

eHeat Ireland's perspectives on

An Coimisiún um Rialáil Fóntais

Commission for Regulation of Utilities



Review of large energy Users connection policy

Consultation Paper-2024

CRU/2024001

About eHeat Ireland

eHeat Ireland is an all-Ireland trade association established in 2021 to promote the use of renewable electricity as an economically viable alternative to fossil fuels.

The association is led by industry experts who want to promote the use of electric heat (eHeat) as the fastest and most efficient way we can accelerate the decarbonisation of our industries in the short and long term. Our members believe that encouraging the transition to eHeat technologies has the potential to unlock a €1.5Bn annual economic benefit for Ireland.

As pressure mounts on businesses to make the switch to renewable energy sources, eHeat wants to create awareness for the technology and how it can support our achievement of the 2030 Climate Action targets. Our members include end users, service providers, utility companies and technology companies, we currently have three sustaining members namely, Astatine, Boston Scientific and Irish Distillers (Pernod Ricard)- all with a common interest in decarbonising heat in our respective industries and businesses. We are committed to campaigning for changes within the Irish system that will accelerate the decarbonisation of heat. This will allow us to optimise the use of our abundant, indigenous, renewable resources, reduce carbon emissions and reduce our dependence on imported fossil fuels.

Why is this consultation important for eHeat Ireland?

The consultation on connection policy for large energy users (LEU's) is crucial for the electrification of industrial heat customers. With Ireland's legally binding commitments to become net-zero by 2050, and to reduce emissions by 51% by 2030, this document is important for all the large energy users in Ireland to communicate with CRU on the various aspects of the scheme which could be a key differentiator in achieving our climate targets.

The transition to low carbon solutions are imperative for all industries moving forward, urging industrial clients to abandon fossil fuel-dependent heating systems and adopt electric heating systems which are powered by renewable energy is one of the key elements. eHeat has already submitted its perspectives on National Energy Demand Strategy (NEDS) and this document will be important in addressing the decarbonisation initiatives in a broader spectrum. The consultation allows stakeholders to provide input on the criteria and processes for connecting industrial heat customers to the electricity grid. This ensures that the connection policies are conducive to electrification efforts, considering factors such as grid capacity, renewable energy availability, and demand flexibility, the consultation also helps to identify the initiatives to be undertaken by eHeat customers to support economic growth whilst promoting decarbonisation activities.

Q.1 Comments are invited from interested parties on the categories of LEU in electricity and gas to which this policy should apply (e.g. for electricity is DG10, DTS-T is appropriate, should DG6-DG9 be included, should the definition focus on capacity or

usage, should a combination of criteria be applied?).

The distribution group-based tariff schemes (LEU's for electricity DG10, DTS-T) are good as they provide tailored pricing structures and other incentives for energy efficiency and demand management reforms. eHeat ultimately believes that the selection of appropriate categories of LEU and criteria for their inclusion in supply should aim to reduce emissions, ensuring security of supply, and catering to the needs of end-users.

For industries with electric heating systems, capacity- based focus (measured in kW or MW) is better as it can help identify larger heating systems or processes with the potential for significant electricity demand during peak periods, this being said, usage based energy usage (measured in kWh or Mwh) provides a more accurate reflection of actual energy consumed but requires extensive metering and data management systems to measure exact consumption. Ideal operation by incorporating both capacity and usage will be comprehensive in understanding electric heat using industry's energy profiles. It will ideally allow for consideration of both peak demand and overall energy consumption.

Q.2 Please provide views on whether this proposed policy should apply to capture smaller LEUs in due course, and if so which categories of LEU and on what timeline should this occur. Please provide rationale for any views shared.

From eheat Ireland's viewpoint on electrification of heat within industries, including smaller LEU's in the policy framework is ideal. While large LEU's may have significant impact on emissions due to scale, smaller LEU's cumulatively can also contribute to carbon reduction efforts. A phased approach with collaborative engagement can ensure a smooth transition while maximising the benefits of electrified heat across the Irish industrial sector.

Q.3 Comments are invited from interested parties on the proposed use of a transition period/glide path in relation to (i) the changing requirements at time of connection on the transition to zero real time emissions, and (ii) once connected, the changing requirements as the project transitions closer to real time zero e.g. from non-firm connection to firm connection linked to milestones.

From the perspectives of eHeat, there could be several considerations regarding the transition periods and its progress towards net-zero emissions:

(i) Changing requirements at the time of connection

One of the major barriers towards adoption of electrification projects are investments and pricing tariffs in Ireland. The infrastructure, policy mechanisms, grid constraints, availability of renewable energy sources are all key enablers of electrification projects. A transition period will enable development and execution of the key enablers to meet real-time zero emissions.

(ii) **Changing Requirements After Connection**

After the initial connection, transition from a non-firm to firm connection tied to emission reductions targets can provide a clear path for achieving real-time zero emissions. This approach fosters continuous growth towards net-zero for all LEU's.

Q.4 Please provide views on the proposed timing of different options.

N/A addressed in A3

Q.5 Should optionality be maintained in allowing a menu of different options to perspective LEUs, with the end net zero emissions target becoming more binding as the glide path advances?

eHeat maintains its stance in having optionality in place for LEU's adopting electric heat adoptions. It is very crucial as it considers the diverse nature of operations, energy requirements, and innovations. Allowing a menu of various operations helps the LEU's to tailor their decarbonisation approach in accordance to their needs. As the glide path term comes towards and end, it is necessary for all approaches to move towards net-zero emissions, which reflects the escalating need for LEU's (especially electric heat using) to achieve targets. Therefore flexibility is important with more stringent measures incorporated over the timeframe of the process.

Q.6 Comments are invited on how compliance and enforcement with required provisions can be effectively implemented in the operation of a transition period/glide path approach.

For LEU's adopting electric heat, as mentioned above flexibility in the initial process is of paramount importance. There is a need for a robust regulatory framework outlining the transition period, milestones and compliance requirements. This will enable a gradual progress for LEU's path towards net-zero. This can also include regular reporting requirements for LEU's towards their respective energy consumption, emissions data and expected barriers. From the government, appropriate incentives for progress from LEU's, technical assistance schemes, and enforcement mechanisms would enable a smooth transition for all sectors within Ireland.

Q.7 Comments are invited on the approaches used to account for net zero emissions. This could include timestamped GOs or renewable certificates. Please provide reasons and rationale for any views provided

eHeat supports the rationale of having Guarantees of origin (GOs) and renewable certificates to measure LEU's performance in achieving net-zero emissions. As mentioned in the consultation document, GOs are tradable instruments across the EU and do not need to follow the flow of energy. GOs can be both exported from and imported to Ireland to/from the rest of the EU. Using the current GO accounting process an LEU can match their annual demand

with an equivalent volume of clean energy. These instruments ensure renewable energy use, a transparent reporting framework, accountability from LEU's perspective and supports renewable energy market which is important for achieving net-zero targets.

Q.8 Should the end target/goal be real time zero emissions? Do respondents have other suggestions as to how this can be demonstrated? Please provide reasons and rationale for any views provided.

A.8. Similar to the answers as above, while real-time zero emissions is an ambitious and desirable goal, from an electrification of heat within LEU's it may not be immediately feasible, given the current electricity infrastructure, pricing and incentive availability for industries. Alternative metrics for demonstrating emission reductions provides more flexibility and allows for a gradual path towards net-zero.

Q.9 Comments are invited on the use of a glide path to implement the basis on which net zero emissions are determined. This could entail starting with measuring net zero performance on an annual basis and moving closer to more real time arrangements in incremental steps.

A.9. Glide path is necessary, not just for electrification of heat customers but across sectors, as it provides flexibility and allows for steady progress, stakeholder engagement and appropriate risk mitigation for LEU's. This enables establishment of effective alignment of environmental sustainability goal.

Q.10 Comments are invited on the use of self-reporting based on best available data/methodology and transitioning to a more robust formal framework over time when it becomes available?

A.10 Self-reporting mechanism based on the best available data and methodology for the electrification of the heat within industry can be a practical approach, especially during the initial phases of transitioning towards net zero emissions. As the industry matures, and more robust framework emerges, LEU's can transition towards more sophisticated monitoring and reporting practices. As Figure 5 of the report highlights, timely reporting to all public bodies in accordance with the progress of connection infrastructure are also welcome.

Q.11 Comments are invited on the requirement for indigenous sources of renewable energy e.g. renewable electricity feeding into the Irish system and for gas secure sufficient renewable gas credits feeding into Irish system.

For an industry adopting electrification of heat, there is a requirement for indigenous sources of renewable energy, including renewable electricity and renewable gas into existing gas grid. It is essential that electricity used for heating purposes comes from renewable sources such as wind, solar, hydro and biomass. This reliance would reduce the use of imported fossil fuels, enhances energy security, and supports the growth of Ireland's renewable energy sector. While eHeat primarily focuses on renewable electricity, there maybe still need for gas in

certain application or backup heating option when in need. This backup gas options consumed must be of renewable sources such as biogas or biomethane. To support such a cause, renewable gas credits need to be ensured that the source of gas is indeed renewable in nature.

Q.13 Comments are invited on whether the electricity and gas measuring and tracking systems should be integrated to help avoid double counting? If so, how might this be achieved?

eHeat is in agreement with the setup of an integrated system for measuring electricity and gas as it enhances data accuracy, avoids double-counting and supports transparent reporting process.

Q.14 Comments are invited on who should have responsibility for measuring LEUs emissions and emissions abatement performance?

The perspectives of LEU's undertaking electrification of heat can vary based on several factors. The responsibility of measuring LEU emissions and emissions abatement performance should be distributed among all relevant stakeholders. The regulatory agency, energy suppliers, industrial associations, and LEU's themselves must be responsible for keep track of their performance. It is a collaborative effort that is required to bring about climate action within energy users in Ireland.

Q.15 Should new LEUs be located close to areas of renewable generation and/or storage or within energy parks? Please provide reasons and rationale for any views provided?

For industries adopting electrification of heat, or any other large industry, there are several advantages of having the operation close to areas of renewable generation. The main advantages being the reductions in funds required for grid infrastructure, it improves operational efficiencies also mitigates the issues related to site space availabilities and other limitations. Another consideration to consider is that the provision of private wires (As stated by DECC's private wire consultation) which allow direct connection between renewable generators and energy users, can facilitate the development of renewable generation near LEU demand centres.

Q.16 What type of measures to facilitate this approach could be introduced to encourage new LEUs to locate close to renewable generation.

For promoting sustainable energy practices and supporting the transition to a low-carbon economy the main issue is the lack of education and awareness among the stakeholders. This is however progressing due to the excellent effort's government is undertaking towards Ireland's decarbonisation commitments. For the implementation of tasks assigned in Q15, the main requirements are related to financial incentives and technical assistance needed for the execution. LEU's would also expect infrastructure support for such as access to renewable energy transmission lines, interconnection facilities, or energy storage solutions. There are also requirements for facilitating access to renewable energy markets through power

purchase agreements (PPAs) or renewable energy certificates (RECs). Providing LEUs with options to directly procure renewable energy from nearby generators can incentivize investment in proximity to renewable generation.

Q.17 Should there be any exemptions to locational requirements for certain LEUs? How could this be assessed? If so what type of connection conditions/requirements might these require?

The objective of implementing electrification of heat strategies is to diminish greenhouse gas emissions. However, industries might pursue exemptions if alternative low-carbon energy options are lacking or if adopting electrification would yield unforeseen environmental repercussions. Exemptions may be warranted if transitioning to electrified heat systems initially amplifies emissions or if apprehensions arise regarding the comprehensive environmental impact throughout the lifecycle. It's essential for policymakers and regulatory authorities to carefully evaluate exemption requests based on their merits, considering the potential trade-offs between economic, environmental, and social factors.

Q.18 Comments are invited from interested parties on the level of proximity between LEUs and renewable generation? How should this be measured? Should this value apply across the board or be determined on a case-by-case basis?

N/A

Q.19 If locational requirements are introduced, there is a need for better integrated planning of the network, generation, and demand. What are the roles of the System Operators and enterprise agencies in supporting/facilitating this?

If locational requirements are introduced, the system operator's role involves ensuring the reliable operation of the grid, facilitating connections for new renewable generation projects, and optimizing grid capacity to accommodate increased demand from electrification of heat initiatives. This shall also include knowledge transfer and technical support for LEU's as well as providing robust plans for grid development as efforts progress towards net-zero.

From the perspectives of enterprises such as IDA, EI, DETE and SEAI the core supports should entail financial incentive plans for LEU's in their path towards decarbonisation efforts; help in collaboration activities with government agencies, SO's and other stakeholders that promote policies pertaining to co-located LEU's with renewable generation.

Q.20 If introduced on a mandatory basis to recognise that any locational requirements LEU demand may require time to be facilitated, should locational requirements be implemented using a glide path?

Similar to Question 9, implementing location requirements for LEU's demand through a glide path with flexibility is much required for large LEU's. This is the most stable method for incorporating a smooth transition for eHeat customers.

Q.21 Should non-firm LEU connections be introduced? If so should these non-firm connections be made on an enduring basis? Please provide reasons and rationale for any views provided?

The introduction of non-firm connections for LEU's implementing electrification strategies can offer significant benefits in terms of cost-effectiveness, flexibility, and promotion of decarbonisation. The flexibility which non-firm connections bring towards LEU's in managing their demand, especially during peak hours when renewable generation is low. This also offers LEU's to alter their operations based on heavy energy to be adjusted accordingly. Enduring non-firm connections although provides a great incentive for LEU's to invest in innovative electrification schemes of heating and others, SO's must have a robust plan to ensure the reliability and stability of the grid to run at all times. The grid operators must also ensure a roadmap for all LEU's to transition from non-firm to firm connections, mitigating all the risk factors.

Q.22 If non-firm LEU connections are implemented on a temporary/non-enduring basis what should trigger these connections being made firm? Examples could include date(s) specified upfront or linked to certain requirements. Please provide reasons and rationale for any views provided.

With the overall motive of decarbonisation in mind, non-firm connections could made firm based on decarbonisation milestones as mentioned earlier in this document. Firm connections are also reliant on the successful completion of grid reinforcements and infrastructure facilities available to LEU's. Huge developments in the fields of energy storage, demand response and grid operations are necessary for the transition towards firm grid incorporation.

Q.23 If non-firm LEU connections are mandatory in certain parts of the system, should there be any exemptions for certain LEUs? If so what type of connection conditions/requirements might these require?

For LEU's adopting electrification of heat in future, some facilities reliant on continuous heating processes may require uninterrupted power to maintain efficiency and product yield/quality. For mitigating these funding streams must be made available for the adoption of battery-based backup systems as well as improving energy efficiency.

Q.24 Comments are invited regarding the proportion of the LEU demand that would be connected on a non-firm basis. For example, would a non-firm connection apply to 100% of the connection, or would it apply to smaller proportion than this?

Same answers as above as it is too early to approximate that without carefully evaluating the flexibility needs, grid infrastructure, risk management and LEU' specific requirements for the above.

Q.25 Comments are invited regarding what measures could be applied to facilitate non-firm LEU connections. If so, should these measures to facilitate recognise the potential locational value of these?

It is very important initially to establish the locational value of non-firm connections, this important for developing the grid connections, evaluating risks and enabling decarbonisation efforts. For establishing non-firm connections, the measures required for LEU's have already been addressed in the document highlighted under the glidepath period.

Q.26 How should the SOs deploy this flexibility provided by non-firm demand?

Yes, it is very important for SO's to initiate this process as it would give them a great understanding of the grid requirements and have relevant risk mitigation practices in place before firm connections are enabled for LEU operation.

Q.27 Should non-firm/flexible electrical connections be provided to islanded LEUs in order to facilitate flexibility between the electrical and gas systems?

From an electrification strategy viewpoint, it is necessary that local energy units benefit from this provision. As the reliance on fossil fuel-based energy systems be obsolete in future, it is important for all LEU's to upgrade their systems and facilitating their flexibility between electrical and gas systems. This will also enable SO's to gauge the system requirements and upgrade infrastructure for the future.

Q.28 Comments are invited on the use of renewable generation and storage on-site. Should this be used to match LEUs demand on-site or to provide flexibility services to the system? Please provide reasons and rationale for any views provided.

In summary on-site generation and storage offer opportunities for LEU's to enhance their sustainability and decarbonisation efforts as a whole. While onsite generation such as solar and wind energy can help match LEU's demands, the option of providing flexibility to the system depends on the LEU's general demand and would be ideal option to accommodate in future which could generate a separate revenue stream from renewable energy produced onsite.

Q.29 Should the use of on-site dispatchable generation using only renewable fuels have limited run hours, to reflect limited availability of an indigenous renewable fuel? Please provide reasons for any views provided.

Limiting the run hours of on-site generation from indigenous fuel sources such as biomethane or HVO's is a prudent approach, however there are limitations which LEU's should understand.

For Biogas, the volume of biomethane injected into the grid is small, equating to c. 75 GWh per annum, which is equivalent to 0.001% of Ireland's current gas demand¹. Unless huge investments are made by LEU's onsite, the provision of running AD with sustainable feed stock availability are made, it would not reflect on the total power demand for LEU's especially large units incorporating electrification strategies. With regards to HVO's there is a cause of concern with the source of raw materials. There are reports stating purpose grown palm and soy plantation that contribute towards deforestation are being used as raw materials². This cause concerns over the sustainability of the product. There must be flexibility in the initial glide period regarding the limitation of generation.

Q.30. Do LEUs require back-up generation for operational reasons? If so, what is the typical annual running hours of this back-up generation?

Yes, most LEU's adopting electrification strategies may require back-up generation for operational reasons. The demand might vary based on the industry and demand requirements specific to operation. Backup generation may be activated not only during grid outages but also during emergencies such as severe weather events or natural disasters.

Q.31 What should demand flexibility services provided by new LEUs be used for, system support, decarbonisation or both? Please provide reasons and rationale for any views provided.

eHeat has contributed to recent CRU Demand flexibility product proposal consultation where a deep dive into this section has been addressed. With Ireland's requirement for a deep decarbonisation among all sectors, it important that LEU's demand flexibility efforts must support both LEU's decarbonisation as well as contribute towards the system support. The latter in future would be very important for ensuring smooth operation of grid, maintaining grid stability and mitigation risks associated with disruptions.

Q32. Should demand flexibility services be mandatory or voluntary for new LEUs? Please provide reasons and rationale for any views provided.

The primary goal of demand flexibility is to promote decarbonization, enhance grid resilience, and optimize system efficiency, mandating flexibility measures can be justified. Mandatory flexibility requirements ensure that all stakeholders contribute to achieving these objectives, rather than relying solely on voluntary actions, which may not be sufficient to meet targets. This will also pave a way for industries to adopt more electrification strategies into their process to be aligned with our national emission goals.

¹ <https://assets.gov.ie/282319/b82783de-f66b-49e1-9bd2-ed2d6442b199.pdf>

² <https://premaenergy.co.uk/hvo-diesel/hvo-diesel-sustainability/#:~:text=Not%20all%20HVO%20is%20alike,can%20be%20considered%20truly%20sustainable.>

Q.33 Should LEU connections in certain parts of the network be required to provide demand flexibility services? Is this measure justified?

N/A, stakeholder inputs from specific LEU's are mandatory for this.

Q.34 If demand flexibility is voluntary for new LEUs, what type of incentives could be introduced to encourage the adoption of these services?

If demand flexibility measures are voluntary, LEU's must have access to financial incentives along with robust tariff structures, capacity payments where applicable. It would also be beneficial to have collaboration between LEU's, industry stakeholders and government to develop joint initiatives to help the cause.

Q.35 If demand flexibility is mandatory for new LEUs, should there be any exemptions for certain LEUs to having to provide these services? How could this be assessed? On what basis could these exemptions be applied?

Nothing more to add that what is addressed in Q32

Q.36 Should timed/profiled connections be introduced? Please provide reasons and rationale for any views provided.

Like the responses provided above, introducing timed/profiled connections can optimize grid operation by distributing energy usage efficiently, encouraging load balancing, and managing demand effectively. However properly balancing the system requires, comprehensive assessment for specific LEU's along with careful planning and regulatory supervision for efficient dissemination.

Q.37 Comments are invited from interested parties on the use of waste heat from LEU sites.

eHeat is in agreement with LEU's executing project related to using waste heat for spatial heating or pretreatment processes within industries. Heat pumps, MVR's are all essential tools to implement waste heat valorisation process which will considerably improve the efficiency of LEU's.

Q.38 Comments are invited on the use of waste heat from LEUs to feed district heating networks or other processes.

Leveraging waste heat from LEU's adopting electrification of heat technologies for district heating can have huge environmental benefits. However, this option would be only applicable to certain LEU's where the demand for waste heat is not required to improve their respective energy efficiencies and can be fed into heating networks, it would also need to be implemented in areas where clusters of stakeholders can benefit from district heating requirements.

Q.39 Should provisions to use waste heat from new LEUs in suitable locations to feed district heating or other processes be mandatory or voluntary? Please provide reasons and rationale for any views provided.

N/A

Q.40 Comments are sought from stakeholders regarding the utilization of biomethane in decarbonizing Large Energy User (LEU) demand. Interested parties are encouraged to share their perspectives on the potential volume of indigenous biomethane production annually. Additionally, stakeholders are invited to provide insights into the scalability of leveraging biomethane for decarbonizing LEU demand.

The findings from the National biomethane consultation document will be highly influential in determining the implementation of biomethane or indigenous fuels in LEU's energy networks. LEU's such as food industries, dairy and distilleries could benefit from biogas with the availability of biomass which could feed into AD's however, assessments on financial investments to payback period/return needs to be investigated before any LEU's can commit towards these strategies.

Q.41 Comments are invited on what running profile should be adopted by onsite gas generation which is being run on a limited supply fuel like biomethane e.g. should it be limited running for back-up and/or flexibility purposes, or baseload (islanded LEU)? If for flexibility services what would be a typical capacity factor?

N/A

Q.42 Comments are invited from interested parties on the use of green hydrogen towards decarbonisation of LEU demand and the timelines in which this might be viable. Please provide reasons and rationale for any views provided.

The technological maturity and large-scale adaptation of green hydrogen generation in Ireland is still at a nascent stage. It is only after that can financially viable green hydrogen technology be implemented.

Q.43 Comments are invited from interested parties on the renewable gas certification scheme.

The renewable gas certification scheme serves as a valuable tool in promoting renewable energy deployment, especially with regards to identifying the source and origin of indigenous renewable fuels such as HVO's; and understanding the demand patterns of LEU's by regulators.

Q.44 Are there other options for decarbonisation of gas demand that should be considered?

Electrification is one of the key parameters which that all LEU'S must adopt such as heating, which can significantly reduce gas demand. Transitioning to electric heat pumps, electric boilers powered by renewable electricity sources eliminates the need for natural gas and

contributes to decarbonization efforts. Until CCS technologies and hydrogen technologies are readily available, huge efforts in electrifying technology are necessary.

Q.45 Comments are invited on the introduction of non-firm/interruptible gas connections for LEUs (at exit point). Do respondents have a view on whether these non-firm/interruptible connections can help alleviate emissions? Please provide reasons and rationale for any views provided.

N/A

Q.46 How can demand flexibility services on the gas system provide a benefit for both system support and decarbonisation?

From an organisation representing electrification of technology, gas system powered by renewable fuels or hydrogen mixes (as mentioned in the consultation dossier) are the only way to achieve our decarbonisation goals.

Q.47 Comments are invited from interested parties on maintaining optionality in what provisions an LEU must meet as part of its net zero emissions requirements.

Response to Q5 addresses most of the criteria's we hope to communicate.

Q.48 Comments are invited on how a new LEUs location may inform what criteria it may need to meet.

From a geographical perspective, the need for LEU's to be closely located near renewable sources, as mentioned earlier in the document has significant environmental as well as grid security benefits.

Q.49 Comments are invited on how a transition period may inform an evolving net zero target and demand flexibility services that could be provided.

Questions 5-10 elaborately answers the above

Q.50 Respondents are welcome to suggest alternative approaches in how criteria is selected.

Excluding all the comments highlighted in this document, policymakers and regulators should develop platforms that support the effective and equitable adoption of electrified heating systems by LEUs, contributing to the transition to a more sustainable and resilient energy future.

Q.51 Respondents are welcome to suggest any additional approaches for LEUs to help meet net zero requirements not considered in sections above

N/A

Q.52 Comments are invited from interested parties on the roles of other organisations in the different approaches considered in this paper.

This consultation document provides a complex perspective with various considerations encompassing emissions, renewable energy adoption and integration, spatial planning, and carbon budget reporting. Hence, a synergy between all the organisations mentioned in the dossier are required for LEU's to transition changing requirements and align with broader climate and energy objectives. There must also be an option for consideration of regulatory changes based on how the policy translates in real-time.

Q.53 Comments are invited on what functions should be carried out by who, in the context of potentially real time net zero emissions for LEUs going forward.

From an industrial viewpoint, emission reporting must be made to SEAI and EPA. Flexibility and SO related services must be held by system operators such as EirGrid for electricity and Gas Networks Ireland for gas. They along with ESB must also be part of any grid related operations, incorporation of renewable sources and demand side flexibility services. Commission for Regulation of Utilities (CRU) or a similar regulatory authority must be responsible for policy development and regulation, while government Departments, Local Authorities, and Enterprise Agencies can help LEU's in operational, financial and technical support.

Q54. Feedback is requested from stakeholders on other mechanisms that may need to be considered for the implementation of SECs and who should be responsible for delivering them.

In addition to the various comments highlighted within the response document, the role of robust policy and regulation is very important for the efforts of electrification of heat within industries to show significant progress. Financial incentives from government agencies including grants and low-interest loans are necessary for LEU's to adapt. Training program initiatives from industry association for implementation of electrification strategies could also be beneficial.

