NEVIN ECONOMIC RESEARCH INSTITUTE

Ireland's electricity prices over time

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Outline

I. Price Changes over time

II. Comparing price levels
   - *i. Domestic consumers*
   - *ii. Non-domestic consumers*

III. Explaining High prices
   - *i. Decomposing prices*
   - *ii. Fuel mix in electricity generation*
   - *iii. Possible explanations*

IV. Conclusion

I. Price changes over time

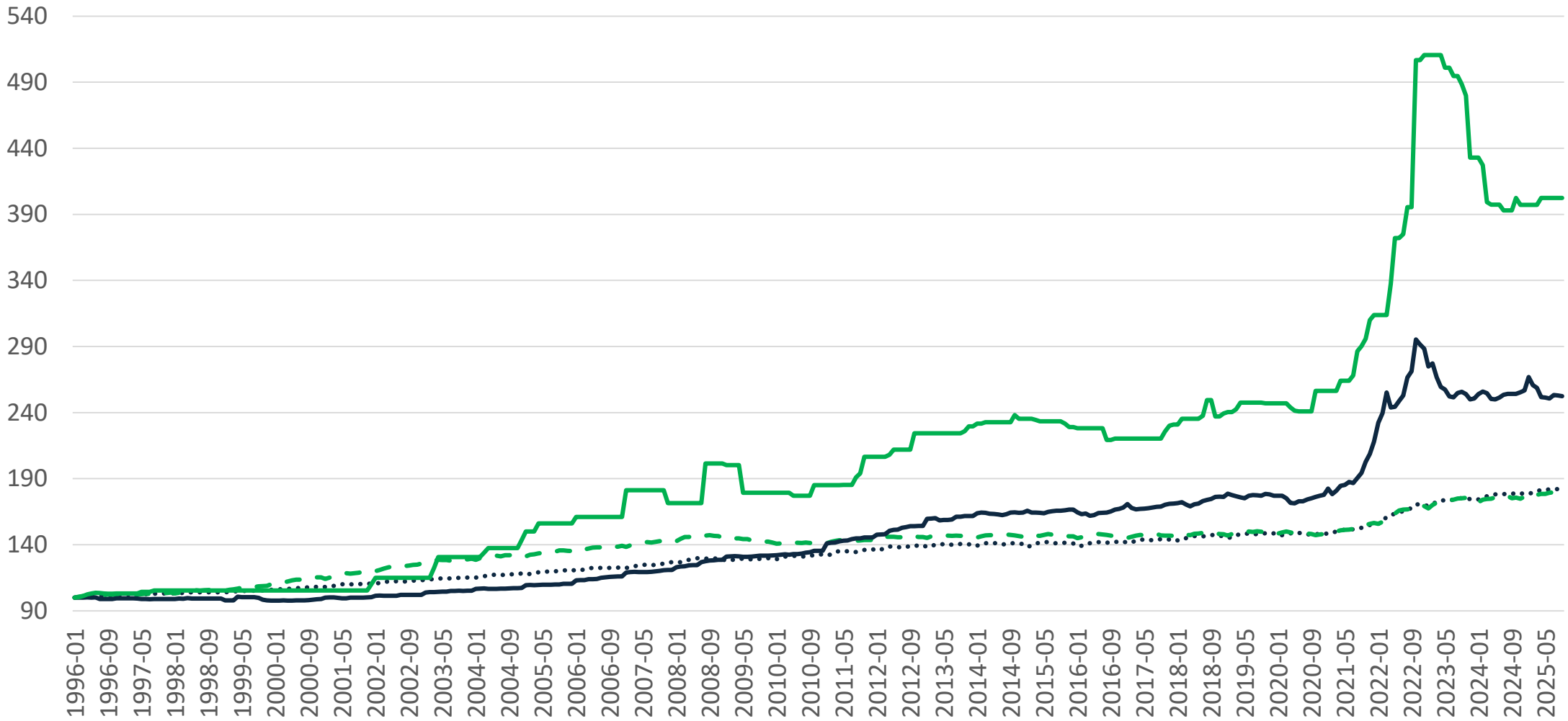
- This section looks at two questions:
  - How does the electricity price trend compare to aggregate price changes, or consumer inflation?
  - Do electricity price movements over time look like those in other comparable EU states?

- The first question asks where electricity has behaved “typically” relative to other items in the consumer basket.

- The second, whether electricity price movements in Ireland reflect wider electricity trends in the EU.

- This is done for consumer prices using the HCIP from 1996 onwards.

Chart 1: Harmonised Index of Consumer Prices (HCIP) and Electricity subcomponent trend (Jan 1996=100), January 1996 to September 2025



I. Price changes over time

- Broader HICP price changes – the period of excess cumulative Irish inflation in the 2000s notwithstanding – are comparable for the eurozone and Ireland.
  - The cumulative change for the EA to September 2025 is +82.4% vs 79.9% in Ireland.

- For the Eurozone and Ireland, electricity price inflation significantly outstrips the broader measure.

- While electricity prices in the eurozone were some 2.5 times their January 1996 levels in September last year, Irish prices quadrupled.

- What does Ireland look like relative to other EU15 states?

Chart 2 HICP for electricity subcomponent (Jan 1996=100), EU15, January 1996 -January 2021

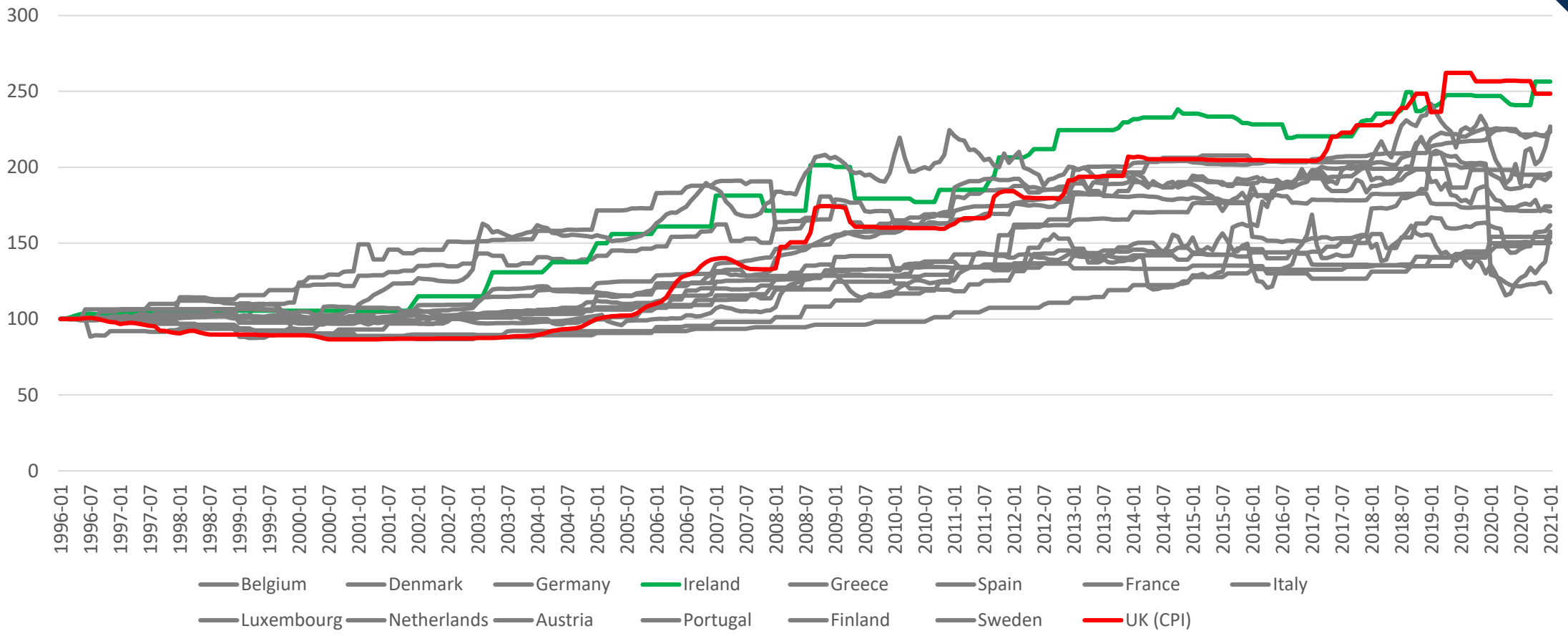
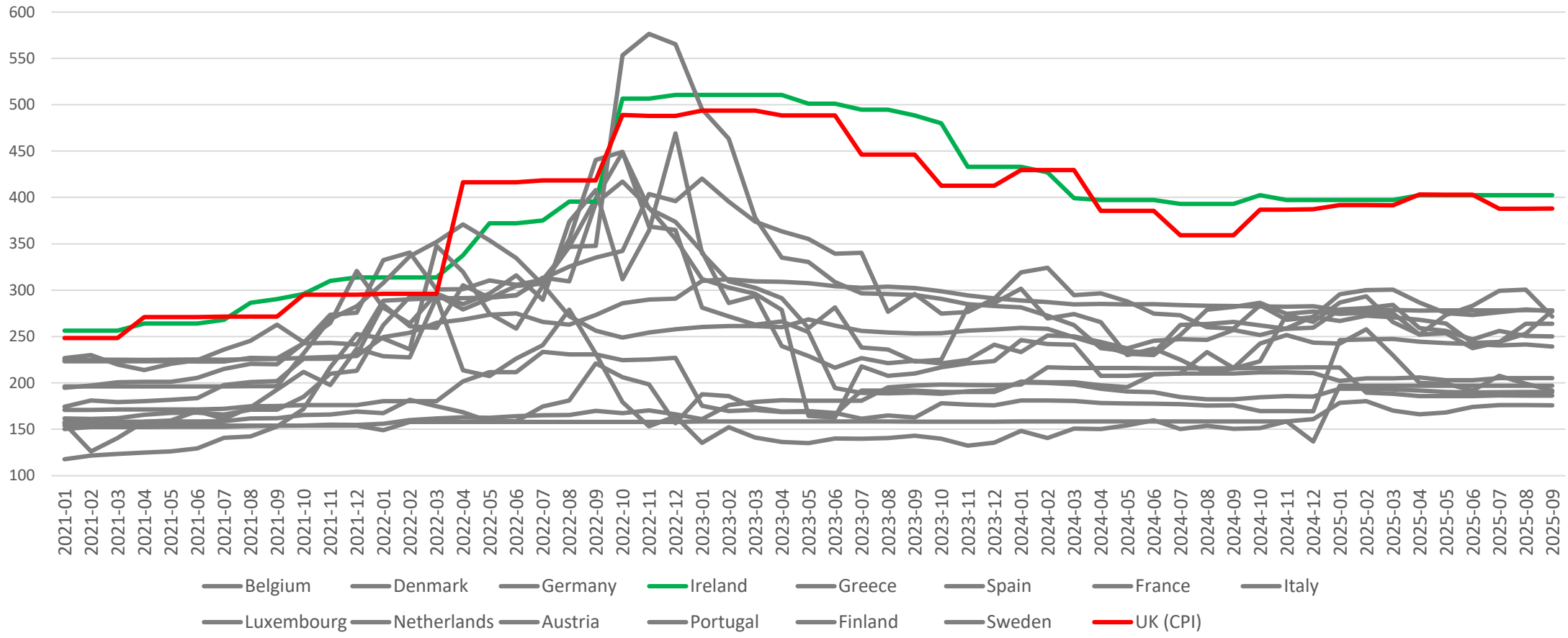


Chart 3 HICP for electricity subcomponent (Jan 1996=100), EU15, January 2021 -September 2025



I. Price changes over time

- These data reveal key periods of relative cost growth in the Irish case:
  - Divergence from typical cumulative change around the early 2000s (Late 2001/Early 2002), with Ireland showing the most cumulative price growth by the crisis.
  - Following price declines at the height of the crisis, cost growth continues, outstripping other EU15 states.
  - Apparent coupling in prices with UK from early 2017.
  - Both show significant price jump (though delayed) in 2022, and a significantly slower fall in prices from those peaks by the end of the series in September 2025.

- Irish electricity price series is idiosyncratic, and many cost drivers appear before the recent(current?) crisis period.

II. Comparing price levels

- Unit electricity costs offer a sense of experienced costs or price levels.

- These are shown in both nominal (Euro) and PPS terms as both can be significant:
  - Adjustment for national price levels can show whether prices simply reflect the expense of certain jurisdictions.
  - Euro prices can be significant for areas like competitiveness.

- These data can be broken down further to show costs before and after taxes and levies are applied:
  - Significant when considering cost drivers, but we can return to this point!

i. Domestic consumers

- To examine the historic series, we examine the relatively complete series of a typical household consumer between 1980 and 2007 (3,500 kWh annually).
- These data can reveal if/how Irish prices diverged from European comparators.
- From 2007, we can examine data across differing consumption bands (more or less electricity used per year).
- These data can be shown before and after levied taxes.

Table 1 Current PPS, 1980-2007, Domestic Annual consumption 3,500 kWh

Year	1980		1990		2000		2007	
	PPS Price		PPS Price		PPS Price		PPS Price	
Measure	Without Tax	Total	Without Tax	Total	Without Tax	Total	Without Tax	Total
Belgium	6.55	7.59	10.86	12.70	11.17	13.68	11.97	15.40
Denmark			5.34	10.48	5.59	15.31	8.63	19.03
Germany	5.97	7.08	10.68	13.55	10.67	13.67	13.92	18.94
Ireland	4.98	4.98	8.26	8.68	7.33	8.25	12.10	13.73
Greece	4.49	4.84	8.27	9.59	7.03	7.60	7.81	8.51
Spain			11.28	12.63	10.60	12.93	10.79	13.16
France	5.64	7.23	8.99	11.26	8.92	11.33	8.59	11.29
Italy					16.33	21.78	16.22	22.78
Luxembourg	5.60	5.87	9.56	10.13	9.40	9.97	13.05	14.56
Netherlands	5.58	6.59	8.39	9.95	8.93	13.70	13.46	20.96
Austria					9.13	11.80	10.28	15.12
Portugal	7.99	8.02	15.46	16.72	16.14	16.98	16.70	17.64
Finland					5.79	7.84	7.69	10.17
Sweden					5.24	8.39	9.01	14.18
United Kingdom	5.79	5.79	9.55	9.55	9.08	9.52	11.21	11.76

Chart 4: Ratio of Irish to Euro Area Prices (Before taxes and levies) by Domestic consumption band July to December 2007 – January to June 2025 PPS

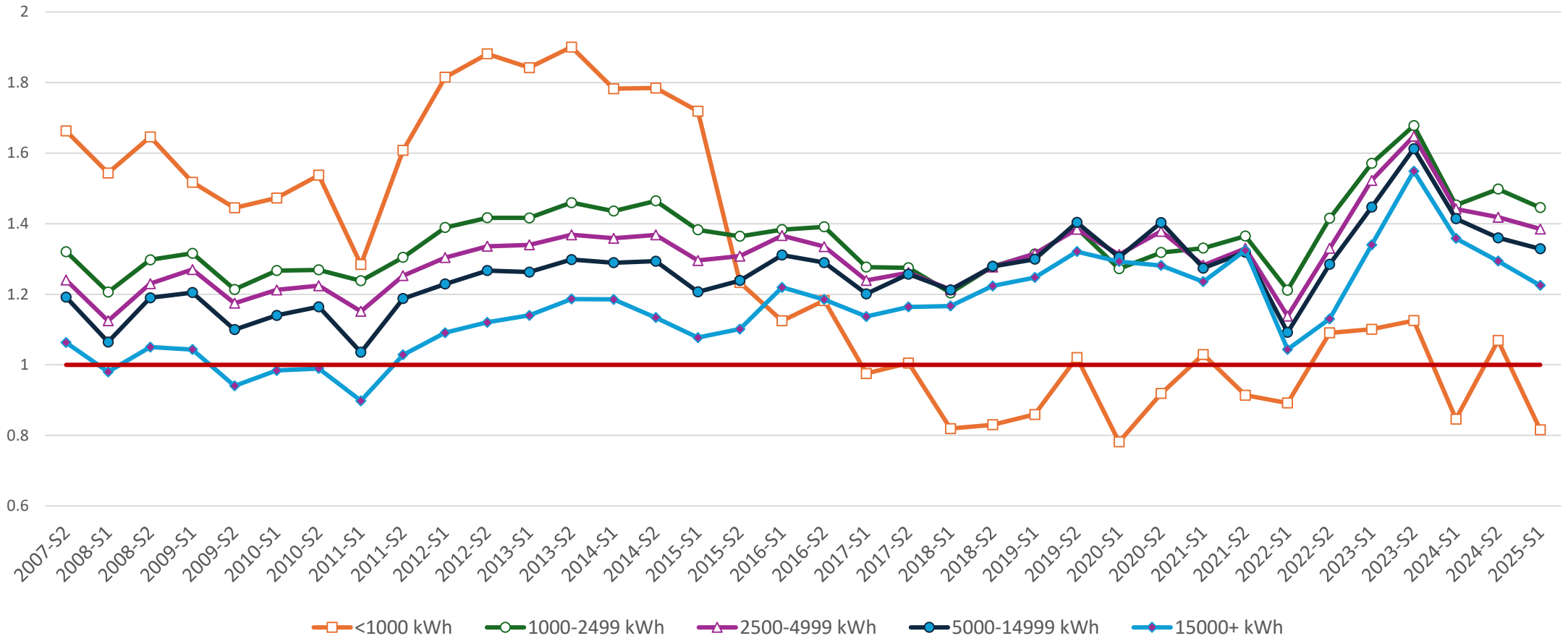


Chart 5: Ratio of Irish to Euro Area End user prices by Domestic consumption band July to December 2007 – January to June 2025 PPS

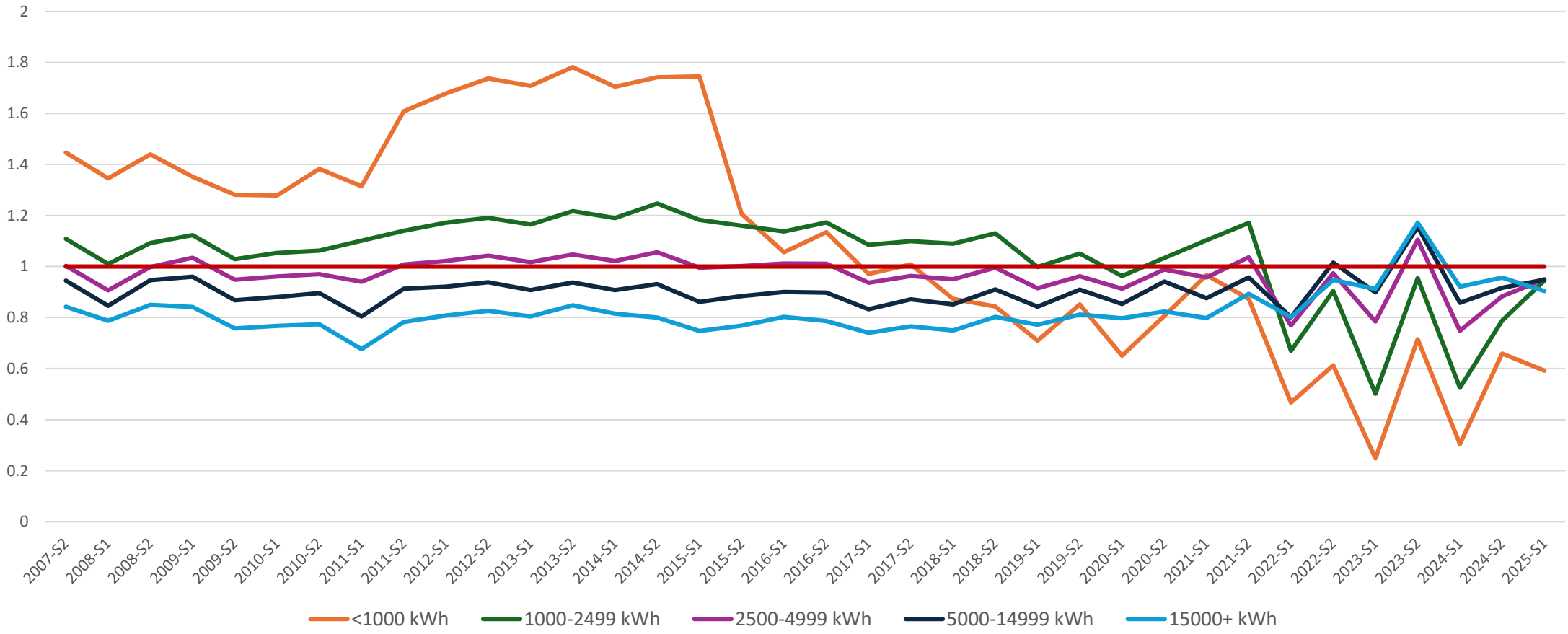


Table 2: Irish Domestic electricity prices per 100 kWh and EU ranking January to June 2025

Consumption Band (kWh annually)	Share of market	Excluding taxes and levies				Total			
		€/100 kWh	EU27 Euro Ranking	PPS/100 kWh	EU27 PPS Ranking	€/100 kWh	EU27 Euro Ranking	PPS/100 kWh	EU27 PPS Ranking
DA: Less than 1000	8.6%	36.62	10	30.93	14	33.54	15	28.33	22
DB: 1000-2499	10.8%	42.71	1	36.08	2	36.54	6	30.86	9
DC: 2500-4999	33.6%	34.92	1	29.50	2	32.60	5	27.54	12
DD: 5000-14999	39.4%	29.90	1	25.26	2	30.01	4	25.35	12
DE: 15000+	7.5%	26.28	2	22.20	5	27.69	6	23.39	16
Total	**100%**	**33.25**	**1***	**28.09**	**3***	**31.69**	**4***	**26.76**	**11***

i. Domestic consumers

- The available data suggest prices were comparatively low in Ireland from the 1980s, with relative price increases occuring in the 2000s.
  - This is particularly apparent for prices pre-taxes and levies, with Irish PPS prices climbing to 6th highest in the EU15 by 2007.
  - This is moderated by low rates of levies and taxes.

- Across the series from 2007 to early 2025:
  - Most bands show high prices relative to euro area averages before taxes and levies.
  - Moderated, particularly in the post 2022 period, by lower (and often negative) taxes and levies in recent years.

- Apparent in the latest available data for 2025, high ranks moderated by adjustment for Ireland's cost level and low (negative) taxes and levies.

ii. Non-Domestic consumers

- To examine the historic series, we examine the relatively complete series of a typical non-domestic (industrial) consumer between 1980 and 2003 (2 GWh annually).

- These data are reported in PPS and Euro terms excluding VAT and recoverable levies and for total prices.
  - Businesses can often claim back VAT, making this cost category relevant.

- From 2007, we can examine data across differing consumption bands

Table 3: Non-domestic prices per 100 kWh Euro and PPS 2GWh

EU state	Jan 1990				Jan 1995				Jan 2003			
	Exc VAT Euro	Total Euro	*Exc VAT PPS*	*Total PPS*	Exc VAT Euro	Total Euro	*Exc VAT PPS*	*Total PPS*	Exc VAT Euro	Total Euro	*Exc VAT PPS*	*Total PPS*
Belgium	6.99	8.17	*7.13*	*8.33*	7.77	9.35	*7.54*	*9.07*	7.68	9.29	*7.68*	*9.29*
Denmark	4.75	6.72	*3.75*	*5.31*	4.99	7.51	*4.03*	*6.07*	7.64	11.62	*5.88*	*8.94*
Germany	10.07	11.49	*9.18*	*10.47*	11.18	12.87	*9.59*	*11.04*	9.02	10.46	*8.43*	*9.78*
Greece	6.28	7.28	*8.47*	*9.81*	5.47	6.46	*7.57*	*8.94*	6.14	6.63	*7.22*	*7.8*
Spain	8.33	9.32	*9.54*	*10.67*	7.38	8.56	*9.04*	*10.49*	5.55	6.44	*6.24*	*7.24*
France	5.86	6.94	*5.75*	*6.81*	6.52	7.73	*6.04*	*7.16*	5.62	6.49	*5.46*	*6.3*
Ireland	6.57	6.89	*6.57*	*6.89*	6.31	7.09	*7.32*	*8.23*	7.76	8.81	*6.81*	*7.73*
Italy	-	-	-	-	8.64	9.43	*10.47*	*11.42*	10.78	11.86	*11.98*	*13.18*
Luxembourg	7.38	7.83	*7.31*	*7.75*	7.65	8.11	*7*	*7.42*	7.35	7.79	*6.62*	*7.02*
Netherlands	-	-	-	-	6.01	7.06	*5.6*	*6.58*	-	-	-	-
Austria	-	-	-	-	8.09	9.74	*7.27*	*8.75*	-	-	-	-
Portugal	7.02	7.58	*12.5*	*13.5*	8.06	8.46	*12.41*	*13.03*	6.73	7.06	*8.86*	*9.29*
Finland	-	-	-	-	4.53	5.53	*4*	*4.88*	6.11	7.45	*5.46*	*6.65*
Sweden	-	-	-	-	-	-	-	-	6.66	8.33	*5.56*	*6.96*
UK	-	-	-	-	6.13	7.21	*6.93*	*8.14*	5.69	6.69	*5.21*	*6.13*
Ireland rank	6th	8th	*7th*	*7th*	9th	11th	*7th*	*8th*	3rd	5th	*6th*	*7th*

Chart 6 Ratio of Irish to Euro Area excluding VAT and other recoverable taxes and levies by non-domestic consumption band July to December 2007 – January to June 2025 Euro

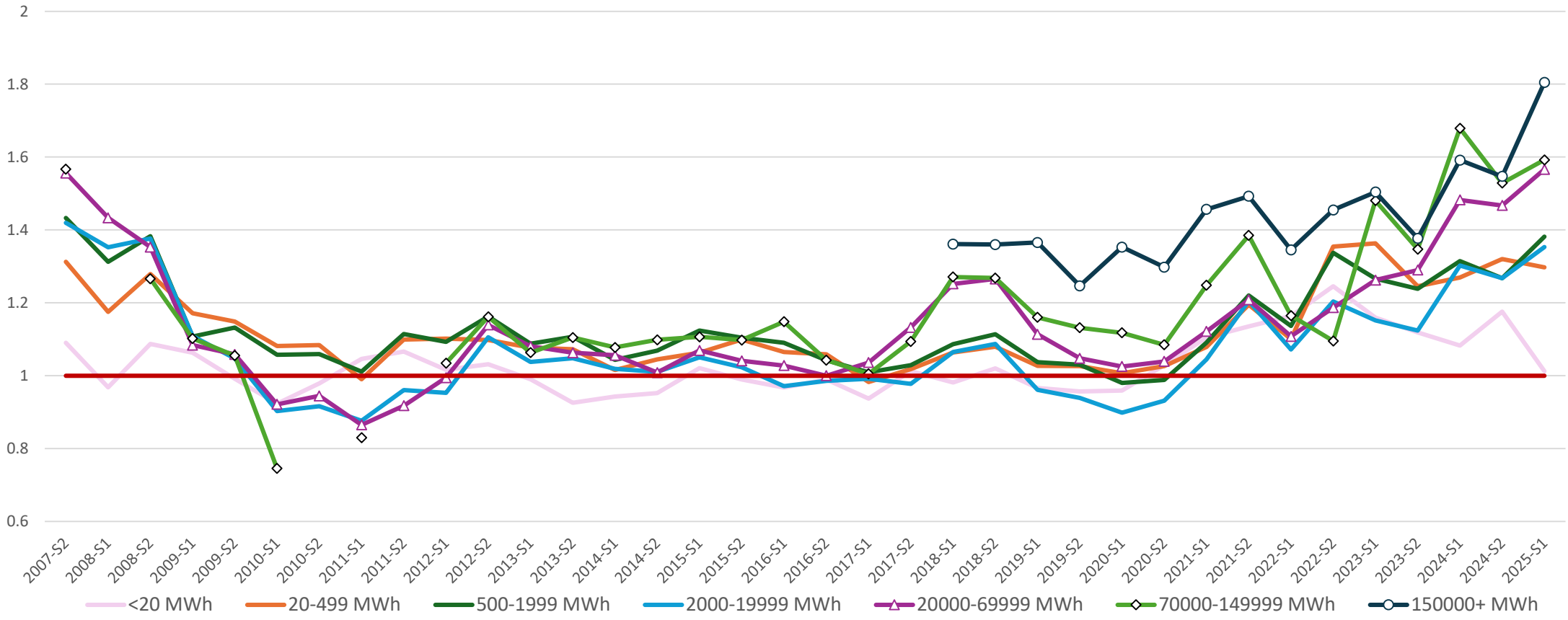


Chart 7 Ratio of Irish to Euro Area prices excluding VAT and other recoverable taxes and levies by non-domestic consumption band July to December 2007 – January to June 2025 PPS

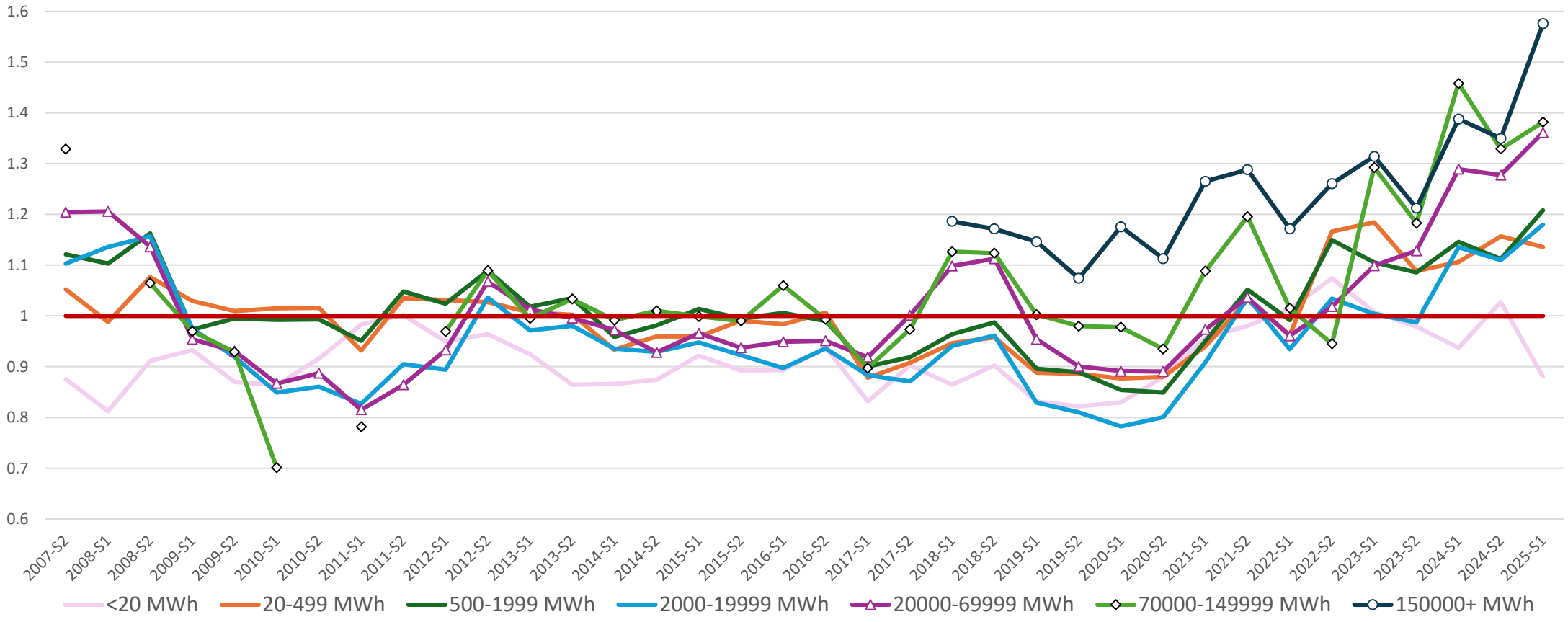


Table 4: Irish Non-Domestic electricity prices per 100 kWh and EU ranking January to June 2025

Consumption Band (MWh annually)	Share of market	Excluding VAT and other recoverable taxes and levies				Total			
		€/100 kWh	EU27 Euro Ranking	PPS/100 kWh	EU27 PPS Ranking	€/100 kWh	EU27 Euro Ranking	PPS/100 kWh	EU27 PPS Ranking
IA: <20	6.40%	31.31	6	26.45	17	34.08	8	28.79	18
IB: 20-499	19.4%	30.73	1	25.96	10	33.41	1	28.22	11
IC: 500-1,999	10.3%	27.26	1	23.02	9	29.55	1	24.96	10
ID: 2,000-19,999	24.5%	22.83	1	19.29	11	24.36	3	20.58	14
IE: 20,000-69,999	9.5%	21.74	2	18.36	10	22.97	3	19.40	11
IF: 70,000-149,999	6.4%	19.71	1*	16.65	8*	20.97	2*	17.71	10*
IG: 150,000+	23.6%	19.47	2**	16.45	7**	20.75	4**	17.53	8**
Total	**100%**	**23.80**	**2*** **	**20.11**	**9*** **	**25.55**	**3*** **	**21.58**	**11*** **

ii. Non-Domestic consumers

- Price levels faced by non-domestic consumers begin to rise relative to other EU-15 states in the early 2000s.

- While prices fall back to Euro-area norms for most bands pre-VAT from the late 2000s to mid 2010s, prices diverge from that point, showing a broad upward trajectory.

- This is somewhat moderated by price adjustment (PPS) but euro prices can be more relevant for questions of competitiveness.

III. Explaining high prices

- Unit prices can be decomposed from 2017 (2019):
  - Pre-tax and levies prices can be decomposed into *Energy and Supply* and *Network* Costs.
  - Former includes short-term generation costs, markups for energy generators and hedging costs. Latter expenses of transmitting electricity over distance and distributing electricity to customers.

- I also examine the fuel mix in Irish generation and explain its implications for prices.

- Finally, I offer other contributors to price movements.

Chart 8: Main components of domestic electricity PPS cost (all bands) 2017-2024

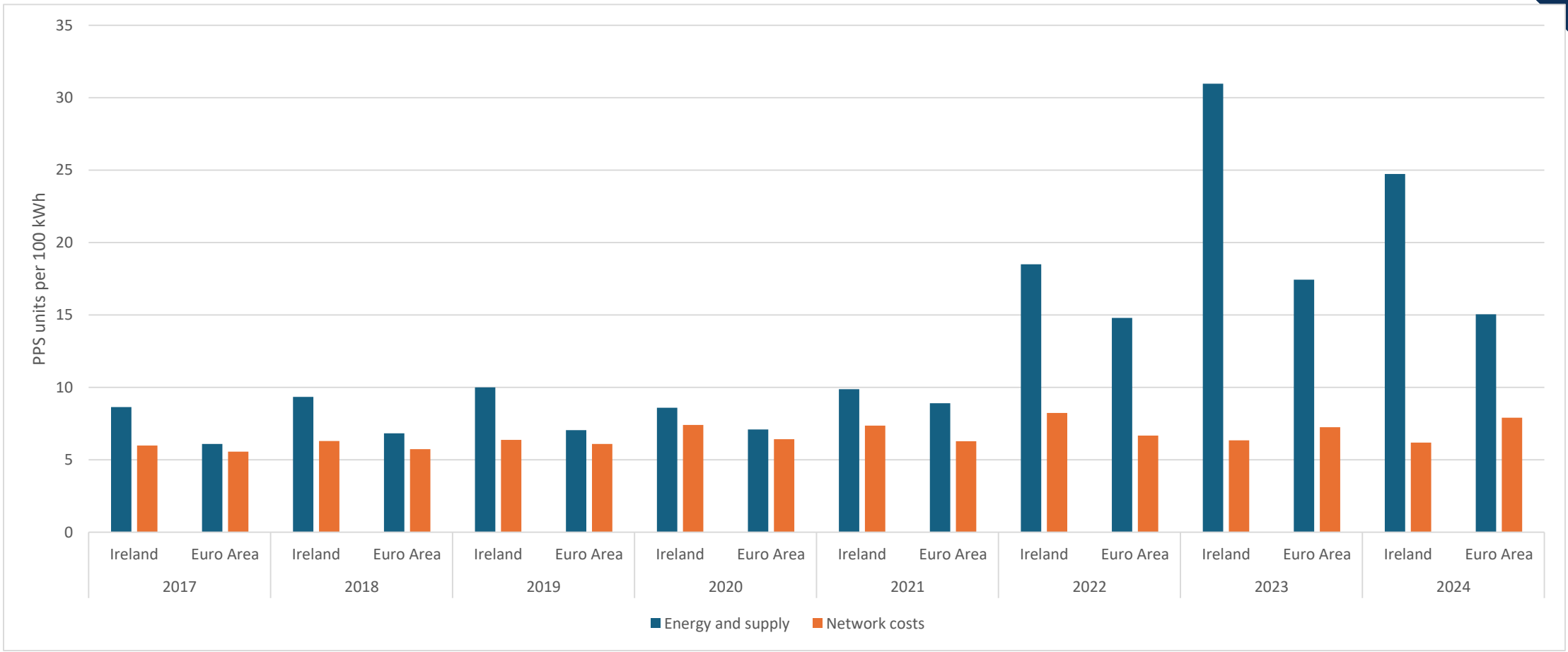
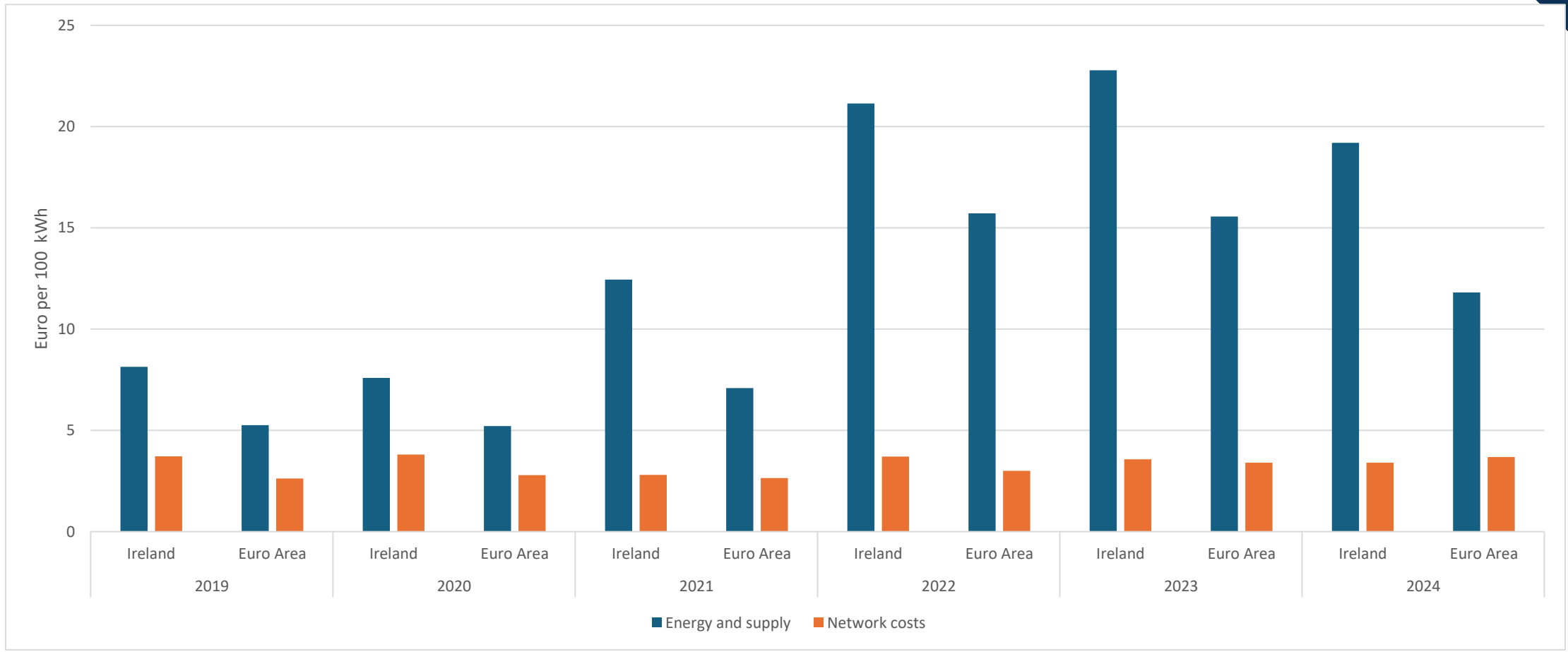


Chart 9: Main components of non-domestic electricity euro cost (all bands) 2019-2024



i. Decomposing prices

- In most cases, we observe some elevation in *network* costs relative to eurozone averages.
  - Domestic consumers (PPS) between 4.8 and 23.4% above the average in 2019 and 2022, though we fall below the typical eurozone values in 2023 and 2024.
  - Non-domestic (euro) prices elevated by between 5 and 42% between 2019 and 2023, though they fall below profile in 2024.

- However, these differentials are far outweighed by *energy and supply* elements:
  - Minimum of 10.8% above in 2021, 77.5% above in 2023 (Domestic PPS).
  - Never below a third over comparator values (2022), up to 62.5% higher in 2024 (Non-domestic euro).

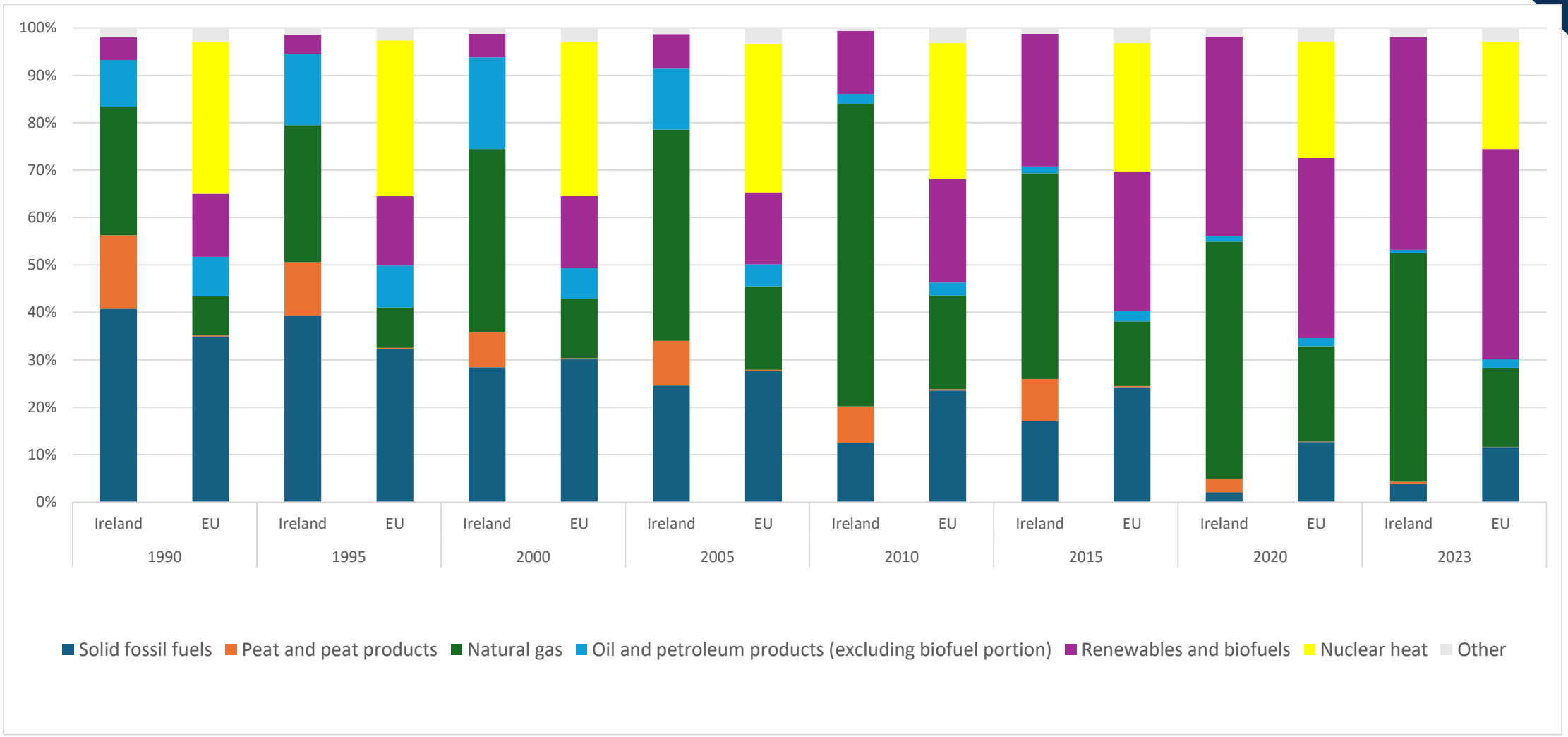
ii. Fuel mix in electricity generation

- A significant proportion of *Energy and supply* costs are costs of generation.

- These costs vary according to generation source, and market design.
  - Fossil fuel generation sensitive to international prices.
  - The weight of generation, and systems like merit order pricing can weight certain sources disproportionately.

- For both Ireland and the wider EU, generation has changed significantly over time.

Chart 10: Electricity generation fuel mix 1990-2023

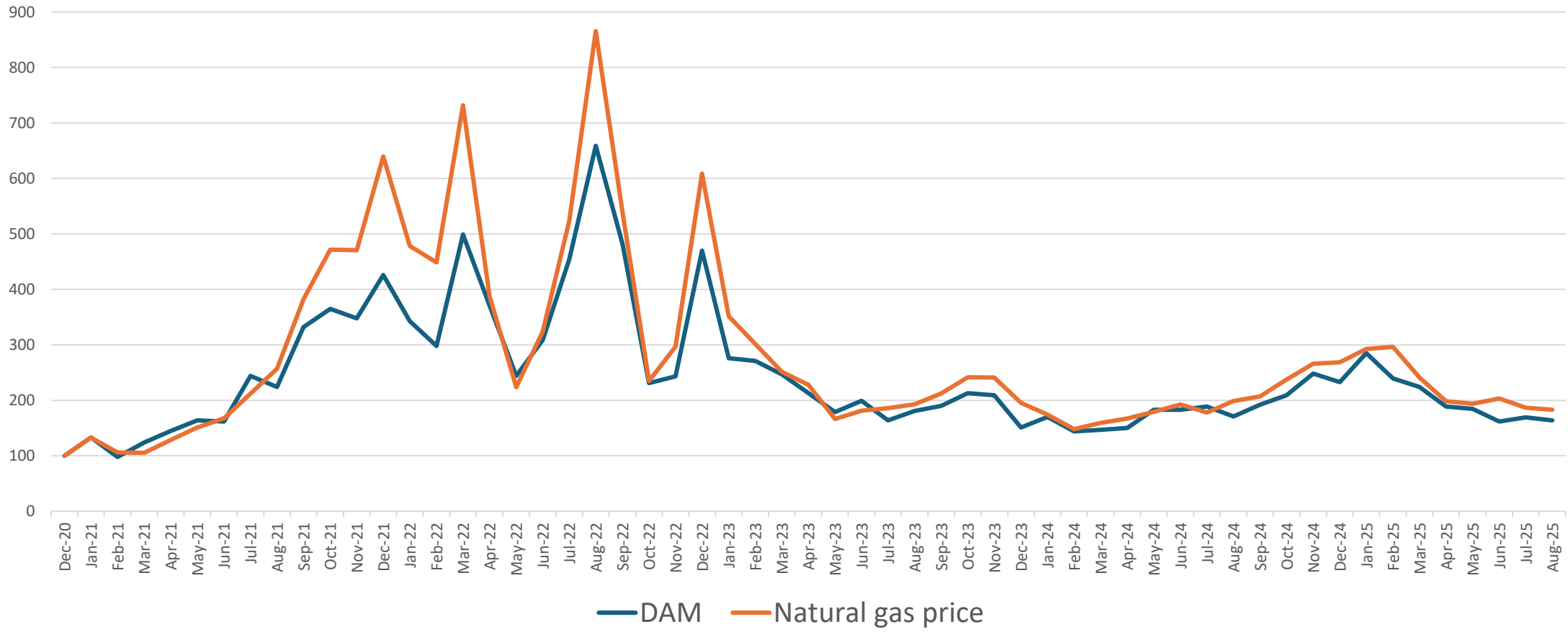


ii. Fuel mix in electricity generation

- Natural gas plays a larger role in Irish generation than typical for the EU.

- This is particularly notable given European energy market design:
  - Producers meet buyers who subsequently sell to consumers in a series of markets across differing time frames.
  - The day ahead market is particularly significant.
  - Within this market, generator bids (offers) are aggregated and ranked from cheapest to most expensive to form a merit order curve.
  - The point at which purchaser demand meets this curve sets the clearing price: effectively, the last unit of generation required to meet demand.
  - All generators receive this clearing price regardless of their bid.

Chart 11: Monthly average Day ahead Price (DAM) and natural gas price for the SEM December 2020 to January 2025 (December 2020=100)



iii. Possible explanations for differences in electricity prices between Ireland and other states

- Factors such as our reliance on natural gas and relatively high network costs are often cited.

- Other factors raised include the nature of our small and relatively isolated system:
  - Precludes economies of scale, generator size constraints imply fixed cost recovery over less electricity.
  - Relative absence of interconnection with other generation markets.
  - Issues of curtailment within the Irish system – particularly for renewables.

- Rapid demand growth in Ireland from the early 1990s.

IV. Conclusion

- Ireland did experience atypical cost inflation, corroborated by an analysis of unit prices.

- This appears to be influenced by our generation mix, market design and a variety of other constraints.

- In the short to medium term, we could begin to address these factors by:
  - Upgrading the grid to reduce curtailment and bolster our connection to other markets.
  - Consideration of market redesign.

- However, cost issues run further back in time and warrant further investigation.