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MARSDEN JACOB ASSOCIATES  
C E L E B R A T I N G



*Talks Live*

## European Energy Crisis: Lessons for Australia

6 September 2022

A Marsden Jacob Presentation



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# Talks Live



The **Marsden Jacob Talks Live** webinar series brings people together to discuss pressing issues across environment, energy, water, waste and recycling, agriculture and earth resources and other sectors in Australia and internationally.

These free webinars are open to everyone. We aim to share best practices and bring you the latest research and thinking.

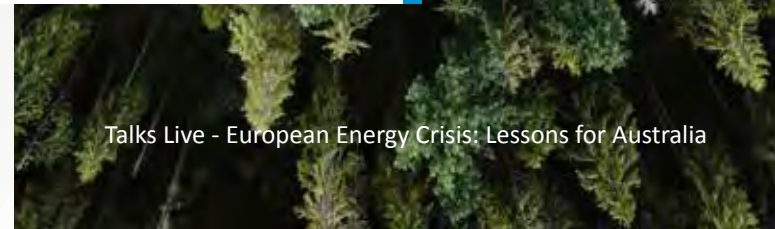
Our focus in these events is on encouraging open, positive and collaborative discussion.

We encourage you to share your questions, opinions, experience and interests. We also welcome your thoughts on future topics for our webinar series.

Each live event includes a presentation, followed by open, collaborative discussion.

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Talks Live - European Energy Crisis: Lessons for Australia



# Who are we?

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Talks Live - European Energy Crisis: Lessons for Australia

## In today's Talks Live we're going to cover:

Why this topic,  
and why now?

Australian energy  
markets in 2022

Europe's gas  
crisis explained

Impacts and  
temporary  
measures

Case GB –  
the price cap

Policy options

Implications for  
Australia

Lessons from  
Europe

Q&A



# Why this topic, and why now?

- 2022 was a dramatic year in Australian energy markets.
- Events in Europe have impacted Australia.
- Europe is moving into winter when energy use peaks.
- European energy shortages and disruptions are likely to continue impacting global energy market.

*What does this mean for Australia?*

*What can we learn from the events in Europe?*

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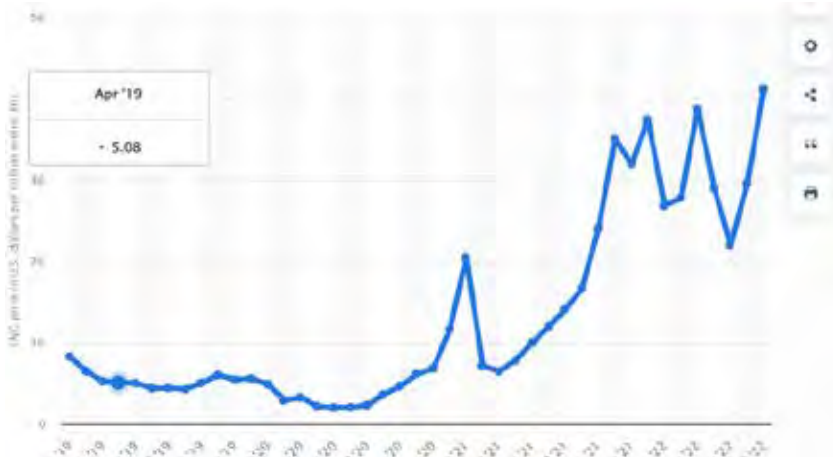
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Talks Live - European Energy Crisis: Lessons for Australia



# Australian energy markets in 2022 – role of Europe



- On 24 February, Russia invades Ukraine.
- In March, EU commits to reducing use of Russian gas by 66%.
- Global LNG prices rise dramatically, lifting Australian gas prices.
- Newcastle black coal prices also surge in response to Russian sanctions.



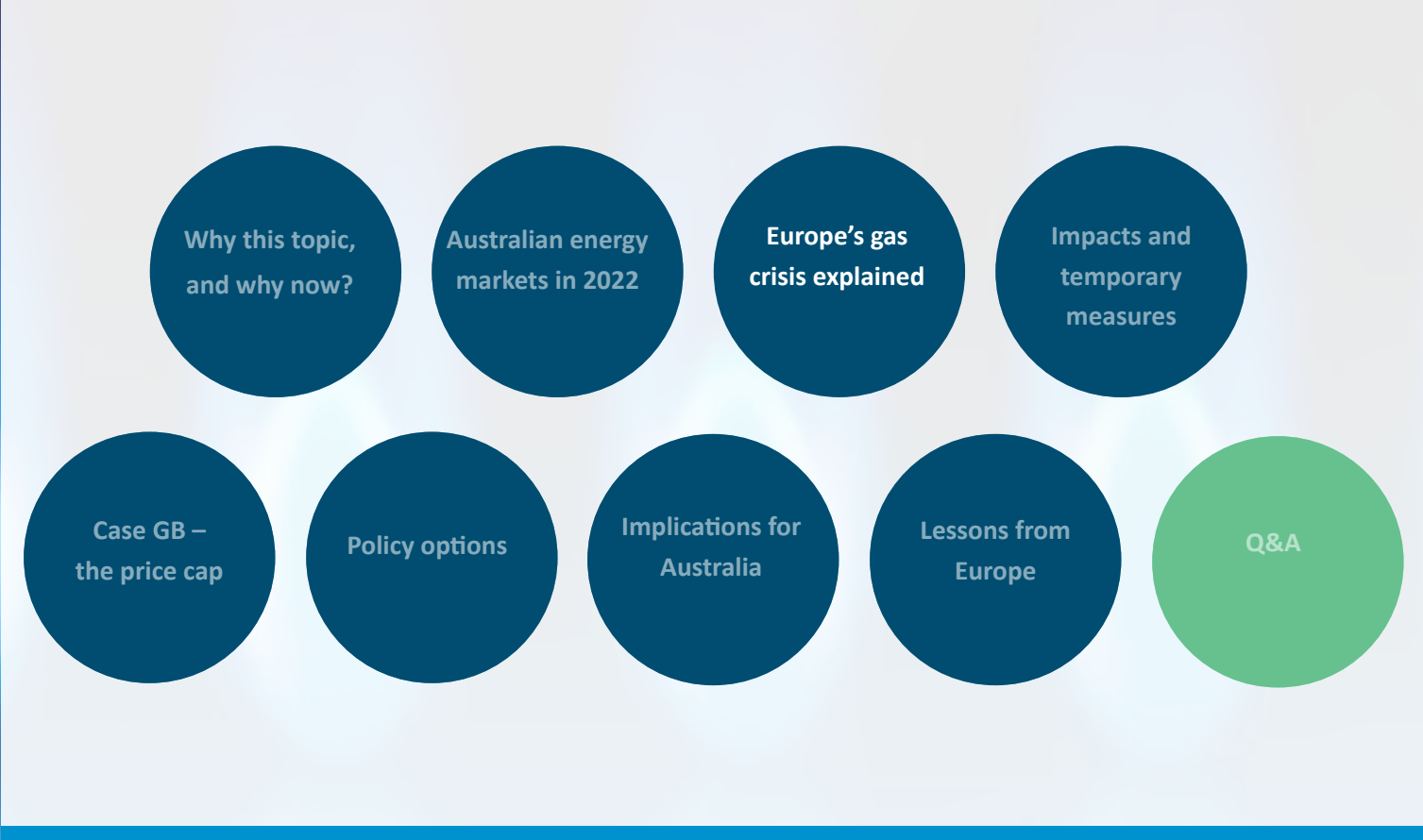


# Europe adds to Australian challenges

- Winter 2022 – Australia experiences high commodity prices, coal outages, lower renewable generation output and simultaneous cold weather in eastern states.
- Wholesale price surge across the NEM.
- Increased gas powered generation (GPG) and high heating demand pushes spot gas to record levels.
- Market price cap imposed – initially in QLD then NSW, VIC and SA.
- Market suspended from 15 to 24 June.
- High wholesale prices flow through to retail market – Default Market Offer (DMO) increased from 1 July – does not allow for winter peak.
- Retailers either collapse and/or stop selling.
- Large gentailer’s financial results impacted.



***What's next as we approach summer and Europe enters winter?***



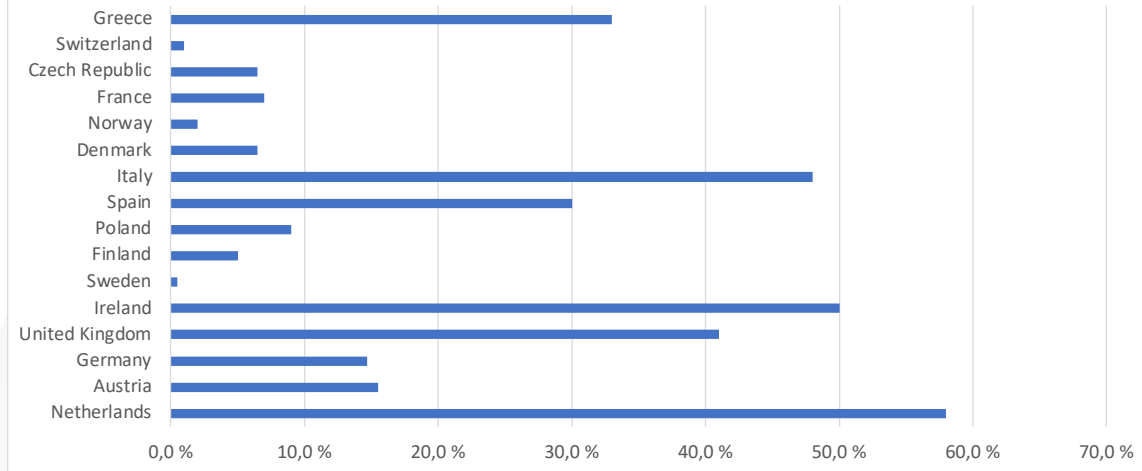
# Europe's gas dependency

Gas seen as key counterpart in **decarbonisation**

## 2021 Natural Gas Facts (EU)

- Nearly 400 bcm consumed.
- Over 20% of primary energy consumption, dominant source of energy for 32% of households.
- Nearly 60% imported (excluding Norway).
- Major source of electricity generation.

Share of Natural Gas Generation in Power Generation 2020



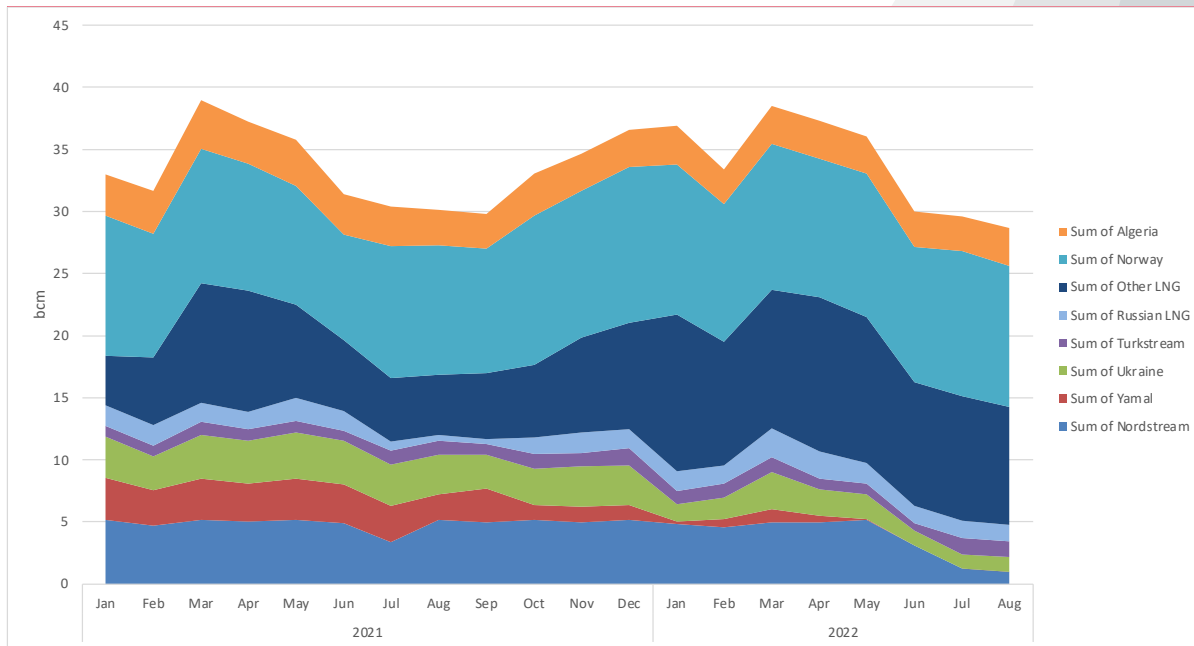
**Europe is especially dependent on gas at peak and critical peak times.**

Sources: ACER, BP, Eurostat

\*Norway considered Import (30-35% of imports)

# Europe's gas crisis at a glance

**Imports** are similar to a year ago, but are already near their limit

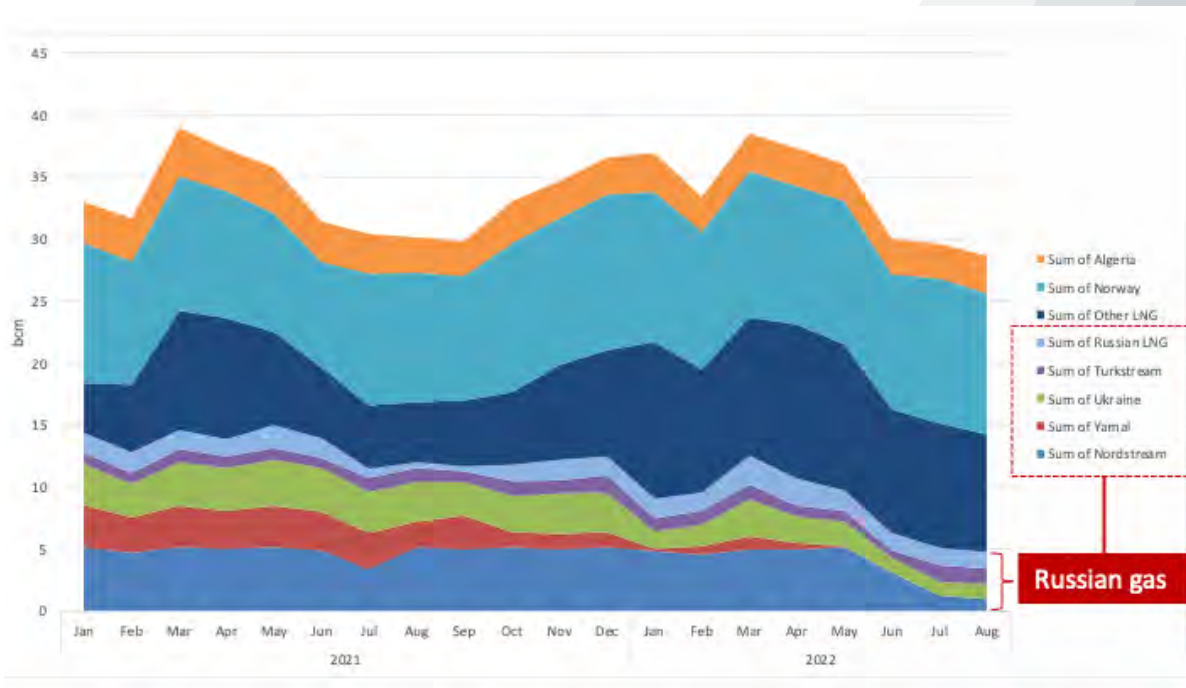


- Russian gas to Europe ending source by source, markets by market.
- Nordstream now cut permanently.
- Remaining pre-crisis imports still likely to be stopped by Russia.
- Alternative LNG and Norway filling gap but reaching limits.
- US LNG restricted by fire damage.

**Difficult to see options to increase inflows before winter heating period.**

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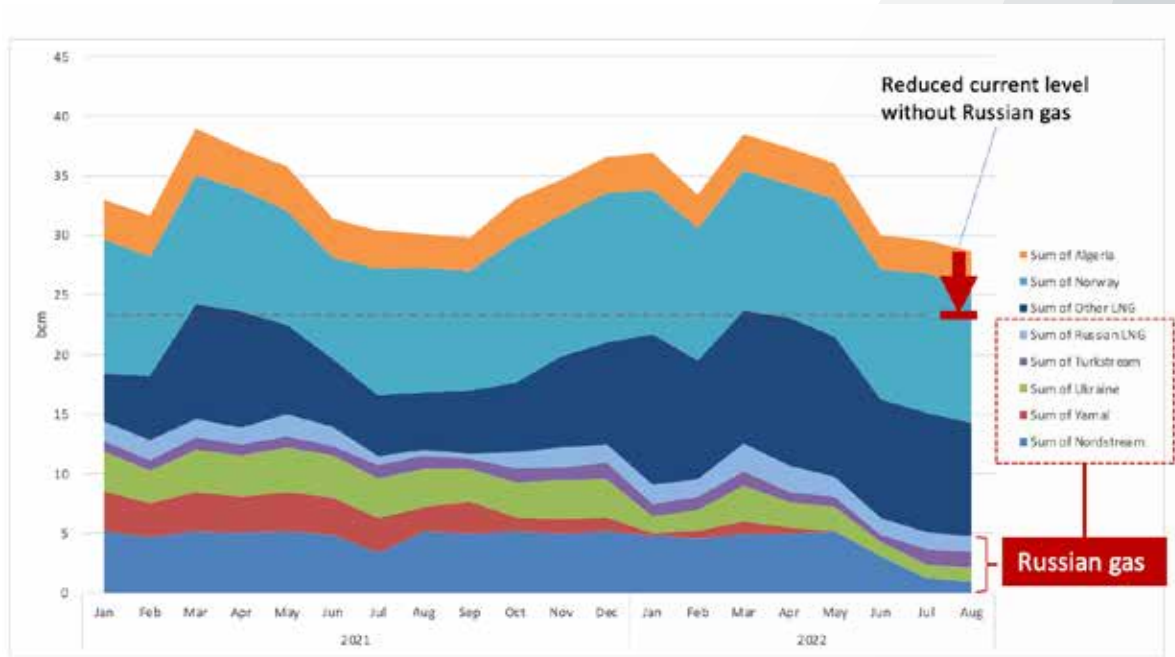


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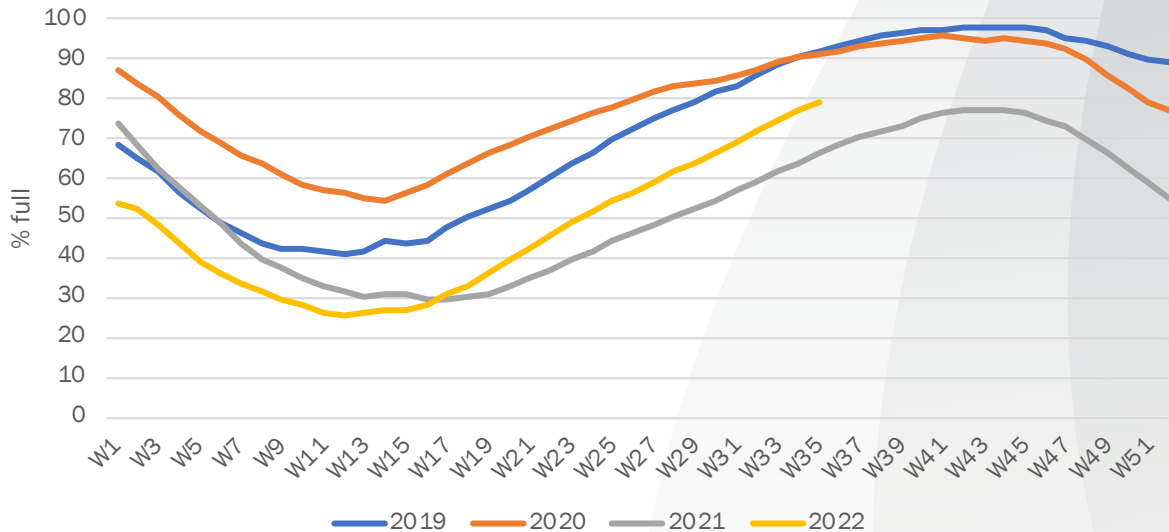
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# Europe's gas crisis at a glance

## Storage levels are climbing but behind

Historical gas storages evolution in EU

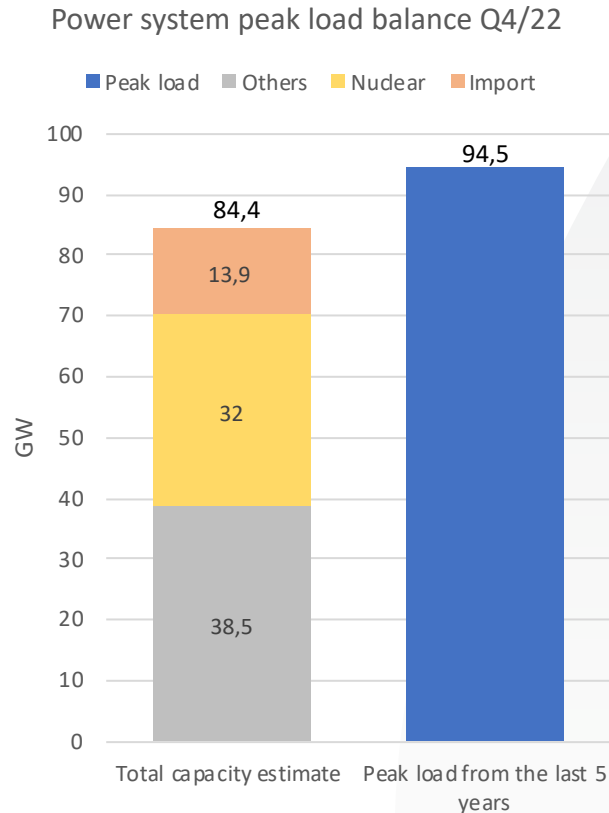


- 100% full gas storage would cover ca. 35-40% of average EU winter consumption.
- Far less in a cold winter, assuming no demand change.

**Controlling demand will be critical.**

# Europe's gas crisis at a glance

## Winter energy flows looking precarious



### Perfect European Storm

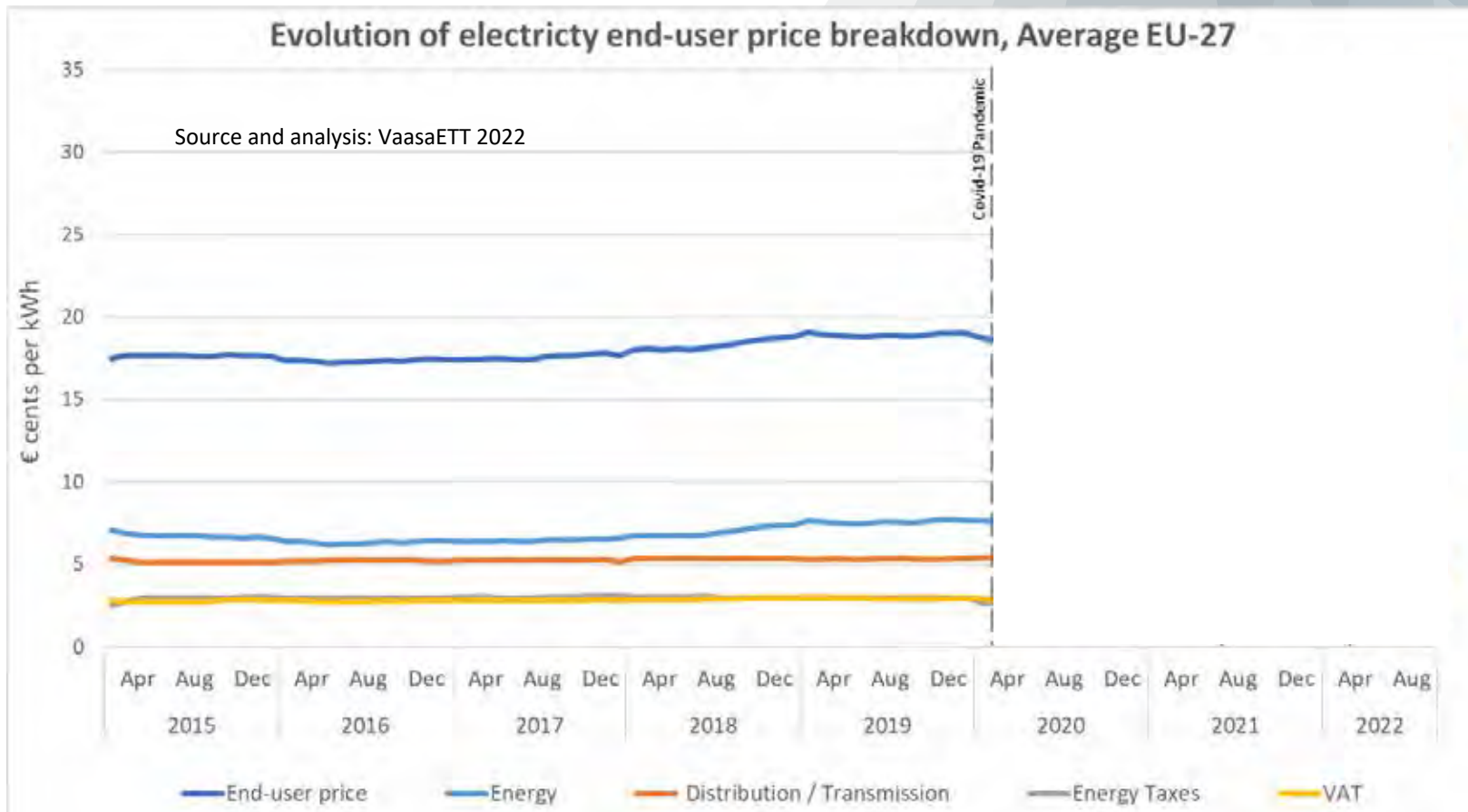
- Nuclear maintenance.
- Low water levels impacting nuclear, hydro, fossil.
- Norway back up plan.
- Import levels restricted.
- Wind and solar without storage.
- Time to restore mothballed facilities.
- Under-investment in demand-side flexibility.
- Risk of national protectionism.
- Governments had no plan for such a situation.





# Unprecedented retail price impacts\*

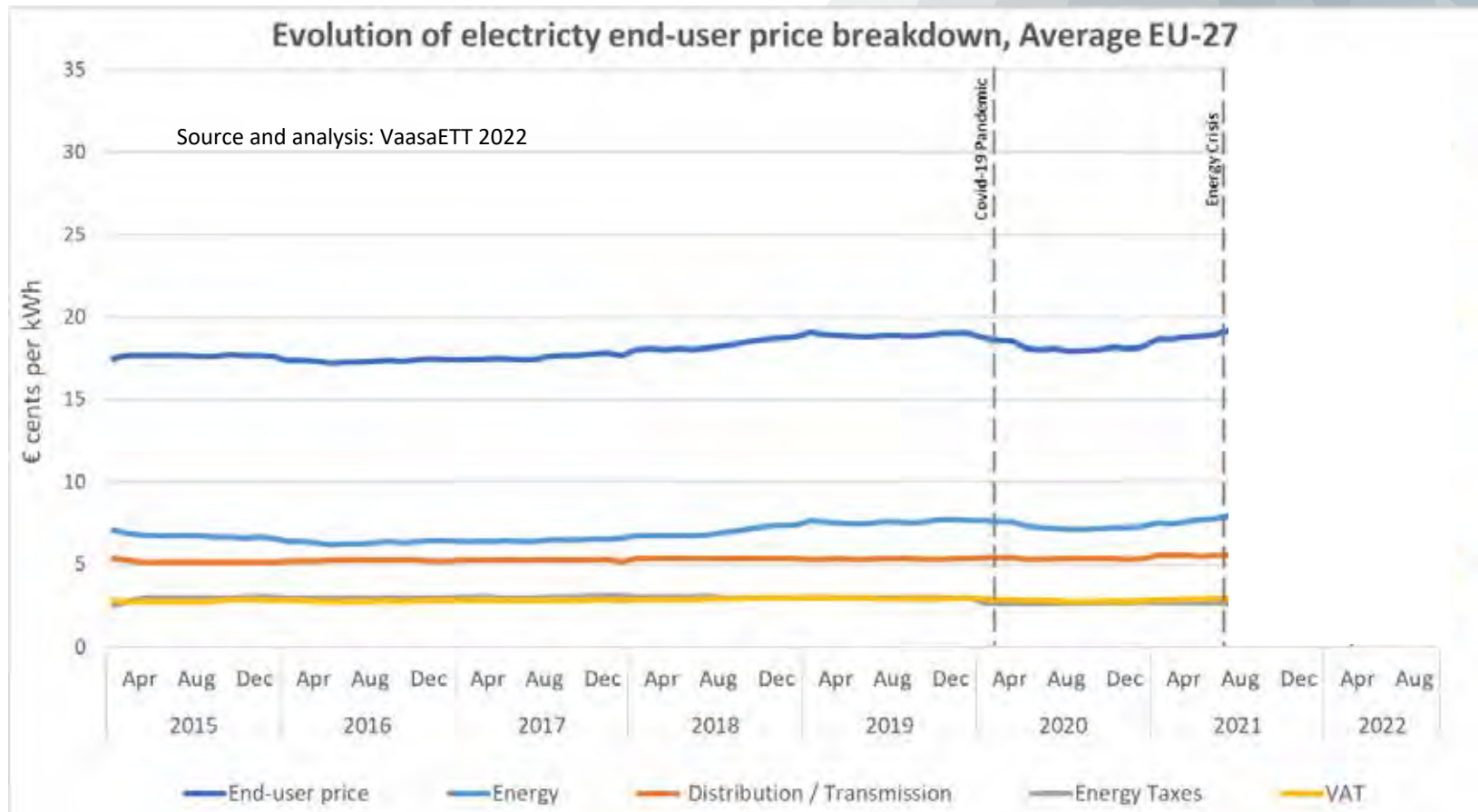
Prices were **historically stable**



\*EUROPE: EU27 + Great Britain, Montenegro, Norway, Serbia, Switzerland, Ukraine

# Unprecedented retail price impacts\*

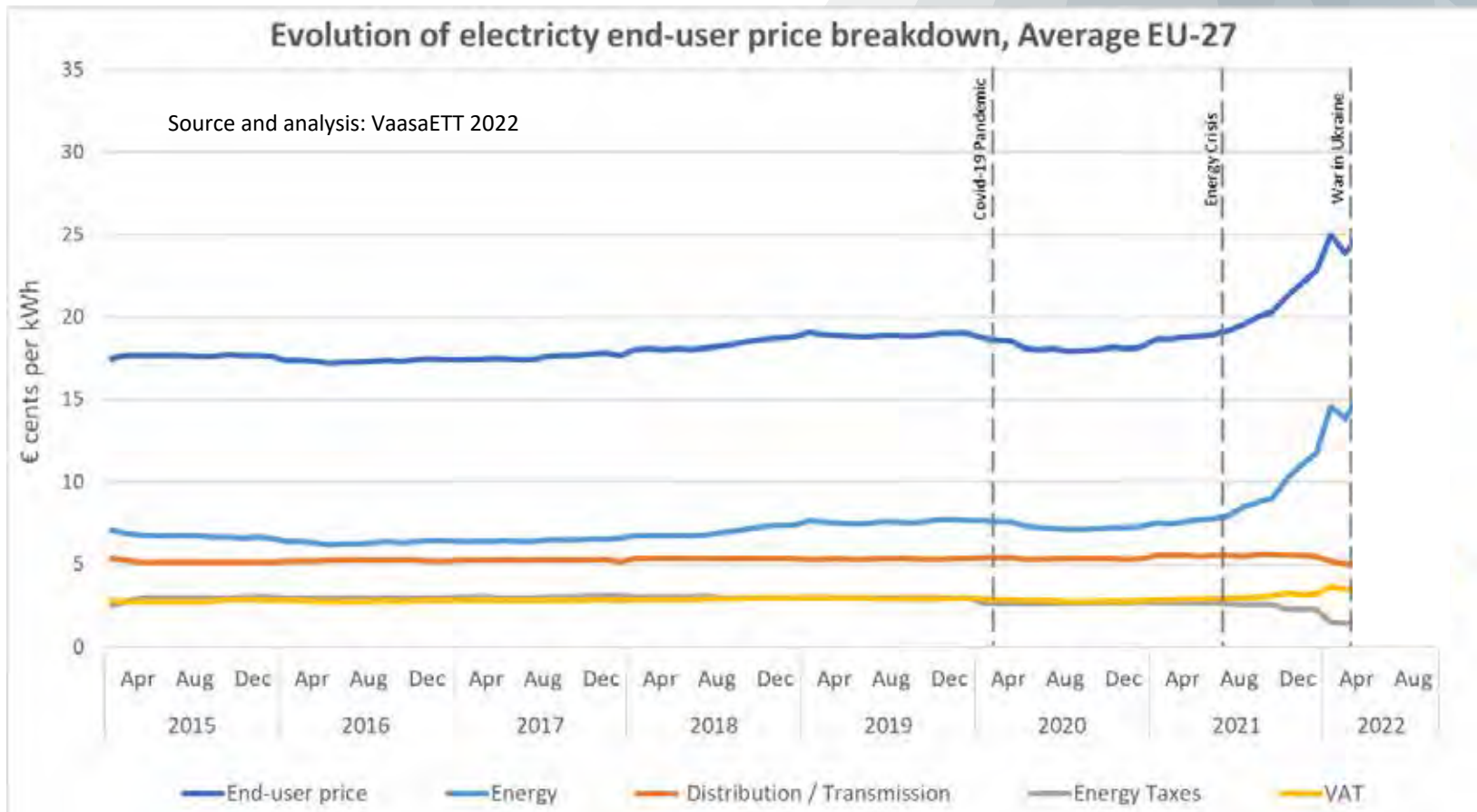
## Prices fell during COVID



\*EUROPE: EU27 + Great Britain, Montenegro, Norway, Serbia, Switzerland, Ukraine

# Unprecedented retail price impacts\*

## Prices increased during pre-war period

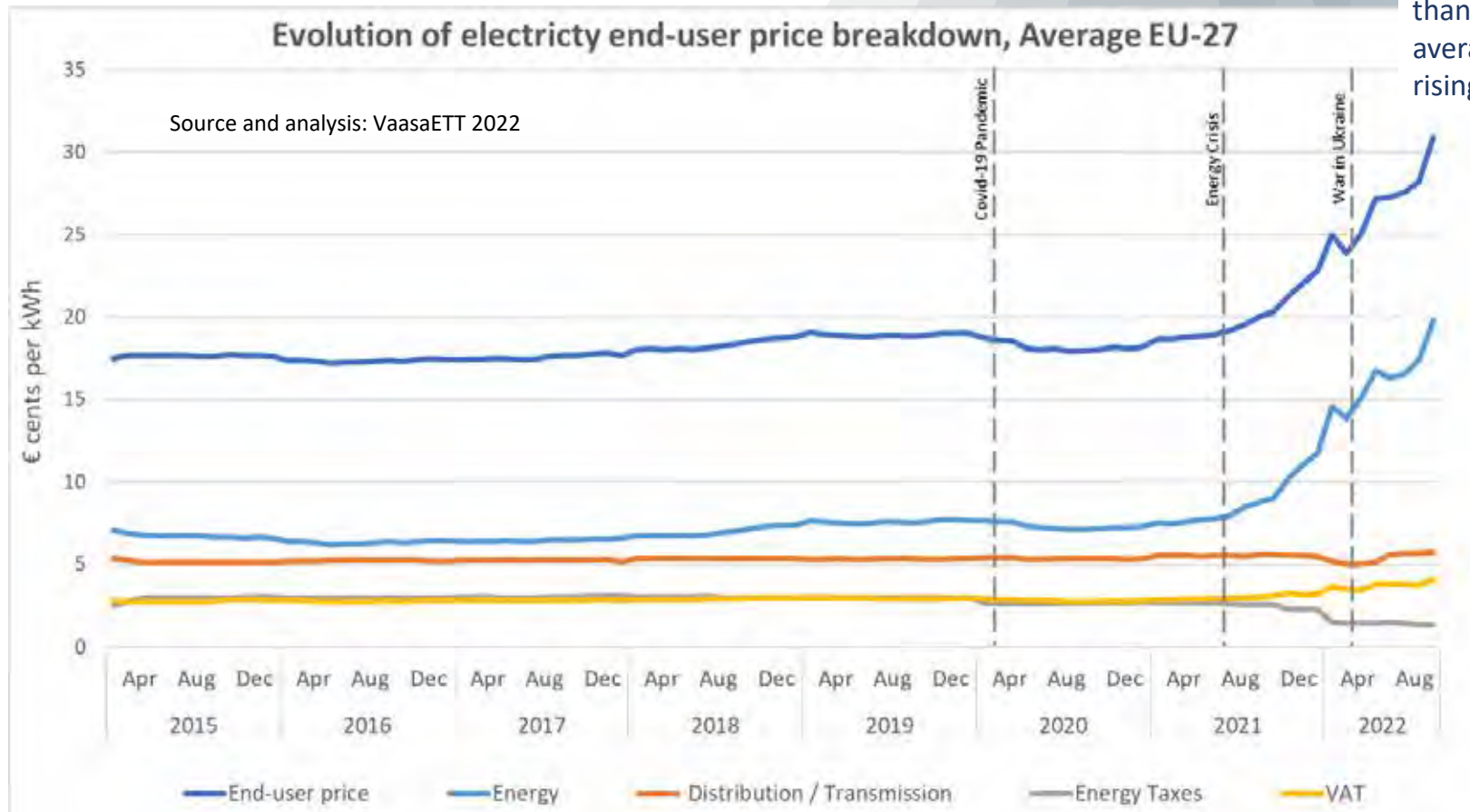


\*EUROPE: EU27 + Great Britain, Montenegro, Norway, Serbia, Switzerland, Ukraine

# Unprecedented retail price impacts\*

Prices continuously increasing during war

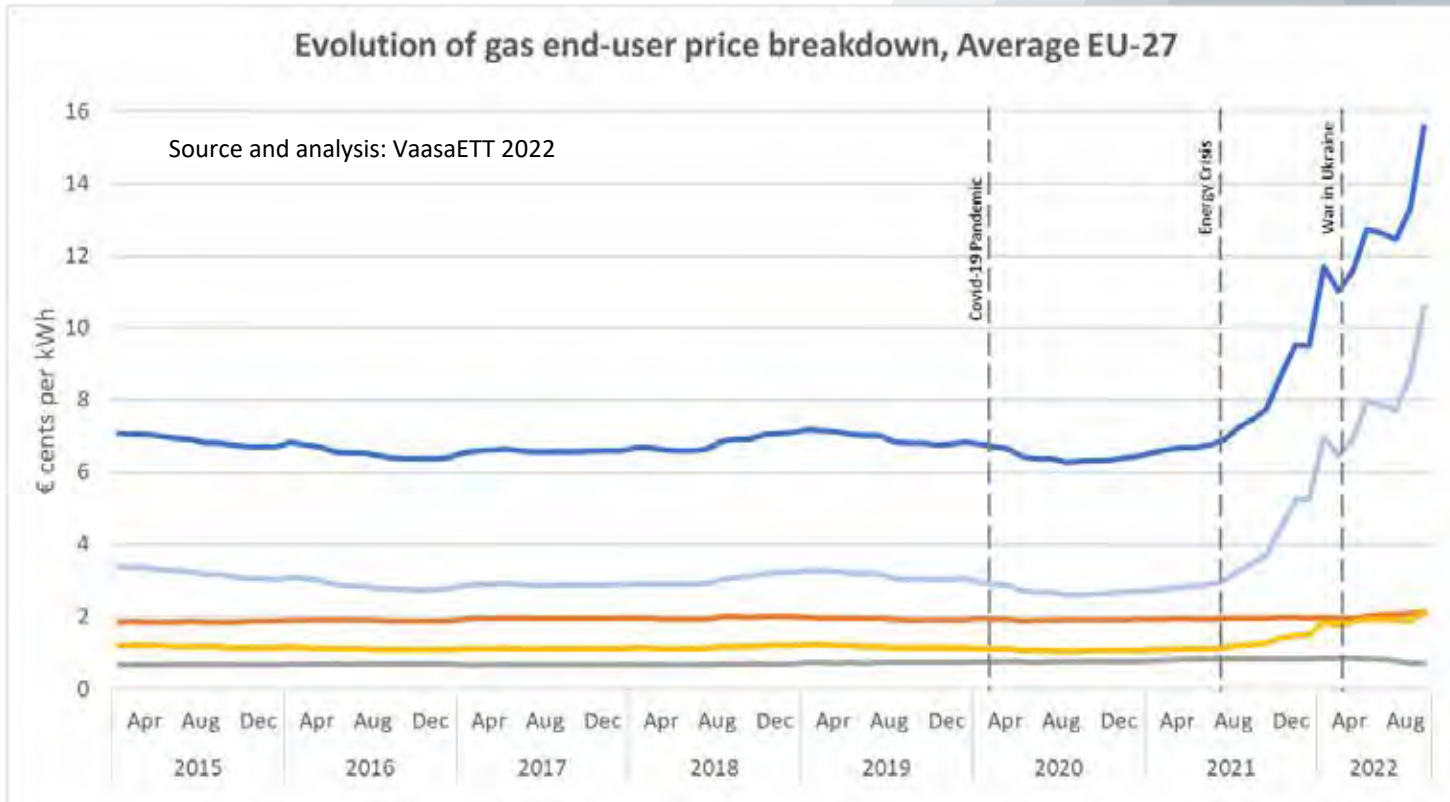
70% higher than pre-covid average and rising



\*EUROPE: EU27 + Great Britain, Montenegro, Norway, Serbia, Switzerland, Ukraine

# Unprecedented retail price impacts\*

Gas prices have more than **doubled** since the start of the crisis

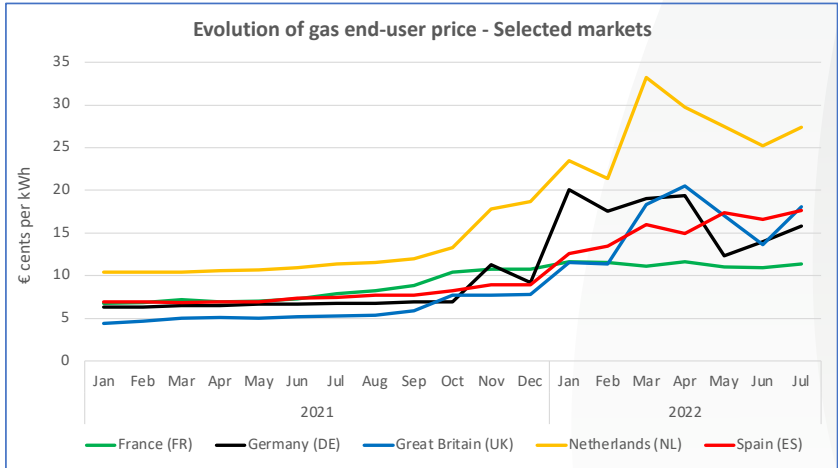
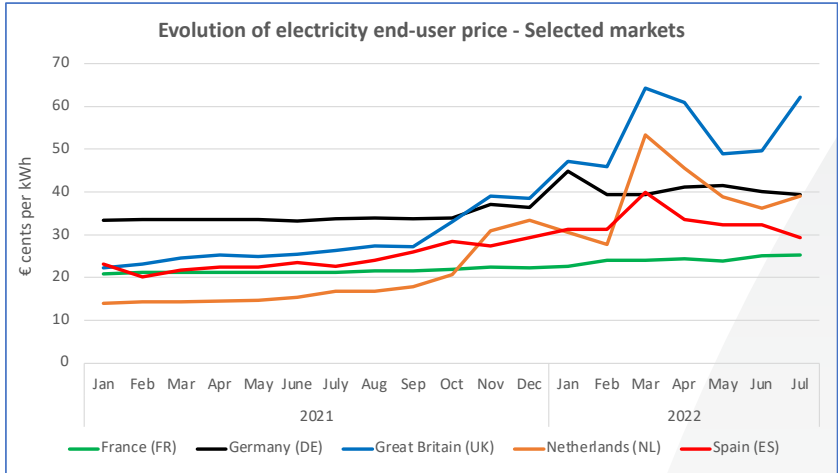


129% higher than pre-covid average and rising

\*EUROPE: EU27 + Great Britain, Montenegro, Norway, Serbia, Switzerland, Ukraine

# Unprecedented retail price impacts\*

## Some markets have fared better



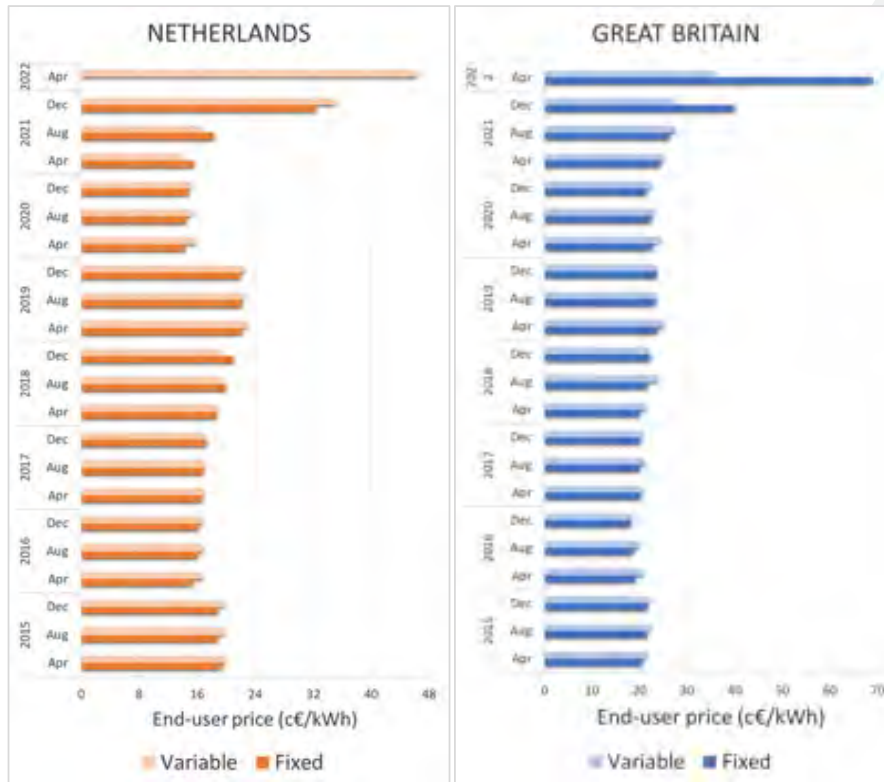
The situation varies among countries and mainly depends on the fundamentals of each market, regulations, energy mix, dependence on RES and energy imports, and on the support measures that have been implemented.

**Only time will tell which markets end up better**

# Unprecedented retail price impacts\*

## Customers have few options

Latest Data as of April 2022



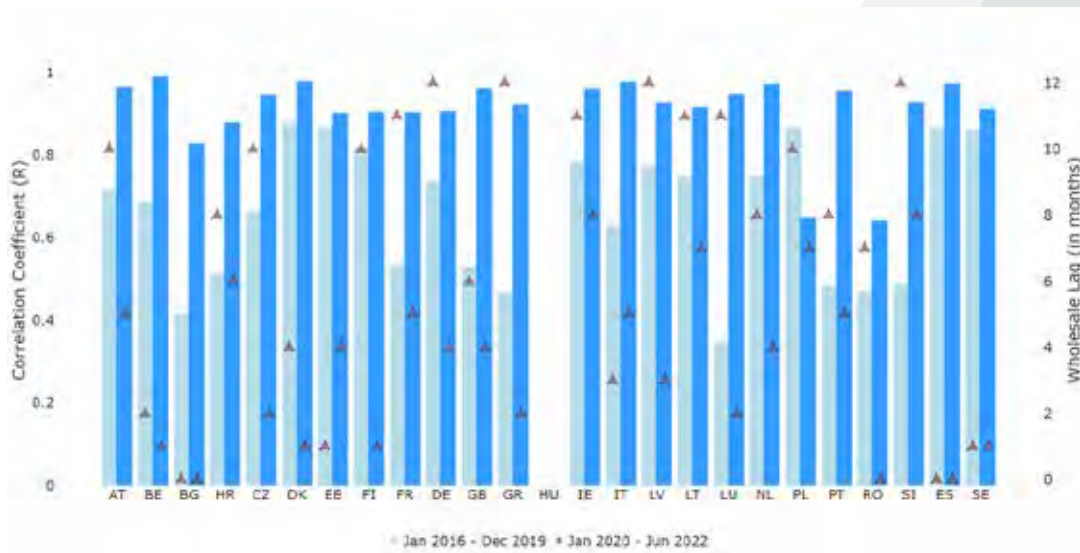
- Fixed-term contracts used to be typical for active customers and often cheaper than variable.
- Fixed-term have largely disappeared or become extremely expensive.
- Many suppliers not accepting, are discouraging new customers or even off-loading.
- As fixed contracts end, customers faced with high variable or higher fixed.
- Customers who ran to 'safe' variable tariffs now facing big increases.
- Switching is high as customers re-position.

**Customers face a dilemma they do not understand. Only real option is to save.**



# Retail pricing behaviour is changing

## Increasingly efficient price-wholesale relationship



- Suppliers are now pricing far more closely to wholesale (spot) and changing prices more often.
- In some markets even fixed prices are being increased within contracts.

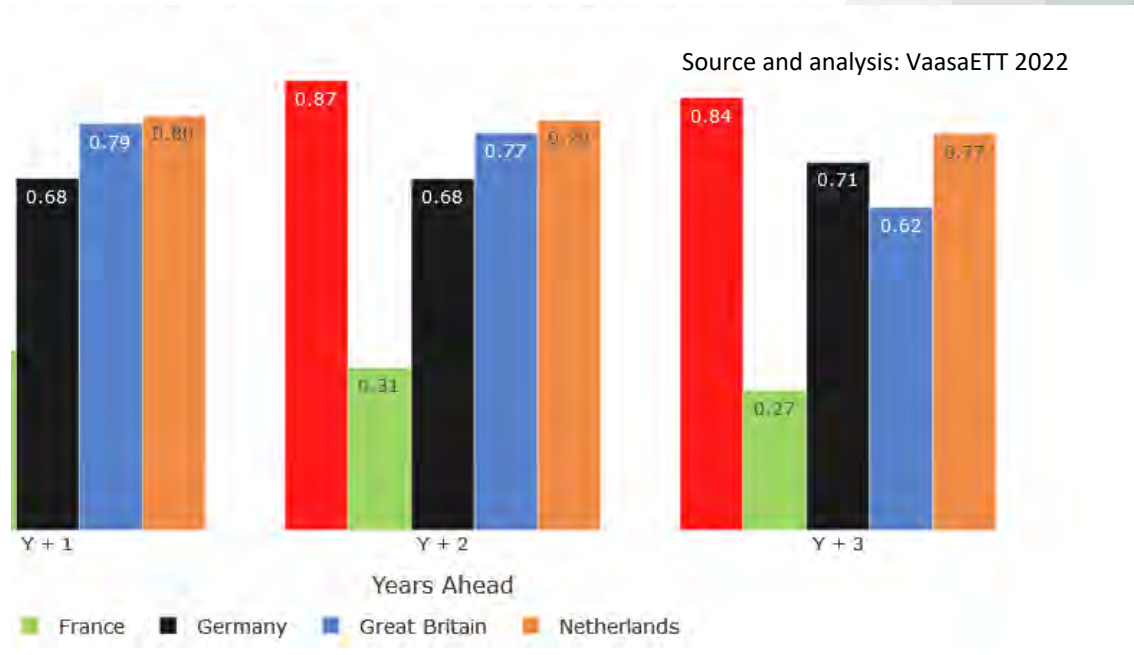
## Retail price volatility is increasing

### Explaining the graph

- Graph shows correlation (bars) and time lag (dots) between wholesale and retail \* component between 2016-2019 (light colours) and 2020-2022 (darker colours).
- Time lag corresponds to time taken for retail prices to respond to changes in the wholesale (spot) price.
- Correlation has increased, time-lag decreased between 2016-2019 and 2020-2022 in all 5 markets.

# Hedging behaviour is changing

## Increasingly efficient price-wholesale relationship



- Hedging has historically been surprisingly high\*.
- The more long term the hedging the more stable the prices.
- Liquidity currently extremely low.
- Pricing risk for well-hedged suppliers as market climbs higher.

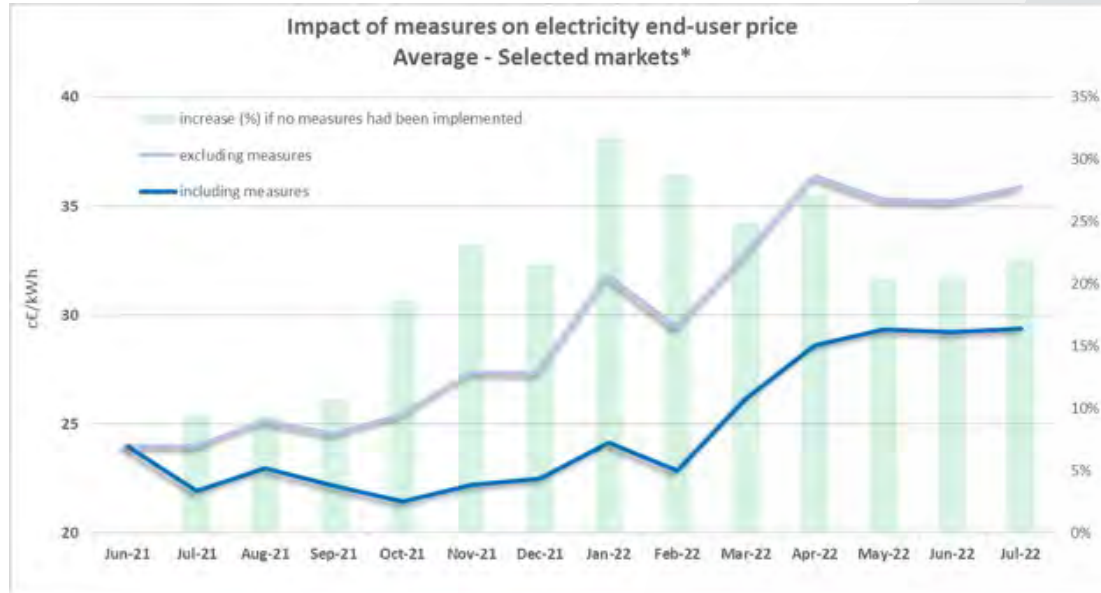
Data as of April 2022, analysed period 2016-2022

**Falling liquidity and market uncertainty resulting in shorter-term pricing**

\*France has a lower correlation with wholesale and futures prices, due to ARENH

# Impact of temporary electricity measures

## Measures have been impactful

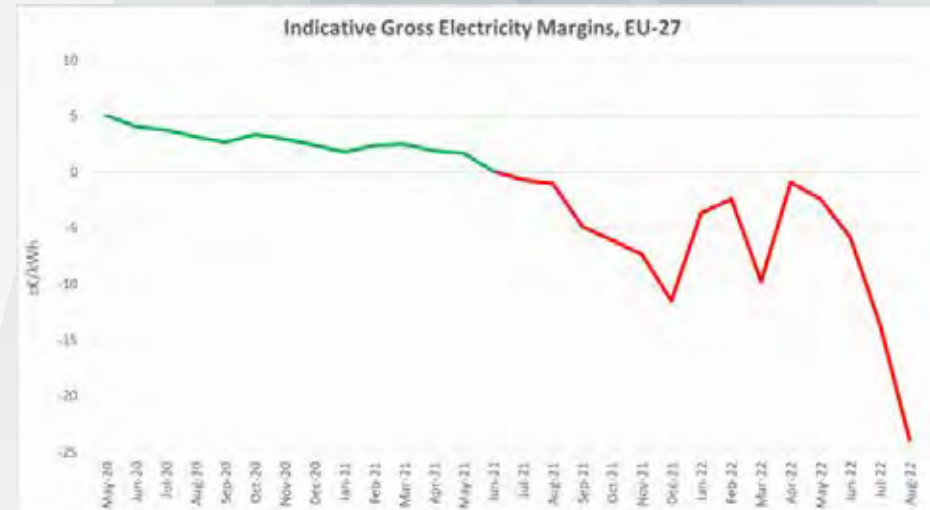


- 58% of European electricity markets have implemented measures since onset of crisis.
- Two out of 19 markets have ended measures, some have applied extensions or evolved measures.
- Most common measures: tax reduction (63%), VAT reduction (37%), energy subsidy/compensation (16%) and price caps (16%).
- On average, electricity price would have been 22% higher in July 2022 if no measures had been implemented.

**If crisis persists, measure may need to become permanent.**

# Impact of crisis on retail margins

Retail cannot keep pace with wholesale



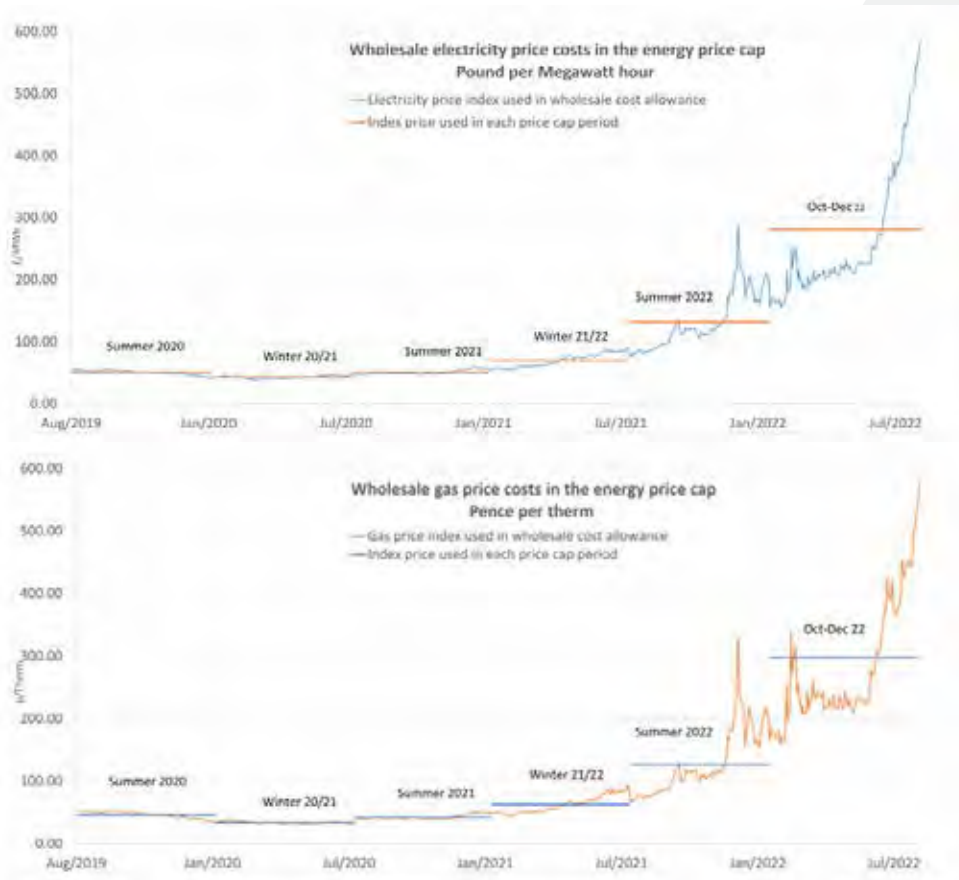
The crisis, combined with the regulatory response has been to push suppliers into the red.



# Case GB – the price cap

*“The energy price cap is a **backstop protection** from the government for people who default onto their supplier’s basic energy tariff” - OFGEM*

Source: OFGEM



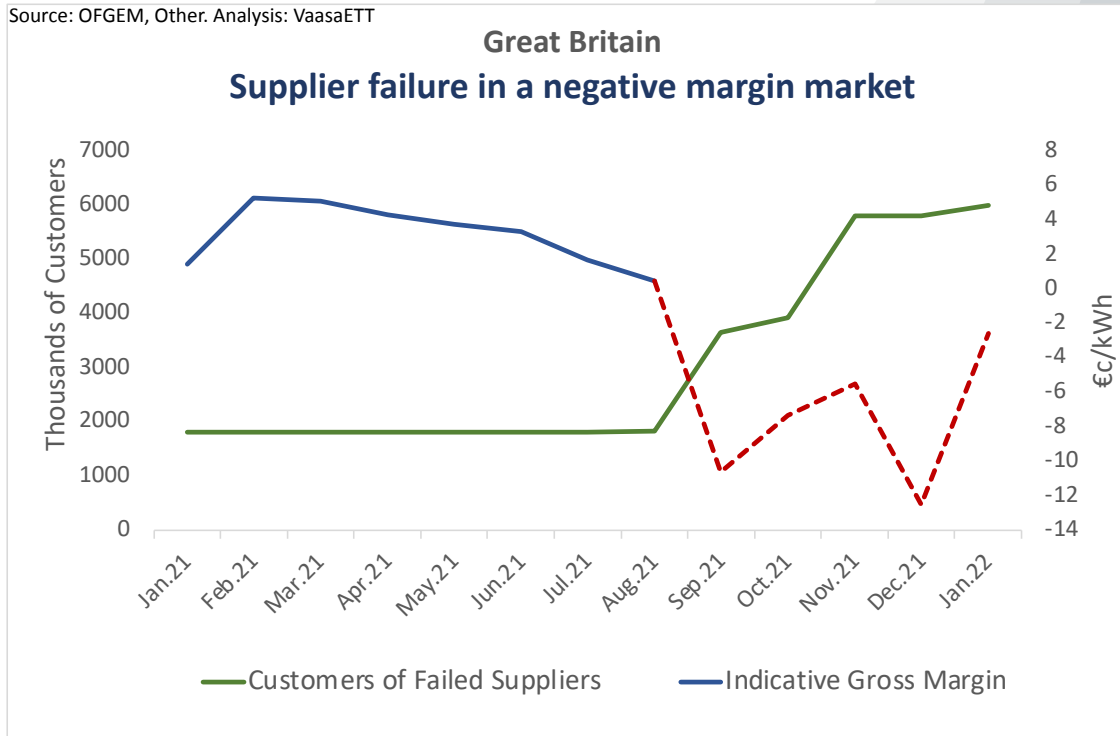
- Great Britain (GB) currently has the highest retail electricity prices in Europe (GB vs EU and other European) despite similar wholesale prices.
- GB’s retail gas prices are more competitive because of GBs better gas position.

**Questionable if the price cap provides any protection to consumers. It arguably seems to result in higher prices.**

# Case GB – the price cap

Wholesale increases + price cap = supplier failure

Source: OFGEM, Other. Analysis: VaasaETT



\*4.2m between August 2021 and Jan 2022

## Supplier failures in GB

August 2021 – January 2022

|    | Failed Supplier      | Acquirer                 |
|----|----------------------|--------------------------|
| 1  | Green Network Energy | EDF                      |
| 2  | Simplicity Energy    | British Gas              |
| 3  | HUB Energy           | E.ON Next                |
| 4  | MoneyPlus Energy     | British Gas              |
| 5  | PFP Energy           | British Gas              |
| 6  | Utility Point        | EDF                      |
| 7  | People's Energy      | British Gas              |
| 8  | Green Energy         | Shell Energy             |
| 9  | Avro Energy          | Octopus Energy           |
| 10 | Enstroga             | E.ON Next                |
| 11 | Symbio Energy        | E.ON Next                |
| 12 | Igloo Energy         | E.ON Next                |
| 13 | Pure Planet          | Shell                    |
| 14 | Colorado Energy      | Shell                    |
| 15 | Daligas              | Shell                    |
| 16 | GoTo Energy          | Shell                    |
| 17 | Bluegreen Energy     | British Gas              |
| 18 | Omni Energy          | Utilita                  |
| 19 | MA Energy            | Smartest Energy Business |
| 20 | Zebra Power          | British Gas              |
| 21 | Ampower              | Yu Energy                |
| 22 | CNG Energy Ltd       | Positive Energy          |
| 23 | Neon Energy          | British Gas              |
| 24 | Social Energy        | British Gas              |
| 25 | Bulb                 | Government Administered  |
| 26 | Entice Energy        | Scottish Power           |
| 27 | Orbit Energy         | Scottish Power           |
| 28 | Zog Energy           | EDF                      |
| 29 | Together Energy      | British Gas              |

The price cap combined with the energy crises and poor retail business practices has been disastrous for many suppliers and their customers.





# European policy options

## 1 Substitute imports

Europe simply needs to replace Russian imports. Mid- to long-term, it is possible; short-term it is unlikely to be enough. Substitutes will be more expensive than Russian gas used to be.

## 2 Fill storage

It is essential but only provides some of the required energy.

## 3 Consumption reduction

Consumption is already reducing due to price, but major campaigns needed for advice on reducing consumption, choosing tariffs/suppliers, new infrastructure investments and time of use.

## 4 Wholesale reform

Energy is now the largest part of the bill. Wholesale gas volatility is the main driver of the high energy prices. Decoupling power price from gas price is a preferred option.

## 5 Decarbonise

More rapid decarbonisation is needed. Financing not the main issue. Planning barriers and network capacities more of an issue than financing.

## 6 Tax reform

A significant share of the energy bill is comprised of taxes and VAT. A quick and simple way to lower costs is through the elimination of taxes.

## 7 Liquidity support

Measures need to be taken to reduce supplier working capital requirements. Sweden and Finland announced liquidity guarantee, others expected to follow.

## 8 Subsidies & compensation

While these measures can clearly reduce prices and be targeted, they reduce transparency of and distort the market. Little point charging tax/VAT and then paying it back through subsidies.

## 9 Price caps

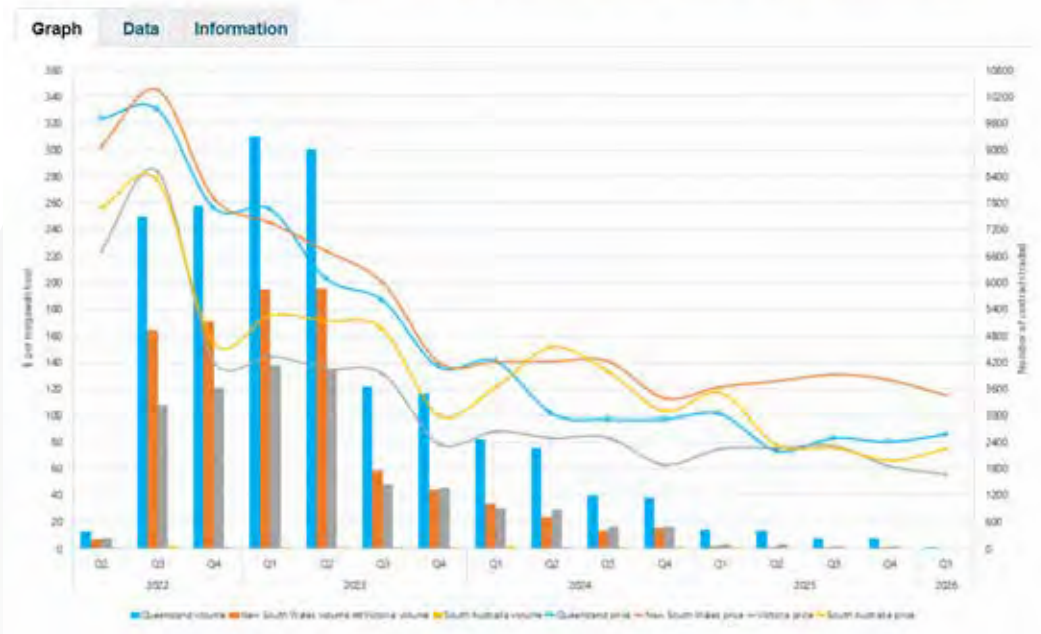
In the absence of wholesale reform and or subsidisation, price caps derive limited impact.



# Implications of European situation for Australia

- Europe's energy crisis likely to become more serious in winter of 2022-23.
- Drought has created additional challenges for European energy markets – nuclear and hydro.
- Europe's challenges are likely to keep international coal and gas prices high – and Australian fuel/electricity prices high.
- Challenges will be greater if Australian summer is hot (not currently forecast).
- Coal outages an ongoing risk – Liddell in its last months – GPG use uncertain.
- Domestic pressures for intervention in the market may increase – other cost of living pressures – re-opening DMO?

## Quarterly base futures prices and volume traded





# Lessons for Australia from Europe

- While the crisis should provide impetus to decarbonisation, there is some way to travel. New capacity is too slow to replace thermal exits.
- Energy transition is impacted by planning and community issues as much as regulatory and financing issues.
- Domestic energy security cannot be taken for granted – NSW Government emergency intervention on coal, Australian Domestic Gas Security Mechanism (ADGSM), AEMO emergency powers in gas markets.
- Export prices for coal and gas are likely to remain high - fuel price linkages and coal exits make for volatility in Australian electricity markets.
- Coal may be exiting but gas powered generation may increase (Kurri, Tallawarra B), Integrated System Plan (ISP).
- Attempts to suppress price pressures are doomed to fail – UK price cap up 80% – creates industry chaos but does little for consumers.
- Governments may have to provide support but be wary of unsustainable interventions.



# Next Talks Live webinar

## Pricing carbon in economic analysis November 2022 (date TBC)

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# Q&A and thank you

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