The 'My Electric Avenue' project is the public identity for the Low Carbon Networks Fund Tier 2 project “I²EV.” The formal title “I²EV” is used for contractual and Ofgem reporting purposes.
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Executive summary

My Electric Avenue, submitted as a Tier 2 Bid to the 2012 competition of the LCN Fund under the title I²EV (SSET205), was awarded funding in November 2012, and formally commenced in January 2013. The bid was developed by EA Technology (a “third-party” or “non-DNO” lead) taking input from SSE and submitted via their Southern Electric Power Distribution Plc. (SEPD) licence. The bidding timeline for I²EV from concept to contractual sign off took a total of 10 months. This report considers key learning points that were identified through the bid process, with recommendations for improvements where applicable.

It is of note that EA Technology was originally against the principles of an LCN Fund project being third party led, due to the potential challenges such a Project could create between a supplier and its client(s). However, we embraced I²EV, viewing it as an opportunity to test a possible approach and to help shape the design and delivery of future network innovation competitions.

Southern Electric Power Distribution Plc. invited EA Technology to participate in the project in February 2012, in part to trial the novel commercial working method due to the strong working relationship already present between the two companies. Whilst this was deemed necessary for trialling this approach for the first time, it is unlikely to be a requirement for future bids of this type.

It remains clear that the driving benefit for the third party lead is the opportunity to perform real life testing of their product and potentially gain support from a prospective future client in moving the product to market. It is noted that the DNO has to strongly ‘believe’ in the solution, and that it could be used as part of their business as usual.

A partnership approach between the third party and DNO is therefore essential to successful development and delivery of this type of project. It is of note that despite being led by a third party, significant DNO resource is still required to support partnership delivery of the project.

The requirement for a strong project team is key, with a range of appropriate partners essential.

Where a third party is the technology developer and leading a project we believe it is important to have independent evaluation of the trial and the technology in order to provide confidence that the Project recommendations are fair and un-biased.

During the process of developing, writing, managing and submitting the LCN Fund Tier 2 bid, it was apparent that the anticipated costs significantly underestimated the level of effort that would be required to complete the work to a suitably high standard. The experience of the bidding process demonstrated that these projects carry non-recoverable costs and significant reputational risk for a third party. Ultimately, the main driver for a third party participating in these projects is to see their product / solution established in the UK market; short-term financial gain from the project is not a driving factor.

There is a real need to ensure that this fundamental driver is recognised in the process and that the value of IP for the third party is respected. The current process gives the appearance of threatening this fundamental driver for businesses to participate.
The i²EV project team believe that it is appropriate for a third party to share an element of the 10% DNO compulsory contribution to ensure full alignment in the delivery of tier two projects under the LCN Fund (or NIC). The exact percentage split is likely to be both project and partner specific, but should be discussed between the DNO and the third party lead early in the process. In taking on this share of the risk, it is appropriate that the discretionary reward is also shared – again the exact share of this is likely to be determined on a project by project basis.

Whilst the structure, page limits and supporting guidance documents for completing the bid are extremely helpful, the fixed PDF format of the ISP and Full Bid templates present a challenge to populate. As such, it is recommended that flexibility should be brought into the submission documentation templates rather than the current fixed arrangement.

It was a challenge to populate the financial sheets for a project with so many partners. As such, it is recommended that the usability of the Finance Spreadsheet be improved to allow greater flexibility in planning of projects, minimise errors.

It was found that the impact of decisions made by Expert Panel could have significant, unintended consequences to the overall ability of the project to effectively manage risks. In this instance, information and clarification provided as part of the consultation process not appearing to have been taken into account when the criteria were set for awarding the project. This resulted in restrictions being imposed on the project without opportunity for consultation with the Bid Team. The lack of discussion and understanding of the impact of changes to the proposed method prior to the Direction drafting resulted in real risk of the project becoming undeliverable. Similarly the rigidity of the process created a situation where although there was a desire for flexibility by Ofgem there was limited scope for movement. Although this situation was recoverable, it is reasonable to expect that if the circumstances were repeated, a perfectly valid and valuable project could be prevented from coming to fruition.

Finally, it is recommended that the ISP process be started in February with the Expert Panel Sessions and questions to follow the Consultant’s Panel and Report rather than being undertaken in parallel. This will reduce risk of duplication of work and provide maximum information to the Expert Panel as the key questions will have been addressed whilst still enabling notification of award mid-late November. It is further recommended that acceptance and approval criterion discussions with successful submitters take place before Project Direction is agreed mid-December.

Whilst the submission process and associated experience has at times been challenging, genuine, solid learning has been produced which we are happy to disseminate. Significant external interest has been received into the commercial approach in this project, demonstrating that this learning will be of great benefit to companies considering similar style projects in the future.

**Fundamentally, this project is an exciting one, which promises to deliver real, significant benefits on both commercial and technical levels through the engagement of customers, DNOs, SMEs and companies new to the electricity industry, whilst pushing the currently accepted boundaries of innovation. The project team looks forward to sharing more of our learning as we gear into delivery.**
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1 Introduction

‘I²EV’ is a project funded through the second Tier of Ofgem’s Low Carbon Networks Fund. It was awarded funding in November 2012, and formally commenced in January 2013. The project is contractually obligated to achieve a number of deliverables or ‘Successful Delivery Reward Criterion’ (SDRCs).

The first of these SDRCs is delivered through this report, where the experience gained whilst progressing the I²EV Project from Initial Screening Process (ISP) through to the signing of the Tier 2 Project Direction is recorded. Key learning points that were identified through the process are outlined for consideration with a view to considering recommended improvements in the process where applicable.

This report considers:

- Structure of the project
- Interaction with the DNO
- Establishment of Project Partners
- Project Costing
- Bid Development Commitment
- IPR Positions
- Risk Sharing Principles

At the start of each section in this report, the following points are brought out in a box to aid the reader:

**Key Points**: Significant learning for note

**Recommendations**: A suggested course of action. The Recommendations are grouped into the following audiences:

- **3rd Party Bidders** – other interested parties that may be considering leading a tier two project from the LCN Fund or Network Innovation Competition (NIC)
- **Network Operators** – a regulated licensee (this could be an operator of electricity distribution, electricity transmission or gas distribution networks)
- **Ofgem** – This would also include consultants working on behalf of Ofgem or its Expert Panel
2 Background

Key Points

EA Technology is an employee-owned technical products and service business operating with global users and operators of electrical networks. The company has been instrumental in developing successful bids under Ofgem’s Low Carbon Networks (LCN) Fund since the funding stream was launched in 2010.

EA Technology was originally against the principles of a third party lead, in the belief that the introduction of competition in development between network operators and other innovation licence holders could lead to increased barriers to the deployment of the innovative – the i2EV project provides an opportunity to test the approach, and to help shape the design and delivery of future network innovation bids.

2.1 EA Technology

EA Technology is an employee-owned company offering high tech instruments, software, electrical services and technical consultancy to the operators of power networks around the world. The company works with clients in the electricity, energy, infrastructure and associated sectors, delivering innovative solutions through a blend of technical consultancy, electrical services, specialist instruments and software. EA Technology is one of the UK’s leading energy technology consultancies, with considerable expertise in electrical network and power quality studies, micro-generation systems, fuel cells, energy storage, demand management and integration of distributed generation. Since 2011 EA Technology has been working with the GB Smart Grid Forum (firstly Ofgem then the Energy Networks Association) in assessing the costs and benefits of smart grid strategies in order to facilitate the transition to a low carbon economy.

EA Technology has been involved in the bidding of Tier 2 Ofgem LCN Fund projects since the funding stream’s inception in 2010. In 2010, they were invited to provide strategic input to Northern Powergrid’s Tier 2 bid, ultimately leading to the submission of the Customer-Led Network Revolution (CLNR) project. Since winning the project EA Technology has acted as Northern Powergrid’s client engineer, developing site-specific network solutions, equipment specifications and providing technical support to the procurement process. In addition, EA Technology has a role in turning the outputs into implementable solutions and tools, as well as being responsible for ensuring that the results from the project are disseminated in a timely and professional manner. During the bid process EA Technology assisted in forming the project around a series of Learning Outcomes, demonstrating that the early LCN Fund projects were established with a focus on learning rather than near-future product innovation and delivery. The Learning Outcome approach has since been adopted by Ofgem as best practice for LCN Fund projects.

In 2011 EA Technology was invited to work with SEPD in leading the development of the New Thames Valley Vision (NTVV) bid. As well as writing the bid and supporting SEPD in Expert Panel / Consultants sessions, it helped structure the project around Learning Outcomes, support the projects business case and draw out the linkages (and differences) with other LCN Fund projects. Following bid award, EA Technology has undertaken a dissemination and implementation role through the review and development of technical policies, procedures and training.
2.2 Third Party Bidding

It may surprise the reader to note that EA Technology previously advised against third party lead involvement in a Tier 2 LCN Fund project. In its response to Ofgem’s Open Letter Consultation on the Development of Gas and Electricity Stimuli (response letter dated 23 November 2010\(^1\)), it stated that ‘EA Technology strongly advocates against the decoupling of innovation from the end user, with the firm belief that the introduction of competition in development between network operators and other innovation licence holders will lead to increased barriers to the deployment of the innovative solutions that the UK will need’.

Following their consultation on third party access to innovation funding\(^2\), it became clear that Ofgem was keen to progress third party access as part of the innovation stimulus\(^3\) under the Network Innovation Competition (NIC). Therefore EA Technology provided a further clarification of its position in our “Response to Ofgem regarding Non-Network Company Access to the Innovation Stimulus (March 2011)\(^4\). Ofgem had presented three options for applying for funding from the NIC in its consultation paper. In EA Technology’s response, it stated that Option 3 – Third parties to collaborate with network operators – was the preferred approach for the following reasons:

1. The number of third parties already involved in LCN Fund projects shows that this approach promotes, rather than discourages, competition.
2. Collaboration between DNOs and third parties allows for solution-led, rather than technology-led, approach to innovation which we believe will deliver the best results for the consumer.
3. All key stakeholders can be involved in the project, which enables solutions to be adopted more readily within one or multiple network companies; encouraging effective learning dissemination on the comparable learning points.
4. It provides the best outcome for the consumer as resource needed to meet stringent regulatory requirements are kept to a minimum (in contrast with options 1 and 2); focus can be maintained on the project learning and outcomes rather than on a third party needing to expend time and resource on regulatory adherence; the third party will still have to adhere to the regulatory requirements but will be supported through the steep learning curve of operating in a regulated environment by working hand in hand with the Licensee\(^5\).

\(^1\) http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=285&refer=Networks/nic
\(^2\) http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=318&refer=Networks/nic
\(^3\) http://www.ofgem.gov.uk/Networks/nic/Documents1/NIC%20Consultation.pdf
\(^4\) http://www.eatechnology.com/about-us/our-thinking
Ofgem adopted the third option as the delivery method for the Network Innovation Competition (to be launched in 2013).

In February 2012, EA Technology was approached by SEPD to consider developing a project to test the collaborative delivery model. The commercial model of the I²EV project preceded the technical aspect of the project. The I²EV project is the first LCN Fund project to be led by a third party, working in partnership with a network operator. From the initial discussion of the concept several key challenges were identified, such as:

- Whether a third party put forward a credible and coherent bid with the right blend of partners
- How the third party could access DNO funds to develop the bid
- How the third party could gain access to the network in a timely and safe manner to test equipment
- How the DNO risk could be shared with the third party in an effective and proportionate manner
- How should reporting and dissemination happen to avoid all knowledge being retained solely by the third party
- What structure needs to be in place to objectively demonstrate the effectiveness of a third party’s solution.

The project delivery method will test this novel partnership model and disseminate learning to benefit the DNO community and energy industry to support future network innovation competition.
3 Timeline of Key Events

Key Points
The bidding timeline for I²EV from concept to contractual sign off took a total of 10 months.

Figure 1: I²EV bid submission process timeline
4 Structure of the Project

Key Points

A common sense of purpose and understanding of mutual objectives were established between EA Technology and SEPD at the start of the bid process, through agreement of the project’s core objectives.

The project is structured around focused Learning Outcomes to generate new learning to the DNO community, energy industry and GB as a whole.

Where a third party is technology developer and leading a project is important to have independent evaluation of the trial and the technology. It is also important that the analysis is carried out by an independent body.

The Esprit technology was proven under an IFI funded small scale trial to de-risk the technical aspect of the project. This gave confidence in the product to SEPD.

Recommendations

3rd Party Bidders: Establish and agree the aims and objectives between host DNO and third party delivery body at the start of the project bid process.

3rd Party Bidders / Network Operators: Have a strong product that the DNO believes in and could utilise under business as usual to address network challenge.

3rd Party Bidders: Focus the project around core Learning Outcomes linked with clear deliverables (Successful Delivery Reward Criterion) to generate new learning.

3rd Party Bidders: Review of proposals led by third parties should include a check that they have independent evaluation included.

The structure of the I²EV project is based upon two clear innovation objectives; one commercial and one technical. These were agreed at the outset between SEPD and EA Technology, and the project developed around them. Delivery is focused around two core Learning Outcomes and related Successful Delivery Reward Criterion.

The Learning Outcomes are:

1. Commercial: To what extent does a DNO enabling a third party delivery of innovation accelerate deployment?
2. Technical: To what extent can DNO direct demand control facilitate the connection of low carbon technology?

In the I²EV project, EA Technology’s role is three-fold. EA Technology is the project manager, equipment supplier and technical consultant; this will not be the case in every network innovation project led by a non-DNO. Establishment of project partners is explored fully in section 6, however it is worth mentioning here that in terms of project structure, the recruitment of a body to independently verify the project was recognised as essential from the start - EA Technology could be seen as biased as it is both the technology supplier and technology consultant. Independent analysis of the data and the project structure was therefore viewed as critical to ensure the results were as robust as possible. Ricardo was engaged through a competitive tender process to carry out this role. This approach ensures transparency and promotes trust in the relationship between the third party and the Licensee.
It was essential to provide product confidence to SEPD; development of the Esprit technology ran in parallel with the bid submission, with a small scale trial funded through IFI proving the technology at TRL7 (System prototyping demonstration in an operational environment).\(^6\)

A solid consortia approach was taken to ensure provision of support (goods and services) that EA Technology and SEPD cannot provide; for example the supply of electric vehicles, charging points and management of the rental package under the trials. The ‘gaps’ in skills sets and services through EA Technology and SEPD were identified and agreed at early ISP stage; this enabled focused and targeted recruitment of project partners (detailed in section 6).

\(^6\) esto.nasa.gov/files/trl_definitions.pdf
5 Interaction with the DNO

**Key Points**

A partnership approach with the third party and DNO is essential to successful development and delivery of a low carbon network innovation project.

Despite being led by a third party, significant DNO resource is still required to support partnership delivery of the project and ensure the project has potential to deliver value for money. The Licensee needs to “believe” in the solution and the potential relevance of the solution to their network.

Risk and reward sharing was agreed between SEPD and EA Technology at the start of the bid process.

**Recommendations**

3rd Party Bidders / Network Operator: One key contact within the DNO should be established from the outset of the process, with further accessible contacts within key DNO departments (senior executive, strategy, regulatory, legal, operations) identified and engaged with early on to embed understanding and facilitate approval in the final stages. Processes and timescales should be established at the start of the process.

3rd Party Bidders: Host DNO and third party to agree risk and reward sharing in principle at the ISP stage.

EA Technology was approached by SEPD in February 2012 to develop a low carbon technology innovation project to test the collaborative delivery model whereby a trusted third party technology provider (EA Technology) develops, delivers and manages a Tier 2 bid under the LCN Fund. The relationship between SEPD as the host DNO and EA Technology as the third party delivery body was one of partnership from the start, rather than a traditional client / supplier relationship.

Maintaining and building levels of trust from the outset has been essential; regular telephone conferences and all party attendance at project and wider project meetings has been instrumental in further developing the already strong relationship.

This united front approach to prospective project partners was also key to engaging partners such as Nissan; for us as an SME to have the backing of a DNO offers a sense of security to a major OEM in terms of perceived capacity and track record to deliver a major innovation project.

The ISP, bid development and Panel process to resubmission has required a significant amount of resource on behalf of SEPD. The DNO necessarily takes on the role of ensuring compliance, protective of their licence obligation. This is an important aspect of the relationship as non licensees are unfamiliar with the nature and nuances of regulation and they can have a significant impact.

It should be stressed, however, that although there was a sound working relationship between SEPD and EA Technology before project inception, there is no prerequisite for a relationship between the DNO and third party to exist prior to embarking on collaboration under this novel project delivery method.

The time for project progress and partner meetings; liaison with key DNO departments (e.g. regulatory, legal), review of draft ISP, bid, Panel questions, Consultant’s report response and bid resubmission have required substantial input from SEPD.

The approach of having one key contact to liaise with other DNO departments has worked well, however it is recognised that all DNOs operate differently and so some solutions may work for one but not for others. One key learning point is the need to have engaged early on with senior
managers within SEPD the DNO - in the bid development process. This may have facilitated a smoother and more expedient sign off and approval process through to the Project Direction stage, something that is recognised by EA Technology and will be addressed in any future third party bid management. The process is prone to unintended consequences with, ostensibly, far greater emphasis on the method and not enough on the learning outcomes. Therefore, on-going review of the impact or the nuances of each condition in the proposed direction needs to be carried out thoroughly and the escalation path used both within Ofgem and the project partners to assess the impact on the viability of the project proposition.

Risk and reward-sharing between EA Technology and SEPD was discussed and agreed in principle at ISP stage. Negotiation is needed and both parties need to be clear on the level of risk they are exposed to from the outset. Licence obligations effectively mean that the DNO always bears the risk; this needs to be transferred proportionately to the partner to ensure a focus on compliance while innovating. Given the nascent nature of the project costs at ISP stage (partner and contractor costs still to be determined for example), actual figures could not be settled upon until the costs were fully scoped out. The risk and reward-sharing percentages agreed centred primarily on the value of the respective companies; other factors that were taken in to account were value of liquid assets, risk of failure and what that would mean in monetary and credibility terms to each party (a higher level of risk on EA Technology’s behalf), and value of the product, i.e. the technology. This is discussed in Section 10.
6 Establishment of Project Partners and Suppliers

**Key Points**

Appropriate partners are essential for equipment and delivery – it can be a fine line for a third party to find a partner they are happy with for reasons of commercial confidentiality.

Bid development benefits from a range of partners with mutual trust.

SMEs can more easily identify other SMEs who could develop technology for network applications.

Having one main point of contact within the host DNO and third party delivery body built trust and supported expedient bid development.

EA Technology and SEPD recognised the benefit at early bid development stage of nominating representatives within the DNO’s and large partners’ regulatory and legal teams.

A technical brief at ISP stage would have supported project partner engagement and improved clarity on the project’s technical objective for all project partners.

**Recommendations**

**3rd Party Bidders:** Strategic utilisation of social media and one to one contact widens the pool of Project Partners and builds trust.

**3rd Party Bidders:** Encourage SMEs to participate in LCN Fund projects to widen the expertise and innovation available.

**3rd Party Bidders:** Proposal should demonstrate transparency in the systems used for partner recruitment.

**3rd Party Bidders:** While tendering is appropriate to select organisations for some activities, it is not feasible for others, due to time constraints and the required characteristics of the organisation sought.

**3rd Party Bidders:** Ensure that each Project Partner nominates a single point of contact to enable good working relationships between all Parties.

**3rd Party Bidders:** Ensure that each Project Partner nominates a key representative within procurement / commercial function, legal and regulatory teams (if applicable).

**Ofgem:** All projects should be checked for inclusion of appropriate partners and suppliers. Provide Project Partners with a Technical Brief outlining the project proposals to ensure full understanding early in the submission process, together with a brief detailing the regulatory and legal framework within which the project must operate to support partner and supplier understanding at the outset of project involvement.

I²EV is led by EA Technology, with project partners Southern Electric Power Distribution plc. (SEPD) (the host Distribution Network Operator), Northern Powergrid (collaborating DNO), Nissan (electric vehicle (EV) supplier), Fleetdrive Electric (EV rental programme management) and Zero Carbon Futures (charging point network developer). In addition there are two academic institutions supporting the project, the University of Manchester (providing network modelling and analysis), and De Montfort University (providing socio-economic data gathering and analysis). An independent evaluation of the project is being undertaken by Ricardo, experienced in engineering consultancy with an understanding of EVs and the likely challenges associated with the anticipated uptake.

The I²EV project demonstrates an open and transparent approach in LCN Fund bid development through its partnering with two DNOs – SEPD and Northern Powergrid – and a number of other
organisations; some of which could ostensibly be seen as EA Technology’s competitors. The bid’s development benefited from having a relationship of trust between parties to the bid.

The LCN Fund is reducing barriers to deployment of innovative solutions by encouraging collaboration between organisations that are historic competitors; either through EA Technology’s role in other LCN Fund projects, or in bringing in other consultancies or product developers on board to support the iEV project.

6.1 Recruitment of Project Partners

EA Technology recognised from the outset that it was essential to select suitable organisations to add value to the project and to demonstrate absolute transparency in process and ways of working.

Once development of the bid submission began in earnest, identification and recruitment of suitable partners commenced. Whilst identifying and approaching suitable partners for the project, a number of items required consideration, falling within technical and commercial areas.

Technical

- Does the company provide the necessary expertise to fill the gaps in project essential knowledge/experience held by SEPD and EA Technology?
- Does the company hold expertise similar to SEPD and EA Technology that is required by the project?
  - For example: Project requirement for an independent evaluation.

Commercial

- Does the company have an interest in the area the project relates to and so would benefit from participating in the project?
- Does the company operate in an area that would present a commercial challenge? (i.e. are they a potential competitor)?
- Does a level of trust/prior working relationship already exist?
- Does the partner relationship have the resilience to endure the bidding process and a culture that is capable of operating in a regulated environment?

The main partner recruitment challenge was the need to find an electric vehicle supplier, and someone to manage the rental programme and physical deployment of EVs and charging points to trial participants. Given the timescales between notification of ISP success and bid submission (three months), and the need to find partners at the early bid development stage in order to start building up the cost profile, the traditional tender route was not feasible. Inherent risk in that approach would have been the fact that the likes of Nissan would be unlikely to tender for the work; rather Nissan was engaged through a direct and personal approach which also facilitated discussion on in-kind contribution. Relationships with Nissan, Fleetdrive Electric and Zero Carbon Futures were initiated via LinkedIn, followed up by introduction in person at events and one-to-one meetings.

Strong relationships were built rapidly with key project partners; mutual trust was secured and demonstrated through, for example, rapid response times to requests for information, which supported a robust bid submission. In the last week of bid preparation, partners turned around requests for market forecasts (confidential information), permission to use logos, and quantification of in-kind support within tight timescales. One partner developed and provided a diagram within two hours from request, for inclusion in the bid document on the actual day of submission.

For suppliers to the project, the tender approach was used. Organisations (mainly universities) were invited to tender for the network modelling, socio-economic modelling and independent technical
verification of the project. The need for independent analysis and evaluation is described above. An additional benefit for customers was the recruitment of suppliers such as ANDTR by EA Technology. They have exposure to the issues surrounding distribution networks and how the types of technology they developed may be applied. Given they are too small to register on systems such as Achilles they are unlikely to be identified by a DNO as easily as another SME.

The two different approaches to partner recruitment (one-to-one contact to engage key partner and tendering to selected organisations for suppliers) achieved the desired outcome; supply and management of electric vehicles and charging points were established with the added value of almost £5m in-kind contributions brought to the project from project partners.

Figure 2: Expert Panel Slide - Nissan Contribution Allocations

Figure 3: Expert Panel Slide - EA Technology Funding
It is noted that for a business whose revenue is generated primarily through the sale of manpower, it is difficult to offer large quantities of in-kind contribution for “fee-earning” staff due to the significant impact this has on income. In the case of EA Technology, the bulk of the in-kind contribution is via the provision of discounted equipment and materials (the ‘Esprit’ technology) and to a lesser extent, via indirect (management) staff in a Project Governance role to steer and coordinate the project.

6.2 Single Points of Contact

At least weekly telephone meetings with the host DNO and partners built trust at the crucial early stage of the project’s development. It was beneficial to have one point of contact within the DNO and partners with whom to liaise on a weekly basis, and likewise one main point of contact within EA Technology for the development of the ISP which continued through the full submission process.

6.3 Nominated Representatives

Whilst having one point of contact within a DNO and large organisations facilitates timely turnaround of comments of documents, estimate of costs is important. The DNO also needs to nominate staff from legal and regulatory departments to provide input as necessary.

6.4 Provide Technical Brief for Project Partners

The production of a short technical brief at the outset of development of the ISP would have helped to define the project at this early stage and would also have assisted with project partner buy-in and understanding of the technical aspect of the project at bid development stage. This would also facilitate the quantifying of risks associated with the process, and ensure that the culture of the partners is aligned with what may on occasions be a constraining regulatory environment.

A brief detailing the regulatory and legal framework within which the project must operate would also support partner and supplier understanding at the outset of project involvement.
7 Project Costing

Key point

The provision by Ofgem of a cost sheet template for all LCN Fund applicants to use is welcomed as it ensures a level playing field.

The financial sheets required as part of the submission documentation are unsuited to planning/forecasting a project such as I²EV.

The process of translating the project costs into the Full Bid spreadsheets led to the inclusion of errors, which, despite additional error checking built into the spreadsheets, were not identified at the time of submission, however were addressed and resolved immediately post submission.

Recommendation

Ofgem: Improve the usability of the Finance Spreadsheet to allow greater flexibility in planning of projects.

Ofgem: Simplify the costing spreadsheets so that the inputs for each partner are located within a single tab each within the spreadsheet, and containing all necessary separation by years, categories and in-kind support.

The provision by Ofgem of a cost sheet template to LCN Fund bidding parties is welcomed by EA Technology. This ensures that all bidding parties are working to the same costing requirements, giving confidence to all bidding parties that each bid is being assessed for costing purposes on a level playing field.

The development of a project cost plan for any large project generally uses a ‘bottom-up’ approach, identifying the expected costs for staff, suppliers, materials, equipment and travel for individual tasks within the project. The cost sheet required as part of the Full Bid submission process does not lend itself to costing in this manner, instead requiring separate sheets for project planning purposes. Each of the ‘feeder sheets’ contained detail of work that would be undertaken, timing for this, together with any in-kind support that was offered by the party into the project.

These feeder sheets must then be ‘translated’ into a format that correlates with the categories outlined in the Ofgem spreadsheet to match the formats required for LCN Fund bid submissions. The double-handling of data raises the risk of errors being introduced.

It is also worth noting that due to the DNO focus inherent within the spreadsheet, there is an implicit assumption that much of the project would be undertaken directly by DNO staff with specific tasks outsourced to partners/suppliers. Translating the I²EV costs from the feeder sheets to the Full Submission resulted in a loss of data resolution. In the case of I²EV, as would be the case for any non-DNO lead, a significant proportion of the project funding becomes allocated to ‘Contractors’, removing the clarity that would have been provided when that ‘effort’ would have been undertaken within a DNO.

I²EV, necessarily, involves a number of project partners/suppliers in order to deliver the project. This raised an additional challenge as the final Full Bid spreadsheet contained a significant number of columns making it very difficult for individuals to comprehend and check. When combined, the overall matrix consisted of more than 8,500 data cells, each of which could affect the final figures of the sheet. Furthermore, this was repeated for each financial year over which the project was planned to run, giving a total of four matrices, with more than 30,000 cells that could contain values affecting the final forecast costs.
As such, it is recommended that the cost spreadsheets are simplified such that the inputs for each partner are located within a single tab each within the spreadsheet, and containing all necessary separation by years, categories and in-kind support.

Furthermore, despite the spreadsheet containing a pre-set self-checking algorithm, whereby errors within the sheet that affected the values should prevent the calculation of the final value of the ‘Second Tier Funding Request,’ this did not function sufficiently to detect the errors leading to an incorrect end value requested of approximately 5% from the correct figure.

To clarify, it is understood that the finances are evaluated on the grounds of:

- Total value of project, including ‘in-kind’ contributions
- Total funding request for the project
- Total ‘in-kind’ contribution by partner
- Total expenditure within financial years
- Total expenditure by the assigned Ofgem categories.

The above information does not require that each financial year, and by extension the project as a whole, to be planned utilising the bid submission spreadsheet, only that the information can be extracted as required to a single location for evaluation.
8 Bid Development Commitment – Cost to Bid

Key Points

Cost of bidding means that there has to be an upside in doing the project - for EA Technology this is in helping get a product to market; the margins on delivering consultancy services alone are not high enough to bid for the sake of doing an 'interesting' project.

For third party SME delivery bodies, the cost of bid preparation may be a deterrent to involvement in Tier 2 LCN Fund projects. This point will become accentuated as we move to NIC with a larger pool of projects and less funds increasing the probability of an unsuccessful bid.

Recommendations

Ofgem: The Tier 2 submission process requires streamlining to improve efficiency and ensure value for money for both the customer and participating companies.

During the process of developing, writing, managing and submitting the LCN Fund Tier 2 bid process on behalf of the DNO, it was apparent that the costs allowed had significantly underestimated the level of effort that would be required to complete the work to a suitably high standard.

More additional effort was required than had been anticipated in the areas of:

- Preparing for Expert Panel Sessions
- Responding to Questions from Ofgem
- Responding to the Consultants’ Report

Initially, this process was internally budgeted at £100k (c.50% through the DNO and excluding costs attributed by SEPD or other partners and 50% in-kind from EA Technology). However, on completion of the submission process the actual cost of EA Technology’s effort for the entire bid process (ISP to sign off of Project Direction) was significantly more than budgeted. For small third parties, the cost of bid preparation may act as a strong deterrent to their involvement in similar LCN Fund projects. This poses a risk for these types of projects, as the valuable input they can provide in improving the network will be lost to customers, if they cannot fully participate in LCN Fund. There must be an upside for an SME to undertake a Tier 2 project or equivalent; in EA Technology’s case it is the prospect of helping to get a product to market.

All consulting staff in EA Technology are required to fill in weekly timesheets; the charts below show the number of hours booked to the I²EV bid project by the bid development team throughout the process from ISP to Project Direction. EA Technology notes that these costs are its own only, and do not factor in support costs from partners, suppliers or the DNO.
August constituted our highest cost month despite submission being mid-way through the calendar period with September not far behind despite there being no deadline submissions in this period. The period between submission and re-submission needed input from EA Technology for:

- Attendance at three Expert Panel Sessions
- Responding to 27 Expert Panel Questions
- Responding to the Independent Evaluation Report by PPA Energy
- Re-writing and re-submitting the Bid Documentation.

Figure 6 illustrates the make-up of the project team throughout the bid process; ‘other suppliers’ includes the University of Manchester, De Montfort University, Ricardo and Automotive Comms.
EA Technology’s staff number involvement by function, and an approximation of EA Technology staff effort by function throughout the bid process is illustrated in Figures 7 and 8, respectively, below. Figure 9 shows the number of staff by function involved from SEPD at each stage of the bid process.

![Figure 7: EA Technology Staff Number Involvement by Function throughout Bid Process](image1)

![Figure 8: EA Technology Staff Effort by Function throughout Bid Process](image2)
It is clear that providing the necessary level of staff input post submission, required more time than writing the submission initially. It is identified as a result of the above staff utilisation figures, that given the decision to hold all NIC and LCN Fund competitions concurrently in the future that there will be implications on the ability of DNOs and supporting partners to adequately resource bids.

It is worth noting that expectations appear to have risen every year in terms of deliverables and value for money, but the amount of funding available to develop the projects is reducing (e.g. we were challenged on having not reviewed other European or other international projects as part of the Expert Panel sessions). The funding available is likely to reduce further under the Network Innovation Competition with an increase in number of third parties bidding.

It is also considering the potential impact of the expectation from the Expert Panel that project managers are appointed so that the project is ready for deployment; this could pose a challenge to an SME third party in terms of committing resource or even recruiting ahead of bid award. This would also directly impact preparation costs; one option would be to delay the start period of the project once bid selected, during which project managers are appointed and details confirmed within a range or variability.

Projects could leverage other sources by match funding with other streams, however the inherent risk here is that if one bid fails, then the project overall fails to secure funding – together with the increase in complexity of managing two funding applications in tandem, with potentially differing objectives and timescales. Therefore an additional, yet implicit source of in-kind funding is required for LCN Fund bid processes, and this tends to be people’s time or equipment.
9 IPR Positions

Key Point

EA Technology welcomes Ofgem’s creation of a default IPR treatment provision.

It is clear from our experience through the bidding process that these projects carry non recoverable costs and carry significant reputational risk for a third party. Ultimately the main driver for a third party participating in these projects is to see their product / solution established in the UK market; this is effectively the only upside.

By definition a product that becomes established has done so because it has demonstrated a real benefit for the network and hence the UK bill payer.

There is a real need to ensure that this fundamental driver is recognised in the process and that the value of IP for the third party is respected. The current process gives the appearance of threatening this fundamental driver for businesses to participate.

Recommendations

3rd Party Bidders / Ofgem: Ownership of background IP must be kept by those bringing it to the project and established at the start of the process.

Ofgem: Consider the adoption of ‘Product IP’ and ‘Application IP’ in the definitions of intellectual property to demarcate proprietary IP wrapped in a ‘widget’ (algorithms, etc.) from functional requirements of how a network might interact with a ‘black-box’.

Ofgem: Should consider the adoption of Application IP and Product IP in the definitions of Foreground IP in the Governance document.

Ofgem: The DNOs are capable of negotiating product price points with vendors, and it may not be appropriate (or necessary) for this to be clarified as part of project due diligence.

Intellectual Property (IP) is a key issue to any product developer or supplier, and the Rights over IP (IPR) rightly deserves total clarity over the treatment under the LCN Fund. EA Technology welcomes the importance that Ofgem attributes to establishing parties’ IPR positions through the detailed IPR section in the LCN Fund Governance document (section five). Furthermore, Ofgem’s creation of a default IPR treatment, whilst recognising that each project needs to be ased in IPR terms on a case by case basis, introduces the opportunity, where applicable, to streamline the IPR determination process.

However, it is noted that a significant level of questioning in the bid process was associated with intellectual property, and on whether the GB customer was getting a good deal from this project, or whether customers were funding the development to (solely) benefit the project partners.

Value for money (to the customer) is rightly a key requirement to the LCN Fund. As described in Section 5 above, the DNO has to believe that the Solution on trial could genuinely be of benefit to their network if they are to expend the effort in supporting a project through the competitive bid process. Whilst there are a number of partners and beneficiaries in the I²EV project, it is customers that will ultimately gain if a more expedient and efficient solution can be developed (and proven to work with customers) in order to manage unconstrained EV charging.
It should be noted that the project is not without its risks; will the technology work in the range of networks in GB, will the technology adversely affect the performance (or even the uptake) of electric vehicles, and even if the technology works – will the customers accept the solution. These risks are being shared by the partners in the project, either financially or through their reputations. Partners generally work together for commercial reasons, with the strongest forms of partnership created through win-win situations. It would be naïve to think that any partner in an LCN Fund project was doing so purely to “make the world a better place”.

Care was taken to clarify the IP positions around the ‘Esprit’ technology, a technology that has been developed by EA Technology and outside of any funding mechanisms, to that of its functional application. Ultimately, there is no difference from the approach taken in this project from any other product under test in a LCN Fund project. To further help clarify the situation, EA Technology has since provided a response to Ofgem’s IPR consultation (EA Technology response 21 November 2012):

- **Application IP:** This is the Intellectual Property that describes the application of a Method to a network and the benefits that can accrue from that Method. If the Method utilises an artefact (e.g. a Product) then the Application IP would describe how to connect the artefact to the network, how to operate the artefact and the resulting outcomes for the network. In other words how to apply a “black box” with defined characteristics to achieve a required outcome, but without knowledge of how the “black box” achieves those defined characteristics; and

- **Product IP:** This is the Intellectual Property that describes how an artefact which is used to implement a Method achieves its required functionality.

If the product has merit, and the application is defined, market forces will naturally come into effect, bringing with them competition.
Finally, given the significant uncertainties around the product, its application and customer acceptance; it was unforeseen that questions around the ultimate price point of the Esprit technology would be raised as part of the Consultants Questions.

In response, it was stated that there are likely to be many factors such as commodity costs, manufacturing costs and volume, which would be outside of the control of a single vendor. Furthermore, that in the event that the above factors caused a significant increase in production costs then the cost of modules would have to rise accordingly in order to ensure it continues to make business sense to manufacture the device.

The key point here is that the setting of an artificial price point so early in a product life-cycle could ultimately act as a barrier to the commercialisation of the product (where initial volumes are likely to be low, and unit prices higher). The unintended consequence in this instance could be a DNO having to deploy a more expensive or time-consuming conventional solution – and clearly not in the best interest of the customer.

Ultimately, the purchase of any Technology would be a matter of purchasing negotiations between a vendor and its clients.
10 Risk Sharing Arrangement

Key Points

The I²EV project team believe that it is appropriate for a third party to share an element of the 10% DNO compulsory contribution in the delivery of tier two projects under the LCN Fund (or NIC).

The ratio of the 10% I²EV taken between a third party and DNO is likely to be different for different projects and different sized organisations.

EA Technology and SEPD agreed to share the discretionary award, in return for sharing the DNO compulsory contribution.

Recommendations

3rd Party Bidders / Network Operators: Agree a proportional split to cover the contributory funding, detailed in the Tier 2 Financial Spreadsheet as “DNO Compulsory Contribution” and for covering of additional costs should the project exceed budget.

Ofgem: Provide clarification on how the 10% DNO compulsory contribution will be returned to delivery organisations and of the apportionment on meeting SDRC milestones.

Ofgem: Provide clarification on Discretionary Reward criterion and Exceptional Award criterion, and whether the Exceptional Award criterion is project or portfolio-based.

The application of a DNO Compulsory Contribution of 10% of the project costs, with the ability to earn this back upon successful delivery of milestones, is a great way to ensure focus is given to the delivery of a LCN Fund project.

It is therefore appropriate for the risks and rewards to be suitably allocated between the participating Lead Project Partners. In the case of I²EV part of the DNO compulsory contribution was agreed to be covered by EA Technology to provide a strong incentive to deliver. Accordingly, any discretionary rewards resulting from the Project were also agreed to be distributed on a proportional basis.

10.1 Risk Sharing

It is reasonable to ensure that those Parties with significant influence on the outcome of a project should correspondingly be required to have a vested interest in the success of that Project. In the currently planned Commercial Framework EA Technology, as the third Party Lead is responsible for the running of the Project however, without cooperation from SSEPD as the Project ‘Sponsor’ the Project would be unsuccessful. Both Parties therefore have a responsibility for making the project happen and should have a share of the risk if a project deliverable (e.g. SDRC) is not completed in the timescales.

The apportionment of risk between the two parties must be appropriate and consider several factors based upon the:

- size of the respective companies
- level of inherent risk to each company through involvement in Project
- level of indirect benefits
- value to each Party must be sufficient to maintain a suitable level of ‘Commercial Interest’ with respect to timely delivery of the Project.

The agreement for appropriate risk distribution is an essential element for discussion early in the project planning process; it should be clear and understood by all affected project partners before
the Initial Bid is submitted. Addressing this aspect upfront within the project would streamline negotiations with Partners; minimising lost time caused by Partners’ withdrawing from the project as a result of disagreements over risk distribution later in the process.

In the case of i²EV, EA Technology and SSE agreed to share the DNO Compulsory Contribution risk on a 2.5%:7.5% basis (respectively). At 2.5% of a £5m funding request this represents £125k – a significant contribution in comparison with EA Technology’s turnover (£22m forecast in FY13).

Due to the relative sizes of different companies, particularly in relation to gross turnover and value of assets, it is unreasonable to expect all parties to bear the same level of risk from a financial perspective. As such, it was deemed appropriate to consider the relative sizes of the organisations as well as the potential benefit they may achieve when agreeing the proportions of risk and funding distribution between the lead Project Partners.

At the ISP stage it may only be possible to agree the principle that will be followed should the project be successful, but is essential for this agreement early in the process to prevent potential problems later after detailed project planning has been undertaken.

10.2 Reward Sharing

Regarding the discretionary award, SEPD and EA Technology agreed a sharing of the discretionary award in return for a sharing of the 10% costs. This was to create a positive incentive for both parties to focus on successful delivery rather than rely on reputation and a product to act as the main drivers. In the case of i²EV, EA Technology and SSE have a high level agreement to share the discretionary reward on a 50%:50% basis (if the reward is project based, with a rate that is adjusted on a pro-rata basis if it is portfolio based).

The particular arrangements agreed are unlikely to be applicable to all relationships and that the parties should be in the position to negotiate the split in liability, costs and reward.

10.3 Clarity on the mechanisms

At the time of writing, no projects have completed under the second tier of the LCN Fund. There are therefore no case studies available to bidding or delivery organisations as to how the risk/reward mechanisms will operate – posing a challenge between parties in agreeing the risk sharing arrangements.

It would be extremely helpful if Ofgem could explain how the mechanisms are likely to operate prior to the commencement of the 2013 programmes, in particular focussing on questions like:

- 10% compulsory contribution
  - How long after the close-down of the project will a DNO receive its share of compulsory contribution?
  - If a DNO has eight SDRCs and only six are met on time, what happens to the compulsory contribution – is it apportioned on a pro-rata basis?

- Discretionary reward
  - How might the discretionary reward be allocated – is there a clear criteria that parties can look to for guidance?
  - Will the discretionary reward be allocated to specific projects, or will it be based on a DNO’s portfolio of projects.
11 Improvements to Submission Documents

11.1 Tier 2 Bid Submission Document

Key points

The ISP and main bid submission document templates are standard in section length, and word count for each page; this ensures a level playing field for all bidding parties and clarity on amount of information required.

However, some flexibility in the submission document would have been welcomed, as it was found that for some sections there was insufficient space for certain topics and too much space for others.

Significant effort is expended translating a project into the inflexible PDF used for the Full Bid.

The financial sheets required as part of the submission documentation are unsuited to planning/forecasting a project such as I²EV that is best suited to bottom-up costing, rather than the top-down approach required by the current spreadsheets.

Recommendations

Ofgem: Allow flexibility in the submission documentation rather than enforcing strict page counts on a section-by-section basis.

Ofgem: Consider moving away from the fixed PDF template (whilst retaining the format, number of pages and word count), to improve efficiency of bid writing

Ofgem: Improve the usability of the Finance Spreadsheet to allow greater flexibility in planning of projects (as described in Section 7).

Both the ISP and main bid document templates are limited in terms of word count for each page and page count for each section. The benefit in this approach is that it gives total clarity on the amount of information required for each section; it also provides a level playing field to all bidding parties. However, the rigid PDF format proved difficult to work with expediently; it is recommended that the submission form is made more flexible to allow projects with differing plans, structures and goals to use it more effectively. Specifically, maintain the fixed, maximum page limit to prevent excessively large submissions but allow each section to be utilised as appropriate for the individual project to provide the best possible business case.

Having now worked on Tier 2 bids under the LCN Fund for three years, it is clear that significant effort is taken in translating a carefully developed project from Word into the fixed field pages of the bid PDF. Removing this physical translation process could significantly improve the efficiency (and reduce the frustration) of developing bids.

At present, the total space available for each section is fixed, giving a total number of pages for the entire document with a fixed allocation per section. The I²EV submission found that some sections were not appropriate for any information relating to the project whereas others did not contain sufficient space for all information. As such, the total utilised page count is below the amount available, with some sections containing insufficient detail, which resulted in additional questions during the Expert Panel Phase.

11.2 Tier 2 Appendix A Spreadsheet

This is discussed in section 7.
### 12 Ofgem Expert Panel / Consultation Process

#### Key Points

Three days to respond to each question does not allow adequate time for a third party delivery body, particularly where there are other partners involved, as it needs to firstly receive the question through the host DNO, draft response, and return for approval and submission through the host DNO.

Impact of decisions made by Expert Panel can have significant, unintended consequences to the overall ability of the project to effectively manage risks.

#### Recommendations

**Ofgem:** Single point of question distribution and receipt should also ensure questions are not repetitive.

**Ofgem:** Expert Panel to make suggestions regarding changes to the planned approach and mitigation measures as part of the consultation process, to allow all parties early and full visibility of concerns or conclusions being reached by the Panel or Consultants advising Ofgem, so that issues can be addressed before Ofgem makes decisions and issues directions.

#### 12.1 Responding to Questions

The project team recognises the value of asking questions to clarify specific aspects of the bid. The opportunity to meet with Ofgem’s consultants in a bilateral meeting (introduced in 2011) is a welcome addition to the process, allowing the volume of questions to be minimised to focus on key areas of interest.

The inclusion of a third party bidder while the DNO retains license compliance obligations means that there is an additional layer of governance involved with the process. This puts pressure on the traditional three day turnaround (Figure 11 shows the three day response process); an increase to four days to allow DNO to validate the response is recommended. The Interim Project Evaluation Report, Expert Panel Session and associated questions should not be treated in isolation but rather should consider all responses provided.

The time anticipated at the outset of this project for the consultation period was found to be insufficient. The timeline of key events between instigating work on the ISP, through to agreement of the Project Direction is depicted in Figure 1.

The Consultation Period consisted of the highest level of interaction between the Project Partners and Ofgem. This period involved Expert Panel Sessions and prepared responses to the Ofgem Consultants’ Report, in parallel with the re-drafting and re-submission of the bid documentation. The bid documents were updated to reflect, where necessary, the key points raised or queried within the consultation period or Consultant’s Report.

There were three Panel Sessions over the Consultation period, held on:

- 29 August 2012  First Expert Panel
- 4 September 2012  Consultant’s Panel
- 26 September 2012  Second Expert Panel

The Interim Report, issued by PPA Energy was released on 21 September 2012 and a 32 page response, largely based on material presented in panel sessions or in response to Consultants
Questions was issued by EA Technology, through SSE, on 28 September 2012. This response time was challenging and it is suggested that the timescales be reviewed.

The Project was re-submitted on 12 October 2012 with additional questions received until 25 October 2012.

Figure 11: Three-day response process

Figure 12: Timeline of questions received from initial bid submission to decisions on Tier 2 bids

### 12.2 Consultation Period

**Questions**

27 questions were received from initial bid submission on 16 August 2012 through to bid resubmission on 12 October 2012. The breakdown is as follows:

- Initial bid submission (16 August) to first Expert Panel (29 August):
  - 13 questions received
- Expert Panel session:
  - 2 questions received on that day
- Consultant’s Panel (4 September) to second Expert Panel (26 September):
  - 4 questions received
- Second Expert Panel to bid resubmission (12 October):
  - 8 questions received

With a turnaround time allowed of three working days, it was a challenge to consider and respond in the given timescale as each question had to come through SSE, with each response needing to be reviewed by them and then submitted to Ofgem by them. While this was a real challenge, it is
anticipated that this could cause a significant problem if multiple projects are being developed at any one time on behalf of the same DNO; the DNO will have to file a number of different questions and responses on behalf of a number of different delivery bodies.

It was occasionally experienced on the I²EV project that the same question, from different sources but asking for the same information would be issued over a short period. Responding to these questions increased costs to the submission process at all levels, to both the Project Partners and the Expert Panel whilst also increasing the volume of documentation required for evaluation in order to determine which Tier 2 Submissions were to be successful.

Ensuring that identical, or similar questions are not issued, each requiring a response would reduce effort expended by Project Partners and Ofgem.

**Ofgem’s Consultants**

It was the experience of the I²EV project that the Interim Report, issued by the Ofgem Consultants raised many of the concerns and questions that had, at the point of issue, already been raised and clarified through submitted questions or during the first two Panel Sessions. It is recognised that this is likely due to the Interim report being written in parallel with the Expert Panel Questions and Sessions but as a consequence, there was significant effort required to respond to the report, covering areas of the project that had previously been clarified and discussed directly with the Expert Panel.

**Expert Panel**

The project team welcomed the chance to meet twice with the Expert Panel to discuss specific aspects of the project, and recognises the challenge the Panel has to fully assess the range of projects in the time available.

However, concerns held by the Expert Panel in the second panel session regarding the use of heat pumps as a mitigation measure against insufficient EV user participation resulted in the Project being prevented from using heat pumps in any capacity. The unintended impact was to increase the risk to the Project as a whole. The implication of the challenges from the Expert Panel around the use of heat pumps and the achievable clusters of EVs was not appreciated at the time of the Expert Panel. EA Technology would have welcomed the opportunity to explore and respond more fully to these issues at this stage through responding to the interim Report, to support Ofgem and the Expert Panel’s thinking around the drafting of the Project Direction.

It is therefore suggested that the process enables the Interim Report to be issued and responded to prior to any Expert Panel Questions and Sessions, enabling the Panel to then seek further clarification if the Response to the Interim Report is insufficient. Alternatively, the Interim Report should not be started until after all Questions and Panel Sessions are concluded, acting as a summary report of the consultation phase, raising any further issues that the Consultants feel may have been overlooked by the Expert Panel.

In addition, the process could benefit from more opportunities for dialogues within the process as a precursor to formal questions, and the nuances to the project team’s answers to be understood.

As a result, when the final decision is made there would be less material to be evaluated due to minimal duplication between Expert Panel and Ofgem Consultants documentation, and a corresponding reduction in the responses required by the Project Team.
13 Bid Award and Contract (Project Direction) Agreement

Key Points
The Bid Award notification came one week ahead of schedule from Ofgem; the public announcement followed which allowed for preparation of press releases in the interim, for immediate release once the announcement was in the public domain.

EA Technology welcomed the clarity given in the Bid Award telephone call around customer engagement commencement.

Information and clarification did not seem to have been taken into account when the criteria were set for awarding the project.

The current award process resulted in restrictions being imposed on the project at the end of the process without opportunity for consultation with the Project Team. Issues were not identified until Project Direction.

The lack of discussion and understanding of the impact of changes to the proposed method prior to the Direction drafting resulted in real risk of the project becoming undeliverable. Similarly, the rigidity of the process created a situation where there was limited scope for movement where required to address issues identified at final stages. Although we were able to recover this situation it is not at all unlikely that similar circumstances could arise in other projects, particularly where there are several partners and tight timescales involved.

Recommendations

Ofgem: Streamline processes to ensure that all information provided through the submission and consultation process is transparent to participants at an early stage and ensure there is sufficient time to review and respond. All information should then be taken into account when making the final decision to award the Project.

Ofgem: Allow more time for review and discussion with the delivery body between award of bid and agreement of Project Direction.

Ofgem: Allow time for consultation with the delivery body between award of bid and agreement of Project Direction.

Ofgem: Companies submitting a bid for Tier 2 funding should be subject to a confidentiality clause preventing discussion of bid results being released prior to the official publication.

Ofgem: The Project Direction issued as a Draft document to those parties that will be bound by the clauses within it prior to formal issue should be output focused, allowing a project to progress rapidly and dynamically towards a useful output rather than covering individual stages of the plan to achieve the project outputs.

3rd Party Bidders /Ofgem: Before a final decision is made and published, a discussion should be held between the Panel and Project Team, to clearly outline the concerns held by the Panel that the additional restriction are intended to mitigate against. This would enable the Project Team to consider the potential implications and if necessary, propose alternative restrictions that are more amenable to delivering the Project.
13.1 Bid Award

EA Technology was delighted to hear on 23 November that the i²EV project was given the green light for funding out of the 2012 funding round (a week ahead of the published schedule).

In particular, the project team found the conversation with Ofgem to be particularly helpful, in clarifying and agreeing that restrictions imposed on customer recruitment in the project would be 12 months after Ofgem’s approval of the Customer Engagement Plan, and not from the start of the project.

The short notice prior to public announcements was extremely useful in getting press releases developed with project partners and in place with media contacts.

On reflection, sight of an outline agenda to detail the structure of the Bid Award telephone meeting would be welcomed in future, to inform all contributors to the telephone meeting of the exact content of the call, i.e. that there would discussion on Project Direction as well as notification of Bid Award.

13.2 Project Direction

When drafting a Project Direction document, it is necessary to take into account of all previous discussions at the expert panel sessions, information provided during those sessions and the response to the Independent Project Evaluation.

Within the i²EV Project’s Consultation Period, the number of EVs (and the planned mitigation of heat pumps) that would be required on an LV feeder to provide sufficient technical data was discussed within the Expert Panel Sessions, and in the Response to the Interim Report. Figures intended in the submission documentation as likely numbers required for clusters for the charging to have a material impact on the network for an average feeder with low charging demand per charging point. These were not a minimum required value throughout the project as it was assumed and as a result the project was awarded on that basis. This decision was taken in contrast to the information provided as part of the clarification of the proposed technical trials during the Consultation Process. This clarification was provided in order to prevent indicative numbers becoming fixed conditions without suitable evaluations of network suitability and capability being undertaken at each potential site.

The purpose of the Expert Panel Sessions and Interim Report evaluating the initial submission is to gain further clarification into the bid proposal. As the available space within the documentation is limited, additional information provided during the Expert Panel sessions via a Response to the Interim Report should also be utilised as part of the decision making process.

13.3 Project Restrictions

There is a risk that should the decision be taken to award the project, on the condition of additional restrictions not specifically detailed within the Bid Submission, this may have significant consequences on the project that could not be foreseen by the Decision Panel.

Specifically with respect to the i²EVProject, additional restriction published within the ‘Decision on Third Year Competition’ publication on 23 November 2012 removed the possibility of utilising heat pumps as a mitigation measure against insufficient EV participation. At the same time it insisted that at least 7 clusters must have 10x EVs. Effectively, the planned mitigation measure was unilaterally removed whilst making the establishment of clusters harder to achieve and so increased the risk that the decision was intended to mitigate against. Furthermore it restricts the testing on feeders where even 3 or 4 EV charging points might cause a problem thus potential preventing valuable learning.
As any requirements on the project outlined in the Project Direction Document are the grounds by which the Project Funding is approved, it is recommended that the document is issued as a draft for discussion prior to agreement.

The project team would like to acknowledge the significant efforts made by Ofgem’s innovation team in working with SEPD and EA Technology on the Project Direction and to provide further clarity; however it was recognised to be a difficult position given that the legal position is established upon decision by the Gas and Electricity Markets Authority.
14 Tier 2 Submission Timescales

Key point
EA Technology appreciated having relatively short and set timescales to work to; this assisted effective project planning and management. Timescales are difficult as major work is required during the summer holiday period.

Recommendation

**Ofgem**: Reschedule the Tier 2 submissions, with the process beginning approximately one month earlier.

**Ofgem**: Consider starting the ISP process in February and moving the Expert Panel Session and questions to follow the Consultant’s Panel and Report. This will reduce risk of duplication of work and provide maximum information to the Expert Panel as the key questions will have been addressed.

**Ofgem**: Notification of award mid-late November, with acceptance and approval criterion discussions taking place before Project Direction is agreed mid-December, is further recommended.

The ISP and main bid submission process was delivered over a relatively short timescale; this was welcomed by EA Technology as it focused project planning and provided absolute clarity on deadlines for all contributing parties to the process (e.g. partners and suppliers having to supply cost details on time etc.).

Due to the submission deadlines within the Tier 2 process, a significant proportion of the effort required for submission and consultation falls within the peak summer holiday period for European organisations. This caused a significant impact in resourcing availability, making liaison with different partners difficult especially when involving European companies who have longer summer holidays.

With a desire to encourage more third party companies to participate in Tier 2 Projects, it should be considered that smaller companies are less able to dedicate a significant resourcing level against a single project in this period due to lower resource availability. This issue historically has not been a significant problem for the DNOs due to increased company size and availability of staff enabling delivery despite some staff absences.

It is recommended that the following process is considered:

- ISP Submission: Mid-March
- ISP Decision: Mid-April
- Full Bid Submission: Mid-July
- Ofgem’s Project Due Diligence
  - Interim Report Issued: Mid-August
  - Response to Interim Report: Mid-September
  - Expert Panel Sessions: Mid-September – Mid-October
  - Ofgem Questions
- Full Bid Resubmission: Mid-October
- Awarding of Successful Submissions: End of November

The approach outlined below would minimise the impact of the main summer period through the Initial Bid Submission being submitted prior to the holiday season. The Interim Report, rather than being developed in parallel to the Expert Panel Sessions, and subsequently repeating much of the issues/comments raised would act as a pre-cursor to the sessions, removing many elements of a project from being areas of concern to the panel. This would enable the Expert Panel to identify
specific issues that the Interim Report did not raise, or focus in more detail on areas where the Response to the Interim Report did not provide adequate explanation.

The benefit to the Consultation Period would be a reduction in parallel and repeat working, a reduction in questions that would need raising and greater benefit than already realised by the Expert Panel Sessions.

The overall process could be extended further by allowing some trials during the major bid development process to reduce risk. This would allow some learning even if the major bid failed. It could be argued that this is the role of a Tier 1 project however it would be very hard to interest for example, a major OEM in a small Tier 1 project without some indication that Ofgem are interested in it developing into a Tier 2 bid.

Figure 13: Proposed Submission Process Timeline (illustrative dates shown)
15 Conclusion

Key Points

Despite having worked with DNOs on LCN Fund bids since 2010, there was a lot to learn in leading a bid. However, EA Technology and SEPD believes that they have generated some solid learning that should be shared - both through this report, and through the fact that the project team (SEPD and EA Technology) would be happy to meet with Ofgem to discuss the process in more detail.

There is lots of external interest in the project which augers well for third party involvement in network innovation projects in the future.

i2EV is fundamentally a good project – it’s exciting, EA Technology has a great team in place, and is working on a project that has the potential to be genuinely engaging for customers; and it is pushing the boundaries of innovation and new ways of collaborative working.

EA Technology looks forward to disseminating the next project outputs in April 2013.

i2EV is opening up opportunities to work with a range of parties from across the GB supply chain (e.g. Nissan; ANDTr and Renesas – suppliers into the Esprit kit; Universities of Manchester and De Montfort, Ricardo; plus other specialist third parties such as Automotive Comms, Zero Carbon Futures, etc.). Many of these organisations would traditionally have been treated as our competitors, but through i2EV, EA Technology has opened its doors to new ways of working.

Since the project was awarded funding, a number of organisations (both larger and smaller than ourselves) have approached us on our experience of the bid process and wanting to understand more. It is apparent that there is a desire from the wider community to become involved in such projects but the prospect of leading the way has been a sufficient deterrent to prevent any proposals. It should be noted that in general, conversations with interested parties revolves around the learning they will gain from EA Technology as the first mover; “We admire what you are doing... but we’re glad you’re breaking the ground!”

Ultimately, the i2EV project is an opportunity to test the boundaries of ‘innovation’ delivery; the commercial innovation concept preceded the technical innovation (in early stage development at the time). EA Technology took this opportunity as it sees the benefits this could open to GB DNOs.

The i2EV project is also a route to test a new model for our product development; EA Technology has been developing instrumentation and test equipment with our own investment for a number of years, but is new to products in the EV space. This project gives EA Technology a platform to innovate and work with the market – it is not without its risks; there are few suppliers in the market today that would put their testing on public show, and at the mercy of independent evaluation in the TRL range of Esprit.

It’s going to be an exciting journey and EA Technology looks forward to working with electricity customers and project partners and, of course, sharing the learning.

7 Technology Readiness Level (TRL) a scale of 1-9 originally developed by NASA to demystify the world of R&D though a commonly agreed spectrum (blue-sky research = 1; ‘mission’ tested solution = 9)