UCD Energy Institute/ESIPP response to the DCCAE Consultation on Renewable Electricity Support Schemes

10 November 2017

Background

We welcome the opportunity to comment on the Renewable Electricity Support Scheme consultation. This is a joint response of the UCD Energy Institute and the Energy Systems Integration Partnership Programme.

UCD Energy Institute (http://www.ucd.ie/energy/) was established in May 2013. It is designed to host a critical mass of world class energy researchers focussed on a small number of strategically important themes, highly networked with other quality research entities in Ireland and internationally and working in partnership with industry and other stakeholders.

The Institute builds on the reputation of UCD as a leading destination for energy researchers. The goal is to operate at a scale not previously achieved by the Irish energy research community, increasing the sector's profile and impact internationally, and enabling access to global partnerships and initiatives of scale that were previously inaccessible.

The Energy Systems Integration Partnership Programme (ESIPP - https://esipp.ie/) is a research collaboration comprising researchers from University College Dublin (UCD), Economic and Social Research Institute (ESRI), Dublin City University (DCU), National University of Ireland, Galway (NUIG), and Trinity College Dublin (TCD), together with industry. The research is funded through philanthropic donation, industry support and a research grant from Science Foundation Ireland [1]. Many of the academic members of the UCD Energy Institute are involved in ESIPP. Energy Systems Integration (ESI) is an emerging area of research and, as such, there is a need to build research capacity in this area to address the substantial knowledge gaps and to bring expertise to industry in this fast-growing area. ESIPP brings together industry and a multidisciplinary research team in all the main engineering disciplines (electrical, mechanical, civil and chemical) with economics, business, mathematics,

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environmental, psychology, and earth science disciplines to address these challenges. The research challenges include:

- managing increasing variability and uncertainty in the integrated energy system;
- managing the financial, regulatory, market risks in energy infrastructure investments;
- controlling a more distributed energy system with a more active consumer;
- quantifying the impact of climate on future energy consumption in an integrated energy system;
- optimising the integration of waste water treatment plant into the electricity system;
- developing solutions to optimally use the thermal energy stored in the energy system; and
- providing evidence to support robust policy decisions.

These research challenges will require a deeper understanding of the interactions within an integrated energy system, its dynamics and long term evolution including the potential impact of increasing electrification and the roles of natural gas and water. Understanding and addressing these challenges will play a significant role in ensuring a clean energy future for Ireland and Europe.

Renewable Electricity Support in Ireland - Success to Date

According to the SEAI, electricity from wind power accounted for 21.1% of gross consumption in 2015, with hydro power providing 2.5%, biomass and renewable waste 1.0%, landfill gas 0.6%, biogas 1.0% and solar 0.01%. From 2005 through 2015 (REFIT 1 was introduced in 2006), the share of renewables as a percentage of gross electricity consumption increased from 7.2% to 25.3%, indicating a substantial positive impact supported by the REFIT schemes (SEAI, 2016).

Ireland has been acknowledged for its success in deploying renewable electricity—in particular, wind energy—in a considerable body of international reports and literature. Ireland ranks in the top 30 countries on EY's Renewable Energy Country Attractiveness Index, and was recognized by the IEA Wind Technical Committee for being among the leading nations in its proportion of electricity demand met by wind (EY, 2016; IEA Wind TCP, 2016). According to the International Renewable Energy Agency (IRENA) Global Wind Energy Council (GWEC), Ireland is home to "one of the best wind regimes in Europe" (IRENA, 2013). A 2011 joint report by the Fraunhofer Institute and ECOFYS, which assesses the renewable electricity deployment status of individual member states rated Ireland among only five countries to achieve a designation of "advanced" for onshore wind, though not for biomass. The same report rates Ireland in the top half of member states with regard to electricity market preparedness for renewable generation. Aside from the bountiful wind resource, a major reason for the favourable ranking is due to the stability of the renewable electricity policy regime to date. This important characteristic should feature in any future renewable energy support scheme.

Ireland's renewable electricity support schemes, notably the REFIT measures have triggered a drop of 16.7% in emissions from electricity in terms of CO2 per terajoule of total primary energy supply during the period 2005 – 2014 (generally aligned with implementation of the REFIT schemes). (IEA, 2016). However, the interaction between renewables and the overall emissions profile should be noted here, as emissions intensity is a reflection of the total fuel mix, which remains dominated by fossil fuels in Ireland. Indeed, in 2015, renewable electricity facilitated 3,188 ktCO2 of avoided greenhouse gas emissions, though the overall carbon intensity of electricity rose by 2.5% due to increased use of coal (SEAI, 2016).

The potential for REFIT-supported renewable electricity generation to reduce emissions must also be assessed in the context of operational constraints that limit the amount of instantaneous variable generation that may be accommodated by the grid. In cases where the supply of variable generation (mainly wind power) exceeds those limitations, wind generators are subject to curtailment at the direction of the system operator. In 2015, the amount of wind energy that was curtailed by EirGrid was 5.1% of total available wind energy. EirGrid currently applies an instantaneous cap on non-synchronous penetration (applying to wind and electricity imported from interconnection) of 60%. This has increased from 50% at the start of the DS3 programme, an important step toward reducing curtailment, which in turn reduces revenues to generators. Additional measures to address this issue are in development under the DS3 Programme (EirGrid, 2016) with an aim of increasing the instantaneous cap to 75% by 2020. Future support measures should take into account and, where possible, aim to minimise the technical constraints and amount of electricity curtailed in the system.

Specific Comments on the consultation

Level of Ambition

The level of ambition within the scenarios presented in the consultation paper does not appear to be in line with the trajectory required to meet the low carbon vision envisaged in the Energy White Paper[2]:

> *"Our vision of a low carbon energy system means that greenhouse gas (GHG) emissions from the energy sector will be reduced by between 80% and 95%, compared to 1990 levels, by 2050, and will fall to zero or below by 2100."*

Consideration should be given to including the scenarios within the EirGrid "Tomorrow's Energy Scenarios 2017"[3] which outline different levels of ambition, with particular focus on the Low Carbon Living scenario. This is important, as the quantity of renewable energy required is likely to determine the level of diversity of renewable sources required to meet the objective.

LCOE methodology

The consultation explains that the economic underpinning for the RESS is based on analysis in which simulated market revenues are compared to technology costs, represented by Levelized Cost of Electricity (LCOE), to determine each technology's viability gap. The consultation document states that an LCOE-based technology ranking was used to determine which technologies are suitable for inclusion in the proposed RESS, and notes that "…based on renewable technologies' LCOE (and other inputs), it is possible to model the likely outcome of an auction process…" While used often in both academic literature and industry analysis, LCOE has also been increasingly widely recognized as a flawed measure for comparing technology costs. The shortcomings of the LCOE measure in this application can result in a viability ranking that may not be indicative of overall generation economics or of likely auction results. In the case of the former, stated LCOE may not reflect the true economic value of electricity produced, and in the case of the latter, bids may vary considerably from the

[2] http://www.dccae.gov.ie/documents/Energy%20White%20Paper%20-%20Dec%202015.pdf

[3] http://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid-Tomorrows-Energy-Scenarios-Report-2017.pdf

apparent LCOE. This discussion should provide some context for how and why these discrepancies occur.

First, it is important to specify what measure an LCOE calculation provides. Comello et al (2017) explain that LCOE is a measure of the full, life-cycle cost of delivering one kWh of electricity, and reflects a break-even price at which net present value is set to zero for equity investors. Thus, the appropriate discount rate for calculating LCOE should reflect the cost of equity for a given technology, or the IRR required by equity investors in the technology. Simplified, the measure can be summarized as:

$$LCOE = \frac{Present\ Value\ of\ Lifetime\ Capex\ and\ Opex\ (in\ EUR)}{Lifetime\ Generation\ (in\ kWh)}$$

This calculation yields an estimate of the total cost, in terms of initial capital expenditure (capex), inclusive of financing costs, and ongoing operating expenditure (opex), inclusive of fuel costs, for producing a unit of electricity. However, one of the chief criticisms of LCOE is that it fails to capture the difference in economic value of dispatchable generation compared to variable generation, as the measure treats electricity as a homogeneous product and thus does not reflect time-varying prices. In other words, the value of each kWh in the denominator of the LCOE equation is not the same – either in terms of potential revenue for the project, or in terms of overall electricity system costs (Ueckerdt et al, 2017). As a result, according to Joskow (2011), "an intermittent generating technology and a dispatchable generating technology may have the same levelized cost per MWh supplied while simultaneously having very different net economic values and profitability….this [approach] also undervalues solar (electricity produced during the day when prices are relatively high) and overvalues wind (whose production is often more heavily weighted to off peak periods)."

The U.S. Energy Information Administration (EIA) (2017) provides a similar justification for its own critique of LCOE as a measure, pointing to factors such as utilization rate, capacity value, and existing resource mix in underscoring outcomes that could be misjudged through use of LCOE. The EIA recommends the addition of the Levelized Avoided Cost of Electricity (LACE) as a point of comparison to LCOE to determine the difference between the cost per kWh produced and the total value of electricity costs avoided. This measure better captures difference in economic value of electricity, depending on when and where it is produced.

In addition to obscuring the true economic value of various generation sources, LCOE may also fail to provide either an accurate indication of likely auction prices, or even an accurate ranking of likely bid prices among technologies in a given region. Indeed, Bazilian et al (2013) explain that LCOE estimates tend to be considerably higher than actual bid prices submitted for auctions. The reason for this difference can be attributed to a range of factors, including the motivations of prospective bidders. For example, a recent article in the Financial Times notes the dramatic drop in bid price for offshore wind projects in the UK, from an average of £117.14/MWh for projects awarded in 2015 to £57.50/MWh in 2017 (Ford, 2017). These latest bid prices are well below LCOE for European offshore wind, which McKinsey estimated to be approximately €120 to €130 for 2016 (de Pee et al, 2017). The analysis points out that the differential in auction prices is not readily explained by any fundamental changes in the cost or efficiency of offshore wind technology, and therefore could indicate that companies are using bid prices for future projects as a proxy for financial options. That is, the deposit that a firm pays to participate in an auction (a design characteristic intended to ensure that firms are incentivized to actually build proposed projects) effectively allows the firm to purchase a call option, under which the developer could choose to build or not, while at the same time, forcing competitors out of the market by precluding them from securing contracted revenue under the scheme. Thus, bid prices in this context are perhaps more indicative of expectation of future market conditions, rather than current costs.

Using LCOE to compare technologies can also be problematic in its lack of a uniform approach to calculation and inputs such as tax treatment, incentive programmes, and discount rates, variations which can also be obscured by auction results (Reichelstein and Yorston, 2013). For example, IRENA (2017) notes that the US has consistently recorded solar auction prices which are considerably lower than other countries, largely due to US solar projects' eligibility for a tax benefit worth 30% of installation cost, which is factored into auction bids. With respect to discount rates, any comparison of technologies using LCOE for the purpose of policy formulation should consider the endogenous nature of discount rates applied, as policy design itself represents a form of potential investor risk. Therefore, as noted by del Rio (2017), the design of the auction mechanism can have a material effect on ex-poste bids compared with ex-ante LCOE, as auction participants may factor an increased or decreased cost of capital into their bid price. There is no standard methodology for addressing these varying assumptions at present, however Darling et al (2011) propose that a more accurate application of the measure would be an LCOE distribution, representing a range of outcomes associated with the variety of possible inputs.

With regard to design of the forthcoming RESS, the use of LCOE compared with an alternative measures for technology cost comparison would require more comprehensive analysis in order to determine if different measures would materially change technology rankings. Absent such analysis, it should be clear that LCOE provides an imperfect basis for comparing generation technologies, and its application in future RESS decision-making should account for the shortcomings outlined here.

Consultation Questions

Q1a. The emerging policy includes a measure whereby all capacity available under the new RESS (with the exception of small scale developments) should be allocated through a competitive bidding process via auctions. Do the respondents agree with the competitive auction based approach? If not, what alternative model would you propose and why?

It is important that the decisions associated with this consultation are robust and evidence based. While the consultation paper highlights the benefits of an auction based allocation process it lacks analysis on:

- alternative options to auctions
- whether there is sufficient competition in the market, and
- detailed analysis on relative costs associated with an auction process versus alternatives.

The State Aid Guidelines[4] state that:

> *"From 1 January 2017, the following requirements apply: Aid is granted in a competitive bidding process on the basis of clear, transparent and non-discriminatory criteria, unless:*
> *(a) Member States demonstrate that only one or a very limited number of projects or sites could be eligible; or*
> *(b) Member States demonstrate that a competitive bidding process would lead to higher support levels (for example to avoid strategic bidding); or*

[4] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0628(01)&from=EN

(c) Member States demonstrate that a competitive bidding process would result in low project realisation rates (avoid underbidding)."

Ireland is a relatively small island system with a limited number of market participants. Careful consideration will be required in the detailed auction design to ensure there is sufficient competition in the auction and that prices are not artificially increased. It is important to ensure that the selected design is suitable for Ireland, with the differences between the Irish system being taken into account in any analysis.

The academic and policy literature shows that risk and uncertainty play an important part in the decision on which kind of support mechanism is best. FIT can provide investor certainty when technologies are in the early stages of development and was the main policy instrument deployed in the support of early onshore wind in Europe. While auctions encourage competition at least cost, they may not be suitable for emerging technologies. Under technology-neutral auctions only the cheapest technologies are likely to be successful, while technology-specific auctions enable the development of different technologies in parallel. Transaction costs should also be considered in the choice of policy instrument and some reports would show that FIT is likely to have lower costs than auction schemes.[5]

From a theoretical perspective, the policymaker tries to minimise risk in terms of welfare losses when designing the policy instrument. When the marginal cost curve is relatively steeper than the marginal benefits curve of a particular technology (often the case with emerging technologies), then fixed price instruments such as a FIT have a lower welfare loss than an auction when the real marginal costs are uncertain. Conversely, when the marginal cost curve is relatively flat then auctions are likely to be superior. The EU AURES project has carried out a significant literature review on this topic and the insights may be useful to this consultation.[6] An estimation of the marginal cost curve for individual technologies is useful in order to choose the most appropriate policy instrument.

Q1b. Do respondents agree with the use of Uniform-Price cost of support for RES-E projects in the main RESS capacity auctions, as a mechanism to keep costs to the consumer to a minimum?

N/A

Q2. The analysis suggest that a Floating Feed in Premium (FIP) is the primary financial support mechanism for the main RESS, as evidence indicates this is the most cost effective approach.

Do you agree with this proposal versus the other mechanisms identified?

Again, it is important to ensure that the chosen mechanism is fit for purpose in the Irish context and not just relying on analysis that was carried out based on a larger European system. The Floating FIP has gained increasing support across EU Member States and appears to be working quite well.

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[5] Agnolucci, P. (2007). The importance and the policy impacts of post-contractual opportunism and competition in the English and Welsh non-fossil fuel obligation. *Energy Policy*, *35*(1), 475–486. http://doi.org/10.1016/j.enpol.2005.11.034; Finon, D., & Perez, Y. (2007). The social efficiency of instruments of promotion of renewable energies: A transaction-cost perspective. *Ecological Economics*, *62*(1), 77–92. http://doi.org/10.1016/j.ecolecon.2006.05.011

[6] http://www.auresproject.eu/publications/comparison-of-auctions-and-alternative-policy-options-res-e-support

Q3. What are respondents views on a proposed price cap (maximum €/MWh) within the uniform price proposal? What alternative approach would you propose and why?

The purpose of an auction is to lead to price discovery assuming a sufficient level of competition. The detailed design needs to ensure a balance of competitive behaviour, while at the same time ensuring projects are adequately remunerated to ensure they materialise and take into account future learning in technology costs. The inclusion of a price cap could be considered as one of a number of measures in a properly designed auction.

In order to keep costs to the consumer to a minimum, a Principal Category, encompassing all viable technology options leading to the most cost effective projects, is provided for. The outcome of this initial auction will inform the design of future auctions.

Q4a. Do you agree with this approach? What alternatives would you propose to this approach and why?

Q4b. Would you support separate technology specific auctions for emerging technologies, at a greater cost to the PSO, and if so what percentage of the overall scheme capacity (MWh) would you allocate to this category?

Technology neutral auctions support the least cost short-run outcome, however a single auction reduces diversity, as it favours more mature, lower cost technologies. The LCOE analysis by CEPA finds that there is little cost variation between technologies in Ireland and would therefore indicate the suitability of the Irish system for a technology-neutral auction. However, for the reasons described above, the actual prices required by individual technologies may not be aligned with the LCOE results and the final auction results may deliver less diversity than expected.

Related to this point is that while technology diversity is mentioned as a policy consideration in the context of this consultation, no indication has been provided as to what level of technology diversity is expected or required. Factors for consideration in this would include benefits to the power system, e.g. system services, security of supply, the amount of renewable electricity required etc. It is important to identify the main drivers for diversification to ensure that technology-specific auctions for emerging technologies deliver on the required objectives. The level of diversity should determine whether and to what extent separate auctions are held for specific technologies.

For emerging technologies with higher costs, there may be a case for holding separate auctions or even providing a fixed price if there is evidence that there is a steep marginal cost curve (for the reason described in the response to q.1a). Another consideration is the volume of capacity to be auctioned. If low volumes are auctioned then higher cost emerging technologies are unlikely to be successful bidders. When higher volumes are auctioned then there is a chance that a small share of higher cost technology will be needed to make up the volume required. The scenarios included in the CEPA modelling in the consultation analysis are not sufficiently ambitious to show whether emerging technologies will be needed in the future to deliver higher volumes.

Many countries in Europe have held separate auctions or created separate bidding procedures for individual technologies, particularly for solar PV. If this path is chosen, good design of the auction is important in determining the outcome. Splitting the auction leads to lower volumes in each and lower competition with the risk of collusive behaviour and higher prices.[7]

In summary, if the long-term benefit of diversity outweighs the higher cost to consumers of supporting emerging technologies, then it would probably make sense to propose auction capacity set aside for individual technologies. An alternative would be to initially begin with a single auction for all technologies as a price discovery mechanism and, failing sufficient emerging technologies as successful bidders, carry out an additional auction subsequently targeting strategic technologies for Ireland.

Q5. Separate to the Principal Category RESS, a dedicated Community Category volume of renewable capacity (MWh) allocated for community-led renewable projects is envisaged in the preferred approach. The initial proposal is that between 10-20% of the total capacity (of new MWhs) of each auction is ring-fenced for community-led projects.

Do you agree with this proposal? What changes would you propose to this proposal including reference to the viable level of ambition for community-led projects?

The proposal of 10 – 20% seems appropriate in this instance. In the event that there is low uptake, there should be fall-back arrangements in place to ensure the required renewable energy capacity is delivered, e.g. clearing of additional projects in the main auction. It may take communities some time to gain the knowledge and capacity to develop these renewable projects in the early years of the new RESS. In order to participate effectively communities will need access to information and expertise. Consideration should be given to determining the level of interest in advance of running the auction, e.g. through a pre-auction expression of interest or pre-qualification criteria.

Care needs to be taken, however, to ensure that the transaction costs should be minimised as far as possible – excessive bureaucracy and administrative procedures are likely to form major barriers when there are low resources available in a community to understand and manage them.

If a price cap is proposed, it should not be so low that it would deter community projects, which by their nature have higher costs than large scale projects.

Q6. Do you agree with the proposal to further develop opportunities for micro-generation, outside of the main RESS?

Respondents are asked for their views on how best to support micro-generation.

Microgeneration provides an opportunity for consumers to play an active role in the energy transition. An appropriate framework is required to promote microgeneration and to recognise the value of energy exported to the grid. An auction scheme is not appropriate however an appropriate mechanisms should be introduced without further delay.

In the context of government consideration of options for renewable energy support schemes and strategies for meeting EU targets, the UCD Energy Institute has undertaken and published research that examines financial performance of Irish residential solar in a selection of PV system size and electricity demand scenarios, and considers potential policy impacts. This work estimates economic value to consumers from PV installations in a range of sizes and household demand levels. Using

[7] http://www.auresproject.eu/sites/aures.eu/files/media/documents/design_elements_october2015.pdf

detailed hourly data for both PV generation and household demand, the paper estimates how much solar would be generated and how much electricity a household would use in each hour for the system's 25-year lifetime, then calculates the customer's electricity bill annual savings from adding PV generation. Full results from this analysis can be found in La Monaca & Ryan (2017) or can be discussed in person, however key findings are as follows:

- In some cases, homeowners could receive positive financial benefits over the full lifetime of a rooftop PV system even without any support scheme in place.
- However, payback periods were upwards of 18 years under current conditions (i.e. no support scheme), depending on percentage of self-consumption. This improved to 14-16 years under net-metering, the most beneficial support scheme modelled. While no detailed analysis exists for Irish customer expectations, research from other countries indicates that homeowners require payback in no more than 7-10 years.
- A higher electricity retail price leads to quicker payback. Future price forecasting is therefore highly relevant to estimating potential financial gains.
- With respect to remuneration policies, the analysis shows that for consumers in a low-irradiance market such as Ireland, effectiveness of remuneration through grants compared with net-metering or FiTs can be roughly equivalent in terms of delivering a reduction in payback periods. For example, a grant of 30% delivers the same benefit to the consumer as net metering, and a 20% grant provides the same payback period as a FiT, while in higher-irradiance areas, future cash flows from remuneration for excess generation might make net-metering or FiTs more advantageous.
- The way that electricity is billed to customers (i.e. electricity tariff structure) can have a significant impact on financial benefit of rooftop PV. A household billed only on an energy volume (volumetric) basis would a 3-5 year improvement in PV system payback when compared with a two-part bill, in which only electricity is billed on a per-kWh basis, and other charges like network costs and levies are fixed.

Q7. Do you agree with capping the amount of support received by each RES-E project that clears in a RES-E auction? What changes would you make to the proposal to set this cap by the level of support (€/MWh) determined in the auction and the cleared volume of the project (MWh).

No comment

Q8. Do respondents agree with the proposal to hold periodic auctions e.g. every two years, over the course of the lifetime of the scheme, to take advantage to falling costs and reduce the impact on the electricity consumer?

What changes if any would you make to this proposal?

This approach seems appropriate. Certainty is required in relation to the timing and approximate capacity of future auctions so that participants can have sight if future auctions and have the necessary consents in place. This will also help ensure a steady pipeline of projects rather than a boom and bust situation that arises with fewer auctions of higher capacity.

Q9. Do you agree that planning approval, grid connection, bid bonds/penalties and community participation criteria should be met before projects can apply for support under the new RESS?

What other pre-qualification criteria would you like to see introduced?

The design of the auction needs to ensure that projects will deliver and there is clarity in relation to the pipeline of projects to be delivered and progress towards targets. Therefore only projects with the appropriate consents in place should be able to proceed to auction.

Q10. DCCAE welcome the respondents' views on the PSO levy supporting a baseline 40% RES-E.

Do you think the PSO should support higher levels of ambition?

The PSO should support the level of ambition required to get Ireland to its long term carbon emissions reduction target. As more renewable energy is supported through the PSO, the cost of unit energy is also reduced through the lower wholesale price of electricity. It is essential that a holistic view is taken of the different costs and how they are passed through to the consumer. It may be appropriate to review the structure and the allocation of the PSO to ensure it remains fit for purpose as a significant proportion of the cost is shifting from wholesale energy prices to the PSO.

Q11. Do respondents agree with this approach?

What are respondents' views on an alternative approach whereby renewable energy CHP plants receive support from the RESS or the proposed RHI but not both, and that the project promoter should decide which support scheme best suits the proposed development.

Q12a. What should the minimum size of project be, below which a community investment offer does not need to be made (e.g. 100kW, 500kW, 1MW)?

Q12b. What minimum share should be offered to the community for investment (e.g. 20%) and should there be a maximum amount any one individual can purchase?

Q12c. What is the appropriate distance from the project for the initial offer (e.g. 5km)? Views are welcome on subsequent offers to DED then neighbouring DEDs etc.

Q12d. What are respondents' views on whether additional financial supports are necessary in order to enable mandatory investment opportunities for citizens and communities?

Citizens and communities need to have access to low cost finance on order to be able to progress renewable energy projects.

Q12e. Other comments on the mandatory investment offer requirement are welcome.

Q13a. Do you agree with the emerging proposal that a Floating FIP is made available for smaller community projects?

A Feed in Tariff may be more appropriate for smaller community projects, as participation in an auction process can be quite onerous for smaller participants. The State Aid Guidelines allow for a Feed in Tariff for smaller projects, recognising the need for a simpler process and lower risk. This is also likely to be more cost efficient for smaller projects.

Q13b. What should the minimum size project be below which the FIP will not be available?

Q14a. Do you agree with the emerging proposal to support community-led projects with grants and soft loans through various stages of a projects development?

Communities should be supported with soft loans for the development of renewable energy projects. Grants should be considered for particular aspects of development such as feasibility assessments which may provide a wider benefit, e.g. for a wind resource assessment of a particular site which could then feed into a national database. Soft loans but not grants.

Q14b. What size of loans for development and construction would you consider to be appropriate to support?

Q15. In respect of Grid Access, DCCAE and SEAI are keen to receive feedback on the policy proposal to facilitate grid access for community-led renewable electricity projects.

Under the Renewable Energy Directive grid access should be facilitated for ALL renewable energy projects.

Q16. DCCAE and SEAI welcome feedback on the role of the proposed Trusted Intermediary.

Q17. DCCAE and SEAI welcome feedback on the proposed Framework for Trusted Advisors.

There is a strong need for both Trusted Intermediaries and Trusted Advisors for communities to ensure that they have access to expertise and information required, as well as to ensure that the policy is working for community groups. Communities to not have the resources to participate in ongoing policy development and Trusted Intermediaries would have an important role to play here.

Q18a. Do you agree with the proposal that community benefit payment be based on best practice principles?

Q18b. Do you agree with the proposed €2/MWh level of community benefit?

Do you have any other comments on the proposed community benefit good practice principles?

Q19. What are your views on the definition of 'community renewable electricity projects', 'community-led community projects' and 'developer-led community projects'?

Q20. What are your views on proposing additional financial measures to enable citizens to invest in projects (e.g. tax incentives, green bonds etc.).

Conclusion

UCD Energy Institute and the Energy Systems Integration Partnership Programme (ESIPP) welcome the opportunity to respond to this consultation. In particular we emphasise the importance of evidence based decision making. Where analysis has been carried out, the shortcomings of the methodologies need to be well understood. International experience can and should be used to inform the decision making process, however the Irish context has to be given due consideration, in particular due to the size of the electricity system and the number of market participants.

If you would like to discuss any aspect of our response in more detail please to not hesitate to contact us. We would also be happy to plan further research around any of these topics, particularly under the framework of our research support to the TRAM group.

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Appendix1 - References

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