



# Australian Energy Week 2025

## Speech by Andrew Bills

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**Topic:** *Distribution networks and the case for change in a rapidly evolving energy landscape*



Good morning, everyone.

Let me start with the obvious — yes, that is a superhero on the screen behind me. And no — we don't think becoming a Distribution System Operator gives us superpowers. But if it *did*, ours would be using every part of the network to deliver better outcomes for customers — not exactly Marvel movie material, but still important.

In South Australia, we're proud to be Australia's most advanced *Distribution System Operator* — or DSO.

Now, I know "DSO" can mean different things to different people. Let's not get too hung up on the term.

What does it mean to us?

It means we're not just managing poles and wires anymore.

We're managing a system. We're actively taking part in the orchestration of how energy flows — not just from large generators to homes, but from homes, from businesses, and back again — all in real time, and all to ensure the system stays reliable and delivers value.

Some see it as a future model. Some as a set of technical functions.

To us in South Australia, it's not a concept — it's the job we're doing right now, and we'll continue to do more of.

But more importantly — for customers — it means we are doing *more with what we've got*. We're working the system harder and smarter, to unlock the full value of the infrastructure and in-home technology that customers have already paid for. And in doing so, we can make their lives simpler, more sustainable, and more affordable.

This shift wasn't optional. It was born of necessity — because South Australian customers led the way.

They installed rooftop solar at world-leading rates. They invested in batteries and began to adopt new technologies.

And while much of the energy sector has been asking, “*What does the future look like?*” in South Australia, we've been living it — and adapting in real time.

We as an industry have spent years talking about this shift — consulting on it, reviewing it, modelling it.

Meanwhile, the cost of living has risen. Customer expectations aren't being met. And the need for action has only grown.

The time of pondering “how do we shift?” is gone.

We don't claim to have it all figured out.

We are still learning. Still evolving.

But we know that in this transition, waiting for perfection isn't an option.

Because every delay adds complexity, cost — and missed opportunity — for customers, businesses, and the economy.

In South Australia, we've had to get on with the job.

And along the way, we've learned a few things — about what's working, and what still needs to change.

Because to realise the full potential of a smart, flexible, customer-led energy system — there are four big shifts we still need to make.

I'll come back to those.



Now, let me explain why we couldn't afford to wait.

Because Australia isn't like other countries.

Our energy prices are amongst the highest in the world — not because of the transition, but because of what we're still relying on to meet demand.

Our geography means higher infrastructure costs.

Our population is sparse, and the distances we cover are vast.

But the real kicker is our demand profile.

In South Australia, our peak energy demand is more than double our average.

We've had to build a system for the peaks — those few critical hours each year when everything is running full tilt.

That's expensive. And it's a cost that lands squarely on customers — many of whom are trying to do the right thing, but are navigating a complex system that often leaves them without the benefits they expected.

South Australians have embraced change.

And we've had the policy environment to support that — with generous incentives and strong, bipartisan backing for renewables.

But here's the problem:

Even with all that customer-led investment, bills are still rising.

The energy landscape is becoming more complex, not less.

And people are wondering — rightly — when they'll see the benefit.

They've been led to believe, not through deceit, but through mixed messages, that the shift to renewables would bring quick wins – and by quick wins, they thought much cheaper power.

Instead, it feels like they've done their bit, and the system hasn't caught up.

That gap — between expectation and lived experience — is precarious.

Meanwhile, the broader industry is still grappling with fundamentals.

We don't have consensus on where firm generation should come from.

We haven't struck the right balance between managing demand and building supply.

And while we're reviewing, consulting, and modelling — prices are going up, cost of living pressure is mounting, and the opportunity cost of inaction keeps climbing.



So, in South Australia, we've had to make some hard calls.

We could restrict customer choice.

We could spend billions upgrading the network to meet rising demand — because right now, the distribution system delivers around 20% of the State's end-use energy, but that could grow to 60% as our substations become the petrol stations of the future and more customers electrify their homes, vehicles, and businesses.

That's a burning platform.

We can't just scale the old model.

The cost would be enormous.

Or — we could make customers part of the solution.

That's the path we've chosen.

Because the alternative isn't just expensive — it's unsustainable.

If we don't integrate customer energy resources effectively — if we can't orchestrate when and where power flows — we risk a future where renewables are wasted and substituted with more carbon-intensive alternatives.

A future where investment is stranded.

Where people go it alone, not because they want to, but because they feel like they have no other choice.

Where the gap widens between those who can afford to supply their own energy and those who can't — effectively creating new energy "haves" and "have-nots," deepening social divisions and undermining the fairness of our energy system.

And if that happens, we'll see the grid become more expensive for those still relying on it.

We'll see trust erode.

And we'll risk missing our net zero targets — or at the very least, making the journey far more costly than it needs to be.

But here's the upside:

If we get this right — if we orchestrate and incentivize demand-side flexibility and make better use of the system we already have —

We can help achieve net zero at the lowest possible cost.

We can avoid overbuilding.

We can do our bit to protect affordability.

And we can ensure the energy transition delivers benefits not just for some, but for all.

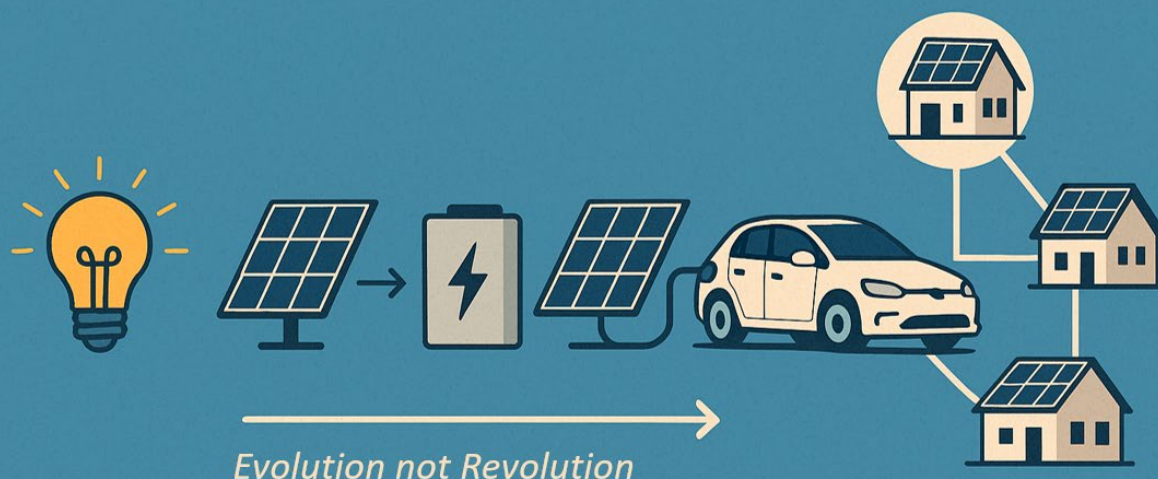
Think of it this way:

Customers investing in their own energy resources is like households planting apple trees in their backyards instead of buying apples from the store. These trees often produce more apples than one family can consume, leading to sharing with neighbours or selling the surplus. But this only works if there's a system in place — like a local market — that allows for sharing and trading excess apples.

Similarly, as more people generate their own electricity, they need a grid that supports not just consumption but also sharing and distribution. Without adapting our energy "marketplace," we risk wasting valuable resources and excluding those who can't grow their own "apples."

That's why we're acting now.

## The Question | how do we shift?



So how are we avoiding rising costs and growing complexity — and instead turning our natural advantages into lasting economic value?

We don't think we need to reinvent the network.

We don't even think we need to reengineer it.

We see a future where smart demand meets smart supply — so we build and waste less than we would otherwise need to, and everyone benefits.

We think we can get 90% of the way there with some surprisingly simple shifts — smarter use of data, targeted customer incentives, better coordination, and unlocking flexibility that already exists in the system.

And we know it's possible — because we're already doing it in South Australia.

We're working toward a future that's simpler, more sustainable, and more affordable.

A system that works *with* customers — not around them.

Where value is shared, not stranded.

Where trust is built by doing, not promising.

This isn't theory. It's happening now.

And I want to show you what it looks like.

## The Answer | The DSO Evolution



At its core, it comes down to three things:

### **First — flexible connections.**

This is where the rubber hits the road. Flexible connections are how we make all the back-of-house orchestration real for customers.

We've already introduced flexible exports for solar, which enables customers to continue investing in solar, while also protecting system security.

Next, we're working on demand flexibility — piloting this right now through our *Energy Masters* project. And by the end of 2025, we'll offer fully flexible connections for commercial and industrial customers.

The key enabler here is something called a *Dynamic Operating Envelope*. It sounds technical — and it is — but at its heart, it's a way of giving each customer clear, real-time signals about how much energy they can use or export at any given time, based on what the network can handle.

It's like replacing static speed limits with smart signs that adapt to road conditions — opening capacity when it's available, pulling back when it's not, and keeping the whole system moving safely.

And from a customer's perspective, it's simple, streamlined and effortless.

Imagine you've signed up through your energy provider to make your home a little more flexible. You've got smart appliances, and you've opted in to allow your EV charger, battery, or air conditioner to automatically adjust at certain times, based on preferences you've set in an app.

Once you've made that choice, it's set and forget.

Behind the scenes, the technology shifts energy use to times when renewable energy is plentiful, or when the network is under less pressure — like delaying your EV charging until later in the evening, or nudging your air-conditioner by a couple of degrees.

In return, you get a reward — a credit on your bill, a rebate, or a financial incentive.

And importantly, you stay in control. You can update your settings any time, scale your participation up or down, or even opt out of specific events — though you might forgo your reward for that period.

It's not about micromanaging your usage. It's about letting your home work smarter in the background, based on your preferences.

Small, automated actions that add up to big system benefits — reduced peak demand, lower emissions, and lower costs.

So flexible connections define the *guard rails* of the network — and reward customers for staying within them.

### **Next — we build on that with local flexibility marketplaces.**

If flexible connections are the guard rails, flexibility marketplaces are what make them wider.

Of course, Virtual Power Plants — or VPPs — already exist. Aggregators bundle up customers with batteries, and trade that flexibility into the wholesale market.

But what's new — and what's powerful — is the ability to make that trade local, and extend it to ALL consumer energy resources.

Instead of only selling into the national market, we want those same VPPs to be able to trade with us — the local network — when and where we need support.

Right now, when parts of the network get congested, the traditional solution is to build more infrastructure. We want to put customer flexibility on an equal footing with traditional infrastructure upgrades.

Where it's economical, we could pay people to help relieve grid congestion — using the smart technology they already have.

Here's how it works.

Let's say a suburb is reaching its network limit — lots of air con on, batteries charging, and solar exporting. As the DSO, we publish that local constraint.

Then aggregators — the VPP operators — can bid in to help. Maybe it's discharging home batteries, or shifting EV charging to later in the evening. In return, they get paid — and those payments flow through to customers who've opted in.

From a customer's point of view, it's still set-and-forget. But now, there's another source of value — not just from the wholesale market, but from being able to help manage the local grid

This shift is important. Because right now, only about one in five households with a battery are in a VPP. The economics aren't always strong enough.

But introduce local flexibility markets — and suddenly, aggregators have an additional revenue stream. That makes it more viable for them to grow, and more rewarding for customers to participate.

We intend to trial this through our *Innovation Fund* in 2026 — building the tools to publish constraints and invite local solutions.

And we're learning from leaders like the UK, tailoring a model that fits our Australian context.

In simple terms:

We're opening up a new local market — where customers get paid to help manage the grid. And everyone benefits.

**And finally — system integration.**

This is where it all comes together.

Because the reality is — all this flexibility is only valuable if it can be seen, trusted, and coordinated across the broader market.

We now live in a world where generation is increasingly distributed, not centralised. That means system security depends on being able to match generation and demand in real time, across every level of the system — from the transmission grid to individual homes.

But right now, the National Electricity Market has limited visibility over the huge volumes of smart technology connected at the distribution level — and even less ability to direct or coordinate them.

That's not just a technical gap. It's a lost opportunity.

We believe DSOs have a critical role to play in closing that gap — by providing AEMO and market bodies with the visibility they need through data sharing, and by unlocking new ways for customers to actively participate in the wholesale market, using our network technologies as one of the enabling platforms.

We're already trialling this through our *Market-Active Solar* project — a partnership with ARENA and leading retailers.

In this trial, customers are actively participating in the market. They are being rewarded for enrolling their rooftop solar to respond to market prices, using our flexible export connection as the technical backbone.

Retailers manage the interaction, and we make sure it's safe and feasible from a network perspective.

It's a real-time connection between customers, networks, and the market — and a powerful example of what system integration can look like in practice.

Because when we integrate these functions properly, we avoid duplication. We reduce inefficiency. We unlock visibility and value all the way up and down the system.

**And this is the key point:**

Each of these three elements — flexible connections, local flexibility marketplaces, and system integration — deliver value on their own.

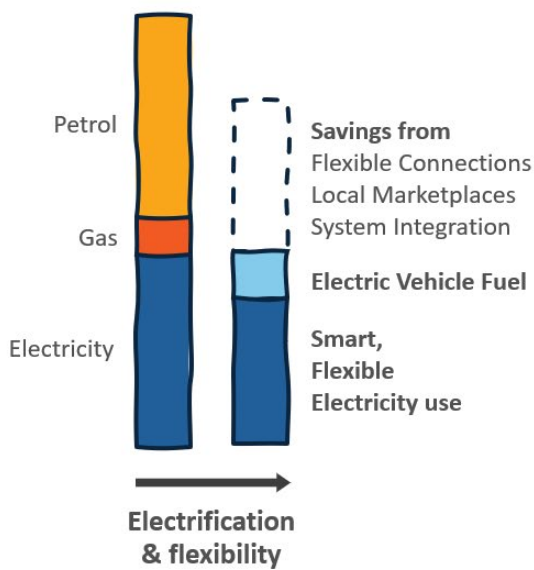
But when we combine them into a single, coordinated operating model, we unlock the full value stack.

That's what delivers savings for households. That's what makes new business models viable. That's what builds trust with market bodies and customers alike.

We don't need to wait for a new system. We already have the sandbox to test new ideas and approaches — a clear blueprint which guides us as we develop flexible connections, local marketplaces, and system integration.

## What's in it for customers?

Savings, simplicity, equity, sustainability



What does this really mean — for energy businesses, market bodies, and most importantly, everyday customers?

In a sense, our job as networks is clear: take all the tech and flexibility talk, and turn it into real, everyday value people can actually feel. That means real savings, real simplicity, and real sustainability.

We know customers aren't all the same. But for most, it boils down to three things: value for money, reliability, simple options and doing right by the planet.

On the screen, you'll see a simple picture of this.

The first bar shows what a typical household pays now — electricity, gas, petrol — a big chunk of the budget.

The second bar shows what happens when that household goes all-electric — no more gas or petrol bills, just electricity and flexibility with simple customer offers.

Where do those savings come from? The three places I discussed earlier:

- Clever in-home tech that helps optimise energy use (Flexible Connections)
- Using network flexibility instead of expensive upgrades (Flexibility Marketplaces)
- Smarter market and retailer moves (System Integration)

This isn't just theory — projects like Energy Masters are already crunching the numbers to prove it.

While this picture focuses on financial benefit, there are other big wins too:

- Making life easier, so customers don't have to constantly worry about their energy use
- Hitting our net zero goals in a much smoother way
- Ensuring the energy transition is fair — so no one is left behind, and all customers, regardless of income or postcode, can share in the benefits of a smarter, more flexible system.

But it's not all smooth sailing.

We do have challenges: making sure the tech works for everyone, pricing signals that truly reward flexibility, policies to help those who can't afford the tech, and incentives for networks to support solutions beyond just infrastructure.

And we need the right rules to keep progress moving, now — without getting stuck in endless debates and reviews.

To be clear - we're not here to constrain customer choice or to lock anyone in. On the contrary, this approach enables and rewards people's preferences — whether that's using more clean energy, shifting when they consume, or tapping into new tech that suits their lifestyle.

Beyond the household, this flexibility and smarter use of energy networks also supports Australia's productivity and economic growth. By making the energy system more efficient and adaptable, we help businesses run smoother, reduce costs, and open the door for new industries and jobs. In short, it helps the whole economy move forward, without the energy system holding it back.

We're not tearing down the system and starting over. It's an evolution, not a revolution.

We're making smart, practical tweaks — doable changes that unlock huge value for customers and the system.



## If you take away one thing

1. Interoperability
2. Retail pricing that works for customers + better access to technology
3. True Integrated System Planning
4. Regulate to make flexibility an obvious investment choice

### So what does this all mean?

It means we can do a lot with the system we already have.  
But not everything.

In South Australia, we've been testing our powers under pressure.

We've proven that it's possible to build a smarter, more flexible grid — even within today's market and regulatory settings.

But let's be honest: we didn't do it because we had a vision board.

We did it because we had to. The burning platform arrived early.  
We just had to get on with it.

That platform is coming for other jurisdictions too — whether it's solar congestion, minimum demand, or rising system costs.

The good news is, you don't have to wait for the fire.

You've got a head start. You can use what we've learned to plan ahead, build smarter — and leap over some of the hurdles we had to crash through.

But only if we're all willing to accelerate and stay the course of a couple of critical changes underway:

### **First — we need interoperability**

Because no matter what other reforms we make — to markets, pricing, or regulation — it all boils down to technology.

If the devices can't talk to each other, if the data doesn't flow, if systems don't work together — the whole thing falls over.

South Australia's flexible exports worked because we didn't just hope for alignment — we built it in, through clear standards and legislation to enforce them.

And now, the good news: change is already underway.

We're actively contributing to the national effort to ensure nationally consistent interoperability standards are put in place. We paved the way with our work on solar interoperability with flexible exports, now we're working with Standards Australia to make it happen for other appliances in the home.

Interoperability is the bedrock. Everything else builds on that.

### **Second — we need retail pricing reform that works for customers.**

Retail pricing has come a long way — but not far enough.

We moved from flat rates to time-of-use pricing, to try and nudge people to shift their energy use. But for many, that's just not practical or even possible. They don't have the time to respond manually — or the technology to respond automatically.

So the promise of flexibility remains out of reach for too many.

Because if the burden stays on the customer, we'll never unlock the full potential of demand-side participation.

Now think about how mobile phone plans have evolved.

They used to be rigid — a set number of minutes, texts, and megabytes.

But as the tech got smarter, the offers got smarter too.

That's what energy needs.

Retail offers that use smart technology to automatically shift demand and reward flexibility. Simple. Seamless. No spreadsheets required.

There's no shortage of retailers. So why do most offers still look the same?

Because until the enabling technology is more accessible, retailers can't innovate at scale.

And customers can't participate — or benefit — without the right tools.

That's where government has a critical role to play.

With targeted policy and budget support, we can make smart appliances, energy management systems, and automated controls available to more Australians. The *Cheaper Home Batteries Program* is an encouraging example of this.

The encouraging news is: momentum is building.

I'm proud to be on the Advisory Group for the AEMC's pricing review — helping shape reforms that will make smart pricing accessible and meaningful for all customers.

Because flexibility isn't just a market opportunity — it's a fairness issue.

### **Third — we need to better balance the investment signals**

Right now, most of our energy planning and investment signals are still directed at the supply side.

We're channelling billions of customer-funded dollars into large-scale generation — while overlooking the fastest, lowest-cost resources on the demand side: rooftop solar, home batteries, flexible demand, and energy efficiency.

This isn't about choosing one over the other — it's about creating a balanced system.

If we want a truly efficient, least-cost transition, demand-side resources need to be valued and integrated right from the start — not as an afterthought.

That means evolving to a real Integrated System Plan.

One that puts distributed energy and flexible demand on equal footing with utility-scale supply.

Where market signals support a genuinely optimised mix — not just more megawatts, but smarter megawatts.

And we're contributing to that evolution.

Our team is closely engaged with AEMO on how demand-side resources can be better integrated into the 2026 ISP and beyond — not just as an input datapoint, but as an investment lever.

Because until we do, we're asking customers to fund a system that isn't working as hard — or as smart — as it could.

### **And fourth — we need network regulation that makes flexibility an obvious choice**

We need improved structures to support innovation, that don't limit, but unlock scope to experiment on the things that will add the most value for customers

That includes the regulatory environment supporting us to prioritise investment in flexibility now — to avoid overbuilding the network.

Let's give them the rules — and the runway — to do that.

We're actively involved in a range of activities related to the Ministerial Council's National CER Roadmap to inform our future role and incentives — to deliver lower-cost, lower-carbon outcomes for customers.

Affordable, reliable, sustainable energy is possible.  
And DSOs will be the quiet heroes who make it happen.

No capes. No spotlights.  
Just smart systems. Smart regulation. Smart options for customers.

It isn't about one part of the system over the other, but rather a whole of market collaboration.

Let's get on with it. Together.  
Thank you.

**ENDS**