Facilitator's Report on

Stakeholder workshop on micro-scale generation in the context of the Renewable Electricity Support Scheme

17th October 2017, Clayton Hotel Ballsbridge, Dublin

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This workshop was organised by the **Sustainable Energy Authority of Ireland (SEAI)** at the request of the **Department of Communication, Climate Action and Environment (DCCAE)** in the context of their consultation on the **Renewable Electricity Support Scheme (RESS).**

The **aims** of the workshop were to:

- Inform attendees on the content of the RESS consultation and on the current state of play of microgeneration.
- Facilitate and record discussion amongst stakeholders on some of the key issues affecting microgeneration deployment in Ireland, including policy support, grid issues and regulation.

Workshop Programme

09:30 – 10:00	Registration and Coffee
10:00 – 10:05	Opening addresses – *Jim Gannon, SEAI and Eamonn Confrey, DCCAE*
10:05 – 10:10	Workshop introduction – *Chris Chapman, Change Exploratory*
10:10 – 11:40	**PART A: Microgeneration perspectives** • The design of a renewable electricity support scheme and exploring pathways for microgeneration - *Paul Ahern, DCCAE* • Grid connections for small and micro-scale generation – *Rory Mullan, Mullan Grid Consulting* • Estimating the economic impacts of support schemes for residential PV – *Sarah La Monaca, UCD Energy Institute*
11:40 – 12:20	Questions and discussion
12:20 – 12:30	Introduction to afternoon session – *Chris Chapman, Change Exploratory*
12:30 – 13:30	**Lunch**
13:30 – 15:45	**PART B: Discussion sessions** Group/panel discussions to share and capture issues and solutions in the areas of support options, regulation and technical considerations. • Session 1: participant-selected questions **Coffee break** • A planning perspective on microgeneration – *Niall Cussen, DHPLG* • Session 2: features of a microgeneration support framework
15:45 – 16:10	• Final comments from participants • Final reflections and close

Introduction

The workshop was opened by **Jim Gannon, Chief Executive of the SEAI** who outlined its role in enabling the transition to a sustainable energy future in Ireland.

He explained that provisions in the European Commission's Clean Energy Package mean that greater supports for microgeneration are inevitable, but that the regulatory details need to be determined by each Member State. The purpose of this process is to ensure a framework is in place to facilitate the uptake of microgeneration in Ireland, drawing on the input of stakeholders.

Jim also acknowledged the importance of stakeholder engagement, both for the ongoing development of the microgeneration sector and in the wider context of energy transition, and he expressed his hope that this workshop may go some way to supporting growing collaboration within the sector.

Participants were also welcomed by **Eamonn Confrey, Principal Officer, Electricity Policy Division at DCCAE,** who outlined that the main objectives for the workshop were to facilitate discussion on key issues affecting microgen, inform the audience on the RESS and current state of play, and encourage responses to the RESS Consultation.

The agenda for the workshop was built around four presentations (detailed in Appendix One to this report), two rounds of table discussions (summarised in Appendix Two and Three to this report) and a variety of opportunities for stakeholders to make points and ask questions (a summary of responses to the question 'What could be done relatively easily and quickly?' has been included as Appendix Four to this report).

The main body of this report has been structured into sections, each representing an issue related to microgeneration that was discussed at the workshop. The content has been derived both from points made in table discussions and points made by individuals. Given the nature of the workshop, points raised were not tested to see the overall level of support they attracted, nor how they would fit together into an overall coherent approach. This report should therefore be read as a description of the spectrum of views presented in the room, rather than a package of proposals. (N.B. There are clearly some points which are in direct opposition to each other).

It should therefore be acknowledged that many of the views recorded in this report were those expressed by individual participants in the workshop rather than consensus views agreed by all attendees. It should also be acknowledged that written comments have been transcribed from handwritten cards and papers and there is some possibility of errors having been made in that process.

APPENDIX 3	Group Discussions on 'The Main Features You Would like to see in a Support Framework'
APPENDIX 4	'What Could be Done Relatively Easily and Quickly?'

The workshop was closed by Eamonn Confrey, DCCAE. Thanking participants, he emphasised that expectations as well as frustrations had been heard and recognised and sought to encourage participants to respond to the RESS consultation whilst it was still open. He expressed interest in looking further at the potential for any short-term solutions to be accommodated. He anticipated that the RESS would be developed over the next 12-15 months, moving through the various approval stages necessary, including state aid approval.

1.0 Definitions

A strict definition of microgeneration was not introduced as part of the workshop. A working definition was included in the invitation, so as to provide registrants with some sense of the scope of the event. This working definition was as follows:

Micro-scale generators are small electricity generators deployed on the low voltage distribution network. The definition typically encompasses generators deployed within homes, businesses and other commercial properties, where there is some level of self-consumption of the electricity generated. It includes technologies such as small-scale solar PV, wind turbines, hydro, and combined-heat and power.

It was suggested that the lack of an agreed more precise definition (and of sub-categories within that definition re 'domestic', 'micro', 'small-scale', 'commercial' and 'industrial') was impairing the debate. (Upper definitional limits for support of 50 kWp on domestic and up to 1 MWp on commercial / industrial (possibly 6 MWp for wind) were suggested by one participant for a 'small-scale auto-producer' generation tariff.)

The case was made by participants on several occasions that commercial rooftop PV deserved its own scheme and a special focus.

It was seen that it would be advantageous and simplifying if the same definitions and limits could be applied across planning and support schemes.

2.0 The Nature of a Microgeneration Support scheme

A topic discussed at one table in the group discussions considered the specific question of whether a microgeneration support scheme should be included in the wider RESS or not and those debating came to the conclusion:

"Yes, IN, but ….", the 'but' being that this only made sense if the process was 'suitable' and that different schemes would be required for different types of projects. The group felt that more analysis was required in relation to the costs and benefits of auctions. *(More than one participant elsewhere in the workshop expressed the counter view that Microgen should be left out of RESS and another the concern that if it was left out, then it might also get left out of ongoing consultation and the potential for progress would be further slowed).*

One participant noted what they saw as a necessity that the benefits of microgeneration needed to be clarified (requiring a full cost benefit analysis) before designing a support scheme – i.e. "one needs to know what one is trying to foster before trying to foster it"

There was also a request that any support scheme be kept simple.

One participant highlighted what they saw as a risk if the process was split up into several smaller auctions, then competition would be decreased and costs to consumers increased.

2.1 Form of Supports

A wide variety of views were expressed on what the most appropriate form of financial supports to microgeneration could be.

In terms of the forms of possible supports to make the economic case for investing in microgeneration more viable, views included:

- The idea that there should be energy credits for solar PV
- Support for a generation based tariff for domestic and commercial PV systems (rewarding self-consumption, supporting optimal sizing of PV and encouraging more business and consumers to connect to PV)
- The concept of tariffs digressing annually in line with improvements in technology
- Funding being banded according to kWh generated annually
- Export tariff valued roughly around the System Marginal Price (SMP), if at all
- There might be different grants made available for PV / wind / CHP – possibly a thermal efficiency first / fabric upgrade approach
- That 'we' should also incentivise electrical energy storage systems – 'Battery storage can lower the payback and viability of solar PV installation'
- Domestic and commercial sectors should be incentivised accordingly – domestic (<6 kWp) grant – Commercial (>11kWp) tariff
- Proposal for a small scale auto-producer tariff to facilitate deployment of 50 kWp to 1 MWp of non-wind renewables
- Views diverged on net metering, i.e. one participant said "net metering should never be introduced", another that "it is the fairest long-term solution for domestic Microgen"
- Need for clarity on what is seen as acceptable payback periods (5 or 10 years?)

2.1.1 Support for a **Generation Tariff** was specifically mentioned at 5 tables (out of a total of 10) in the afternoon discussions on the main features people would like to see in a support scheme, with the following specific views being set out at individual tables:

- it should be within RESS and based on size
- it should cover domestic and commercial
- it should be based on total generation
- an inverter meter should be used to verify
- there should be a particular focus on commercial sites between 11 and 500 kW

Individual comments in relation to generation tariffs included:

- Comment that linking supports to generation can allow the government to collect reliable data on renewable generation output for these small installations.
- Support for a green generating tariff for all renewables, as provided with NIE in Northern Ireland (flat rate before FIT added on). Top up tariff can then be applied accordingly to each technology
- Generation tariff will incentivise good quality over the long term (e.g. 2030 and beyond) and it encourages good system design (encourages on-site consumption)
- Generation tariff for commercial rooftop PV within RESS and within EU State Aid Rules
- Implement a generation based tariff for self-consumption – banded based on size of system (kWp)
- Encourage zero export as much as possible
- Guaranteed tariff for 15 years – 7 c/kWh for example

An individual participant separately made the specific suggestion that "a good approach for commercial generation supports could be that they are given on the provision that over 75% of the electricity generated is self-consumed."

One participant expressed caution that we should avoid mistakes made in other countries (e.g. generation tariffs, as in Germany) 'which drove up retail prices to approx. 30c/kWh'

2.1.2. 3 of the table discussions developed ideas for an **Export System,** features possibly including:

- A market rate for domestic generation
- A capped rate based on % exported for commercial
- A link to wholesale price
- Making it a legal requirement for all utility providers to have an export tariff
- Banding on kW size basis aligned with planning and grid bands

2.1.3 One participant expressed caution regarding the use of **Grants** as a means of support:

"there is past experience in Ireland with a 'boom and bust' effect in an industry when grants are introduced and then removed. Grants are dependent on the exchequer and does not put the industry on a sustainable path, they are thus not ideal."

Other points raised in discussion included that grants tend to have the advantage that home-owners respond well to them and they are easy to understand, although, on their own, they do not address the issue of paying homeowners a fair price for any electricity they export.

(Issues in relation to grants were also covered in Sarah La Monaca's presentation – see Appendix 1)

2.2 The Potential to Introduce Supports in the Short-Term

Some views expressed focussed on forms of support that it was felt could be deployed relatively quickly, to help create momentum in the sector and 'give a good signal'. ("Don't spend another 2 years trying to get the perfect system"). Ideas for creating momentum included:

- Creating a specific SEAI fund for early adopters of solar PV
- That a grant scheme should match solar thermal PV ('making sure all PV installation is measured' and 'solar PV kick-started properly')
- Extending SEAI Better Energy Community funding to local authorities and other recipients other than community based associations
- 'That the focus should be on residential 2 to 6 kW, starting in 2018'
- 'It could be the same grant for domestic solar, wind or CHP etc. that complies with planning and other statutory consents'
- "Farmers love rooftop PV, let's get started"
- "Deploy commercial rooftop PV now – help meet 2020 targets – reduce potential fines – it is the only tech that can deploy quickly" (see Table G discussion in Appendix Two for further detail)
- Support for residential battery storage
- "Trial a Microgen grant scheme through SEAI in 2018. €2000 or €3000 per project for a few hundred projects"
- "Invest in Ireland now! Don't give €400m in fines in favour or investing in sustainable Ireland."
- Pilot programmes to learn from 'real' examples

Others focussed specifically on opportunities where there was already infrastructure in place:

- "Use Public Sector/Local Authority infrastructure for PVs for electrical self-consumption and/or community clusters"
- "Use Local Authority as 'community' driver/exemplar through individual or collective use of Social Housing, Leisure Centres, Community Centres, Corporate building infrastructure, Business - Link to business provided through Local Enterprise Office, Green Business Office"
- "Link to schools provided through Green School Programme"

One of the afternoon discussion groups specifically sought to address the 'level of support that would kick things off with roof top solar'

2.3 Should Support be linked to Energy Efficiency of Buildings?

One of the discussion groups felt that the focus should be on a "post-fabric" measure linked to BER / previous measures (as for SEAI Better Energy Communities where SEAI / BEC provides 15% more grant for 'combined fabric upgrades' (deep retrofit – fabric first)). The group recognised that PV is not suitable for all buildings and businesses and that education had a particularly important role to play.

One participant made a specific comment within that context that 'PV should be a post-fabric measure (after insulation has been installed)' and that this was somewhere education needed to focus.

Related points included the following views:

- support for microgeneration should be linked to the existing energy performance of the building.
- Don't allow renewables to supplement poor build / inefficient systems
- Support for residential for PV should be limited to retrofit (building regulations already cover new build). Any support should be linked to other measures in the home that tackle decarbonisation e.g. far better to have solar PV + heat pump rather than putting solar PV on a house with an oil boiler which will be exporting onto the grid
- The importance of supporting 'exemplars' / leaders in communities to improve uptake

2.4 The Potential of Commercial Rooftop Solar

One of the afternoon discussion groups specifically addressed the question of how commercial rooftop could fit within an overall scheme and made the following proposals:

- System designed to consume a minimum of 75% of generated electricity on an annual basis
- Tariff could be a fixed tariff for 15 years based on generation (not export)
- Tariff can be digressed upon certain deployment caps being hit, e.g. every 100 MWp, until an overarching target is reached, e.g. 600 MWp
- To be included within RESS
- Can help reach 2020 targets (quickly deployed) and reduce fines
- Benefits the businesses and building tenants / owners, by reducing electricity bills
- Grid application dealt with parallel generation (non-export)
- Microgeneration (up to 50 kWp) would be dealt with separately
- 50 kWp to 1 MWp (6 MWp wind) behind the meter within EU rules
- Banding based on installed size
- Suggested that no EU approval would be needed
- New non-GPA process for sub 1MW export project
- Within RESS

3.0 Connection

3.1 Complexity from the User's Perspective

The general comment was made that there are currently too many hoops for people to jump through in installing microgeneration (e.g. planning and connection processes). The view was that the connection process should be streamlined.

(Rory Mullan's presentation also addressed the complexity of the system – see Appendix 1)

3.2 Challenges with grid capacity

It was suggested by one participant that battery storage could overcome grid constraints and that there is now a scheme in the UK to support residential battery storage

One participant emphasised the importance of energy assessments as a tool for reducing demand, another the need for a household survey to examine the potential for behaviour change to ease grid capacity challenges.

One participant saw it as critical to provide information on grid capacity at sub-station level, in order to facilitate small-scale generation (making transparent the ability to accept generation). Where local demand for additional connections was exceeded, the question remained as to how grid upgrades should be funded.

One participant suggested that the 11kW lower limit for G10 panel / EGIP (Embedded Generation Interface Protection) should be made less restrictive, especially for 11 – 50 kW

3.3 Metering

One of the table discussions specifically addressed the issue of net metering and came up with the following proposals:

- Solar data should be returned by SIM, (as implemented by all US States and 3 EU countries), technically feasible with existing meters, low transaction costs, low admin costs, least cost option, query re who bears cost, possible to reward exports at a lower rate than imports, net billing every 2 months (not yearly), could be implemented for initial adopters up to a limited number of installations (1000's). Data is returned at 3 minute intervals

Participants highlighted that if there was metering for all generated renewable, annual readings could then be used in submissions to Europe (people should be compensated for readings) Concern was expressed regarding the price of meters (import / export meter is €640 – GIO price?) and also that 'the future proofing of smart meters needs to be looked at, will they still be up to date in 5 years?'

4.0 Planning

Many participants highlighted that current restrictions were very limiting. One of the discussion groups concluded that we "need rules appropriate to PV (not solar thermal)"

Another discussion group suggested limits of 40.8 sq.m for domestic and 680 for commercial. Another emphasised the importance of any limits being future proofed against technology improvements.

Individual suggestions included:

- "41sqm for domestic, 700sqm for commercial would be good"
- "Increase planning from 12 sq.m to 40 sq.m domestic and 100 sq.m commercial"
- "Planning exemptions for PV should be based on sq.m and future-proofed for technology improvement"
- "That the 11kW lower limit for GIO panel / EGIP (Embedded Generation Interface Protection) should be made less restrictive, especially for 11 – 50 kW"

There was felt to be an urgency to this issue and a request made to "Remove Planning Barriers now for 2018!" It was noted that "relaxation in planning rules around rooftop PV in Northern Ireland greatly helped the industry to grow."

The comment was made that it may be appropriate to separate the technical aspects of planning exemptions from the principle, leaving discretion for local authorities.

(Comments made by Niall Cussen, Chief Planning Officer from the Department of Housing Planning and Local Government on the planning considerations in relation to microgeneration are included in Appendix One to this report)

5.0 Standards

One of the afternoon discussion groups specifically addressed the issue of standards for the Irish market and concluded "Standards are important, but enforcement of said standards is critical".

Specific standards addressed by the group included:

- Technical standards, in relation to products (N.B. quality of roof hooks), installation (danger of expensive NSAI process?) – and ref to MCS (UK) / US / Australia
- Consumer standards, in relation to sales processes, person's behaviour and clarity on system production
- Safety standards, in relation to Part B of building regulations and Fire standards

An individual participant picked up on the need for "a standard for metering that calibrates with existing measurement system (inverter)"

4 tables addressed issues of standards**,** in the afternoon discussion on the main features desired for a potential support system. Specific ideas included:

- there should be a registered list of installers (based on quality and safety)
- there should be a standard quality installation audit
- regulatory standards on their own are not enough, need enforcement too

There was a request made with respect to installation standards that we do not seek to reinvent the wheel – 'there are perfectly good standards in place in the UK, in particular the MCS.' (N.B. there was some disagreement amongst delegates regarding the appropriateness of the MCS)

6.0 Paying for a Scheme

6.1 Reforms to the Retail Tariff Structure / PSO

3 tables in the afternoon discussions suggested **changes to the PSO,** including:

- making sure there was a link between investment and savings (N.B. people paying PSO levy may not benefit from savings)
- a suggestion that the PSO should be restructured to encourage more self-consumption (N.B. there could be negative distributional impacts with this)
- addressing the disincentive for microgen in the KVA levied PSO
- bills could be restructured to include some fixed component for network charges

The idea of using funding mechanisms for RESS and microgeneration other than PSO levy was backed by several participants. Other possibilities mentioned included:

- 'It could be done through energy credits system or possibly grants'
- 'it could be paid for through a tax on oil and gas'
- One participant described the PSO as "no longer fit for purpose and ... not fair (15 years old)"
- Some participants wondered "Is there any possibility that "the potential fines for missing 2020 targets could be spent in part on supporting microgeneration?"
- Paying from central taxation

6.2 Distributional concerns

Participants expressed the following words of caution regarding possible negative impacts on low-income households:

- "Beware of distributional implications, e.g. from self-consumption and "death-spiral" effects, where a decreasing share of the population pays increasing charges – charge network charges!"
- "Consider distributional impact of PSO levy reforming it to provide usage based levy rather than flat rate for domestic customers"
- "Should everyone be paying (PSO) even if they cannot afford to then avail of the support themselves?"

7.0 Timeline

Several participants requested more clarity around the timeline for resolving some of the challenges currently limiting microgeneration uptake. Participants emphasised the importance of relatively quick action in some areas – "Do this quickly before all the suppliers and skills leave the market" – "Put microgeneration first (FIT before RESS), not on long finger with more analysis".

At the same time as seeing an urgency, there was also a recognition that "this is a complex area" and a view that "DCCAE are getting paralysed by over-analysis. A number of work streams need to be progressed in parallel. These may not be done perfectly, but it is time to move forward."

6 tables in the afternoon discussions made comments regarding the importance of **Speeding Up the Process** - these included references to:

- easing planning restrictions
- easing grid connections
- overall improvements to the regulatory approach, especially metering and market access
- an overall fast-tracked Microgen application process

A comment was also made that "there is an expectation from homeowners and businesses that there will be a subsidy in the future and it is having an effect on the market now"

One participant said their "impression from the consultation is that the State is waiting for the market to demand a change in regulation. View that instead the regulatory changes should be made now and people will respond, subsequently adapting the regulation as needed. Don't wait for the perfect, act now and adapt"

Interest was expressed in "the potential for a simple straightforward arrangement whilst waiting for a more sophisticated scheme (to disincentivise prevarication)"

8.0 Other / Miscellaneous Comments

- That the standard NC6 form states that Electric Ireland / ESB no longer buy electricity – this does not consider other suppliers / lite
- That the ISEM should have exemptions / de minimus levels for small generators and suppliers (supplier lite)
- Microgeneration will have a higher LCOE (Levelised Cost of Energy) than large scale technology neutral auctions, but it also has additional benefits.
- Microgen scheme similar to scheme run by ESB should be re-introduced as behaviour has changed
    - Microgeneration is complicated. DCCAE and SEAI should have additional technical staff to resource this
    - Microgeneration will cost more than large scale generation, but delivers a sense of ownership to citizens
    - Government must want it out of principle, then support it in most cost effective way, even if microgeneration will make only a small impact on RES generation and PSO levy
    - Most critical points seem to be around certainty and stability – there is a clear need for clarity that is restricting uptake at present. Also strong representation from industry at workshop, but less from consumers - opinion given that there is a need to better understand what will actually motivate potential uptakers.

A closing comment was made on the importance of including general members of the public in the debate and not just leaving this to experts and interest groups. “Microgeneration is the one area where community and people can directly become involved in renewables. On a smaller scale, on their own homes, farms or businesses”. Highlighting these opportunities was also seen as an important part of the education process required in the context of Ireland’s overall energy / decarbonisation challenges.

Appendix 1: Presentations and Additional Points Made in Response to Questions

The event included four presentations:

1. Paul Ahern, DCCAE: "The design of a renewable electricity support scheme and exploring pathways for microgeneration" **https://tinyurl.com/yavm5xob**

2. Rory Mullan, Mullan Grid Consulting: "Grid connections for small and micro-scale generation" **https://tinyurl.com/y8bxfhyj**

3. Sarah La Monaca, UCD: "Estimating the economic impacts of support schemes for residential PV" **https://tinyurl.com/y8dphsln**

4. Niall Cussen, Chief Planning Officer from the DHPLG: "The planning considerations in relation to microgeneration" (no slides used)

After their presentations, presenters responded to questions asked as follows:

1. Paul Ahern

"The diverse subject matter of questions received demonstrates how complex the issues are":

- Consultation on RESS sets out emerging principles, viewpoints are welcome on this.
- Regarding questions on timeline, can't commit to when there will be a scheme in place, but there is political will to look at microgeneration
- Specific questions on economic analysis assumptions can be addressed bilaterally – all data from analysis has been published along with the consultation and comments can be fed in to the consultation process
- The RESS scheme will be funded through the PSO
- Gaelectric paper has been noted and will feed in to consultation.
- Agreement with Friends of the Earth that microgeneration can have a positive impact, but notes the challenges discussed in the morning presentations around grid impacts, costs etc.
- Important that citizens are brought along on the journey
- Must bear in mind that supports for renewable electricity will increase the PSO for everyone if microgeneration is included and this is not amenable to all stakeholders

2. Rory Mullan

- Clarification that there is at least one energy supplier who will buy electricity from microgenerators
- Comment that the devil is in the detail with microgeneration connection
- Need for a clear definition of microgeneration
- Question regarding whether a public microgeneration organisation should be set up – view from Rory that this would obviously be beneficial, but note that potentially existing independent bodies could coordinate to fulfil a similar role.

- Planning, grid, support scheme, metering all need to be considered together, not separately.
- Comment that embedded generation can potentially reduce losses in the system since the generation is located close to demand.
- Microgeneration valuable in terms of winning the hearts and minds of the general public on renewable energy.
- Microgeneration can end up tying up export capacity, although this can be mitigated through rollout of smart grids
- Ireland is ahead of the curve in wind integration, but behind in storage and solar PV. Ireland does not yet have a lot of experience with small distributed renewables in our network.

3. <u>Sarah La Monaca</u>

- Clarification that domestic storage was not included in the analysis
- Comment that switching to bills which charge on an all-volumetric basis (i.e. no fixed charge on bills) can lead to cross-subsidisation (distribution from those who can afford to those who cannot) which is something to avoid.
- No one silver bullet policy in the paper, rather a combination of measures needed.

4. <u>Niall Cussen</u>

- DHPLG's role is to ensure Ireland has an up to date and suitable planning regime in place
- DHPLG are open to discussing the exempted development regulations with microgeneration industry to determine what is proportionate. Caution that legislative procedure for changes is not straightforward.
- Ireland 2040 – national planning framework for Ireland to 2040 being developed. Role of renewables in this is important
- Eager to support the transition from building stock being net consumers of energy to net exporters of energy.
- Caution expressed over using a kW limit as the metric, since efficiency improvements in the technology mean that the sq.m that this translates into will change.

Appendix 2: Group Discussions (Topics chosen by Participants)

At the beginning of the afternoon session, participants were asked to identify potential conversations, on topics relevant to microgeneration, that might be helpful to have at this stage. 10 conversations were identified, as follows (numbers in brackets show the number of people who participated in that conversation):

A. Could a microgeneration scheme be used to account for currently unrecorded renewable generation? (4)

B. How should the RESS and microgeneration be funded (not just PSO)? (9)

C. How do you strike a balance between supporting self-consumption vs export for commercial rooftop PV? (2)

D. Should Microgeneration be in or out of RESS? (8)

E. What is the actual cost of rooftop PV? What level of support would kick things off with rooftop solar? (10)

F. What standards should be introduced for microgeneration in the Irish market? (4)

G. How does commercial rooftop fit into a support scheme? (6)

H. How can planning and net metering issues be resolved? (4)

I. What connection should there be between a support scheme and energy efficiency of buildings? (6)

The following boxes are the verbatim notes from those conversations, with initial bullet points (those marked with 'dot' were highlighted as the main points by participants) (N.B. sometimes conversations digress somewhat from original starting point …..)

A. Could a microgeneration scheme be used to account for currently unrecorded renewable generation? (4)

- ESB needs to respond to the market
- There are too many hoops for micro-generation – this leads to a lack of appetite for renewables
- There should be metering for all generated renewable, both used on site and recorded
    - There should be a standard for metering, that calibrates with existing measurement system (inverter)
    - Annual readings should be used in submission to Europe (people should be compensated for readings)
    - Ensure exported energy is used (apartment block example)
    - Price of import / export meter is €640 – GIO price?

B. How should the RESS and microgeneration be funded (not just PSO)? (9)

- Investigate if Microgen could be funded other than through PSO
- A separate scheme for Microgen, not RESS
- Concern re risk in separation that Microgen could be left out of consultation going forward
- There should be energy credits for solar PV

    - Funding should be banded according to kWh value
    - PSO is no longer fit for purpose and is not fair (15 years old)
    - SEAI funding should be extended to local authorities and other recipients other than community based associations
    - There should be an SEAI fund for early adopters of solar PV
    - Microgen scheme similar to scheme run by ESB should be re-introduced as behaviour has changed

C. How do you strike a balance between vs supporting self-consumption vs export for commercial rooftop PV? (2)

- Introduce a generation based tariff for domestic and commercial PV systems (rewarding self-consumption, supporting optimal sizing of PV and encouraging more business and consumers to connect to PV)
- Tariffs can digress annually in line with improvements in technology
- Export tariff valued roughly around the SMP, if at all

    - ESBN need for change to current process for commercial rooftop generation to allow export of surplus
    - Focus on generation based tariff will reward self-consumption
    - Avoiding over-sizing
    - Allowing for more business benefits

D. Should Microgeneration be in or out of RESS? (8)

- Yes in, but…
    - Has the decision already been made really?
    - Process needs to be suitable. And what cost?
    - On basis of auctioning, let the market decide
    - Need different schemes – all add different things to achieve multiple benefits
    - More analysis needed re auctions – costs and benefits
    - There is an opportunity, if this is done right
    - Timeline?

E. What is the actual cost of rooftop PV? What level of support would kick things off with rooftop solar? (10)

- There is potential for a quick win with a one-off grant of €100m from the PSO levy targeted to support self-consumption only
    - 100 MW of domestic @€500 / kW installed – up to 20,000 homes supported @ 5 kW per home
    - 200 MW of commercial / farming @€250 / kW installed - Up to 10,000 businesses @40 kW average

F. What standards should be introduced for microgeneration in the Irish market? (4)

- Standards are important, but enforcement of said standards is critical
    - Technical standards, in relation to products (N.B. quality of roof hooks), installation (danger of expensive NSAI process?) – and ref to MCS / UK / US / Australia
    - Consumer standards, in relation to sales processes, person's behaviour and clarity on system production
    - Safety standards, in relation to Part B (Part 2 of Building Regs ?) and Fire standards

G. How does commercial rooftop fit into a support scheme? (6)

- Propose small scale auto-producer tariff to facilitate deployment of 50 kWp to 1 MWp of non-wind renewables
    - System designed to consume a minimum of 75% of generated electricity on an annual basis
    - Tariff is a fixed tariff for 15 years based on generation (not export)
    - Tariff can be digressed upon certain deployment caps being hit, e.g. every 100 MWp, until an overarching target is reached, e.g. 600 MWp
    - To be included within RESS
    - Can help reach 2020 targets (quickly deployed) and reduce fines
    - Benefits the businesses and building tenants / owners, by reducing electricity bills
    - Grid application dealt with parallel generation (non-export)
    - Microgeneration (up to 50 kWp) would be dealt with separately
    - 50 kWp to 1 MWp (6 MWp wind) behind the meter within EU rules (Lux and France)
    - Banding based on installed size
    - No EU approval needed
    - New non-GPA process for sub 1MW export project
    - Within RESS

H. How can planning and net metering issues be resolved? (4)

- **Planning** : need rules appropriate to PV (not solar thermal)

- **Net Metering :** Propose solar data returned by SIM, implemented by all US States and 3 EU countries, technically feasible with existing meters, low transaction costs, low admin costs, least cost option, query re who bears cost , possible to reward exports at a lower rate than imports, net billing every 2 months (not yearly), could be implemented for initial adopters up to a limited number of installations (1000's)

    - Data is returned at 3 minute intervals

I. What connection should there be between a support scheme and energy efficiency of buildings? (6)

- PV is not suitable for all buildings and businesses
- Focus should be on a "post fabric" measure (as for SEAI Better Energy Communities), linked to BER / previous measures
- Education is very important

    - Generally a 'fabric first' approach should be taken to improve BER
    - People want PV and other visible energy measures
    - SEAI / BEC provides 15% more grant for 'combined fabric upgrades' (deep retrofit – fabric first)
    - Link Microgen support to other measures / BER Threshold
    - Supporting 'exemplars' / leaders in communities to improve uptake

Appendix 3: Group Discussions on "The Main Features you would like to see in a Support Framework for Microgeneration (Domestic or Commercial)?

Participants were invited to consider the following in their response:

1. Level and type of support/s (e.g. net metering, generation tariff, export tariff, grant)

2. Regulatory changes (e.g. planning, standards)

3. Measures to mitigate risks (e.g. grid challenges, possible distributional impacts)

Disclaimer - views are as recorded on flipcharts and don't necessarily suggest that there was complete agreement at the table

6 tables made comments regarding the importance of **Speeding Up the Process** - these included references to :

- easing planning restrictions (one table suggested limits of 40.8 sq.m for domestic and 680 for commercial, another emphasised the importance of any limits being future proofed against technology improvements)
- easing grid connections
- overall improvements to the regulatory approach, especially metering and market access
- an overall fast-tracked Microgen application process

5 tables showed specific support for a **Generation Tariff** - specific comments included:

- it should be within RESS and based on size
- it should cover domestic and commercial
- it should be based on total generation
- an inverter meter should be used to verify
- there should be a particular focus on commercial sites between 11 and 500 kW

4 tables developed ideas for some sort of **Financial Support / Grants,** specific ideas included:

- that it should match solar thermal PV (making sure all PV installation is measured and 'solar PV kick-started properly'
- focus should be on residential 2 to 6 kW
- might be different grants for PV / wind / CHP — possibly a thermal efficiency first / fabric upgrade approach

4 tables addressed issues of **Standards,** including:

- there should be a registered list of installers (based on quality and safety)
- there should be a standard quality installation audit
- regulatory standards on their own are not enough, need enforcement too

3 tables suggested **changes to the PSO,** including:

- making sure there was a link between investment and savings (N.B. people paying PSO levy may not benefit from savings)
- PSO should be restructured to encourage more self-consumption (N.B. there could be distributional impacts with this)
- Addressing the disincentive for microgen in the KVA levied PSO

3 tables developed ideas for an **Export System,** features of which might be

- A market rate for domestic systems
- A capped rate based on % exported for commercial
- A link to wholesale price
- Making it a legal requirement for all utility providers to have an export tariff
- Banding should be on kW size basis aligned with planning and grid bands

Other desired features addressed by single tables included:

- Using energy assessments to reduce energy demand
- The need to examine behaviour change / appetite by household survey
- A need for clarity in the relationship between effectiveness and efficiency as policy targets
- Need for clarity on what is seen as acceptable payback periods (5 or 10 years?)
- Need for definitions of micro and small generation and clarity of what is supported
- Including Microgen in RESS, but ring-fencing it from auctions
- The allowing of parallel grid applications with 20% export over the year
- A link to the fabric / energy performance of the building
- Pilot programmes to learn from 'real' examples
- Providing information on grid capacity (making transparent the ability to accept generation) (seen as critical to facilitate small scale generation)
- That the ISEM should have exemptions / de minimus levels for small generators and suppliers (supplier lite)
- That the 11kW lower limit for GIO panel / EGIP should be made less restrictive, especially for 11 – 50 kW
- That the standard NCG form states that Electric Ireland / ESB no longer buy electricity – this does not consider other suppliers / lite
- That bills could be restructured to include some fixed component for network charges

Questions raised – What will happen when Kyoto is not achieved? How will carbon tax be implemented? (Will it be by BER certification or some other method)

Appendix 4: ‘What could be done relatively easily and quickly?’

Participants were asked to write down, at the end of the morning session, possible ‘early wins’ that might help give momentum to driving microgeneration uptake. These have been recorded verbatim and in no particular order, although some similar items have been grouped together.

- Take Oil / Gas grant and give it to PV
- Bring in Net Metering now
- Support Micro / Small Generation now, rather than wait for ‘contracts-for-difference’ structure to be in place
- Future-proof smart metering structure
- A model similar to solar thermal grant, pro-rata for retrofit, as well as new builds
- Include PV in solar grants currently offered on thermal systems
- Charge PSO on a kWh basis
- Use the UK’s MCS scheme
- Planning exemptions for solar PV for domestic installations & 100kW for Commercial
- Remove Planning Exemptions on Domestic PV
- Increase Planning Exemption limits for rooftop solar PV
- No planning up to 500kW
- Low Interest Loans
- 1000 x €1500 grants, but with a meter to collect data
- A clear simple incentive for microgeneration with defined timeline
- Allow for a simple standard export tariff for generation from renewable technologies
- Grant scheme raised to 30% grant on domestic / non-domestic installations
- Standards required for installations (SEAI governance)
- Energy efficiency credits for Microgen systems e.g. solar PV should get same credits as solar thermal e.g. solar PV with diverter
- Introduce a grant with a sliding depreciating scale akin to solar thermal scheme for early adopters, before introduction of wider Microgen scheme
- Sort present situation where you can’t get an import / export meter unless you draw 300MW or install 11 kW solar.