

Energy flexibility in commercial buildings

NABERS Feasibility Study launch

31 July 2026



ACKNOWLEDGEMENT OF COUNTRY.

We acknowledge that we meet today
on many Aboriginal lands.

We pay respect to the Traditional
Custodians of the lands on which we
meet, and we acknowledge any
Aboriginal people joining us today.





ENERGY FLEXIBILITY IN COMMERCIAL BUILDINGS

NABERS Feasibility Study



July 2026

nabers.gov.au

Agenda

1. What is energy flexibility
2. Overview of the NABERS Energy Flexibility Feasibility Study
3. Key insights
4. Our program of work
5. The benefits of energy flexibility
6. Discussion & questions

Housekeeping



Turn your cameras on if you're comfortable.



Microphones are muted.



The presentation is being recorded.



Post questions in the Q&A, upvote ones you'd like to hear.



We will share the slides and recording after the meeting.

Today you'll hear from



Magali Wardle
Director, NABERS



Rachel Montgomery
Energy flexibility lead,
NABERS



Nova Franklin
Principal strategic
designer, NABERS



Alex Sear
Director - Energy sector
lead, ADP Consulting

Introduction from the Director



Magali Wardle



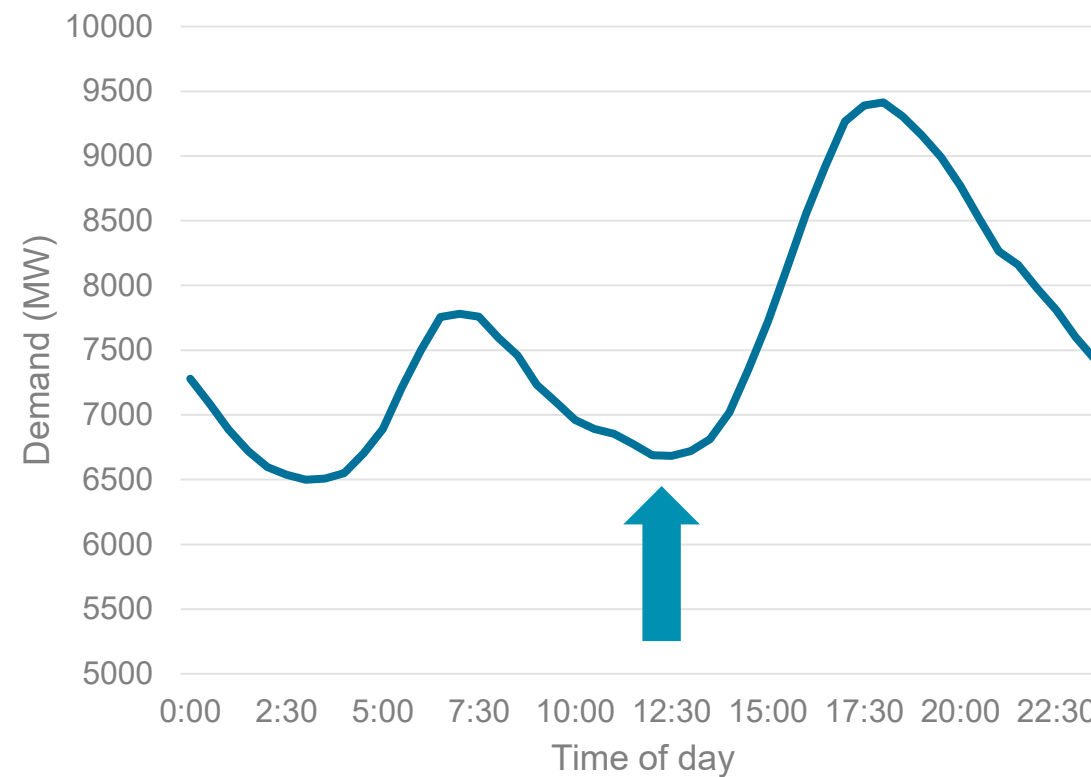


01 | What is energy flexibility?

Australia needs to
transition to a stable grid
powered by renewables,
but getting there is not
straightforward.

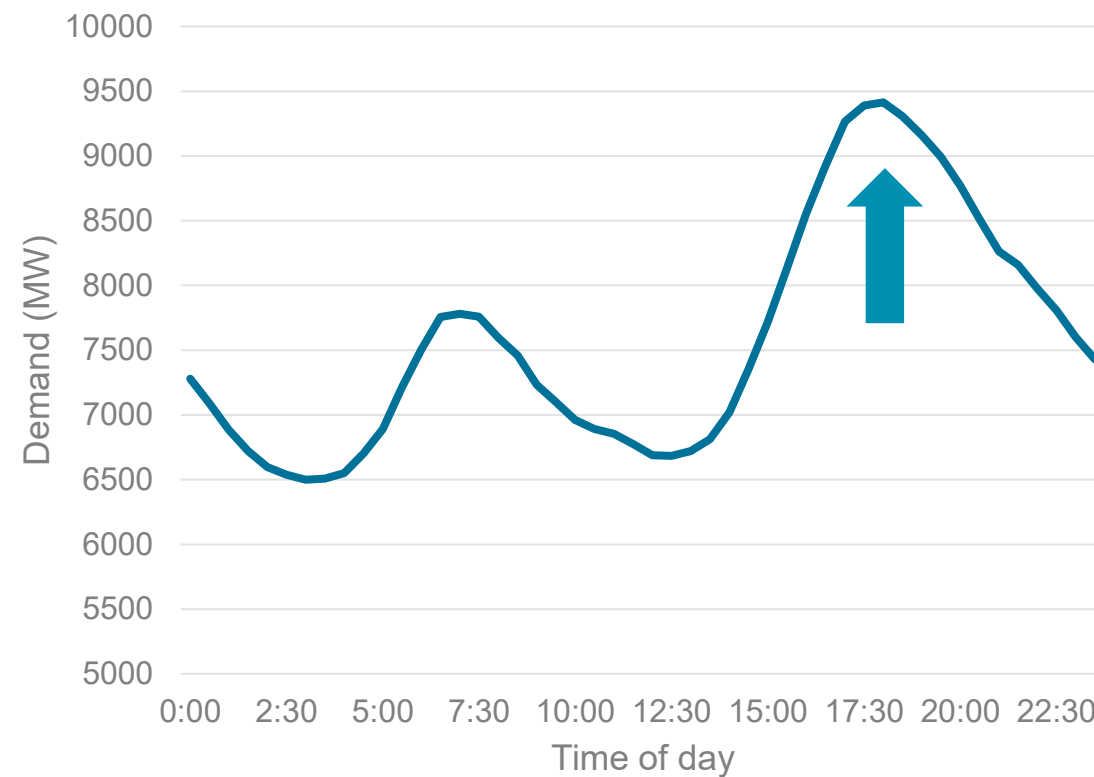
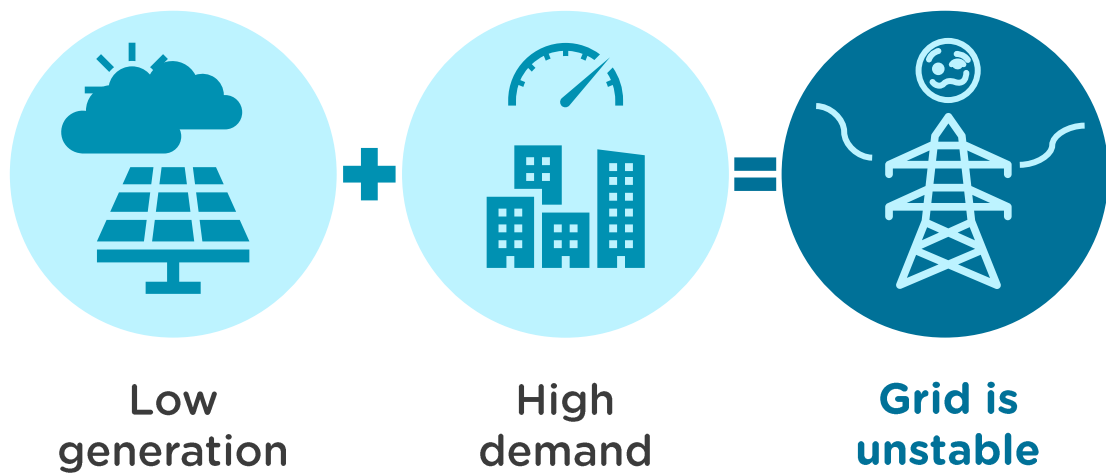
Supply and demand can be misaligned

When there's...



Supply and demand can be misaligned

When there's...



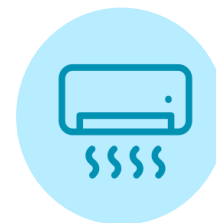
The electricity grid will continue to change



Electrification



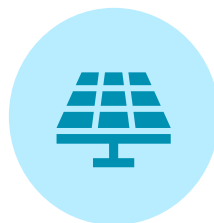
EV charging



Harsher climates



More data
centres

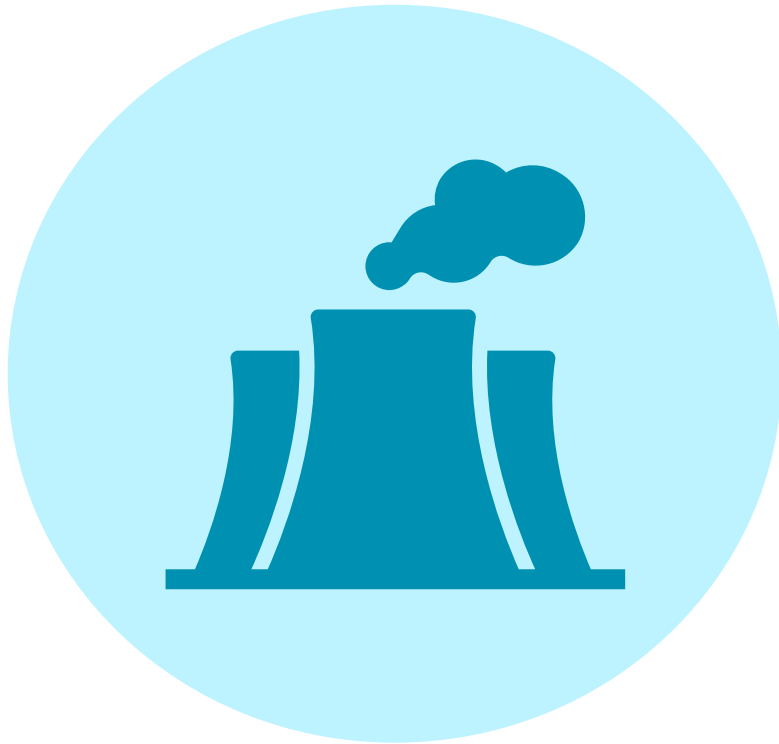


Added
renewables

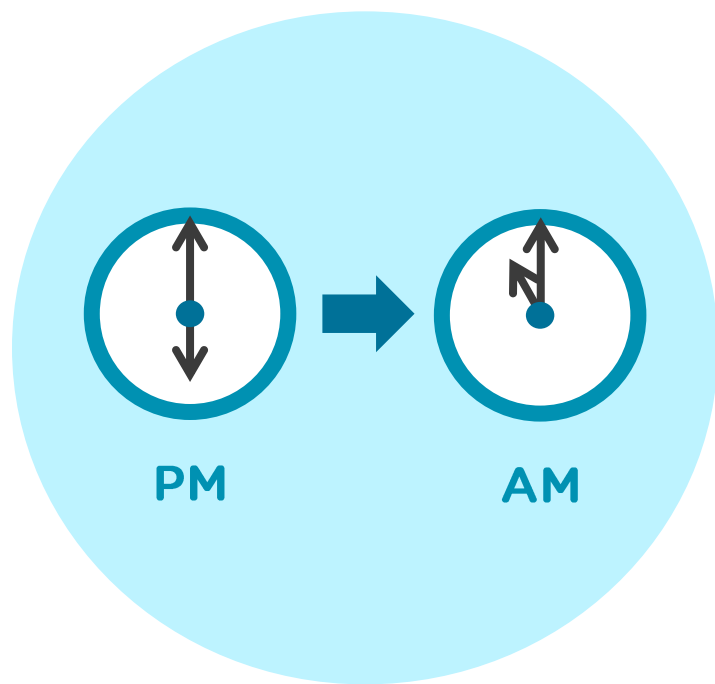


Battery uptake

There are expensive options

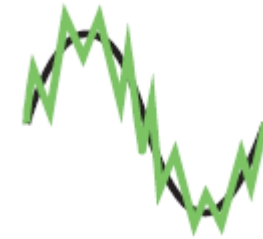
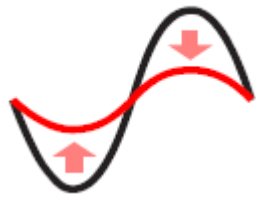


Energy flexibility is cheaper and faster



Energy flexibility sees consumers **change when they use, store and share** electricity to support the transition to a stable, renewable, lower emissions grid.

There's different types of flexing



Shape

Shift

Shed

Shimmy

Years

Months

Days

AM/PM

Hours

Minutes

Seconds

Source: UTS



02 | NABERS Energy Flexibility Feasibility Study

Last year, we set out to understand
how we could - and if we should -
incentivise commercial buildings to be flexible.

We are consulting widely

72

Stakeholders

36

Entities

65

Reports, podcasts
and articles

Including:

Building owners and operators

System operators and planners

Federal and State Government representatives & advisors

Energy retailers and energy service providers

Peak bodies & research and innovation organisations

Building services consultants

The report outlines what we learnt and how we are moving forward

Section 1

What flexibility is and why it matters.

Section 2

What NABERS is working on.

Section 3

How commercial buildings can flex.

The challenges, drivers and enablers.



03 | Key Insights

Energy flexibility can
deliver significant benefits

Buildings benefit from being flexible



Lower their
emissions



Save and
make money



Support a
stable grid

There are also system-wide benefits



By being flexible, consumers can deliver substantial **grid emissions reductions**, **economic benefits** and **grid reliability**.

Encouraging consumers to flex could generate over \$19 billion in economic benefits by 2040 while improving system reliability and reducing emissions.

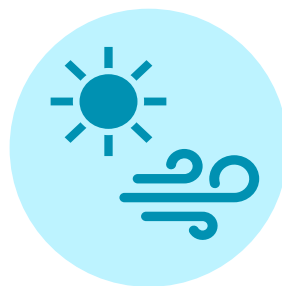
Institute for Energy Economics and Financial Analysis (IEEFA) 2024

There are **3 ways**
commercial buildings can
be flexible

3 ways commercial buildings can flex



Be energy efficient



Move loads from peaks
to times renewables are
plentiful

Shift

Shape



Provide grid stability
services: demand
response and FCAS

Shed

Shimmy

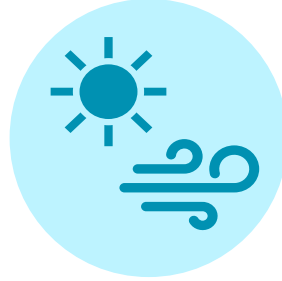
Few commercial buildings are flexing



Be energy efficient



Established,
driven by
NABERS



Move loads from peaks
to times renewables are
plentiful



Early experimentation,
but operationally
challenging



Provide grid stability
services: demand
response and FCAS



Some buildings
with batteries

Barriers need to be addressed to boost uptake

Some perceive this as a grid, not a building problem.

Other challenges include:



Limited (but growing) awareness



Competing priorities



Capability gaps



Uncertain financial returns



Concerns about tenant comfort and business continuity



Technology challenges, and



Few environmental, societal and governance (ESG) drivers.

More buildings will flex as
drivers and enablers emerge

The business case is strengthening

Evidence is emerging that shows flexing can be lucrative.

- Time of use tariffs
- VPP offerings
- Equipment incentives
- Market mechanisms.





Case studies
and guides will
support project
teams

<https://www.adpconsulting.com/techpapers/think-deeper-orchestrated-energy/>

Upcoming changes will boost ESG offering



NCC 2025 energy monitoring requirements



The shift from “100% renewable energy” to “true zero”



Scope 2 reporting changes under the GHG Protocol



AEMO’s forthcoming *Demand-side Statement of Opportunities*



Time-matched Renewable Electricity Guarantee of Origin (REGO) certificates



Australian Government expectations for data centres

Most stakeholders believe
NABERS has a role to play

An opportunity for NABERS to act



There's **no standard**
to measure flexing



We have a strong
reputation for
developing
impactful metrics



Stakeholders
believe **we are**
uniquely placed
to act

Our role is to...



- Ensure NABERS Energy is fit-for-purpose to drive decarbonisation towards 2050.
- Recognise and drive energy flexibility.
- Provide a trusted, consistent standard to support policy and build industry confidence.



04 | Our program of work

We've already started on our 3 priorities

1.



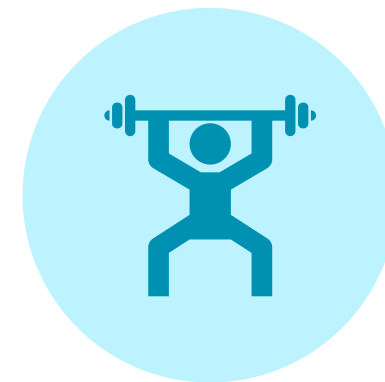
Review NABERS Energy rules so **star ratings do not drop** due to flexing.

2.

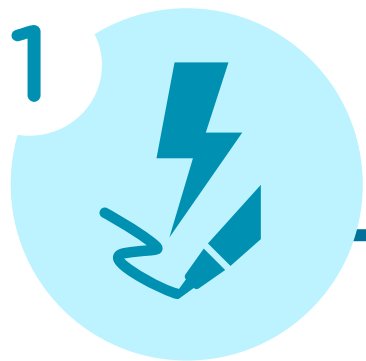


Co-design and **develop metrics** that recognise flexing.

3.



Strengthen **market capability**.



1

Reviewing NABERS Energy

We're focusing on the impact of **battery losses** on star ratings first.



Co-designing energy flexibility metrics

Over the next 12 months we will:

1. Create several **proof-of-concept** (PoC) metrics using real building consumption and grid data.
2. **Work with stakeholders to refine each PoC** so that it's impactful, robust, trusted, aligned, and supports building stakeholder's goals.
3. Agree on a short list of metrics to **take into detailed design and development**.

2



We'll test several concepts with real data

Initial concepts we are exploring include:



Modified Renewable Energy Indicator (REI)



Load shifting indicator



Building peak reduction indicator



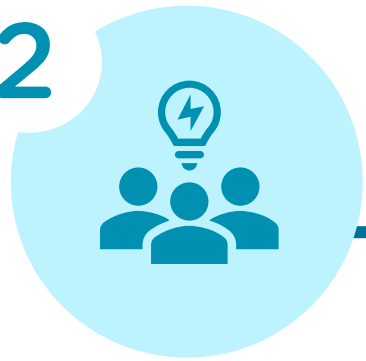
Grid stress indicator



Updated energy star ratings (unlikely)



We won't explore a capability-based stamp ❌



There's lots to consider

Data granularity

Fossil fuel use

Defining when:

- Renewables are most plentiful
 - The grid is stressed

Fairly comparing buildings



Strengthen market capability

- Share our feasibility study findings widely.
- Support research to quantify the impact of commercial buildings' flexing.
- Support energy flexibility capability initiatives.
- Participate in forums & communities of practice to share learnings, participate in conversations, and track developments
- Continue to track developments.

We're talking with building stakeholders, policy makers and flexing professionals, among others.

We'd love to hear from you if we haven't already.

Contact:

rachel.montgomery@nabers.gov.au

nova.franklin@nabers.gov.au

05

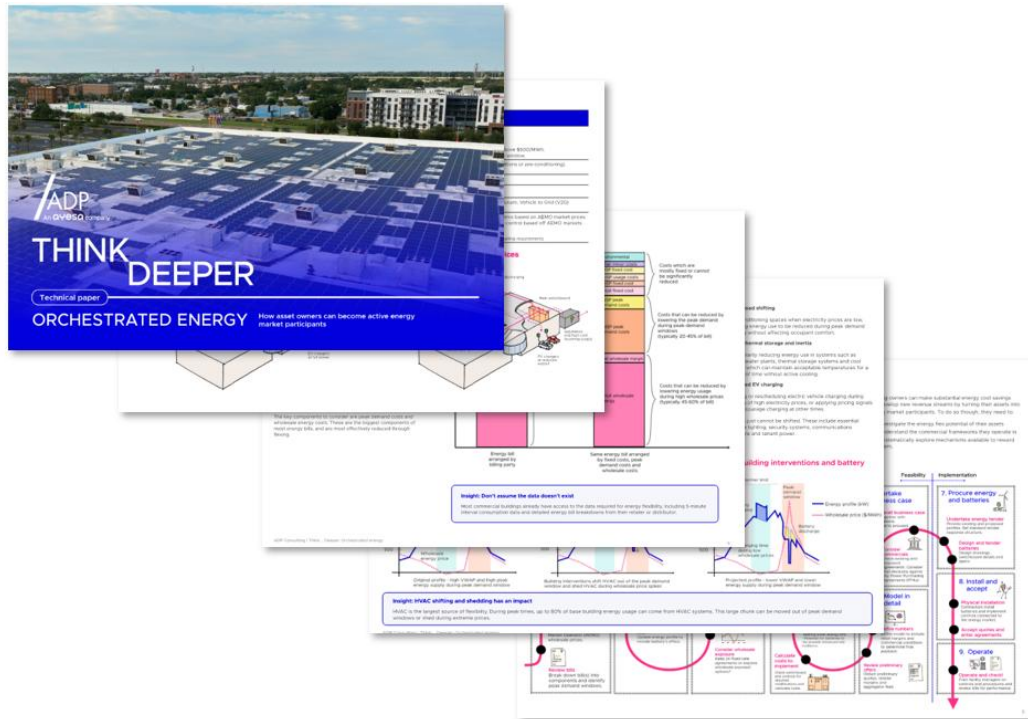
The benefits of energy flexibility



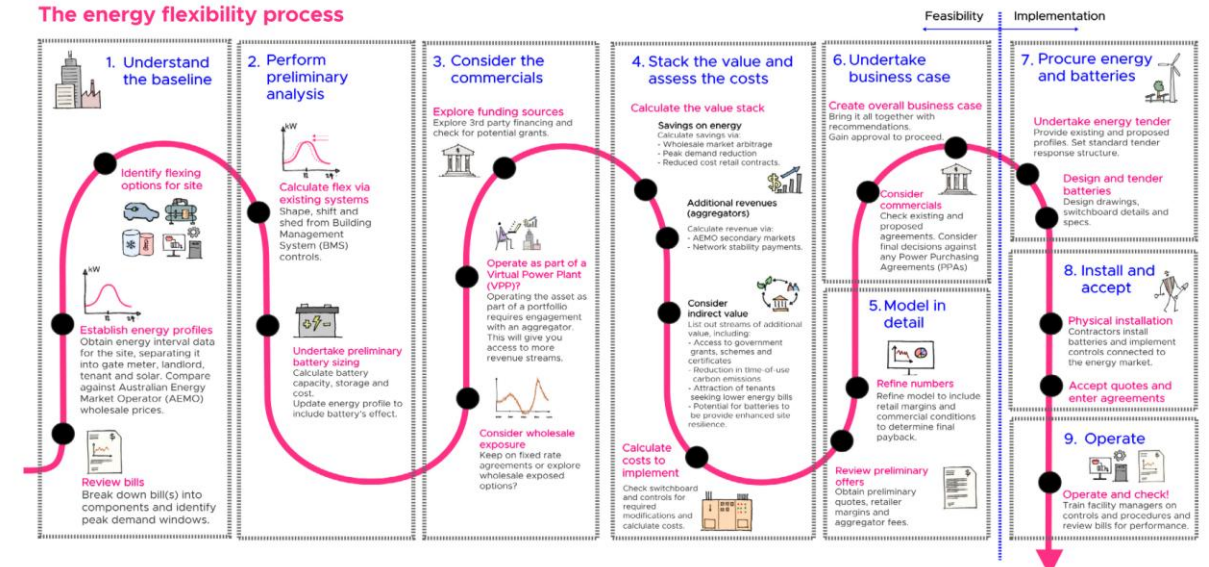
Presented by Alex Sear
Director - Energy sector lead
ADP Consulting

ADP – Orchestrated Energy

A practical guide for how to gain real value through flexing with the grid.

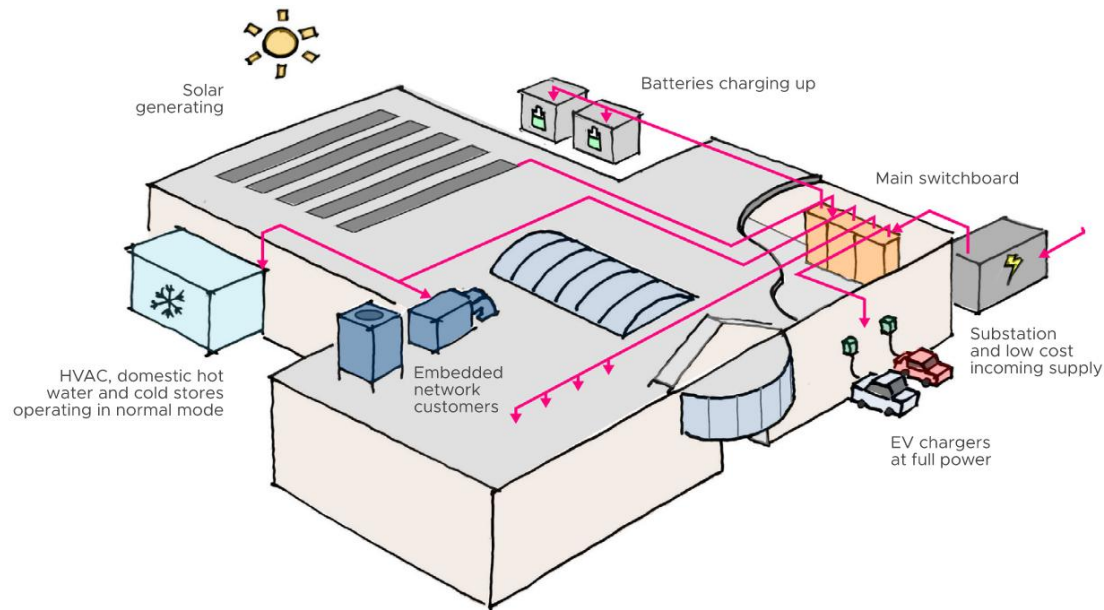


The energy flexibility process



Ingredients of a lucrative flexing strategy

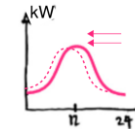
Buildings have many moving components.



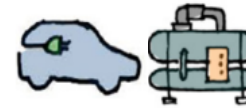
It can be complex....

But for the right buildings, flexing can cut energy bills by up to a third, and batteries can pay for themselves in under 4 years.

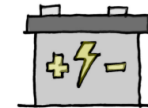
For it all to work together, we need to:



Understand energy profiles and solar generation



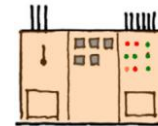
Identify loads that can be flexed



Appropriately size batteries, and minimise their costs



Understand energy bills and the energy market, and undertake informed energy procurement.



Work within a site's limitations

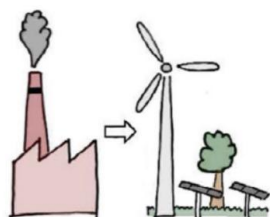


Implement works, controls and commercial arrangements successfully

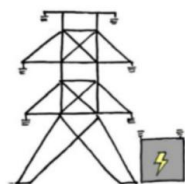
The five-minute energy market



AEMO
(Australian energy market operator)
Manages the NEM (National energy network)



Transitioning
energy grid



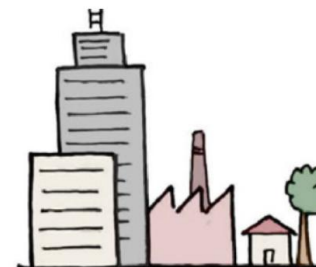
Transmission
Network Service
Operators



Distribution
Network Service
Operators



Retailers



Asset owners



Customers

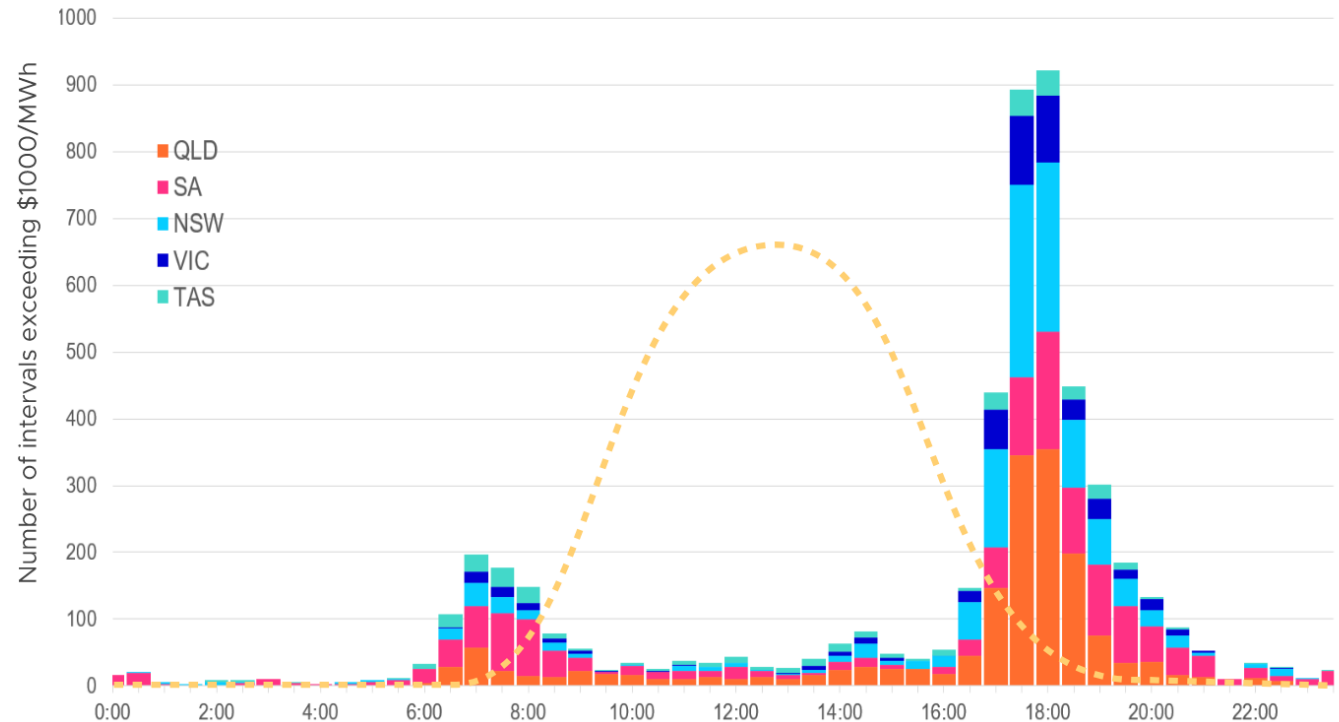
Store during the day, discharge in the evening

Energy price basics

- Every five minutes the AEMO wholesale energy market is updated.
- Wholesale energy costs = energy price * usage at that time.
- When the sun shines energy is cheap.
- When solar drops off energy price rise
- Price spikes sometimes occur when supply struggles to keep up with demand.

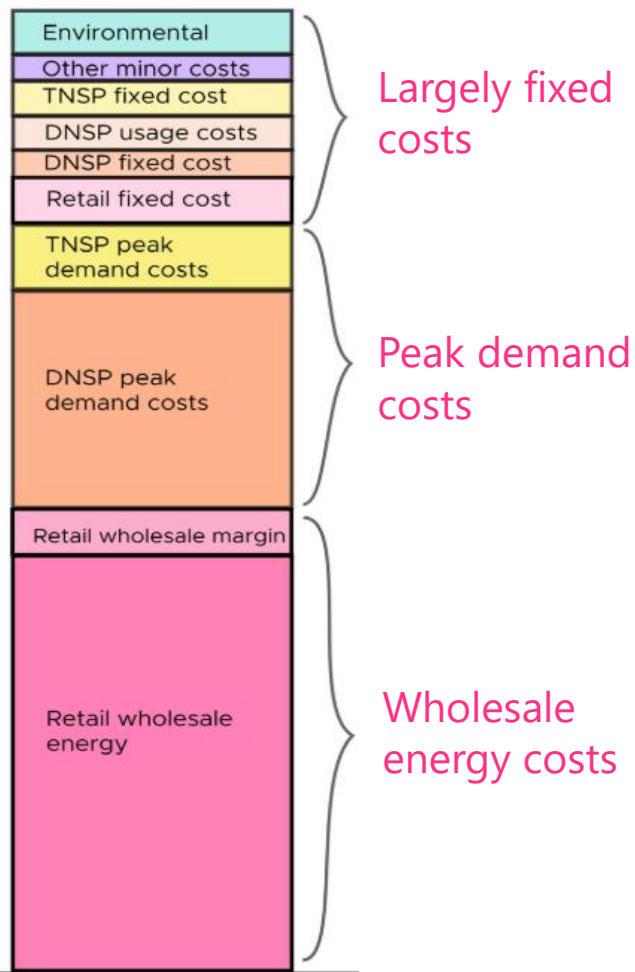
Wholesale price spikes generally occur between 6am and 9am and between 5pm and 9pm

Count of 5 min intervals > \$1000, 2021 to Apr 2025



Cutting costs requires understanding bills

Energy bill make-up



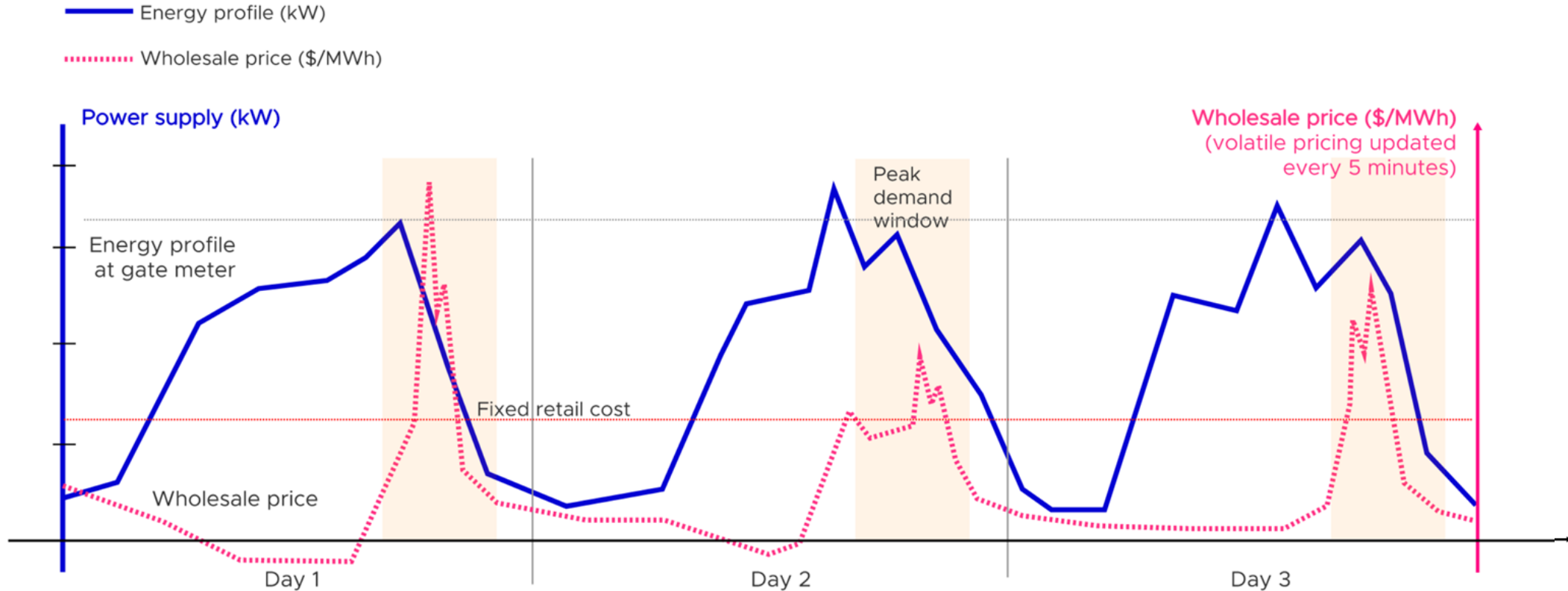
To minimise cost:

- **Reduce** energy usage
- **Shed** to lower peak demand costs or avoid spikes
- **Shape** Use energy during low-cost times

And with batteries:

- **Shift** or **Arbitrage** (store or use energy during the day, and discharge later)
- **"Shimmy"** Use batteries to access secondary fast-response or stability markets (separate revenue stream to energy bills)

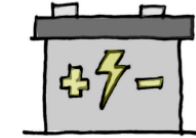
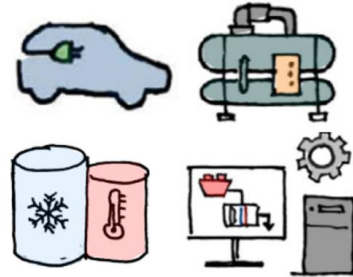
Visualising your energy profile



Peak demand costs = Peak Usage (within a peak demand window) during a billing period * set rate

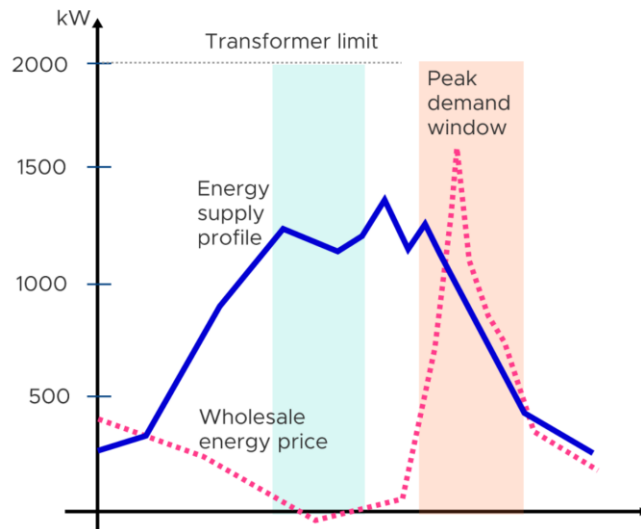
Wholesale costs (for every five minutes) = energy usage MWh * wholesale energy price (\$)/MWh

Flexing changes the profile

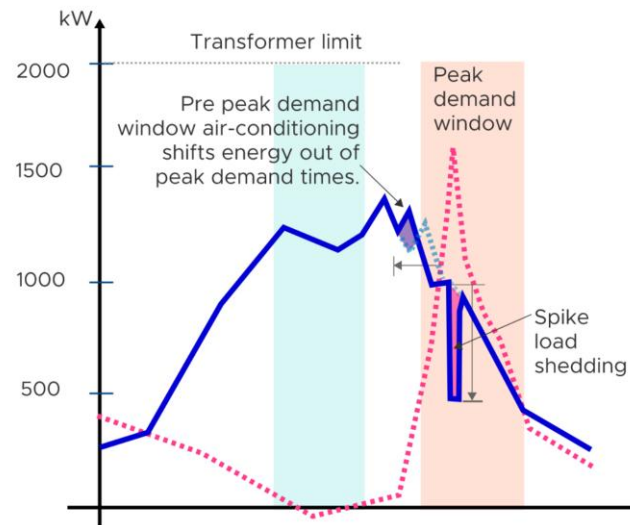


— Energy profile (kW)
..... Wholesale price (\$/MWh)

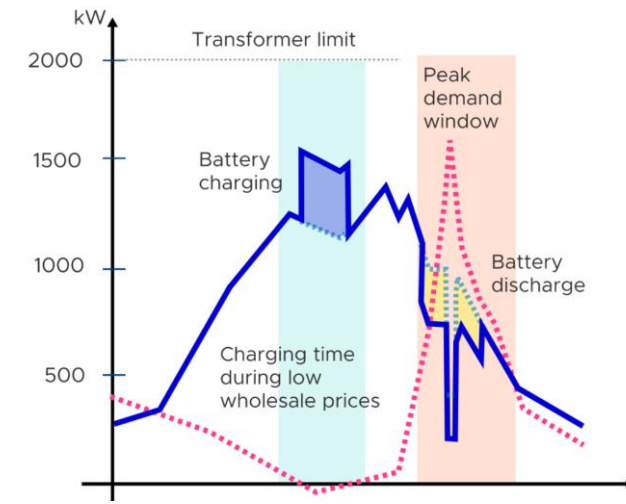
Original Profile



Profile after building interventions



Profile after building interventions and battery



Energy procurement options



Variable price
contract

Flexing allows:

- Peak demand reduction
- Wholesale arbitrage



Fixed price
Contract

Flexing allows:

- Peak demand reduction



Fixed price &
engaging an
aggregator

Flexing allows:

- Peak demand reduction
- Secondary markets:
 - WSDR
 - FCAS
 - RERT
 - DNSP stability payments

Case study: NSW shopping centre

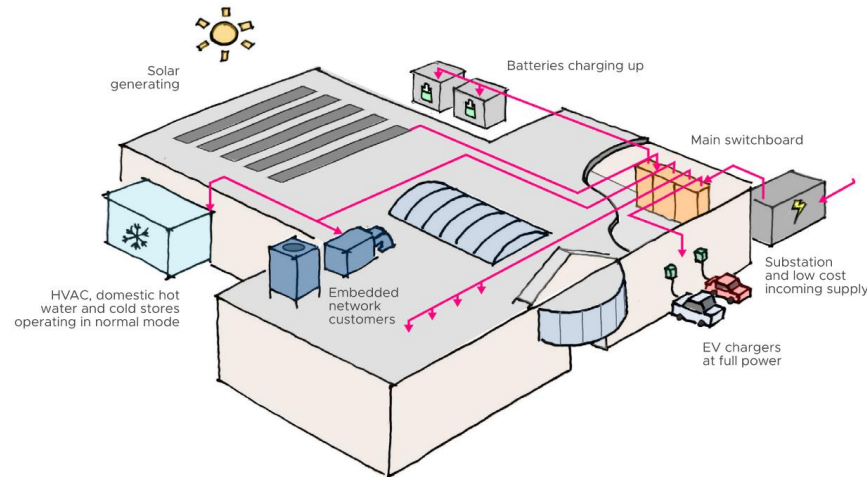
Background:

Building type: Shopping centre

Yearly energy bills: \$200,000

DNSP: Ausgrid

(peak demand window 3-9pm – counts for 12months)



Battery study:

Capacity: 200kW / 400kWh

Cost: \$240,000 installed (\$600/kWh)

(The site had limited electrical works and not major fire or structural risks)

Energy procurement and control options:

1. Fixed price contract model

Value streams: peak demand reduction

Net annual benefit ~ \$17k/year

Indicative payback ~ 13 years

2. Fixed price contract model with aggregator engaged

Value streams:

- Demand response participation (WSDR)
- FCAS/RERT revenues and potential DNSP payments
- Peak demand reduction
- (Less aggregator fees of 20%)

Net annual benefit ~ \$46k/year

Indicative payback ~ 5 years

3. Fully wholesale exposed behind-the-meter strategy

Value streams:

- Battery arbitrage
- HVAC load shifting and shedding
- Peak demand management

Net annual benefit ~ \$62k/year

Indicative payback ~ 4 years

Which buildings work?

Good building attributes

Attributes that make flex more beneficial	Reason
Large electrical loads	Scale allows higher rewards and more operational efficiencies
Hours of operation during early evening	Allows arbitrage opportunities over the most volatile period of the day
Large solar arrays	Provides opportunities for batteries to store for free
DNSP offering network stability incentives	Some DNSPs offer incentives to assist with network stability
Location has access to state-based incentives	Different states have different incentives, grants and certificates available
Embedded networks	Allows greater landlord loads and potentially larger arbitrage opportunities
Energy usage profile has short high peaks	Potential to smooth energy profile, reducing demand charges over a billing period

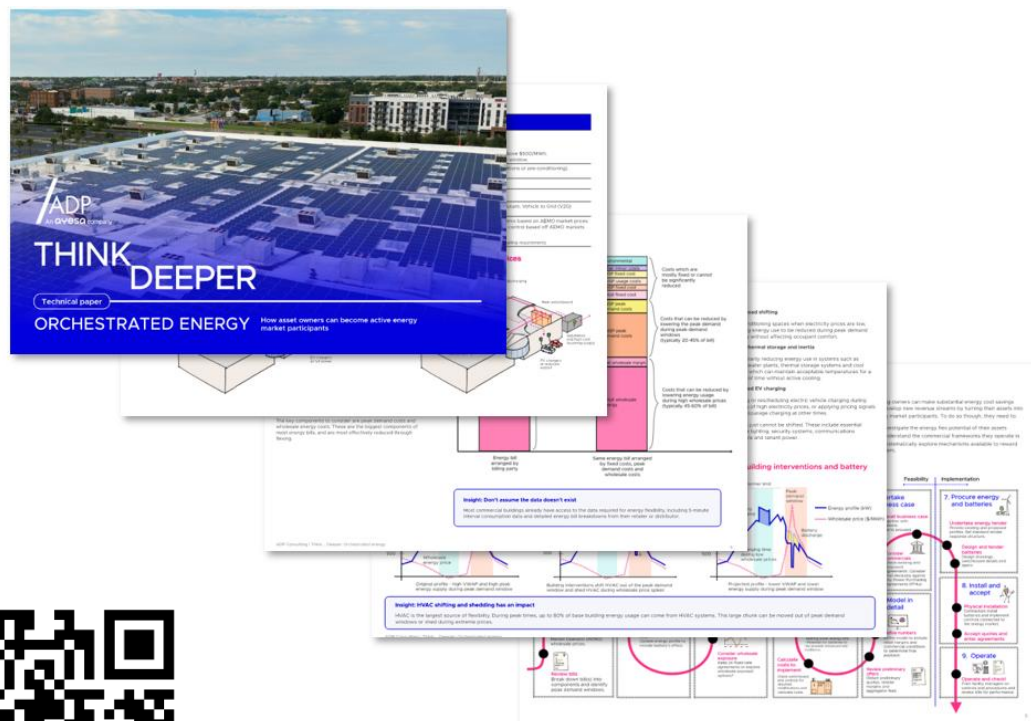
Low battery installation costs

Low fire protection, structural or electrical upgrade costs

Good candidates

Shopping centres, Data Centres, Airports, Hospitals, Hotels.....

And there's more in the paper...



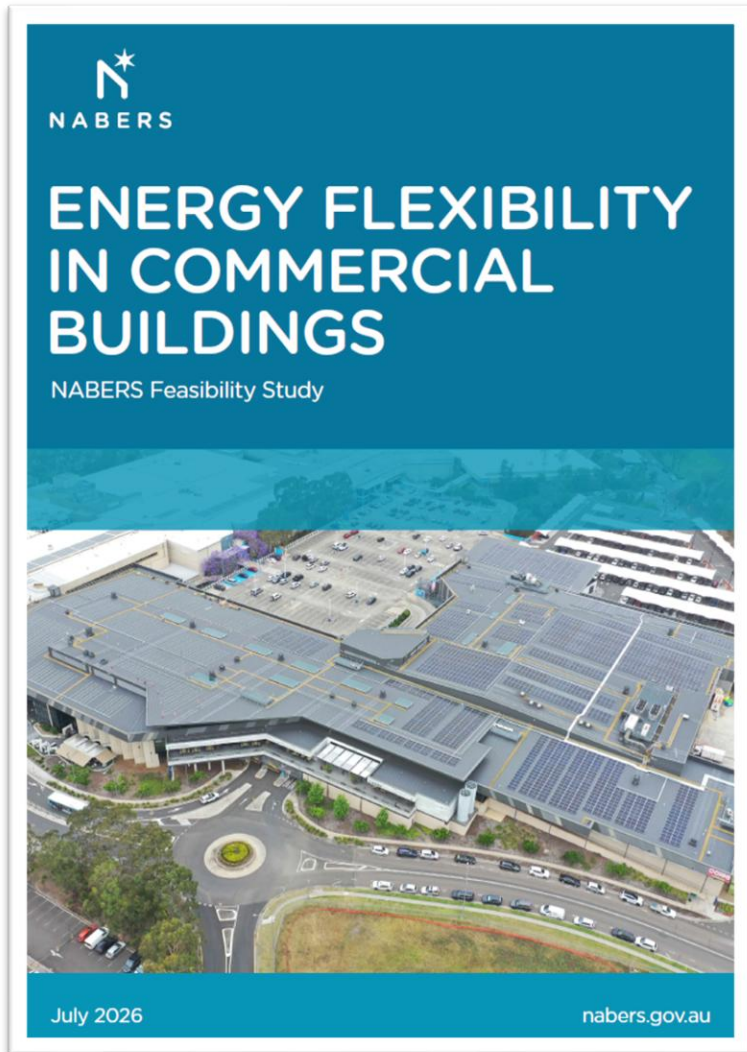
Please check out the paper!

Which also includes insights on:

1. Policies and incentives
2. Battery sizing methodologies
3. Benefits of co-locating batteries at DCs
4. Additional energy market insights
5. Simple control strategies for flex
6. And lots of other tips and insights



Discussion & questions



Find the report on our website.

<https://www.nabers.gov.au/publications/energy-flexibility-commercial-buildings-feasibility-study>



We'd love to talk with you!

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