Consultation on Implementation of the Energy Efficiency Directive in Ireland

Summary of Consultation Responses

Department of Communications, Energy and Natural Resources

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LIST OF ACRONYMS

ACA Accelerated Capital Allowances

AEE Association of Energy Engineers

AEMS Authentic Energy Management Solutions

AIEA Association of Irish Energy Agencies

ASHRAEAmerican Society of Heating, Refrigerating and Air-Conditioning Engineers

BEF Better Energy Financing

BER Building Energy Rating

BNM Bord na Móna

BPIE Buildings Performance Institute Europe

CEA Certified Energy Auditor

CEM Certified Energy Manager

CEN *Comité Européen de Normalisation* or European Committee for Standardization

CER Commission for Energy Regulation

CHP Combined Heat & Power

CIBSE Chartered Institution of Building Services Engineers

CMVP Certified Measurement & Verification Professional

CPD Continuing Professional Development

EAI Electricity Association of Ireland

ECO Energy Companies Obligation

EED Energy Efficiency Directive

EI Enterprise Ireland

DCENR Department of Communications, Energy & Natural Resources

DEC Display Energy Certificate

DPER Department of Public Expenditure & Reform

DSO Distribution System Operator

EBPD Energy Performance in Buildings Directive

EE Energy Efficiency

EEO Energy Efficiency Obligation

EMPI Energy Management Professionals Ireland

EPC Energy Performance Contracting

ESCo Energy Service Company

EVO Efficiency Valuation Organisation

HAN Home Area Network

HECHP High Efficiency Combined Heat & Power

IDA Industrial Development Authority

IDPS Innovation for Developed Public Services

IERC International Energy Research Centre

IGBC Irish Green Building Council

IHD In home Display

IIEA Institute of International & European Affairs

INAB Irish National Accreditation Body

IPIA Irish Petroleum Industry Association

JESSICA Joint European Support for Sustainable Investment in City Areas

LNG Liquefied Natural Gas

NEEAP National Energy Efficiency Action Plan

NGO Non Governmental Organisation

NISEP Northern Ireland Sustainable Energy Programme

NTMA National Treasury Management Agency

OFTEC Oil Firing Technical Association

OPW Office of Public Works

PAYS Pay As You Save

PSO Public Service Obligation

REFIT Renewable Energy Feed in Tariff

RIAI Royal Institute of the Architects of Ireland

SEAI Sustainable Energy Authority of Ireland

SME Small & medium enterprises

TC Technical Committee

TEA Tipperary Energy Agency

TGW The Green Way

TSO Transmission System Operator

EXECUTIVE SUMMARY

Energy efficiency is a central element of a sustainable economy, a tenet recognised at EU level in 2012 with the adoption of the Energy Efficiency Directive. Under the Directive, Member States are obliged to find ways to encourage domestic customers to use less energy, to incentivise business customers to invest in energy efficiency, and to ensure that the funding is in place to allow the public sector to act as an exemplar. These, as well as other requirements, will transform the energy landscape in Ireland in the years running up to 2020 and beyond. Transposition of the Directive in Ireland is on track for completion by June 2014 and the underlying work has been ongoing for some time.

As part of the research into how best to implement the Directive in Ireland, the Department of Communications, Energy and Natural Resources conducted a public consultation to source views on the Directive and its implementation. The responses received provided a wide-ranging variety of opinions that are serving to inform the Department as officials progress the drafting of transposition regulations and implementation plans. This document serves as a useful starting point for interested parties to get a sense of the content of the overall consultation response.

1 INTRODUCTION

1.1 Energy Efficiency Directive

The Energy Efficiency Directive (2012/27/EU) translates elements of the European Efficiency Plan into binding measures on Member States, including an annual rate of renovation for central Government buildings of 3%; an inventory of central Government buildings with a total useful floor area over certain thresholds; an obligation on public bodies to procure products, services and buildings with high energy efficient performance; obligations on industry relating to energy audits and energy management systems and a common framework for national energy savings obligation schemes equivalent to annual energy savings of 1.5% of energy sales.

1.2 Consultation Exercise

On 16th October 2013, the Minister for Communications, Energy and Natural Resources, Pat Rabbitte, T.D. invited members of the public and interested parties to send written submissions for consideration by the Department in response to the publication of a consultation paper on the implementation of the Energy Efficiency Directive in Ireland.

The objective of the consultation is to inform stakeholders including public sector organisations, energy suppliers, industry bodies, final energy users and other interested parties of the steps Ireland is considering in order to transpose and implement the Energy Efficiency Directive (the Directive or EED).

The consultation document[1] focuses on the key articles of the Directive that will have a substantive impact on energy efficiency in Ireland. It includes 29 consultation questions, which consultees were invited to respond to.

1.3 Consultation Summary Document

This consultation summary document provides a synopsis of the submissions received during the consultation period, with a separate sub-section for each of the questions asked in the consultation.

1.4 Consultation Responses

The following consultees submitted responses:

- Airtricity
- An Taisce
- Association of Energy Engineers (AEE)
- Association of Irish Energy Agencies (AIEA)
- Aughinish Alumina
- Authentic Energy Management Services (AEMS)
- Biotricity
- Bord na Móna (BNM)

[1] *Implementation of the Energy Efficiency Directive in Ireland* (Department of Communications, Energy & Natural Resources, October 2013) - www.dcenr.gov.ie/NR/rdonlyres/31C72C2F-CCEF-4469-9063-74A25A856B88/0/EnergyEfficiencyDirectiveConsultation_FINAL.pdf

- Breaffy Castlebar
- Cork Institute of Technology (CIT)
- Dalkia
- Department of Public Expenditure & Reform (DPER)
- Electricity Association of Ireland (EAI)
- Enterprise Ireland (EI)
- Ibec
- Institute of International & European Affairs (IIEA)
- International Energy Research Centre (IERC)
- Irish Green Building Council (IGBC)
- Irish Petroleum Industry Association (IPIA)
- Mud & Wood
- Nigel Quane
- Oil Firing Technical Association (OFTEC)
- Opower
- Overy + Associates
- Shannon LNG
- Sustainability Task Force, Royal Institute of the Architects of Ireland (RIAI)
- The Green Way (TGW)
- Tipperary Energy Agency (TEA)
- Transition Kerry
- Vornia Biomaterials

Their full responses are available from the DCENR website[2].

[2] http://www.dcenr.gov.ie/Energy/Energy+Efficiency+and+Affordability+Division/EED+Consultations.htm

2 QUESTION 0.1 - ARE THERE ANY INTERNATIONAL POLICY APPROACHES THAT YOU THINK WE COULD LEARN FROM TO PROMOTE ENERGY EFFICIENCY IN IRELAND?

Some submissions addressed general approaches with respect to considering international experience:

- Ibec proposed a focus on the measures that "have worked for the most energy efficient countries in Europe (for example, Denmark and Germany)", but also emphasised – as did the International Energy Research Centre (IERC) – the importance of assessing schemes that have failed to fulfil expectations.
- Dalkia submitted that best practices are well known to policy promoters in Ireland and identified the challenge as being the translation "of this best practice into results, particularly in the public sector", urging a focus on best practice *implementation*.
- Daklia also suggested that any focus on policy approaches "must recognise and account for real market forces".
- IERC emphasised the importance of establishing baselines for the successful city schemes referenced below.

Several respondents provided references to international reference schemes, specific policy approaches and publications that should be considered when developing approaches for the promotion of energy efficiency in Ireland:

- Denmark's experience in undertaking energy audits and providing tax rebates for industry [*proposed by* the Royal Institute of the Architects of Ireland (RIAI)];
- The UK's approach to the integrated management and coordination of energy efficiency and climate change policy via a single government department, i.e. via the Department of Energy & Climate Change [The Green Way (TGW)];
- The integrated policy approach to energy efficiency and renewables, as implemented through the Covenant of Mayors Sustainable Energy Action Plan [TGW];
- France & Italy's experience "of allowing the trading of energy efficiency credits…with some success" [Bord na Móna (BNM)];
- Belgium, Holland and the UK's experience with community energy cooperatives and cooperative energy purchase schemes, which "permit large savings to be made by consumers through application of economies of scale" [Transition Kerry];
- The community renewable energy tariff for small scale renewables in Nova Scotia, Canada [Transition Kerry];
- "The 'lighter touch' alternative measures approach in Germany" [BNM];
- The difficulties encountered with the implementation of the UK Green Deal initiative [BNM, IERC];
- The approach in Northern Ireland with respect to the deployment of small scale solar photovoltaic systems "within certain limitations without planning" [Breaffy Castlebar];
- City level policy from the C40 Cities Climate Leadership Group[3] [IERC];
- New York's "ground breaking benchmarking and disclosure scheme", which has proven to be a successful vehicle for driving deep retrofits and "has now extended to the Greater, Greener Buildings programme" [IERC];
- Melbourne's Building Energy Efficiency Network [IERC];
- Tokyo's city wide emissions trading scheme for commercial buildings – "after initial resistance from property companies and developers this award winning scheme is gaining real traction" [IERC];
- BPIE's *Energy Efficiency Policies in Buildings – The Use of Financial Instruments at Member State Level* (2012)[4] [IGBC];

[3] http://www.c40cities.org/

[4] www.bpie.eu/financial_instruments.html#.UoOlWb5FDIU

- World Bank Report 74705 *Energy Efficiency – Lessons Learned from Success Stories* (2013)[5], which identifies lessons learned throughout Europe and Central Asia [RIAI];
- RAP's *Energy Efficiency Feed in Tariffs: Key Policy and Design Consideration* (Neme and Cowart, April 2012) [IERC];
- The Coalition for Energy Savings' *EU Energy Efficiency Directive (2012/27/EU) - Guidebook for Strong Implementation* [An Taisce].

Opower summarised three "clear best practices" in the design of energy efficiency obligation (EEO) schemes, which "relative to other policy measures…are a particularly effective mechanism to deliver energy efficiency":

- "Cost-effectiveness based, technology-neutral criteria for EE programme eligibility", e.g. *California Public Utility Code* Section 454.5(b)(9)(C);
- "Financial mechanisms that incentivize energy suppliers to pursue EE while ensuring that real savings are passed onto the end consumers";
- "Rigorous yet inclusive evaluation, measurement, and verification methodologies", e.g. US Department of Energy's State Energy Efficiency Action Network framework for evaluating, measuring and verifying energy efficiency programmes.

3 ARTICLE 4 – BUILDING RENOVATION

3.1 Question 4.1: How should the Department organise a response to this Article? Question 4.2: What are the key elements or information to include in this strategy?

Several consultees explicitly welcomed the proposed process to gather data and assess the economic potential for renovation, with TGW submitting that a robust and up-to-date **evidence-base** is a prerequisite for the development of a long term strategy and is a key enabler for building investor confidence. The Electricity Association of Ireland (EAI) commented that the SEAI study on the economic potential of the non-residential sector will not be available until after the strategy publication deadline and suggested that the former project be accelerated or that its findings be made available in two stages, with preliminary information to inform the position prior to the deadline. Consultees suggested several data sources:

- BNM suggested that the SEAI monitoring & reporting system could be a useful dataset for public sector buildings;
- TGW suggested that Display Energy Certificates (DECs) could provide useful data for public sector buildings and that commercial buildings should be encouraged to complete DECs, which would provide additional data.
- Airtricity proposed that assistance be given to those that have already undertaken projects in the non-residential sector – to record any undocumented projects/savings that have already been made;
- The Oil Firing Technical Association (OFTEC) submitted that oil boiler upgrade data could be made available to authorities via an electronic portal system that could be hosted by OFTEC;
- The Association of Energy Engineers (AEE) proposed an approach similar to the Commercial Buildings Energy Conservation Survey, which is undertaken every 3-4 years under theUS DOE Organisation Act of 1977.

The Irish Green Building Council (IGBC) proposed developing a thirty-five year plan and the Institute of International & European Affairs (IIEA) suggested setting a long-term 2050 **buildings target** and

[5] http://tinyurl.com/nu67ed7

establishing a buildings road-map[6] encompassing shorter-term and interim targets. Ibec submitted that separate, indicative national targets should be established - on a kWh/m^2 basis – for residential, commercial and public buildings. TGW also proposed the setting of annual targets for deep retrofits, including for nearly-zero energy buildings.

Dalkia suggested that a "small focused dedicated cross industry/department working group" could be formed to define relevant objectives and targets and produce a draft policy, which could then be issued for wider consultation and refinement. An Taisce cautioned that the "technical and investment expertise" required to plan and achieve savings "is badly lacking in the public sector". AEE, IIEA and Airtricity stated a desire for stakeholder involvement in the **policy/strategy/roadmap** development process and the latter requested "further clarity on the process and timeframe for deciding on policies and measures", including those outlined in the Better Energy Financing Discussion document.

Airtricity, BNM and Ibec emphasised that policy and measures should be based on **cost-efficient approaches** to renovation, with the former (among others[7]) also emphasising the importance for policy cohesion[8]. The Department of Public Expenditure & Reform (DPER) commented on the presumed compliance of such policy and measures with the project appraisal requirements set out in the public-spending code. BNM cited current uncertainty whether energy savings can be achieved "without excessive cost" and suggested that the "strategy proceed with some caution". DPER enquired as to the status of the proposed strategy and the economic analysis underpinning it, and queried whether any alternatives had "been identified if the long-term investment strategy is not considered robust/realistic enough to succeed".

IGBC outlined six categories of **elements for inclusion in the strategy**, viz.: strategic, legislative & regulatory; fiscal / financial; R&D, technical; and communications & capacity building. BNM submitted a strategy framework, encompassing:

- Overview of the national building stock.
- Identification of cost effective approaches to renovations. Airtricity also commented that "energy costs and financing costs are necessary to calculate the efficiency and realistic likelihood of adoption of energy efficiency measures by a variety of actors".
- Policies and measures to stimulate deep retrofit;
- Forward looking perspective to guide investment decisions;
- Evidence based estimate of expected energy savings. Airtricity also submitted that "estimates as to the impact of policies on measures on uptake rates should be carefully considered and discussed with all interested parties. Pilot projects may be illustrative in this regard."

In setting out its framework BNM emphasised *inter alia*: uncertainty regarding the use of historical data from a period with different market conditions; concerns about the "projected level of retrofits indicated within the BEF [Better Energy Financing] studies"; and that "higher levels of uptake have been associated with higher levels of subsidy". EAI also cautioned that the housing stock data provided in the consultation paper could "convey a potentially misleading view of potential for retrofit in the residential market" but added that subsequent useful analysis has been undertaken on this data through the BEF project, albeit EAI had reservations "in respect of the projected levels of demand arising from the scheme".

[6] IIEA and IGBC also suggested that the roadmap development process should consider Exhibit 4 in Building Performance Institute Europe's *Guide to Developing Strategies for Building Energy Renovation* (February 2013)

[7] TGW submitted that the strategy should link to existing initiatives such as the Accelerated Capital Allowance (ACA) scheme.

[8] EAI, BNM and Airtricity made reference to the Home Renovation Incentive (HRI) introduced in Budget 2013 and submitted that it should be better tailored to deliver energy efficiency savings. See section 12.5 for additional discussion on the HRI.

Other specific elements proposed for inclusion in the strategy are:

- IIEA identified three key elements for inclusion: (1) definitions for key terms; (2) consideration of "central matters such as energy security, fuel poverty, job creation"; (3) consideration of how to mobilise customer uptake and acceptance.
- TGW submitted that policy must encourage deep retrofit and warned that plucking the low-hanging fruit can jeopardise the potential for significant savings (i.e. deep retrofit). It suggested that an integrated approach to retrofit policy be adopted, whereby renewable energy supply options are introduced after energy efficiency initiatives.
- RIAI commented that "a carrot and stick approach" is required, incorporating incentives to encourage best practice and appropriate measures to prevent sub-optimal solutions. RIAI also suggested that projects in the domestic sector encompass large scale developments and leverage economies of scale;
- The Association of Irish Energy Agencies (AIEA) and the Tipperary Energy Agency (TEA) suggested that "internal ESCo models" be promoted "amongst public bodies, i.e. internal ring-fenced retrofit models which will repay and increase the size of the fund over time".
- EAI submitted that "subsidisation of the interest rate, in conjunction with the taxation measures (Salary Sacrifice, Income tax, Stamp Duty & Property Tax) are key to implementation of a successful strategy".
- An Taisce recommended:
  - Adopting annual targets for retrofitting public housing stock "with an appropriate annual budget and measurement of annual emission savings on tenants' fuel subsidy";
  - "Adequate annual budget and support of energy efficiency measures for old age pensioners and other households dependant on fuel allowances".
- Dalkia recommended a methodology based on primary energy to calculate savings under the Directive.
- Nigel Quane submitted that SEAI should proactively provide individual homeowners with more impartial advice to facilitate retrofits.

3.2 Question 4.3: What organisations (retrofit/financial) can participate in formulating this strategy

Several consultees argued for broad representation at the strategy formulation stage – to accommodate diverse perspectives and to secure broad buy-in over the long term. Suggested participants include:

- Government departments, including the Departments of: Finance; Health, Education & Skills; Jobs, Enterprise & Innovation; Environment, Community & Local Government; Social Protection; Transport, Tourism & Sport; and Communications, Energy & Natural Resources;
- Relevant state agencies and offices including SEAI, the National Procurement Service, National Pensions Reserve Fund and the Institute of Public Health;
- Local authorities (including their planning departments), local energy agencies;
- Financial institutions (senior & local level), the National Energy Efficiency Fund and the JESSICA fund manager;
- ESCos and other players in the Energy Performance Contracting sector;
- Energy suppliers, obligated parties and counterparties, community based organisations and Better Energy Financing Project stakeholders;
- Universities and research centres, Irish Green Building Council, Global Building Performance Network;
- Industry, trade and professional representative bodies, including Chartered Institute of Building, *Chartered Institution of Building Services Engineers,* Construction Industry Federation, Engineers

Ireland, IGBC, Irish Planning Institute, Irish Property & Facility Management Association, National Insulation Association of Ireland, *Royal Institute of the Architects of Ireland*, the Society of Chartered Surveyors Ireland;

- Independent experts;
- Social partners, trade unions, consumer groups, housing associations and relevant NGOs, e.g. Energy Action, Threshold, St Vincent de Paul;
- Political parties;
- Public consultation.

Several consultees expressed interest in participating in the strategy formulation process, including Airtricity, TGW and the RIAI.

4 ARTICLE 5 – EXEMPLARY ROLE OF PUBLIC BODIES' BUILDINGS

4.1 Question 5.1: In your view, what approach should be adopted for the successful implementation of this Article, and why?

DPER emphasised the importance of clearly identifying the scope of Article 5 in terms of the buildings to which it applies.

Of the fourteen consultees that submitted responses to this question, eight did not express an explicit preference for either the 'default' approach or the 'alternative' approach discussed. Several suggested that the most cost efficient option should be pursued, following appropriate analysis. The IGBC stated that either approach could work, depending on the "detail of implementation." Of those that did express an explicit preference, four (AEE, AIEA, An Taisce and the TEA) preferred the **default approach**, citing:

- Its more structured approach, its flexibility (Articles 5(3) and 5(4)) and its suitability for robust auditing;
- Benefits of a publicly available inventory against which progress can be measured;
- Concerns that the 'alternative' approach is less likely to deliver actual savings.

Dalkia also stated that the 'alternative' approach "should be avoided where possible" because of the reliance on standard values instead of better "understanding the energy usage patterns and consumption", which "leads to far superior decision making".

On the other hand, the RIAI expressed concerns that 'default' approach of counting central government building disposals towards the target could result "a real risk of cheap and substandard buildings reaching the private sector" and argued that the government sector is better able to undertake energy refurbishments than the private sector. Both TGW and BNM expressed an explicit preference for the **'alternative' approach**, with the latter believing that it "has a better chance of leading to a successful outcome – on a 'least cost' and 'better flexibility' basis". While favouring the "most cost efficient option", Airtricity stated that "the alternative approach affords more flexibility as to how savings are achieved…; we feel that the alternative option may thus provide efficiency benefits but believe that analysis of both options should be carried out". EAI cautioned that there was "insufficient information to make a conclusive selection" but that its "current view" is that the 'alternative' approach has "a better chance of leading to a successful outcome" because, *inter alia*, it has greater emphasis on cost effectiveness and it incorporates the flexibility mechanisms set out in the default approach.

There was widespread support for the development of an **inventory** that would be publicly available. The AEE emphasised the importance of an inventory to target retrofits "at the buildings most

appropriately in need of renovation from an energy perspective (taking into account other social and policy needs)". The IIEA suggested that the inventory could be based on the German system.

Other submissions relating to the **renovation target** include:

- Extension of annual renovation targets to buildings owned and occupied by administrative departments below central government (e.g. local authorities) and "should provide a means to achieve Ireland's targets in a cost-effective manner" [Ibec];
- Buildings that fall within the Article 5(2)(a) criteria should not be exempt from the obligation to undertake energy efficiency renovations, as set in Article 5(1) – "exemplar projects have been completed throughout Europe on listed buildings" [TGW];
- Adopting a centralised approach to renovation, incorporating a central organisation/team with operational responsibility for delivery of the refurbishment right across the entire public sector, would benefit from of learning through implementation and economies of scale [Dalkia]. Dalkia also suggested that ESBI or Bord Gáis Éireann would have the requisite skill-sets.
- Public sector retrofits of buildings (including those <250 m^2) should meet best practice (at a minimum), and such best practice and public sector exemplar experience should be promoted in the private sector [RIAI].
- "Any renovation strategy needs to integrate with a spatial strategy. Renovation may be a poor investment, for some very poorly located buildings. It needs to consider how consolidation and regeneration of existing settlements can achieve an overall reduction in both transport and building operational energy." [IGBC]
- The replacement of standard efficiency oil boilers with condensing oil boilers in public buildings "is likely to reduce oil consumption by an average of 20% in most public buildings" [OFTEC].

DPER submitted that "there will be instances where **behavioural change** is the most cost effective way of achieving the required savings", while BNM and EAI commented that an advantage of the 'alternative' approach is that it "allows for behavioural change". TGW proposed that behavioural training for public sector employees should be encouraged, and that the OPW energy awareness campaign should be implemented in parallel with public bodies adopting structured energy management systems such as ISO 50001. According to the RIAI, the campaign should be linked to renovation projects. The IERC suggested that the provision of the OPW's public building energy monitoring dataset to research performing organisations could stimulate research, innovation and business development.

Regarding **energy performance contracting (EPC),** TGW submitted that public bodies should be "encouraged to innovate within the public procurement system" as part of a coordinated effort to facilitate the significant investment required to achieve the 33% energy efficiency target. EPC models and the National Energy Efficiency Fund should be promoted in the public sector. Public procurement 'rules' should not hamper the use of EPC and the achievement of savings should not result in reduction in government funding, i.e. "those savings should be reinvested in continual improvement".

An Taisce recommended that "an adequate measure" be provided "allied with budgetary, technical, and implementation support so that…public bodies…achieve energy efficiency targets".

BNM and EAI both commented on the potential for savings achieved under Article 5 "to count towards alternative measures, Article 7(9)".

5 ARTICLE 6 – PURCHASING BY PUBLIC BODIES

5.1 Question 6.1: How can we further incorporate energy efficiency principles into public procurement?

Consultees submitted diverse submissions with respect to the implementation of Article 6.

Airtricity, BNM, EAI and the RIAI all proposed that the **scope of compliance** be extended to included smaller contracts below the thresholds set out in Article 7 of Directive 2004/18/EC. Airtricity, BNM and EAI also put forward that the scope be extended to all public bodies and that the resultant savings could be used as alternative measures under Article 7 of the EED. The same consultees also submitted that methodologies for the analysis and costing of products and services under Article 6 be made available to the private sector and that this "could form part of an energy advisory programme measure under Article 7(9)(f)".

TGW stressed that the Action Plan on Green Public Procurement must now be **implemented in practice**. Similarly, the AIEA and TEA submitted that relevant departments and agencies should develop a strategy to fully establish, audit and enforce energy efficient procurement, while Dalkia suggested that consideration "be given to establishing an oversight / watchdog team to ensure compliance and offer support and guidance". Ibec cited existing problems in integrating environmental considerations into procurement processes and concluded that a "lack of resources…is likely to result in contracting authorities using criteria whose compliance can be demonstrated through labels."

The AEE, IIEA, IGBC, Dalkia and TGW all submitted that **life-cycle analysis** be integrated into procurement processes. Among these submissions were proposals that this be undertaken in accordance with ISO 14040/14044, ISO/TR 14049:2012 and CEN TC 350 and that training be provided to ensure that procurers understand how to evaluate with respect to energy efficiency. TGW suggested that such analysis should be based on a 10-20 year time horizon (buildings), Dalkia proposed that it incorporate a cost of carbon of ~€50/tCO_2 and the AEE suggested that suppliers be required to quantify the cost of ownership when tendering. The AIEA and TEA suggested that common templates be developed to address the requirements of Article 6 and that a forum be created for the exchange of good practices and the dissemination of results.

The RIAI proposed that the **procurement of buildings** by the public sector be included in a code of practice, with particular emphasis on the energy performance of residential accommodation. TGW submitted that provision be made to support near zero energy buildings by 2020 and positive energy buildings beyond 2020. Overy + Associates put forward suggestions for undertaking energy efficiency design reviews for buildings >1,000 m^2 and proposed that capital funding be refused for building works at facilities that are noncompliant with either EBPD regulations with respect to DECs or the public sector annual energy reporting requirements under SI 542 of 2009.

With respect to the **procurement of equipment and products** by the public sector:

- TGW recommended that products must meet minimum standards (labelling) and that standards should be tightened as 2020 approaches;
- IIEA suggested that additional classes of technology be added to the Triple E system;
- OFTEC proposed that purchasing policy require condensing boilers to be installed rather than standard efficiency boilers.

With respect to the **procurement of energy and energy services**:

- IIEA submitted that training be provided to relevant parties in the procurement process "to ensure that they are enabled to fulfil their duties appropriately";

- Aughinish Alumina proposed that a requirement be introduced that the public sector purchase low carbon electricity.

EI commented that through Innovation for Developed Public Services (IDPS), "contracting authorities can serve as real-time **catalysts for the development of technologies** and early stage implementation/validation of products/services…In Ireland, IDPS will be piloted within two Government Departments in 2014 under the Action Plan for Jobs (item #95) as a precursor to a wider adoption. The IDPS process effectively:-

- Uses the power of government procurement to drive innovation;
- Allows companies to engage with the public sector organisations to devise innovative ways to solve problems; and
- Provides 100% of the funding through a contract rather than a grant."

EI proposed that a portion of the Energy Efficiency Fund be "earmarked for innovative energy efficiency solutions (€250k for the first year of IDPS)."

CIT also emphasised the importance of supporting Irish industry and recommended that "incentives are put in place…for public or semi state bodies to procure and trial new and emerging technologies in conjunction with research facilities and companies".

6 ARTICLE 7 – ENERGY EFFICIENCY OBLIGATION SCHEMES

6.1 Question 7.1: Do you agree with the approach set out for implementation of this Article? If not, please outline which changes you would make, while ensuring that the 1.5% target will be met.

Only a small number of respondents expressed an *explicit* preference for either option A or B, although most signalled **implicit preference for an approach based on alternative measures**. AEE, AIEA and TEA all responded *explicitly* that they agreed with the proposed approach, i.e. option B.

An Taisce stated its *explicit* preference for option A because "it is clear and definite and does not allow complicated counting from different schemes" and commented that if this option "imposes 'too great a challenge', then it is Ireland's ambition that should be questioned".

Three of the **participant energy suppliers** in the existing voluntary agreement scheme (Airtricity, BNM and IPIA), as well as the EAI, submitted responses. The following summarises their stated positions with respect to the proposed approach:

- IPIA submitted that it "does not fully agree" with the proposed approach; instead it "believes the current voluntary regime should continue with penalties only being imposed for willful and conspicuous failure to meet targets" and commented that the consultation document was suggestive that the Minister had the flexibility not to impose an obligation scheme.
- EAI also stated that it believes "that a Voluntary Agreement with amended criteria moving away from a GWh target has a capacity to deliver."
- BNM submitted that it favoured an alternative measures approach (option B) over the obligation approach (option A), but made several points regarding the proposed implementation of option B, including that "a voluntary agreement has an equal capacity to deliver" (as an obligation scheme).
- While it welcomed the proposed adoption of the 'alternative measures' approach, Airtricity submitted that "the obligation proposed still represents an untenable cost burden" and stated that "Ireland should seek to achieve its target fully through alternative measures". It added that "the achievement of this [obligation] target will add up to 5% to energy bills", based on "initial calculations" and that "with the high level of domestic customers in arrears and many more struggling to pay bills, this presents an issue for suppliers and customers; on the commercial side this presents a real challenge

to competitiveness." It submitted that: "policy costs, such as energy efficiency targets, should not be recovered regressively thorough energy bills, but should, where possible, be exchequer funded given that the benefits of meeting energy efficiency targets accrue to society at large. We would propose that EU ETS and Carbon Tax revenues be ringfenced to achieve energy efficiency savings." An Taisce also identified the absence of ring-fencing of Carbon Tax revenues as a barrier to energy efficiency.

- BNM argued that it would be subject to "unfair commercial disadvantage" as a result of the obligation because: "it is likely to have a far greater negative commercial impact on Bord na Móna than it will on network gas and electricity supply companies because of the way that the solid fuel competitive market is structured…because Bord na Móna's cost of compliance is not shared by many supplies/suppliers of solid fuel volumes entering from outside of the State – which puts Bord na Móna at an unfair cost disadvantage. Consequently, without action, Bord na Móna will be forced to absorb much of the cost of compliance – and this will present a considerable challenge to the Retail business' commerciality with potential negative impact on jobs. This is in marked contrast to the network supply businesses which will most likely be able to pass through price increases."
- Airtricity, BNM and EAI argued that the proposed **targets are too high**. They referenced the difficulty experienced by the suppliers in the voluntary agreements scheme in achieving their (lower) targets under that scheme, even with the existence of the Better Energy grant scheme, which is to be discontinued. Airtricity stated that "all, or at least a greater proportion, of Ireland's 1.5% target can be met by alternative measures more cost efficiently than through a supplier obligation" and set out a number of proposals for same. Similarly, BNM submitted that the 550 GWh target is "unnecessarily high" to ensure the achievement of the 1.5% target. Both BNM and EAI submitted that the target may have been set without taking sufficient account of the contributions "from eligible 'measures newly implemented since 31 December 2008' (Art, 7.2 (d) EED)" or from "new 'alternative' measures (Art. 7.9 EED)".
- EAI added that the target had been set "without taking into account the direct experience of how costly delivery of energy efficiency by energy suppliers actually is" and that the additional alternative measures referenced above "can deliver Ireland's target in a more cost effective manner than a supplier obligation".
- Airtricity, BNM and EAI proposed lists of measures for consideration, with BNM stating that such measures "could deliver additional savings in the 2014-2020 period, in lieu of savings delivered by an obligation scheme…thereby allowing a reduction in the proposed 550 GWh proposed target".
- BNM, Airtricity, EAI and Ibec requested that suppliers be afforded greater flexibility in determining how they achieve any proposed target and Airtricity commented that suppliers are keen to be involved in the selection of policies and measures for the Better Energy Financing project.
- Airtricity, BNM and EAI expressed concern about the significantly **higher cost of achieving savings in the residential sector**:
    - BNM proposed that the residential sectoral obligation should not be introduced until "solid fuel volumes supplied from within the State are treated on the same basis as those being supplied from outside of the State" and until "there is sufficiently clear line of sight as to how energy savings can be achieved without excessive costs".
    - EAI submitted that "in simple terms…a supplier makes c.€20 pa from supplying a single fuel residential customer" and that in this context, "the resources needed by suppliers to participate at levels envisaged by this consultation are not available from current business models". It emphasised the difficulty and costs experienced by suppliers in encouraging householders to invest in energy efficiency: "residential energy credits achieved over the 2011-2013 period of the voluntary agreement corresponded to just 13% of the energy supplier target for 2011-2013 which is the same as just 8% of the proposed 550GWh/year target for three years".
    - EAI proposed that "either the residential sectorial obligation be deferred until the costs of delivery of required savings are known and the savings can be achieved without excessive cost or that the proposed residential targets be significantly reduced".
    - It also submitted that "a very real concern is that the potential impact on energy costs of the proposed implementation could be extremely high (potentially in excess of 5% impact on

energy costs) with severe negative consequences for all bill payers, residential and commercial".

- BNM "set out that there is strong rationale for the proposed 550 GWh target to be revised downwards, and likewise the subsectoral target of 55 GWh for the fuel poor".
- While acknowledging that it had not been finalised, both suppliers outlined scepticism whether Better Energy Financing could deliver significant savings in the residential sector and both submitted that the grant scheme be retained.
- Airtricity referenced the experience in GB where "the ECO obligation results in an increase to domestic energy bills of up to £100" and submitted that "if suppliers are to be given targets then we would argue that we must be empowered to deliver them in the most cost efficient manner; this means that suppliers must be permitted to progress the projects with highest savings and lowest costs, in whatever sector that may be, thus harnessing competitive benefits."
- BNM and EAI submitted that the "key issue…is the unmitigated risk it poses…[to energy suppliers' balance sheets]… in a worst-case scenario where there is a continued negative macro-economic backdrop combined with a potentially insufficiently supportive policy environment" and calculated a combined cost to the suppliers of €224M per annum to deliver the savings targeted in the residential sector – under "worst case" assumptions.

OFTEC and Ibec also commented on the residential target may be too high:

- OFTEC commented that it "will be hard to achieve given the difficulty inherent in reducing energy consumption in many thousands of homes – many of which are fuel poor".
- Citing weak demand for energy efficiency measures and high costs, Ibec commented that the cost of delivering savings from the sector will be "a multiple of that from commerce/industry" and recommended "that the proposed sectoral obligation be deferred until there is a clear strategy on how to achieve least cost energy savings".

With regard to the **cost of achieving the targets**:

- Ibec expressed concern "that the imposition of targets on energy suppliers will increase the cost of energy for all customers" and urged that "Ireland must meet its target under this Directive in the most efficient manner possible" and that "energy efficiency objectives should not lead to increased energy costs". It added that "it would be prudent for the Government to ensure that exchequer funding is available where appropriate" and that the costs of the residential and fuel poor elements "be recovered through general taxation and EU ETS revenues rather than through energy bills". It added that "alternative measures should be adopted to the greatest extent possible in order to keep these costs to a minimum".
- DPER submitted that "given the need for fiscal prudence and sustainability as Ireland exits the EU/IMF programme shortly, measures which impose further burden/debt/risk on the Exchequer should not be prioritised".
- TGW commented that there must be a ceiling on supplier obligation costs and emphasised the importance of cost transparency – "consumers need to be made aware of the cost of delivering the energy efficiency / carbon reductions". Airtricity also suggested that costs be included as a separate line item on bills.

The following all submitted that they **agreed with specific aspects of the approach / target**:

- Airtricity, BNM, EAI, Ibec and TGW all emphasised that the use of alternative measures should be maximised.
- OFTEC submitted that it agreed with the lower target of 550 GWh "but only if the energy suppliers concerned believe that this is achievable".
- Aughinish Alumina submitted that it supported the 550 GWh target and outlined how "it is currently the most energy efficient alumina refinery in Europe", a key enabler for which is the continuous operation of its HECHP plant.

- IIEA commented that the proportion of the target for the residential sector "is considered very reasonable" and is equivalent to "approximately 20,000 medium depth retrofits per annum, which is a highly achievable goal, particularly when divided among all suppliers". However, BNM and EAI estimated that achieving the target would require approximately 49,500 shallow retrofits per annum, which, according to BNM, "far exceeds the just 15,700 homes anticipated to take on measures in 2013".
- IGBC commented that: "the best policy is to press ahead with ambitious targets, and not leave any doubt as to Government intent. Targets should be maintained in line with the Directive."
- Opower welcomed the decision to transform the voluntary scheme into an obligation and commented that it "applauds the decision to impose" the residential sector target, including the fuel poor aspect.

Biotricity, Dalkia, IIEA, Opower and An Taisce submitted that they believed one or more **aspects of the proposed targets to be too low**:

- Biotricity submitted that it believes "the 1.5% targets should be exceeded at this moment in time to provide for the achievement of the targeted energy position under 2009/28/EC" and that a "dramatic intervention across all policies" is required in order to avoid the missing of the 2020 targets.
- Dalkia commented that the proposed obligation "appears to fall short of the target in the existing voluntary scheme (8,000 GWh over 10 years, or 800 GWh/year)" and expressed the view that the latter should be maintained.
- Opower recommended that given "the notable effectiveness" of energy efficiency obligations, the consideration should be given to adopting an annual target closer to 1,097 GWh.
- An Taisce stated its preference for a higher obligation target (option A).
- IIEA submitted that the target "for suppliers for 2020" should be more ambitious than 550 GWh and that some flexibility could be incorporated "so that the target could be cumulatively achieved, with initial energy savings modest, but ramped up to 1,097 GWh over the seven-year period." Although it expressed no preference for either option A or option B, IIEA did acknowledge "that much positive experience has been gained" in the use of obligation schemes in other jurisdictions.

Other respondents **requested further information and/or clarity** with respect to certain aspects of the proposal:

- RIAI commented that "it is not clear from the document whether the 1.5% savings are a flat 1.5% pa saving on a benchmark of a certain date or a 1.5% on a reducing consumption".
- EAI requested that DCENR share more information on what alternative measures have been considered and on its calculations with regard to the contribution of alternative measures.
- DPER requested that further details be provided on the use of alternative measures "as it would seem that some of these options could have implications/costs for the Exchequer rather than letting the energy distributors/suppliers pick up the tab for meeting this 1.5% energy savings requirement".
- Ibec requested that more information be provided "on how those currently not participating in the voluntary schemes will be asked to share the burden, and what safe guards will be put in place to ensure there is no 'free riding'...and…the burden is shared on a proportionate, equal and transparent basis". Ibec also requested further clarification on:
    - The basis for three year operational cycle for the proposed scheme;
    - The measures to ensure broader engagement than that in the voluntary agreement;
    - The cost implications of commercial risks related to debt burden on the energy poor;
    - How the obligation will be apportioned among energy suppliers.

Several consultees responded with **specific suggestions regarding the implementation of Article 7**:

- Airtricity, BNM and EAI expressed a preference for commercial certainty and operational flexibility:

- They had concerns that the proposed Ministerial powers to amend any targets set would hinder medium term commercial certainty and could lead to risk premia, leading to higher cost finance.
- The operation of the scheme over three year cycles could limit the flexibility to achieve the target; BNM pointed out that the Directive "allows for a much more flexible treatment of targets".

- BNM and EAI submitted that
  - An energy supplier should "be permitted to deliver its seven year target with a blend of smaller as well as larger projects, where the larger projects could be infrastructural in nature, and which could take longer than the length of [a] programme cycle".
  - "Any target is set at an agreed maximum, which can be revised downwards as other measures over-deliver or as new alternative measures are identified."
- BNM submitted that:
  - The obligation should "fall on relevant electricity, gas, solid fuel and oil suppliers and that the obligation criteria [should] reflect beyond existing criteria in order to encompass all energy suppliers which should be covered – rather than limiting to the signatories to the voluntary agreement as is proposed".
  - "A pragmatic approach to the measures which count towards supplier credits should be adopted."
  - Restrictions should not apply regarding the carry-over of surplus energy credits between the cycles.
  -
- If an obligation scheme is to be pursued, Airtricity submitted that:
  - A cap/buy-out be set "in order that the maximum costs to be incurred by suppliers is limited and known from the outset" following "careful analysis…to develop the level of this buy out price";
  - Amounts paid into a buy-out mechanism would be used to fund additional alternative measures;
  - Any measurement, control and verification system required would "be robust without setting unnecessarily high standards and thus increasing the cost of achieving savings" and suggested that "a deemed savings approach or a simplified/desktop means" be adopted for the SME sector;
  - The target "must be shared between energy suppliers of all types so as not to distort inter-fuel competition" and "the costs should be shared equitably".
- If an obligation scheme is to be pursued, EAI submitted that:
  - The costs of delivery must: be transparent; be commensurate with customers' ability/willingness to pay; not harm competitiveness; result in costs to customers that are not greater than those in other EU jurisdictions;
  - Government and other relevant bodies must put in place "a supportive policy backdrop" including: government information / marketing campaigns; fiscal measures and supporting legislation; and a viable financing model for home-owners and businesses;
  - "Regarding the proposal that any future criteria for inclusion of suppliers reflect existing criteria in order to encompass all energy suppliers currently covered by a voluntary agreement – we would suggest that the criteria are reviewed with individual energy suppliers to ensure maximum justifiable capture."
- EAI submitted a list of "several promising, cost-effective alternatives which require minimal net exchequer cost" including, *inter alia*: carbon tax increases; revenue neutral adjustments to stamp duty and property taxation; salary sacrifice incentives; mandatory minimum energy efficiency standards for accommodation; commercial energy efficiency fund; Warmer Homes Scheme and

Better Energy Areas/Low Income programme; low cost financing ("potentially along the lines of Germany's KfW scheme"); VAT / income tax relief; reduced stamp duty and property taxation "to reward energy efficiency improvements"; retention of Better Energy Grants "and other financial incentives, potentially through a mechanism such as the NISEP scheme in Northern Ireland"; "measures to capture the existing 'grey market' in energy efficiency"; support for audits and implementation of recommendations; energy labelling schemes; standards and norms for energy efficiency of products or services; extension and development of training and education; demand side management measures. *Several of these measures are discussed in more detail elsewhere in this document.*

- Dalkia suggested that eligible parties (or third parties), such as ESCos, be included, "thereby creating a secondary / over-the-counter market" which would also facilitate growth in that sector.
- Ibec submitted that savings from "all eligible measures" should be included and that flexibility should be incorporated into the target calculation to minimise costs.
- IGBC urged that the obligation be "structured in a way that adds to the level of renovation taking place" and cautioned against double counting when implementing the alternative approach. It suggested that the current system of party and counter party be replaced with a system for the registration and trading of energy supplier credits. The AIEA and TEA proposed that a white certificate scheme be established "to increase the transparency and scope of the market" and with limited mandatory participation by the suppliers, which would "allow third party organisations to utilise the obligation schemes to source funding".
- IGBC also submitted that "better quality assurance of the credits themselves is necessary" and that the "introduction of the Better Energy Financing scheme warranty backed scheme should help in this regard".
- Citing the discounted savings concept in the Better Energy Scheme, IGBC submitted that credits for the commercial and industrial sector must also be based on "actual likely savings" and "be calculated conservatively or be partially based on post evaluated savings".

The following submissions were made with respect to specific aspects of the discussion relating to the implementation of Article 7 – as included in the consultation paper:

- Mud & Wood submitted that negative health effects could arise from the operation of air-tight, mechanically ventilated homes and that dwellings constructed from low-embodied energy materials "do not possess the same risks as certain other conventional building materials to the health of the occupants".
- RIAI commented that: "the reference to security of (energy) supply is misleading. Provision of adequate, diversified, renewable, locally sourced energy is the true vehicle for energy security. Energy reduction, with the remaining energy demand still heavily fossil fuel import dependent, is not true energy security."

7 ARTICLE 8 – ENERGY AUDITS & ENERGY MANAGEMENT SYSTEMS

7.1 Question 8.1: What (existing) schemes can be utilised?

Consultees suggested a range of schemes already in place in Ireland and elsewhere that could be leveraged for the purposes of the implementation of Article 8. However, Dalkia cautioned that there are different skill sets and levels required for undertaking audits at different types of facility and that the training, qualifications, accreditation and experience required differ accordingly – with the levels required for simpler audits (e.g. domestic buildings) being insufficient for those required for more complex audits (e.g. at industrial facilities). The **schemes nominated for consideration** by consultees were:

- AEE Ireland's Certified Energy Manager (CEM), Certified Energy Auditor (CEA) and Certified Measurement and Verification Professional (CMVP) qualifications, all of which are marketed by a number of professional organisations controlled by AEE. AEE suggested that the CEA qualification

would be appropriate for auditing commercial buildings, whereas the CEM qualification would be required for industrial facilities.

- SEAI's panels of expert energy consultants – used to provide support services to large industry, SMEs and the public sector. TGW commented that "these programmes should become the cornerstone for delivery" to minimise the need to duplicate effort.
- Existing SEAI-administered systems for Building Energy Rating (BER) and DEC. However, Dalkia commented that the "BER assessor scheme qualification / skill level is insufficient for energy auditing and hence cannot be reused in its current form for the above purpose."
- Energy Management Professionals Ireland's (EMPI) membership.
- ASHRAE's Building Energy Assessment Professional and Building Energy Modelling Professional certifications.
- EVO Certified Measurement & Verification Professionals (CMVP) certification.
- The INAB accreditation scheme for the ISO 50001 *Energy Management System* standard.
- The Energy Efficient Buildings Hub in Philadelphia.

Respondents also suggested some **standards and protocols** with which the proposed scheme could be aligned:

- EN 16247 *Energy Audit* (parts 1-5, some of which are still in development), which "should bring objectivity and transparency to auditing processes" [EAI];
- ISO 50002 *Energy Audits*;
- ISO 17741 *General Technical Rules for Measurement, Calculation and Verification of Energy Savings of Projects* (under development);
- International Performance Measurement and Verification Protocol (IPMVP®).

7.2 Question 8.2: What gaps exist in the existing 'auditing framework'?

The IERC commented that the implementation of Article 8 "will require significant new capacity in auditing skills. To be cost effective there will be a need for new auditing techniques and options appraisals which go beyond existing EPBD requirements." Consultees highlighted the following **gaps in the existing 'auditing framework'**:

- Lack of definition of level of audit for different non-domestic applications [IGBC];
- Lack of an approved list of auditors [TGW];
- Variance in quality and independence of service providers [AEE];
- Poor compliance rate with respect to obligation to have DECs, even though "DECs are comparatively easy to assess" [An Taisce];
- The BER does not give an indication of actual consumption or performance [EAI] and neither it nor the DEC provides any measure of the rate of improvement [BNM, EAI];
- The BER system "does little to reflect the performance of building fabric and that some materials suffer more than others in this regard…[and]…that it is the low-embodied [energy], low impact materials that suffer the most" [Mud & Wood];
- Lack of resources, capacity and "expertise in trained and experienced staff" to undertake audits in the local authority sector [AIEA, TEA];
- Insufficient skill levels for undertaking audits at more complex buildings and industrial facilities [Dalkia, Authentic Energy Management Solutions (AEMS)] and insufficient auditor understanding of mechanical & electrical systems in commercial and institutional buildings [Overy + Associates];

- Insufficient competence levels with respect to energy assessment of protected structures "and common vernacular buildings, e.g. stone and lime cottages" [Mud & Wood].

EAI submitted that the adoption of the new EN 16247 standard "will eliminate many of the gaps that exist in the current framework".

RIAI proposed that an **enhanced system of building rating** be adopted that incorporates broader elements of energy use, including *inter alia* transport and use of infrastructure, while Overy + Associates suggested that the non-domestic BER rating software should be updated to better reflect the asset rating of lighting and the operational parameters in Irish schools. Mud & Wood proposed that the BER system be expanded to explicitly address embodied energy via a separate rating.

7.3 Question 8.3: Should we have a central registration body? With a wide range of skills requirements and starting qualifications, is it prudent to try to centralise registration and management of energy auditors?

Ten of the thirteen consultees that responded to this question explicitly stated that **central registration would be desirable**. Reasons cited included: consistency in validating, setting and maintaining standards; transparency; and better capability to learn from experience and disseminate lessons. TGW submitted that the registration body should also have oversight of up-skilling and training. AEE suggested that while a central body could work, an alternative would be for auditors to register with one of a number of authorised schemes. No consultees submitted that any alternative to a central registration body would be preferable to a central approach, although An Taisce commented that the implementation of the actions proposed in questions 8.3-8.8 "would create unnecessary bureaucracy".

Several consultees nominated organisations that could undertake some, or all, of the central role: SEAI [Overy + Associates]; EMPI [AEMS]; AEE [AEE, BNM, EAI]; Engineers Ireland or similar (to validate the skills & competencies of auditors) [Dalkia].

Ibec enquired whether any central registration body would be a **new authority or an existing body** and DPER raised a general concern about the "setting up or expanding of agencies, which require funding (either from user fees or Exchequer) in response to non-urgent EU directives, while higher–priority services are run down".

7.4 Question 8.4: What might such a structure look like?

The following suggestions were made with respect to the **structure and operation of a registration body and system**:

- "A statutory registration body with full registration, CPD, code of conduct, and public interest representation, just like many other professional bodies such as RIAI" [RIAI];
- A voucher scheme, similar to Enterprise Ireland's innovation voucher, whereby a voucher would be issued to the auditor (who must be on an approved list) following engagement by the client [TGW];
- Different levels of accreditation for different audit applications / levels of complexity that recognise different competences required for each and incorporate a balance between education, relevant experience and continued professional development [AEE, Dalkia, IGBC];
- Oversight of examination process [AEE];
- Critical review of auditor reports, annual review of energy outcomes with audited entities and linkages to financing mechanisms (to implement audit findings) [Nigel Quane];

- Mentorship scheme for less experienced auditors [Nigel Quane].

The following existing structures were proposed as **potential analogues for the proposed structure**:

- BER system [Airtricity, BNM, EAI, Overy + Associates] and DEC system [Airtricity, BNM, EAI]: BNM and EAI suggested that the framework, structure and Code of Practice in place for the administration of the BER system – via SI 243 of 2012 (EBPD) – could be used/adapted for the purposes of implementing Article 8, with EAI adding that "whether the governance of such a structure lies with SEAI or with an independent body that liaises with SEAI may need to be determined at a later date…". Both the AIEA and the TEA cautioned that there are insufficient resources for the enforcement of the BER system and that this situation should be avoided for the proposed registration body.
- Better Energy quality assurance system [BNM];
- Eligibility criteria developed for EMPI [AEMS];
- CIBSE's Low Carbon Assessor scheme [IGBC].

7.5 Question 8.5: How would existing schemes be accounted for?

Both BNM and EAI submitted that existing schemes "can be brought up to the relevant standard" and that those of insufficient standard should be wound down.

AEE proposed that its Certified Energy Manager qualification "should suffice for all required auditors".

The fact that **different existing schemes overlap** with the proposed implementation of Article 8 and also meet different needs of potential clients was highlighted by some consultees. In this regard, AEMS proposed that each scheme should "be included in an overall listing, with each speciality identified and searchable, [letting] the market decide which skill-sets deliver value and energy savings". Airtricity commented that: the "coordination of BER, DEC and any Better Energy Financing auditing, assessment and inspection/verification standards are likely to yield economies of scale and will provide a 'go to' location for customers. The minimisation of administrative and other costs are important in this regard in order not to increase the cost of measures."

7.6 Question 8.6: What would an application process include?

Most of the eight consultees that responded to this question commented that **the proposed 'contents' for an application process are broadly appropriate**, subject to the following suggestions and comments:

- A link should be provided to a database of all CPD and training engaged in by the auditor over the previous year [IGBC];
- The AEE cautioned that the requirements for tax clearance and insurance could change between periods of registration and could therefore result in an anomalous situation whereby an auditor was not compliant when undertaking work but was still on a register;
- AEMS commented that item (g) 'BER Registration Details' is only relevant for the built environment; as such it should be optional value-added element for participants and the market should decide whether it is a valuable requirement for other applications, e.g. industrial processes, transport operations;
- Item (h) 'Details of Relevant Experience' should be expanded to encompass 'evidence based competency assessment' [Dalkia];
- AEMS commented that item (I) 'Declaration' (of Interest) would be most relevant for a specific project or customer rather than for a general auditor listing.

AEMS also suggested that the process should be online and automated with electronic submission of documents and links to relevant confirmation services, e.g. Revenue tax clearance.

Overy + Associates suggested that the process could be modelled on the BER system, but cautioned that the non-domestic BER criteria are insufficient, especially with regard to knowledge of mechanical & electrical systems.

Airtricity requested that "details of the [application] process and proposed qualification criteria be discussed with industry when proposals are more fully developed".

7.7 Question 8.7: What should be the minimum qualifications required for energy auditors?

Several respondents outlined how different audit types require **different types and levels of qualifications and experience** and how the requisite qualifications must be complemented with relevant experience and continued professional development. Disparate views were submitted with respect to the specific qualifications and/or professional memberships required. This was, in part, due to differences in scope in the consultation responses – some consultees addressed a diverse range of audit types in their submissions, while others focussed on a specific segment of the audit market.

AIEA, Overy + Associates, RIAI and TEA all proposed *different* **level 7 qualifications** as minimum qualification requirements. Dalkia commented that a relevant Level 8 qualification would be required for the most complex audits. Some consultees also proposed specific memberships (of professional associations, e.g. AEE, Engineers Ireland, CIBSE, Irish Property & Facility Management Association, RIAI) as being sufficient to (part-)fulfil the qualification criteria.

AEE proposed that the emphasis should be on **auditing-related qualifications**, such as the AEE's Certified Energy Manager and Certified Energy Auditor. The IGBC, EAI and BNM endorsed the former qualification, with BNM and EAI stating that it – or a similar qualification – should be a minimum requirement for audits "on a large organisation". EAI submitted that "certification of the auditor to the standard of a CEM ensures that a high level of expertise is available when carrying out an audit, while at the same time ensuring the required standards of EN 16247 are met". The requirement for auditing-related expertise was echoed by the AIEA and TEA who both suggested that the completion of a short energy auditor course should be required in addition to a level 7 qualification.

AEMS commented that EMPI has created a standard for membership which helps to underpin auditor qualifications and that EN 16247-5 *Energy Audits: Competence of Energy Auditors* seeks to define minimum requirements in a standard way and could help Irish auditors export their skills.

For the domestic sector, both IGBC and the IIEA maintained that the existing regime was adequate but that "additional focus [be] given to SR 54" *Code of Practice – Methodology for the Energy Efficient Retrofit of Domestic Dwellings* [IIEA].

7.8 Question 8.8: What, if any, should be the penalties for non-compliance/poor quality work?

The AIEA, IIEA and TEA all proposed that penalties should be in line with those established under the EBPD legislation.

AEE, BNM, EAI, IGBC, TGW and the RIAI all proposed that the penalty mechanism should be temporary or even permanent **deregistration of the auditor**, with BNM, IGBC and RIAI suggesting

that this could be based on a penalty-points-type system. BNM proposed the existing *Quality Assurance Disciplinary Procedure* used for contractors in the Better Energy scheme as a good model that "takes account of the volume of activity being undertaken, level of inspections and the severity of non-compliances identified".

RIAI proposed that such a system could be backed up by "criminal remedies for corrupt activity", while TGW emphasised the requirement to consider the financial implications of poor quality work.

Dalkia suggested that an ethics committee would review "significant breaches of trust with clients" and auditors would also be subject to a competence review. Dalkia emphasised the advantages of using existing oversight processes at bodies such as Engineers Ireland.

AEMS questioned the requirement for penalties and submitted that "to enable the energy management services industry to grow…, a phased approach is needed, whereby auditors rectify mistakes [and] customers offer feedback on service quality and savings."

EAI submitted that penalties "may not be the most appropriate solution" for energy users that do not comply with audit recommendations.

7.9 Other Submissions Relating to Article 8

The following submissions were also made with respect to the implementation of Article 8:

- Airtricity commented that it "considers that SMEs provide considerable potential to achieve energy efficiency savings and a particular emphasis should be put on encouraging this sector to undertake audits. Similar programmes to raise awareness among households about the benefits of energy audits can be a very effective tool."
- Airtricity and EAI also submitted that there should "be a clear path between audits…and duties/schemes under Article 7" and that non-SMEs be supported to conduct audits, "with grant assistance if necessary, as part of an energy advisory scheme and that such a scheme constitute an alternative measure under Article 7(9)(f) of the Directive". Both also suggested that support be considered for the implementation of measures recommended in audits.
- An Taisce highlighted the importance of audit independence and the subsequent implementation of measures via energy performance contracts.
- Ibec emphasised that mandatory audits for large companies should "not hamper investments already made in the context of national voluntary and long term agreements".
- TGW suggested that the time frame for the implementation of Article 8 be accelerated and that the December 2015 milestone date be brought forward to January 2015.
- Aughinish Alumina commented that it fully supports the proposals in the Directive with respect to auditing.

8 Articles 9-11 – Metering, Billing, Cost of Access to Metering & Billing Information

8.1 Question 9.1: How do we ensure that provisions of Articles 9-11 are met in a manner that meets consumer protection, while also ensuring energy efficiency is considered?

Ibec emphasised the importance of **cost benefit analysis** and that the savings must outweigh the project costs. DPER also highlighted the cost benefit issue and gave the example of Germany, which "has decided not to proceed with domestic Smart Metering based around the realisation that the

cost of smart meters can exceed the benefit for low-power consumer (households) while the bulk of benefit could go to industrial consumers".

While acknowledging the role of energy suppliers to provide consumption data to customers "where possible and practical", BNM argued that such provision is not possible for solid fuels due to a number of "diverse consumer patterns", which "would make the implementation of metering and informative billing with solid fuel completely impractical."

Airtricity and EAI stated that many of the provisions in the articles can be met through the implementation of the national smart metering programme and proposed that compliance with the EED be an objective of that programme. EAI made a comprehensive submission with respect to the programme, which included, *inter alia*:

- A mass education programme should be run by the CER or another relevant body, "to educate customers on all aspects of energy…";
- The provision of half hourly data to suppliers is vital to ensure the innovation of appropriate products;
- Smart statements are "vital to customer engagement" and should contain "key bits of information and encourage the customer to obtain more granular data online".
- There should be a role for both suppliers and ESB Networks to provide consumption data to customers and "Data Protection requirements will require some additional design";
- Protocols used to access data should be "common to as many devices as possible, thus allowing a wide range of technical products to communicate with" the utility home area networks (HAN) installed by ESB Networks.
- "Budget controller" functionality is not needed for in home displays (IHD) and therefore EAI questioned the requirement for mandated IHDs, citing additional costs and commenting: "if this requirement is mandated under the project we stress that the costs must be incurred under the Smart Metering rollout project. IHDs are of interest to a minority of consumers in every other market and this may be the case in Ireland also. Mandating the funding of a device for national rollout that may remain unused by as many as 1.7 million households may undermine programme goals."
- The capability to display information should be made available to all through the utility HAN, although "consumers should not be mandated to make use of it".
- Third parties should be allowed to present consumption data to consumers, "provided they adhere to all data protection procedures and do so to the benefit of the consumer".

Airtricity also submitted that "parties must be secure that complying with regulatory requirements (such as design and content of bills) will not see them in breach of the Energy Efficiency Directive implementation provisions and liable for penalties" and that "legislative and regulatory requirements must be consistent".

IIEA recommended that Ireland should learn from other Member States such as Italy and Sweden and suggested "that a duty could be placed on suppliers to utilise the best available technology when rolling out smart metering to ensure that: (i) the greatest possible energy savings could be achieved…, and (ii) customer protection, including privacy and data protection issues, are adequately addressed." IIEA also proposed that suppliers actively educate customers. IGBC suggested that "normal data protection [rules] should apply".

AEE responded that the provision of usage **information to the end user** "along with some guidance as to how this compares with 'similar' type consumers in the case of small scale commercial and residential customers should be sufficient to meet this aim". An Taisce submitted that energy suppliers should be immediately obligated to provide billing data on building-by-building basis that "contains all cost, energy and emissions data on a single line of digital data according to a prescribed layout". The AIEA and TEA submitted a number of proposals:

- That the total cost of use should be based on the units (kWh) consumed, i.e. that all costs be allocated on a per kWh basis – to incentivise reduction and avoid confusion caused by standing charges;
- That "DSO, TSO, PSO and any other funding instruments should be based on the unit rate for all customers";
- That the requirement for individual metering be incorporated into the Building Regulations;
- That virtual metering via approved central management systems be accepted for the purposes of billing for public lighting systems.

RIAI highlighted that the final cost to consumers purchasing via **pre-paid** arrangements provided by 3rd parties "is usually considerably higher than the typical supplier cost". RIAI further submitted that the pre-payment option "must be provided at the same energy unit cost as for bill-pay customers".

8.2 Question 9.2: How should heat costs be allocated in multi-apartment buildings?

AEE, BNM, Dalkia, EAI, IIEA, IGBC and the RIAI all submitted that heat costs in multi-apartment buildings should be allocated using **individual heat meters in each apartment**. Dalkia cautioned that while such an approach is a "completely necessary pre-requisite for the efficient and cost allocated operation of common heat distribution / district heating schemes", meters are expensive. Therefore, it urged that while this is the ideal approach, it is "dependent on the solution being economically justifiable". BNM and EAI expressed similar caveats. IGBC and IIEA added that heat meters should *also* be installed at building level to facilitate the upgrading of entire buildings.

IIEA submitted that *preliminary* heating costs should be calculated with reference to unit size (area) and benchmarks, while final costs should be based on metered consumption "with a minimum level of consumption incorporated, to reflect the fact that under-heating imposes costs on neighbouring units".

RIAI commented that in instances where there is little or no consumer control over heat usage (e.g. hostel accommodation), heat costs should be allocated without unit-level metering.

The AIEA and TEA suggested that heat interface units be provided to multi-apartment buildings comprising more than 10 units or greater than 1,000 m2.

Ibec recommended that best practice in other relevant jurisdictions be analysed.

8.3 Question 9.3: How should we proceed with the requirement to install heat or hot water meters where heating and cooling or hot water are supplied to a building from a district heating network or other central source?

The AIEA and TEA submitted that "there is a significant need for a centralised **regulation of the district heating marketplace**, including standards for equipment billing and charging", and suggested that the CER should fulfil this role. These consultees recommended that the meter installation process should be undertaken within such a regulatory framework.

Dalkia submitted that a metering project will: "involve undertaking a full engineering study and the development of a costing / implementation plan, including metering. Implementation should be undertaken only where economically viable based on the investment and the return." BNM and EAI also suggested that **cost benefit analysis** would be required, especially for existing networks without unit-level metering. Given the fragmented nature of the Irish district heating market compared to other European jurisdictions, BNM and EAI proposed that the roll-out of meters should be based on local site-specific solutions.

There were a number of other submissions relating to **technical aspects of a meter roll-out**:

- IERC cautioned that: heat metering "is notoriously difficult, and accuracy generally very poor. Standards of installation normally do not meet specifications, and meters often fail to deliver acceptable quality data. Training is essential to ensure proper installation, and there is a need to ensure the entire supply chain from design through to data collection and analysis is joined up. Failures are most likely to occur when responsibility for installation failure is passed to others. Experience has shown that this is very common."
- AEE submitted that buildings should be required to be fitted with heat meters "unless it can be clearly shown that reduction in energy use will only require additional heat to be dumped (e.g. from CHP)".

9 ARTICLE 14 – PROMOTION OF EFFICIENCY IN HEATING & COOLING

9.1 Question 14.1: Are you aware of any datasets that may assist in developing the comprehensive assessment for CHP/DHC potentials?

The AIEA, Dalkia, TEA and TGW all proposed **specific datasets** for consideration:

- Dundalk 2020 and South Dublin County Council Energy Master Plans;
- Datasets from existing schemes in Tralee, Wexford and Longford;
- Local authority feasibility studies for Dublin City (Poobeg & docklands) and Cork City (biomass-fired scheme in docklands to the east of the city centre);
- Comhar's *Community Renewable Energy in Ireland – Status, Barriers & Potential Options* (November 2011).

BNM commented that other jurisdictions have models "with regard to threshold energy intensity levels required" as a function of several key technical and financial parameters.

Both BNM and Airtricity submitted that energy suppliers have **data on the consumption** of their customers but that: this "is subject to privacy, data protection and commercial sensitivity requirements. It may be possible for the System Operators to provide aggregated data, but again this is subject to relevant privacy, data protection and commercial sensitivity standards. The smart metering project is likely to produce more detailed data." AEE offered to provide DCENR with a list of persons on our data set that have considerable CHP experience that may assist".

Airtricity also proposed that the energy industry be involved in the preparation of the comprehensive assessment.

9.2 Question 14.2: Without prejudice to the outcome of the comprehensive assessment on the potential for HECHP and efficient district heating, in your view what are the main technical, economic, regulatory or other barriers to the development of these technologies in Ireland?

The following technical, economic, regulatory and other **barriers** were submitted by consultees:

- Low population density & density of heat load [AEE, Airtricity, BNM, IGBC];
- Insufficient access to competitive fuel sources [Biotricity] and the scale and variability of the spark-spread, resulting in marginal returns for HECHP [AEE, Nigel Quane];
- Insufficiently developed fuel supply chains (biomass) [AIEA, TEA, TGW];
- Inertia among large organisations with potential for CHP [Nigel Quane];
- Difficulty in accessing the electricity network [AIEA, RIAI, TEA] and prohibition of private wire networks [AEE, Dalkia, Overy + Associates];

- Difficulty in accessing finance for CHP [Biotricity, Nigel Quane];
- "Uncertain regulatory regime" [Biotricity];
- Cancellation of the CHP deployment programme [RIAI], and "lack of effective support for CHP and district heating schemes [and] lack of support for local area, street or community energy co-ops" [An Taisce];
- "Stringent efficiency requirement to meet HECHP and hence obtain REFIT" for biomass CHP [Dalkia];
- Absence of a "state backed financing scheme [for district heating networks] as per the other main regulated energy supply networks" – analogous to the natural gas network, "where the existing customers agree to pay the costs of new customers network expansion" [AIEA, TEA];
- Lack of public ownership of district heating networks coupled with high capital costs [TGW];
- Poor knowledge of location of existing underground services [TGW];
- Insufficient acceptance, training and skills related to district heating [AIEA, TEA];
- Lack of long term planning/strategy and commitment, e.g. to 2050 [AIEA, TEA], in county development plans [TGW], in local area plans [RIAI];
- Absence of obligation to connect to a district heating scheme (if one is available) [AIEA, TEA] and "the capacity of individual occupants to block" installations [IGBC, IIEA];

Dalkia commented that the barriers are well documented, including in SEAI's *CHP in Ireland* report. Airtricity, BNM and Aughinish Alumina submitted the following **barriers specifically related to the electricity market / sector**:

- Environmental standards that regulate the operation of electricity generation installations "may or may not be compatible with cogeneration of heat" [Airtricity, BNM].
- "The increase of intermittent renewable generators [which] will result in a change in the generation pattern of conventional stations such that heat produced by an electricity generation installation unit may not be predictable" and Ireland's market model which results in thermal plant not always generating as predicted or as per its operators' wishes [Airtricity, BNM].
- [Airtricity, BNM]: "The system requirement for flexible generators (as is being teased out under the DS3 project) to be available/operational and locational signals issued to new generators through Use of System charges and losses are also relevant to this question. This may mean that this plant does not always run at times or levels useful from a heat point of view; this should be included both [in] the comprehensive assessment and in consideration of barriers to development of CHP and district heating systems."
- "At present regulation or standards, including technical and safety, for provision of heat are not developed in Ireland" [Airtricity, BNM];
- Aughinish Alumina's response focussed on "the current electricity market and operating regime that has the potential to hinder the HE-CHP at Aughinish…through the risk of inefficient curtailment of the HE-CHP plant during periods of excess capacity… The biggest issue regarding barriers to development is…the failure of the regulatory authority to recognise the importance of heat demand to the host as part of the energy mix when considering electricity dispatch". Aughinish Alumina added that "formal recognition of the 'demand' side requirements (both electricity and heat) from an operational perspective would remove a significant barrier to efficient HE-CHP operation and ultimately efficient dispatch of generation plant operating within the SEM".

Shannon LNG, which has planning approval for a 500 MW CHP plant, the waste heat from which will be used for the re-gasification of LNG, commented that it "does not see any technical, economic, regulatory or other barriers to the development of these technologies (i.e. CHP) in Ireland" and that the approved Shannon LNG CHP plant "will substantially contribute, at no cost to the Irish consumer, to" the 800 MW target.

In describing barriers, several consultees made **recommendations**, including:

- Alignment of policy on HECHP with that in other jurisdictions, including the UK [Dalkia, TGW] and Denmark [RIAI];
- Integration of district heating into development and local area planning [TGW, RIAI], into any grant mechanisms for retrofit [TGW], into an Action Plan for Renewable Energy Production (biomass CHP) [RIAI];
- Promotion of domestic scale CHP [RIAI];
- Promotion of industrial scale CHP by the IDA [Nigel Quane];
- Provision of support for pilot neighbourhood / community schemes [An Taisce].

9.3 Question 14.3: What exemptions should be considered under Article 14(6)?

The following **specific exemptions** were proposed:

- Dalkia proposed that "small heat consumers / producers where the study costs would not be justified" be exempt.
- Airtricity and BNM stated that "the exemption should extend beyond traditional peak load and back-up installation plants" because "with increased intermittent renewable generation it is likely that thermal generation stations will see reduced running hours and will be increasingly relied upon for system services".

Airtricity also submitted that "the exemptions set out in Article 14(6)(a)-(c) be adopted initially and that exemptions be considered further once the outcome of the comprehensive assessment is known". It also highlighted "the importance of the exemption process under Article 14(8) being prompt and transparent so that it does not cause delay or confusion for projects". BNM also submitted that the thresholds for exemption be considered after the completion of the comprehensive assessment.

TGW commented that exemptions must only be granted on an evidence-based approach and "should not be considered on a de-facto basis".

9.4 Other Submissions Relating to Article 14

The following submissions were also made with respect to the implementation of Article 8:

- OFTEC commented that it did not agree with the requirement to "diversify away from oil or liquid fuels" and outlined a proposal for a heating fuel comprising kerosene and bio-liquid.
- Biotricity urged that "the Primary Energy Saving in conjunction with the need for a useful heat offtake [be] the future basis for supports".
- Ibec submitted that: "there are a number of measures that should be revisited in devising a strategy to meeting the EED requirements with regard to HECHP… Firstly, the proposed methodology to implement the 2007 target of 800MW must be compared with potential policy actions focused on meeting the EED requirements. Also, the effectiveness of the now discontinued CHP deployment programme should be examined."

10 ARTICLE 15 – ENERGY TRANSFORMATION, TRANSMISSION & DISTRIBUTION

10.1 Question 15.1: While Article 15 is primarily a matter for the TSO and DSO to implement, do you have any observations to make on its implementation at this stage?

Some consultees submitted **specific technical observations** with respect to Article 15:

- Aughinish Alumina submitted that: the effect of the European Commission Guidelines on State Intervention for Renewables "in conjunction with Article 15 means that HE-CHP offering balancing and other operational services can be effective back up capacity if operated efficiently while recognising the heat demands of the host. Article 15(2) requires the authorities to take into account the need to ensure continuity in heat demand when dispatching generating installations. HE-CHP must therefore continue to benefit from the priority dispatch rights provided for under the Directive in order to be effective. Currently, although HE-CHP plant has priority dispatch status, the HE-CHP plant can be dispatched down or even off under the existing rules under SEM-11-062. This is in stark contrast to the efficiency principles of Article 15 of the Directive. High efficient cogeneration combined with variable renewable energy generation is the most carbon friendly generation mix that can maintain the grid in a reliable and safe manner. Rather than hamper variable renewable energy generation, the natural benefits of HE-CHP could be used in a complimentary way." Aughinish Alumina added that this "is also hampered by the priority dispatch of power supplied through the Interconnector. With no regard for national emission targets this constraint upon the transmission system operator is perverse with respect to the Energy Efficiently Directive. This is an incentive which is detrimental to the overall efficiency of generation and incurs additional operating costs which impacts on the competitiveness of the Irish economy."
- Biotricity identified a distinction between the priority dispatch position to be implemented in accordance with the EED, which "seems to give particular priority to HECHP in order to ensure continuity in heat supply" and the current dispatch priority hierarchy, which "provides priority access for wind" and requested clarification on this position.
- Dalkia urged that the implementation of Article 15 should "avoid market design issues" that could dis-incentivise CHP.
- Airtricity commented that "demand side units offer great potential to provide system services and [that Airtricity] is particularly interested in this issue as well as the design of appropriate Use of System charges for these technologies, which could include electric vehicles and smart electric storage heating". Dalkia also suggested that the "existing market flaw in the operation of demand side units in the single electricity market" be removed.
- TGW submitted that "Ireland's approach to smart grid must consider decentralised sources of energy generation, transmission and storage".

With respect to the **process and timing for the implementation of Article 15**:

- Shannon LNG requested that clarification be provided with respect to manner in which the Article 15 obligations will be transposed into Irish legislation;
- Airtricity submitted that the implementation of Article 15 "should involve engagement with a wider range of participants than just the CER and EirGrid, to include generators, suppliers and demand side units";
- Aughinish Alumina also requested participation in the implementation oversight group "with specific regards to the discussions around balancing services and the treatment of HE-CHP as part of a Trading Site operation taking into consideration electricity and heat demand response";
- Dalkia urged the acceleration of "the introduction of ancillary services (for rapid response / system support)";
- Biotricity asked that the requirements regarding priority dispatch of HECHP be transposed quickly.

11 ARTICLE 16 – AVAILABILITY OF QUALIFICATION, ACCREDITATION & CERTIFICATION SCHEMES

11.1 Question 16.1: What schemes currently exist for the training and qualification of those involved within the various sectors?

Several of the **schemes nominated in consultees' responses to question 8.1** were also proposed in response to this question, including:

- AEE Ireland's Certified Energy Manager (CEM), Certified Energy Auditor (CEA) and Certified Measurement and Verification Professional (CMVP) qualifications (sectors a, b, d & e);
- ISO 50001 (sector b);
- ASHRAE's Building Energy Assessment Professional and Building Energy Modelling Professional certifications;
- BER accreditation (sector c), although RIAI commented that "there is a widespread perception that the price competitiveness of BER audits has reduced the time being spent on each assessment and driven down the standards being achieved" and suggested that "a campaign by SEAI to invite confidential reports of apparent errors and omissions in BERs might be a useful, albeit potentially embarrassing, public service."

Other schemes nominated by respondents were:

- Chartered Engineers (Engineers Ireland) (sector a);
- Registered Architects (RIAI) (sector a);
- RIAI's Building Fabric Design and Designing Low-Energy Domestic Refurbishments accreditations (sector a);
- International Passive House Association's Passive House Designers Course and its Certified Passive House Tradesperson accreditation (sector a);
- OFTEC's registration scheme for oil heating professionals in England & Wales and its function as a certification body for installation of condensing boilers under the UK's Green Deal programme (sector c);
- The Build up Skills Initiative (BUSI) roadmap and the Qualitrain Intelligent Energy Europe project (upon which the IGBC is working), which "intends to implement the recommendations from the Build Up Skills (BUSI) roadmap published earlier this year to develop a foundation course for all building trades…on a voluntary implementation basis" (sector c);
- SEAI's Triple E register (sector d);
- Other AEE certified training courses "available to meet potential requirements in Ireland" [AEE]: Certified Energy Efficiency Practitioner (for energy team members – non engineers); Certified Sustainable Development Professional (for environmental managers); Certified Carbon and GHG Reduction Manager (for carbon management professionals); Certified Business Energy Professional (for senior management who have an energy management responsibility but not directly involved in the technical aspects of energy management); Certified Energy Procurement Professional (purchasing strategies for large organisations); Distributed Generation Certified Professional (distributed generation and CHP); Certified Power Quality Professional (better understanding of the energy issues related to power quality); Certified Geo-Exchange Engineer (ground source heating and cooling); Certified Renewable Energy Professional (renewable energy); Certified Building Energy Simulation Analyst (analysis of energy requirements of buildings by software simulation); Building Energy Sustainability Technician (for technicians responsible for operating plant in buildings using significant amounts of energy); Master Energy Auditor (investment grade energy auditing).

With respect to the proposed **options for implementation**:

- OFTEC expressed its preference for option 2 and offered to extend its own registration scheme;

- Opower submitted that it was in favour of either option 2 or 3 and recommended that "whatever accreditation method is finally implemented in Ireland, it should not preclude the inclusion of unique and innovative energy efficiency measures that do not abide by traditional industry standards".
- Airtricity commented that "a single register of accredited professionals could make the process of procuring energy efficiency services easier for customers, which should result in a greater uptake of measures".
- The AIEA and TEA suggested that a comprehensive skills register be established and "phased in over 3-5 years to allow for the marketplace to provide the correct training standards".

While acknowledging the importance of high standards in the five sectors, Airtricity cautioned that "the **costs** and administrative burden of qualification, accreditation and certification must be minimised", while DPER reiterated its concern previously raised with respect to Article 8 about the "setting up or expanding of agencies, which require funding (either from user fees or Exchequer) in response to non-urgent EU directives, while higher–priority services are run down."

12 Articles 12 & 17-20 – Information and Training, Energy Services, Other measures to Promote Energy Efficiency, Energy Efficiency National Fund, Financing and Technical Support

12.1 Question 17.1: What do you feel would be the best/a better mechanism for disseminating information on available energy efficiency mechanisms to market actors?

Several consultees suggested that **energy suppliers are best placed to communicate with consumers** because, for many consumers, the supplier relationship is their only relationship with the energy services sector. Dalkia proposed that a supplier-based information channel "could either take the form of an obligation, or a voluntary action on behalf of energy suppliers to educate and disseminate information". IGBC commented that energy bills could be used to indicate "whether a building of a certain type is operating above or below key benchmarks".

BNM and EAI suggested the following **framework of target market actors and communication channels** for each:

- Banks – targeted by DCENR, Department of Finance, DPER, SEAI or another designated body;
- Builders – targeted by the CIF, SEAI or another designated body;
- Architects – targeted by RIAI, SEAI or another designated body;
- Engineers – targeted by Engineers Ireland, SEAI or another designated body;
- Environmental & energy auditors – targeted by means of the body to established in accordance with Article 8;
- Installers of building elements – targeted by builders merchants, retail suppliers, SEAI or another designated body;
- Local authorities & local communities – targeted by local energy agencies, workshops & seminars.

TGW also suggested that community based organisations and trade groups could be leveraged to communicate with certain audiences.

Airtricity proposed the development of "Better Energy (or another scheme) as a **quality mark** and a provider of reliable information, with the involvement of accredited participants. Promotional BEF materials could then be disseminated through media advertising, citizen information points including health facilities and post offices, across relevant Departments and from service providers, including installers and energy suppliers."

Other consultees suggested a **diverse range of communication media** for disseminating information including: energy bills; new/dedicated websites, as well as sections on existing websites (DCNER, SEAI, DECLG); radio & TV programmes (as was undertaken for the Power of One campaign) and advertising; direct mail; "through post offices, social welfare offices, hospitals, schools, etc." [BNM, EAI]; building energy benchmarking databases/services (such as the International Sustainability Alliance); at seminars, conferences & events (e.g. Energy Show, Ideal Homes Exhibition).

12.2 Question 17.2: What in your view would be the most appropriate way for local and regional authorities to promote awareness and information to citizens about energy efficiency improvement measures?

Transition Kerry submitted that "energy efficiency policy measures must enable greater community involvement in energy decision making, energy marketing and production of renewable energy in Ireland. Efficiency measures from the 'ground up', at community level, must be supported by appropriate supports and policy measures from the 'top down'".

The following approaches were proposed for **awareness promotion by local and regional authorities**:

- By local energy agencies [AIEA, BNM, EAI, TEA] – both TEA and AIEA proposed that they were "best placed" to carry out initiatives relating to the promotion of energy efficiency;
- By trade groups [TGW];
- By community based organisations [TGW, Transition Kerry] and community level education [BNM, EAI, RIAI] , e.g. "local workshops to demonstrate to communities the real benefits of appropriate energy awareness and improvement measures" [RIAI], workshops targeted at local authority staff [BNM, EAI], "programmes such as the An Taisce Green Homes scheme" [Transition Kerry];
- Through national primary and secondary education [RIAI];
- Through mass media;
- Through the implementation and showcasing of energy efficiency measures at the local authorities' own facilities / properties [Airtricity, Dalkia] and by developing "regional show homes to illustrate the 'energy efficiency experience' [and] highlight the energy savings" [IGBC, IIEA];
- Through the provision of information to residents within their jurisdictions, including via centrally branded materials disseminated at local offices and libraries, and at local meetings [Airtricity];
- Within the framework proposed by BNM and EAI in response to question 17.2 [BNM, EAI].

12.3 Question 17.3: In addition to the policy initiatives already underway, what other mechanisms should be explored to better promote participation by, and access for, SMEs in the energy services market?

Both BNM and EAI submitted that the abilities of Chambers of Ireland and the AIEA should be utilised for the promotion of energy services among SMEs – with communications support from SEAI. EAI added that "the extension of the timeframe for the Better Energy Communities fund will enable the chambers to aggregate member projects together and, with the help of the energy agencies, ensure projects are project managed with the appropriate level of knowledge and expertise while at the same time providing an economic stimulus to kick start projects". AIEA and TEA suggested that SEAI establish an SME helpdesk "to increase market participation".

Dalkia cited Ibec's role with large industry and suggested that ISME could consider supporting SMEs by having "a dedicated energy manager / team who would work with its members to help them identify and implement energy efficiency…[and]…could be supported financially by DCENR".

Airtricity submitted "that financial incentives to encourage audits and uptake of measures by SMEs, alongside the provision of information and other measures…would be successful at delivering energy efficiency savings". It added that it believes the current monitoring and verification requirements to be "proving unduly burdensome for SMEs" and proposed that "a deemed savings or simplified means of calculating savings be adopted".

While most respondents focussed on the provision of energy services *to SMEs*, EI made a submission regarding the scope for the **provision of energy goods and services *by SMEs***. It submitted that "the transposition process could become an important driver for new energy efficiency technologies especially if organised in such a way as to maximise the involvement of SMEs" and that it could be "an excellent opportunity for the broad range of EI client companies that are engaged in the development of innovative products and services aimed at improving energy efficiency". It added that employing innovative Irish products in would help achieve targets and validate/showcase new technologies. "This could help EI clients to grow both their domestic and their export sales. This type of 'living laboratory' is viewed as a very important R&D facilitator and is particularly useful for low-energy building technologies as well as smart metering, heating & cooling systems, energy management systems, CHP & district heating and smart grid technologies."

12.4 Question 17.4: Have you any proposals to make on the split of incentives between the owner and the tenant of a building with a view to encouraging energy efficiency improvement measures especially in multi-owner properties?

Respondents suggested a range of proposals comprising both **'carrots' and 'sticks'**.

IGBC and IIEA suggested that energy companies should proactively communicate with tenants and landlords to explain how savings and costs can be "practicably shared" and commented how landlords would benefit after the initial tenant departs as rents can then "be increased to reflect the improved value of the property". Dalkia submitted that the party investing in an energy efficiency measure "needs either to see a reasonable return on that investment (if it's the owner), or a saving (if it's the tenant). Any savings over and above that reasonable return should accrue to the occupier of the premises."

RIAI proposed that a code be developed for multi-owner properties "to demonstrate the mutual benefits that will accrue to all for cooperation in energy improvement measures", and which will acknowledge that, inevitably some owners will finance works and others will not. RIAI suggested that financial incentives should accrue to the former in instances where they finance works undertaken in properties belonging to the latter (within multi-owner complexes).

Several respondents suggested that **enhanced tax relief** could be provided for owners that invest in improvement works, with Airtricity proposing that this could include an Accelerated Capital Allowance scheme for investment in energy efficiency measures. For commercial property, IGBC and RIAI suggested the use of tax incentives coupled with green clauses / green leases that share the legal obligation to tackle energy efficiency and the benefits that accrue from same. However, IGBC cautioned that "unless a requirement is made to include green clauses as part of a lease these are unlikely to be taken up. RIAI commented that a similar approach could be also adopted for the residential sector. AIEA and TEA submitted that consideration should be given to the elimination of VAT on Triple E and other sustainable energy products - funded by increasing taxes on fossil fuels. BNM proposed that tax breaks – or increased rental allowances – be put in place for occupiers who undertake improvements.

The establishment of **minimum energy performance standards** for rental properties was proposed by AIEA, IGBC, IIEA, RIAI and TEA, with several consultees suggesting that these be based on BERs/DECs and be increased periodically (e.g. every 3-5 years) as part of a published roadmap.

Options submitted included: mandatory standards for all; minimum standards below which rent subsidy would not be payable; and minimum standards for the public sector. Airtricity commented that such standards "may assist with addressing this issue with a progressively improved housing stock; however, the full impacts of such a measure would have to be fully evaluated".

Other submissions were:

- AIEA and TEA suggested a PAYS scheme for landlords;
- Both IGBC and IIEA highlighted attics, boilers and cavities as low cost projects with "fast return" (~7 years) and proposed that grants and future supports should apply to these;
- TGW proposed that "future area-based/ community grant projects should incentivise multi-owner buildings";
- IIEA cited the UK as an example and proposed that "landlords should be required to agree to a 'reasonable request' for energy efficiency improvements from a tenant, in cases where there is finance available (via an Irish equivalent of the Green Deal)";
- Airtricity commented that "the availability and affordability of financing will also assist in the upgrade of rental properties";
- EAI commented that the split incentive challenge is "one of the challenges for suppliers trying to achieve a residential sub-target".

12.5 Question 17.5: Have you any proposals on how to attract and facilitate appropriate financing mechanisms to increase energy efficient investment and stimulate multiple streams of financing in different sectors?

Airtricity submitted that there is "weak consumer sentiment towards energy efficiency, and hesitancy to incur debt" and that it considers "that interest rates will have to be much lower than market rates in order to attract customers".

With respect to the **Energy Efficiency Fund**, Dalkia proposed that there is significant potential to expand the fund while lowering transaction costs by bundling smaller projects "into ~€1m size projects", while Airtricity emphasised the importance of "reducing the administrative burden". TGW suggested that consideration should be given as to how the fund will align with the JESSICA structural mechanism and a green investment bank that "should be compatible with…[the fund]…and should incorporate supports from existing pillar banks".

EI submitted that the Fund will help high energy using companies, such as those "in the construction product, dairy and meat processing sectors, to reduce the cost of manufacturing in Ireland by reducing their direct and indirect energy costs. This would also serve to improve their sustainability brand image." It urged that the Fund "should help to reduce the payback period on energy efficiency projects as well as enabling them to start earlier and produce savings earlier than would otherwise be the case" and also proposed that a portion of the fund be allocated for Innovation for Developed Public Services (IDPS, see question 6.1).

An Taisce recommended that there be an "appropriate annual capital fund…for energy efficiency [in the residential sector] through a combination of the National Pensions Reserve Fund and other financial institutions and pension funds".

The following **other schemes** were nominated for consideration:

- Northern Ireland Sustainable Energy Programme (NISEP) (commercial & industrial sectors) [BNM, EAI, Ibec], which, according to EAI, "is meeting targets at a relatively low cost, particularly in the business market and allows innovation and specialisation by participants, including energy suppliers";

- The German KfW mechanism [Airtricity, BNM, EAI] which, according to Airtricity is a "proven successful financing model…[in which]…interest rates are subsidised by the government for loans given for energy efficiency measures at rates attractive to consumers". Customers can avail of loans with interest rates typically in the order of 1.75%. EAI added that the principle of interest rate subsidy is "a possibility under the proposed BEF structure" and suggested that "the nominal rate of interest would be slightly above the projected rate of inflation, allowing members of the public to borrow at close to 0% in real terms would provide a meaningful and obvious stimulus to the market. Funds from the PSO could be used to support an interest rate reduction mechanism that would be effectively off-balance sheet. This coupled with salary sacrifice / Income Tax schemes would appeal to many homeowners and help stimulate domestic retrofitting."
- A boiler 'scrappage scheme', similar to those "that have been successful in Northern Ireland and in GB" [OFTEC];
- Accelerated Capital Allowances (ACA) and VAT relief [TGW];
- The Home Renovation Incentive (HRI) [Airtricity, An Taisce, RIAI]:
    - RIAI suggested that an incentive similar to the HRI be developed with a tax credit higher than 13.5%. It submitted that displacing black economy work with bona fide contractors would deliver "major benefits" and that "there is ample scope for a generous incentive scheme that can be delivered at net zero-cost to the exchequer."
    - An Taisce also proposed introducing such a scheme, with a tax credit at the 20% rate.
- Airtricity and EAI expressed disappointment "that this initiative does not incentivise energy efficiency over other types of home renovation" and that it does not contain provisions "to bring the 'grey market' in energy efficiency into the Better Energy scheme". EAI also expressed the former opinion, adding that the HRI "may very well detract from spend within the area of energy efficiency" and urging "greater scrutiny of policy measures of this nature in the future" and revision of this measure "by including it in the overall BEF Programme framework".
- PAYS schemes, which according to Transition Kerry "should be encouraged…as an effective means for consumers to finance efficiency measures", but must be regulated "to ensure that consumer interests are properly protected and benefits optimised". An Taisce identified a requirement to "recognise varying income levels, levels of fuel poverty, know-how levels, levels of efficiency and thermal performance and capacity of households to invest in" the proposed PAYS scheme.

In the context of an energy efficiency obligation, Opower outlined three different types of **financial mechanism through which energy suppliers can be incentivised** to invest in energy efficiency measures:

- Cost recovery, whereby energy suppliers can recover "all or a portion of the direct cost of delivering energy efficiency measures to consumers";
- Decoupling, whereby suppliers "are permitted to recover lost profit margins from the reduced sales associated with delivering energy efficiency";
- Performance incentives, whereby suppliers "receive additional incentive payments for meeting or exceeding their energy savings targets".

Opower commented that "a number of European countries already employ these mechanisms to varying degrees. Italy and France permit DSOs to recover their expenditures on white certificates (tradable units of energy savings) through cost-recovery mechanisms… 32 U.S. states currently have either a decoupling or lost revenue adjustment mechanism in place. Twenty-eight states have some form of performance incentive in place to reward utilities for meeting or exceeding their energy efficiency targets. These mechanisms have been instrumental in driving the delivery of energy efficiency across the United States."

Several respondents also argued for the **retention of grant supports**:

- Citing the example of the Better Energy Workplaces grants scheme, Ibec submitted that grants were required to make payback periods attractive and that "green financing instruments have not yielded the desired outcome in some other Member States".
- While acknowledging that grants should not be a long term solution, TGW proposed that grants "be targeted at sector/ projects that are slow to react to national targets...[and that they]…should be phased out when ESCOs and EPCs are recognised by the market (at large) as a viable option".
- Airticity submitted that grant assistance should be retained, along with the introduction of additional policies and measures discussed, including "income and property tax relief for energy efficiency measures and a salary sacrifice arrangement". It added that measures for fuel poor customers "must be fully funded by the exchequer".
- RIAI raised a concern that a move from grants to PAYS "will cause a significant hiccup in the very underdeveloped domestic and non-domestic markets".

In terms of **sources of finance**, Airtricity submitted that "revenues raised through EU ETS auctions should be ringfenced to support the achievement of energy efficiency targets". EAI proposed that a portion of the funds raised through the Public Service Obligation (PSO) Levy be used to incentivise energy savings, with EAI proposing that funds that are "already being collected, but will shortly no longer be required, be used to incentivise energy savings". EAI added that the 'Capacity 2005' arrangements that are expected to end in 2016 amount to €48M in 2013/14 and that "this is a substantial amount that could continue to be collected after the termination of it in 2016".

13 QUESTION 0.2 - ARE THERE ANY OTHER ISSUES YOU CONSIDER RELEVANT THAT ARE NOT COVERED IN THIS PAPER?

This section summarises a diverse range of issues raised in response to this question as well as some additional comments received that were not submitted in direct response to any of the questions set out in the consultation paper.

13.1 Issues Not (Sufficiently) Addressed in Consultation Paper

Scope of Energy Efficiency

- A "broader vision" of energy efficiency, which encompasses water consumption, and generation of waste water, waste and transport [RIAI];
- The "linkage between energy use from buildings and transport" and the requirement to consider this "more strongly" because of "Ireland's unique carbon profile" [IGBC];
- Energy efficiency in the aviation and marine fuels sector, which "Ireland and the EU should actively pursue…on a global scale" [RIAI];
- Embodied energy of building materials, which "is becoming increasingly significant" "as operational energy reduces" and whether there should "be a requirement to build using a certain percentage of renewable materials and/or low-embodied energy materials, just as there is requirement to use a minimum amount of renewable technologies" [Mud & Wood].

Buildings

- Consideration of how the public sector can best consolidate existing stock, and which properties should be disposed of [IGBC];
- Greater focus on the commercial sector, particularly the SME sector – "consideration should be given to setting a separate target under the Energy Obligation for the commercial sector. This should also

be linked to spatial planning strategy to ensure co- benefits of reducing transport energy, and opportunities to bring about regeneration in our town centres." [IGBC]

Renewable Energy Supply, Distributed Generation & Community Energy Schemes

- Feed-in tariffs and other incentives for different small and micro scale renewable technologies [Breaffy Castlebar, IGBC, Transition Kerry, Vornia Biomaterials] – at domestic, commercial building, community and farm level;
- Requirement for the development of a code to regulate a situation whereby a new neighbouring building development could block sunlight being exploited by an existing solar thermal and solar PV installation (in a building), which may have been legally required by the Building Regulations [RIAI];
- Use of "small scale generation for large scale state and semi-state bodies", e.g. "local authorities should be encouraged to become energy providers" [RIAI];
- De minimus threshold below which formal planning permission is not required for small scale, ground mounted solar PV systems – "the size allowed at present without going through the planning process is too small to be even remotely viable" [Breaffy Castlebar];
- Deployment of large scale wind farms [Breaffy Castlebar].
- "Regulations and strategies…[to]…actively support the promotion of community energy cooperatives and cooperative energy purchase schemes in Ireland" [Transition Kerry];

13.2 General Comments on Transposition

- An Taisce commented that "without accurate data on Ireland's current position in relation to the Directive, it is difficult to formulate the legal, fiscal, policy measures - timetabled and targeted - needed to meet the requirements of the Directive".
- BNM and Ibec emphasised the requirement that policies to implement the EED "must recognise the interaction with other 2020 policy instruments".
- TGW urged that the implementation of the Directive "must be cognisant of Ireland's competitiveness, our security of supply considerations as well as overall carbon savings that the EED will deliver". It also suggested that the consultation document did not signal how the implementation of the Directive will enable potential 2050 decarbonisation targets to be met and stated that there was a requirement for a roadmap for same. An Taisce also commented that "the strategic planning for the much higher emission reductions that will be required post 2020 is not yet remotely in place".
- IIEA submitted that policy "should involve several departments and reflect the wider non-energy benefits of energy efficiency measures (i.e. for health, well-being, employment, climate change mitigation, macro-economic growth)."
- Transition Kerry requested that DCENR establish a consultative panel "to guide the transposition process, and ensure that the community sector is adequately and appropriately represented within this process".

13.3 Specific Comments on Transposition

- Airtricity commented that all savings made from actions in the second NEEAP that 'go further' than the requirements of the EED "should be captured and adopted as alternative measures under Article 14 in order to reach Ireland's target in the most cost-efficient manner".
- IPIA submitted that the "excise collection system is a financial barrier to the efficient delivery of oil".

Article 2 - Definitions

- Overy + Associates submitted that better definition is required for 'total useful floor area';

- AEMS requested clarification whether transport fuels are included in 'energy products' and whether the provisions of the Directive apply to transport fuels;

Article 3 – Energy Efficiency Targets

- DPER asked if it is known how close Ireland will be to achieving the 2020 efficiency target and what the implications would be if the target is missed, i.e. "are there penalties involved?"
- DPER asked if those "measures in the NEEAP [that] have not been as successful as anticipated" had been identified, if the magnitude of the associated savings shortfall had been quantified and if "new 'replacement' measures [had] been identified, costed and subjected to the relevant economic analysis".
- RIAI identified uncertainty regarding "how much of achieved savings are delivered by the economic downturn", e.g. as a result of the "huge reductions in energy usage in construction".
- An Taisce submitted that the target set out in the consultation paper[9] "does not meet the level of efficiency gains needed to contribute to Ireland's EU target – to secure an overall 20% reduction of emissions by 2020, or the higher targets which will be required if an effective climate agreement is to be secured by 2015".
- An Taisce commented that the 20% energy saving target set out in the second NEEAP "is inadequate since it does not adequately address Ireland's high per capita energy consumption, and the level of emission reductions in the heating and transport sectors that will need to be met to achieve the EU 2020 target" and submitted that "low levels of emissions reduction in agriculture [arising from the implementation of Food Harvest 2020] would need to be offset by higher CO2 savings from energy efficiency and transport".
- An Taisce also submitted that the "public sector 33% target is not disaggregated among divisions or levels of the public sector…[and]... savings targets are not soundly based as the baselines remain largely unknown".

Article 13 - Penalties

- Airtricity stated that "where parties are governed by regulatory requirements, such as the design of Smart Metering functionality or bill contents/design, compliance should not subject them to penalties under the Energy Efficiency Directive".
- With regards to penalties under Article 7, Airtricity submitted that "it is imperative that cost efficiency and particularly costs to final customers are borne in mind in achieving targets as well as designing penalties" and that "in the event of adoption of obligations we have proposed a cap/buyout price which would replace the need for a penalty regime".

13.4 Other Comments

An Taisce also recommended:

- The establishment of "binding annual greenhouse gas reduction targets…as part of effective national climate change legislation that covers both mitigation and adaptation, and has targets for all key sectors, including electricity generation heating and transport."
- The setting of "a terminal date for the sale and distribution of coal as well as the sale and distribution peat / peat-based fuel. There is a need to bring to an end the extraction of all sod peat, exempting only hand-cutting in areas without drainage and where there is sufficient natural recovery capacity."
- Enhancing efficiency standards for equipment, thermal performance standards for building materials installation standards and standards for the production, cultivation and use of biomass.

[9] The 2020 target for which "energy efficient gains achieved to the end of 2012 account for over 36% (11,450 GWh)", p.7. *Implementation of the Energy Efficiency Directive in Ireland* (DCENR, October 2013)

- That Ireland phase out all fossil fuel subsidies and support “pilot schemes that provide [low carbon] alternatives to fossil fuel”.
- The extension of the Carbon Tax to peat sod extraction and the establishment of “a carbon accounting measure that taxes all fuel and energy sources, including biofuels and biomass, according to carbon intensity, covering all stages of the energy production process”, which would entail supporting “a strong Fuel Quality Directive at EU level, and giving active support to progressive countries on EU biofuels reform”.
- The provision of a “support structure in urban and rural areas for residents, landowners and business to initiate area-based energy efficiency schemes and energy sourcing from a range of low carbon sources”.

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