



Submission by

Alternative Technology Association

to

***AEMO Consultation on 'Minimising Barriers to
Cost-Effective Small Generator Participation in
the NEM', Part A***

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Overview

The Alternative Technology Association (ATA) welcomes the opportunity to contribute to AEMO's Consultation on *'Minimising Barriers to Cost Effective Small Generator Participation in the National Electricity Market'* (NEM).

ATA is a representative of consumers in the renewable energy marketplace. The organisation provides service to over 5,000 members nationally, who are actively engaged with small scale renewable energy, energy efficiency and the NEM. Specifically, ATA has over 1,500 members operating small generation units (SGUs) across Australia and advises proponents of medium scale generation projects on resource assessment, project feasibility, grid connection and energy market participation issues. In addition, ATA is also represented on the *National Consumer Roundtable on Energy* and various working groups, including AEMO's *Demand Side Participation Working Group*.

We have structured our submission in direct response to the questions outlined in the AEMO discussion paper. Our main recommendations in response to the issues raised are highlighted below:

Recommendations

- Recommendation 1:* To address the issue of greater relative resource requirements for small generators:
- *Introduce measures to streamline processes for small generation units, wherever the opportunity to do so exists;*
 - *Market and related fees for small generators should be scaled according to generator capacity;*
 - *Micro-generators up to 10 kW nameplate capacity should be eligible for significant concessions and incentives within the NEM, the degree of which should extend beyond that required to afford financial parity / equity within the market alone.*
- Recommendation 2:* *Remove the requirement for NSPs to provide evidence that generators up to 10 kW will not impact the network.*
- Recommendation 3:* *AEMO to provide conditional approvals for generators from 10 kW up to 1 MW to avoid operational delays resulting from a protracted approval to connect process (or other delays).*
- Recommendation 4:* *Incorporate provisions that allow for a party other than the NSP (e.g. the AER) to determine the network impact of a small generator for the purposes of registration within the NEM.*
- Recommendation 5:* *ATA recommends that all generation sources in the NEM are classified as generators.*
- Recommendation 6:* *Registration fees should be scaled according to nameplate generator size and number of aggregated generators.*
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Recommendation 7: That separate standardised registration be made available to each of the following types of demand side generators where the frMP will be a party other than the generator owner, and a separate registration process will be required for the frMP, for example:

<u>Technology</u>	<u>Owner</u>	<u>Market Arrangement</u>
Solar PV	Residential/business	Non scheduled, aggregated
Diesel genset	Commercial building	Scheduled, aggregated
Wind turbine/s	Industrial/agricultural	Non scheduled

Recommendation 8: That the registration process be amended to allow the frMP to be ultimately responsible for compliance with all market requirements for aggregated generators.

Recommendation 9: Deemed agganagements should be developed for registration of aggregated small generators (which will typically accompany an aggregator's application to register), including:

- *a pro-forma application process for small scale aggregated generators (non scheduled); and*
- *a pro-forma application process for small scale aggregated generators (scheduled).*

Recommendation 10: Measures to remove or relax the requirement for local retailers and customers to demonstrate that their load exceeds their generation are investigated, with a view to removing this impediment to generators which are able to send out energy with little or no material impact to the network.

Recommendation 11: Given the jurisdictional requirements for net metering in some states, all sites where bidirectional energy flows occur should be supported by twin element meters with 'net import / export calculation capability'.

Recommendation 12: Accessible options for aggregating loads and generators on different yet proximate points of the same distribution network, particularly where network losses/costs are demonstrably negligible, should be made available to small generators proponents.

Recommendation 13 Allow the shift of compliance with Section 5.3.7(g) from the generator to the aggregator, relax the requirement for NSPs to comply with Section 5.3.7(g), for 'micro' (up to 10 kW) generators, and develop standardised arrangements and deemed contracts for aggregated small generators

Recommendation 14: In ATA's view, gross (two element) interval metering is preferable in most instances where the consumer's load and generator are suitably proximate to each other and the distribution meter, and sub-metering with appropriate loss factors in all other cases.

Recommendation 15: That for metering purposes, intermittent (non-scheduled) generators be permitted to estimate appropriate loss factors and verify or correct this factor by measurement of the actual losses over a suitably indicative period of operation.

Section 1 Introduction

1.2 Objective and Scope

1. Is the objective of this discussion paper clear?

The objective of the paper is clear. ATA thanks AEMO for acknowledging in *Section 1.2* that the scope extends to include possible proposed rule changes to the AEMC.

2. Does the scope of this discussion paper encompass all of the relevant issues surrounding small generation?

In general terms, ATA considers most existing and anticipated issues relating to the operation of small generators in the NEM fall within the scope of the discussion paper. Where there are significant NEM related issues that lie outside of this scope, we will attempt to identify these and if we feel that an omission from scope indicates a need to expand or amend the scope in line with the objectives we will recommend accordingly.

It is important that due to the nature of small generators, many of which are located at the premises of retail energy customers, a range of other issues are faced which may be also considered broadly in the context of this paper.

These include, but are not limited to, human and financial resource constraints. There is often a requirement for project proponents to conduct a large amount of work and familiarise themselves with an onerous volume of knowledge outside of that required to operate in the NEM, such as legal, technical, financial, and planning approval processes and procedures.

As an example, whilst the scale may differ, the 100 kW wind turbine and a 100 MW wind farm have generally common requirements. Both require significant project management, compliance with local, state and sometimes federal planning provisions, energy resource assessment, finance and insurance arrangements, complex logistical arrangements, construction planning, electrical works, commissioning and testing, maintenance and so on. Both also have grid connection agreements, power purchase arrangements and / or energy wholesale market participation, metering and other energy market related requirements.

While a company developing a 100 Megawatt wind farm will typically have dedicated specialist staff in each of the above areas, a proponent (for example, a dairy farmer) who wishes to install a single 100 kW wind turbine, due to the prohibitive cost of engaging experts to consult in all of these areas, will likely undertake much of this work themselves – with electricity generation not comprising their core business.

Due to the relative economies of scale, the sum of all of the above NEM and non-NEM related costs means that the farmer with the 100 kW wind turbine will have far higher costs per MWh generated than the wind farm developer with the 100 MW wind farm.

To address this general issue of greater costs per MWh for small generators, ATA strongly supports measures to streamline processes for small generation units wherever the opportunity to do so exists.

ATA is of the firm belief that small generators, and in particular micro generators, should be entitled to significant concessions and incentives within the NEM, and that it is reasonable for the degree of these concessions and incentives to extend beyond that required to afford financial parity / equity within the market alone.

Recommendation 1: To address the issue of greater relative resource requirements for small generators:

- Introduce measures to streamline processes for small generation units, wherever the opportunity to do so exists;
- Market and related fees for small generators should be scaled according to generator capacity;
- Micro-generators up to 10 kW nameplate capacity should be eligible for significant concessions and incentives within the NEM, the degree of which should extend beyond that required to afford financial parity / equity within the market alone.

In relation to other issues outside the scope of the AEMO discussion paper and for further reference, ATA would like to draw AEMO's attention to the *Draft Code of Practice for Embedded Generation* that was put together for the Ministerial Council on Energy (MCE).

ATA also had involvement in the drafting of this Code and despite it not being utilised further by the MCE to date, it may provide a useful reference document for AEMO going forward. As such, it is attached to this submission for reference.

Section 2 Registration and Classification

2.1 The Requirement to Register

1. In order for small generators to participate in the wholesale energy market, should they need to register with AEMO using the current generator registration process? If not, what is a suitable process for small generators to register with AEMO?

Firstly, ATA questions the necessity of the exemption requirement for a Network Service Provider (NSP) to provide evidence to AEMO that a small generation unit's (SGU's) operation does not lead to a material degradation of the network – given that to be approved for connection and permitted for energisation, the proponent must have already demonstrated to the NSP that their SGU will not have a material impact on the network.

Notwithstanding that there are a number of requirements that will need to be reasonably satisfied before a generator connects to a network, small generators often experience protracted delays while waiting for NSPs to process information and respond to enquiries (the author has personally experienced protracted grid connection approval process for generators with little or no material impact on the network).

Further, the NSP would typically seek remuneration for this service and this would add to the cost of connection for the proponent, potentially impacting the cost effectiveness of the project.

Secondly, an SGU may require approval from a range of parties inside and outside of the NEM, and gaining approval to connection to the local network can be the most lengthy of the approvals processes. An NSP is unlikely to provide the required registration exemption evidence to AEMO before approving an SGU's network connection.

In order to avoid resultant delays to operation, ATA suggest that a party other than the NSP (for example AEMO or AER) be able to assess and determine the network impact of an SGU for purposes of generator exemption.

- Recommendation 2:** Remove the requirement for NSPs to provide evidence that generators up to 10 kW will not impact the network.
- Recommendation 3:** AEMO to provide conditional approvals for generators from 10 kW up to 1 MW to avoid operational delays resulting from a protracted approval to connect process (or other delays).
- Recommendation 4:** Incorporate provisions that allow for a party other than the NSP (e.g. the AER) to determine the network impact of a small generator for the purposes of registration within the NEM.

2. Should small generators be registered in the Generator category of market participant or should a separate classification be defined?

In keeping with our broad support of distributed generation, ATA recommends that all generation sources in the NEM are classified as generators.

Forecasting, smart metering, smart grids, energy storage and developments in generation technology all hold potential to address issues of intermittency and data provision for small scale stochastic generation sources such as solar photovoltaics and micro-wind turbines, reducing or removing the need for them to be classified as negative loads.

Further, classifying SGUs as a class (or sub-class) of generators and treating them as such in market operations is likely to assist and promote development of the abovementioned technologies.

If separate classes are required for SGUs for market operation purposes (e.g. on the basis of scale or how they relate to key *Financially Responsible Market Participants – frMP*), it would make sense to take this measure.

Recommendation 5: ATA recommends that all generation sources in the NEM are classified as generators.

3. What is an appropriate registration fee structure for small generators?

With reference to *Recommendation 1*, ATA would support a sliding scale fee structure for registration of SGUs in the NEM. The sliding scale should:

- be based on nameplate capacity;
- consider waiving fees for individual generators when they are aggregated, having a special registration charge for market participants with aggregated schemes.

By way of example, a proposed generator fee schedule may be comprised of the following scales:

<i>Total Generator / Aggregated Capacity</i>	<i>Base Registration Fee</i>
>500MW	\$14,000
30-500MW	\$8,000
5-30MW	\$4,000
1-5MW	\$2,000
<1MW	\$1,000
<i>Aggregated Generator Unit Capacity</i>	<i>(Additional) Fee per Aggregated Generator</i>
>5MW	\$2,000
1-5MW	\$500
0.1-1MW	\$300
10-100kW	\$200
<10kW	\$100

The fee scale suggested above is based on the estimated \$4,000 current registration fee, and is intended to be indicative of what ATA believes is a fair scale according to generator's nameplate capacity and the number of generators in an aggregate.

The reduced base fees suggested for small generators and aggregators are more affordable, while the increased fees for large generators allow AEMO to recover costs associated with generator registration. ATA wish to emphasise that the proposed increase in cost for generators above 30MW is not sufficient to be prohibitive of projects of that scale.

The suggested aggregated generator fees assume a standardised registration process (refer to the following question), and that the frMP will be ultimately responsible for compliance with market requirements and that AEMO will generally not deal directly with the generator owner. An example of how this fee structure would work for aggregated small generators is as follows:

Generator type	Typical generator size	No. of generators	Aggregated capacity	Base fee	Aggregated gen. fee	Total registration fee
Solar PV (residential)	<10kW	200	0.5MW	\$1K	\$20K	\$21,000
Stand by diesel	0.1-1MW	15	7.5MW	\$4K	\$4.5K	\$8,500

Recommendation 6: Registration fees should be scaled according to nameplate generator capacity and number of aggregated generators.

4. In what way could registration be standardised or streamlined to minimise manual processing of small generator registration applications?

ATA believes a standardised registration should be available for aggregated demand side generators where these can be categorised on the basis of technology type, owner type and market arrangement.

For example, a separate standardised registration could be made available to each of the following types of demand side generators where the frMP will be a party other than the generator owner, and a separate registration process will be required for the frMP:

Recommendation 7: That separate standardised registration be made available to each of the following types of demand side generators where the frMP will be a party other than the generator owner, and a separate registration process will be required for the frMP.

<u>Technology</u>	<u>Owner</u>	<u>Market Arrangement</u>
Solar PV	Residential/business	Non scheduled, aggregated
Diesel genset	Commercial building	Scheduled, aggregated
Wind turbine/s	Industrial/agricultural	Non scheduled

Bearing in mind that electricity generation is often not the primary business of owners of small scale aggregated generators, the necessary changes to registration process could be amended to allow the frMP to be ultimately responsible for compliance with market requirements, thus removing the need for AEMO to deal directly with a large volume of generator owners.

Recommendation 8: That the registration process be amended to allow the frMP to be ultimately responsible for compliance with all market requirements for aggregated generators.

Recommendation 9: Deemed arrangements should be developed for registration of aggregated small generators (which will typically accompany an aggregator's application to register), including:

- a pro-forma application process for small scale aggregated generators (non scheduled); and
- a pro-forma application process for small scale aggregated generators (scheduled).

2.2 Classification of Generators as Market/Non-Market

1. Does the registration process allow for the efficient classification of small generators as market/non-market?
2. The NER implies that generation must be 'sent-out' into the grid in order to be 'sold' to the market or a market customer. Are other arrangements which do not involve energy being sent out into the grid (e.g. islanding of generation supplying to a local load while still accessing the spot price) viable?
3. Do current arrangements maximise the value of small generators in the off-market sector (comprising non-market and exempt generators)?

(Our response to discussion points 1 to 3 above follows, and ATA would welcome the opportunity to provide more considered advice regarding discussion point 2 at a later time)

The requirement for local retailers and customers to demonstrate that their load exceeds their generation places a significant restriction on the amount of demand side generation that can be deployed.

ATA strongly recommends that measures to remove or relax this requirement are investigated with a view to removing this impediment to generators that are able to export with little or no material impact to the network.

Recommendation 10: Measures to remove or relax the requirement for local retailers and customers to demonstrate that their load exceeds their generation are investigated, with a view to removing this impediment to generators which are able to export with little or no material impact to the network.

Removal of these impediments is likely to enable non-network based alternatives to some network constraints at less cost than network augmentation. For example, where aggregated diesel 'stand-by' generators in an area are able to be dispatched to send out energy to alleviate transmission constraints

during times of high demand or network failure, this may avoid or significantly delay the need for network upgrades.

ATA note that it is increasingly common for domestic premises to send out energy due to the high uptake of rooftop solar PVs at residences and small businesses, and a large number of potential sub-MW class wind energy projects are constrained by the market inability to handle reverse energy flows past certain connection points on the distribution network, where the power quality on the network will not be materially impacted.

Section 3 Data Metering Requirements

3.1 Metering Requirements

1. What cost-effective metering arrangements are appropriate to facilitate wholesale energy market and other market opportunities for small generators?
2. What should be the minimum level of metering required of a small generator system and according to what criteria?

Under *Section 3.1* of the discussion paper, two types of metering of bidirectional flows are discussed, and referred to as gross and net. It is important to note that there is third metering type, often described as 'import / export' metering, on which basis many state-based feed-in tariffs (confusingly described as 'net' feed-in tariffs) are calculated.

Under a net feed-in tariff and metering arrangement, energy flows past a single element are measured, and all energy sent out (at any instant when the generation exceeds the site load) is totalised and the customer is paid for each kWh sent out on this basis.

For example, a customer with a PV solar array may consume 4kWh in a one hour period, and generate 3kWh, and due to variations in their consumption during the period they may consume 2.5kWh of the locally generated PV output and send out 0.5kWh to the network.

In this case, the customer will pay for 1.5kWh exported from the network, and be paid or credited for the 0.5kWh sent out in the same interval. Neither of the metered values indicates how much they have consumed or generated during this time.

For market management purposes, ATA strongly support consumption / generation metering (described as 'gross' metering in the discussion paper).

AEMO have expressed to the *National Smart Meter Program* (NSMP) their preference for twin element meters (i.e. 'gross' meters) to be installed at all embedded generation sites where bidirectional energy flows occur so as to enable values for consumption and generation to be separately measured.

ATA strongly support AEMO's position on this as neither true 'net' nor 'import / export' metering allow for the correct measurement of consumption and generation where bidirectional flows occur.

As there are jurisdictional requirements for net metering in some states, ATA supports the inclusion of a capability of all twin element meters to support 'net import / export calculation capability', which will allow the calculation of net feed-in tariffs in these jurisdictions.

It is important to note that many small renewable energy generators (including PVs above 100 kW, and wind turbines above 10 kW) require a meter configuration that allows for gross metering for measurement of energy sent out for the purposes of calculating renewable energy certificates (RECs).

Recommendation 11: Given the jurisdictional requirements for net metering in some states, all sites where bidirectional energy flows occur should be supported by twin element meters with 'net import / export calculation capability'.

3. What are the costs and benefits of alternative metering arrangements for small generators?
4. To what extent do metering requirements imposed by the NER and AEMO affect or enhance the ability of small generators to participate in the NEM and related markets?

Metering requirements can have significant, and often project-specific, impacts on the ability of small generators to participate in the NEM and related markets.

One significant issue for some small generators, due to the inability to aggregate (for market purposes) generation and consumption meters at different locations, is the additional cost requirement of connecting a generator to a point of common coupling with the customer load.

We cite the real example of a 150 kW wind generator located on an estate near Longwood in Victoria. The optimum location (ie highest wind resource) for the wind generator is approximately 200 meters from a metered point of supply to the proponent, yet they were required to install a 750 meter underground LV connection to their primary supply to enable the frMP to effectively 'net off' their generation and consumption. This is in spite of both points of supply being on a dedicated 22 kV distribution spur, meaning there would be no material impact on the network or alteration to the total amount of energy sent out.

The additional cost to the proponent of this underground connection increased the overall project cost 20% at the time. Today this would represent an increase in project cost of over \$100,000, which over the life of the project would add (approximately) \$20/MWh to the cost of wind generation on site.

The further requirement for this generator to have a dedicated meter for energy sent out for the purposes of calculating RECs added some thousands of dollars more to the project cost, which also would have been avoided if the wind turbine connected to a dedicated metering element upstream.

The ability to aggregate meters and allow energy sent out at one location on the network to be purchased by an frMP at another would avoid this need and remove a significant barrier to many potential projects, particularly wind energy projects of up to 1MW, facing a similar barrier.

Recommendation 12: Accessible options for aggregating loads and generators on different yet proximate points of the same distribution network, particularly where network losses/costs are demonstrably negligible, should be made available to small generators proponents.

3.2 Metering Installation Assessment by AEMO

1. Who should assess the adequacy of a metering installation for a small generator?
2. What data is required by AEMO to determine whether a small generator's proposed metering installation complies with NEM metrology requirements?

With reference to our earlier point regarding the often lengthy process faced by small generators in obtaining approval to connect to the local network, we believe it would be reasonable for AEMO to give

an approval which is conditional on a grid connection being granted by the NSP, and not require the NSP to submit information other than that required for dispatch and settlement purposes.

3. How can the AEMO notification and assessment process be streamlined to facilitate processing and assessing metering installations?

In the case of aggregated generation, ATA suggests that this would best be achieved by:

- shifting the burden of compliance with Section 5.3.7(g) from the generator to the aggregator;
- relaxing the requirement for NSPs to comply with Section 5.3.7(g), particularly for 'micro' (up to 10 kW) generators, where it can be assumed that the approval of grid connection satisfies to basic requirements, to demonstrate lack of material impact on the network, and therefore satisfied the metering requirement of the NSP (or meter infrastructure owner where this is not a NSP);
- the development of standardised arrangements and deemed contracts for aggregated small generators, including a standardised notification and assessment process for aggregated generators, thus removing the need to duplicate material provided by the frMP.

Recommendation 13 Allow the shift of compliance with Section 5.3.7(g) from the generator to the aggregator, relax the requirement for NSPs to comply with Section 5.3.7(g), for 'micro' (up to 10 kW) generators, and develop standardised arrangements and deemed contracts for aggregated small generators

3.3 Metering of Losses in Consumer Networks

1. Are the losses present in consumer networks with load and small generation components material?
2. What factors influence how the losses are apportioned between the load and generator?

Losses in consumer networks are material for many HV connected customers, to the extent that avoided transformer losses may effect measurably to the value of energy generated on the demand side. Factors may include, but not limited to:

- Customer's load profile, which itself is dependent on many factors;
- Generator type, size and generation profile:
 - intermittent Solar PV, operating during daylight hours only with peak output around midday;
 - intermittent wind, operating at any time with peak output at any time;
 - dispatchable stand-by generator, operating at one or more of the following times:
 - in event of grid failure (islanded, not relevant for market purposes);
 - when dispatched to relieve local network constraints;
 - when dispatched in response to high energy price;
 - to sell sent out power, or
 - to avoid purchasing energy at high prices, or
 - for both of the above reasons
 - when used at times of high load as alternative to increasing capacity of network connection;
 - in islanded mode (not relevant for market purposes), or

- paralleled (synchronised) with the network;
- Volume of avoided exported energy from network (i.e. that which is generated and consumed on site), and of that:
 - volume supplied directly to load;
 - volume supplied to customer loads at other points (i.e. via two transformers);
- Volume of energy imported to local network;
- Volume of energy exported to the local network;
- Conductor losses;
- Transformer efficiency;
- Reactive power:
 - consumed by the load;
 - consumed by the generator;
 - supplied by the generator;
- Power factor correction present on the customer side of the meter.

While loss calculation can be a technically complex area, it is important to note that the opportunities exist to standardise the calculation of losses within the majority of customer networks to a degree of accuracy that should be satisfactory for market purposes.

3. **What metering arrangement best decouples generation from load in consumer networks in order to facilitate the participation of the generation in wholesale and/or other markets?**

Recommendation 14: In ATA's view, gross (two element) interval metering is preferable in most instances where the consumer's load and generator are suitably proximate to each other and the distribution meter, and sub-metering with appropriate loss factors in all other cases.

4. **What arrangements or improvements would be appropriate to simplify the calculation of losses in consumer networks and hence improve the ability of generators to access the NEM and NEM-related markets?**

ATA believes a standardised loss factor calculation for small generators is achievable for the majority of customer sites and is a key measure for removing impediments for participation of small generators in the NEM.

There exist many technically feasible opportunities for demand side generation on HV-connected networks, where under the current requirement for calculation of a loss factor within the consumer network (i.e. registration as an NSP or exemption from the same) precludes, or removes the incentive

for, participation in energy markets. With reference to the discussion point 2 above, loss factors could be standardised for most customers. The following examples are offered:

Non-importing generators with no transformer losses

Non-importing customers, who have:

- no sent-out energy, and
 - no transformers on site, or
 - where the generation on the load side of a transformer is less than the consumption;
- can be assumed to have a zero loss factor within the customer network. This category will cater to many small customers.

Non-importing generators with transformer losses

Non-importing customers with transformers, where the all energy is still used within a customer installation but the generation on the load side of a transformer exceeds the consumption, should have a standardised loss factor based on:

- the estimated portion of energy passing through transformers;
- the estimated average transformer efficiency.

Importing generators with no transformer losses

Importing customers, who send out some energy but have no transformers between the generation meter and the point of connection to the network (this includes both LV customers, and HV customers whose generator/s have dedicated transformer/s and are metered on the mains side of the transformer) can be assumed to have a zero loss factor within the customer network. This category will cater to many small customers.

Importing generators with transformer losses

Importing customers with transformers, who have some sent out energy should have a standardised loss factor based on:

- the estimated portion of sent out energy passing through transformers;
- the estimated portion of locally used generation passing through transformers; and
- the estimated transformer efficiency.

Estimation of loss factors in consumer networks for intermittent generators

Given the potential difficulty of estimating the portion of sent out energy passing through transformers for some intermittent (non-scheduled) generators, and the lack of significant material impact on network stability when this estimation is incorrect, ATA suggests that for metering purposes generator/aggregator owners / operators be permitted to:

- estimate this to the best of their ability for metering purposes;
- measure or calculate the actual losses over the course of a suitably indicative period of operation if required.

Recommendation 15: That for metering purposes, intermittent (non-scheduled) generators be permitted to estimate appropriate loss factors and verify or correct this factor by measurement of the actual losses over a suitably indicative period of operation.

3.5 Forecasting and Load Profile Data Integrity

3. How can small generators, and in particular exempt and non-market generators, be excluded from the Net System Load Profile in order to improve the accuracy of settlement of Type 6 accumulation meter data? Given the rollout of smart meters across the NEM (hence eliminating Type 6 meters), is this necessary or material?

ATA is of the view that, given the inevitable rollout of smart meters in most regions of the NEM, the development of systems and processes to accommodate small and / or aggregated scheduled and non-scheduled generators will be a far more productive use of AEMO's resources than the accommodation of legacy Type 6 meters for small generators.

Under a smart meter rollout, ATA strongly supports the deployment of twin element meters with the capability to calculate net import / export at all sites with bidirectional energy flows to allow the separate measurement of consumption and generation.

Further Contact

Thank you again for the opportunity to provide comment on this consultation process and should you have any queries regarding the content of this submission, please do not hesitate to contact the undersigned.

Yours sincerely,

Craig Memery
Energy Advocate