

**Appendix F:
PROJECT RISK
REGISTER**

Client:	Cambridgeshire County Council
Project:	Swaffham Prior DHN
Stage:	Pre-Detailed Project Development
Status	Live document

Author: Miles Messenger

First Issued: 28/11/2018

Last Update: Sheryl French

By: 05/05/2020

No.	Category	Element	Risk Description / Trigger	Impacts	Likelihood	Severity	Risk Level	Control Measure	Post Control Measure Likelihood	Post Control Severity	Residual Risk	Owner	Status Update Notes	By	On
1	Commercial	Customer Uptake	Unable to develop a sufficiently appealing business case to encourage prospective customers to enrol in scheme.	Loss of prospective customers, loss of revenue, unviable business case	Moderate	High	High	Investigate, analyse and document prospective customer existing / projected energy costs and gain understanding other key drivers or concerns. Develop business case model that offers a material and definitive saving against existing and addresses end customer concerns.	Low	Moderate	Moderate	ALL	Ongoing	HT	07/06/2019
2	Technical	Borehole	Borehole extraction volumes / rates are lower than that required to meet thermal load	Heat pump unable to deliver predicted heat capacity, resulting in a defunct system / stranded asset	High	High	High	Undertake further due diligence as part of the DPD stage, including further desk top analysis and specialist engagement. Construct test boreholes, to enable physical testing of abstraction rates and volumes.	Low	High	Moderate	BYES	Closed. Revised energy centre design and modelling is based on the thermal potential of the land parcel. Hybrid approach being taken. The likelihood of the risk has been significantly reduced but this does not reduce the magnitude of the risk if the heat can not be delivered at the levels forecast.	HT	02/12/2019
3	Technical	Customer Systems	Customer systems are incompatible with the heat network, resulting in the heat network failing to satisfy customer thermal requirements.	Customer discomfort, complaints, reputation, withdrawal from the scheme	Moderate	Moderate	Moderate	Undertake surveys and inspections of individual customer properties during DPD to ensure customer system details and requirements are fully captured and incorporated into	Low	Moderate	Low	BYES	Ongoing	HT	07/06/2019

							design. Appropriate peer design reviews to ensure that any errors or oversights are captured and remedied in design process								
4	Operation	Availability	Heat network failure / leak, causing downtime of the system.	Customers left without heat supply whilst system is repaired, causing discomfort, complaints, reputational impacts.	High	High	High	Appropriate specification of materials, resilience in design through local isolation and pipework layout arrangements, appropriate selection of competent and qualified installers, quality assurance inspections, integrated commissioning and testing, leak detection.	Low	Moderate	Moderate	YES	Operational risk.	HT	31/01/2020
5	Operation	Availability	Energy Centre primary plant failure , causing downtime of the system.	Customers left without heat supply whilst system is repaired, causing discomfort, complaints, reputational impacts.	Moderate	High	High	Undertake a single point of failure risk assessment on design and ensure appropriate back-up resilience is in place. Ensure that appropriate emergency call-out services are in place.	Low	Moderate	Low	YES	Operational risk.	HT	31/01/2020
6	Technical	Utilities	Required capacity of mains gas, electricity or water supply is not available for connection in the vicinity of the proposed energy centre	Additional costs associated with utilities connections, including network reinforcement, added infrastructure and wayleaves etc. Potential programme impact due to lead times in making connections.	Moderate	Moderate	Moderate	Undertake connections applications to local Distribution Network Operator, Cadent / NG and Local Water Company at the earliest opportunity during DPD stage. Make suitable budget provisions in Technoeconomic Feasibility Study to account for potential connection costs.	Moderate	Low	Moderate	YES	Closed. Moving to LPG as back up. Utilities connection cost to be incorporated in capex budget to confirm viability. LPG/biomass/ASHP as alternative back up fuel.	HT	31/01/2020
7	Technical	Energy Baseline	Lack of actual energy (heat) demand data for customer connections - baseline estimates are proven to be inaccurate / erroneous.	System design capacities are unsuited to actual demands i.e. shortfall / surplus. System fails to deliver expected performance.	High	Moderate	High	Install heat meters at selected properties during winter 2018 in order to obtain better clarity on heat demands from the various archetypes. Baselines to be developed using actual energy data and not benchmarks	Low	Moderate	Moderate	YES	Operational risk.	HT	31/01/2020
8	Technical	Customer Systems	Lack of knowledge of customer systems - assumptions on point of connection prove erroneous and actual requirements are far more onerous.	Additional costs associated with customer connections, programme delays, reputational damage.	High	Moderate	Moderate	Undertake surveys and inspections of individual customer properties during DPD to ensure customer system details and requirements are fully captured and incorporated into design. Appropriate peer design reviews to	Low	Moderate	Low	YES	Data for approximately 25% signed up homes shared - ACTION required?	JH	02/03/2020

							ensure that any errors or oversights are captured and remedied in design process								
9	Commercial	Renewable Heat Incentive	Systems design / specification / installation does not meet the requirements of RHI Regulations.	Client unable to register system with Ofgem and claim RHI payments for the scheme.	Low	High	Moderate	Commission RHI specialist to advise on design and metering requirements, ensure specifications meet RHI requirements, engage Ofgem early in the development process to obtain initial opinions.	Low	Moderate	Low	YES	Escalating. Ofgem announced RHI regression due to deployment cap (March 2020).	HT	02/03/2020
10	Commercial	Renewable Heat Incentive	Reform of the RHI regulations, resulting in changes in tariffs or eligibility criteria compared with that assumed in the development stage.	RHI revenues differ from that forecasted in the business case.	Moderate	High	High	Continually monitor and research Ofgem publications to identify any prospective changes to the RHI Regulations. Ensure that 'commitment' to the project is made only when there is adequate certainty on the regulations remaining unchanged during the construction phase	Moderate	High	High	CCC	Escalating. 10% depression announced for Q1 allocation. We need planning permission in order to pre-register for RHI.	HT	02/04/2020
11	Commercial	Renewable Heat Incentive	State aid / grant funding position means that system is ineligible for RHI registration.	Client unable to register system with Ofgem and claim RHI payments for the scheme.	Moderate	High	High	Client to undertake appropriate due diligence and seek advice from BEIS on any potential conflicts between a grant and RHI ahead of any commitment to proceed.	Low	Low	Moderate	CCC	commercial structure of project has been designed to manage state aid and has been tested with BEIS HNIP and HNIP for support.	HT	31/01/2020
12	Development	Community	Complaints from the community regarding the physical appearance of the energy centre and visual impact.	Reputational, potential challenges or objections during planning process, failure to obtain planning permission.	Moderate	High	High	Engage community in design process, submit designs for comment ahead of planning to establish any major concerns; include renders of the thermal stores.	Low	Moderate	Moderate	CLT/CCC	Moving to house the energy centre in an existing structure => planning requirements and visual impacts reduced.	HT	02/04/2020
13	Construction (top 11)	Customer Connection	Damage caused to customer property in the installation of connection / interface.	Reputational, remedial costs	High	Low	Moderate	Ensure that customer is in full agreement with proposed installation and positioning of equipment and pipe routes. Ensure that appropriate budget provisions are made for remedial works to property, including landscaping and interior decoration.	Moderate	Low	Moderate	CCC/BYES	Construction phase. Budget includes remedial works (w/o contingency).	HT	02/03/2020
14	Construction (top 11)	Customer Connection	Unable to gain access to customer property to complete installation	Programme delays, abortive costs	Moderate	Moderate	Moderate	Ensure that suitable obligations are passed to the customers in terms of providing access to facilitate installation. Communicate dates for installation for each customer (utilise appropriate CRM software?) with	Low	Low	Low	ALL	Construction phase.	HT	31/01/2020

							sufficient notice - ensure that dates are adhered to (with back-up resources if required).								
15	Development	Planning	Planning permission is refused, due to genuine misalignments with local plans, failure to meet requirements, objections from consultees etc.	Unable to proceed with the construction of the project, causing programme delays and unrecoverable costs	Low	High	High	Early engagement with planners by way of pre-application meeting and report. Designs to align with local plans and accommodate for any concerns or issues raised in pre-application.	Moderate	High	High	YES	Escalating. LPA can take several months to assess these. BYES consider this a significant project risk.	HT	12/02/2020
17	Technical	Heat Network	Actual heat losses from network are far higher than that projected in the design.	Increased electricity demands to meet heat loads, increase in operational costs.	Moderate	Moderate	Moderate	Appropriate and scrutinised specification of trench pipework - manufacturer's thermal performance claims to be verified by operational field data, TUV test certs (or equivalent) and factory acceptance tests. Regular QA inspections throughout installation phase	Low	Low	Low	YES	Operational risk.	HT	31/01/2020
18	Lifecycle	Heat Network	Heat network pipework deteriorates faster than projected, early failure / end of life.	Increased electricity demands to meet heat loads, increase in operational costs.	Moderate	Moderate	Moderate	As above, review data captured for similar installations that have been in operation for several years. Review material composition, causes and rates of degradation to confirm accuracy of manufacturer's claims.	Low	Low	Low	YES	Operational risk.	HT	31/01/2020
19	Performance	Heat Pump	Heat pump's coefficient of performance is significantly lower than that projected in the energy model / business case	Increased electricity demands to meet heat loads, increase in operational costs.	Moderate	Moderate	Moderate	Selection of heat pump from a reputable company, with performance as a key factor for selection. Manufacturer claims to be supported by evidence of performance from similar installations. Factory acceptance tests and integrated commissioning required. Seek run hour warranties.	Low	Low	Low	YES	Operational risk.	HT	02/03/2020
20	Operation	Maintenance Resources	A lack of local contractor resources to undertake specialist maintenance and servicing of the equipment.	Increased operational costs, longer maintenance downtimes, deterioration in systems performances and shortening of equipment lifespan.	High	Low	Moderate	Early engagement with local prospective supply-chain partners. Consider training needs of local resources and incorporate training programmes into project. Allocate appropriate resources to the completion of O&M contracts, ensure suitable	Low	Low	Low	CCC/BYES	Operational risk.	HT	31/01/2020

							provisions for planned preventative maintenance and reactive maintenance.								
21	Development	Planning	Unforeseen conditions are included in planning permission.	Additional costs, delays to commencement and extension to programme.	High	Moderate	Moderate	Ensure that pre-planning discussions and report includes for any likely conditions or requirements to be addressed in planning application, to minimise pre-construction conditions to be discharged. Ensure that planning application is comprehensive.	Moderate	Moderate	Moderate	YES	In house advice sought by YES.	HT	23/08/2019
22	Technical	Heat Network	Underground obstacles, such as services infrastructure, atypical materials, rivers/watercourses, artefacts result in suboptimal routing of heat network.	Additional heat network costs, higher operational costs (energy)	High	Moderate	Moderate	Undertake subterranean utilities surveys, geotech surveys, archaeological assessments and hydrology surveys ahead of detailed design, to ensure that any issues are identified and addressed at the earliest opportunity (and pre-tender).	Moderate	Low	Low	YES	Subterranean search complete Feb 2020. Operational risk.	HT	02/03/2020
23	Commercial	HNDU R8	Failure to comply with HNDU's requirements, resulting in loss of grant support.	Loss of capital to fund project, cessation.	Moderate	High	Moderate	Ensure HNDU R8 requirements are captured and understood and that responsibilities are effectively distributed across stakeholders as appropriate. CCC to monitor and govern compliance throughout the DPD.	Low	High	Moderate	CCC	Closed.	HT	02/12/2019
24	Development	TEFS	DPD Tendered costs associated with design and build of scheme are significantly higher than the estimations set out in Technoeconomic Feasibility Study	Business case is commercially unviable / insufficient capital to fund the project.	Moderate	High	High	Undertake additional soft market engagement to corroborate subcontractor costs at the earliest opportunity.	Low	Moderate	Moderate	YES	Soft market testing and tendering incorporated in DPD spec.	HT	02/12/2019
25	Development	TEFS	Anticipated returns / revenues at DPD stage are significantly lower than that set out in Technoeconomic Feasibility Study	Business case is commercially unviable / fails to meet investment thresholds of the client	Moderate	High	High	Client to review assumptions set in the scenario manager and confirm approval. Appropriate research to be conducted to review assumptions.	Low	Moderate	Moderate	CLT/CCC	Underway	HT	07/06/2019
26	Development	Resources	Insufficient / inadequate client resources available to develop project	Delays to / unable to complete development programme	Moderate	Moderate	Moderate	Client to ensure that appropriate resources and financial provisions are committed to the development of the project.	Low	Low	Low	ALL	Underway	HT	07/06/2019
27	Development	Resources	Insufficient / inadequate supply-	Delays to / unable to	Moderate	Moderate	Moderate	Consultant to identify prospective supply-	Low	Low	Low	YES	Underway	HT	07/06/2019

			chain resources available to develop project	complete development programme				chain resources, establish soft market engagement process and establish Design Team.							
28	Commercial	Economy	Changes to economy cause inflationary rise in goods and services	Increased project capital or operational costs beyond project budget	Moderate	High	Moderate	TBC	Moderate	High	Moderate	?	Watching brief	HT	07/06/2019
29	Commercial	Energy Prices	Fuel oil and LPG prices / price projections are lower than the modelled predictions	Project is economically unviable / unattractive to prospective customers, lack of uptake	Low	Moderate	Moderate	Undertake targeted research into future energy pricing as part of the DPD. Undertake sensitivity analysis to evaluate impacts of all potential pricing scenarios.	Low	Moderate	Moderate	CCC	Move to main DPD spec.	HT	02/03/2020
30	Commercial	Energy Prices	Industrial electricity prices / price forecasts are higher than modelled predictions	Project operational costs increase, resulting in economic business case being unviable.	Moderate	Moderate	Moderate	Undertake targeted research into future energy pricing as part of the DPD. Undertake sensitivity analysis to evaluate impacts of all potential pricing scenarios.	Low	Moderate	Moderate	CCC	Move to main DPD spec.	HT	02/03/2020
31	Development	Customer Uptake	A competing renewable / low carbon scheme is more attractive to prospective customers than the proposed.	Loss of prospective customers, loss of revenue, unviable business case	Moderate	High	Moderate	Evaluate alternatives / competitor offers and determine whether or not this scheme is genuinely a better offer. Seek means of remodelling the proposal so that the proposed is more attractive to the end customer. Client to undertake marketing and engagement with customers to ensure awareness of the benefits.	Moderate	Moderate	Moderate	ALL	Main alternative is individual ASHPs - suppliers are known to be active in the village. Action underway to communicate with these local suppliers and bring onboard. Also could include the avoided cost of individual HPs to homeowners as benefits to network participants.	HT	20/09/2019
32	Legal / Regulatory	Regulation Change	A change in regulations / legislation drives changes in the design or development of the project.	Increased costs, changes to economic business case.	Moderate	High	Moderate	Continual monitoring and research into prospective regulatory or legislative changes that may impact the viability of the proposal. Early awareness of prospective changes to enable design / proposal to be adapted / alternative solutions sought.	Moderate	Low	Low	CCC/BYES	Watching brief	HT	13/06/2019
33	Technical	Design General	General design or specification errors are made, resulting in the system failing to perform as intended.	Cost, quality	Moderate	Moderate	Moderate	Ensure competent and qualified engineering resources are assigned to the project and that effective QA / PDR is in place to minimise the likelihood or impact of design / specification oversights.	Low	Low	Low	BYES	To be resolved through procurement and QA of subsequent stages	HT	13/06/2019
34	Development	Listed Building Consent	Individual listed building consent required for every listed building to be	Development cost, programme, risk of refusal.	High	High	High	Local Planning Authority to be engaged at the earliest opportunity to	Moderate	Low	Low	CCC/BYES	Planning application in development from consultants to submit	HT	04/10/2019

			connected to the scheme.				establish an appropriate and efficient means of adhering to planning laws. Update TEFS to account for any cost, programme or design implications.					one application for the whole scheme.			
35	Development	CDM	Insufficient / inadequate pre-construction information made available to satisfy CDM requirements and effectively control H&S risks.	CDM Principal Designer unable to conduct Design Risk Assessment, failure to comply with legislation.	Moderate	High	High	CDM Client to appoint Principal Designer at the earliest opportunity in the DPD stage. Principal Designer to clarify the requirements of the Pre-Construction Information. Client and consultant to assign appropriate resources to ensure that PCI is obtained in a timely fashion. Consultant to ensure that Designers are aware of their responsibilities under CDM and that satisfactory designs are submitted to the Principal Designer in a timely fashion.	Low	Low	Low	CCC	To be resolved through procurement and QA of subsequent stages	HT	13/06/2019
36	Development	Environmental / Ecological	Specialist surveys (ecology / EIA / landscaping etc.) require significant additional control measures to be incorporated into the design, construction or operation.	Additional costs, delays to commencement and extension to programme.	Moderate	Moderate	Moderate	Undertake Local Authority Screening at the earliest opportunity in DPD to obtain a knowledge of likely requirements. Obtain opinions from ecology / environmental consultants prior to design.	Moderate	Moderate	Moderate	YES	Escalating. Statutory timescales are 3-5 weeks. LPA may request extension, especially with the Reg 3 requirements.	HT	13/06/2019
37	Commercial	EPC	Failure to reach agreement on Energy Performance Contract savings guarantees & other ESCO responsibilities	Contracts not agreed, project cessation.	Moderate	High	Moderate	Stakeholders (CCC / BYES / SPCLT) to seek agreement to Heads of Terms that set out general scopes of responsibility, measurement & verification strategies, KPIs, SLAs and contracting structures prior to the commencement of the DPD.	Low	Low	Low	ALL	Operational risk.	HT	31/01/2020
39	Development	Test Boreholes	Results of test boreholes indicate that the volume / depth / flow rate of the aquifer is insufficient for required heat capacity	Current proposals prove unfeasible, jeopardising the project's success.	Moderate	High	High	Continue in the exploration and development of alternative technological options (such as closed loop or air source) to act as a 'fall back plan'. Identify alternative local aquifers and establish additional infrastructure requirements and costs to make	Moderate	Moderate	Moderate	YES	Closed. Will account for changes to capex in financial modelling.	HT	31/01/2020

							connection with energy centre.								
40	Construction (top 11)	Trenched Heating Mains	Unforeseen complexities in the construction of trenched services.	Programme delays, cost overruns	High	Moderate	Moderate	Undertake all preproperate up-front surveys and tests to establish potential obstructions. Coordinate heat network layout to identify most practicable / economical routes. Identify any uncertainties and risks, make appropriate allowances in programme and cost to account for risks.	Low	Low	Low	YES	Sub terranean survey complete Feb 2020.	HT	02/03/2020
41	Construction (top 11)	Borehole	Unforeseen complexities in the construction of boreholes	Programme delays, cost overruns	High	Moderate	Moderate	Undertake detailed geotechnical studies / surveys, ground condition tests and install test borehole as part of the DPD to obtain data on ground construction / make-up, highlight any issues in drilling, determine aquifer flow rates and volumes etc. Incorporate findings into design and procurement processes and make suitable allowances for any residual unknowns or risks.	Moderate	Low	Low	YES	Construction phase.	HT	31/01/2020
42	Construction (top 11)	Complaints	Disturbance and disruption caused by construction - noise/vibration, roadworks, dust, lighting etc.	Reputation and relationship with customers	Moderate	Moderate	Moderate	Develop Construction Environmental Management Plans and Risk Registers to identify and minimise potential nuisances, such as noise, vibration etc. Share plans with community and ensure awareness of any residual disruption and confirm comfort with plans.	Low	Low	Low	YES	Construction phase.	HT	31/01/2020
43	Construction (top 11)	Environmental / Ecological	Environmental disaster occurs during construction phase.	Legal, remedial costs and damage to local habitat	Moderate	High	High	Ensure effective environmental controls, policies and procedures are in place on site. Commission Environmental Aspects & Impacts Assessment and develop and implement Construction Environmental Management Plan prior to construction.	Low	Low	Low	YES	Construction phase.	HT	31/01/2020

44	Construction (top 11)	Health & Safety	Injury, illness or death caused in the construction of the project	Legal, costs	Moderate	High	High	Ensure effective H&S controls, policies and procedures are in place on site. Adopt BYES Safe Systems of Work, commit appropriate H&S personnel to project. Ensure CDM Principal Designer and Principal Contractor, Designer, Contractor & Worker duties are fully satisfied.	Low	High	High	ALL	Construction phase.	HT	31/01/2020
45	Construction (top 11)	Commissioning	Poor coordination and execution of commissioning leads to unavailability of heat / hot water during changeover	Reputation and relationship with customers, potential remedial costs	Moderate	Moderate	Moderate	Develop and implement phased commissioning strategy to prove system prior to switchover, minimise any risk of downtime for the end customer. Undertake commissioning outside of the heating season. Develop contingency plan to implement in the event of commissioning failure	Low	Low	Low	YES	Construction phase.	HT	31/01/2020
46	Construction (top 11)	Security	Trespassing of construction site, theft or vandalism of construction materials	Legal, costs	Moderate	Moderate	Moderate	Implement appropriate security controls, including hoardings, signage, locks, security lighting, smart water system and remotely monitored, CCTV	Low	Low	Low	YES	Construction phase.	HT	31/01/2020
47	Construction (top 11)	Programme	A lack of coordination or availability of resources causes programme delays during the construction phase.	Programme delays, cost overruns	Moderate	Moderate	Moderate	Undertake comprehensive supply-chain vetting to establish resource capacity, commit resources as part of tender process, develop a realistic and functional delivery programme and project execution plan, ensure effective contractual terms to incentivise deliver against programme, employ project planners/coordinator and project managers to coordinate and monitor contractor works against programme, establish contingency plan to expedite programme in the event of delays.	Low	Low	Low	YES	Increasing - critical path is planning.	HT	31/01/2020
48	Construction (top 11)	Termination	Contractor or subcontractor breach / cessation leads to termination of contract mid way through the construction phase	Cost, programme delays.	Moderate	High	High	Supply-chain vetting and tender selection to evaluate prospective contractor / subcontractor historic performances, capacity and	Low	Moderate	Moderate	YES	Construction phase.	HT	31/01/2020

							capability. Develop a contingency plan that identifies alternative contractors, such that in the event of cessation or breach, the alternative may be commissioned to continue works.								
49	Commercial	Customer Uptake	Lack of customer awareness / engagement with the scheme results in low uptake rate.	Loss of prospective customers, loss of revenue, unviable business case	Moderate	Moderate	Moderate	Develop marketing and communication plan that ensures appropriately regular and suitable communication to all prospective customers throughout the development stage.	Low	Low	Low	CLT/CCC	Consider closed / to reengage in next development phase.	HT	04/10/2019
50	Commercial	Resources	Insufficient / inadequate local supply-chain contractor resources available to deliver project, resulting in a need to source from further afield	Additional costs associated with subsistence, delays due to lost travel time.	Moderate	Moderate	Moderate	As above + Subcontractor resource availability to be evaluated as part of the tendering process. Ensure that subcontractor has sufficient capacity to undertake the works through procurement and supply-chain vetting processes.	Low	Low	Low	YES	For future stage of work	HT	13/06/2019
51	Legal / Regulatory	Wayleaves	Heat main is required to traverse third party land, thus necessitating wayleaves/easements	Programme delays, additional costs, legal	Moderate	Moderate	Moderate	Establish land ownerships of heat main routes set out in TEFS to determine any privately owned land. Seek no/low cost alternatives, or, where unavoidable, engage in initial dialogue with the owner prior to any detailed design or specialist survey work to confirm no objections. Otherwise, seek up-front legal advice on how best to proceed.	Low	Moderate	Low	CCC/YES	Escalating. Re-routing to avoid the highways is increasing the easement/wayleaves requirement. EF - once red line route is established, will appoint lawyer to do full and registry sweep. MM to produce GIS map of the route - land ownership and highways.	HT	12/02/2020
52	Technical	Geology	Green sands makes open loop GHSP unviable	Open loop technical solution is not progressed	Moderate	High	High	Confirm ground conditions via geological survey. Revisit closed loop as a potential technical solution.	Low	Moderate	Low	YES	Closed.	HT	23/08/2019
53	Technical	Heat pump	Change of heat source alters project timelines and/or cost	Additional funding required from BEIS; greater uncertainty in viability of project	Moderate	Moderate	Low	Propose revised scope to BEIS for sign off and/or early application to Round 9.	Low	Moderate	Low	YES / Avieco	Closed.	HT	10/06/2019
55	Development	Project management	Tight timescales; slippage at this stage could make entire scheme unviable	Failure to resolve heat source and consumer connection risks means CCC can't secure further HNDU monies	Moderate	High	Moderate	Prioritise planning activities and proactive risk mgmt. approach	Moderate	Moderate	Moderate	Avieco	Escalating - delays in HNDU R9 application could mean construction timescales do not meet RHI deadline.	HT	04/10/2019

56	Development	Project management	Multiple stakeholders on project board with varying capacities and experiences	Decisions delayed, potentially putting whole scheme at risk	Low	Moderate	Low	Maintain frequent comms with the board; key messages in plain English; confirm core roles and decision-making requirements	Low	Low	Low	Avieco	Underway	HT	17/05/2019
59	Development	Project management	Stop-start development due to funding decision timescales	Consumers expectations frustrated; difficult to engage other partners and potential investors	Low	Moderate	Low	Apply asap to HNDU; regular updates to the community to keep everyone up to date. HNDU have confirmed they are assessing applications monthly to speed up project development	Low	Low	Low	Avieco	Closed. Board approved extension for PMS and community engagement work to bridge gap between pre-DPD and R9 funding decision.	HT	04/10/2019
60	Development	Project management	Balancing time onsite in community with ensuring technical and governance workstreams progress	PMS budget overstretched	Low	Low	Low	Mobile team can be onsite and deliver technical PM activities	Low	Low	Low	Avieco	Closed.	HT	23/08/2019
61	Development	Project management	Resource availability across partnership and delivery partners through the summer season	Board members and/or consultants not available at key moments; community disconnected from development	Moderate	Low	Low	Confirm availability of all partners at kick off; ensure handover/cover arrangements in place as necessary	Low	Low	Low	Avieco	Closed.	HT	23/08/2019
62	Development	Project management	Residents' availability constrained through summer season	Uptake of household surveys is too low; sign ups to network too low	Moderate	Moderate	Moderate	Ensure community engagement lead plans for resident availability	Moderate	Low	Low	Avieco / JH	Closed.	HT	20/09/2019
64	Technical	Energy Baseline	Client is unable to provide requested energy data within required timescale.	Unable to develop energy baselines and confirm system capacity and design requirements. Delay to project's development.	High	Moderate	Moderate	Prioritise data acquisition. Continue with development using reasonable assumptions regarding capacity requirements, with a view to updating when information becomes available.	Moderate	Low	Low	CLT/CCC	Closed.	HT	12/07/2019
65	Development	Planning	Heath Road / Adjacent residents express planning concerns	Defamation of project / planning risk. Reduced sign-up.	High	Moderate	Moderate	Provide detailed information to these houses on public planning meetings; open communication, and suggest we hold a 1-hour drop in allocated to these households specifically.	Moderate	High	Moderate	JH	1 Heath Rd neighbour has been vocal; next houses down adjacent to the field have not received community updates; they will require planning involvement. Update from EF required on the Windmill property.	JH	02.03.20
66	Development	Customer Uptake	Uncertainty of pricing to be offered by scheme pre-sign-up	Reduced sign-up	Moderate	Moderate	Moderate	Investigate use of energy price calculator. Supply clear information on the pathway to calculating viability and pricing as it develops. Milestones to viability; 170 sign-ups, result of bore hole testing, technical	Low	Low	Low	Avieco/JH	Underway	HT	13/06/2019

								design costing, business model.							
68	Commercial	Customer Uptake	Housing associations do not commit	Loss of critical housing mass	Low	Moderate	High	Re-engage Sanctuary Housing Q4 1920. Continued communications with Sanctuary Housing.	Low	Low	Low	JH / Avieco	Increasing. To re-engage. SH indicated NOT prepared to support. Individual letters sent w/c 9/9/19. SH informal commitment secured Aug 2019.	HT	02/03/2020
69	Development	Borehole array design	Underground utilities identified imply restrictions on digging on CCC land	Borehole array options may be curtailed.	High	Moderate	Moderate	Mitigation is to complete a subterranean utility survey of the entire land parcel	Moderate	Low	Moderate	YES	Closed. YES commissioning survey asap.	HT	02/03/2020
72	Operation	Customer uptake	Teething problems in early phases deter later phase connections	Customers encounter teething problems in early phase of deployment, deterring other customers joining the scheme	Moderate	Moderate	Moderate	Scope cost implications and community engagement for first year of operations to manage and mitigate impacts	Low	Low	Low	CCC/CLT		HT	28/10/2019
74	Development	Planning	Scheme is determined to be EIA	Several additional activities required to comply with EIA requirements. This introduces additional delays, including seasonal surveys. This is the decision of the LPA.	Moderate	Moderate	High	Submit EIA screening and scoping report to present the methodological approach and commission known studies asap.	Low	Moderate	Moderate	YES	EIA S+S enquiry submitted. LPA confirms not an EIA scheme.	HT	12/02/2020
75	Development	Customer uptake	Insufficient heat supply agreements signed to secure eligible connections	Scheme cannot realise all the RHI revenue streams anticipated	Moderate	Moderate	Moderate	Accelerate issuing heat supply agreement and securing village sign ups. Key deliverable for legal and commercial engagement contractors.	Low	Moderate	Moderate	JH/ Sharpe Pritchard	166 homes are have agreed in principle to sign up to the proeject from the start. Heat tariff agreements are under development.	HT	02/03/2020
76	Construction	Permissions	Highways Act required a statutory undertaker to adopt and manage a heat network	Cannot secure permission to install the heat network	Moderate	High	High	commission Sharpe Pritchard to review Local Governmetn powers for heat.	Low	Low	Low	YES	the Council has powers under the Local Government Act 1976 section 11 to generate, dsitribute and sell heat to tis community and has statutory undertaking powers that cover highways.	HT	12/02/2020
77	Construction	Borehole drilling	UK borehole drilling firms are fully booked to 2021	No availability of drill companies for our bore hole array	Moderate	High	High	Instigate wider soft market testing for other drill companies.	Low	Moderate	Moderate	YES	Needs update following RHI extension Q4 2019-20	HT	02/04/2020
78	Construction	Solar PV availability	Coronavirus outbreak reduces availability of solar PV panels	Cannot procure cost-effective PV system	Moderate	Moderate	Moderate	Instigate wider soft market testing for other PV suppliers.	Low	Moderate	Moderate	YES		HT	12/02/2020

79	Development	Customer Uptake	Conversion of expressions of interest to official sign-up	Reduced sign-up	Moderate	High	High	Contractual workshops planned, for 4 groups of 40. Some allowance for 1:1s made through communications budget	Low	High	Low	JH / SP	Contract design process to be designed in Q1 2020. Including information requirements for contracts; variables open to negotiation; and timeline on payment systems.	HT	02/04/2020
81	Development	Planning	Perception of 'un-detailed' planning approach regarding individual homes	Planning risk	Moderate	Moderate	Moderate	Confirmation if this is permitted development or LBCDO through ECDC	Low	Moderate	Moderate	JH	Discussions with ECDC conservation officer for a Listed Building Consent Order to cover the conservation area . This will prevent the need for every home to apply for consent and slim the administrative processes.	JH	02/03/2020
83	Development	Planning	COVID-19 restrictions delay planning review and determination	Planning risk	Moderate	Moderate	High	Monitor LPA processes as they move online / to virtual decision making. Escalate planning need through political channels.	Low	Low	Low	CCC / Prospus	New on-line decision making processes now underway since April 2020. A	HT	02/04/2020
84	Commercial	Investor decision	COVID-19 restrictions delay commercial and political decision making	Project delay	Low	Moderate	Moderate	Monitor CCC processes as they move online / to virtual decision making.	Low	Low	Moderate	CCC	As above.	HT	02/04/2020
85	Construction	Build programme	COVID-19 restrictions delay site mobilisation and build schedule	Programme delay	Moderate	Low	Moderate	Monitor government advice regarding personal and commercial activities as pandemic develops.	Low	Low	Moderate	Avieco / BYES		HT	02/04/2020
86	Development	Supplier availability	COVID-19 restrictions mean ecologists and other specialist surveyors are not available to stay overnight at site	Programme delay	Moderate	Low	Moderate	Monitor government advice regarding personal and commercial activities as pandemic develops.	Low	Low	Moderate	Avieco / BYES		HT	03/04/2020
87															
88															

	Severity	Likelihood
Low	Doesn't threaten overall project outcome. Minor and/or inconsequential damage	Is highly unlikely to occur in normal circumstances
Moderate	Impact overall project. Has the potential to cause temporary damage and moderate financial impact. No injury or illness.	Unlikely to occur under normal conditions but has the potential to occur if unmanaged
High	Causes significant impact to overall project, or result in complete termination. Will cause permanent and irreparable damages	Is likely to occur at some time in normal circumstances

Effectiveness of risk transferal	
Low	Highly unlikely to occur and even if it did, the severity would be low.
Moderate	Relatively unlikely to occur but, if it did, the impact to the overall project would be controlled.
High	Unacceptable level of risk.