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Mr. Eamonn Ryan

Department of the Environment, Climate and Communications

29-31 Adelaide Road

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29 April 2021

Dear Minister,

Hub Controls welcomes the opportunity to make our submission to the Department of the Environment, Climate and Communications' Public Consultation on the redesign of Ireland's Energy Efficiency Obligation Scheme published 4 March 2021.

The Hub Controls' team has conducted an extensive review of the information made available by the Department for the consultation and now present our response to the survey questions:

Energy Efficiency Obligation Scheme: Public Consultation

Section 3: Obligated Parties

Question 3.1: Do you agree with our proposal that the EEOS should cover entities across all the main energy markets - electricity, natural gas, liquid fuels, and solid fuels?

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with the proposal that the EEOS should cover all entities across all the main energy markets. The EEOS has created a market for State mandated and subsidised energy credits, comprised of four participant groups, namely:

1. EEOS Credit Purchasers – the Obligated Parties
2. EEOS Credit Providers – companies that provide energy efficiency technologies, products & services
3. Energy Consumers – end-users of the electricity, natural gas, LPG, liquid fuel, and solid fuel markets for a variety of purposes including home heating and transport
4. SEAI – the de facto regulator of this market.

Given that this market has been created, there is an onus on Government to ensure that this market is managed and regulated fairly for all participants groups.

Hub Controls maintains that the following core principles should be applied to all sides of the EEOS market by the State:

- Minimise distortionary impacts on all other markets, and not only the energy market.
- Minimise distortionary impacts on competition within the EEOS market.
- Maximise market transparency and fairness for all participants and in pursuit of the goal of maximising energy savings through increasing energy efficiency; (ref. Article 8(5) of Directive 2012/27/EU states: *Access of market participants offering energy services shall be based on transparent and non-discriminatory criteria.)*

- Ensure fair entrance and treatment of all market participants; (ref. Article 7a (6) of DIRECTIVE (EU) 2018/2002 states: *Within the energy efficiency obligation scheme, Member States may do one or both of the following: a) permit Obligated Parties to count towards their obligation certified energy savings achieved by energy service providers or other third parties, including when Obligated Parties promote measures through other State-approved bodies or through public authorities that may involve formal partnerships and may be in combination with other sources of finance. Where Member States so permit, they shall ensure that the* ***certification of energy savings follows an approval process that is put in place in the Member States, that is clear, transparent, and open to all market participants, and that aims to minimise the costs of certification.****)*
- Increase (i.e. no reduction) in energy efficiency targets or, at the very minimum, not allow levels of energy efficiency roll out to be reduced.
- Re-enforce the 'Polluter Pays' principle by bringing responsibility and visibility of energy efficiency obligations as close as possible to the end energy user, or consumer.

These principles are reflective of the European Single Market principles (European Single Market Principles) including:

- A functioning single market stimulates competition and trade, improves efficiency, raises quality, and helps cut prices,

and of key aspects of the Paris Agreement (Paris Agreement Key Aspects)

- Climate change… …public awareness, public participation, and public access to information (Art. 12) is also to be enhanced under the Paris Agreement.
- Transparency (Art. 13), implementation and compliance (Art. 15) - The Paris Agreement relies on a robust transparency and accounting system to provide clarity on action and support by Parties…
- …Parties aim to reach global peaking of greenhouse gas emissions (GHGs) as soon as possible…
- …prescribes that Parties shall… …provide information necessary for clarity and transparency.
- To set a firm foundation for higher ambition, each successive nationally determined contribution will represent a progression beyond the previous one and reflect the highest possible ambition.
- The Paris Agreement…sets out principles – including environmental integrity, transparency, and robust accounting…

Hub Controls further strongly advocates that the principles and intentions set out in the recently published Climate Action and Low Carbon Development (Amendment) Bill 2021 should be fully reflected in the design and operation of the EEOS 2021-2030. The Bill 2021, at Section 6, requires that the Minister and the Government to have regard for the need to deliver the **best possible value for money** consistent with the sustainable management of the public finances and the **social and economic imperative for early and cost-effective action**, and the **role of behavioural change** on the part of individuals and different sectors of society, in their climate action planning and in setting the long term national climate action strategy.

From our review of the Department's consultation paper on the EEOS 2021-2030 it would appear that the approach being adopted (particularly with regard to achieving energy efficiencies and savings in the residential sector) is almost exclusively high cost and will be difficult to achieve, and is inconsistent with the language and intentions set out in the 2021 Bill.

This complex and high-cost approach is also likely to fail to deliver on the objectives of the new Bill in relation to **climate justice** to "safeguard the rights of the most vulnerable persons and endeavour to share the burdens and benefits arising from climate change", including safeguarding the interests of those in our society that are experiencing fuel poverty.

We will make several proposals later, but our submission under this section is that the above principals are adopted.

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Question 3.2: Do you agree with our proposal to obligate the following types of eligible parties within each market, should they be above a certain size, that is:

a) of the eligible parties in the liquid fuel market, only the liquid fuel importers operating in Ireland.

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with this proposal as it goes against the following key market principles and the overall goals of achieving energy savings and greater energy efficiency:

- Minimising distortionary impacts on competition:
  - Too much market power is being given to the liquid fuel importers, resulting in an anti-competitive distortion of the market.
- Maximising market transparency and fairness:
  - Liquid fuel distributors, suppliers, and end users will not see the EEOS costs that are being passed onto them by liquid fuel importers.
- Ensuring equal treatment of all parties:
  - It is proposed that all eligible parties in the Solid Fuel sector, including importers, distributors, and suppliers should obligated (subject to certain thresholds); however, within the liquid fuel market it is proposed that only liquid fuel importers should be Obligated Parties under the new EEOS 2021-2030.
  - The lack of sales data has been cited in the EEOS Consultation document as a reason not to obligate liquid fuel distributors and suppliers, however the ECA report goes on to state on page 38 that comprehensive sales data for solid fuels were unavailable for the analysis in that sector also. However, it is still being proposed that all the solid fuel parties including importers, distributers, and suppliers, should be obligated under the new EEOS.
  - At a minimum, these facts illustrate that liquid fuel and solid fuel parties will not be treated equally under the new EEOS.
- The 'Polluter Pays' principle:
  - The obligation and the consequences of producing carbon need to be pushed as close as possible to end energy users and consumers so that they understand the impacts of their actions on greenhouse emissions and their responsibilities within national climate action plans.
  - Within the liquid fuel sector, it is proposed that end consumers only pay a levy to the liquid fuel importers and would have no further responsibilities to implement energy efficiency measures.

Example of Distortions within the Liquid Fuel Market

The business models employed by Obligated Parties in the Irish EEOS have varied considerably. They include subsidiary and contracted energy service companies (ESCOs), integrated energy efficiency units, and voluntary pooling of energy efficiency targets. This latter approach has been adopted by **oil suppliers** who have weaker connections with individual customers, more limited experience in previous energy efficiency initiatives, and less of an incentive to build in-house capabilities. In pooling their target, oil distributors and suppliers agreed to ignore the 600 GWh threshold due to concerns regarding market distortions and established a subsidiary energy efficiency obligation (EEO) management agent company which in turn procured and contracted a specialist external company to provide a full 'arms-length' EEO delivery service to it. **The EEO management agent company is thus effectively the Obligated Party** and the specialist external company is termed a 'counterparty'. The funding contributions from all industry players to meet the costs of this service are on a pro rata sales basis. The contract is paid on a performance basis (ref. European Bank for Reconstruction and Development. Energy Efficiency Obligation Schemes: Policy guidelines Deep Dive on Key Policy Mechanism That Can Be Deployed under Article 7 of the Energy Efficiency Directive. February 2019).

We are concerned that key actors within this market arrangement are under common management and for all intents and purposes they are acting as one entity. This means that 58% of the domestic EEOS target (ref. page 37 of ECA Report) could effectively be within the control of one entity. This arrangement means that this entity is in a position to receive funds for energy efficiency measures from consumers and also buy energy credits

from themselves, acting as both buyer and seller within the market. Other sellers in the market will be at a significant disadvantage should this be allowed in the new obligation period. Such an arrangement lacks sufficient transparency and also raises potential state aid considerations within the government-sponsored EEOS and the market in energy efficiency measures that derives from it. This is also in conflict with the SEAI's stated objectives of making all its engagements and measures customer-centric.

Question 3.2: Do you agree with our proposal to obligate the following types of eligible parties within each market, should they be above a certain size, that is:

b) of the eligible parties in the solid fuel market, all entities, including all importers, distributors and/or suppliers operating in Ireland.

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with the proposal to obligate all entities, including all importers, distributors, and/ or suppliers operating in Ireland in the solid fuel market.

The reason for this response is that this proposal supports the following principles:

- Minimises distortionary impacts on competition. More buyers in the market reduces the power of a small concentrated number of buyers.
- Maximises market transparency and fairness
- Ensures equal treatment of all parties
- Brings the obligation as close as possible to the end energy user, re-enforcing the 'Polluter Pays' principle

Question 3.2: Do you agree with our proposal to obligate the following types of eligible parties within each market, should they be above a certain size, that is:

c) of the eligible parties in the gas and electricity markets, only retail energy supply companies operating in Ireland

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with the proposal that only the retail electricity supply companies, and not the two regulated distribution system operators (DSOs), in the electricity and natural gas markets, should be obligated to deliver EEOS targets.

Indeed, to the principle of equal treatment of all parties, this logic should also be applied to the Liquid Fuel market, where

- the importers act as the distribution system operator in that market
- only the retail energy supply companies of liquid fuel should be obligated
- this is potentially more important for oil due to the market share (58%) and its high carbon content.

Question 3.3: Do you agree with our proposal to set the obligation threshold in terms of annual final energy sales volume (GWh)?

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with this proposal as it represents the fairest and most transparent means by which to allocate the total amount of energy savings to be achieved under the new EEOS among Obligated Parties. We do not accept that it is a difficult task to get this information for the liquid fuel market.

Question 3.4: Do you agree with our proposal to set the obligation threshold level at final energy sales of 400 GWh per annum, combined with the introduction of a free allowance?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with the proposal to set the obligation threshold level at final energy sales of 400 GWh per annum, combined with the introduction of a free allowance.

The reasons are that this proposal goes against the following principles:

- Minimising distortionary impacts on competition in the EEOS market:
  - Liquid fuel distributors and suppliers are not being formally obligated, resulting in fewer market participants resulting in a less competitive market.
  - Setting an obligation threshold amount of 400 GWh does not capture enough of the liquid fuel distributors and suppliers, making the market less competitive.
  - A lower obligation threshold would capture more new market entrants (over the period 2021 to 2030) who are likely to enter the market at a lower energy sales volume levels and thereby help ensure greater equity among all market participants.
  - Indeed, following a review and public consultation of the obligation scheme in the First obligation period conducted in 2016 (ref. National Energy Efficiency Action Plan for Ireland #4. 2017-2020), it was proposed to decrease the sales threshold for participation to 240 GWh.
- The 'Polluter Pays' principle
  - The higher threshold means less distributors and suppliers of energy will be obligated under the new EEOS which will result in fewer energy consumers being exposed to the full costs of their energy use, and therefore not becoming exposed to market signals that could help change energy use behaviours.

Hub Controls proposes that the following market participants should be obligated under the new EEOS:

- Any parties engaged in retail sales of energy in the electricity and gas markets, solid fuels market, and liquid fuels market (including the distributors and suppliers) where their total annual sales exceed 200 GWh. This includes all liquid fuel suppliers above 200GWh per year.
- LPG retail suppliers are obligated under the EEOS and have the same challenges that oil retail suppliers have. Accordingly, we propose that oil retail suppliers supplying in excess of the obligation threshold of 200 GWh should fall fully within the remit of the EEOS 2021-2030.
- Within the liquid fuels market, the organisation 'Fuels for Ireland' should be responsible for any shortfall in meeting the targeted energy savings under the new EEOS in that sector.

Question 3.5: Do you wish to provide any specific comments in relation to the target setting approach?

☒ Yes

☐ No

Please provide reasons to support your response.

Hub Controls proposes that the principles listed below and set out our response to question 3.1. should be applied to any target setting approach under the new EEOS (2021 – 2030):

- Minimise distortionary impacts on markets as required per Section 4 and 5 of the Competition Act, 2002

Section 4 of the Competition Act, 2002 states:

Subject to the provisions of this section, all agreements between undertakings, decisions by associations of undertakings and concerted practices which have as their object or effect the prevention, restriction or distortion of competition in trade in any goods or services in the State or in any part of the State are prohibited and void, including in particular, without prejudice to the generality of this subsection, those which—

(a) directly or indirectly fix purchase or selling prices or any other trading conditions,

(b) limit or control production, markets, technical development, or investment,

(c) share markets or sources of supply,

(d) apply dissimilar conditions to equivalent transactions with other trading parties thereby placing them at a competitive disadvantage,

(e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which by their nature or according to commercial usage have no connection with the subject of such contracts.

Section 5 of the Competition Act, 2002 states:

5.— (1) Any abuse by one or more undertakings of a dominant position in trade for any goods or services in the State or in any part of the State is prohibited.

(2) Without prejudice to the generality of subsection (1), such abuse may, in particular, consist in—

(a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions,

(b) limiting production, markets, or technical development to the prejudice of consumers,

(c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage,

(d) making the conclusion of contracts subject to the acceptance by other parties of supplementary obligations which by their nature or according to commercial usage have no connection with the subject of such contracts.

- Minimise distortionary impacts on competition
- Maximise market transparency and fairness
- Ensure equal treatment of all market participants
- Increase (i.e. no reduction) in energy efficiency targets
- Re-enforce the 'Polluter Pays' principle by bringing responsibility and visibility of energy efficiency obligations as close as possible to the energy user, or consumer.

Hub Controls would like to emphasise that the ECA report repeatedly warns about the uncertainty of numbers used in their analyses. An example of this is on page 30, 31 where it is stated "It is estimated that these factors could lead to a change in the contribution of the designated AMs in the region of +/- 30% of the central estimate provided in Table 11." There are clearly risks around key policy decisions in relation to the EEOS 2021-2030 targets based on uncertainties underpinning assumptions in the ECA report.

Section 4: The 2021-30 EEOS Target

Question 4.1: Do you agree with our proposal that 60% of Ireland's Article 7 obligation for 2021-30, equivalent to 36,424 GWh cumulative final energy savings, should be met by an Energy Efficiency Obligation Scheme?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with this proposal as it goes against the following principles:

- Increasing energy efficiency targets
  - The EEOS target was 700 GWh per year in 2019 and was achieved by Obligated Parties per SEAI reporting.
  - The proposal of cumulative final energy savings of 36,424 GWh over 10 years under the EEOS 2021 - 2030 is the equivalent of setting the annual EEOS target to 662 GWh per year. This is a 5.4% ***reduction*** in the annual EEOS target when compared with what was delivered in 2019, which is contrary to the principle of increasing energy efficiency and energy savings.

A summary in the effective annual target reductions is shown in the following table:

	2019 Annual Target	Proposed Annual EEOS Target	Comment
Annual EEOS Target	700 GWh per year	662 GWh per year	5.4% ***reduction*** in targeted energy savings
10 Year Cumulative	38,500 GWh	36,424 GWh	2,076 GWh reduction over 10 years

Hub Controls proposes that the annual (non-transport) energy savings targets for the EEOS 2021 – 2030 should be kept at a minimum of 700 GWh per year which was the energy savings target for 2019 under the 2014-2020 EEOS. Ireland must strive to improve its energy efficiency performance by setting realistic and increased targets rather than the reduced targets proposed under the new EEOS 2021-2030.

Question 4.2: Do you agree with our proposal that the EEOS Target should be disaggregated, with a 40% target allocated to all transport energy suppliers and distributors (the Transport Sales Target), and a 60% target allocated to all non-transport energy suppliers and distributors (the Non-transport Sales Target)?

☐ Yes
☒ No
☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with this proposal for the following reasons:

- Ireland should be striving to improve its energy efficiency performance by setting increased targets under the EEOS 2021 to 2030.
- The proposal is that the new EEOS would obligate parties that have already achieved a 700 GWh per year target for energy savings for non-transport sectors under the EEOS 2014 to 2020 to achieve a lower target.
- The 40% disaggregation of the EEOS annual obligation is in effect a 40% reduction in the non-transport EEOS targets.
- The proposal is that non-transport EEOS targets would be reduced from 700 GWh per year to 397 GWh per year, which is a massive 43.3% ***decrease*** in the non-transport energy savings under the proposed EEOS 2021 – 2030 target.

Ireland should not be going backwards in any of its residential, fuel poor, or commercial energy efficiency targets. These reductions in targets are a direct contradiction of DECC and Ministerial messaging around Ireland's climate action plans and decarbonising within the residential energy sector (ref. National Energy & Climate Plan 2021-2030 states: *A new European Commission introduced the European Green Deal at the end of 2019, clearly setting out increased levels of ambition for the EU as a whole and aims to deliver net- zero greenhouse gas emissions at EU level by 2050 and to increase the EU-wide greenhouse gas emissions reduction target from 40% to up to 55% by 2030*).

A summary of the effective annual target reductions is set out in the following table:

	2019 Annual Target	New EEOS Target	Comment
Non-transport EEOS Target	700 GWh per year	397 GWh per year	43.2 % ***reduction*** in target

- Minimising distortionary impacts on competition
  - Disaggregating 40% of the targeted energy savings under the new EEOS to transport has the effect of making the current largest player in the EEOS sector even larger which could result in the continuation of dominant positions in the EEOS market and, as such, rendering the EEOS market more anti-competitive.
- Maximising market transparency and fairness
  - DECC's EEOS Consultation and the ECA Report do not clearly or adequately define transport sales, which does not assist in understanding of the proposals, or add to market transparency.
  - For example, an Electric Vehicle (EV) Charger installed in a house does not generate residential energy efficiency and should not be considered to be a residential energy efficiency measure
    - It does not reduce energy use in the home; in fact, it may increase electrical use by a household but could reduce the carbon impacts of transport by some members of a household.

Example of EV Charger Impact on Residential Energy Consumption:

A 60 kW Electric Vehicle being fully charged once a week increases the energy consumption in the home by 3,120 kWh per year. The average electricity consumption of an Irish home is 4,200 kWh (https://www.cru.ie/wp-content/uploads/2017/07/CER17042-Review-of-Typical-Consumption-Figures-Decision-Paper-1.pdf) . Therefore, an EV Charger is increasing the residential energy consumption by 74.3%.

Hub Controls makes the following proposals:

- Energy savings within the transport sector should not be included within the EEOS because:
  - Shifting the dependency of transport activities away from fossil fuels is a major challenge for the developed world. The scope of individual consumers to influence energy savings in transport is limited and highly dependent on high-level policy decisions that, if implemented, will provide the infrastructure necessary for viable and sustainable low-carbon transport alternatives.
  - Transport is already heavily invested in through the alternative measures (40% of AM)
    - EVs target of 3,291 GWh over 10 years (ECA Report, Table 1)
    - Modal Shift measures target of 6,018 GWh over 10 years (ECA Report, Table 1)
- If transport were to be included in the EEOS, then
  - It should be allocated its own separate target and have its own separate designated measures to achieve these set targets.
  - Targets for energy efficiency in the transport sector should not have any impacts on non-transport EEOS targets, and certainly should not reduce non-transport targets for residential, fuel poor, and commercial energy efficiency in any way from the energy efficiency targets demanded and achieved for the latter years of the EEOS 2014-2020

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Section 5: EEOS Delivery Sub-targets

Question 5.1: Do you agree with our proposal that a certain proportion of Obligated Parties' energy savings must come from measures delivered in the residential sector (the Residential Delivery Sub-target)?

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with this proposal as the residential sector accounts for almost a quarter of Ireland's final energy consumption and the Residential Delivery Sub-target should be reflective of this significance.

Under the new EEOS 2021-2030, it is essential that the residential and fuel poor EEOS targets are ring fenced and protected because of the uncertainties underlying assumptions around the likely price of residential obligation credits under the new EEOS 2021-2030.

The current proposal assumes that Obligated Parties' overall EEOS spend will remain the same but that the EEOS residential energy credit price will increase. This projected price increase is being used as the reason to reduce the amount of the Obligated Parties' EEOS residential delivery sub-target.

There is no evidence presented in the ECA report or elsewhere that EEOS residential energy credit prices will increase. Indeed, the ECA report confirms and repeatedly refers to the considerable uncertainties associated with the results and assumptions presented.

It is very high risk to make policy decisions around the EEOS 2021-2030 residential delivery sub-targets based on such uncertainties that underpin the assumptions in the ECA report. Page 31 of the ECA report talks to these uncertainties:

'There is significant uncertainty associated with the estimates provided in Table 11. This includes uncertainty regarding the policy pathway and uncertainty in the calculation estimates. For example, the contribution from the carbon tax could substantially fall should the tax rate not increase in line with the projections, or substantially increase subject to a review of estimated elasticities in sectors other than the residential sector. It is estimated that these factors could lead to a change in the contribution of the designated AMs in the region of +/- 30% of the central estimate provided in Table 11.'

Additionally, Obligated Parties would be expected to seek to purchase cheaper non-residential energy efficiency credits unless residential delivery sub-targets are ring-fenced.

Finally, ring-fencing energy efficiency targets within the residential sector supports the 'Polluter Pays' principle by bringing visibility of energy savings obligations as close as possible to the end energy user or consumer.

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Question 5.2: Do you agree that, of these residential savings, a certain proportion must also come from activity in energy poor homes (the Energy Poverty Delivery Sub-target)?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls has difficulty with the term 'activity' used in the question. There is no clear definition of the 'activity' in energy poor homes, and it does not clearly state that 'activity' refers to energy efficiency activity. This is a catch-all phrase such that any activity could be conducted under the guise of energy savings within the terms of the EEOS even though such activity may not necessarily deliver an energy efficiency measure.

Furthermore, energy poor consumers, and not energy poor 'homes' as stated in the question, should be ring-fenced for the energy poverty delivery sub-target for the following reasons:

- In the residential 'able-to-pay' and commercial sectors the energy consumer, i.e. the person or entity that pays the energy bill, has to approve the energy efficiency measure being undertaken. The way the question is written allows energy poor home landlords, and in particular county councils, to approve and avail of the energy efficiency credits, as opposed to the energy poor consumer or tenant that pays the bill. This goes against the principle of ensuring equal treatment of all parties.
- County councils are effectively receiving state assistance (or aid) under the EEOS to conduct energy efficiency measures even though they are already receiving aid to do these activities outside of the EEOS through the Sustainable Energy Authority of Ireland's Better Energy Programme: Warmer Homes Scheme and Communities Scheme (ref. Table 2 on page 11 of the IGEES. Spending Review 2020 - Social Impact Assessment – SEAI - Programmes Targeting Energy Poverty. Oct 2020).

Table 2: SEAI Expenditure on Better Communities Scheme, 2012-2019

	2012	2013	2014	2015	2016	2017	2018	2019
Total Homes Completed	1,999	3,617	4,004	800	1,997	1,965	1,188	623
Energy Poverty Homes Completed	1,933	3,470	3,197	595	1,166	1,354	808	417
Domestic Spend	n/a	n/a	n/a	n/a	€9.8m	€14.2m	€11.1m	€9.8m
→ Energy Poverty Spend	n/a	n/a	n/a	n/a	n/a	€11.0m	€9.0m	€6.0m
Total Scheme Spend	€1.8m	€7.8m	€14.7m	€13.6m	€16.7m	€22.7m	€19.7m	€20.5m

Source: SEAI Communities Scheme Dataset

- Using energy poor homes instead of energy poor consumers does not acknowledge or empathise with the fact that a significant number of our citizens suffer fuel poverty and cannot afford to pay to keep themselves and their families warm in winter.
- Energy efficiency and savings in the residential sector should come from activities and measures approved by the energy poor consumer that pays the energy bill and not the landlord that owns the energy poor home. Landlords cannot ensure that occupants of 'energy poor homes' will not remain energy poor as a new, non-energy poor, tenant can move in or the occupant's financial circumstances can positively change. As defined by the EU Commission's Energy Poverty Observatory, energy poverty constitutes a *"distinct form of poverty associated with a range of adverse consequences for people's health and wellbeing"*.
- Where county councils undertake energy efficiency measures in public housing without adequate buy-in from their energy poor tenants or consumers, energy savings could be limited or fail to materialise unless occupants support them.

Fundamentally, Hub Controls believes in the maximum participation in energy efficiency activities across society, including among energy poor consumers, and consequently we believe that all sectors should participate and play their part, for their own economic interests and in supporting national climate action plans.

As such, we also believe that representative bodies such as Citizens Advice or MABS should be consulted and sit at the quarterly meetings.

Question 5.3: Do you agree with our position not to specifically require that a portion of the EEOS Target must be met by Obligated Parties through savings from measures in the transport sector?

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with the position not to specifically require that a portion of the EEOS Target must be met by Obligated Parties through savings from measures in the transport sector.

Furthermore, transport measures should not be allowed to be set against residential targets. For example, an EV Charger installed into a residential or fuel poor dwelling must not be counted as a residential or fuel poor measure and must only be counted as a transport measure. Otherwise, Obligated Parties will simply use their support for the installation of EV Chargers in homes to meet their residential targets, e.g. Electric Ireland's SEAI grant for Electric Vehicle Home Chargers, even though EV Chargers do not reduce the carbon emissions associated with residential energy use. Indeed, EV Chargers will increase the amount of electric energy being used in a home.

Example of EV Charger Impact on Residential Energy Consumption:

A 60 kW Electric Vehicle being fully charged once a week increases the energy consumption in the home by 3,120 kWh per year. The average electrical energy consumption of an Irish home is 4,200 kWh (ref. CER Review of Typical Domestic Consumption Decision Paper CER/17042). Therefore, an EV Charger is increasing the residential energy consumption by 74.3%.

Electric Vehicle Home Charger Grant and EV incentives are already available through alternative measures (ref. SEAI Electric Vehicle Home Charger Grant).

Finally, Obligated Parties should be responsible for driving energy efficiencies in their respective areas of activity. For example, Obligated Parties responsible for residential energy use should be largely responsible for driving residential energy efficiency and Obligated Parties responsible for transport energy use should be largely responsible for driving transport energy efficiency.

Question 5.4: Do you agree with our proposal that at least 15% of all EEOS savings, equivalent to 5,464 GWh cumulative final energy savings, must be delivered in the residential sector?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with this proposal as it represents a massive decrease in the residential energy efficiency targets relative to the previous EEOS (2014 – 2020). The proposal is a reduction in the targeted energy savings of 43% from the 2019 target for residential 'able-to pay' of the EEOS 2014 – 2020.

	EEOS 2014 - 2020 10 Year Cumulative	Pathway 15% 10 Year Cumulative	Pathway 25% 10 Year Cumulative
Energy Savings	6,286 GWh	3,575 GWh	7,150 GWh
Number of measures	290,000 estimated	40,000 – 50,000	85,000 – 180,000
Number of homes retrofitted	162,152	30,000 – 35,000	50,000 – 80,000

Table shows the Residential 'Able-to-Pay' Homes impacts for the proposed Pathway 15%, maintaining the current EEOS, and the proposed Pathway 25%.

Hub Controls has significant reservations about the proposed reduction in the residential number of measures and number of homes retrofitted.

The table above illustrates that the proposal is completely at variance with:

- Ireland's residential energy efficiency challenge is for the next 10-years
- Stated ambitions of the government in energy efficiency as set out its climate action planning
- Significant planned increases in carbon taxes for residential energy consumers.

This proposal halves the residential 'able-to-pay' obligation from 20% in the 2014 – 2020 EEOS to just 10% in the proposed EEOS. This is against the principle of increasing energy efficiency targets.

Furthermore, as the price of residential credits is higher than the price of non-residential credits, the proposed lower target will have a major slowing down effect on the amount of residential energy efficiency measures implemented in Ireland.

The reasoning for reducing the residential sector target is based on an assumed price increase in obligation credits that is based on significant uncertainties around its underlying assumptions as stated on page 31 of the ECA report.

'There is significant uncertainty associated with the estimates provided in Table 11. This includes uncertainty regarding the policy pathway and uncertainty in the calculation estimates. For example, the contribution from the carbon tax could substantially fall should the tax rate not increase in line with the projections, or substantially increase subject to a review of estimated elasticities in sectors other than the residential sector. It is estimated that these factors could lead to a change in the contribution of the designated AMs in the region of +/- 30% of the central estimate provided in Table 11.'

Hub Controls strongly challenges the assumption that a projected credit price increase will occur in the proposed EEOS 2021-2030, and therefore the reasoning underpinning the reduction in targeted energy efficiency savings in the residential sector. In fact, several Obligated Parties have already made it clear that they will not be increasing the credit price. Therefore, this is a proposal to reduce spend by 50% at a time that PSO levies are significantly increasing and carbon taxes are increasing.

Question 5.5: Do you agree that at least 5% of the EEOS Target (a third of the Residential Delivery Sub-target), equivalent to 1,821 GWh cumulative final energy savings, must be achieved through measures delivered in energy poor homes?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with the 5% energy poor target but does not agree with it being 'a third of the Residential Delivery Sub-target'. Energy poor should be a fifth of a larger Residential Delivery Sub-target as per the previous EEOS (2014-2020) and in line with the principle of not reducing energy efficiency targets in the residential sector.

Hub Controls repeats that energy poor 'consumers', and not energy poor 'homes', as stated in the question, should be targeted for the same reasons given in our response to question 5.2.

DIRECTIVE (EU) 2018/2002 (23) states:

Around 50 million households in the Union are affected by energy poverty. Energy efficiency measures must therefore be central to any cost-effective strategy to ***address energy poverty and consumer vulnerability*** *and are complementary to social security policies at Member State level. To ensure that energy efficiency measures* ***reduce energy poverty for tenants sustainably, the cost-effectiveness of such measures, as well as their affordability to property owners and tenants, should be taken into account****, and adequate financial support for such measures should be guaranteed at Member State level.*

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Question 5.6: Taking account of the worked examples provided in Appendix 3, do you agree with our proposed approach in how the delivery sub-targets are allocated to Obligated Parties?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with the proposed approach as to how the delivery sub-targets should be allocated to Obligated Parties.

Hub Controls fundamentally disagrees with the EEOS 2021-2030 target being disaggregated out into a 40% Transport Sales Target, as shown in the worked examples in Appendix 3. This transport disaggregation has the knock-on effect of reducing Obligated Parties' residential delivery sub-targets by 43% as compared to the current EEOS, and as set out in our response to question 4.2.

Hub Controls fundamentally disagrees with 25% Non-Transport Sales target being met by the residential sector, as shown in the worked examples in Appendix 3. This equates to just 15% of the overall EEOS target for an Obligated Party and is in effect reducing their residential 'able-to-pay' obligation by 43% when compared to the current EEOS (2014-2020), and as set out in our response to question 5.4.

Section 6: Delivery Requirements

Question 6.1: Do you agree with our proposed requirements for delivery under the Residential Delivery Sub-target (excluding the Energy Poverty Delivery Sub-target)?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with the proposed requirements because of the lack of details given around the proposed requirements under the Residential Delivery Sub-target.

Hub Controls has considered and provides feedback on the additional points relating to question 6.1 that were raised in the EEOS Consultation paper:

Point 1: 'introducing minimum requirements to ensure a certain level of savings per home'

Hub Controls suggests that the minimum requirements should be:

- that one residential measure is completed, **AND**
- the energy consumer signs a GDPR marketing release that consents to engage with and receive information on a Pathway to achieve a B2 BER rating for their home.

Furthermore, disallowing a particular measure is a form of wealth transfer because less well-off energy consumers may only be able to be afford a measure that is disallowed. Less well-off energy consumers will still have to pay carbon tax like everybody else but may not be able to buy the energy efficiency measures they can afford if such measures are disallowed.

O'Malley et al. in the ESRI Survey and Statistical Report Series Number 09 October 2020 Carbon Taxes, Poverty, and Compensation Options (Page 19) state:

'…the estimated cost of upgrading a property from the E, F or G BER grades to B2 status could exceed €18,000, though likely to be substantially higher'

Furthermore, they advise:

'Any expansion in the grant programmes needs to be mindful that the most energy inefficient properties are owned or occupied by families with limited financial resources.'

Point 2: 'introducing some form of additional scoring incentive/ disincentive to encourage more ambitious, deeper retrofit delivery'

Hub Controls is in favour of the 'B2 Pathway' and believes every step on the pathway should be encouraged and incentivised as every measure is valuable, and not just certain measures. Furthermore, energy consumers that are less well-off and take two steps forward on the B2 Pathway are personally making a relatively greater financial commitment and moral leap than a well-off energy consumer who can already afford the full suite of energy measures set out in this Pathway.

Point 3: 'reducing the flexibility of the requirements over time to narrow focus on B2 delivery'

Hub Controls does not agree with reducing the flexibility of the requirements over time to narrow the focus on B2 delivery. This would mean that an energy consumer in a home with a BER rating of D, E, F, or G may not be allowed to undertake any EEOS energy efficiency measures in the last 5 to 3 years of the EEOS. This is despite the fact that there are bigger savings to be made from going from the lower BER rating upwards than going through the higher BER ratings. For example, going from G to E1 delivers a BER rating improvement of 150 kWm/m^2/yr compared to going from C2 to B2 which delivers a lower BER rating improvement of 75 kWm/m^2/yr.

https://www.seai.ie/publications/Your-Guide-to-Building-Energy-Rating.pdf (Page 5 gives table)

Reducing this flexibility is therefore counterproductive to achieving the overall objectives of the EEOS in increased energy efficiencies and energy savings, and is unfairly prejudicial to energy consumers in homes with BER rating of D,x` E, F, or G.

Point 4: 'Specifically disallowing the installation of high efficiency fossil-fuel heating systems in any circumstances'

Hub Controls is agnostic as to what heating system is in use in a residential energy consumer's home.

Hub Controls does not support incentivising fossil-fuel heating systems but disagrees with the 'specifically disallowing' language used in the point. Language 'specifically disallowing' should not be used as this can be read by practitioners and energy consumers as, for example, the SEAI disallowing the replacement of a high efficiency fossil-fuel heating system. High efficiency fossil-fuel heating systems are not being incentivised and are not part of the B2 Pathway, but it is not illegal to install a high efficiency fossil-fuel heating system. It can only be made illegal through legislation and that is not the function of SEAI.

The National Energy & Climate Plan shows that the objective is to ban installation of high efficiency fossil-fuel heating systems in **new** dwellings:

'Effectively ban the installation of oil boilers from 2022 and the installation of gas boilers from 2025 in all new dwellings through the introduction of new regulatory standards for home heating systems. Progressively phase out oil and gas boilers in existing dwellings through a combination of incentives, information and regulatory measures.'

Hub Controls is fundamentally against the idea of disincentivising innovation, which is in effect what Point 4 is doing. Indeed, the Directive (EU) 2018/2002 (29) states:

'Taking advantage of new business models and technologies, Member States should endeavour to promote and facilitate the uptake of energy efficiency measures…'

That is, innovation must be fostered. There is the possibility that Hydrogen would replace natural gas as a heating fuel source for these high efficiency heating systems as that technology evolves and is improved. This action could have the knock-on effect of killing innovation in the Hydrogen sector. A further inevitable consequence of the abandonment of natural gas is the creation of a significant stranded asset in the natural gas distribution network and its associated infrastructure which could be a loss to the state of €2.5 billion. Future innovation in Hydrogen technology or other uses could repurpose this network for application in Ireland's climate action plans.

HUB Controls research suggests that Heat Pump EEOS Credits could be overestimated by as much as 14,000 kWh per year per installation. Should this be the case, this would result in the accumulation of a significant amount of "hollow" energy savings credits that would not be underpinned by actual energy savings. If DECC were to hit its stated target of 400,000 Heat Pump installations by 2030, this overestimation of "hollow" credits could total to as much as 30,800 GWh.

Policy mistakes can be made, and have been made in the past, in backing certain technologies that have failed for various reasons, e.g. wood pellet boilers. The DECC's & SEAI's clear preference for Heat pumps above all other technologies is of great concern.

Our final point is that, if the State is to implement a "pathway" type system, this system must include the measurement and reporting of actual energy savings (not just theoretical savings) and this information should be provided to all parties in the EEOS Market, especially the consumer.

Question 6.2: Do you agree with our proposed requirements for delivery under the Energy Poverty Delivery Sub-target?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with the proposed requirements. The definition of fuel poor as an 'eligible energy poor home' and the eligibility criteria that are being proposed will restrict the availability of energy efficiency measures to many people who are encountering energy poverty.

Furthermore, energy poor consumers and not energy poor 'homes'. as stated in the question, should be ring-fenced for the energy poverty delivery sub-target. As defined by the EU Commission's Energy Poverty

Observatory, energy poverty constitutes a *"distinct form of poverty associated with a range of adverse consequences for people's health and wellbeing"*.

- In the residential 'able-to-pay' and commercial sectors the energy consumer, i.e. the person or entity that pays the energy bill, has to approve the energy efficiency measure. The way the question is written allows energy poor home landlords, and in particular county councils, to approve and avail of the energy efficiency credits, as opposed to the energy poor consumer that pays the bill. This goes against the principle of ensuring equal treatment of all the parties concerned.
- County councils are effectively receiving EEOS state aid to conduct energy efficiency measures even though they are already receiving aid to undertake these activities outside of the EEOS through the Sustainable Energy Authority of Ireland's Better Energy Programme: Warmer Homes Scheme and Communities Scheme (ref. Table 2 on page 11 of the IGEES. Spending Review 2020 - Social Impact Assessment – SEAI - Programmes Targeting Energy Poverty. Oct 2020).

Table 2: SEAI Expenditure on Better Communities Scheme, 2012-2019

	2012	2013	2014	2015	2016	2017	2018	2019
Total Homes Completed	1,999	3,617	4,004	800	1,997	1,965	1,188	623
Energy Poverty Homes Completed	1,933	3,470	3,197	595	1,166	1,354	808	417
Domestic Spend	n/a	n/a	n/a	n/a	€9.8m	€14.2m	€11.1m	€9.8m
→ Energy Poverty Spend	n/a	n/a	n/a	n/a	n/a	€11.0m	€9.0m	€6.0m
Total Scheme Spend	€1.8m	€7.8m	€14.7m	€13.6m	€16.7m	€22.7m	€19.7m	€20.5m

Source: SEAI Communities Scheme Dataset

- Using energy poor homes instead of energy poor consumers does not acknowledge or empathise with the fact that a significant number of our citizens suffer fuel poverty and cannot afford to pay to keep themselves and their families warm in winter.
- Energy efficiency and savings in the residential sector should come from activities and measures approved by the energy poor consumer that pays the energy bill and not exclusively the landlord that owns the energy poor home. Landlords cannot ensure that occupants of 'energy poor homes' will not remain energy poor as a new, non-energy poor, tenant can move in or the occupant's financial circumstances can improve.
- Where county councils undertake energy efficiency measures in public housing without adequate buy-in from their energy poor tenants or consumers, energy savings will be limited or fail to materialise unless occupants support them.

Section 7: Nature of Targets and Compliance

Question 7.1: Do you agree with our proposal to implement annual additive targets up to 2030, which Obligated Parties will be required to meet every year?

☒ Yes

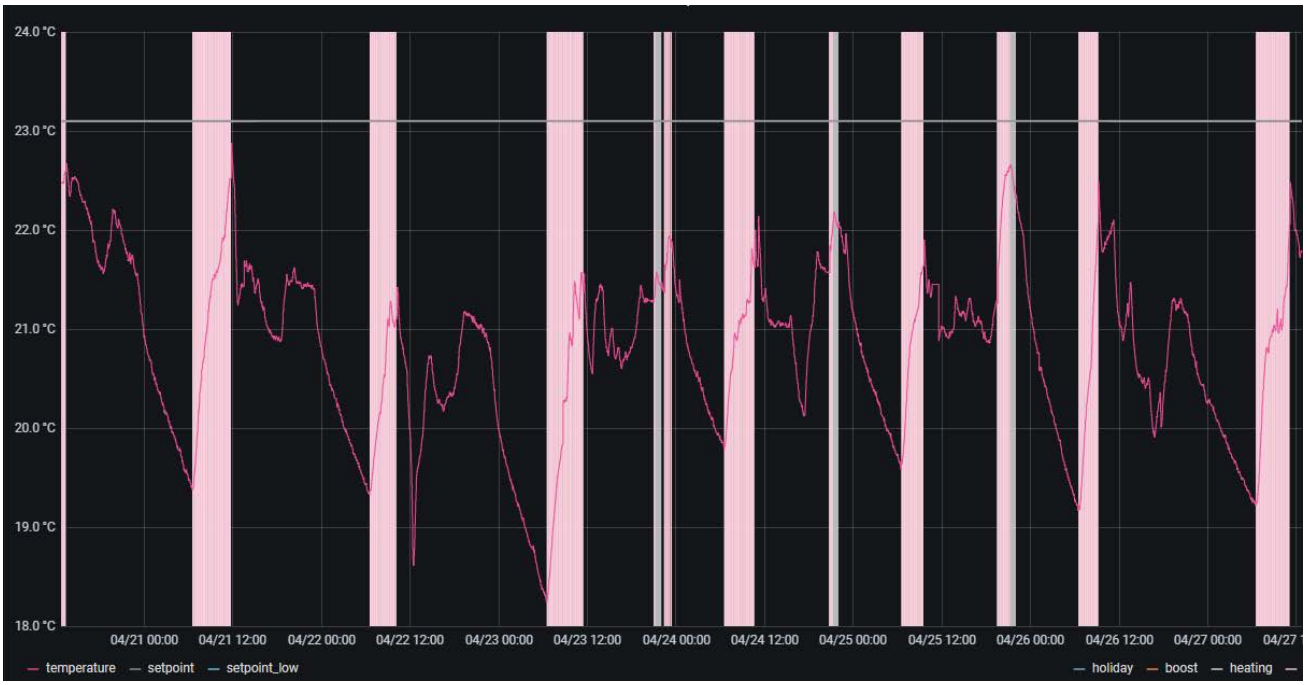
☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with this proposal. Additionally, to ensure the successful implementation of the annual additive targets, energy efficiency measures implemented in previous years need to be subject to random re-verification audits by SEAI. For example, Heat Pumps and Heating Controls need to be verified that they are still in place after 5 years and at least 3 to 4 times throughout the 2021 – 2030 obligation period.

The HubController®, which provides real-time energy use data, is an example of a smart device than can be verified as being in place and operating satisfactorily at any time.



Example: Remote real-time operation verification data for an installed HubController®

Question 7.2: Do you agree that each Obligated Party's 2021 delivery, rather than their 2021 targets, should be considered in the calculation of targets for the remaining nine years of the obligation period?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls disagrees with this approach. Every Obligated Party has an annual target derived from their overall obligations over the period 2021 to 2030, and this annual target should be met. The implied approach in the question is saying it is acceptable for Obligated Parties to miss their 2021 target, or worse not deliver any energy efficiency measures in 2021.

If Obligated Parties are not sure of what they should be delivering in 2021, then they should err on the cautious side and achieve as many EEOS credits as possible in 2021.

Further, if Obligated Parties do not meet the 2021 target, they should be obliged to meet the full extent of their allocated targets for 2021 in the subsequent two years (i.e. by meeting any shortfall in 2021 and the full extent of their obligation targets for 2022 and 2023 so that their three-year accumulated total is met in full by the end of 2023).

A mechanism for ensuring that allocated energy efficiency obligations are achieved and confirmed every three years could be achieved by applying the following approach:

Obligated Parties' target performance should be reviewed 1 January of years 2024, 2027, and 2030 for the respective previous 3-year periods. Fines should be applied for any missed targets accumulated over the previous three years. Additionally, Obligated Parties should be allowed carry over annual EEOS credit surpluses from previous years. This mechanism allows Obligated Parties to occasionally undershoot in reaching their targeted energy savings and affords them the opportunity to make up any shortfall in the other 2 years of the specified 3 year sub-periods.

If it is evident that an Obligated Party's actions are not achieving compliance and that they are on a path to missing their overall obligation target, financial penalties should be used to ensure the Obligated Party gets back on a path to hitting their overall obligation target for the period 2021-2030. Fines should be administered as follows:

- Obligated Parties that miss their target should be fined within 3 months of missing their target, and
- The fine price should be set at 25% above the price of an EEOS Credit per kWh

Question 7.3: Do you agree that Obligated Parties should be allowed to count savings achieved on their behalf by third parties towards their targets?

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls agrees with this proposal; however, adequate protections need to be built into the EEOS Market to protect the EEOS Credit Providers so that Obligated Parties cannot abuse dominant positions within the EEOS market.

Examples of dominant positions that distort the EEOS market:

- Obligated Parties should not be permitted to act as both purchasers and providers of energy efficiency credits. For example, within the EEOS 2014-2020, an Obligated Party established arrangements with community-based financial services organisations to provide them with a range of energy efficiency products and services that are typically provided by specialist providers which it then purchased. These types of activities distort the EEOS market by making it anti-competitive and non-transparent by leveraging dominant positions which undermine the businesses of specialist providers of energy efficiency products and services.

  (ref. European Bank for Reconstruction and Development. Energy Efficiency Obligation Schemes: Policy guidelines Deep Dive on Key Policy Mechanism That Can Be Deployed under Article 7 of the Energy Efficiency Directive. February 2019):

Example of distortion of the Energy Efficiency Measure Retail market:

- Obligated Parties are using various smart thermostats that generate EEOS credits as marketing tools to affect switching within the Retail Energy Supply market, instead of delivering residential energy

efficiency and energy savings. These actions undermine the operation and goals of the Energy Efficiency Measure Retail Market.

Example of Non-transparency:

- Article 8(5) of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC states:
  'Access of market participants offering energy services shall be based on transparent and non-discriminatory criteria.'
- The ECMS system administered by the SEAI is not visible to all stakeholders in the EEOS market. It potentially exposes the SEAI to claims of creating the conditions to allow market dominance abuses to occur. Obligated Parties are the only participants in the market that have access to the ECMS system giving them power to manipulate their partners and other stakeholders in the market. Such arrangement should not be facilitated by government policies.
- Example: Hub Controls has evidence of a significant amount of energy efficiency credits that were claimed by two separate Obligated Parties and recorded on the ECMS system without the knowledge of the specialist provider of the credits. The provider of the credits was not paid by either Obligated Party and was left with a financial loss as a result. Access to the ECMS to all relevant stakeholders would prevent such circumstances occurring in the future.

Question 7.4: Do you wish to provide any suggestions or comments in relation to this flexibility mechanism?

☒ Yes

☐ No

Please provide reasons to support your response.

The EEOS market is a four-sided market made up of:

1. EEOS Credit Purchasers – the Obligated Parties
2. EEOS Credit Providers – companies that provide energy efficiency products & services
3. Energy Consumers – end-users of the electricity, natural gas, LPG, liquid fuel, and solid fuels
4. SEAI – in effect, the regulator of the EEOS market

Hub Controls proposes that Obligated Parties must **NOT** be allowed to operate as both EEOS Credit Purchasers and EEOS Credit Providers, i.e. operate on both the demand and supply sides of the EEOS market, unless they can prove they are not distorting the EEOS market and other associated markets. Furthermore, there should be mechanisms in place to ensure visibility and transparency in the operation of the EEOS market.

ANNEX V(3e) of DIRECTIVE (EU) 2018/2002 states:

'Member States shall ensure that the following requirements for policy measures taken pursuant to Article 7b and Article 20(6) are met:

*e) an annual report on the energy savings achieved by entrusted parties, participating parties and implementing public authorities be provided and made **publicly available**, as well as data on the annual trend of energy savings;'*

Example of the EEOS distorting other markets:

Hub Controls is aware that in 2017, a major DIY retailer sold just 4 smart thermostats in total. Smart thermostats could not be sold in Ireland in the retail market as a result of the EEOS market and only those smart thermostat suppliers that had agreements in place with Obligated Parties could sell their products in Ireland.

Question 7.5: Do you agree that a minimum achievement requirement should be put in place, which would mean that if an Obligated Party achieves at least 95% of its annual additive target, with the exception of the final year of the obligation period, they are deemed compliant?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls disagrees with this proposal. Only 100% of the target should be deemed as compliant, and anything less as non-compliant. It is not in an Obligated Party's commercial interests to achieve in excess of their minimum required amount of energy efficiency obligations. If it is set to 95% of their target, then that is all that will be delivered. This is contrary to the principle of increasing the levels of energy efficiency achieved under the EEOS 2021-2030.

In our response to Question 7.2 and 7.6, Hub Controls has proposed a three year 'setting-up' mechanism to permit some degree of flexibility but also to ensure that Obligated Parties meet their targeted energy efficiency obligations in full.

Question 7.6: Do you wish to provide any suggestions or comments in relation to this flexibility mechanism?

☒ Yes

☐ No

Please provide reasons to support your response.

Obligated Parties' targeted performance should be reviewed 1 January of years 2024, 2027, and 2030 for the respective previous 3-year periods. Fines should be applied for any missed targets accumulated over the previous three years. Additionally, Obligated Parties should be allowed carry over annual EEOS credit surpluses from previous years to hit their three year accumulated targets. This mechanism allows Obligated Parties to occasionally undershoot in reaching their targeted energy savings and affords them the opportunity to make up any shortfall in the other 2 years of the specified 3-year sub-periods.

If it is evident that an Obligated Party's actions are not achieving compliance and that they are on a path to missing their overall obligation target, financial penalties should be used to ensure the Obligated Party gets back on a path to hitting their overall obligation target for the period 2021-2030. Fines should be administered as follows:

- Obligated Parties that miss their target should be fined within 3 months of missing their target, and
- The fine price should be set at 25% above the market price of an EEOS Credit per kWh

Question 7.7: Do you agree that Obligated Parties should be allowed to exchange validated credits bilaterally?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls disagrees with this proposal. Allowing Obligated Parties to exchange validated credits bilaterally introduces the Obligated Party as a competitor into the energy efficiency credit supply side of the EEOS market. This could provide Obligated Parties with opportunities to abuse their already dominant positions in the EEOS market and is anti-competitive.

For example, there is nothing to stop some or all Obligated Parties coming together and trading or exchanging with the Obligated Party that enjoys the lowest cost EEOS credit, and then only buying EEOS credits from that entity - a practice which could be anti-competitive but would certainly create a monopoly of the EEOS Market.

Further, there is currently no way to differentiate between a bilaterally exchanged EEOS credit and a bilaterally traded EEOS credit because SEAI states that, as administrator, they are not involved in these agreements

between Obligated Parties. This goes against the principle of transparency in the market and necessary regulatory control.

To highlight this point, in 2019, 29 inter-party transfers of credits (ref. SEAI. Energy Efficiency Obligation Scheme. Summary of Performance towards Targets for the Period: 2014 to 2019.), amounting to 100 GWh occurred between Obligated Parties (per SEAI's EEOS Summary of Performance towards Targets for the Period: 2014 to 2019, Table 5). This was 14.3% of the overall EEOS target of 700 GWh in 2019. The trading of targets has increased dramatically since the EEOS (2014-2020) began and needs to be stopped as it is stifling competition in the supply side of the EEOS market. Additionally, this practice allows Obligated Parties to renege on contracts with EEOS Credit Providers if better terms are offered by inter-party transfers.

	Period	Inter Party	Inter Sector
Number of Transactions	2014	11	0
	2015	8	6
	2016	16	4
	2017	16	3
	2018	18	3
	2019	29	0
Credits (kWh)	2014	10,241,161	0
	2015	19,781,947	31,459,825
	2016	52,290,889	31,039,570
	2017	28,801,286	34,018,769
	2018	64,643,666	30,396,436
	2019	100,035,218	0

Table 5 – Summary of Inter Party and Inter Sector transactions

Question 7.8: Do you wish to provide any suggestions or comments in relation to this flexibility mechanism?

☒ Yes

☐ No

Please provide reasons to support your response.

Hub Controls proposes that the bilateral exchange of EEOS credits should be prohibited and instead, a Clearing House for EEOS Credits should be established and operated by SEAI, under oversight by the CRU.

- This Clearing House should have an obligation to purchase all available credits (subject to Audit).
- The Clearing House should have standard set prices that should be averaged. This price should be paid for all credits.
- If Obligated Parties have a shortfall in their EEOS credits, then they can use the Clearing House to purchase the credits that have been approved by the Clearing House to make up any shortfall in meeting their targets.
- This ensures Obligated Parties do not transact with other Obligated Parties for credits, instead they go to the Clearing House.
- There should be protections for EEOS Credit Providers. They should be able to escalate the following issues with the CRU in relation to the operations of the Clearing House if any EEOS Obligated Party:
    - is not purchasing their available credits
    - is not purchasing their credits in good time

- o is not purchasing their credits at the correct price
- o has over-achieved their targets and is buying credits to resell them at a profit
- o is not paying for credits by due dates.

Question 7.9: Do you think it could be beneficial to allow Obligated Parties to bilaterally trade all or part of their targets?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls disagrees with this proposal. Allowing Obligated Parties to bilaterally trade all or part of their targets is introducing the Obligated Party as a competitor in the supply side of the EEOS market. This could allow Obligated Parties to abuse dominant positions in the EEOS market which would give rise to anti-competitive practices.

Question 7.10: Do you wish to provide any suggestions or comments in relation to this flexibility mechanism?

☒ Yes

☐ No

Please provide reasons to support your response.

Hub Controls proposes that bilateral trading of all or part of Obligated Parties' targets should be prohibited and instead, a Clearing House for EEOS Credits should be set up and operated by SEAI and regulated by the CRU.

- This Clearing House should have an obligation to purchase all available credits.
- The Clearing House should have standard set prices that should be averaged.
- If Obligated Parties have a shortfall in their EEOS credits, then they can use the Clearing House to purchase credits that have been approved by the Clearing House to make up any shortfall in meeting their targets.
- This ensures Obligated Parties do not transact with other Obligated Parties, instead they go to the Clearing House for available energy efficiency credits.
- There should be protections for EEOS Credit Providers. They should be able to escalate the following issues with the CRU in relation to the operations of the Clearing House if any EEOS Obligated Party:
  - o is not purchasing their available credits
  - o is not purchasing their credits in good time
  - o is not purchasing their credits at the correct price
  - o has over-achieved their targets and is buying credits to resell them at a profit
  - o is not paying for credits by the due dates.

Question 7.11: Do you think there should be a buy-out mechanism in place for the 2021-30 EEOS, which would allow Obligated Parties to buy out a proportion of their EEOS targets by contributing to an Energy Efficiency National Fund?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls disagrees with this proposal. The SEAI has stated that the buy-out mechanism was never used, and no fines were ever imposed in the 2014 to 2020 EEOS (ref. SEAI. Energy Efficiency Obligation Scheme. Summary of Performance towards Targets for the Period: 2014 to 2019). This mechanism is redundant and should therefore be removed.

Additionally, a buy-out mechanism acts as another competitor to EEOS energy efficiency credit providers in the market because Obligated Parties understand that if they miss their target, they can buy out their target as opposed to implementing energy efficiency measures. This distorts the EEOS market and makes it less competitive for the EEOS energy efficiency credit providers.

Finally, if the EEOS is to work properly, then Obligated Parties need to positively and actively engage in the EEOS market to achieve real energy efficiency targets and energy savings. The buy-out mechanism is an avoidance mechanism that allows Obligated Parties to bypass engaging with the EEOS and avoid delivering real energy savings and carbon emissions reductions. Given the high energy efficiency targets being set by the Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, Obligated Parties will gravitate towards avoidance mechanisms rather than delivering real energy efficiency measures as this will be seen as the easier and less costly path.

Example of Obligated Parties Using Avoidance Mechanisms

Obligated Parties are permitted to exchange achieved credits with other Obligated Parties. This allows Obligated Parties use of pseudo-contractual arrangements to avoid their obligations.

Hub Controls is aware of arrangements involving organisations associated with Obligated Parties in the liquid fuel market that can sell excess energy credits to a major natural gas supplier that is also Obligated Party. Other market stakeholders do not have visibility of such arrangements which contributes to the lack of transparency in the operation of the EEOS market and opportunities for market distortions.

Question 7.12: Do you think that the buy-out cap should be set at a maximum of 30% of targets?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

The buy-out mechanism should be removed, as stated in our response to Question 7.11, and therefore there should be no requirement for a buy-out cap maximum.

Question 7.13: Do you wish to make any suggestions on how buy-out prices are set, which would ensure the State is not financially disadvantaged and the relevant requirements of the EED are taken into account?

☒ Yes

☐ No

Please provide reasons to support your response.

The buy-out mechanism should be removed, as stated in the response to Question 7.11, and therefore there should be no requirement to set buy-out prices.

Question 7.14: Do you wish to provide any suggestions or comments in relation to this flexibility mechanism?

☒ Yes

☐ No

Please provide reasons to support your response.

Obligated Parties' target performance should be reviewed 1 January of years 2024, 2027, and 2030 for the respective previous 3-year periods. Fines should be applied for any missed targets accumulated over the previous three years. Additionally, Obligated Parties should be allowed carry over annual EEOS credit surpluses from previous years to hit the three year accumulated targets. This mechanism allows Obligated Parties to occasionally undershoot in reaching their targeted energy savings and affords them the opportunity to make up any shortfall in the other 2 years of the specified 3 year sub-periods.

If it is evident that an Obligated Party's actions are not achieving compliance and that they are on a path to missing their overall obligation target, financial penalties should be used to ensure the Obligated Party gets back on a path to hitting their overall obligation targets for the period 2021-2030. Fines should be administered as follows:

- Obligated Parties that miss their target should be fined within 3 months of missing their target, and
- The fine price should be set at 25% above the market price of an EEOS Credit per kWh.

Question 7.15: Do you agree with all, or part of, our proposed approach to non-compliance and penalties?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls disagrees with the proposed approach. Given the importance of the EEOS achieving the targets set out by the EED, and the likely inability to rectify the situation if EEOS targets are not met by 2030, there needs to be a 'zero-tolerance' approach to undershooting targets and/or non-compliance in meeting overall targets. This requires a rigorous penalty regime including the swift imposition of penalties where these arise.

Question 7.16: In your opinion, how should penalties for non-compliance be determined, i.e. what factors should be considered as part of any calculation framework?

Please provide reasons to support your response.

Hub Controls proposes that the imposition of penalties for non-compliance under the proposed EEOS 2021-2030 scheme should follow the framework set out below:

- Obligated Party's target performance should be reviewed on 1 January of years 2024, 2027, and 2030 for the respective previous 3-year periods.

- The Obligated Parties should be permitted to carry over annual credit surpluses from previous years
  - to hit their 3-year accumulated target, and
  - to make up any undershoot in a given year within each three year review period.
- A 14-day administration period to 15 January should be permitted to account for missed EEOS credits that have not been uploaded to ECMS.
- These compliance dates should be final, with no extension periods permitted.
- There should be a 'zero-tolerance' approach to missed targets by an Obligated Party outside of the permitted 3-year accumulated totals regime. Fines should be imposed on 15 January for any missed targets accumulated over the previous three years and should be required to be paid by 31 March 2024, 2027, and 2030, i.e. within 3 months of missing the target
- Financial penalties for missed targets should be set at 25% above the EEOS credit price
- A 'zero-tolerance' approach to non-compliance and missed targets is essential to help ensure transparency and the effective operation of the EEOS market and the securing of energy efficiency targets by this market under the EEOS 2021-2030.
- The non-compliance fines should be funnelled back to the proposed Clearing House as discussed in our response to question 7.8

Question 7.17: Do you wish to provide any suggestions or comments in relation to any aspect of this proposal?

☒ Yes

☐ No

Please provide reasons to support your response.

HUB Controls believes that there are a significant number of areas either missing or not explained, areas that are material to the EEOS system. We therefore suggest that workshops should identify these missing and underdeveloped areas and a further Consultation constituted. That stated, we wish to comment on a number of these areas as follows:

SEAI, through the EEOS, has been reliant on engineering assessments rather than actual field trials for allocating EEOS credits to different energy efficiency measures. The ESRI, in their Survey and Statistical Report Series Number 98 (October 2020) Carbon Taxes, Poverty, and Compensation Options, has questioned these engineering assessments (page 20),

'Consistent overestimation by engineering models of energy-saving benefits are due to inaccurate modelling assumptions, poor retrofit installations, or behavioural change by occupants (O'Callaghan et al., 2020). Only a small number of studies in Ireland are based on measured changes in energy consumption.'

This suggests that there are fundamental flaws to the assumptions underpinning the design of the EEOS. The ESRI suggests that there should be a program that ensures each energy efficiency measure that is allocated an EEOS credit value is examined using a field trial mechanism to validate their assigned credentials in terms of energy savings ascribed to that measure. A valid field trial for an energy efficiency measure should require a statistically valid field test, conducted within 3 years in at least 800 homes, that is verified by an independent third party, and published. Adjustments to the energy efficiency measure's allocated credit should be based on the validated results of such trials.

Survey and Statistical Report Series Number 98 (October 2020) Carbon Taxes, Poverty, and Compensation Options, Page 22:

'Most studies to date have been limited in scale, partly due to the difficulty in accessing suitable samples. Consideration should be given to developing a large bespoke research dataset that can be used to inform policy development by combining administrative datasets on energy use (e.g. utility bills) with data on building attributes and occupant characteristics.'

Display Energy Certificates

Energy efficiency assessment systems such as BER seek to estimate or assess the ultimate energy efficiency of a premises, but do not confirm or validate it actual efficiency in terms of actual energy usage. The Building Performance Institute of Europe in their Energy Performance Certificates across Europe from Design to

Implementation report (ref. *Energy Performance Certificates across Europe From design to implementation Report* page 12 and 13) have commented on the accuracy of assessment procedures such as BER as having a ***"± 45% deviation in the calculated outcome of the energy performance of a building compared to the actual building."***
They analyse where this level of inaccuracies can arise saying that the ± 45% inaccuracy level is made up of:

1. the calculation method for which inaccuracy levels typically correspond to a ±10% variation with respect to the actual value
2. ± 5% inaccuracies may arise from the use of default input values to represent reality
3. ± 30% deviation may originate from inaccuracies that are related to the data acquisition made by the expert from the actual building, due to the errors introduced by the expert.

The potential for misalignment between energy efficiency assessment and actual energy usage is acknowledged. In Germany, buildings are required to provide an Energy Certificate (or 'Energieausweis') when they are sold or leased. (ref. https://www.howtogermany.com/pages/energycertificate.html). DECC, in its Long Term Renovation Strategy 2017 - 2020, also acknowledges the value of DECs in the public sector and states that: *"The Display Energy Certificate (DEC) aims to encourage public building owners to adopt energy efficiency measures by displaying their energy performance."*

Hub Controls proposes that Display Energy Certificates (DEC), only briefly referred to in the ECA report, should be introduced for all homes. Combined with BER ratings, DECs would play a critical role in bringing transparency to the EEOS Market. BER is the theoretical framework for energy efficiency savings that can be achieved. DEC provides the actual energy consumption and clearly shows the actual energy efficiency savings that are achieved. Neither BER nor DEC work properly without the other. Actual consumption data needs to be produced otherwise consumers may not consider their own consumption data and the impacts of their behaviours on their energy usage. Where consumers become engaged with these issues, they are more likely to engage positively with energy efficiency measures.

Technology & Innovation Risks

Hub Controls is of the view that innovation must be fostered in the energy efficiency area. There is the possibility that Hydrogen would replace natural gas as a heating fuel source for high efficiency heating systems as that technology evolves and is improved. A prohibition on future fossil-fuelled heating systems could have the knock-on effect of killing innovation in the Hydrogen sector. A further inevitable consequence of the abandonment of natural gas is the creation of a significant stranded asset in the natural gas distribution network and its associated infrastructure which could be a loss to the state of €2.5 billion. Future innovation in Hydrogen technology or other uses could re-purpose this network for application in Ireland's climate action plans.

HUB Controls research suggests that Heat Pump EEOS Credits could be overestimated by as much as 14,000 kWh per year per installation. Should this be the case, this would result in the accumulation of a significant amount of "hollow" energy savings credits that would not be underpinned by actual energy savings. If DECC were to hit its stated target of 400,000 Heat Pump installations by 2030, theis overestimation of "hollow" credits could total to as much as 30,800 GWh.

Policy mistakes can be made, and have been made in the past, in backing certain technologies that have failed for various reasons, e.g. wood pellet boilers. The DECC's & SEAI's clear preference for Heat pumps above all other technologies is of great concern.

Section 8: New Scheme Opportunities and Cost Information

Question 8.1: Do you wish to raise any issues or make any suggestions on improvements that could potentially be made, in relation to the redesigned EEOS, beyond those discussed in this document?

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Climate Action and Low Carbon Development (Amendment) Bill 2021

The EEOS proposal appears to contradict certain of the ambitions and the intent set out in the recently published Climate Action and Low Carbon Development (Amendment) Bill. The Bill sets ambitious targets to cut greenhouse gas emissions by 51% by 2030 and to achieve carbon neutrality by 2050.

At Section 6 the Bill requires the Minister and the Government to have regard to the need to deliver the best possible value for money consistent with the sustainable management of the public finances and the social and economic imperative for early and cost-effective action, and the role of behavioural change on the part of individuals and different sectors of society, in their climate action planning and in setting the long term national climate action strategy. The Bill also proposes that the Minister and Government should have regard *to "the fact that the means of achieving a climate neutral economy and other measures to enable the State to pursue the national climate objective may not yet be fully identified and may evolve over time through innovation, evolving scientific consensus and emerging technologies."*

It is our (Hub Controls) contention that the approach being proposed in the Department's consultation paper to achieve energy efficiencies and savings in the residential sector are almost exclusively high cost and will be difficult to achieve and are inconsistent with the language and intentions included in the 2021 Bill.

This complex and high cost approach embedded in the proposed new EEOS is also likely to fail to deliver on the objectives of the new Bill in relation to climate justice to *"safeguard the rights of the most vulnerable persons and endeavour to share the burdens and benefits arising from climate change",* including safeguarding the interests of those in our society that are experiencing fuel poverty.

Hub Controller Solution

The HubController® is an inexpensive (cost of €380/unit installed), internet-connected, smart device that actively controls temperature and regulates residential heating systems towards target levels of comfort and temperature, and reduced energy use. The device uses artificial intelligence developed and engineered in Ireland by Hub Controls Limited which seeks to gradually reduce ambient temperature levels until the optimum comfort level for each particular household is achieved. The HubController® is, in effect, an Automated Energy Management System that has been independently proven in Irish field trials to deliver energy savings for spatial heating of 34.7%.

The device comprises a wall-mounted processing unit with a full colour and touch sensitive screen which is electrically connected to household boiler on/off controls and, via a dwellings wi-fi network, to the internet. The device itself and other remote temperature sensing units connected to it in other zones within a dwelling take frequent readings of ambient temperature levels and control the on/off and running time functions of the heating system boiler to ensure temperatures are maintained within target levels.

The connectivity of the device permits a range of additional functionality including remote operation via a smart phone app. The device can also be configured to function as a Pay-As-You-Go meter to assist in budgeting for the costs of heating. The device may also be used to capture anonymised temperature data from a housing stock for use is assessing other energy efficiency measures on a localised, regional, or national scale.

The HubController® is an Irish-developed technology solution that can deliver reductions in carbon emissions of approximately 1 tonne per household per year. If it were to be rolled out to the entire residential sector (1.34 million internet connected homes) it would reduce carbon emissions by 1.34 million tonnes per year or a total of in excess of 10.7 million tonnes in the period to 2030 which would meet the targets set out in the 2021 Bill and also provide important visibility on total energy use for heating in Irish homes and the behaviours that

underpin this energy use, and allow independent assessment and validation of the effectiveness of other energy efficiency and energy reduction measures.

Drop the 'either or' approach to energy efficiency measures

Hub Controls questions the 'either or' approach that the SEAI is taking when implementing different energy efficiency measures in the EEOS 2021-2030. This is not an approach that will maximise energy efficiency and ultimately ensure that Ireland delivers on its energy efficiency targets. The HubController® device is a smart enabler for deeper and more expensive energy efficiency measures and should be promoted in conjunction with other measures as opposed to being replaced by other measures.

European Commission's Recommendations on Transposing the EED Energy Savings Obligations

Hub Controls has reviewed the European Commission's ANNEX to Commission Recommendation on transposing the energy savings obligations under the Energy Efficiency Directive. 2019. The measures set out in the ANNEX should be considered in conjunction with or in place of the EEOS to help deliver Ireland's energy efficiency targets.

- Page 53 refers to using measures that promote the uptake of more efficient products and vehicles, specifically:
  Annex v (2) (F) clarifies that full credit may be claimed for policies that accelerate the uptake of more efficient products. The full amount of savings is claimed for the period until the end of the average lifetime of the product to be replaced.
- Page 69 refers to Eligible Energy Savings in terms of White Certificates

  Enable service providers to implement energy efficiency projects to produce eligible energy savings…

  …In the case of White Certificates purchase verified eligible energy savings achieved by accredited non Obligated Parties

  where a white certificate is defined on Page 51

  A White Certificate -

  A legal instrument issued by an authority body guaranteeing that a specific amount of energy saving has been achieved. Each certificate is a unique and traceable commodity carrying a property right over a certain amount of energy savings and guaranteeing that those savings have not being accounted elsewhere

- Page 71 refers to Trading of energy savings

  Consider enabling the trading of energy savings among Obligated Parties and third parties. The purpose of trading is to broaden the pool of opportunities to produce eligible energy savings and to enable market forces to identify the most cost effective opportunities.

  Energy savings are often traded through the creation and sale of 'White Certificates' but they can be traded bilaterally without the need for certificates.

- Page 75 refers to Contracting

  Member states may promote energy performance contracting - a form of market-based energy service aimed at implementing energy efficiency measures.

  The companies guarantee the energy and or monetary savings of the measures and the contractor's compensation is linked to the performance of the measure implemented.

Hub Controls additionally proposes that an Energy Efficiency Pay-for-Performance ('P4P') business model should be adopted within the EEOS that helps utilities deliver measurable residential energy reductions and offers energy consumers a stacked solution of energy efficiency measures through home renovation and energy efficiency providers. Utilities in other geographic markets are implementing a P4P model as a replacement for the traditional energy efficiency rebate program business models that have failed so far to materially reduce residential energy emissions.

Clarity on the Pathway Steps

The Pathway approach to achieving a BER rating of B2 requires greater clarity and further explanation before a decision should be made on this objective and/or how it will be applied within EEOS 2021-2030. We suggest that the "pathway" descriptions are not adequate.

General Point on Transparency

There should be greater transparency through public declarations around the total of EEOS credit obligations that Obligated Parties have acquired, and that will be achieved on a year-on-year basis, and on a settling-up basis, so that the market is informed of relevant activities within the EEOS market. Every consumer in Ireland should be aware that they have a target reduction, and this should be the role of the Obligated Parties (to publicise to and encourage their consumers).

Market Distortion Created by the EEOS

1. The Energy Efficiency Obligation Scheme has created a new market – the EEOS market

The EEOS target at the end of the first obligation period was 700 GWh per year meaning that the value of the EEOS market was €39.2m in 2020 (based on the average cost per kWh of the EEOS scheme at 5.6c in 2016 per CRU's Energy Supply Costs Information Paper).

While the rules establishing the EEOS 2014-2020 were created by SEAI and DECC in 2014, these rules did not have any associated measures to protect all the stakeholders of the new EEOS market.

2. The EEOS market created by SEAI has not operated in a transparent and fair manner

The EEOS market is a four-sided market made up of:

1. EEOS Credit Purchasers - the Obligated Parties
2. EEOS Credit Providers - companies that provide energy efficiency technologies, products & services
3. Energy Consumers - end-users of the electricity, natural gas, liquid fuel, and solid fuel markets for a variety of purposes including home heating and transport
4. SEAI - the regulator of this market

The EEOS market -

a) lacks regulation and oversight:

Given that only Obligated Parties have been nominated as purchasers of energy credits in the market, it is inappropriate and ill-advised to allow these same entities to become providers in the market without significant oversight by appropriate authorities. The commercial side of their business is not regulated or audited under the terms of the EEOS. Purchaser concentration and power in the EEOS market does not lead to a balanced market and is not good for competition and consumer welfare. However, where a purchaser can also be a provider in competition with the EEOS credit provider companies, there is the potential for conflicts of interest and market failures, necessitating consideration of independent regulatory oversight. To be clear, purchaser power is generally associated with the ability to self-supply, which serves to curtail market power by providers of energy efficiency products and services. The large number of EEOS credit providers implies that the markets are competitive, yet they face the threat of further competition from the purchasers, which may compromise the operation of the scheme.

b) is anti-competitive

Obligated Parties are both purchasers and providers of energy credits which reduces competition.

c) creates barriers to achieving actual energy savings

Obligated Parties themselves have commercial goals which are likely to be prioritised over EEOS goals. This risk in turn necessitates the need to regulate the EEOS market to ensure that it functions effectively, and that competition is not distorted.

The fact that Obligated Parties are obligated to encourage energy efficiency measures as well as pay for them, makes them more likely to choose lower-cost solutions, and not the solutions that are proven to work in delivering the greatest energy savings.

3. EEOS market is distorting other markets by design

Hub Controls has information that a major DIY retailer sold just 4 smart thermostats in 2017. In effect, smart thermostats could not be sold at retail market level because of impacts of the EEOS market and only thermostat companies having a relationship with Obligated Parties could sell their products in Ireland.

4. Legal Risks and Potential Liabilities

Liquid fuel abuse of dominant position

The business models employed by Obligated Parties in the Irish EEOS have varied substantially. They include subsidiary and contracted energy service companies (ESCOs), integrated energy efficiency units, and voluntary pooling of the target. This latter approach was taken by oil suppliers who have weaker connections with individual customers, more limited experience in previous energy efficiency initiatives, and less of an incentive to build in-house capability. In pooling their targets, oil distributors and suppliers have set up a subsidiary EEO management agent company which in turn procures and contracted a specialist external company to provide a full 'arms-length' EEO delivery service to it. The EEO management agent company is thus effectively the Obligated Party and the specialist external company is termed a 'counterparty'. The funding contributions from all industry players to meet the costs of this service are on a pro rata sales basis. The contract is paid on a performance basis as per European Bank for Reconstruction and Development. Energy Efficiency Obligation Schemes: Policy guidelines Deep Dive on Key Policy Mechanism That Can Be Deployed under Article 7 of the Energy Efficiency Directive. February 2019.

A number of entities within the EEOS appear to be under common management and are acting as one entity. This means that 58% of the domestic EEOS target could be under the control of one entity in the market, effectively collecting funds for energy efficiency measures from consumers and purchasing energy credits from themselves. These types of arrangements should not be permitted or facilitated within a state sponsored scheme.

ECMS system non-transparency

The ECMS system administered by the SEAI is not visible to all stakeholders in the EEOS market. Obligated Parties are the only participants in the market that have access to the ECMS system giving them power to manipulate their partners and other stakeholders in the market. Such arrangements should not be facilitated by government policies.

Example: Hub Controls has evidence of a significant amount of energy efficiency credits that were claimed by two separate Obligated Parties and recorded on the ECMS system without the knowledge of the specialist provider of the credits. The provider of the credits was not paid by either Obligated Party and was left with a financial loss as a result. Access to the ECMS to all relevant stakeholders would prevent such circumstances occurring in the future.

Energy credits exchange

Obligated Parties are permitted to exchange achieved credits with other Obligated Parties. This allows Obligated Parties use of pseudo-contractual arrangements to avoid their obligations.

Hub Controls is aware of arrangements involving organisations associated with Obligated Parties in the liquid fuel market that can sell excess energy credits to a major natural gas supplier that is also Obligated Party. Other market stakeholders do not have visibility of such arrangements which contributes to the lack of transparency in the operation of the EEOS market and opportunities for market distortions.

Price of energy credits

The buyout price for domestic sector credits is set at 20.4c per kWh as reported in IRIS OIFIGIUIL, MARCH 25th, 2014 but the other market stakeholders rarely see anything above 10c per kWh. The amount of time it takes Obligated Parties to pay is also not prescribed or regulated.

Obligated Parties using measures to advance their commercial goals instead of advancing EEOS goals

ANNEX V(3h) of DIRECTIVE (EU) 2018/2002 states:

*'…the activities of the participating party, entrusted party or implementing public authority are shown to be **material** to the achievement of the energy savings claimed.'*

During the First obligation period, Obligated Parties were allowed to use heating controls upgrades to advance their commercial goals, i.e., switching customers. This led to Obligated Parties promoting an energy efficiency measure for the primary purpose of switching customers. This has clearly led to a market distortion.

5. Suggestions to improve market operation

Hub Controls proposes a number of measures to ensure that the EEOS market becomes:

- More Transparent
- More Data driven
- Provides more actual delivery of energy efficiencies and savings rather than theoretical delivery

Meter Readings to Aid Transparency

There is no reason why an Obligated Party cannot take a meter reading, using historic data, a year before they undertake the installation of an energy efficiency measure and a year after they complete the energy efficiency measure. The meter reading data should then be used to demonstrate actual savings delivered.

Examples of metered data being used to verify actual energy reductions:

Scheer et al. (2018) in a study of metered gas use by just 210 households following home energy retrofits found a 21% reduction in gas consumption. The associated retrofits predominantly comprise roof and wall insulation, and/or boiler upgrades. Ulster University (2020) in a study of metered gas use by 400 household following the HubController® installations found a 34.7% reduction in home space heating, equivalent to 25% reduction in total gas consumption.

Clearing House

Hub Controls proposes that the bilateral exchange of EEOS credits and the bilateral trading of all or part of an Obligated Parties' targets should be prohibited. Instead, a Clearing House for EEOS Credits should be established and operated by SEAI and regulated by the CRU.

- This Clearing House should have an obligation to purchase all available credits.
- The Clearing House should have standard set prices that should be averaged.
- If Obligated Parties have a shortfall in their EEOS credits, then they can use the Clearing House to purchase credits that have been approved by the Clearing House to make up any shortfall in meeting their targets.
- This ensures Obligated Parties do not go to other Obligated Parties, instead they should go to the Clearing House to purchase or sell credits.
- There should be protections for EEOS Credit Providers. They should be able to escalate the following issues with the CRU in relation to the operations of the Clearing House if any EEOS Obligated Party:
    - is not purchasing their available credits
    - is not purchasing their credits in good time
    - is not purchasing their credits at the correct price

- has over-achieved their targets and is buying credits to resell them at a profit
- pays for credits by the due dates.

Compliance

Hub Controls proposes that the imposition of penalties for non-compliance under the proposed EEOS 2021-2030 scheme should follow the framework set out below:

- Obligated Party's target performance should be reviewed on 1 January of years 2024, 2027, and 2030 for the respective previous 3-year periods.
- The Obligated Parties should be permitted to carry over annual credit surpluses from previous years
  - to hit their 3-year accumulated target, and
  - to make up any undershoot in a given year within each three year review period.
- A 14-day administration period to 15 January should be permitted to account for missed EEOS credits that have not been uploaded to ECMS
- These compliance dates should be final, with no extension periods permitted
- There should be a 'zero-tolerance' approach for missed targets by an Obligated Party outside of the permitted 3-year accumulated totals regime. Fines should be imposed on 15 January for any missed targets accumulated over the previous three years and should be required to be paid by 31 March 2024, 2027, and 2030, i.e. within 3 months of missing the target
- Financial penalties for missed targets should be set at 25% above the EEOS credit price
- A 'zero-tolerance' approach to non-compliance and missed targets is essential to help ensure transparency and the effective operation of the EEOS market and the securing of energy efficiency targets by this market.
- The non-compliance fines should be funnelled back to the Clearing House as discussed in our response to question 7.8

Reporting and Transparency

The following information from Obligated Parties should be required to be publicly reported each year:

- EEOS targets
- EEOS cost data
- EEOS price paid
- EEOS achievement

ANNEX V(3e) of DIRECTIVE (EU) 2018/2002 states:

'Member States shall ensure that the following requirements for policy measures taken pursuant to Article 7b and Article 20(6) are met:

e) an annual report on the energy savings achieved by entrusted parties, participating parties and implementing public authorities be provided and made publicly available, as well as data on the annual trend of energy savings;'

All cost data should be published provided all reasonable commercial confidentiality concerns are addressed.

Example: If the Obligated Parties are publishing their energy pricing to consumers, then there should be no reason why they should not also publish their cost per EEOS credit.

Display Energy Certificates

Energy efficiency assessment systems such has BER see to estimate or assess the ultimate energy efficiency of a premises, but do not confirm or validate it actual efficiency in terms of actual energy usage. The Building Performance Institute of Europe in their Energy Performance Certificates across Europe from Design to Implementation report (ref. *Energy Performance Certificates across Europe From design to implementation Report* page 12 and 13) have commented on the accuracy of assessment procedures such as BER as having a **"± 45% deviation in the calculated outcome of the energy performance of a building compared to the actual building."**
They analyse where this level of inaccuracies can arise saying that the ± 45% inaccuracy level is made up of:

4. the calculation method for which inaccuracy levels typically correspond to a ±10% variation with respect to the actual value
5. ± 5% inaccuracies may arise from the use of default input values to represent reality
6. ± 30% deviation may originate from inaccuracies that are related to the data acquisition made by the expert from the actual building, due to the errors introduced by the expert.

The potential for misalignment between energy efficiency assessment and actual energy usage is acknowledged. In Germany, buildings are required to provide an Energy Certificate (or 'Energieausweis') when they are sold or leased. (ref. https://www.howtogermany.com/pages/energycertificate.html). DECC, in its Long Term Renovation Strategy 2017 - 2020, also acknowledges the value of DECs in the public sector and states that: "The Display Energy Certificate (DEC) aims to encourage public building owners to adopt energy efficiency measures by displaying their energy performance."

Hub Controls proposes that Display Energy Certificates (DEC), only briefly referred to in the ECA report, should be introduced for all homes. Combined with BER ratings, DECs would play a critical role in bringing transparency to the EEOS Market. BER is the theoretical framework for energy efficiency savings that can be achieved. DEC provides the actual energy consumption and clearly shows the actual energy efficiency savings that are achieved. Neither BER nor DEC work properly without the other. Actual consumption data needs to be produced otherwise consumers may not consider their own consumption data and the impacts of their behaviours on their energy usage. Where consumers become engaged with these issues, they are more likely to engage positively with energy efficiency measures.

Question 8.2: In your opinion, how often should the scheme be reviewed, e.g. after three years; after four years; after five years?

Please provide reasons to support your response.

In our previous response to question 7.16, Hub Controls has detailed how Obligated Parties should be required to monitor their progress in meeting allocated energy efficiency targets and how financial penalties should be assessed and imposed every three years in 2024, 2027, and 2030

Additionally, other specific aspects of the EEOS such as

- The efficacy of the energy efficiency 'B2 Pathway' for residential premises
- The efficacy of the number of energy consumers involved
- The actuality of the EEOS credits themselves

also need to be reviewed every three years, after the true-up process in 2024 and 2027. These reviews should be sufficiently narrow so as not to create uncertainties or a lack of clarity in the market around the provisions of the Scheme which, in turn, may prevent impede Obligated Parties and energy credit providers in planning for future periods/years within the EEOS 2021-2030.

Question 8.3: Do you agree with our proposal to require Obligated Parties to report their EEOS cost data to SEAI?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with this proposal as the information is only being shared with the SEAI and not enough information is being shared publicly and with the market. The following information from Obligated Parties should be required to be publicly reported each year:

- EEOS targets
- EEOS cost data
- EEOS price paid
- EEOS achievement

In the interests of transparency and proper functioning of the market, the obligations of Obligated Parties to disclose information under the EEOS should extend beyond their allocated energy efficiency targets to the information points set out in the preceding bullet points.

The restrictions in access to the ECMS system to Obligated Parties and the SEAI creates a lack of transparency and an unacceptable asymmetry in access to information which in turn creates market distortions and potentially commercial losses for market participants, and providers of energy efficiency solutions in particular.

The EEOS 2021-2030 must include clear requirements around disclosure of market information as we have set out previously and full access for market participants to the ECMS.

Question 8.4: Do you wish to make any suggestions on how such data is reported, e.g. the level of detail, format, and frequency of reporting?

☒ Yes

☐ No

Please provide reasons to support your response.

The following information from Obligated Parties should be required to be publicly reported each year:

- EEOS targets
- EEOS cost data
- EEOS price paid
- EEOS achievement

This information is available under the Freedom of Information Act and, as such, should be required to be published under the EEOS 2021-2030.

ANNEX V(3e) of DIRECTIVE (EU) 2018/2002 states:

'Member States shall ensure that the following requirements for policy measures taken pursuant to Article 7b and Article 20(6) are met:

e) an annual report on the energy savings achieved by entrusted parties, participating parties and implementing public authorities be provided and made publicly available, as well as data on the annual trend of energy savings;'

Question 8.5: Do you agree that cost data should be published, provided all commercial confidentiality concerns are addressed?

☐ Yes

☒ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Hub Controls does not agree with this proposal. Hub Controls state that all cost data should be published provided all ***reasonable*** commercial confidentiality concerns are addressed. In effect, the approach should always be towards disclosure of information to help ensure that the market established under the EEOS functions effectively and fairly.

Example:

Obligated Parties currently have to publish their energy pricing to their energy consumers. It is reasonable that Obligated Parties should have to publish their EEOS credit pricing to their energy efficiency consumers.

Question 8.6: Do you wish to make any suggestions on how such data is published, e.g. the level of detail, format, and frequency of publishing?

☒ Yes

☐ No

Please provide reasons to support your response.

The following information from Obligated Parties should be required to be publicly reported each year:

- EEOS targets
- EEOS cost data
- EEOS price paid
- EEOS achievement

This information is available under the Freedom of Information Act so should be published.

All cost data should be published provided all ***reasonable*** commercial confidentiality concerns are addressed.

Ideally, an easily accessible online portal where all this data is central available should be implemented.

Section 9: Information on Bills

Question 9.1: Do you think there is a case for the provision of additional information to all consumers, via bills or otherwise, on their consumption and/or on potential energy savings?

☒ Yes

☐ No

☐ Don't know / No Strong opinion

Please provide reasons to support your response.

Including additional information on consumer energy bills has not worked in the past as Obligated Parties have gone out of their way to make the information as confusing as possible which in turn renders the publication of this information ineffective. The Obligated Parties have obeyed the letter of the law but not the spirit of the law when it comes to informing the public.

Instead, any technology e.g. smart meters, smart thermostats, etc., that allows energy consumers to see their real-time and historic energy usage should be supported and incentivised. The end energy user, using real-time and historic energy use data, should be able to verify the savings that they expect to make through the energy efficiency measures they have implemented. Further, this type of technology needs to be integrated into the proposed Pathway referred to in the EEOS consultation document.

Technologies that provide the real-time energy use data need, in addition to other basic functions, to be differentiated and not equated to other technologies that have similar basic functions, but not real-time energy use data functionality. For example, smart controls that only perform the basic functions of controlling a heating system should not be equated to smart control technology that also delivers the real-time data functionality.

Hub Controls propose that Display Energy Certificates (DEC), only briefly referred to in the ECA report, should be introduced for all homes. Combining BER ratings with DECs would play a critical role in bringing transparency to the EEOS Market. BER is the theoretical framework for energy efficiency savings that can be achieved. DEC gives the actual consumption and clearly shows the actual energy efficiency savings that are achieved. Neither BER nor DEC are adequate without the other. Actual consumption data needs to start being produced or else consumers are not going to consider their own consumption data and behaviours or properly engage in energy efficiency measures.

Devices that capture consumer behavioural patterns provide a unique insight into the operation of the market that has not traditionally been available. The availability of smart tech devices that provide these insights into behavioural patterns and activities should be encouraged and separately incentivised.

Question 9.2: How could the provision of such information be implemented cost effectively and in a way that benefits all consumers, whether on bills or otherwise?

Please provide reasons to support your response.

The achievement of significant increases in energy efficiency and energy savings requires end energy consumers to engage fully in climate action measures and to have access to the technologies that will allow them alter behaviours and reduce their energy usage. Critically, end energy consumers need relevant, real time and understandable information around their energy usage and the impacts of energy efficiency measures they choose to implement.

The BER rating system for the energy efficiency of buildings is an important and effective predictive measure of likely energy efficiency. However, systems such as BER seek to estimate, or assess, the ultimate energy efficiency of a premises, but do not confirm or validate it actual efficiency in terms of actual energy usage. The Building Performance Institute of Europe in their Energy Performance Certificates across Europe from Design to Implementation report (ref. *Energy Performance Certificates across Europe From design to implementation Report* page 12 and 13) has commented on the accuracy of assessment procedures such as BER as having a **"± 45% deviation in the calculated outcome of the energy performance of a building compared to the actual building."**

They analyse where this level of inaccuracies can arise saying that the ± 45% inaccuracy level is made up of:

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1. the calculation method for which inaccuracy levels typically correspond to a ±10% variation with respect to the actual value
2. ± 5% inaccuracies may arise from the use of default input values to represent reality
3. ± 30% deviation may originate from inaccuracies that are related to the data acquisition made by the expert from the actual building, due to the errors introduced by the expert.

The potential for misalignment between energy efficiency assessment and actual energy usage is acknowledged. In Germany, buildings are required to provide an Energy Certificate (or 'Energieausweis') when they are sold or leased. (ref. https://www.howtogermany.com/pages/energycertificate.html). DECC, in its Long Term Renovation Strategy 2017 - 2020, also acknowledges the value of DECs in the public sector and states that: "The Display Energy Certificate (DEC) aims to encourage public building owners to adopt energy efficiency measures by displaying their energy performance."

Without supplementary measures that can validate actual energy usage there are risks that the BER system could lead to the adoption of more 'hollow' energy efficiency measures that do not deliver long term, substantive energy savings. HUB Controls research suggests that Heat Pump EEOS Credits could be overestimated by as much as 14,000 kWh per year per installation. Should this be the case, this would result in the accumulation of a significant amount of "hollow" energy savings credits that would not be underpinned by actual energy savings. If DECC were to hit its stated target of 400,000 Heat Pump installations by 2030, this overestimation of "hollow" credits could total to as much as 30,800 GWh.

The BER system requires to be backed up with measures that inform consumers of their actual energy usage and of the impacts of those energy efficiency measures which they choose to implement. Policy makers also need reliable data and information on actual energy usage to underpin critical climate action decisions and investment, and the longer-term direction of travel of climate action policy.

There are several technologies available in the market currently, including HUB Controls, that can provide real-time consumption and energy savings information to consumers. This could be implemented at minimal cost and should be supported by the EEOS scheme. It should also be integrated, from day 1, into the proposed Pathway and BRP system.

It is, in our view that the consumer should be provided with accurate information on:

- Energy usage
- Accurate estimates of the performance of energy efficient measures before they decide to purchase
- Accurate costs of the measures
- The actual performance of energy efficient measures after installation

We are confident that all the above can be achieved if DECC and SEAI take a "data first" approach. Technologies that can provide visibility on energy usage, performance, consumer usage behaviour etc. should be promoted and incentivised.

Hub Controls is available to attend all workshops and meetings in relation to the Energy Efficiency Obligation Scheme and request that we are invited to all such sessions on a permanent basis.

Yours sincerely,

[redacted]

[redacted]
Chief Executive Officer