



Full Circle - Alpha Phase

UKRI Alpha Mid-Point Meeting

15th January 2024



atelier ten



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Agenda for today

1

Welcome & introductions

2

Progress & Financial Update

3

Project plan

4

Key risks

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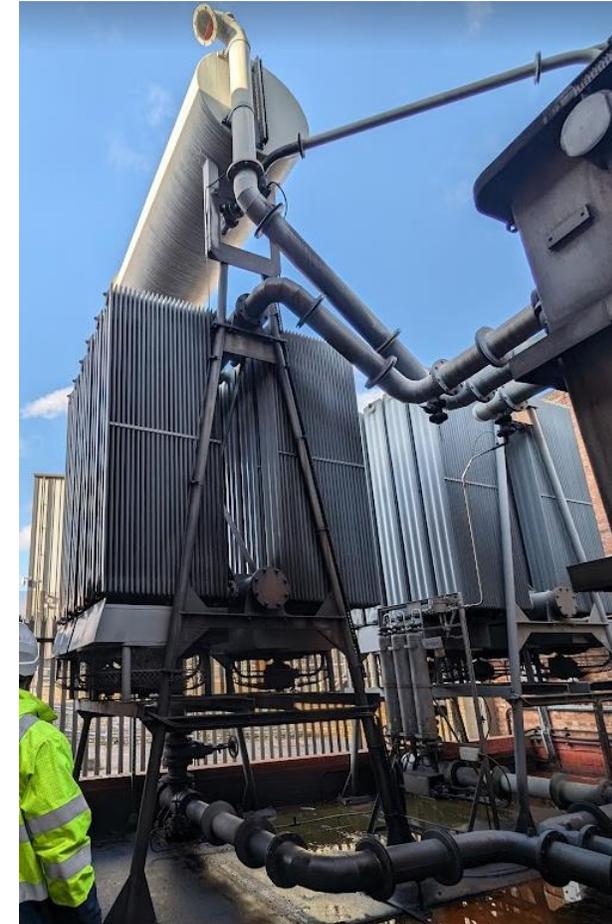
Comms & engagement activities

6

Plans for Beta

7

Next steps



Full Circle | Progress Against Deliverables

Key headlines

- Project is **behind the original plan due to delay in contract signing**
- We have an updated plan and are confident that all deliverables will be complete within the Alpha Phase period.

Ref	Description	Lead	Deliverable	Status	Comment
WP1	Project Management	UKPN	Contract, governance, SIF Documentation	On track	<ul style="list-style-type: none"> • Contract was delayed 2 months but now complete • All other deliverables on track
WP2	Transformer Heat Recovery Design	ARUP	RIBA Stage 3 Design, heat network interfacing meetings	Delayed 1 month	<ul style="list-style-type: none"> • Delayed as a knock-on impact of contracting and site visit delays • Will complete end of February
WP3	Heat integration Design	SGN	Heat exchanger integration and control specification & Route layout schematics	On track	<ul style="list-style-type: none"> • Heat Exchanger performance and control spec delayed as a knock-on impact of contracting and site visit delays • Will complete end of January • All else on track
WP4	O&M framework	ARUP	O&M Framework document, RACI matrix	Delayed 1 month	<ul style="list-style-type: none"> • Knock-on impact of other delays • Will complete first week of March
WP5	Commercial & Regulatory framework	UKPN	Commercial & regulatory framework	On track	<ul style="list-style-type: none"> • Knock-on impact of other delays to some milestones. • Engagement and discussion with Regulation team complete and successful. Workshop scheduled w/c 5 Feb • Require IUK support to engage Ofgem
WP6	Scale-up/Replication	ARUP	GIS Mapping tool, wider engagement	On track	<ul style="list-style-type: none"> • Will complete end of February
WP7	Energy Strategy Impact Assessment	Atelier10	Energy strategy impact assessment	On track	<ul style="list-style-type: none"> • Will complete end of February

Full Circle | Progress Against Cost

Project partner name	Total project costs (£)	Project Contribution (£)	Total SIF Funding requested (£)	Actual spend to date (£)	Forecasted spend for Q1 2023	Forecasted spend by Alpha completion
UK Power Networks						
ARUP						
SGN						
Atelier Ten						
Total	£463,123	£46,312	£416,811	£3,088	£460,035	£463,123

Full Circle | Project Plan (1 of 2)

				2023												2024											
				October				November				December				January				February				March			
WP	No.	Milestone Title	No																								
	WP1	M1.1	Alpha phase contracting	D1.1			D1.1																				
M1.2		Project Governance setup	D1.2																							D1.2	
M1.3		SIF End of phase documentation	D1.3																							D1.3	
M1.4		UKPN SIF R2 Alpha event	D1.4																							D1.4	
M1.5		Overall Project Report	D1.5																							D8.1	
WP2	M2.1.1	RIBA Stage 3 design package	D2.1																							D2.1.1	
	M2.1.2	RIBA Stage 3 design package	D2.2																							D2.1.2	
	M2.2.1	Tender documentation	D2.3																							D2.3	
	M2.2.2	Tender documentation	D2.4																							D2.4	
	M2.3	Heat network interfacing meetings	D2.5																							D2.5	
WP3	M3.1	Heat Exchanger Integration & Performance, Control Spec & Local Operating Procedure , Input into Oil Recovery Design	D3.1																							D3.1	
	M3.2	Pipe & Thermal Storage Design Water heat Pump Integration Energy Center Control System	D3.2 to D3.6																							D3.2 to D3.6	
	M3.3	Heat network interfacing meetings	D3.7																							D3.7	
WP4	M4.1	O&M Framework developed	D4.1																							D4.1	
	M4.2	RACI Matrix	D4.2																							D4.2	
	M4.3	Operational and plant replacement strategy plan	D4.3																							D4.3	
	M4.4	UKPN Consultation	D4.4																							D4.4	

Full Circle | Project Plan (2 of 2)

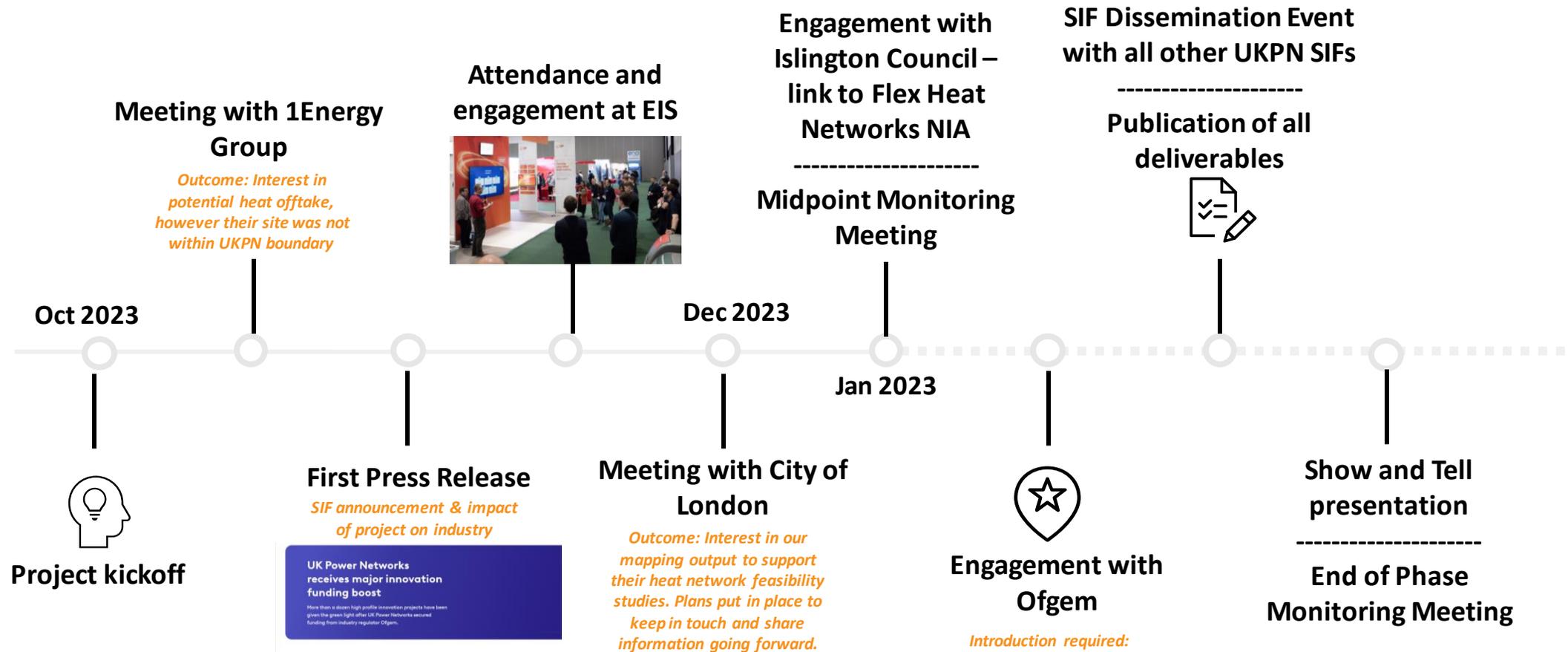
				2023												2024											
				October				November				December				January				February				March			
WP1	No.	Milestone Title	No																								
WP5	M5.1	Commercial structure	D5.1																								
	M5.2	Bulk heat supply agreement, Commercial structure and contractual framework	D5.2																								
	M5.3	Implementation in BAU- Regulation issues	-																								
	M5.4	Commercial structure options workshop	D5.4																								
	M5.5	Regulatory barriers and pathway forward workshop	D5.3 D5.5																								
	WP6	M6.1	GIS-based mapping tool for potential scale-up opportunities across UKPN's network	D6.1																							
M6.2		Transformer manufacturers future plan	D6.2																								
M6.3		Detailed network impact of solution across UKPN	D6.3																								
M6.4		technical information for Las LAEP Team	D6.4																								
M6.5		Potential UKPN locations replication to feed into the GIS mapping tool	D6.5																								
M6.6		Beta route to Market and BAU plan	D6.6																								
WP7		M7.1	Recieve and review consumption data	D7.1																							
	M7.2	Receieve and review DER and TER	D7.2																								
	M7.3	Receive and review impact on energy stragery	D7.3																								
	M7.4	Review and adjust energy strategy plan	D7.4																								



Full Circle | Key Risks

Ref	Risk Description	Likelihood	Impact	Mitigation	post-mitigation Likelihood	post-mitigation Impact	Midpoint Risk Rating
R3	SGN Wandsworth Development showing slow or no progress	Medium	Medium	Wandsworth Council are part of discovery phase and shared results of Full Circle so should facilitate planning. Permission expected in July 2023 but may extend to September due to conditions (engagement, connection to boundary site to export heat to 3rd parties). Construction expected to be taking place Q3 24 or move to 2025.	Medium	Medium	Medium - still no news on planning permission for the site. Delays to planning due to regulation change regarding stairways.
R5	Regulatory barriers for DNO selling heat and Approval for modification to transformers	Medium	High	Workshop with UKPN Regulation experts planned for WP4; Possibility of including discussions with Regulator in the workshop.	Medium	High	Low – result of workshops with Regulation and Asset Management were very positive. Need to validate with engagement with Ofgem in Q1.
R9	Delay to contract signing impacts project timelines	High	High	Contracts shared with project partners as early as possible and early engagement with legal reps from all organisations	Medium	Medium	High – risk impacted (closed)
R10	Risk that our proposed use of Network Rail archways between UKPN and SGN site leads to issues regarding Network Rail safety policies (basic asset protection agreement - BAPA)	Medium	High	Identifying a route that avoids the application of a BAPA. Engagement with Mitheridge consultant, specialist in this area.	Low	High	Low – pipe route identified that we are confident will not lead to the application of a new BAPA.

Full Circle | Comms & Engagement Activities



UK Power Networks receives major innovation funding boost
More than 10 dozen high profile innovation projects have been given the green light after UK Power Networks secured funding from industry regulator Ofgem.

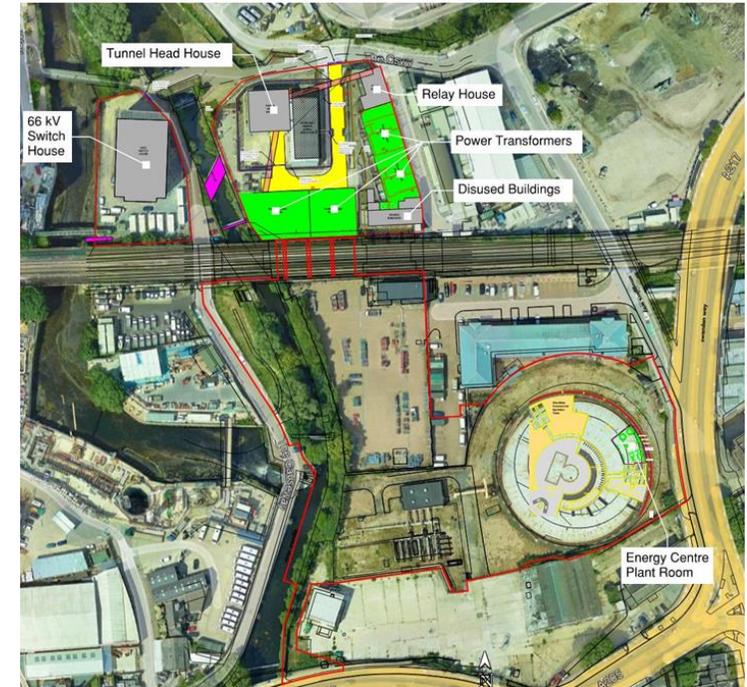


Full Circle | Plans for Beta

- We plan to apply for Beta funding
- The overall objective remains to prove the technical and economic case for extracting waste heat from transformers for use in heat networks.
- Project team will have a Beta Planning session early in February to plan our approach.

A Beta demonstrator will:

- Build, test and commission the system
- Finalise and implement commercial agreements between partners involved in a long-term heat offtake agreement
- Develop and share material to support the uptake across other locations and in other networks. Islington Council has already expressed interest for their Bunhill heat network



Full Circle | Project-Specific Conditions

Condition 4 – On track

The Funding Party must provide to its monitoring officer by the end of the Alpha Phase a summary of how any learnings from similar schemes and projects in Europe and Scandinavia are being incorporated into the Project.

Midpoint update: Learnings from similar schemes and projects in other areas are baked-in by partnership with Arup, who are a global company and have direct relevant experience. A specific summary of learnings that have been incorporated into this project will be produced by the end of Alpha phase.

Condition 5 - Complete

The Funding Party must provide to its monitoring officer by the mid-point monitoring meeting an explanation as to whether the Project plans to broaden its focus beyond its focus of the Wandsworth substation to more broadly examine the risks associated with network upgrades and asset replacement. As part of this, the Funding Party may wish to outline how its proposed solution could be applied more widely than the Wandsworth substation.

Midpoint update: Work Package 6 is specifically carrying out a mapping exercise to understand where this proposed solution could be applied beyond Wandsworth. We are having ongoing discussions with the Bunhill heat network in Islington as well as with the City of London as they begin planning for 2 different heat networks. A full lifecycle assessment is being considered in the project, including looking at timelines for network upgrades and asset replacement that could put the Full Circle scheme at risk.

Full Circle – Next steps

- Book End of Phase session – Beginning of April 2024
- Show & Tell slot: 24 April 2024
- Show & Tell guidance on what to include
- AOB





THANK YOU

