

# CREATING A SPARK

A GUIDE FOR COUNCILS TO ENABLE ENERGY SHARING COMMUNITIES

- MAKING DISTRIBUTED ENERGY WORK FOR YOUR COMMUNITY
- CHECKLIST FOR COUNCILS
- UNDERSTANDING MARKET RULES AND REFORMS



# ABOUT THIS GUIDE

## THIS GUIDE SHOWS HOW COUNCILS AND COMMUNITIES CAN TAKE CONTROL OF THEIR ENERGY GENERATION AND SHARE IT.

Australia's electricity network used to rely entirely on coal and gas, but it is switching to renewable energy sources at an incredible pace. These renewable energy sources are known as Distributed Energy Resources (DERs), and they can be as small as a household's rooftop solar system.

DERs are changing the way we think about producing and distributing electricity. Instead of a large power station that feeds all users from one central location, DERs source and share energy from multiple points across a network, creating greater resilience and reliability.

We want to help local communities and councils be part of this change and help to drive it, by taking a co-operative approach to controlling their energy generation and usage needs. This guide aims to answer one important question - what if electricity generated within a community was available for consumption by the community? In doing so, this guide:

- introduces the concept of an energy sharing community,
- provides an overview of technologies, electricity market rules and regulations,
- shows how councils and developers can encourage local generation and future opportunities for energy sharing.

Community electricity sharing is evolving rapidly, so an online version of the guide, with additional and latest information, is available at at [www.landcom.com.au/creatingaspark](http://www.landcom.com.au/creatingaspark)



 **24.7%**

of Australia's small scale solar is in NSW  
"We are starting to see the installation of household solar systems slowing"



**114**

councils have made ambitious net zero targets for 2050



**26 million**

solar photovoltaic systems in Australia



**276,800**

vehicles per year - estimated electric vehicle sales by 2036

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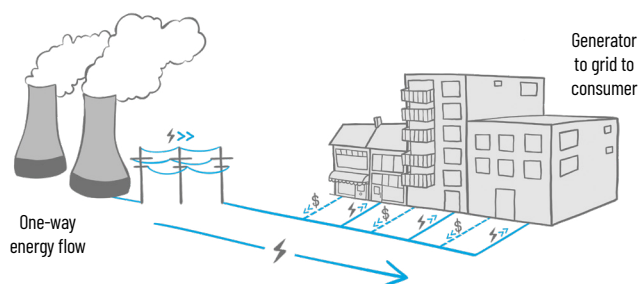
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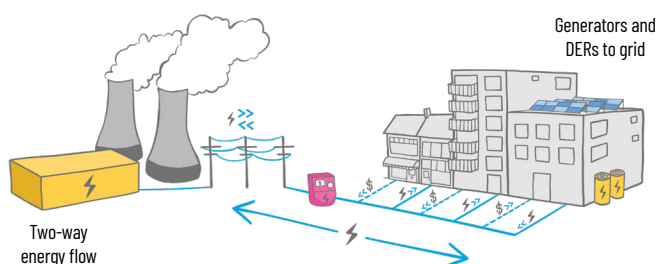
Further information and updates can be found at [landcom.com.au/creatingaspark](http://landcom.com.au/creatingaspark)

# TAKING CHARGE OF CHANGE

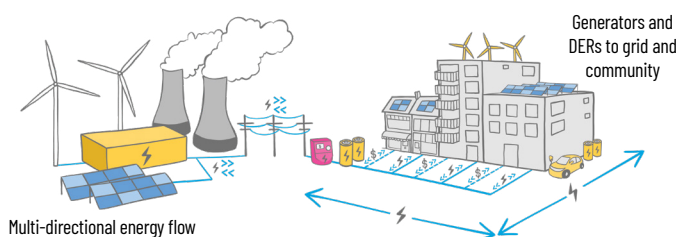
## ELECTRICITY MODELS OVER TIME



TRADITIONAL ELECTRICITY MODEL (PRE-2000s)



TRANSFORMING ELECTRICITY MODEL (CURRENT)



ELECTRICITY MODEL OF AN ENERGY SHARING COMMUNITY (POST-2025)

## NEW NETWORKS OF ENERGY

Since the world's first power station began operating in 1882, electricity has mostly been generated the same way: by large-scale centralised plants in real-time, for immediate use and supplied to widespread customers through a chain of transmission and distribution grids.

Distributed Energy Resources – especially solar and wind power – have disrupted this model, bringing diversity in power sources and enabling two way flows of energy. Australia leads the world in residential use of solar, with over 3 million household rooftop systems installed – about 20% of all homes – generating 13 gigawatts (GW) of electricity, or about 7 per cent of the energy going into the national grid. Commercial systems have also grown rapidly, installed in businesses, factories, schools, kindergartens, community centres, national parks, transport hubs and in rural settings. There are some 2000 new solar installations made every business day.

However, we are starting to see the installation of household solar systems slowing due to either lack of rooftop space (such as apartments) or insufficient return on investment (e.g. cost of systems and declining Feed-in-Tariffs).

There is a need for a decentralised grid and also for action on ways to support and develop energy sharing communities.

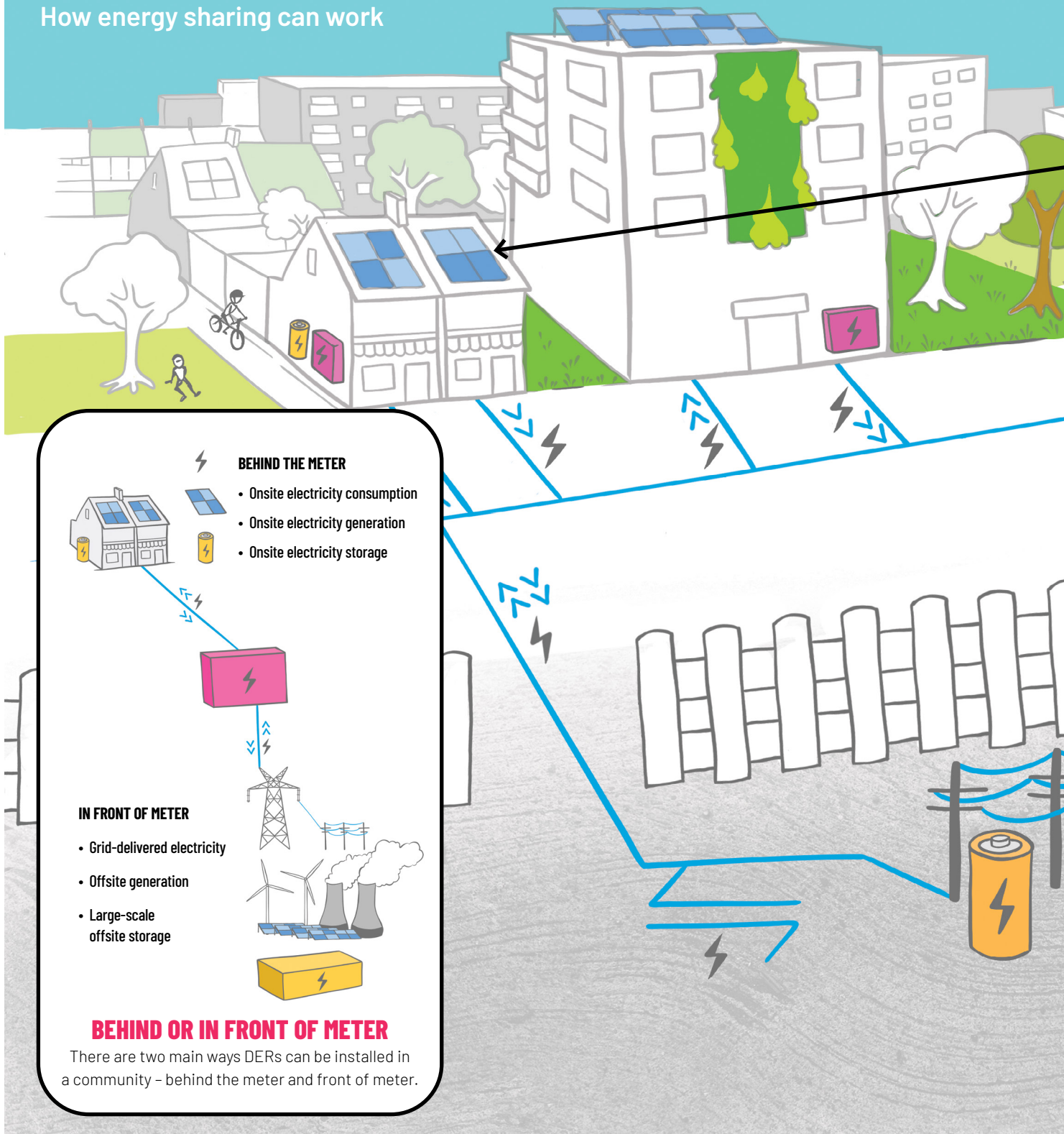
## WHAT IS AN ENERGY SHARING COMMUNITY?

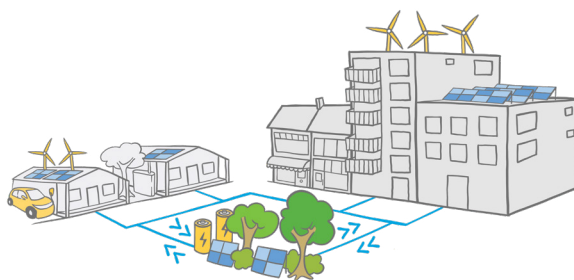
Energy sharing communities are any group of electricity users – residential households and commercial or government premises – who choose to generate and share electricity among its membership. This can create several benefits for the community, including better energy stability and resilience, lower energy costs and fewer greenhouse gas emissions.

NSW Local Government is essential in encouraging and supporting energy sharing communities, and can do so through development and strategic planning, as well as through net zero ambitions. ■

# A CO-OPERATIVE APPROACH TO ENERGY

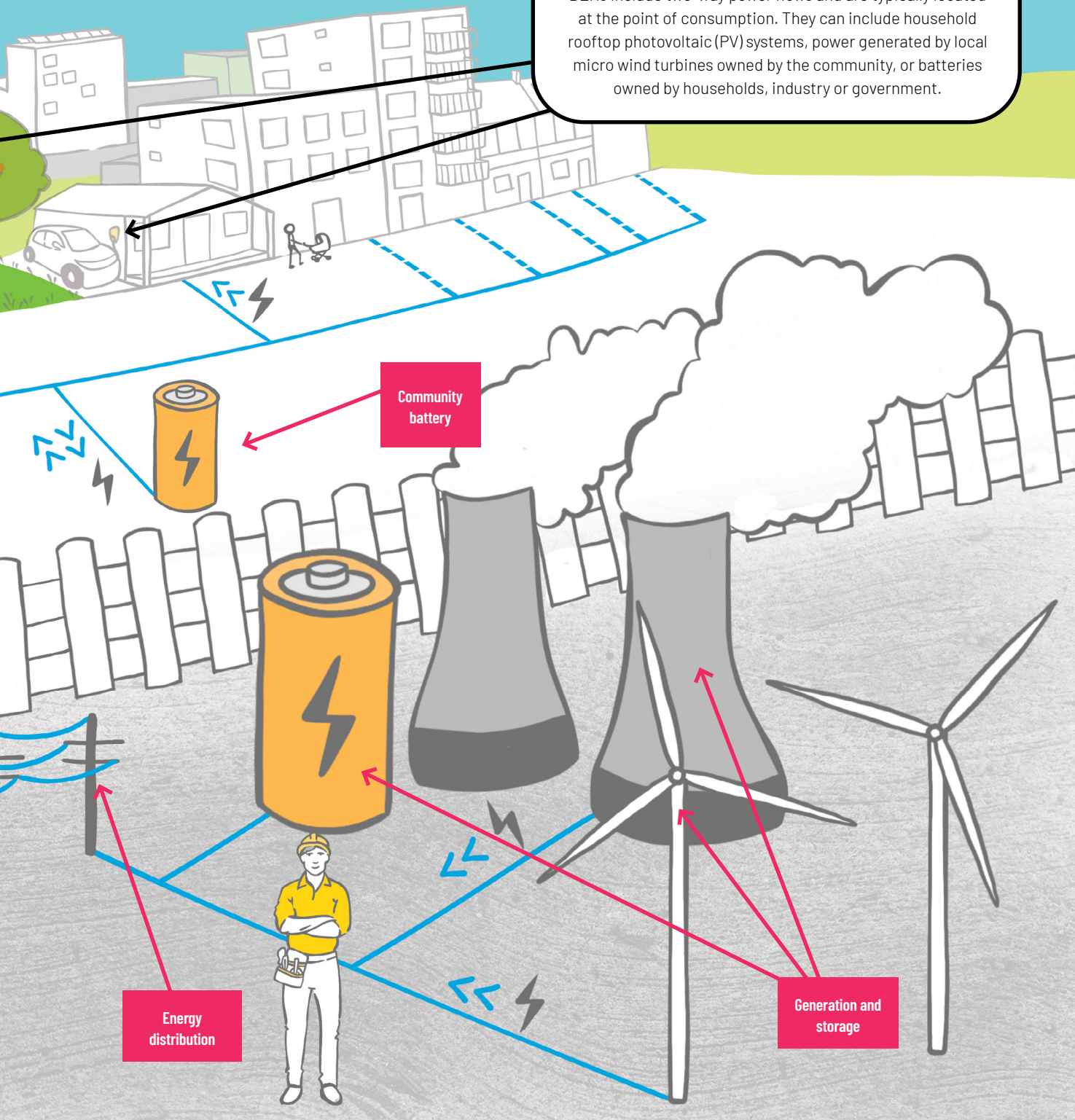
How energy sharing can work





### DISTRIBUTED ENERGY RESOURCES

DERs include two-way power flows and are typically located at the point of consumption. They can include household rooftop photovoltaic (PV) systems, power generated by local micro wind turbines owned by the community, or batteries owned by households, industry or government.





# THE NUTS AND BOLTS OF ENERGY SHARING

**An energy sharing community requires several more elements than a traditional electricity model.**

These elements are included largely because a local energy sharing scheme has different needs, such as increased flexibility, trading and transparency. However, the good news is that they all exist today in varying levels of maturity.



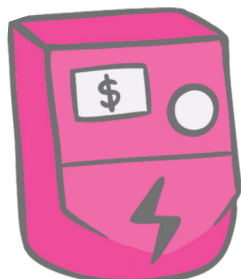
### DISTRIBUTED ENERGY RESOURCES

These are sources of electricity generation and supply. They include rooftop solar, micro wind turbines, local batteries and, potentially, electric vehicles with vehicle-to-grid (VTG) capabilities. DERs can either be installed behind the meter (e.g. rooftop PV solar systems and batteries) or in front of the meter (e.g. purpose-built PV solar and wind farms and/or community batteries where electricity is generated and managed within a co-operative ownership model or by the distribution network).



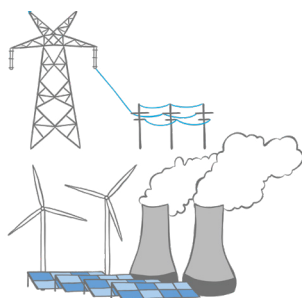
### DISTRIBUTED ENERGY RESOURCE MANAGEMENT SYSTEMS (DERMS)

The management platform that allows the owner of the DER or network operator to automate how and when the electricity is used, based on predefined rules. For example, a household equipped with PV solar generation can choose when the power it generates will be used directly by the household, distributed to an onsite battery or community battery, or exported into the market.



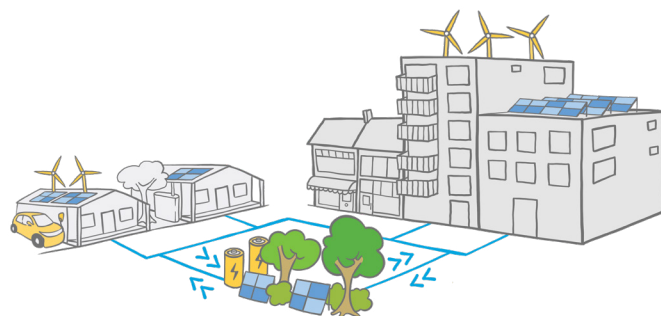
### ENERGY MEASUREMENT SYSTEM

These are measuring devices (e.g. smart meters) that help DERMs provide fine-grained measurement and control. They may be owned and operated by an energy co-operative, or by households, businesses and government members of the energy sharing community. They provide the real-time information needed to monitor and record electricity flows.



### DISTRIBUTION INFRASTRUCTURE

These are the power poles, wires, transformers and substations that move electricity around the grid, and will be used to deliver electricity to members of the energy sharing community. They can be wholly owned by a distributor (or DNSP) such as Ausgrid, or a mix, with some infrastructure partly owned by the energy sharing community and/or privately managed embedded networks (such as an industrial park) that are also members of the energy co-operative. It plays a vital role in switching electricity between users, circulating and supplying electricity back into, or out of, the main grid run by a DNSP.



### EMBEDDED NETWORK

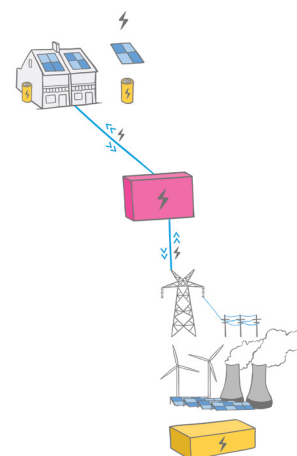
This is an existing framework of energy customers in a single location, such as an apartment block or an industrial park, who already manage their electricity needs internally while also relying on the outside grid services provided by the distributor, or DNSP. They operate 'behind the meter' but have their own switchboard, electrical infrastructure, ducts and reticulation. They typically manage their own energy procurement, billing, collection and customer service. This means that an embedded network can usually be more easily integrated into the electricity distribution provided by the energy co-operative.



### EMBEDDED NETWORK OPERATOR

This is the entity responsible for managing the co-operative's infrastructure, from poles and wires (either wholly or partly owned by the DNSP or the co-op) to running the Distributed Energy Resource Management System that delivers the services of the energy sharing community. Its role is to operate the energy sharing community's network and ensure it always delivers reliable and certain supply to all members, with the best possible cost savings and resource allocation.

## THE GOOD NEWS IS THAT THESE TECHNOLOGIES EXIST TODAY IN VARYING LEVELS OF MATURITY



### ENERGY TRADING AND SETTLEMENT PLATFORM

This is the technology that manages the financial transactions between members of the co-operative, as well as between the energy sharing community and the DNSPs. It constantly records the electricity provided by each DER device, the electricity used by each member of the co-operative – both how much and when – then uses a pricing schedule agreed to by all the parties to calculate at charge-out costs to each member. In effect, this platform does the job of an energy retailer and is used within an embedded network. ■

# ENERGY SHARING MODELS

7 CASE STUDIES OF DECENTRALISED ENERGY

Assessing some of the models and exploring case studies for decentralised energy.

Decentralised energy is still a new concept in Australia, and not yet widely adopted. However, various pilot projects are exploring its application allowing participants to learn, innovate and identify where system-wide changes are needed. They also provide insights into how local groups, such as councils, can adopt – in whole or in part – the most suitable strategies for their particular conditions and needs.

In many cases, the current market rules and participation costs make it harder for large-scale decentralised energy. Now the rules and regulations are being changed, and participation costs are being reviewed to encourage more communities to get involved sooner (see website [landcom.com.au/creatingaspark](http://landcom.com.au/creatingaspark) for further information).

Here are some of the different strategies for community energy sharing that are being explored in Australia today.



## NETWORK-LED WHOLE-OF-COMMUNITY DERs

This is where a DNSP funds local DERs in locations such as a mining town. It is best suited to remote communities, where the cost of connecting to the wider grid is often very high. For example, Western Australia's Horizon Power is building a new microgrid in the Pilbara town of Onslow. It relies on solar cells and batteries partly owned by Horizon Power and partly by customers, who share energy across the network.



## DEVELOPER-LED EMBEDDED NETWORK

These are often seen in new residential community developments, where the property developer takes advantage of government incentives. For example, at Ed Square in Edmondson Park in Sydney, 51 townhouses and an adjoining shopping area operate together as an embedded network run by Frasers Property. They share energy generated onsite by solar panels on residential, retail and community spaces, lowering energy costs for all customers and reducing emissions.



## NETWORK-LED COMMUNITY BATTERIES

Under this model, a DNSP installs and manages a battery where there's a high level of residential and commercial solar, with abundant peak-time demand. This allows the DNSP to decide how best to use local DERs to maintain network performance, reliability and security. The battery mostly balances loads (electricity from the DNSP's grid) with electricity generated by local DERs and imported back into the grid.

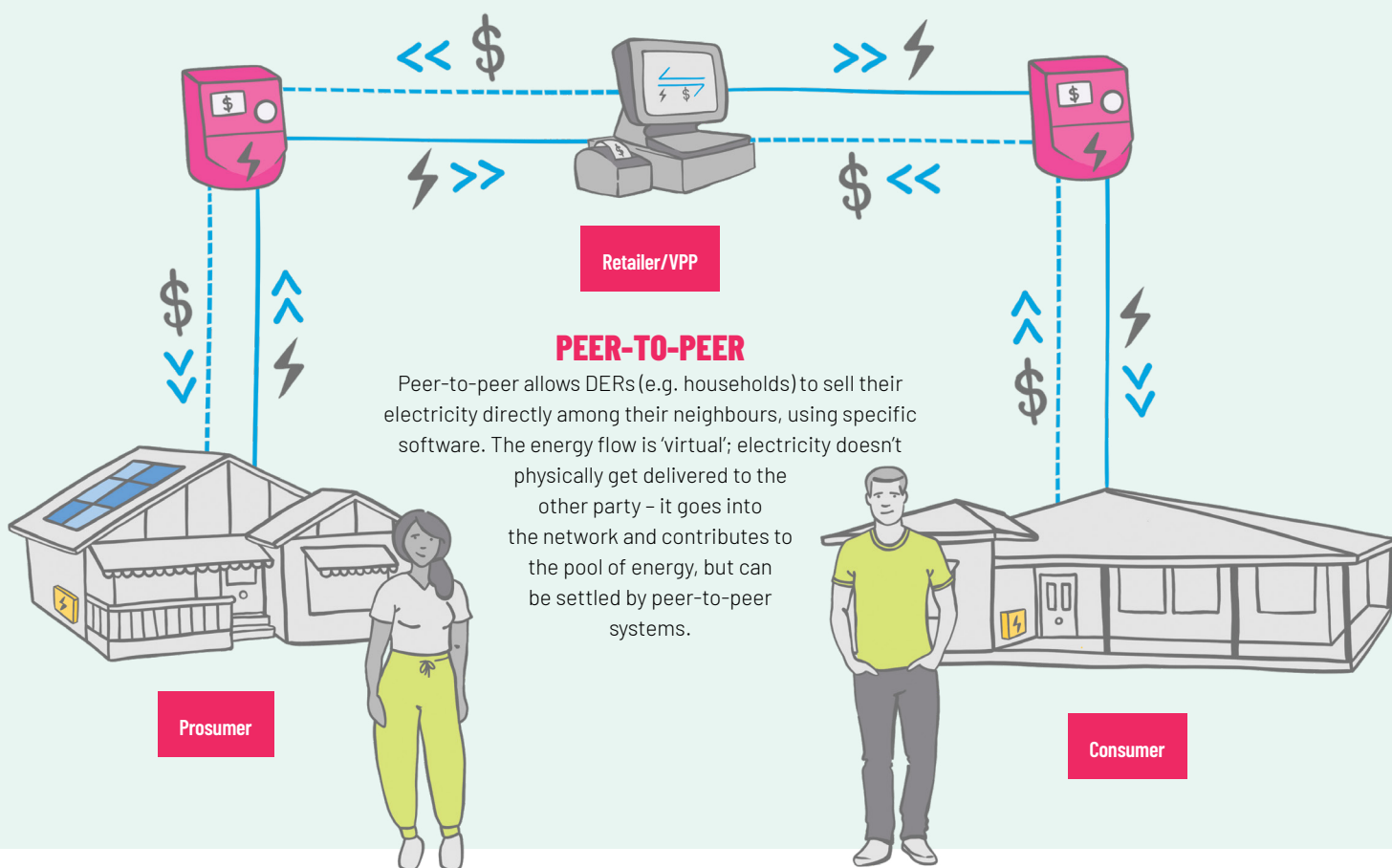
For example, 200 Lake Macquarie residents earn credits against electricity charges by contributing power to Ausgrid's Community Battery from their existing solar DERs.

## COMMUNITY-LED MEDIUM- TO-LARGE SCALE VIRTUAL POWER PLANT

This is where a community finances, builds, owns and operates a group of DERs. A community-owned retailer manages electricity sales, adds other local DERs (like residential solar and batteries) and offers peer-to-peer trading throughout the community network. They are usually non-profit, financed by the community and are aimed at meeting local demand, delivering cheaper energy and lower emissions. They require a minimum pool of customers, a baseline community electricity load covered by a renewable energy project (such as a solar or wind farm) and work best with a community battery.

For example, Community Energy for Goulburn (CE4G) is a NSW co-operative that owns, controls, manages and operates a 1.8-megawatt solar farm on 2.2 hectares. It sells energy to institutional users at a fixed price over a fixed term, such as 5 or 10 years, in what is called a Power Purchase Agreement (PPA). Sales can be limited to locals (including co-op members) or expanded if the power project generates more electricity than can be used locally.





**PEER TO PEER (P2P) TRADING**

P2P trading offers the potential for households to buy and sell local excess energy to their neighbours or a family household without the need for a third party i.e. a Retailer. The energy flow is 'virtual' - the electricity is not physically delivered to the other household but goes into the network and contributes to the renewable energy pool, however the transaction is recorded on a P2P platform and is settled between the parties. Current Australian Electricity Market rules only allow registered Retailers to sell electricity, however some Retailers may enable some type of P2P trading within their systems and outside of the market, and trials are progressing for potential future implementation.



**RETAILER-LED VIRTUAL POWER PLANT (VPP)**

This is where the retailer agrees to take excess electricity from customers who have DERs with batteries. The electricity is aggregated and used by the retailer for specific needs (e.g. importing local energy saves the retailer from having to buy more from market generators when demand rises).

Retailers offering such VPP services include Social Energy, AGL, Energy Locals/Members Energy, Sonnen Power Club, Origin Energy, Energy Australia and Discover Energy.

AGL's Bring Your Own Battery is a VPP program that provides a \$1000 subsidy on a battery, \$100 one-time bill credit and ongoing \$45 bill credit each quarter. AGL uses part of the battery to manage loads and the household uses the rest.



**DISTRIBUTED ENERGY AGGREGATOR**

This is usually a commercial operator that collects all unused energy generated by local DERs, such as household solar, bundles it up and sells it back to the grid. The goal is to enable DNSPs to balance energy flows and pass on savings to members.




For example, in Project EDGE (Energy Demand and Generation Exchange) in the Hume region of north-east Victoria, DNSPs Mondo and AusNet Services are running a trial marketplace that trades energy and works to maximise the economic return to local DERs, while minimising the cost of energy supply to customers. ■






# WHO CAN GET INVOLVED IN AN ENERGY SHARING COMMUNITY?

How to be part of the decentralised energy revolution – from small steps to large.

Becoming part of an energy sharing community can be as simple as being a household sharing its generation and storage with the wider grid. But the more sharing across a group, the more financially attractive it is for all.

| Scale   | How to participate in an energy sharing community   |
|---|---|
|  <p><b>SINGLE HOUSEHOLD WITH ZERO GENERATION</b></p>                                       | <ul style="list-style-type: none"> <li><input type="radio"/> Find a retailer offering local renewable energy</li> <li><input type="radio"/> See if you can join a community DER project to source energy locally</li> </ul>   |
|  <p><b>SINGLE HOUSEHOLD WITH SOME GENERATION [<math>&lt;10</math> KW]</b></p>              | <ul style="list-style-type: none"> <li><input type="radio"/> Consider adding a household battery so you can join a VPP offered by retailers or traders</li> <li><input type="radio"/> Find retailers or traders that are offering community battery storage</li> <li><input type="radio"/> Find retailers or traders with a VPP participation option</li> </ul>   |
|  <p><b>RESIDENTIAL APARTMENT IN MULTI-DWELLING UNITS WITH NO INDIVIDUAL GENERATION</b></p> | <ul style="list-style-type: none"> <li><input type="radio"/> Check if your strata has an energy efficiency plan for common areas</li> <li><input type="radio"/> Check if your apartment block offers shared use of local generation</li> <li><input type="radio"/> Check if your apartment block is considering an embedded network</li> <li><input type="radio"/> Find an energy retailer offering local energy usage plans</li> </ul> |

| Scale  | How to participate in an energy sharing community  |
|--|--|
|  <p><b>HOUSEHOLD IN A RESIDENTIAL ESTATE (HIGH-RISE APARTMENT, TERRACE OR TOWNHOUSE), WITH OR WITHOUT INDIVIDUAL GENERATION</b></p> | <ul style="list-style-type: none"> <li><input type="radio"/> Make sure you can meet your own demand using any local DER on offer</li> <li><input type="radio"/> Check if your property has an energy efficiency plan for common areas</li> <li><input type="radio"/> Check if your estate is considering a communal DER you can participate in as a generator or consumer</li> <li><input type="radio"/> Consider how a communal estate DER can implement storage, either a behind-the-meter solution or buying or using a front-of-meter community battery</li> </ul>   |
|  <p><b>BUSINESS WITH &lt;100 KW DER CAPABILITY</b></p>  | <ul style="list-style-type: none"> <li><input type="radio"/> Make sure you can meet your own demand using local generation</li> <li><input type="radio"/> Find an energy retailer offering localised energy usage</li> <li><input type="radio"/> Inquire about joining a local community DER project</li> </ul>  |
|  <p><b>BUSINESS WITH &gt;100 KW DER CAPACITY AND/OR MULTIPLE SITES</b></p>  | <ul style="list-style-type: none"> <li><input type="radio"/> Ensure you can meet your own demand with local generation</li> <li><input type="radio"/> If you have excess generation capability, find an energy retailer that supports net metering across sites, or an employee participation scheme</li> <li><input type="radio"/> Consider investing in building management systems such as smart meters and software, providing more insight into your usage to enabling future energy sharing</li> <li><input type="radio"/> Consider how a communal DER can provide storage, either with a 'behind the meter' estate solution or through 'front of meter' community storage</li> </ul>  |
|  <p><b>INDUSTRIAL ESTATE WITH &gt;100 KW DER CAPACITY</b></p>   | <ul style="list-style-type: none"> <li><input type="radio"/> Ensure you can meet your own demand with local generation</li> <li><input type="radio"/> Consider how the estate can establish a communal DER you can participate in as a contributor or user</li> <li><input type="radio"/> Consider investing in building management systems such as smart meters and software, providing more insight into load usage to enable future energy sharing</li> <li><input type="radio"/> Consider how a communal DER can provide storage, either with a 'behind the meter' estate solution or through 'front of meter' community storage. Discuss opportunities for hosting storage like a community battery in or near your site with your local energy network provider</li> </ul>   |
|  <p><b>COMMUNITY GROUPS</b></p>   | <ul style="list-style-type: none"> <li><input type="radio"/> Consider local DER projects for the whole community. This may involve: <ul style="list-style-type: none"> <li>• planning</li> <li>• land allocation</li> <li>• partial investment in or outright ownership of local DER projects</li> <li>• negotiations with DNSP about connection and integration</li> <li>• design and construction of local DER components</li> <li>• outsourcing elements of project development to local businesses</li> <li>• managing energy sharing internally or outsourcing it to local businesses</li> <li>• acquiring the capability and resources to become a licensed retailer/trader</li> <li>• considering a staff participation scheme</li> <li>• offering an energy sharing community to the local area</li> <li>• developing DER agreements for buying and selling energy</li> <li>• liaising with the grid network provider about hosting or co-operation on energy sharing</li> </ul> </li> </ul> |
|  <p><b>REMOTE COMMUNITIES, EITHER COUNCIL- OR COMMUNITY-LED INITIATIVES</b></p>   | <ul style="list-style-type: none"> <li><input type="radio"/> Talk to the local grid network provider about new microgrid solutions using entirely local renewable energy resources, like solar or wind generation, and batteries</li> </ul>  |

# PATHWAYS TO ENERGY SHARING FOR COUNCILS

Practical next steps needed to bring energy sharing communities to your area.

There are a number of steps councils can take to support, seed or accelerate energy sharing communities in their area.

Councils need to start exploring distributed energy early, because major planning is already underway across the electricity sector. Decisions and investments made in the next few years will support later phases of the rollout and are more likely to shape or align a DNSP's evolving requirements, or provide input that can influence planning by major players across a city, state or region.





## Step-by-step guide for councils



### STEP 1: FITTING ENERGY SHARING INTO COUNCIL STRATEGIES

Consider how an energy sharing strategy or commitment can be included in the planning documents of the council in a workable way. The strategy may potentially affect:

- Building and development planning controls
- Community development and management planning
- Sustainability planning
- Energy procurement.



### STEP 3: WHO CAN HELP WITH PLANNING?

- If council's Distribution Network Provider (poles and wires business) for the precinct is currently considering shared electricity resources, set up a working relationship so council can engage on behalf of the community on any potential projects or joint initiatives
- Some NSW retailers are looking at innovative ways of getting access to generation that could help them manage their commitments, so make enquiries with them
- Federal and NSW Government agencies might give funding and project management support to initiatives that fit their vision.



### STEP 2: DECIDE WHAT THE COUNCIL'S ROLES WILL BE

When developing an action plan arising from the strategy, consider the approaches the council can take:

- Leadership by participating in an energy sharing project
- Advocacy by lobbying for funding and/or market rule changes that create opportunities for projects
- Governance through DA guidelines that facilitate the inclusion of distributed energy assets
- Being a focal point by making it clear council is interested in energy sharing and willing to help its community get projects up and running.



### STEP 4: HOW CAN A COUNCIL PARTICIPATE IN ENERGY SHARING?

- See if council has land allotments that could be used for community energy assets such as battery storage
- Work out what council's energy needs will be once electric vehicles and other electrification projects are adopted, and develop strategies for community energy generation in order to meet them
- Consider starting an energy sharing project and identify what input council can bring to the project, like project management, funding, marketing and acting as energy purchaser, network liaison or asset owner.



## Things to consider

### **START WORKING WITH YOUR DNSPs**

Talk with representatives of your local distributor or distributors. Councils within Ausgrid's operational area can join their Network Innovation Advisory Committee, and there may be similar community platforms at Essential Energy and Endeavour Energy. Exploring options with DNSPs is a vital early step in the process, so you know what is already being planned or considered in your region.

DNSPs are always undertaking strategic assessment of how they can integrate DERs into their networks. For example, Endeavour Energy is directing local solar generation or behind-the-meter storage into onsite hot water heating through energy management software and smart metering.

### **COLLECT, COLLATE AND USE DATA TO YOUR ADVANTAGE**

Energy Networks Australia, the national industry body for electricity and gas distributors, has compiled a set of Network Opportunity Maps. These identify where

opportunities for distributed generation, energy storage and other non-grid solutions can help to reduce growing network capacity constraints and help lower costs for all. They feature consistent, transparent annual planning data from each distributor. The maps include localised data from each DNSP relating their network constraints, planned investment and the potential value of DERs for their grids. Understanding your DNSP's constraints and opportunities is essential for getting the most impact from your own DER initiatives.

A distributor's grid infrastructure strategy is generally based on population growth, town planning, energy usage patterns and the condition of existing assets. Until very recently, planning has assumed a DNSP will be the only electricity distributor and hasn't considered distributed energy generation. A DNSP is more likely to see a proposed energy sharing community as a more valuable distributed energy proposal if it is quantifiable and reliable. That way, it can offset grid construction or expansion of the DNSP that is needed to deliver added

external generation to a location.

For new urban developments, councils can prepare fairly accurate models of DER installation, where such development is governed by the council's planning guidelines, and give them to the DNSP for their planning.

### **SHARE YOUR GENERATION AND CO-INVEST**

Councils and developers should discuss opportunities for shared battery storage with DNSPs, including where such assets should be located. There are options and opportunities for co-investment in DER assets such as batteries and rooftop solar, influenced by where the benefits from the assets are best found and how they best align with operating priorities.

Allotting land for energy storage may not have been considered in existing, or brownfield, developments, or in developments that are already approved but not yet built. However, it can be incorporated into the guidelines for development applications for future

developments.

For behind-the-meter solutions, such as rooftop photovoltaic systems and batteries across a whole development, it is a matter of deciding whether the storage is placed within the site boundary or co-located on adjacent council land, where an easement granted may count as equity in the battery acquired by the council. For front-of-meter solutions – purpose-built solar and wind farms or community batteries – the developer, council and DNSP should all be involved in the planning and decisions regarding placement, guided by both the availability of suitable land and the joint benefits involved.

### **PREPARING FOR THE 2025 TO 2029 DETERMINATION**

Energy distributors are regulated electricity network businesses. They must apply to the Australian Energy Regulator (AER) to have their charges assessed and approved every five years. In each submission, DNSPs show how they plan to price energy across their customer base and outline their pricing strategy, such as moving from all-day energy pricing to time-of-use charging, seasonal demand pricing variations and so on.

Charges for 2019 to 2024 in NSW are set – the next determination will be for 2025 to 2029. This is where DNSPs are likely to indicate their initial plans for a network charge that covers exporting electricity from decentralised DERs to their grids.

Councils can view these submissions in the 12 months leading up to the 2025 determination being decided, with the submissions providing a good insight into how export pricing will affect energy sharing schemes. Networks and retailers have changed their pricing in recent times, so each council should identify their particular network provider's exact timeframe to make sure they have opportunities for consultation. ■

For the latest information head to **landcom.com.au/creatingaspark**





## Step-by-step guide for property developers



### STEP 1: WHAT CAN BE DONE ONSITE?

- Calculate estimated site day and night load, and consider suitable local generation (solar, wind, storage)
- Consider the ownership structure for rooftops and common areas to allow community, rather than individual, ownership of energy generation
- Investigate new technologies that could suit the operation of the precinct, such as hot water distribution
- Investigate whether there are advantages in creating a precinct-wide private electricity network to enable energy sharing, if excess generation is available.



### STEP 3: WHAT CAN YOU DRAW ON LOCALLY?

- See if you have other holdings in the area that could be excess electricity generation assets, and how you could work with your retailer or another to enable virtual electricity sharing across your portfolio
- See if any of your key tenants or local businesses are interested in joining a sharing scheme, including shared storage.



### STEP 2: PREPARING FOR THE FUTURE

- Consider how the load profile could change with increased electrification, like electric vehicles
- Prepare the building assets with building management systems that provide insight into usage and be better informed about how you can acquire electricity
- Consider whether to set aside a sub-site for storage, discuss options that your local energy network provider or retailers are planning, and find out how you can get involved
- Find out about any demand response or similar initiatives being planned by your network provider or retailers serving your area.



### STEP 4: WHO CAN HELP WITH PLANNING?

- All NSW local councils have a guide to help with discussing options with developers
- If the Distribution Network Provider (poles and wires business) for the precinct is currently considering shared electricity resources, make enquiries as to the state of the network at your precinct and any joint initiatives that they may consider
- Some retailers servicing NSW are looking at ways to get access to generation to help them manage their commitments – talk to them.



Current regulations and coming reforms to encourage energy sharing communities

# UNDERSTANDING MARKET RULES AND REFORMS

The rules and regulations on electricity generation and distribution are evolving as governments and regulators move to encourage a more decentralised renewable energy economy. How fast DER-based solutions can be implemented will depend on the speed of reforms.

Market reforms are focused on two areas:

- 1. The rules and regulations** that determine what services generators, DNSPs and retailers can and cannot provide
- 2. The technical requirements** set by DNSPs that determine which energy sharing communities can use their distribution infrastructure and how.

In 2019, Australia's Energy Security Board provided advice on a long-term, fit-for-purpose national electricity market design that would allow DERs or decentralised networks to operate. These recommendations were endorsed by state energy ministers, including those enabling energy sharing communities. Some adjustments to the rules under review for the 2025 plan could affect energy sharing communities.

There is proposed legislation to establish a new federal government entity: the Australian Local Power Agency (ALPA). This is part of a larger plan to increase community ownership in renewable energy projects. It would be paired with a mandate for all new large-scale renewable energy developments to offer up to 20% ownership to the local community.

Under the proposal, ALPA would offer to underwrite new community-owned renewable energy through both grants and loans, and work to establish 'Local Power Hubs' in regional areas. This could allow smaller towns to become self-sufficient and encourage DNSPs to consider future network planning that incorporates local generation.

## AN OVERVIEW OF THE CURRENT MARKET RULES AND PROPOSED REFORMS



| Current market rules and agreements affecting an energy sharing community   | What does this mean for an energy sharing community?   | Proposed reforms that better support an energy sharing community   |
|---|--|--|
| <p>Generators (power stations or DERs), DNSPs and retailers have defined scopes. No entity can operate in another's controlled domain.</p>  | <p>Currently, a DNSP is not able to generate, store or sell electricity.</p>   | <p>The role of generator and retailer to be changed to the more generic role of 'trader', able to buy, sell and distribute electricity. Customers would be entitled to separate all aspects of their electricity needs.</p> <p>Local councils can register as a trader and provide locally generated electricity from their DERs, or those of their private members, to their community.</p>   |
| <p>A DNSP is allowed to own and operate a large battery if the electricity stored and distributed is solely for the benefit of its network (e.g. for load balancing and voltage management).</p>  | <p>A retailer would need to be involved if the battery is used to store excess solar generation for community use or export to the wider market.</p>   | <p>The expansion of possible ownership models, such as a business, a council, a consortium of end users or a retailer/trader. Since DNSPs will probably charge solar export fees and/or set export constraints such as time of day, a 'front of meter' development (e.g. community battery) would provide the greatest benefits.</p>   |
| <p>DNSPs do not have to integrate with DERs.</p>  | <p>There is currently little incentive for DNSPs to integrate DERs and no rules or regulations that require them to do so.</p>   | <p>Provide the Australian Energy Regulator, which enforces the laws governing the energy market, the authority to enable independent, market-wide assessment and set development benchmarks for DNSPs to integrate DERs, with financial rewards for achieving results. Otherwise, DNSPs will continue to be self-governed and physical constraints, increased connection costs, export charging and other restrictions may grow.</p> |
| <p>Generators must be registered as either a 'scheduled generator' or a 'semi-scheduled generator', based on whether their capacity to generate is above or below 30 MWh (megawatt hours - that is, 30,000 kilowatts of electricity generated per hour). A 'scheduled generator' must adhere to strict requirements and there can be severe penalties if targets are not met.</p> |  | <p>There is discussion to remove 'semi-scheduled generators' and have all generation (as low as 1 MWh) registered as a 'scheduled generator'. This would only benefit a 'front of meter' development (like a community battery) in terms of operation. However, it could also hinder financial returns.</p>  |
| <p>DNSPs can charge DERs a fee to handle the export of any generation into the wider grid. DNSPs have indicated that this will not take place any earlier than 2025.</p>  | <p>After 2025, DERs will need to pay for electricity they export into the wider grid within the defined rules (such as time of day or week). This rule does not affect 'behind the meter' developments (embedded networks). It will only affect 'front of meter' developments (such as council-run DERs providing electricity to their community).</p> | <p>New regulations allowing larger-scale (for example, a country town or suburb) embedded networks and microgrids.</p>   |



# CREATING A SPARK

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For more information, additional copies of this guide and updated information on planning for shared energy initiatives, planning and regulations, head to [landcom.com.au/creatingaspark](https://landcom.com.au/creatingaspark)