Change Levy and CAIRt fully liable

Sources: Aurora Energy Research, Eirgrid, SONI, CRU, URGENI

I-SEM retail power prices track wholesale electricity prices, which average €87.9/MWh between 2024 and 2040

Baseload Wholesale Electricity Price
€/MWh (real 2023)

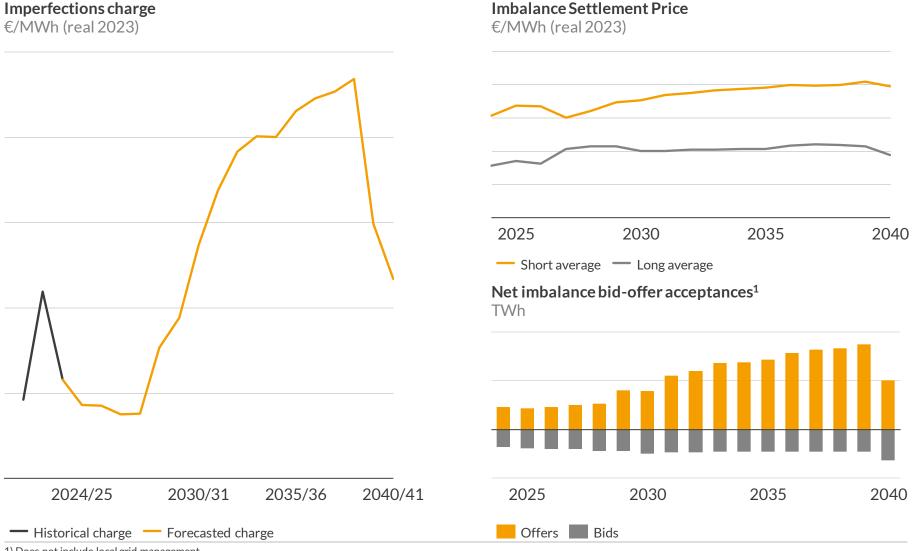Legend: — Historical baseload — Baseload

X-axis: 2015, 2020, 2025, 2030, 2035, 2040

- Wholesale prices constitute the largest proportion of electricity bills

- As European gas and carbon prices increase, wholesale prices increase over the 2020s

- Baseload prices decline in the early 2030s to a plateau across the decade as the deployment of renewables counteract the upwards price pressures from increasing commodity prices and demand

To learn more about our I-SEM coverage

rebecca.cabrera@auroraer.com

Increasing renewables deployment leads to higher imbalance volumes and rising imperfections charges through the forecast

Imperfections charge
€/MWh (real 2023)

— Historical charge — Forecasted charge

1) Does not include local grid management

Imbalance Settlement Price
€/MWh (real 2023)

— Short average — Long average

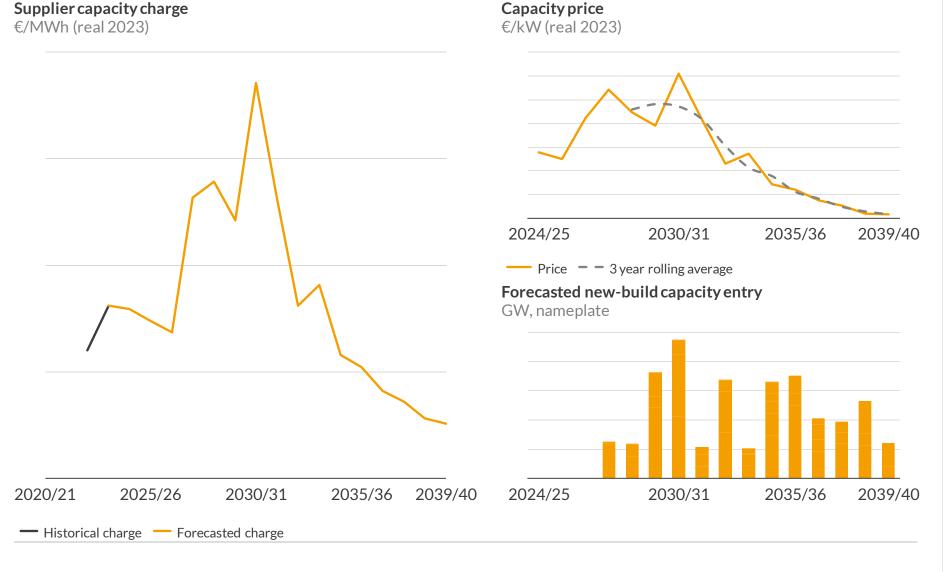**Net imbalance bid-offer acceptances[1]**
TWh

Offers   Bids

- The imperfections charge is representative of the cost of balancing actions and is a function of both net imbalance volumes and the imbalance settlement price

- Increasing renewable penetration across the forecast increases imbalance volumes as instances of renewable dispatch down through SNSP and MinGen rise which must be countered within the balancing mechanism

- In 2040, a decrease in the number of MinGen units and an increase in the SNSP limit reduces the need for renewable curtailment and subsequent balancing, reducing the imperfections charge

Sources: Aurora Energy Research, Eirgrid, SONI, CRU, URGENI

The supplier capacity charge recovers costs associated with procuring capacity through the Capacity Remuneration Market
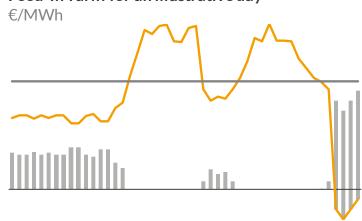
Supplier capacity charge
€/MWh (real 2023)

— Historical charge — Forecasted charge

Capacity price
€/kW (real 2023)

— Price   - - - 3 year rolling average

Forecasted new-build capacity entry
GW, nameplate

- The supplier capacity charge is designed to recover costs incurred within the Capacity Remuneration Mechanism (CRM)

- This includes new build and existing units receiving capacity market payments, where new build assets can receive multi-year contracts, leading to high spending

- As such, the supplier capacity charges spikes when the CRM price spikes, and a high capacity of new-build capacity is procured

- The supplier capacity charge is expected to decline beyond 2030 as the security of supply issue is resolved by procurement of previous auctions and the deployment of firm capacity outside the CRM

Sources: Aurora Energy Research, Eirgrid, SONI, CRU, URGENI

The PSO levy is designed to recover the annual cost of subsidies across both jurisdictions

REFIT

- Applicable only in Ireland, replaced by RESS
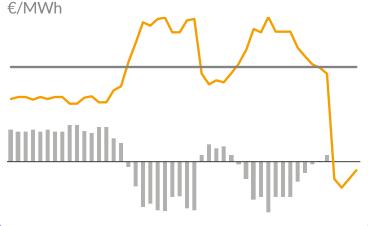- 3 REFIT schemes offered support through 15-year feed-in tariff PPAs (€/MWh) for eligible technologies

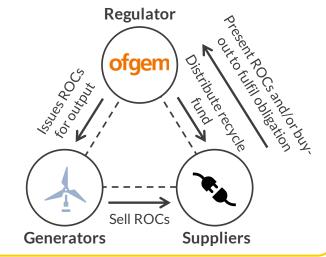**Feed-In Tariff for an illustrative day**
€/MWh

O/RESS

- Applicable only in Ireland
- RESS supports onshore renewables while ORESS supports offshore wind with two-way floating feed-in premium and Unrealised Available Energy Compensation where applicable

Floating Feed-In Premium for an illustrative day
€/MWh

NIRO

- Applicable only in Northern Ireland, and yet to be replaced after closure
- Requires suppliers to source a regulated fraction of electricity from renewables
- RES generators receive a top-up for electricity sold; typical support length of 20 years

Regulator — **ofgem**
Issues ROCs for output
Present ROCs and/or buy-out to fulfil obligation
Distribute recycle fund
Generators — Sell ROCs → Suppliers

Expected costs to be recovered across 2025-2040 in Aurora Central
€ (real 2023)

€598m

€1.42bn

€296m

— Market Reference Price — Strike price ▮ Support payment

Transmission Use of System (TUoS) charges and Distribution Use of System (DUoS) charges recover the costs of running the network

Transmission Use of System (TUoS)	Distribution Use of System (DUoS)	Other charges
The TUoS is comprised of network charges for using the transmission system infrastructure to transport electricity and system services charges for the costs arising from the operation and security of the transmission system	DUoS are charges that demand users pay to the DSO to recover costs arising from the operation of the distribution system DUoS tariffs are typical day/night rates or time-of-use for non-domestic demand users	Northern Ireland has additional charges which are charged to all system users

DTUoS
- Demand System Services Costs
- Demand Network Capacity Charge
- Demand Network Transfer Charge

DUoS
- Time dependent tariff
- Standing charge
- Capacity charge

STUoS
- Time dependent supplier tariffs

DUoS
- Time dependent tariff
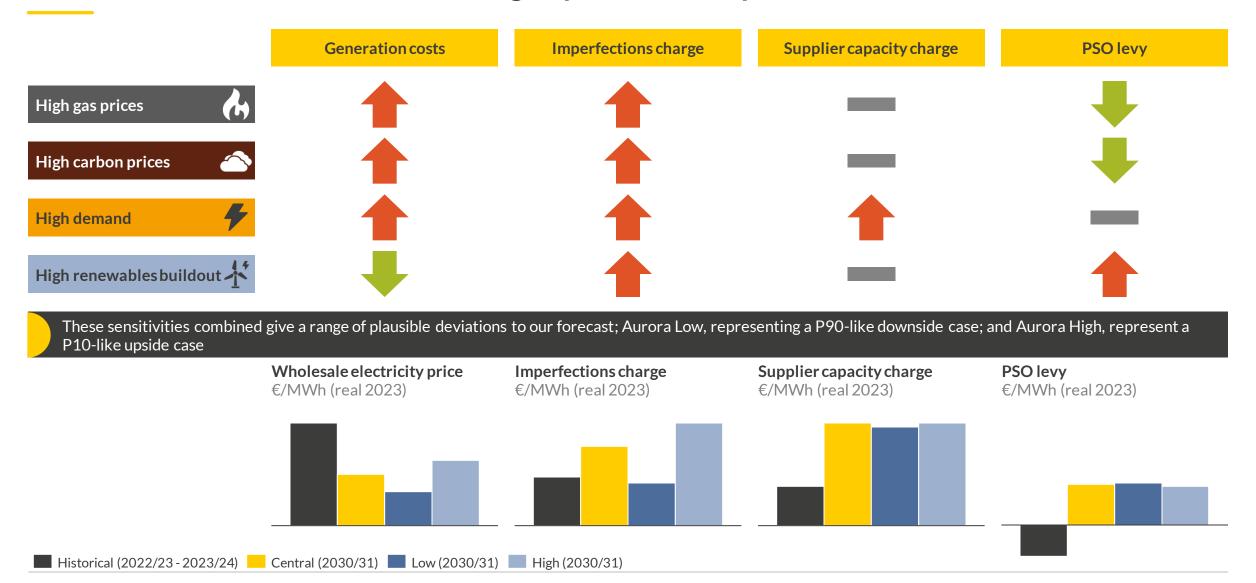- Standing charge
- Capacity charge

- Collection Agency Income Requirement tariff (CAIRt)[1]
- System Support Services (SSS)
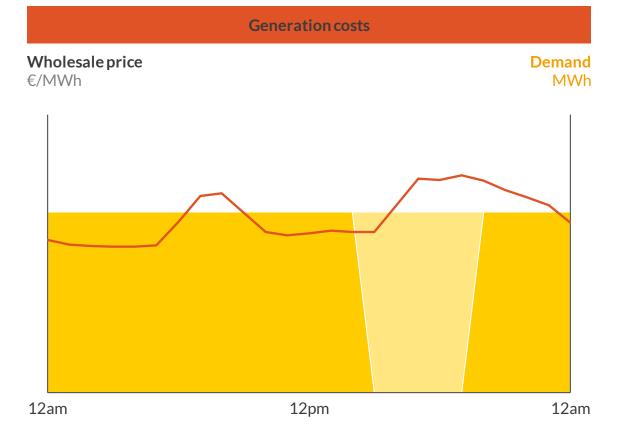
1) For the maintenance of the Moyle interconnector

Different market expectations, such as commodity prices, demand, and renewable buildout can have a big impact on retail prices
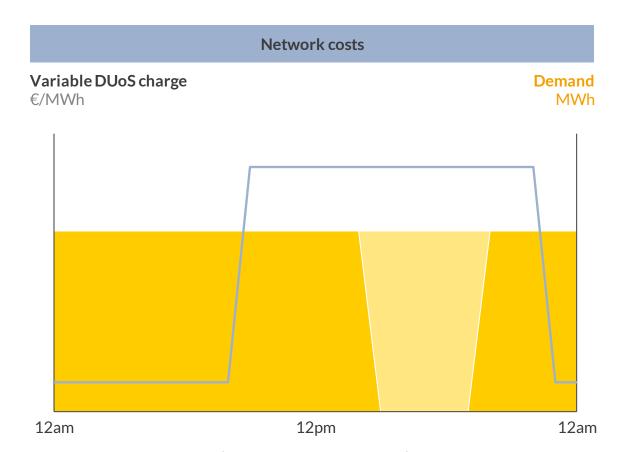

	Generation costs	Imperfections charge	Supplier capacity charge	PSO levy
High gas prices 🔥	↑	↑	—	↓
High carbon prices ☁	↑	↑	—	↓
High demand ⚡	↑	↑	↑	—
High renewables buildout	↓	↑	—	↑

These sensitivities combined give a range of plausible deviations to our forecast; Aurora Low, representing a P90-like downside case; and Aurora High, represent a P10-like upside case

Wholesale electricity price
€/MWh (real 2023)

Imperfections charge
€/MWh (real 2023)

Supplier capacity charge
€/MWh (real 2023)

PSO levy
€/MWh (real 2023)

■ Historical (2022/23 - 2023/24)   ■ Central (2030/31)   ■ Low (2030/31)   ■ High (2030/31)

Sources: Aurora Energy Research

As generation costs and network charges are often time dependent, the demand profile of an energy user can also impact retail prices

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Generation costs

Wholesale price
€/MWh

Demand
MWh

12am   12pm   12am

- A large energy user could utilise onsite generators to avoid importing from the grid during peak hours

- This would help the demand user avoid high wholesale prices

Network costs

Variable DUoS charge
€/MWh

Demand
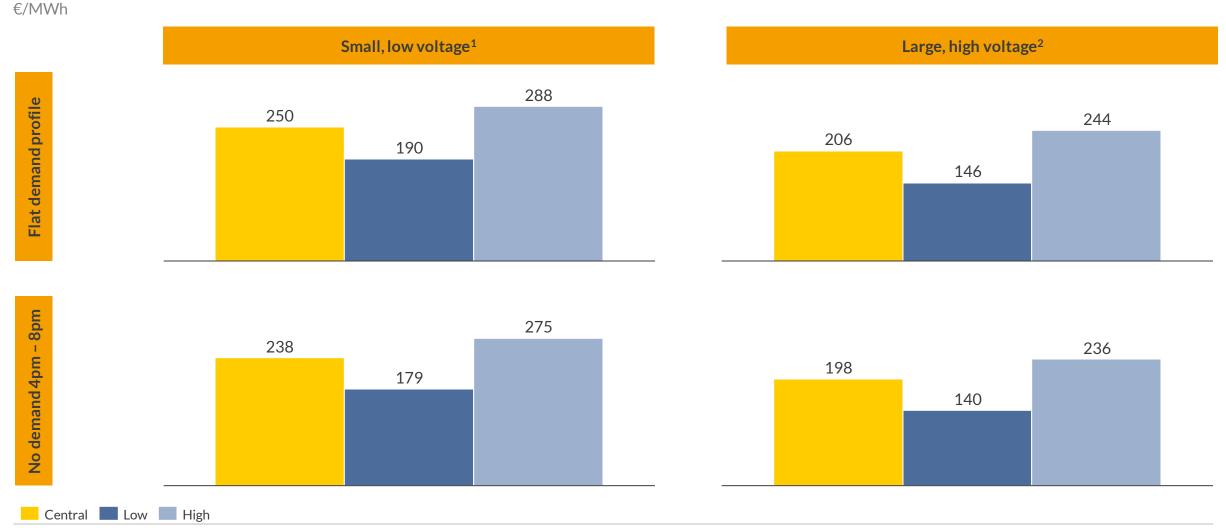MWh

12am   12pm   12am

- DUoS is time dependent (if not on a standard meter) so not importing from the during peak hours can reduce network costs

- This is more beneficial for small, low voltage demand users who have higher network costs

Legend: ■ Demand   ■ Avoided demand   — Wholesale price   — Network charges

Peak shaving your demand profile can reduce your retail price by up to €12/MWh, and is more pronounced for small, low voltage users
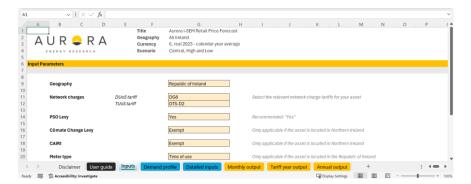
Average retail price tariff year 2029/2030
€/MWh

	Small, low voltage[1]	Large, high voltage[2]

Flat demand profile

Small, low voltage:
- Central: 250
- Low: 190
- High: 288

Large, high voltage:
- Central: 206
- Low: 146
- High: 244

No demand 4pm – 8pm

Small, low voltage:
- Central: 238
- Low: 179
- High: 275

Large, high voltage:
- Central: 198
- Low: 140
- High: 236

Legend: ■ Central ■ Low ■ High

1) For Republic of Ireland, DUoS schedule DG5, time of use meter, and TUoS schedule DTS-D1. Assuming 40MW MIC and imports of 40MWh per hour. 2) For Republic of Ireland, DUoS schedule DG9, time of use meter, and TUoS schedule DTS-D1. Assuming 100MW MIC and imports of 100MWh per hour

Sources: Aurora Energy Research

Using Aurora's tool, you can determine a bespoke retail forecast for any set-up
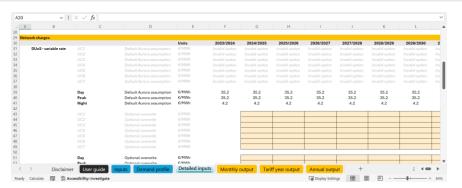
Aurora's retail price tool allows full flexibility to suit any business case, for any size, any voltage, any demand profile, and any scenario with Aurora's Central, Low, and High scenarios reloaded into the tool to show the full range of expected outcomes
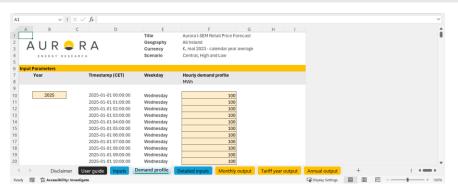
1 Define your asset's parameters, including location, maximum import capacity, and meter type in the *inputs* tab
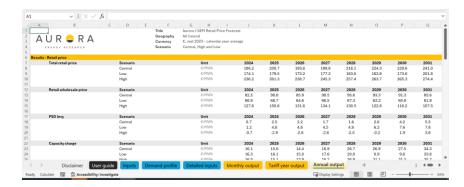

2 Input your hourly demand profile for any previous year, or even a forecasted year, in the *demand profile* tab

3 View all of Aurora's assumptions in the *detailed inputs* tab, or add your own view of these charges

4 Receive your *outputs* on a monthly, tariff year, or calendar year granularity

Ireland I-SEM Retail Price Forecast tool:
Understand future energy costs with Aurora's bespoke forecast

What's included?

- Retail Price Forecast tool in an **editable workbook format**

- **Accompanied by PDF report** explaining analysis methodology and components of retail bills

- Full breakdown of **network charges**

- Modelled in **Central, High and Low** scenarios

- Outputs provided **monthly**, as well as by **calendar year** and **tariff year**

Intuitive 4-step process:

> **Define asset parameters**

> **Input your hourly demand profile**

> **View/change key inputs**

> **Analyse your bespoke forecast**

This tool provides detailed forecasts of:

■ Generation costs   ■ Pass through charges   ■ Other charges

For more information on this, **please contact Rebecca Cabrera**
Rebecca.Cabrera@auroraer.com