SIF Alpha Round 2 Project Registration

Date of Submission

Project Reference Number

10061545

Initial Project Details

Project Title

Watt Heat

Project Contact

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Challenge Area

Accelerating decarbonisation of major energy demands.

Strategy Theme

Flexibility and commercial evolution

Lead Sector

Electricity Distribution

Project Start Date

01/10/2023

Project Duration (Months)

6

Lead Funding Licensee

UKPN - London Power Networks Plc

Funding Mechanism

SIF Alpha - Round 2

Collaborating Networks

UK Power Networks

Technology Areas

Heat Pumps

Commercial

Energy Storage

Project Summary

Watt Heat aims to accelerate the decarbonisation of heat and reduce costs by stimulating the market for flexibility through heat storage technologies. The project is investigating the potential of thermal storage to mitigate peak electricity load from heat, capture low energy prices, and provide wider system and DSO flexibility.

The Alpha Phase will specify candidate DSO services, with a focus on enabling equitable customer access to incentives which support investment in thermal storage; understand how these might interact with wider market signals across a range of thermal storage technologies; and develop customer propositions and business models for the Beta phase.

Add Preceding Project(s)

10061544 - Watt Heat

Add Third Party Collaborator(s)

baringa

Tepeo

Passiv UK

Greater London Authority

Project Budget

£540,489.00

SIF Funding

£486,444.00

Project Approaches and Desired Outcomes

Problem statement

Problem

The decarbonisation of heat in homes presents a significant challenge in achieving Net Zero, particularly the electrification of heat which increases peak demand. Flexibility of heat demand, facilitated by thermal storage, has the potential to reduce the need for network infrastructure, optimise the consumption of renewable energy, and reduce energy costs for customers. Limited data exists on the performance of thermal storage solutions, and market mechanisms for heat flexibility are nascent. Whilst several innovation and BAU trials are ongoing exploring domestic DSR flexibility opportunities, such as Crowdflex, DFS, and ODFM, exploration of heat technologies is currently limited to single asset types or single market opportunities. Further insight is needed into the DNO benefits thermal storage can provide, and into how a range of heat technologies with thermal storage under different propositions and multiple market incentives could act in combination in

future. Watt Heat aims to consolidate knowledge and demonstrate viable heat flexibility propositions for widespread adoption.

Evolution

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on the performance of thermal storage solutions, and market mechanisms for heat flexibility are nascent.

Whilst several innovation and BAU trials are ongoing exploring domestic DSR flexibility opportunities, such as Crowdflex, DFS, and ODFM, exploration of heat technologies is currently limited to single asset types or single market opportunities. Further insight is needed into the DNO benefits thermal storage can provide, and into how a range of heat technologies with thermal storage under different propositions and multiple market incentives could act in combination in future. Watt Heat aims to consolidate knowledge and demonstrate viable heat flexibility propositions for widespread adoption.

Innovation justification

The key innovative aspect for this project is the development of DSO service incentives for thermal storage. Given the nascent nature of technologies in this area and limited availability of data, it is challenging for DNOs to invest in BAU on services tailored for a currently small segment of the market. Examination of DSO services in this area will also be complicated by the potential challenges in how current applicable DSO incentives can be accessed by customers, as outlined in Question 1, therefore work is required in examining new ways of incentivising

flexibility.

Key innovative aspects:

· Investigation of the mass interaction of diverse thermal storage technologies in view of multiple market opportunities;

· Understanding the BAU customer propositions and business models that could be employed to enable heat flexibility and ultimately testing the levels of consumer engagement that could be possible; and,

· Consideration of cutting-edge products such as phase-change materials and Tepeo's Zero Emission Boiler (ZEB), alongside more traditional forms such as hot water tanks.

The technology assets for Watt Heat already exist, hence integration and technology readiness levels are IRL6 and TRL6, and the project will focus on developing the commercial readiness of DSO incentives from CRL4 to CRL5 in Alpha and CRL6-7 to through the trial in Beta.

Whilst the technology exists, given low uptake of heat technologies and nascency of thermal storage it is too risky for service providers to invest at scale in thermal storage propositions. If viable propositions can be demonstrated and the investment case validated, this could build further interest from service providers, encouraging further investment.

To date, exploration of the flexibility potential of thermal storage assets has largely focused on the ability for consumers to capture lower energy costs through time-of-use (ToU) tariffs, and revenues from central system services. Ongoing trials also typically focus on individual heat technologies, rather than how technologies will work in combination in any given network area. The interaction between thermal storage and DSO services also remains relatively unexplored.

During Discovery Phase we have understood the perspectives of consumers, building owners/managers across tenure types, and the DNO, and have reviewed the range of currently underway. The Discovery Phase also confirmed that thermal storage solutions could generate useful benefits for DSOs -- mitigating peaks and increasing diversity of heat loads -- but raises the question of how best to facilitate this response through connections and flexibility incentives.

Alignment to SIF

There would be limited value to DSO in investing within the price control to stimulate the market, as customer propositions and business models remain unproven, and customer uptake of heat solutions are likely to remain low in RIIO-ED2. A full demonstration is necessary to investigate customer propositions for thermal storage solutions, and their validity when acting in combination and in response to multiple market signals, to move beyond theoretical value. The SIF Beta fund sizing matches the size and scale compared to other innovation funding sources.

The counterfactual is assumed to be using the heat assets with no thermal storage, and hence a reduced flexibility of electrical demand, in line with how most solutions are installed today. Given there are currently barriers to consumers installing low carbon heating, it is reasonable to expect that flexibility from thermal storage could also serve to increase the rate of uptake in heat solutions.

This proposal addresses Innovation Challenge 4: Accelerating decarbonisation of major energy demands -- by exploring the role of flexibility in integrating low-carbon heat technologies onto the network at scale and enabling more people to invest in low carbon heat options through the cost savings and revenue opportunities it can enable.

Impact and benefits (not scored)

Financial - future reductions in the cost of operating the network

Financial - cost savings per annum on energy bills for consumers

Environmental - carbon reduction – indirect CO2 savings per annum

New to market – products

New to market - services

Impacts and benefits description

The Discovery Phase has conducted a review of the market for thermal storage solutions in domestic settings and found that, whilst options are emerging, uptake is small. The pre-innovation baseline is assumed to be consumers not installing thermal storage at scale alongside heat pumps, for space heating needs, due to limited incentives and understanding.

Reporting for the uptake of thermal storage alongside heat technologies does not yet exist. In addition, the demand assumptions used by DNOs for planning purposes for heat pump connections do not currently account for the potential reduced demand associated with the use of a thermal store but could be reviewed and tracked should Watt Heat provide evidence to suggest ADMD reductions are reliable.

The benefits case has been explored through the Discovery Phase by modelling the power draw profiles of heat technologies operating to meet heat demand at the hours it is required (usually peak hours) vs. flexible scenarios. Electrical storage was also considered but would not add to the business case for thermal storage assets themselves.

Cost savings per annum on energy bills for consumers through the ability to shift electrical demand to off peak hours and provide

some system services to the ESO and potentially DSOs. For a customer on a time of use tariff, £100-200 a year can be saved if operating a heat pump with a range of thermal stores optimising for use out of peak hours whenever possible, and providing some system services. Customers with a Zero Emission Boiler (ZEB) see the highest annual return from flexible operation vs. running 'on demand' -- up to £600 enabled by the fact it can shift the entire power draw from heating to the overnight period and provide greater services to the ESO due to its high storage capability. These returns provide a range of viable pay-back periods across the range of storage technologies.

Reductions in the cost of operating the network through increased uptake and availability of flexibility from thermal storage -- enabling the ESO to leverage additional service volume and reduce costs for balancing, and DSOs to reduce peak capacity thus reducing network reinforcement cost for the DNOs. Increased availability of flexibility may also reduce the cost of flexibility to networks and system operators. The Discovery Phase CBA estimates the benefit of reducing peak demand of heat technologies to be £8.8 bn cumulatively by 2050 (£250m per year by 2050) for customers in UKPN's area.

The energy bill savings through flexibility are likely to improve the business case for homeowners of investing in lower carbon heat technologies. This could enable a more rapid take up of low carbon heat technology, and hence lead to an indirect carbon emissions reduction. Reducing the need for fossil fuels to be used at peak times can also enable further carbon emissions reductions.

New to market products and services that will be explored are DSO connections products and flexibility incentives. The aim of Watt Heat will be to develop new mechanisms that can be taken into BAU and used to provide additional value to users of thermal storage.

Watt Heat also aims to stimulate service providers to offer new thermal storage propositions to customers, enabled by the cost savings and benefits it can provide. This may include investment to back installation of thermal storage solutions, and could be packaged in a range of customer propositions such as heat as a service and guaranteed flat rate heating bills.

Watt Heat may also serve to incentivise and inform supply chain actors in how to adapt or scale heat technology products, leading to a greater range of technologies available.

Teams and resources

Each of the existing partners have played a valuable role in enabling the Discovery Phase and continue to be involved in the Alpha Phase. Alongside this team we will engage with other heat technology operators with whom to partner with in Beta Phase.

One such stakeholder is Connected Response -- a solution provider for managing storage and water heaters in social housing. They provide an

opportunity to consider an additional form of heat storage, and have access to a large number of customers that could be approached to recruit into any Beta Phase demonstrator. Another stakeholder is EnergyCloud, a new social enterprise enabling customers to heat their water cylinders for free with surplus renewable electricity. They will be engaged through the Alpha phase.

UKPN are the DNO providing key input on service/incentive design, as well as managing the project and co-ordination of UKPN's stakeholders. They will be crucial for informing sessions with industry participants to define flexibility use cases and business models, and providing their expertise into DSO service opportunities now and in the future.

Passiv UK are a heat systems consultancy and control specialist with a broad perspective of heat storage solutions in the market. They bring expertise, technical solutions, and proposition experience from the numerous heat trials they are involved in -- e.g. Heatropolis, Equinox, Right to Heat, Energy Smart Heat Pump, Communiheat, Clean Heat Street, MADE, and more. Passiv UK will lead on customer proposition development in the Alpha Phase, building on their customer interactions and propositions to date, as well as leveraging their existing software platform for asset control and supplier relationships. Passiv UK are ideally suited to this as a technology-agnostic heat flexibility specialist.

Baringa are a specialist energy sector consultancy with deep commercial and market expertise as specialising in the energy industry. In the Discovery Phase they led the approach and analysis, and set out a clear vision of how to move forward into the Alpha Phase. Baringa will lead on stakeholder engagement activities and the complex commercial design aspects of this project.

They are ideally suited to these activities given their role advising government, regulators, and networks on flexibility market development, as well as their work for a wide range of market participants building customer propositions and business models in the energy services industry. They also bring specific IP for use on the project, for instance in the form of energy market modelling software and price projections that they will use to model the potential value from flexibility.

Finally, Baringa bring an independent viewpoint that will serve to protect against bias toward any solution or market opportunity.

Tepeo have developed their ZEB, a leading solution in this field. In Alpha, Tepeo will help develop the customer propositions required for the Beta Phase trial with their product, and input to business model design and valuation. They also bring a broad knowledge of the thermal flexibility market and will support with insight across the project.

GLA as the local government representative will provide insight into London's building customers, and will aid with stakeholder engagement as well as the site selection. They will be invaluable in this role due to their relationships across London, and their ability to assist the project in accessing potential customers for Beta.

To inform development of DSO flexibility services and recommendations on standards, the project will engage a range of stakeholders -- including industry, market participants, consumer representative groups and consumers. The aim will be to secure partners and identify potential sites during the Alpha Phase, with customer recruitment activity taking place in the Beta Phase.

Project Plans and Milestones

Project management and delivery

The work packages proposed for Alpha are:

· WP1: Project management (UKPN): Managing end-to-end delivery; WP2: Customer and stakeholder engagement (UKPN/Baringa):

· Independent customer research, and engagement of stakeholders to inform design activities and Beta Phase partner/ initial site selection

· WP3: Commercial design and business models (Baringa): Developing a clear view of the flexibility service use cases and supporting business models required to underpin the customer propositions for heat flexibility, including entities, commercial products, technical architecture, and value/costs/risks to each party. This work package will also identify regulatory barriers and enablers, and refresh the project CBA.

· WP4: Customer value propositions (Passiv): Developing heat flexibility propositions for consumers with stakeholders across the technology types for the Beta Phase trial, working alongside wider partners and stakeholders (such as Tepeo) and leveraging existing supplier relationships;

· WP5: Partner and initial site selection (UKPN): Engaging potential trials partners and existing install schemes, selecting potential partners/initial sites for trials considering a mix of technologies, and identifying any requirements for new installs in Beta (if required);

· WP6: Initial trial design (UKPN): Development of the experimental design as well as developing the plan to establish the required enablers to support the trial.

All Work Packages have clear ownership and accountabilities, with assigned lead partners, and clear activities and deliverables. Key dependencies between the workstreams are:

· WP2 will be a priority workstream providing input to WP3 supporting development of DSO flexibility opportunities and identifying barriers and required enablers; providing Consumer Research to inform WP4; and engaging candidate partners to be considered in WP5.

· WP3 will further inform WP4 by providing the range of flexibility Use Cases on which to base customer propositions; and WP5 by setting the specifications regarding what assets will be required for a Beta phase trial.

· All workstreams will feed in to WP6 by creating the range of products, services, and candidate sites to be considered in the trial.

Two checkpoints will serve to mitigate risks associated with the dependencies:

1. (End November) -- To ensure interim findings from WP2 and WP3 can

sufficiently inform WP4 and WP6; and,

2. (End January) -- To ensure progress of WP3 and WP4 is sufficient to enable planning for WP5 and WP6 focussed on the Beta trial.

UKPN will run project management using standard their established framework for delivery of innovation projects including best practice methods and tools – regular management meetings and status reporting, frequent team stand-ups for design sprints, a RAID log, and a stakeholder governance schedule aligned with project work package timelines as detailed in the accompanying project management

plan. UKPN will use learnings from their award winning portfolio of innovation projects such as Shift, CLEO, and Optimise Prime, to ensure the project is delivered successfully.

Risks and mitigations are set out in the risk register. Risks and issued will be managed using a RAID log, refreshed continuously.

Example risks are:

· If we are unable to engage the right stakeholders we may not get the input we need to identify and evaluate flexibility Use Case options and develop propositions;

· If trials partners are not able to develop engaging customer propositions in the Alpha Phase then we may face difficulties gaining interest from partners for the Beta Phase;

· If we are unable to recruit partners and/or customers for trials with existing thermal storage assets installed we may be unable to progress to a demonstration phase and/or may need to install the assets as part of Beta;

No planned or potential unplanned supply interruptions are anticipated at Alpha Phase, as the work will focus on design and planning.

Key outputs and dissemination

The proposed objectives of the Alpha Phase are to explore the potential of DSO services through thermal storage, focusing on:

· The role of thermal storage in facilitating connections, enabling access to DSO service revenues for all customers, and addressing challenges related to cold-start;

· Investigation of potential challenges of 'fairness' and 'bankability' highlighted in the Discovery Phase;

· The interaction of thermal storage with opportunities for wholesale arbitrage and system services, considering a diverse range of storage technologies;

· Development of options for commercial and regulatory mechanisms, as well as customer propositions and business models necessary to support the implementation of thermal storage solutions in business-as-usual; and

· Define Beta phase trial partners and initial sites to include a variety of technologies.

· Through the Alpha phase we will also need to:

· Conduct a broad stakeholder engagement process to inform design activities, that is independent and unbiased towards any technology type or market opportunity;

· Identify and secure existing heat install schemes to participate in trials; and,

· Develop the trials protocol document and delivery plan to enable a fully functional and innovative trial to take place as part of the Beta stage.

The proposed outputs and owners across the workstreams are:

WP2: Customer and stakeholder engagement will engage a range of stakeholders to inform design activities and Beta Phase partner/initial site

selection:

· Stakeholder map/list (Baringa)

· Consumer research outputs (UKPN)

· Engagement schedule (Baringa)

· Engagement event materials and outputs to inform wider workstreams (Baringa)

· Minded-to participant consortium for Beta phase (Baringa)

Commercials

Intellectual property rights, procurement and contracting (not scored)

The parties agree to adopt the default IPR arrangements for this project as set out in Section 9 of the SIF Governance Framework. The partners recognise that knowledge transfer is one of the key aims of the SIF, and that the benefits of this project will be maximised by the ability of other

licensees to be able to learn from the project so as to create improved outcomes or reduce costs for consumers. The partners do not anticipate that the Alpha (or Beta) will result in the creation of IPR that cannot be freely disseminated, and have no expectation of creating income streams or royalties from IPR outside of participation in a competitive marketplace for services that may be informed or stimulated via the outcomes of the project.

Commercialisation, route to market and business as usual

Maintaining competitive markets

Watt Heat is not working to support any market participant in developing a proprietary approach or technology. Whilst PassivUK and Tepeo as Project Partners will gain learning and develop their solutions alongside this project, they are already active in the market and will not gain significant advantage from participation in the trial. All technologies will be treated fairly and analysed independent of partner bias, safeguarded via the neutral position of Baringa.

Watt Heat should provide insight to all stakeholders (flexibility providers, technology producers, homeowners, the DNOs etc.) regarding the value available from domestic thermal flexibility, and may lead to new services and market arrangements to support the roll out of these technologies for customers. All outputs will be available to all participants.

Any flexibility mechanisms, incentives, or funding support developed through this project will be available to all market participants, to maximise the uptake of thermal storage heat solutions, and all data and insights developed will be made freely available through project knowledge dissemination. The project specifically aims to address potential challenges of the 'fairness' and 'bankability' of DSO incentives for heat flexibility, proposing a route to market with a consumer value proposition available to all, not just one group of customers.

BAU adoption

To ensure solutions are adopted into business-as-usual (BAU) practices, we will work with the relevant UKPN teams throughout design and testing. This will include the DSO team, to ensure access to DSO services and enabling the proposition to improve cold-start challenges to be developed; and the connections team to ensure that thermally flexible heat technologies are treated correctly on point of connection. The teams will be involved throughout Alpha and Beta phases where necessary to ensure awareness of the project outcomes is within the business and hence the teams buy into solutions and are prepared for uptake in BAU.

Customer adoption

The end-customers targeted by this project are homeowners, local authorities or building owners, looking to install heat technologies which are low carbon. Thermal storage solutions should help to remove barriers to adoption, including connection challenges, affordability (through creating cost savings and returns to underpin a business case for investing in low carbon heat technology), and potentially comfort concerns. Homes unsuitable for heat pumps are also still considered in this project through analysis of technologies such as the ZEB, which is a direct boiler replacement.

Implementation of the thermal storage heat solutions will be the responsibility of active market participants, as it is today. Propositions will need to be developed by market participants to bring these technologies to the end consumer. Projects such as Watt Heat will help to inform market participants and create value streams that can underpin propositions.

Both Tepeo and PassivUK are established businesses. Tepeo's ZEB is available to customers for purchase directly or through their tepeoPro network.

Discovery Phase has established strong support from senior management across all partners due to the high potential benefits in

flexibility from thermal storage. We will continue building support from all levels across the organisations to ensure scalability in BAU.

Policy, standards and regulations (not scored)

Policy, standards and regulations

Several regulatory enablers may need to be established to enable an accelerated delivery of thermally flexible technologies in the future (though none are a blocker to progressing with Watt Heat in Alpha and Beta phases):

· Reducing barriers to entry: Policymakers must establish a proportionate and flexible licensing framework for organisations providing demand-side response to domestic and small non-domestic consumers;

· Half Hourly Settlement: Market-wide Half-Hourly Settlement (MHHS) is not yet in place but is due to be introduced in 2025/26. This is a key enabler for flexible time-of-use tariffs. This data needs to be presented in a consistent and accessible way to allow consumers to engage;

· Participation: No current sector regulation exists for DSR beyond general consumer law and voluntary codes of practice. This may be a barrier to DSR flexibility uptake, and electrification more generally, and a risk of DSR "bad actors".

Further enablers through standards may also be required to accelerate the uptake

of DSR from thermal storage assets in future:

· Technology readiness: Relevant electric heating appliances would need smart functionality, which is not currently the case. Improved uptake of smart functionality could be achieved through commercial incentives, but regulatory intervention may need to be applied to the heating technologies themselves or to the installation of electric heating solutions.

· Appliance standards: Lack of standardisation of device functionality creates barriers to broad service participation, limiting market depth, as well as creating interoperability and security risks. BSI standards PAS 1878 and PAS 1879 are designed to enable demand side response from smart appliances, EV chargers,energy storage and electrical heating. Consequently, additions and modification to the standards related to energy smart appliances could have an unexpected effect on interoperability of systems.

· Cyber security: Minimum cyber security regulations must be met before widespread residential flexibility is introduced to the market. Primarily, the hurdle relates to ensuring that heating solutions can meet the existing regulations, but the regulations themselves may need to be reviewed to ensure that they remain appropriate.

These regulatory barriers and the enablers required will be explored through WP3: Commercial design and business models, supported by stakeholder engagement, and our intention is to inform future policy and regulation through the Alpha and Beta Phases.

Key areas we will examine include:

· Assessing the value case and urgency for enabling flexibility from domestic heat technologies, thus informing the priority for policymakers;

· Designing and trialling real-world flexibility products for domestic heat, thus informing technology and cyber standards, connections standards, and flexibility product designs;

· Informing the functionality required to participate in DSO services, and how different heat flex assets interact -- both in terms of their natural demand patterns and their ability to be actively flexed;

· Identifying the arbitrage value revealed in existing retail price signals, and understanding how customer behaviour/assets respond to such signals given competing signals (e.g. ESO services) and customer heating requirements;

· Informing how price signals could become more targeted and/or dynamic to strengthen customer behaviour;

· Informing the technical potential for flexible heat to access multiple services;

· Documenting the process by which individual assets are controlled (via automation, comms or user control) to participate in service and the aggregator/supplier models that facilitate this; and,

· Understanding in more detail where customers have reservations about energy or flexibility technologies and informing best practice and minimum standards of service.

At this stage we are not aware of any specific derogation that would be required to

proceed with a demonstration or trial of the technologies within the scope of this

proposal.

Value for money

The Discovery Phase CBA estimates the benefit of reducing peak demand of heat technologies through thermal storage to be £8.8 bn cumulatively by 2050 (£250m per year by 2050) for UKPN's area. Thermal storage could drive £100-600 per year returns for homeowners, improving the business case for investing in lower carbon heat technologies. Increased uptake and availability of flexibility will enable reduced costs for system operators through additional service volume.

Our project partners are involved in trials in this area -- e.g. Neat Heat (Tepeo/UKPN), Project Equinox (PassivUK) -- but Watt Heat is novel as it will propose how thermal storage can deliver benefits for DSOs/DNOs, and examine a future where multiple types of heat technologies in a mix of buildings will behave in response to the full range of market signals.

The Alpha phase will be a complex design stage of Watt Heat. In developing resource estimates we have balanced a need for efficiency with the need for building stakeholder confidence that customer propositions and business models are robust and ready for trials.

The proposed costs for Alpha are:

· Total Project Costs: £540,489

· Total Partner Contribution: £54,045(10%)

· Total SIF Funding requested: £486,444

UK Power Networks

· Total Costs: £89,485

· Contribution: £8,945 (10%)

· SIF Funding Request: £80,540

Passiv UK

· Total Costs: £80,454

· Contribution: £8,045 (10%)

· SIF Funding Request: £72,409

Baringa Partners

· Total Costs: £333,450

· Contribution: £33,345 (10%)

· SIF Funding Request: £300,105

Tepeo

· Total Costs: £33,600

· Contribution: £3,360 (10%)

· SIF Funding Request: £30,240

GLA

· Total Costs: £3,500

· Contribution: £350 (10%)

· SIF Funding Request: £3,150

Baringa are a specialist energy consultancy with deep commercial and market expertise. They advise government, regulators, and networks on flexibility market development, and work for a wide range of market participants building customer propositions and business models in the energy services industry.

We are aware that consulting rates will appear high compared to other rates. However, we believe they represent value for money for this phase because:

· At Alpha phase a key focus of the work is design. We expect in any Beta phase trial the focus will shift to delivery and there will be less need for specialist consultancy skills.

· Baringa's costs are based on their UKPN Framework Contractor ratecard, which has been determined through an ODEU-compliant procurement process run by UKPN, have been challenged competitively, and represent fair market value for the services required in this project. These are specialist skills that most industry and market participants do not retain in-house and turn to providers such as Baringa when needed.

· Baringa have proposed to invest 20% of their costs -- expressed as a 10% discount to their rate card, and a further 10% Benefit In Kind contribution -- which is double the % contribution of all other project partners. They are prepared to do this because the work itself is meaningful, exciting for their people, and deepens their relationship with UKPN and UKRI in the longer term.

· Baringa bring specific IP for use on the project, for instance in the form of energy market modelling software and price projections that they will use to model the value from flexibility in the CBA, and informal access to a wide pool of experts and experience.

The combination of Benefit In Kind contributions across partners totals 10%, with each investing a proportion of their days (with Baringa discounting their ratecard a further 10%).

There are no sub-contractor costs in the Alpha phase, nor funding from other innovation funds. Partners will leverage their own facilities (e.g. offices and IT). Baringa, PassivUK, and Tepeo will leverage background IP to assist in their roles.

Associated Innovation Projects

- ○ Yes (Please remember to upload all required documentation)
- ◉ No

Supporting documents

File Upload

Watt Heat_UKRI End of Phase Meeting_Apr 24.pdf - 1.7 MB
Watt Heat_R2 Show and Tell_24 April 2024.pdf - 1.2 MB
Watt Heat - UKRI - Mid Point Meeting_For Upload.pdf - 595.4 KB
SIF Alpha Round 2 Project Registration 2024-01-25 9_38 - 76.8 KB

Documents uploaded where applicable?

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