Ofgem Low Carbon Network Fund Tier 2 Evaluations - 2013

Scottish Power Manweb - Anglesey Community Energy (ACE)

Project No. 379526

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Ofgem

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Authorisation

Name	Position	Signed	Date
P Glendinning	Managing Director		12 September 2013
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History

Issue	Date	Originator	Checker	Description
03	12 September 2013	R Lane	J Cunningham	Draft
04	20 September 2013	R Lane	J Cunningham	Draft
05	11 October 2013	R Lane	J Cunningham	Draft following 2nd Expert Panel meeting.
06	22 October 2013	R Lane	J Cunningham	Resubmission Draft
07	25 October 2013	R Lane	J Cunningham	Final

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Explanatory Note

This report, including the "traffic light" indicators that reflect the salient points and material issues of concern identified during the evaluation process, (other than Section 9) is based on:-

- the original full submissions received from the DNOs in August 2013;
- subsequent question responses through the formal written question process;
- discussions held at the initial bilateral meeting between the DNO and the Expert Panel on 28 August 2013;
- discussions held at the Consultant-DNO meeting on 5 September 2013;
- discussions held at the second bilateral meeting between DNO and the Expert Panel on 25 September 2013; and
- subsequent clarifications by the DNO.

In October 2013 the DNOs were given an opportunity to submit revised proposals. The traffic light indicators and the metrics shown in Sections 1 to 8 do not reflect any changes made by the DNOs in these revised submissions.

Section 9 of this report contain an addendum, which summarises the main changes made between the original and revised submissions, and the impact this has on the evaluation of the project against the criteria. Any significant changes to figures/metrics noted in this addendum.

Project Summary

Full name:	Anglesey Community Energy (ACE)
DNO Group:	Scottish Power Manweb
The Problem(s):	Scottish Power proposes the ACE (Anglesey Community Energy) LCNF project. The project targets Anglesey which is an island situated on the North West coast of Wales with a population of approximately 70,000 people. Anglesey has a number of challenges from the DNO perspective:- 1. Large amounts of low carbon generation coming on line from Wind, Biomass, PV, etc. (e.g. variable and more stable forms). 2. A weak distribution system, due to the rural geography. 3. New load centres being developed in previously uninhabited areas. Traditional DNO-led reinforcement solutions can address some of these issues, but at a high cost. This project addresses the key problem of: how can a portfolio of differing communities, rather than individuals, be engaged in their own energy management on an on-going basis to help alleviate DNO network constraints in a mutually beneficial manner.
The Method(s):	The focus is on what is required to ensure communities can participate and remain engaged and on the end user energy requirements driving technology. 1. Investigate community behavioural change, stimulus and supporting technology required 2. Investigate stakeholder behavioural change and stimulus required 3. Analyse and demonstrate the role of communities in energy projects 4. Analyse and demonstrate the role of home automation management in 1200 domestic properties 5. Analyse and demonstrate an effective DSO level market for ancillary services which provide financial incentive for all parties Analyse and demonstrate how a DNO can effectively respond to community needs in a manner that improves network operation and connectivity of renewable energy sources.
The Trial(s):	The project will trial the methods via a series of overlapping Workstreams: Workstream 1: Identifying community and stakeholder behavioural

	change stimuli (Lead: Bangor University) Workstream 2: Creating a community engagement entity (Lead: Menter Mon supported local 3rd sector organisations) Workstream 3: Defining operational market structures (Lead: Durham University) Workstream 4: Deploying supporting platforms and technology (Lead: SPEN) Workstream 5: Knowledge Transfer
The Solution(s):	Solving the stated problem will provide a blueprint for how communities and DNO's can engage on a GB-wide scale to ensure community energy can be co-ordinated to maximise benefits for the DNO without detriment to community goals.
Key strengths and weaknesses against the criteria	
Strengths:	Involving a strong community led organisation in an island such as Anglesey.
Weaknesses:	Highly dependent on the input of a motivated local community champion. Uncertainty that this project would defer the network reinforcement, since the reinforcement may become necessary due to other future proposed developments. The project appears to provide poor value for money. The proposed business plan for the future operation of the Community Energy Club contains significant assumptions in terms of membership fees and payments from DNOs, which are not properly tested as part of the trials. This appears to be a significant weakness of the project.

1. Summary of Assessment against Evaluation Criteria

Criteria	Overall Assessment	
(a) Low Carbon and Benefits		There are no specific claims for carbon reduction, other than those implicit in the reduced customer energy demand and peak shifting, which will optimise (LC) generation integration. There will also be unspecified savings in carbon resulting from the deferment of reinforcement of the distribution network. It is envisaged that the target community will deliver a 5% reduction in load demand and at least a 5% demand response from peak winter periods.
(b) Value for Money		From the cost breakdown provided on 23.09.13, it is questionable whether the sums to be expended by Mentor Mon represent value for money. We are not convinced that the relatively high number of man days allocated to this project represents value for money. It is questionable whether the project would provide sufficient value for money to distribution customers across the UK, given the low level and uncertainty of the benefits achievable and the transferability to the rest of the UK.
(c) Generates New Knowledge		The project trial is focused on network challenges on the island of Anglesey which is at the extreme edge of the electricity distribution network, and relies on achieving demand reduction and peak shifting from community behaviour change led by a 3rd party and enabled by technology in the home and in the DNO network. It is heavily dependent on a highly motivated community intermediary (Mentor Mon). It is questionable whether knowledge or results gained from this project would be applicable to the same degree in other parts of GB.
(d) Partners and Funding		SP's principal partners are Mentor Mon, University of Bangor, University of Durham, and Global Smart Transformation Ltd (GST). External funding has been confirmed as £722k, approximately 5.5% of the total project cost.
(e) Relevance and Timing		This project has particular relevance to the Anglesey community, due to the challenges presented by low carbon generation on a relatively weak and isolated network. However, there is a risk that the situation is overtaken by an increase in demand across the island as a whole and in particular major new construction work.

(f) Methodology		The project seeks to engage with a group of like-minded groups and individuals through a 3rd party intermediary (Mentor Mon) to create a business model for a 'Community Energy Club', which will provide energy advice, technology and active energy management to reduce demand. Part of the trial will be the installation of Home Automation equipment in 1200 to 1800 social housing units and 25 to 40 I&C premises. It is anticipated that participants will save an average of 15% on their energy bills, and that the DNO will be able to defer a £15.5m network upgrade by up to 9 years. However, the proposed business plan for the future operation of the Community Energy Club contains significant assumptions in terms of membership fees and payments from DNOs, which are not properly tested as part of the trials. This appears to be a significant weakness of the project.
(g) SRDC		The successful delivery criteria given appear reasonable, although are only given one completion date of December 2017. Clearer links to key project milestones with interim reporting dates should be shown.

Key to Traffic Light Colour Codes

The "traffic light" system used in the table above gives an indication of BPI's assessment of the information provided by the DNO in support of the project in its detail, alignment with the LCNF evaluation criteria, identification and management of project risk and other aspects for each of the criteria. This is not intended to suggest whether projects should be funded or not, but to point out those areas which BPI believes merit particular scrutiny or consideration. Thus:-

	• Seems to be generally in line with the objectives and requirements of the LCNF evaluation criteria; • Whilst there are some areas where additional information would be useful, that provided is generally comprehensive and provides no immediate cause for concern.
	• Some indication that the project is in line with the objectives and requirements of the LCNF evaluation criteria. However, further scrutiny is required to ensure to ensure this; • There are some gaps in the information provided; • Further assurance is needed to confirm that the project is viable and that risks are appropriately managed.
	• Significantly more assurance is required that the project is in line with the objectives and requirements of the LCNF evaluation criteria; • There are some major gaps in the information provided; • Considerable scrutiny is needed to confirm that the project is viable and that risks are appropriately managed; • Potential major risks to the viability of the project.

In the following evaluations against the criteria, if the project is addressing various problems and/or trialling several methods and solutions, separate analysis of metrics and sub-criteria will be provided, if appropriate, for relevant criteria.

2. Criterion (a) Low Carbon and Benefits

Criterion:	Accelerates the development of the low carbon energy sector and has the potential to deliver net financial benefits to existing and/or future customers.
Overall assessment:	The project's aim is to engage with local communities to release network capacity by demand side reduction and time shifting peaks. This will enable renewable generation to utilise the released capacity and thus promote further low carbon benefits. There are no specific claims for carbon reduction, other than those implicit in the reduced customer energy demand and peak shifting, which will optimise (LC) generation integration. There will also be unspecified savings in carbon resulting from the deferment of reinforcement of the distribution network. It is envisaged that the target community will deliver a 5% reduction in load demand and at least a 5% demand response from peak winter periods. This will reduce network constraints and increase network efficiency by balancing demand side flexibility to both increase and decrease demand as required, and to optimise generation integration by use of active network management and inputs to the community energy management system. This will result in energy savings of up to 15% to customers, and the deferment of a £15m network upgrade.

Sub-criteria	**Assessment**
Carbon claims (including quantitative, if provided)	There are no specific claims for carbon reduction, other than those implicit in the reduced customer energy demand and peak shifting, which will optimise (LC) generation integration. There will also be unspecified savings in carbon resulting from the deferment of reinforcement of the distribution network.
Quantitative analysis	No specific figures or quantitative analysis of carbon claims have been provided.
Robustness of financial benefits	The calculation of potential energy savings costs for customers is very simplistic, being based on a saving of 20% on a £1200 annual electricity bill, plus a further £40 payment for demand side response. However in the proposed future business model, this saving would be partly offset by a proposed £99 charge for 'Energy Club Membership'. The estimated net savings of £158,400 to SPEN are based on 9 year deferral of a 33kV network upgrade estimated by SPEN to cost £15.4m.
Capacity released	Appendix 1 indicates that (based on assumptions) the project would

(and how quickly)	result a contribution from the community of 10% energy efficiency savings amounting to 216kW, 10% time of use savings amounting to 216kW, and 10% demand side response amounting to 216kW. Overall this would release a total of 648kW amounting to 0.9% of the estimated load demand from the 60,000 customers in Anglesey. This saving in load capacity would be delivered progressively. However, given that the recruitment of the 1200 trial participants will be by contractual obligation rather than by engagement and voluntary means, installation of the home automation equipment can begin quite quickly. In comparison with SP's benchmark scenario, it is envisaged that the energy efficiency savings would defer the 33kV network reinforcement by 4 years, and demand side management/response in key areas could postpone the reinforcement by a further 5 years.
Replication (applicability of technology, dependence on specific network characteristics)	Due to the nature of the challenges applicable to the network on Anglesey which is located at the extreme edge of the electricity distribution network, and the project's dependence on a highly motivated partner such as Mentor Mon, it is questionable whether the results gained from this project would be replicable to anything approaching the same degree in other parts of GB.

3. Criterion (b) Value for Money

Criterion:	Provides value for money to distribution customers
Overall assessment:	From the cost breakdown provided on 23.09.13, it is questionable whether the sums to be expended by Mentor Mon represent value for money. The estimated net savings of £158,400 to SPEN are based on 9 year deferral of a 33kV network upgrade estimated by SPEN to cost £15.4m. It is questionable whether the project would provide sufficient value for money to distribution customers across the UK, given the low level and uncertainty of the benefits achievable and the transferability to the rest of the UK.
Metrics (where available):	
Size of benefits to distribution system[1]	£15.4m reinforcement deferred by up to 9 years. Net benefit equates to £158,400 to DNO (excluding any loss in DUoS). [ref App 1, p.42]

Sub-criteria	**Assessment**
Proportion of benefits attributable to distribution system (as opposed to elsewhere in the supply chain)	The benefit to SPEN is the potential deferral of a £15.4m network upgrade for up to 9 years. It is questionable whether the estimated net savings of £158,400 to SPEN [ref App1 p.42] provides sufficient value for money to distribution customers, given the low level and uncertainty of the benefits achievable. In the proposed future business operating model, DNO customers would receive reductions in energy costs as a result of energy savings, and the 3rd party intermediary managing the Community Energy Club would receive income from both the members and from the DNO for managing demand.
How learning relates to the distribution system	With a 3rd party (Mentor Mon) managing the interface with the community and managing community energy usage to achieve the required demand shifting and reduction, it would seem that the key community interface benefits will not be transferred directly to the DNO but via an intermediary. However, the DNO is benefitting from the understanding of how 3rd party relationships can be used to enable community engagement.
Approach to ensuring best value for money in delivering projects	Mentor Mon was selected as the 'Community Energy Delivery Champion' since they were the only entity that met SPEN's criteria and that were willing to enter into this new activity, and they will be responsible for selecting a shortlist of Home Automation suppliers, and

[1] Size of benefits attributable or applicable to the Distribution System verses elsewhere

Sub-criteria	Assessment
	will invite competitive tenders from the shortlist. University of Bangor was selected as a leader in the field of behavioural analysis, and from their ability to leverage input from EU funded projects. University of Durham was selected as a result of its previous engagement with SPEN and its experience in analysis of economic models. Global Smart Transformation was selected from the outset of the project due to nature of their experience they bring. Whilst the project partners may be appropriate for this project, there is little evidence of any form of 'competitive' selection process. This may have been unavoidable in the case of Mentor Mon in view of the lack of alternatives. However, the lack of competitive tension may be a contributory factor to the relatively high number of man days allocated to this project. We are not convinced that there is value for money in the research aspect.
Identify and review major cost items, examine justification for relevant costs, assess choice of discount rates	Mentor Mon will be responsible for selecting a shortlist of Home Automation suppliers, and will invite competitive tenders from the shortlist. From the cost breakdown provided on 23.09.13, Mentor Mon is expecting to spend £2,320,000 on supplying and installing control equipment in up to 1800 domestic premises and up to 40 I&C premises, plus a further £1,200,000 on a monitoring/control and market management, £500,000 on communication/coordination, £750,000 on integration / development / data analytics / algorithms / visualisation / training, and £330,000 on energy efficiency / process lab / operations. SPEN will spend a further £1,118,500 will be spent on Network monitoring and control equipment. It is questionable whether the sums to be expended by Mentor Mon represent value for money. Man day inputs are key items of cost for this project; Bangor University proposes to allocate 4500 man days to the project, at a cost of £1.395m. This equates to 225 months at 20 days per month [ref Q28]. Durham University proposes to allocate 3000 man days to the project, at a cost of £948k. This equates to 151.6 months including PI and admin. Mentor Mon expects to allocate 3893 man days to the project, at a cost of £958k. This equates to around 19 man years. SPEN expects to allocate 2645 man days to the project, at a cost of £1.325m. This equates to around 13 man years. SPEN's internal charge of £501 per day (exclusive of overheads) is understood to relate to highly qualified staff and is one of the higher DNO rates in this year's

Sub-criteria	Assessment
	LCNF. Global Smart Technology proposes to allocate 784 man days to the project, at a charge of £913 per day, amounting to £716k. These partner inputs amount to around 65 man years at a cost of £5.238m. In terms of the BAU network reinforcement case, it is difficult to determine whether the estimated £15.52m costs are reasonable [ref p.13]. This is particularly the case for broadly-described items such as: Works at new/existing grid site, estimated at £1.86m; 33kV circuit modifications, estimated at £4.51m; New 132kV circuit, estimated at £8.01m.

4. Criterion (c) Generates New Knowledge

Criterion:	Generates knowledge that can be shared amongst all DNOs
Overall assessment:	The project trial is focused on network challenges on the island of Anglesey which is at the extreme edge of the electricity distribution network, and relies on achieving demand reduction and peak shifting from community behaviour change led by a 3rd party and enabled by technology in the home and in the DNO network. It is heavily dependent on a highly motivated community intermediary (Mentor Mon). It is questionable whether knowledge or results gained from this project trial would be applicable to the same degree in other parts of GB.
Metrics (where available): Not provided.	
Conforming to default IPR arrangements:	YES

Sub-criteria	Assessment
Potential for new/incremental learning to be generated by the project	There is clearly a difference with this project in that it will be led by Mentor Mon, who will undertake most of the engagement with customer groups. This trial would provide evidence of which entity has the better engagement arrangements and whether it could be sustained over the longer term. Learning from such an arrangement may well benefit other DNOs, Suppliers and independent organisations as to whether it is a viable proposition to use bodies such as Mentor Mon. This research may be useful to DNOs and may generate learning on a community basis.
Applicability of learning to other DNOs	The project is focused on network challenges on the island of Anglesey which is located at the extreme edge of the electricity distribution network (ref p3), and relies on achieving demand reduction and peak shifting from community behaviour change led by a 3rd party and enabled by technology in the home and in the DNO network. It is heavily dependent on a highly motivated community intermediary (Mentor Mon). It is questionable whether knowledge or results gained from this project trial would be applicable to the same degree in other parts of GB. Possibly some isolated communities would be similar in nature and benefit from the knowledge gained by such a trial.
Proposed IP management and any deviations from default IP principles	The project is not funding the development of any technology which would create foreground IPR.

Sub-criteria	Assessment
Credibility of proposed methodology for capturing learning from the trial and plans for disseminating	Learning is centred around understanding the potential for community behaviour modification, the creation and operation of a 'local community-led services market', understanding the requirements a community engagement partner needs to meet, understanding the technology required to inform the 'local community market' of actions to take, and whether this market format is viable without stimulus funding. Dissemination will be carried out using a number of standard techniques, including conferences, communication, publication of business process maps and technical documentation. However, the credibility of learning from the project is damaged by the fact that the proposed future operating business model in which individual customers may be required to pay £99 membership fees is not being tested as part of the trial. In view of this and the heavy reliance on a highly motivated local community partner (Mentor Mon) who will be responsible for much of the community engagement and management of the Home Automation systems, the credibility of learning from the project leading to widespread replication in other DNOs is questionable.

5. Criterion (d) Partners and Funding

Criterion:	Involvement of other partners and external funding.
Overall assessment:	SP claims external funding amounting to £722k, approximately 5.5% of the total project cost. There is little evidence of any form of 'competitive' processes for the selection of partners, and this lack of commercial tension may be a contributory factor to the relatively high number of man days allocated to this project.

Metrics (where available):			
Total cost of project (£):	£13,174,000 [£13,169,000]	Number of consortium members:	5 (including DNO)
Cost met by DNO (£):	£1,317,000	Cost met by DNO (% of total cost):	10%
LCNF support (£):	£11,130,000	LCNF support (% of total cost):	84.5%
Cost met by others (£):	£722,000	Cost met by others (% of total cost):	5.4%

Sub-criteria	**Assessment**
Appropriateness of collaborators (including experience, expertise and robustness of commitments)	Mentor Mon was selected as the 'Community Energy Delivery Champion' since they were the only entity that met SPEN's criteria and that were willing to enter into this new activity. They are highly committed to the project and have commercial incentives to see it through to successful completion. Global Smart Technology was engaged from the inception of the project, and brings significant experience to the project, and was integral in the initial proposal of ideas around the ACE project and in bringing together several strands of ongoing work. University of Bangor was selected as a leader in the field of behavioural analysis, and from their ability to leverage input from EU funded projects. As a local centre, the university is likely to be highly committed to the project. University of Durham was selected as a result of its experience in analysis of economic models, and it has had previous engagement with SPEN.

Sub-criteria	Assessment
Level of external funding (presented on a comparable basis with other projects)	SP claims external funding amounting to £722k. Mentor Mon is providing £75k cash plus £144k benefit in kind, Bangor University is providing leveraged support amounting to £107.5k, Durham University is providing £48k benefit in kind, and GST is providing £348k benefit in kind [ref p22 & 23].
Effectiveness of process for seeking and identifying new project partners and ideas	Whilst the project partners appear to be appropriate for this project, there is little evidence of any form of 'competitive' selection process. This may have been unavoidable in the case of Mentor Mon in view of the lack of alternatives. We believe this to be weak in this case, we would have expected more innovation on research methods and some evidence of competition.

6. Criterion (e) Relevance and Timing

Criterion:	Relevance and timing.
Overall assessment:	This project has particular relevance to the Anglesey community, due to the particular challenges presented by low carbon generation on a relatively weak and isolated network. Whilst the methods employed for peak shifting, reducing demand and minimising network constraints are well documented in previous projects, the use of an intermediary for community engagement appears to be a new approach. There may be other localised communities elsewhere where this approach could be utilised in future, although this will be dependent on the availability of a suitable local community intermediary and on the willingness of the local community to fund the intermediary's activities.
Sub-criteria	**Assessment**
Significance in the project in: (a) overcoming current obstacles to a low carbon future	The main obstacles identified in the submission appear to be generation constraints cause by network limitations and the perceived poor relationship between customers and the DNO. The project appears to seek to overcome the relationship obstacle by placing another organisation in the chain. The methods employed for peak shifting, reducing demand and minimising network constraints are well documented in previous projects. However, there is a risk that the situation on Anglesey is overtaken by an increase in demand across the island as a whole and in particular major new construction work.
(b) trialling new technologies that could have a major low carbon impact	Mentor Mon will be the purchasing party of any Home Automation Equipment, and will own the equipment at the end of the trial and who will be ultimately responsible for its maintenance. The trial is targeting 1,200 to 1,800 homes and may well show that technologies can reduce demand and shift peak loading. This will apply equally to renewable generation as well as demand, thus releasing some of the network constraints. Whether these results would be replicable in the future if dependent on customers' willingness to pay membership fees is questionable.
(c) demonstrating new system approaches that could have widespread	Workstream 2 [p.9] is aimed at creating a 'community engagement entity' and will act as an interface with the DNO. The new entity would coordinate response of service towards the DNO. Throughout the submission there are references to the 'poor trust relationships with the utility'.

application	However, the assumption that individual customers would be willing to contribute £99 for 'Energy Club Membership Fees' in return for non-guaranteed energy savings as part of a future operating model does not appear to be tested as part of the project and would seem to be an optimistic assumption and may not be replicable across the wider GB DNO.
Applicability of the project to future business plans, regardless of uptake of Low Carbon Technologies (LCTs)	There may be localised communities elsewhere where this approach could be utilised in future, although this will be dependent on the availability of a suitable local community intermediary and on the willingness of the local community to fund the intermediary's activities. However, it is unlikely to be a key feature in future business plans.

7. Criterion (f) Methodology

Criterion:	Demonstration of a robust methodology and that the project is ready to implement.
Overall assessment:	The project seeks to engage with a group of like-minded groups and individuals through a 3rd party intermediary (Mentor Mon) to create a business model for a 'Community Energy Club', which will provide energy advice, technology and active energy management to reduce demand. Part of the trial will be the installation of Home Automation equipment in 1200 to 1800 social housing units and 25 to 40 I&C premises. It is anticipated that participants will save an average of 15% on their energy bills, and that the DNO will be able to defer a £15.5m network upgrade by up to 9 years. The proposed business plan for the future operation of the Community Energy Club contains significant assumptions in terms of membership fees and payments from DNOs, which are not properly tested as part of the trials. This appears to be a significant weakness of the project.

Metrics (where available):			
Requested level of protection against cost over runs (default 5%) (%):	0%	Requested level of protection against direct benefits (default 50%) (%):	0%

Sub-criteria	**Assessment**
Feasibility of project proposal	This project has particular relevance to the Anglesey community, due to the particular challenges presented by low carbon generation on a relatively weak and isolated network. Mentor Mon is highly committed to the project and has commercial incentives to see it through to successful completion. However, the assumption that individual customers would be willing to contribute £99 for 'Energy Club Membership Fees' in return for non-guaranteed energy savings as part of a future operating model does not appear to be tested as part of the project.
All risks, including customer impact, exceeding forecast costs and missing	SPEN has provided a relatively simple risk register in Appendix 3. Whilst it addresses issues such as community buy-in, technical problems, and potential project delays, the mitigation measures appear weak. Potential cost over-runs do not appear to be addressed.

Sub-criteria	Assessment
delivery date	Since the recruitment of 1200 residential trial participants will be contractual via the social housing providers, installation of home automation can commence as soon as it is available, rather than waiting for an extended period of voluntary residential customer recruitment.
Whether items within project budget provide value for money	From the cost breakdown provided on 23.09.13, Mentor Mon is expecting to spend £2,320,000 on supplying and installing control equipment in up to 1800 domestic premises and up to 40 I&C premises, plus a further £1,200,000 on a monitoring/control and market management, £500,000 on communication/coordination, £750,000 on integration / development / data analytics / algorithms / visualisation / training, and £330,000 on energy efficiency / process lab / operations. SPEN will spend a further £1,118,500 will be spent on Network monitoring and control equipment. It is questionable whether the sums to be expended by Mentor Mon represent value for money. There appears to be a relatively high number of man days allocated to this project (over 60 man years). We are not convinced that there is value for money in the research aspect.
Project methodology (including depth and robustness of project management plan)	The project seeks to engage with a group of like-minded groups and individuals through an intermediary (Mentor Mon) to create a business model for a 'Community Energy Club'. Mentor Mon, acting on behalf of the Community Energy Club, will provide energy advice, technology and active energy management to reduce demand. Part of the trial will be the installation of Home Automation equipment in 1200 to 1800 social housing units and 25 to 40 I&C premises. It is anticipated that participants will save an average of 15% on their energy bills, and that the DNO will be able to defer a £15.5m network upgrade by up to 9 years. From Appendix 1, the future business model proposes that Mentor Mon will receive revenues in terms of a £25k DNO annual contract, £178k from customers for 'Energy Club Membership Fees', £72k from DNO 'Availability Payments', and £130k DNO 'Utilisation Payments'. From this, they will pay £270k for the supply and installation of (home automation) equipment and will have operating costs of £115k. Based on a 3 year model, this will provide Mentor Mon with an operating profit of £19.8k = 5.14%, although this may increase with more customers or as initial supply and installation costs are paid off. The project methodology appears to be reasonable. However, the proposed business plan for the future operation of the Community Energy Club contains significant assumptions in terms of membership fees and payments from DNOs, which are not properly tested as part of the trials. This appears to be a significant weakness of the project.

8. Successful Delivery Reward Criteria

Criterion:	Appropriateness of the SDRC definitions and timing and adequacy of links to key project milestones.
Overall assessment:	The successful delivery criteria given appear reasonable, although are only given one completion date of December 2017. Clearer links to key project milestones with interim reporting dates should be shown.
Review:	The project has specified 8 delivery criteria. These are:- 1. Project Budget 2. Project Timeline Delivery 3. Demonstration of higher level of community engagement 4. Demonstration of DNO benefits of a standalone community energy system 5. Demonstration of DNO benefits of the trial with DNO engagement 6. Demonstration of economic and network benefits of the local energy market model 7. Detailed publication and dissemination of learning from project 8. Partner Deliverables Achieved The above successful delivery criteria appear reasonable, although are only given one completion date of December 2017. Clearer links to key project milestones with interim reporting dates should be shown.

9. Addendum: Changes made in Re-submission

9.1	**Summary of Changes**		Following meetings and discussions with the Expert Panel and the Consultants, and after responding to written questions, SP submitted a revised full submission for ACE in mid-October 2013. The overall project cost has reduced by over £2m, from £13,174 to £11,125k. As a consequence, the LCN funding request has been reduced from £11,130.5k to £9,242k, a reduction of £1,888k. The resubmission incorporates changes from the original submission, in particular a new Appendix 8 which is designed to specifically address the concerns that have been raised by the Expert Panel and the Consultants, and seeks to clarify the content of the original submission where confusion has arisen. Unfortunately, it is not considered that the revised submission clarifies the situation sufficiently to warrant a material impact on the original evaluation.
9.2	**Criterion (a) Low Carbon and Benefits**		In the original submission, there were no specific figures or quantitative analysis of carbon claims provided. This is not changed in the revised submission. The calculation of potential energy savings costs for customers was considered to be simplistic and perhaps overly optimistic, being based on a saving of 20% on a £1200 annual electricity bill, plus a further £40 payment for demand side response. This simplistic approach has been retained in Table A8-1 in Appendix 8, but which now includes sensitivities for lower savings (10% rather than 20%) and lower energy consumption (£600 instead of £1200). This demonstrates that each scenario provides a benefit to SPEN (ranging from £54,208 up to £86,920 per year) but how these sensitivities impact on the original estimated net savings of £158,400 against a 9 year deferral of a 33kV network upgrade estimated by SPEN to cost £15.4m is not clear. It is not considered that the revised submission materially impacts the original evaluation against this criterion.

9.3	**Criterion (b) Value for Money**	In answer to Question 4, SPEN provided a detailed cost breakdown on 23.09.13, which showed that that Mentor Mon is expecting to spend £2,320,000 on supplying and installing control equipment in up to 1800 domestic premises and up to 40 I&C premises, plus a further £1,200,000 on a monitoring/control and market management, £500,000 on communication / coordination, £750,000 on integration / development / data analytics / algorithms / visualisation / training, and £330,000 on energy efficiency / process lab / operations. The clarifications provided in the new Appendix 8 state that these costs have been significantly reduced in the revised spread-sheet, specifically reducing the household equipment costs from £500 to £400, domestic installation costs from £700 to £250, and operational staff cost reduced by 25%. It is indeed unfortunate that the revised detailed cost breakdown was not provided with the revised submission, since the spread-sheet does not readily identify these specific cost savings. In addition, there have been some changes to manpower input and day rates, most notably from Bangor University. The changes are shown in the table below.

	Original Submission		Revised Submission	
Partner	Average Day Rate	Man Days	Average Day Rate	Man Days
Global Smart Transformation	£913	784	£913	784
Bangor University	£259	4987	£320	2800
Durham University	£304	3116	£316	3000
Mentor Mon	£246	3893	£246	3893
SPEN	£501	2645	£491	2645

	The overall impact of these savings is that the cost of the project has been reduced by over £2m from £13,174k to £11,125k. This is a significant reduction, although the cost is still high compared to other engagement-type schemes. Whether this project now represents value for money remains questionable. However, in view of the scale of the cost reduction, consideration may be given to reassessing the original evaluation against this criterion.

9.4	**Criterion (c) Generates Knowledge**		The original evaluation questioned whether knowledge or results gained from this project trial would be applicable to the same degree in other parts of GB. The revised submission goes some way to address this issue. Nevertheless, it is not considered that the revised submission materially impacts the original evaluation against this criterion.
9.5	**Criterion (d) Partners and Funding**		There is no material change to partner funding, although the benefit in kind contribution from Global Smart Transformation is corrected from £300k to £396k. As a result of cost reductions, the LCN funding request has been reduced from £11,130k to £9,242k. It is not considered that the revised submission materially impacts the original evaluation against this criterion.
9.6	**Criterion (e) Relevance and Timing**		The original evaluation stated that this project has particular relevance to the Anglesey community, due to the particular challenges presented by low carbon generation on a relatively weak and isolated network. Whilst the methods employed for peak shifting, reducing demand and minimising network constraints are well documented in previous projects, the use of an intermediary for community engagement appears to be a new approach. However, it was considered that although there may be other localised communities elsewhere where this approach could be utilised in future, this will be dependent on the availability of a suitable local community intermediary and on the willingness of the local community to fund the intermediary's activities. SPEN has sought to address these concerns in the revised submission. However, it is not considered that the revised submission materially impacts the original evaluation against this criterion.

9.7	**Criterion (f) Methodology**		The original evaluation noted that part of the trial will be the installation of Home Automation equipment in 1200 to 1800 social housing units and 25 to 40 I&C premises. However, the proposed business plan for the future operation of the Community Energy Club contains significant assumptions in terms of membership fees and payments from DNOs, which are not properly tested as part of the trials, and this was considered to be a significant weakness of the project. SPEN has sought to address these concerns in the revised submission. Appendix 8 states that the trial does not have an over-dependence on one section of the community, and points out that the trial includes private residential (300), public and private social sector (300 + 300), plus new development (300 low cost starter homes + a possible hotel + 600 holiday homes). This is confusing, as page 10 of the submission specifically states that "customer recruitment will be contractual rather than individual e.g. via communities of social housing providers". It is also noted that the concerns regarding the 'Membership Fees' is sought to be addressed by re-designating this as 'Profit Sharing'. Nevertheless, the key concern that that it may be difficult for the project to produce learning that would support a wider roll out of this method, given that the project does not envisage charging for membership of the energy club at an early stage, has not been satisfactorily addressed. It is not considered that the revised submission materially impacts the original evaluation against this criterion.
9.8	**Successful Delivery Award Criteria**		It is not considered that the revised submission materially impacts the original evaluation against this criterion.