

# AGGREGATION IN RENEWABLE ENERGY – THEMES AND CHALLENGES

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## PRESENTATION TO THE ENERGY TRANSITION HUB

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# RENEWABLE ENERGY AGGREGATION

## Introduction

- The challenge:
  - Rapidly changing business models
  - Large number of regulators
  - Large number of stakeholders
  - Highly politicized issue
- A simple example:
  - Commercial property developer
  - Roof top energy business model
  - Application of exemptions.... Or not.

# TYPES OF AGGREGATION

1. Aggregation of more than one site to produce renewable energy and which are connected to the grid (**Aggregated Sites**)
2. Aggregation of functions on one site – ie having agricultural and renewable facilities on the same land (**Multi Function Sites**)
3. Microgrids (ie a group of electricity sources which can generate and share energy and may be islanded by disconnection from the grid) (**Microgrid**)
4. Aggregation of purchasers (**Purchaser Aggregation**)

# WHAT KIND OF REGULATORY FRAMEWORK DO WE NEED?

- Agile
- Flexible enough to 'keep up' with a rapidly changing environment
- What is a future ready regulatory framework?

***Economic regulation (including network pricing and revenue regulation, ring fencing obligations, licensing requirements and jurisdictional pricing restrictions) can profoundly affect the capacity for commercial firms to participate and enter these markets, the type of services they can offer, permissible pricing structures and levels, incentives for and the scope for innovation and feasible business models. (Energy Networks Australia)***

***[The AER needs to] work actively with stakeholders to identify situation in which deemed or registrable exemptions can be implemented to support the development of innovate and flexible alternative supply and demand management services. (Tas Renewable Energy Alliance)***

# COMPLIANCE FRAMEWORK PARAMETERS

- The AER says that a compliance framework needs to:
  - Facilitate new entry to electricity demand management market to stimulate competition; and
  - Ensure that residential and small business consumers are effectively protected
  - Ensure that barriers to entry are not created by requiring new entrants to meet onerous and unnecessary compliance and accreditation requirements.

AER in issuing its 2014 Statement of Approach to Regulation of Alternative Energy Sellers says that the following factors justify retailer authorisation:

- Seller being primary source of energy to small customer premises;
- Seller sells across multiple sites.

# VICTORIAN EXEMPTION FRAMEWORK

GEO under the EIA (revised in 2017)

Intermediary sale and network services:

- The deemed retail exemption applies to a range of circumstances but in most cases must be within the limits of a site that the person seeking the exemption owns, occupies or operates.
- The registered retail exemption is a scale up in terms of scope (ie more than 10 customers) but contains the same limitation.
- The deemed network activity exemption applies to a range of circumstances but in most cases must be within the limits of a site that the person seeking the exemption owns, occupies or operates.
- The registered retail exemption is a scale up in terms of scope (ie more than 10 customers) but contains the same limitation.

Exception applies for retirement villages, caravan parks, holiday parks, residential land lease parks and manufactured home estates. The categories listed above all apply within the limits of a site.

# VICTORIAN EXEMPTION FRAMEWORK CONTINUED...

Clause 17 of the GEO requires the relevant person to carry out the following activities, provided it is registered (and the generation must be less than 5 MW):

- Generating or distributing electricity on:
  - **Premises** not owned or occupied by the person or
  - A portion of **the premises** occupied by the person (but not owned) eg a rooftop and
- Supplying and selling the electricity:
  - To the owner or occupier of the premises on which the generation occurs or
  - A licensed retailer.

Any output not sold to the customer must be supplied or sold to a licenced retailer.

In relation to site constraints, it has been acknowledged that for community solar for example, the exemptions will operate **only** where there is one site. Where the multiple activities cross individual properties and public land, the ESC said it would adopt a 'wait and see' approach

# AGGREGATION TYPES

## Site Aggregation

- Community solar
- Small projects aggregated across sites
- Commercial builder owner of adjacent sites

## Multi function Sites

- Wind farm plus plantation farm
- Solar plus agriculture
- Land use constraints
- Planning challenges multiplied

# MICROGRIDS

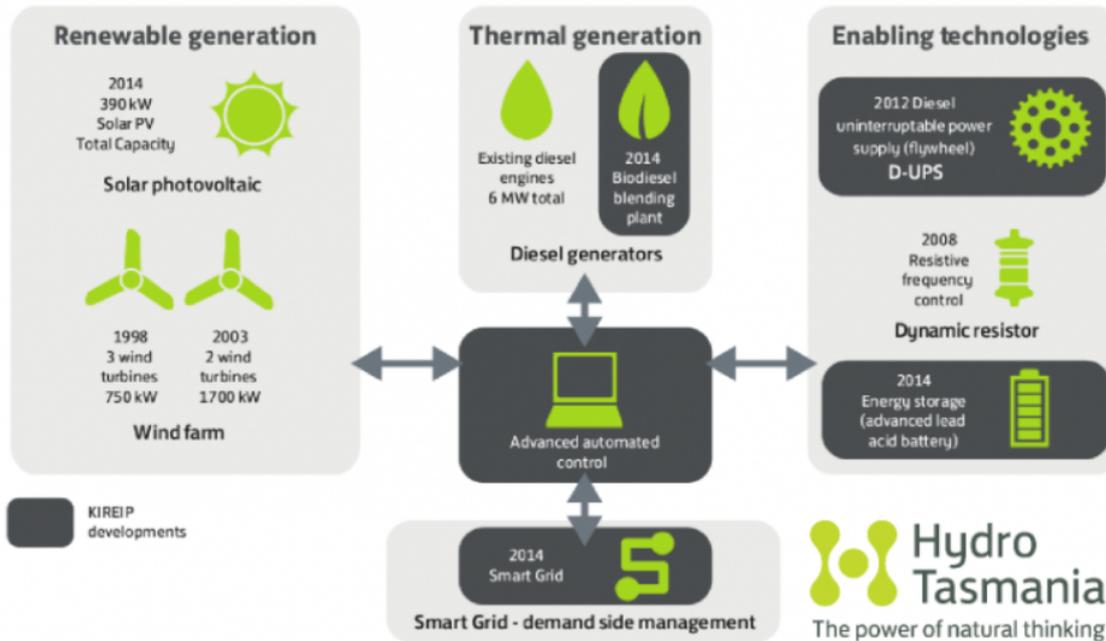
A microgrid is a stand alone power system or SAP that generates and supplies electricity to multiple customers. This could include anything from a large town to just two farms connected to each other.

Can take many different forms – local to an entire island.

## King Island Renewable Energy Integration Project (KIREIP) Overview



Australian Government  
Australian Renewable Energy Agency





# REGULATORY CHALLENGES

The Victorian government is piloting a few microgrid projects.

The models vary, but if energy is to be generated **and shared across buildings**, there may be some challenges.

In Victoria, the exemption framework may create a barrier:

- The exemptions will not apply because the activity is not limited to 'a site';
- The power may not be only sold to residents of the relevant 'premises';
- Depending on payment arrangements, if opt in and opt out software used, the electricity provided may not be 'for an agreed price and for an agreed period'.

The SA framework provides a kind of template.

- electricity generators with a nameplate output of 100kVA or less;
- electricity generators who do not supply electricity for reward to or by means of a transmission or distribution network;
- when electricity generated, transmitted or distributed is:
  - for personal use;
  - used by a designated body gazetted by the relevant minister;
  - charged for as an unspecified component of rent charged to an occupant of a premises owned by the generator/ transmitter/ distributor or a designated body (for example, where an owner of a property has an established PV system and leases the property to an occupant);
- network operators and retailers (other than authorised retailers) in an “inset network”, defined as a network that serves only a group of premises in the same ownership or community or strata title premises, provided that customers in the inset network have access to a licensed retailer of the customer’s choice.
- A SAPS operator who meets one of the conditions for exemption above, will not be subject to licence conditions

# PURCHASER AGGREGATION

- Creates scale
- Meeting of minds can be challenging
- SSROC – 18 councils sourcing energy from Moree. A large retailer is part of the arrangement.
- MREP:
  - Alignment of interests (in the end)
  - Flexibility in relation to LGCs built into model
  - Developer \ retailer related entities

# CONCLUSION AND THE WAY FORWARD

# UPCOMING SEMINARS

- **Tiffany Harrison:** *Climate Emergency: The Role of Local Government in Tackling Climate Change* (co-hosted with BZE), Mon 3 June (6.30pm) @ Fritz Loewe
- **Rachelle Meyer:** *Achieving Net Negative Emissions in a Productive Agricultural Sector: A Review of Emissions Sources and Mitigation Options*, Wed 5 June (11am) @ College

# QUESTIONS?

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10/26 August 2017

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