Electricity/Gas Network Innovation Competition Screening Submission Pro forma

Notes on completion		
Before completing this form, please refer to the relevant Network Innovation Competition (NIC) Governance Document(s).[1] Please use the default font (Verdana size 10) in your submission. We will only accept the text visible in the text entry areas. The text entry areas are predetermined and should **not** be changed. The full-completed submission should not exceed 10 pages in total. Ofgem will publish all the information contained within this Screening Submission.		
Is the application for the Gas or Electricity NIC?	Gas NIC ☐	Electricity NIC ☒
Cross Industry Project	YES ☐ *If yes, please fill out Cross Industry Projects section*	NO ☒
Funding Licensee(s)		
London Power Networks plc, Eastern Power Networks plc, South Eastern Power Networks plc		
Network Licensee Project Partners		
Energy Systems Catapult		
Funding Licensee area(s)		
London Power Networks plc, Eastern Power Networks plc, South Eastern Power Networks plc		
Project Title		
DESTINY - Digital Energy Services Trials for Interoperability and Network Flexibility		
Project Summary		
To hit the UK's 2050 carbon targets, the electricity system could need to support 35M EVs and 19M heat pumps. By helping manage demand profiles and by deferring or avoiding network upgrade, domestic flexibility (alongside other sources of flexibility) could release net benefits to distribution networks of £430m from 2023 to 2030. In 2016, Demand Side Response (DSR) capacity in the UK was just 0.3GW and none was sourced from domestic consumers. More than 30GW of domestic flexibility could be required to decarbonise at minimum cost to the system and consumers. As experienced from recent tenders, there has been significant interest from domestic flexibility aggregators. Still, the DSO flexibility market is at early stages and the ability to realise its full potential is unknown. Consumers will need to trust, value and buy energy services to charge their cars, to keep themselves warm, or to save money on their bills. DESTINY will design, build and operate a UK first flexibility lab of up to 1,000 homes (covering a range of housing types with different low-carbon technologies). It will provide a protected and safe environment for consumers. The project partners will collaborate with industry to test new smart energy services. It will reveal what consumers value and buy; as well as the resulting price, liquidity and reliability of domestic flexibility. Network licensees will use the results to understand whether they can rely on domestic flexibility to defer network upgrades and how accurate demand profile of homes can benefit existing and new connection customers.		
Estimated Start Date	**Estimated End Date**	
01/02/2020	31/12/2023	
Estimated Project funding		

[1] https://www.ofgem.gov.uk/publications-and-updates/version-30-network-innovation-competition-governance-documents All capitalised terms used in this document have the meaning given to them in the respective NIC Governance Document.

The Licensee must provide an approximate figure of the total cost of the project and the amount of NIC funding for which it is applying.

Total Cost of Project (If Cross Industry Project provide cost split in Cross Industry section)	£22m	**NIC funding requested**	£15m
Is the Technology Readiness Level (TRL) of the Project at start date between 4 and 8?	YES ☒	NO ☐	

What is the Problem?

The Licensee must provide a narrative that explains the Problem(s) that the Project is seeking to address.

National Grid's Future Energy Scenarios include futures where, by 2050, 19M homes have low-carbon heating systems and there are 35M electric vehicles on the roads. Analysis by Imperial College London (ICL) showed that a low-carbon energy system which exploits flexibility is less expensive than one that does not. £17-40bn of net benefits from flexibility are possible in the period to 2050. The share of these benefits for DNOs could be £4-13bn.

In optimal scenarios, domestic flexibility can become one of the lowest cost ways to provide flexibility. Up to 36GW of DSR (including domestic flexibility) may be required by 2050, and 3 to 15GW by 2030. Of that total, as much as 80% may be derived from domestic flexibility. DSR flexibility capacity was just 0.3GW in 2016 (none was from domestic consumers). As experienced from the recent UK Power Networks flexibility tenders, there has been significant interest from domestic flexibility aggregators. However, the DSO flexibility market is at early stages, and the ability of this market to realise its full potential in terms of scale, uptake and cost is still unknown. As evidenced in the ICL study, domestic flexibility had the greatest uncertainty in terms of cost uptake (assumptions were in the range £53– 984/kW). ICL's analysis found "there is a significant difference between the maximum technical potential for deployment and realistic levels". The barriers are almost all non-technical; they are:

1. Consumer desirability – whether consumers will buy and use smart energy services (for appliances, EVs and heat) to reduce their costs, or improve their comfort or convenience.
2. Supplier viability – whether viable/scalable/trustworthy business models exist.
3. Policy and regulatory feasibility – whether policy and regulation can be modified to enable new business models, protect consumers, and ensure equal participation in benefits for all.

There are strong interdependencies between all these issues. Currently, the sector's approach is not systematic enough. Existing projects provide valuable outputs. For example, recent BEIS-funded domestic DSR trials and projects are tackling some of these issues. But there are substantial opportunities to develop common methods for innovation projects to improve the reliability and repeatability of results.

UK Power Networks have already run flexibility tenders in 2018-19 as part of their flexibility programme and are committed to ensure the programme is inclusive to residential customers. In order to achieve this, network licensees need to know how, when, where and at what price domestic flexibility will be available to them in the future. The unknowns for domestic flexibility are three-fold: its 'liquidity' (quantity); its 'reliability' (its quality); and, its price. Without better and more reliable evidence and data, networks cannot confidently decide how much to rely on domestic flexibility to minimise future costs. Ultimately, this risks both slowing down the low-carbon transition and increasing the costs of achieving it.

What Method(s) will be used?

The Licensee must describe the Method(s) that are being demonstrated or developed. It must also outline how the Method(s) could solve the Problem. The type of Method should be identified where possible eg technical, commercial etc.

The project will design, build and operate a living lab at a scale of up to 1,000 homes. At this scale, and with a clear focus on enabling commercial innovation by industry, it will be a first of a kind. It will draw key methods and IP from ESC's existing lab, a research only platform, which has operated at a scale of up to 100 homes researching consumer response to 'Heat as a Service' (HaaS).

DESTINY will test an Energy as a Service (EaaS) method, across heat, transport and electrical power. Current domestic DSR offers may have limited appeal for consumers: savings may be too small and the effort to access them too high. EaaS exploits smart home technologies and advanced data methods like AI and machine learning, to allow consumers to set outcome-based preferences, such as the living room temperature when they go back home.

Method(s) continued

Smart energy service providers will reveal and serve those consumer preferences, and automate the delivery of the desired outcomes. If consumers value these smart services (either in terms of reduced cost, greater comfort or convenience), uptake and participation should increase. Smart energy service providers should be able to reveal flexibility within the consumer's chosen service preferences, make it available to networks, access an additional revenue stream and share benefits with consumers (leading to reduced consumer bills).

'Use cases' will be developed to inform trials which will run in the lab. They will focus on areas where DNOs' problem statements coincide with energy service providers' future opportunities and consumer preferences. Potential use cases and associated trials are:

- Trial 1 (services experiment): Smart heat, EV charging or power services to reveal consumer desirability and willingness to pay, and the resulting flexibility available to networks.
- Trial 2 (Interoperability experiment): with multiple service providers, and other stakeholders to design and test approaches to service provider/ consumer commercial interoperability (any service provider, any consumer, any low-carbon technology.
- Trial 3 (retail market experiment): with multiple service providers, Ofgem, and consumer advocacy groups, to design and test prototype consumer protection regulations, suitable for smart energy services.
- Trial 4 (After Diversity Maximum Demand – ADMD for new and/or retro-fitted developments): to understand the ADMD of homes with smart appliances, low carbon technologies and EV charge points, to inform future connections and optimise network capacity utilisation, and to inform business planning and future network investment.

The lab has four components, as follows:
1. An engagement layer: establishes governance arrangements and commercial arrangements; develops use cases and designs trials with stakeholders; supports learning dissemination and stakeholders extracting value from the lab and its trials.
2. A living layer: recruits consumers and homes; installs appliances and technologies; helps consumers participate in trials; establishes first line consumer support.
3. A digital layer: develops the lab digital enabling platform (that could interface with existing network systems if needed); operates platform to deliver and evaluate trials.
4. A flexibility layer: acts as an interface to test DNO flexibility problem statements, measures and monitors network impacts of trials, uses simulation and modelling methods/tools to extract further insights and knowledge.

The lab will be geographically distributed (but sufficiently clustered depending on network-driven use cases requirements) in order to understand local constraints and nuances. It will contain a diversity of homes, tenures, consumer segments, and a diversity of smart and low-carbon appliances (smart controllers, EVs and chargers, smart water heating, heat pumps and alternative forms of heating etc.). The project partners are aware of the risk of recruiting large numbers of consumers; ESC has re-usable methods, tools and supplier relationships from its 100 home HaaS lab, and maintains a 'consumer panel' of 3,000 consumers for general research purposes to mitigate these risks.

The scale of the lab proposed here is believed to be that necessary to give sufficient diversity of homes, consumers and technologies given the portfolio of trials described. A method for analysing/ confirming the optimum lab scale before FSP is described in the 'funding commentary' section.

The lab aims to be enduring and self-sustaining (beyond the life of the project) and capable of increasing its scale in the future. The lab will be operated by ESC (with no proprietary interest in the market and its future opportunities). This will provide an independent demonstration environment where common methodologies develop trusted data and evidence.

Funding Commentary

The Licensee must provide a commentary on the accuracy of its funding estimate. If the Project has phases, the Licensee must identify the approximate cost of each phase. Non RIIO-Network Licensees should indicate potential bid costs expenses

The total cost of the project is estimated to be £22 million, which breaks down as follows:

WP1 – Project Management: £1.97m; WP2 – Flexibility Layer: £3.61m; WP3 – Engagement Layer: £3.42m; WP4 – Living Layer: £7.78m; WP5 – Digital Layer: £5.22m.

These initial costs are based on phased development of the lab up to a maximum scale of 1,000 homes. Indicative costs are also included for the potential use case trials outlined in the methods section.

The cost estimates have been derived from ESC's experience of building and operating its 100 home HaaS lab over three winters and from the network licensees experience based on previous projects of comparable scale. The historical data gives confidence on costs for: consumer recruitment, retention and churn rates, digital platform design and operation, and experiment design and execution. Several learning rates and scaling efficiencies have been applied.

In working up the FSP, the partners will explore a range of options for minimising the costs to network customers, as outlined below. Cost and value optimisation opportunities exist in the development of the FSP – to get the optimal outcome for appropriate cost. ESC will partner with networks, and smart energy service providers to: refine use cases; define appropriate requirements for the digital layer; understand the quality of data needed to inform decision making; identify suitable consumer cohorts; shape the 'fidelity' of the experiment; and its scale.

To date, ESC has received formal letters of support from a wide cohort of potential lab users, along with other industry stakeholders including Citizens Advice, Renewable Energy Association and Smart DCC. Following confirmation of project partners, it is expected the partner Lab users will make in-kind contributions of time and resources of around £2m (representing 10% of the project value). ESC will utilise IP, data and know-how from its prior investment in the 100 home HaaS lab. Together these will ensure that the project can proceed at a lower cost than if delivered commercially.

ESC and UK Power Networks recognise that the NIC should bear costs in proportion to the benefits network customers will derive. Other beneficiaries of the lab include smart energy service providers and government. To better reflect the proportionality of benefits in the project, ESC is already exploring other funding streams with BEIS and InnovateUK to co-fund the lab. Full details of partner and other contributions will be given at FSP and will be shaped to demonstrate appropriate proportionality of costs and benefits.

Therefore, based on the benefit estimates available to date, it is expected that £15m (which corresponds to less than 70% of the total project cost excluding any benefit in kind) will be requested for NIC funding. This reflects the proportionality of the expected benefits delivered by domestic flexibility to network customers versus whole system benefits. The £15m reflects the benefits delivered to network customers by the ADMD use cases.

Which specific requirements does the Project fulfil?(Please tick which of the specific requirements this Project fulfils)

	Electricity	**Gas**
A specific piece of new (ie unproven in GB) equipment (including control and/or communications systems and/or software)	☐	☐
A specific novel arrangement or application of existing electricity/gas transmission and/or distribution equipment (including control and communications systems software)	☐	☐
A specific novel operational practice directly related to the operation of the electricity/gas transmission and/or distribution systems	☐	☐
A specific novel commercial arrangement	☒	☐

How does the Project accelerate the development of a low carbon energy sector and have the potential to deliver net financial benefits to existing and/or future customers in the relevant sector?
The Licensee must demonstrate that the Solution has the potential to accelerate the development of the low carbon energy sector in GB and/or deliver wider environmental benefits to GB customers. The Licensee must demonstrate the potential to deliver net financial benefits to existing and/or future customers.

Flexibility helps accelerate decarbonisation. It helps manage load growth from low-carbon technologies such as EVs and heat pumps, and so supports their uptake. It supports integration of intermittent renewables on the system, and helps defer or avoid the cost (and time implications) of upgrading networks and those of building more thermal peak generation.

ICL's modelling suggests the pace at which DSR (including domestic flexibility) will need to be 'deployed' to decarbonise the whole system at least cost to achieve a system wide carbon intensity target of 25g/kWh at 2050. The model chooses combinations of flexibility sources that minimise costs, but which meet the UK's 2050 carbon targets, meet predicted demand and balance the system.

It shows that more than 30GW of flexibility from domestic appliances, heat and EVs (of 36GW of DSR in total) may be needed to reach our 2050 carbon targets at lowest cost, but that current DSR capacity is only 0.3GW (all of it from industrial and commercial customers). The deployment of domestic flexibility can only be achieved at the required pace if:

- Consumers trust, choose and value smart energy products and services.
- Smart energy service providers understand consumer needs, and design compelling and profitable services.
- Regulators and policy makers are confident in adapting the market arrangements to balance new commercial opportunity, with consumer choice, protection and participation.

The project creates a trusted, replicable, safe and ethical environment for consumers to experience new smart energy services. It will accelerate and reduce the costs of smart energy service test and demonstration, because consumers will already be recruited, governance will be well established and trusted, and a digital trial enabling platform will exist. If it is successful it could later be scaled and deployed in other network licensee areas.

The lab will help industry to collaborate and develop new standards for smart energy services, which could promote openness and interoperability, and further accelerate the development of new markets for domestic DSR.

By creating common methodologies for developing problem statements, formulating use cases, designing experiments and analysing results, the lab will help create a common framework for testing domestic flexibility. This approach could make results more reliable and repeatable, and should:

- Increase consumers' trust (therefore increase uptake and response);
- Create standard indicators of reliability for networks seeking to procure domestic flexibility alongside other sources;
- Increase shared certainty and confidence among regulators and policy makers. Helping them take more confident decisions, sooner, about how much they can rely on domestic flexibility to decarbonise the system at lowest cost.

Timing is an important factor in the UK's decarbonisation agenda. If domestic flexibility can't be accessed as a cost-effective source of flexibility within the required timescales, DNOs may need to proceed with other, perhaps more costly investment/reinforcement solutions to manage load demand growth from EVs and low-carbon heat technologies. The timeliness of understanding the reliability of domestic flexibility is key because there is a risk in network investment if flexibility is not delivered on time.
The appetite of DNOs for flexibility services suggests that the timing of this project is good. As does Ofgem's two year forward plan and the priorities it sets out for making retail markets work for all.

How will the Project deliver value for money for electricity and/or gas customers?

The Licensee must demonstrate that the Method(s) being used can derive benefits. It must also be able to demonstrate that the resulting learning can be attributed or are applicable to the electricity/gas transmission and/or distribution systems.

This project is about consumers: the future services they will buy, and the flexibility that will result. Flexibility unlocked from domestic customers will help DNOs accommodate more demand growth from low-carbon technologies, such as EVs and heat pumps, and help DNOs manage changing load profiles from local generation, ultimately deferring or avoiding network upgrades. As the ICL study has shown, this has the potential to deliver network benefits of up to £430 million in the period 2023-2030 across all DNO licensees. As a result, the DUoS part of domestic consumers' future bill would increase less than without flexibility.

Consumers will also benefit from growth in smart energy services and products developed in a trusted, independent environment. They will have more choice and more competition, as the number of smart energy service providers, and the diversity of their offers grow (recent research (Wegner et al., 2017) has shown the market opportunity could be up to £21bn per year by 2050). By facilitating service, regulatory and policy innovation, the living lab will support the growth of an open, interoperable consumer market for energy services.

Connection customers will benefit from reliable data on the likely ADMD of future and retro-fitted homes with smart appliances, EV charge points and low-carbon technologies. DNOs will better understand how to manage future connections and optimise network capacity utilisation. As a result, there will be more available network capacity, connection costs will be lower for connecting customers and apportioned costs will be lower for DUoS customers (compared to a case where future low-carbon homes are not managed flexibly). Load forecasting and planning methodologies will be improved using the new ADMD which could reduce the increase of background demand and associated costs.
A low-carbon system also has wider environmental and health benefits. For example, the CCC estimate the benefits of more efficient and warmer homes to the NHS at £14.2bn per year. Air pollution from cars and vans costs is estimated to cost the UK £5.9bn a year to health.

How will the Project generate knowledge that can be shared amongst all relevant Network Licensees?

The Licensee must explain the learning that it expects the Method(s) to deliver, and how it will be shared. The Licensee must demonstrate that it has a robust methodology in place to capture the learning and how the learning will be disseminated.

The project will generate data, evidence and learning which will:
1. Enable networks to assess the future price, reliability and liquidity of flexibility derived from domestic consumers; and the competitiveness of prices they can pay for flexibility against others wanting to procure similar services (e.g. NG-ESO);
2. Enable networks and the residential development industry to better understand the expected ADMD of future homes to inform network planning and new connection assessment;
3. Point to which cross-vector technologies and consumer services will enable the energy system to be decarbonised at a lower possible whole system cost and
4. Help to create smart energy services and products in future that are safer, fairer and more inclusive.

Further use cases could develop data to inform the development of new interoperability standards, and markets for flexibility. These will be shared and are able to be scaled nationally to adapt market arrangements to better serve consumers, exploit domestic flexibility and accelerate decarbonisation.
ESC will retain knowledge on how to operate and scale the lab itself. As the lab infrastructure is intended to be enduring, it could be extended to other network licensee areas (where a viable business case exists) and could reduce the cost of and accelerate other domestic flexibility trials.
Dissemination will be supported by network licensees through: progress reports, LCNI and project events, ENA working groups and stakeholder groups. The project will also feed into the Open Networks Project Work Stream 2 'Customer experience' and will inform other DNOs' flexibility programmes. ESC will exploit its links with industry, government and academia to ensure results and lessons are widely shared. ESC will ensure learning is co-ordinated with those from the Government's 'Prospering From the Energy Revolution' challenge fund.

Does the Project conform to the default Intellectual Property Rights (IPR) arrangements set out in the NIC Governance Document?	YES ☒	NO ☐

By selecting NO, the Licensee is indicating that it wishes to deviate from the default requirements for IPR. If this is the case, it must demonstrate how the learning will be disseminated to other relevant Licensees and how value for money will be ensured. The Licensee must also outline the proposed alternative arrangements and justify why the arrangements are more suitable than the default IPR arrangements.

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How does the project demonstrate it is innovative (ie not business as usual) and has an unproven business case, that the innovation risk warrants a limited Development or Demonstration Project to demonstrate its effectiveness?

Demonstrate why the Licensee has not previously used this Method (including where the Solution involves commercial arrangements) and why NIC funding is required to undertake it. This must include why the Licensee would not run the Project as part of its business as usual and why the Solution is not Research.

DESTINY is a first of its kind at this scale (see 'methods' section for how it is differentiated from the 100 home HaaS lab). It is technology agnostic and focussed on innovation in services, business models, regulation and policy. It places consumers at the heart, inviting innovation that delivers them value, improves their choice, or helps them participate in future services. It has an explicit objective to build trust and confidence between consumers, industry, regulators and government. It is intended to be enduring and self-sustaining.

SPEN's FUSION project (currently ongoing) addresses flexibility from the perspective of network operation, and the development of flexibility markets. DESTINY supports direct domestic consumer participation in shaping future energy services that work for them. Taken together FUSION and DESTINY could provide insight across the full value chain for flexibility and may prove to have valuable synergies.

DESTINY will build on existing projects and focus on commercial innovation, addressing non-technical barriers to consumer take-up and participation in smart energy services. It will take into account the learning by other NIC/NIA domestic DSR and flexibility trials including Low Carbon London, Customer-Led Network Revolution; energywise; SAVE, Domestic Energy Storage and Control (DESC), Shift, FREEDOM and its successors. Both ESC and UK Power Networks are participating in a number of extant BEIS funded projects which will ensure effective and timely transfer of knowledge. Ultimately, by encouraging common methodologies for the design, test and evaluation of smart energy services, DESTINY will improve the reliability of results and helps knowledge sharing among all network licensees and others. The design, build and operation of the lab is not a role a DNO should fulfil. Networks have limited incentives to make a large scale, consumer-centric intervention; but have a strong dependency on understanding changing consumer behaviour. It is not aimed to be part of networks' business as usual activities.

How were project Partners, external resourcing/funding identified, and what are their respective roles in the Project?

The Licensee must provide evidence of how Project Partners were identified and selected, including details of the process that has been followed, and the rationale for selecting partners and ideas for the Project.

The Licensee should provide details of any Project Partners who will be actively involved in the Project and are prepared to devote time, resources and/or funding to the Project. If the Licensee has not identified any specific Project Partners, it should provide details of the type of Project Partners it wishes to attract to the Project.

This project is the ESC's response to the ENA's Call for Ideas and was selected based on the fit with ENA's innovation road map, its track record of leading consumer-centric innovation through its existing 'heat as a service lab', and its whole-system approach. ESC is the lead party for the project. UK Power Networks will be the DNO lead, working with potentially other DNOs and GDNs (to be confirmed at full submission). The project partners have already engaged with GDNs and they are exploring their interest in a cross-vector project and how they can be potentially involved in any capacity.

ESC will design, build and operate the lab; and convene a cohort of smart energy service providers to use it. ESC will partner with the DNO and a research partner to develop relevant use cases which inform trials to be run in the lab which meet the DNO partner's needs. UK Power Networks will inform the recruitment strategy in their licensed areas and will: monitor network and regulatory impacts; develop network flexibility insights and manage network planning and any connections. Citizens Advice has expressed its formal support for the project, noting its focus on consumer protection for smart energy services. Beyond ISP we will continue to work with them to engage them as a formal Partner.

Fifteen private companies have expressed formal support for the project; indicating that they agree with the need identified by the project, that they see the potential fit with their future business intentions, and recognise that the lab is a novel response to the problem. Their exact role in the project will be defined at FSP, but it is expected that they will be users of the lab, and that they will make in-kind contributions of equipment and/or labour.

Will the Project require any derogations or exemptions?

The Licensee should outline if it considers that the Project will require any derogations, exemptions, or changes to the regulatory arrangements.

Some derogations may be required to consumer billing arrangements. ESC has experience of working with Ofgem's Innovation Link team on similar derogations for its Heat as a Service lab. Full details will be developed at FSP.

How will the Project activities impact customers?

The Licensee should outline any planned interaction with customers or customers' premises as part of the Project, and any other direct customer impact (such as amended contractual or charging arrangements, or supply interruptions).

Building and operating the lab will require deep and continued interactions with domestic consumers in their homes.

The lab will support smart energy service providers in the design and test of innovative commercial offers for the consumer cohort. It will conduct follow-up research on consumer responses. Projects in the lab will seek to reveal willingness to pay for innovative services and may modify charging/billing arrangements. The lab will use consumers' personal data and will involve installation of low-carbon and smart home technologies in their homes.

To manage these issues, ESC will continue to develop and extend its methods, tools, systems and capabilities which sustain the existing 100 home lab (including research ethics, privacy and data protection and health and safety). ESC also has deep expertise in the area of vulnerable consumers and an ongoing initiative, Fair Futures, to support sector innovation in this sphere.

UK Power Networks will bring prior experience in engaging with domestic customers (including vulnerable and fuel poor consumers) and in investigating domestic DSR/flexibility from previous innovation projects such as Low Carbon London, energywise, and Domestic Energy Storage and Control (DESC). DESTINY will also build on UK Power Networks' learning on smart charging and LV flexibility procured from residential EVs from their project, Shift. This will make sure that best practises in minimising customer impacts are integrated in the trial design.

Together, ESC and UK Power Networks are expected to partner with Citizens Advice to assure consumers in the lab are appropriately protected. At FSP, a customer engagement plan will be produced, ensuring that the necessary processes, procedures, training and support will be in place throughout the project.

What funding is being requested from each NIC? (Cross Industry Projects only)

The Licensee must outline funding that is being requested from the Electricity and the Gas NICs and include a justification for the funding split.

At the moment this is a request for Electricity NIC funding only. However, as indicated above, the project partners have already engaged with GDNs and are exploring a potential collaboration and the associated benefits for the gas networks. DESTINY may therefore become a cross industry project and the Consortium will explore which options are available for funding the gas stream.

Are there any further details the Licensee considers would support its submission?
Note on Partners: Industrial partners will be a key part of the projects' success. Use cases need to reflect where their future commercial interests coincide with the DNOs' needs and emerging consumer preferences. The lab can only operate if innovators want and need to use it. ESC has engaged with industry over several years on its EaaS hypothesis and the role of the lab in testing it. As a result, the following companies have expressed formal support for the project at ISP: - Smart energy/flexibility service providers: Octopus; Engie; Igloo. - Appliance/technology vendors: Moixa; Daikin; Glen Dimplex; NIBE; Levelise; GEO; Connected Response; Climote; Mixergy; Kaluza (OVO); - Other: Data Communications Company (DCC); Renewable Energy Association; Citizens Advice To support the ADMD trials, UK Power Networks have been engaging with commercial property developers, namely Land Securities Group, in order to scope what the benefits of a partnership under DESTINY will be. Additional project partners and suppliers will be confirmed at the FSP stage. Note on terminology: ICL's analysis uses the term 'DSR' to mean flexibility derived from industrial and commercial sources, as well as domestic consumer's use of smart energy services (including that arising from smart appliances, digital and connected home technologies, EVs and low-carbon heating appliances such as heat pumps. This proposal adopts the term 'domestic flexibility' as a catch-all for all flexibility arising from domestic consumers, it encompasses current 'DSR' offers and more sophisticated future 'smart energy services' where consumers set outcome based preferences and service providers automate control of technologies in the home to achieve the desired preference. Key references used in this document to evidence or calculate benefits are: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/568982/An_analysis_of_electricity_flexibility_for_Great_Britain.pdf https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf https://www.theccc.org.uk/wp-content/uploads/2018/06/CCC-2018-Progress-Report-to-Parliament.pdf http://fes.nationalgrid.com/

Contact Information (*Cross Industry Projects can provide details for up to two contacts)*	
Contact Name(s)	
Giulia Privitera (UK Power Networks)/ Tim Stiven (ESC)	Click or tap here to enter text.
Contact Address(es)	
UK Power Networks, Newington House, 237 Southwark Bridge Road, London, SE1 6NP/ Energy Systems Catapult, 7th floor, Cannon House, The Priory, Birmingham, B4 6BS	Click or tap here to enter text.
E-mail(s)	
giulia.privitera@ukpowernetworks.co.uk/ tim.stiven@es.catapult.org.uk	Click or tap here to enter text.
Direct Telephone Line(s)	
07812 262897 (GP)/ 07508 023684 (TS)	Click or tap here to enter text.
Job Title(s)	
Low Carbon Technologies Delivery Manager / Business Leader - Energy Town Platform	Click or tap here to enter text.