

CONSULTATION RESPONSE TEMPLATE

NAME OF RESPONDENT	Kevin O'Rourke and Katrina Polaski
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TYPE OF COMPANY	Statutory agency
INTEREST IN DSM	Intrinsic to SEAI remit in relation to EE and RE elements of energy policy development and delivery, including facilitating RDD&D (research, development, demonstration and deployment) in relation to energy services (power, heat, mobility) supply and application in all end use sectors

SECTION 2

QUESTION 1: Do you agree with our characterisation of the four types of benefits that demand side management can provide?

ANSWER:

In general, yes. However, it is worthwhile to consider an additional benefit DSM can provide, viz. provision of 'price discovery'. Users value energy differently, which is not reflected in a single price paradigm whereby some pay more than they value and some pay less. The DSM dimension to a Smart Grid system can facilitate greater market efficiency, eliminating effective cross subsidies inherent in a 'single price fits all' model.

QUESTION 2: Are there other cost savings which you believe demand side management can deliver?

ANSWER: *See suggested additional benefit in answer to Q1.*

QUESTION 3: Are there additional studies and reports (to those listed in **Error! Reference source not found.**) which you are aware of and believe we should review?

ANSWER:

*National Grid project in **Worcester** Massachusetts
(http://www.nationalgridus.com/non_html/SmartGrid_fact_sheet.pdf) and the **InovCity** project in Évora by EDP
(<http://www.inovcity.pt/pt/>)*

The DSM aspects of the Austin and Boulder smart grid projects

<http://www.openadrcollaborative.org/> the Californian Open Automated Demand Response programme which concludes that "automating customer control strategies increases peak load impacts, improves the certainty and

reliability of those impacts and expands customer options for participating in higher value wholesale and retail ancillary service applications”

QUESTION 4: What other insights do you have from your experience of demand side management adopted internationally?

ANSWER: *From observing international experience, an insight by omission, namely that there does not appear to be experience in testing dynamic pricing for customers. Against that background, as a particular subject of pursuit along with automated demand response, dynamic pricing has some potential to be a valuable tool in Ireland's circumstances.*

QUESTION 5: Are you aware of other quantitative findings from international experience which you believe are important for us to capture and consider?

ANSWER: *The Californian Open Automated Demand Response programme has indicated that automated demand response leads to an improved certainty and consistency of response and provides system operators with a dispatchable resource. This work is ongoing.*

QUESTION 6: Do you agree with our identified drivers of future value for demand side response/management? Are there any additional drivers we should consider?

ANSWER: *In general yes. Other considerations would be localized micro-generation (domestic or commercial) requiring export to grid, e.g. (micro) CHP, PV, micro wind, and the accompanying need to comply with constraints on export capacity. Some such systems might also develop to offer a means to provide distribution level flexibility to adjust to dynamic capacity constraints, e.g. users served by CHP can shift from supply to demand mode in very short time frames. Distribution network drivers will include supply variation as well as peak generation, due to large numbers of distribution connected wind generators.*

SECTION 3

QUESTION 7: Are there any other aspects of current demand side activity in Ireland which should be captured?

ANSWER: *No, but the potential of consumer led demand merits further exploration. This would be an expected subject of further research, including deeper investigation at an end use sectoral/service level, that could have a big impact on the future direction and ultimate role of DSM.*

QUESTION 8: Do you agree with our high level assessment of the potential for demand side management in Ireland by 2020?

ANSWER: *Difficult to say. The extent to which the assessment in section 3.3 highlights information deficits is noteworthy. The results as presented may indeed emerge as being broadly correct and appropriate. But in an absolute or relative basis between the domestic, industrial and commercial/ tertiary sectors, it is difficult at this point to assert confidence in the estimates of flexible and absolute demand for space heating, water heating and*

other uses (tables 3 and 4). For example, we note that the projection of total (annual) demand for water heating by 2020 for the domestic sector is 3-3.1 TWh, which approximates to the amount of present day demand from electricity immersion heating; however, it is not clear as to what set of assumptions (dwelling numbers, demand trajectory, efficiency impact, fuel mix/ interchange, has led to a similar projected figure for 2020. The full details of the methodology outlined in Annex A are not clear from our reading, including the relationship to present (2010) demand and expectations in relation to the impact of energy efficiency policy impacts on present and new buildings and facilities by 2020. We would welcome further clarification on the assumptions and methodology applied. But from the declared information deficits it is clear that this segment of the topic warrants further, in depth, study.

SECTION 4

QUESTION 9: Do you agree with our definition of each individual demand side measure?

ANSWER: *Mostly.*

In relation to smart meters we would add that: (a) smart meters can also apply to other fuels such as gas or hot water from district heating; (b) capabilities such as real time information feedback to the customer, while facilitated by smart meters, are not as yet an intrinsic offering with smart meters; (c) Article 13 (2) of the EU Energy Services Directive requires that, “where appropriate”, billing shall be “based on actual energy consumption” and be “performed frequently enough to enable customers to regulate their own energy consumption” and includes specific details about which information should be made available.

In relation to renewable heat, the text does not refer to the possible scope for: (a) a role for storage or direct electrical space heating systems in the 2020 environment and in conjunction with (b) multivalent space and water heating provision and buffer storage. This is not to suggest that these are definitive solutions, but they are options worth exploring within the DSV arena.

QUESTION 10: Is our description of the current policy baseline for each demand side measure accurate and complete. If there are omissions please point them out.

ANSWER: *The description appears broadly accurate through 2020. It is noteworthy that the strategies for achieving the 12% renewable heat target in RoI are not detailed to the same extent as are energy efficiency targets and renewable electricity targets. To date, the highest market uptake is in solar water heating but the highest volume contribution is in bioenergy.*

QUESTION 11: Do you agree with our categorisation of different types of “market issue” and typical remedies for each?

ANSWER: *Yes.*

QUESTION 12: Do you agree with our identified barriers and enablers for each of the specific demand side measures we have identified?

ANSWER: *Mostly. Other market/ policy related issues are the restriction on private wire connections, feed in tariffs perceived as unattractive, minimum entry level requirements for DSU (4MW) etc.*

QUESTION 13: Do you agree with our identified market issues for each specific demand side measure and our proposed remedies to address these?

ANSWER: *Broadly. ToU tariffs and IHDs have not yet been shown to be effective and may not be rolled out depending on the ESRI's CBA on the smart metering trial. The (communication and interoperability) functionality of smart meters has not yet been defined in Ireland and consequently this key demand-supply interfacing infrastructure needed to deliver Smart Grid and its essential DSM dimension is not guaranteed to exist by 2020.*

QUESTION 14: What are your views on the likelihood and effectiveness of the identified policy options addressing the specified market issue and delivering the desired change?

ANSWER:

QUESTION 15: Are there any unintended undesirable consequences that any of the options might create elsewhere?

ANSWER:

SECTION 5

QUESTION 16: Do you agree with our identified specific demand side measures and our assessment of the different types of benefits each demand side measure provides?

ANSWER:

QUESTION 17: Are there any additional demand side measures that we should individually identify and assess? If so, what type of benefit(s) is it felt they provide?

ANSWER:

QUESTION 18: Have we identified all of the relevant criteria for assessing the individual and comparative merits of the demand side measures?

ANSWER: *Reduction of base load and load managing should also be considered.*

QUESTION 19: What are your views about our approach to high level assessment of different demand side options?

ANSWER: *It is a reasonable approach.*

QUESTION 20: Do you agree with our assessment of each demand side measure against each of the identified factors?

ANSWER: *Yes.*

QUESTION 21: Do you agree with our overall assessment of the relative merits of the different demand side options?

ANSWER: *Yes.*

QUESTION 22: Do you have any comments on our high level assessment of the benefits of different demand side measures?

ANSWER: *DSM will be an integral part (and/or an enabler) of the smart grid. While appreciating the necessity to bound the work of this study, we would suggest that this benefit is not sufficiently highlighted and addressed throughout the paper.*

SECTION 6

QUESTION 23: Do you agree with our assessment of the relative priorities of different demand side options in developing a 2020 Demand Side Vision?

ANSWER: *Dynamic time of use tariffs are unlikely to be successful without a high degree of home/ office automation to proactively manage electricity consumption in the home/ office.*

QUESTION 24: What alternative views do you have on relative (merits and) priorities?

ANSWER: *We consider that home/ office automation should be given a higher priority.*

QUESTION 25: Do you agree with our proposed high level 2020 Demand Side Vision as described above?

ANSWER: *We respect the consumer focus expressed in the text of section 6.2.1. However, we would suggest that the elements of the vision as outlined in the text have the status of being 'necessary, but not sufficient'.*

QUESTION 26: What alternative vision would you put forward?

ANSWER: *We believe that the vision can be strengthened by reference to the emerging wider context within which*

DSM can be expected to sit by 2020. DSM (and its constituent elements) will not be stand-alone but rather will be a vital dimension to the more holistic vision of the Smart Grid, in maximising the delivery of consumer benefits. Smart Grid can be expected by 2020 to be a composite vision and context that is palpably emerging, even if not fully formed.

It would accordingly be helpful to make this context (and its foreseeable potential) explicit. We do appreciate that articulating a vision of Smart Grid at this time is a challenge and are not suggesting that the DSV dimension be diluted by such contextualisation. It may be appropriate to express the vision at up to three levels, starting with the visible impact – (i) the consumer experience/ benefits, (ii) the public policy benefits, and (iii) the enabling components/ infrastructure.

QUESTION 27: Do you agree with our proposed policy pathways for implementation of the identified different policy options for realising our proposed 2020 Demand Side Vision?

ANSWER: *To make a meaningful contribution, dynamic TOU tariffs will require “smart” appliances/ HAN.*

QUESTION 28: What alternative policy pathways would you propose based on your previous comments and responses?

ANSWER: *We would suggest not so much an alternative policy pathway as an understood and shared policy context and wider vision whereby DSM forms a key dimension of a smart grid. See answer to Q. 26.*

SECTION 7

QUESTION 29: Do you have any additional view or comments you feel are important/useful for us in (a) establishing a Demand Side Vision for 2020; (b) identifying associated policy development and (c) determining policy pathways?

ANSWER:

QUESTION 30: Are there any final comments industry stakeholders wish to make about this consultation and the proposed next steps in the consultation process?

ANSWER: *We welcome the statement in the Executive Summary that ‘realisation of this potential (economic and environmental benefits) will require a high level of co-ordination between stakeholders and policymakers across a broad range of areas including energy efficiency, smart metering, large-scale demand side response, new forms of electric demand, aggregation of distributed generation and storage.’*

SEAI would recommend that an early strategic action should be the formulation and adoption by key stakeholders of an agreed programme of RDD&D (research, development, demonstration and deployment) duly aligned and prioritised to delivery of the DSV. For reasons outlined, we believe that it would be most productive if this body of work were positioned and scheduled within the composite framework of the all-island Smart Grid roadmapping agenda.