

[Home](#) » [Examining the impact of the energy transition on customers](#)

7 JUNE 2022

# Examining the impact of the energy transition on customers

Origin Energy CEO Frank Calabria's speech at  
Australian Energy

Week, 7 June, 2022.

After a long period of relative stability in our power markets, we have entered a period of incredible change and volatility. The long-term energy transition that was already underway and accelerating, has collided with a major shift in the broader macroeconomic and geopolitical environment, causing acute price and security of supply events in global energy markets.

With this context in mind, I want to begin my speech with a comment Canadian Prime Minister Justin Trudeau made at the World Economic

Forum in Davos a few years ago, as it is very relevant to what I want to talk about today:

“The pace of change has never been this fast, yet it will never be this slow again.”

He continued: “You are rightly anxious about how quickly our existing business models are being disrupted. Still, if you’re anxious, imagine how the folks who aren’t in this room are feeling.”

These are poignant remarks for a few reasons:

- The pace of change of the energy transition is accelerating. But at the same time, we are not moving fast enough to build out the low-emissions power system that will be needed to replace our ageing, emissions-intensive one.
- We are witnessing global and local energy supply and security concerns, extremely volatile commodity markets and very high prices. These are challenging times for our sector to navigate. There are some immediate steps we need to take, while other solutions will take time.
- There are challenges facing the broader economy too, with high inflation, cost of living pressures, an extremely tight labour market, ongoing supply chain pressures and rising interest rates.
- Against this backdrop, we must put ourselves in the shoes of our customers and the broader community. They are not at the decision-making table, but they are directly affected by the choices we make.

Which brings me to the topic I’m here to talk about today: ‘Examining the impact of the energy transition on customers.’

## **Vision for the future**

This is a topic we are passionate about at Origin. Our strategy is aligned to our ambition to achieve net zero emissions by 2050. Our core belief is that the decarbonisation of energy will be good for customers and good for the planet.

The energy transition will drive an influx of cheaper, cleaner renewable energy and storage. We believe that over time this will place downward pressure on wholesale prices, which will be good for customers.

And we believe over time, this cleaner power system will underpin secure and reliable power, and this is clearly important for customers.

The energy transition will also bring with it a range of cleaner, smarter and more connected energy solutions for residential customers and large businesses alike.

## **Current state of play**

While we firmly believe that where we are heading will be great for the planet and customers, and can reflect on significant progress to date, I think it is fair to say that from where we are all standing today, with the immediate challenges being experienced, this feels further away.

So, where are we today?

Innovation over the past decade or so, in the early phase of the transition, has delivered much in the way of positive change for our customers. Millions have started to access cleaner, cheaper energy solutions, predominantly through solar, and utility-scale renewables have grown rapidly in the National Electricity Market (NEM).

- In 2010, around 65,000 households in Australia had rooftop solar. Today, it's more than 3 million.
- In 2010, renewable energy represented less than 9% of the National Electricity Market. Today, it is closer to 30%.
- Australia now has the third highest per capital solar and wind generation output in the world.

At the same time, there have been major advancements in technology, particularly in the areas of battery storage, solar PV, and electric vehicles. For example, the costs of battery packs, one of the main components of storage systems, have declined by about 90 per cent over the past decade, and solar PV has declined a similar amount.

These achievements not only highlight the positive progress we have already made; they provide further confidence that we can achieve what we are setting out to do.

However, today we are experiencing an acute challenge in energy markets in Australia and across the world. This has been the result of a number of forces that have come together over recent times:

- Energy demand rebounded as the world came out of the pandemic lockdowns and this outstripped the ability of energy supply to respond, where in many cases investment in new supply had already been challenging.
- This was followed by Russia's invasion of Ukraine where global energy supply and security fears and a move away from Russian energy exports have

continued to drive up the price of all energy sources.

- And further, in Australia we have experienced coal power plant outages and coal supply issues, placing strain on electricity supply.

This has culminated in an extraordinary rise in commodity prices:

- Coal prices have more than tripled in 2022 to average as much as \$300/tonne.
- Oil has been hovering above US\$110 per barrel for many months compared with an average price of US\$80 per barrel last year.
- The price of lithium, a critical mineral for batteries, is nine times higher than it was at the start of last year.
- The wholesale price of electricity topped \$400 a megawatt hour across the main states in the National Electricity Market last week, compared with an average price of less than \$70 per megawatt hour last year.
- Spot gas prices on Australia's east coast have risen from less than \$10 a gigajoule at the start of this year to sit at between \$30 and \$50 a gigajoule in recent weeks.

At a time of very high prices, it is appropriate to ask: where to from here for our sector?

My belief is that we must continue to lean into the energy transition. The technological, economic, social, and environmental factors driving the transition are unstoppable forces and the advantages for customers and society over time are many. We therefore need to continue to drive towards those outcomes and deliver the transition at least-cost, in a way that is as smooth as possible, and as fair and equitable for all customers as we can.

But we must also act with urgency today, to address the immediate challenges and volatility facing the market.

These are highly uncertain times, and we have a responsibility to address our customers' very real concerns over the security, reliability, and affordability, of their energy supply today.

## **What is the energy transition?**

The energy transition is often talked about, but I'm not sure that what it means – the challenges, complexity, and opportunities it presents over a long period of time – are very well understood, particularly among customers. So, I would like to articulate how we think about the transition at Origin.

The energy transition is a multi-decade, large-scale, global transformation that will fundamentally change the way we source, produce, supply, distribute and

use energy. At its core, the transition requires us to progressively dismantle our old energy system and replace it with a new, low emissions one.

The scale of the transition for the energy sector represents an enormous opportunity between now and 2050:

- We estimate **\$120 trillion** will need to be invested in the energy sector to reach net zero.
- We estimate that with electrification will come a **tripling** of demand for electricity.
- Storage will need to grow **by a factor of 170**, there will be an **eight-fold** growth in renewables, and **significant** growth in hydrogen as a clean fuel source.
- Australia is a likely to be a significant exporter of hydrogen, given our renewable energy potential and geographic proximity to energy hungry, growing Asian markets.

This opportunity is very exciting but we should not underestimate the enormity of the challenge to successfully execute the engineering, construction and economic task associated with the transition.

We need to get this right for customers, as the consequences of not doing so are too great.

## **What do we need to do to stabilise markets today, and set up the transition to succeed?**

If we are to maintain a mandate from customers and the community to deliver a successful energy transition over time and achieve net zero, then we must first address the challenges facing the market today.

At the same time, we must continue to move expediently with the transition.

In practice this means delivering the necessary investment in renewable energy supply, firming (or dispatchable) generation, demand response and transmission necessary to underpin the new power system we are transitioning to. But also, recognising and acting to get our existing, yet ageing and sometimes unreliable, power system to perform the important role it needs to continue to undertake over the coming years.

Getting these two things right simultaneously will be critical if we are to protect customers from lumpy price rises that they cannot afford on the way through.

I'll now talk about the key action to stabilise markets today, along with the three things we need to do to deliver a successful transition over the longer-term.

**1) The first and most immediate priority is to increase the output from existing coal fire power stations.**

The important role of coal power in the system today has been brought into stark focus by recent events. Coal plants still supply some 65 per cent (or two-thirds) of electricity and today are very important to both reliability and affordability. Recent coal plant outages, and coal supply and price challenges, have been the main driver of the very high wholesale prices we're seeing. We must act swiftly, with industry and government working in concert, to bring as much coal supply back into the system as soon as possible, in order to put downwards pressure on the wholesale electricity price.

To do this, we also need to look at addressing some of the coal supply issues affecting the sector, including for example, acting with urgency to prioritise rail deliveries to coal fired power stations needing supply.

Getting coal plant back in the market, will also reduce the draw on gas-fired generation, alleviating some of the supply and price pressures in the gas market.

**2) Secondly, there is the vast build out of renewables that needs to be achieved in a relatively short period of time.**

The Federal Government aim is to achieve 82 per cent renewables in the electricity market by 2030. This is a strong and clear ambition for the sector to respond to, but a long way from the 30 per cent of the market renewables makes up today. Given the already high penetration of household solar, this will need to largely come from utility scale projects requiring grid connection. Page Break

In Australia, major projects have the propensity to cost more, and take considerably longer, than expected.

For Origin's part, we are keen to play a role. In recent months, we have acquired 800 MW of solar development projects, to add to a further 500 MW of development options already in place. We are excited to progress these projects and help to bring on more renewable capacity in the market. But we also remain mindful of the propensity for delays to projects, and the impact of inflationary pressures when delivering a major infrastructure roll out across the energy sector.

To support the rapid scaling of renewables supply, there is a need to maximise the efficiency, clarity and speed in the connection and planning approval

process for new developments. There also needs to be a clear framework for the timely allocation of offshore wind acreage, and its connection to the onshore transmission network.

### **3) Thirdly, critical to the build out of new renewable energy supply is the construction of additional transmission.**

The majority of new solar and wind developments will occur in regional areas. Connecting this supply to the major population centres, where demand is located, will require a \$70 billion investment in transmission, the Federal Government estimates.

Similar to the challenges with the renewables build, the risk is that these projects take longer, and cost more. Costs that are ultimately borne by customers on bills.

### **4) Noting the inherent variability of renewable energy, is the need to invest in new firming capacity to maintain reliable supply for customers.**

Balancing tighter supply and demand in the market is an increasingly complex challenge, with the back-up, or firming, of variable renewable supply met by a combination of technologies.

First, there will need to be substantially more storage added to the market, which can meet power needs when the wind is not blowing and the sun is not shining. Page Break

Other dispatchable assets that can respond to spikes in demand or supply-side issues are required too, particularly for longer durations when battery storage is not yet suitable. Pumped hydro is an important part of this equation, and there are several potential projects in the works, including an expansion of our Shoalhaven pumped hydro scheme in Kangaroo Valley, south of Sydney.

Gas peaking power stations will remain an essential part of the power system, particularly for when firming is needed over longer periods of time. Gas peakers can support the market over many days or weeks when batteries and pumped hydro alone cannot meet the market's needs. These assets may run only once or twice a year, or even not at all. But they must be available in the market to underpin security of supply for customers.

It's worth highlighting just how significant the role of gas has been in the power market over the past week. Across the National Electricity Market, gas fired generation accounted for 425 GWh of output – with Origin's gas fleet providing 145 GWh of this output, or almost 30 per cent of the total contribution by gas generation. Over June 2-June 3, our gas fleet (ORG GPG and tolling through Pelican Point) consumed 370 Terajoules of gas per day –

these are by all accounts, the biggest gas consumption days for power generation in any recent memory.

Significantly more firming capacity will be needed to support increased renewable supply as it comes online. Critical to the investment is the effective design and implementation of a new capacity mechanism to reward the key role these assets play in the market. We welcome the focus of the Federal Government and the Energy Security Board, on fast-tracking the development of a mechanism that supports long-term investments in this type of capacity.

Virtual power plants, or VPPs, will also play an important role in balancing supply and demand. For example, we've targeted growth in Origin's VPP to about 2 GW over coming years. There is significant, under-utilised capacity sitting in distributed energy assets in homes and businesses around the country. The technology that underpins VPPs enables us to aggregate and orchestrate these assets to help meet the needs of the market. Why is this important? Because by more effectively utilising all of the capacity already in the system, rather than just building new supply and transmission, we can potentially avoid some capital investment, which is ultimately paid for by customers. VPPs are a lower-cost, efficient way to help balance supply and demand in the market.

## **Role of gas**

I would like to touch briefly on the role of gas in the transition more broadly, as this is a complex issue that tends to attract a lot of debate.

Gas is critical to the energy system for the foreseeable future. As I've already mentioned, it is important for gas peaking to underpin reliable power supply for customers. It is also a major source of energy supply for heating homes in colder parts of the country, and for large businesses. In particular, it is a crucial input for many industrial processes with high heat load, for which today there is no clear, commercially viable alternative. In addition, it is a cleaner fuel than coal and safely transportable as LNG, so it can help displace more emissions intensive sources of energy in other nations that are also decarbonising.

Today, there are also challenges in the gas market, with tightness of supply in southern markets and high prices.

As with electricity, the immediate action required is to get more gas supply into the market. The east coast LNG producers have already responded to this call over the past week to support the domestic market with more gas. However, during peaks the pipeline carrying gas south reached its capacity.



So even if LNG producers were to divert more gas supply to the domestic market, there is a physical constraint at this point in time in getting it south from Queensland.

We need to acknowledge the important role gas will continue to play over the medium term, with governments and industry working together to ensure there are sufficient sources of gas to underpin security of supply for the domestic market. This will take more time, but it is the strongest action we can take to place downward pressure on prices for customers.

The role of gas in the energy system will undoubtedly reduce over time as more sectors electrify and as alternative renewable fuel sources mature. And this will be crucial to getting the economy to net zero emissions. But in the meantime, we simply cannot remove a fuel from the energy system, for which there is no viable alternative today. Indeed, I would go so far as to say it is irresponsible for people to suggest we can.

## **Reflections – what happens when we don't get it right**

Current events unfolding in Australia bear a close resemblance to what unfolded in the UK over recent months.

Extreme energy price volatility is pushing households into energy poverty and sending businesses to the wall. With inflation in the UK running at a 40-year high, living standards are falling. The cost of energy plays a large part in this inflation number, with households having faced a 54 per cent increase in their energy bills in April alone, and a doubling of these bills is forecast.

The impact of volatile energy prices and retail price caps, which limited the ability of retailers to recover higher energy costs led to thirty energy suppliers failing in the UK, leaving a very large number of customers being transferred to Suppliers of Last Resort, who then must match this new customer demand with supply sourced from the wholesale markets – at very high costs.

Governments and regulators have taken action to stabilise the UK market. For example, sharing the risk with retailers under the Supplier of Last Resort mechanism, recovered through a levy on bills, as well as tightening regulations for new business entrants. In addition, they are considering bringing forward the six-monthly price reviews for the price cap to quarterly, to shorten the lag time for retailers to recover higher costs.

Closer to home, we are already seeing similar impacts of high wholesale prices playing out. Two retailers have gone under, with the Retailer of Last Resort mechanism being utilised by the regulator. More than a dozen retailers have stopped selling discounted market offers in the market and are only offering

the mandated, regulated default tariffs. You would have also heard about several smaller retailers writing to their customers encouraging them to seek alternative providers to avoid near triple digit percentage price rises.

The risk is very high that small, exposed retailers will go under as they grapple with the significant increase in wholesale prices this year, just as we saw in the UK.

## **Conclusion**

We are in extraordinary times. And it does make me reflect on my comment at the beginning; with all this disruption, how do you think those not seated at the decision-making table are feeling?

Descriptors such as ‘apocalyptic’ and ‘chaos’ don’t really help the folks who aren’t in the room right now; our customers. However, we are in a position to act to stabilise a system that has been hit by a number of external shocks and protect customers from the worst impacts.

We must continue to lean into the transition, given its potential to improve outcomes across energy security, affordability and achieve emissions reduction over time.

But we must act with some urgency to stabilise markets today. First and foremost, by getting coal plant back online as quickly as possible to help stabilise the market and deliver some wholesale price relief. We must do this while at the same time rapidly accelerating the build of replacement renewable supply and firming.

We must progress a NEM-wide capacity mechanism and prioritise transmission augmentation. And we should also learn from the UK and look to improve the Retailer of Last Resort mechanism, while also fast-tracking the Australian Energy Regulator’s (AER) vulnerability strategy, to improve protections for customers. If we don’t progress these initiatives while addressing the immediate challenges in the market with some urgency, we risk losing our mandate to deliver the energy transition.

We must challenge ourselves, participants across the energy value chain, policy makers and governments to make the right choices that appropriately balance outcomes across decarbonisation, reliability, and affordability on behalf of customers.

As a collective, we must also be honest with our customers and the wider public not just about our ambition to get to net zero, but the challenges and trade-offs we must make along this journey. We must show tangible progress

on decarbonisation. And we must do so while showing care for our people affected by the transition.

There will be a cost of delivering the transition, and it will take time to get there, so we need to help them see that the end result will be worth it. And we must continue to take steps that ensure the most vulnerable members of our community will be supported and won't be left behind.

The energy transition, executed well, is crucial for the planet. It can transform lives and businesses, in a good way. It will deliver many benefits to customers.

Our purpose at Origin is to get energy right for our customers, communities, and planet. It's an aspiration that acknowledges that we're not there yet, and it's one where our customers come first.

ENDS

[Results And Reports](#)

[Speeches Presentations](#)

---

[Next Article](#)

## Supporting all customers through the energy transition

Origin Energy Executive General Manager, Retail Jon Briskin's speech at Australian Energy, 8 June, 2022.

### Home

[Move house](#)

[Electricity & gas](#)

[Solar & batteries](#)

[LPG](#)

### Business

[Move premises](#)

[Electricity & gas](#)

[Solar](#)

[LPG](#)

Internet

Electricity for apartments

Hot water for apartments

Meter connections

Home assist

## Help

Help & support

Financial assistance

Outages & emergencies

Sitemap

Pay a bill

## Sustainability

Greener energy options

Virtual power plant

Electric vehicles

Origin Zero

## Rewards

Everyday Rewards

Origin Spike

Fuel offer

## Origin

About

Blog

Origin Foundation

Careers

## Legal

Privacy

Terms of use

Terms & conditions

Residential plan documents

Business plan documents



**Where all good change starts**

We acknowledge the Traditional Owners of the land where we work and live. We pay our respects to Elders past, present and emerging. We celebrate the stories, culture and traditions of Aboriginal and Torres Strait Islander Elders of all communities who also work and live on this land.