

Decarbonising through Innovation

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Julie Rose Stadium Decarbonisation

Partnership

Public Sector Asset

Innovation

Risk

Blended Finance



Opportunity

Learning

The opportunity at Julie Rose Stadium

- End of life gas heating system - end of its operational life - urgent replacement.
- ABC needed a lower-carbon solution - some anxiety over ASHP noise impacts.
- Timing - Teratherm approached the Council after learning about its heat-network ambitions.
- Could a building level solution be scaled up for heat networks?
- Early discussions went large - energy-generation scheme with industrial scale heat batteries, serving nearby industrial units.
- Reined in - lets do a test pilot first before considering wider opportunity. ABC gets confidence about tech and contractor gets Proof of Concept.





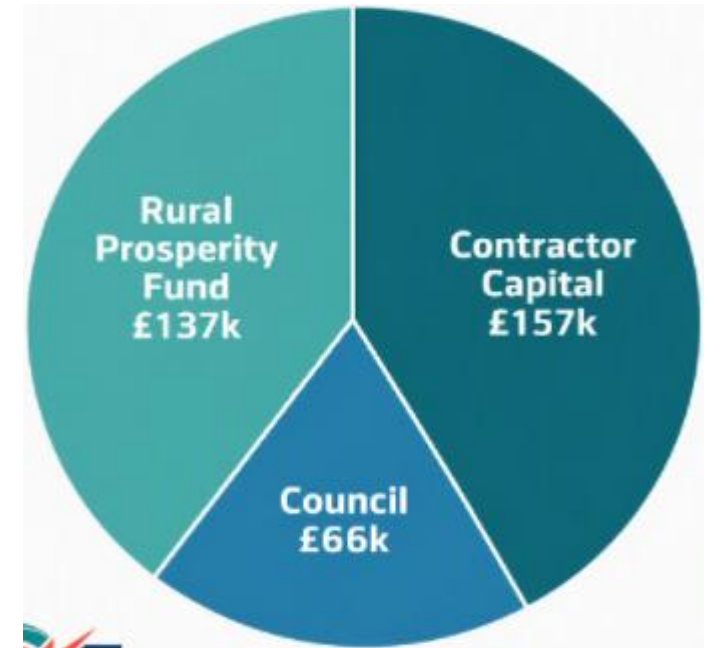
Why was this project innovative

- First commercial or public-sector deployment of the technology.
- The pilot uses approximately one sixth of the ground area required for a conventional horizontal ground-loop array.
- Existing surfaces become productive energy assets while retaining their primary function.
- The system may provide an alternative where air-source heat pumps are constrained by noise or planning considerations.
- The surface could potentially be integrated into wider heat, solar photovoltaic and battery-storage systems.
- Replicability - paths, car parks, play areas—multiple asset opportunities
- Blended finance not novel – but it enabled us to host a Proof of concept project – and get an operational low carbon building



Innovation through partnership

- Ashford Borough Council provided a credible operational site and acted as an early adopter.
- Teratherm supplied the technology, specialist knowledge and ongoing optimisation support.
- Shannon Construction, as Teratherm's backer, contributed private investment to reduce the Council's financial exposure.
- The Rural England Prosperity Fund supported delivery through grant funding.
- The Greater South East Net Zero Hub is supporting independent monitoring and assessment – Risk alleviation
- The model created shared value: the Council gained a lower-carbon asset solution, while the supplier gained proof-of-concept data.
- Good relationships – mutual benefits – understood each parties needs



Outcomes

- The installation completed in June 2025, taking the site completely off fossil fuels – 5 year maintenance package
- External investment and grant funding reduced reliance on core Council budgets - only £66k cost to the Council
- Winter performance of the novel ground loops/surface showed high thermal power relative to published references.
- It looks like the technology may enable a smaller ground loop area for a given heat pump capacity
- Early heating-season data recorded peak thermal outputs of approximately 45 W/m² and 52 W/m² from the two surface systems.
- The GSHPs are exceeding energy saving expectations and delivering Coefficients of Performance of 2.82 and 3.99.
- Frost-free surfaces may offer safety and maintenance benefits at suitable locations.
- The project provides a visible demonstration of local climate leadership.
- Engagement with the local college creates opportunities to support awareness and future skills pathways.

Why agile framing, financing and innovation matter

- The obvious - ageing assets, constrained capital budgets and ambitious net-zero targets.
- Standard solutions not always suitable - space, noise, planning, grid or operational constraints.
- Innovation can unlock new options, If you can be agile - take up opportunities as they present themselves
- Both technological opportunities by financing too
- Either attracting external investment or discounts as you act as a pilot or offer a site
- The objective is not to pursue novelty for its own sake, need to give value to all parties (cost, maintenance, PR, time, support local SME)
- A successful pilot can turn an immediate asset problem into a platform for learning, investment and replication.





Managing challenges of innovation

- Novel technology ltd operational track record, making costs, performance and reliability harder to predict.
- Internal stakeholders may need additional explanation before they are comfortable with a non-standard solution.
- Ownership can become unclear where climate, asset, property, finance and operational teams all have an interest.
- Procurement and contract processes may be unfamiliar to an SME working with a local authority for the first time.
- A tenanted and publicly used site creates additional requirements around access, disruption, safety, testing
- Innovation projects require more intensive monitoring, commissioning and optimisation than routine replacement schemes.
- Long term project as had to allow for seasonal optimisation and evaluation
- Manage Risk – contingency planning ASHP and independent evaluation – Manager's agent

What we would do differently

- Give first-time SME partners a clearer guide to Council procurement, invoicing, documentation and governance requirements.
- Confirm a single project owner and clearly define the responsibilities of climate, asset, property and operational teams.
- Involve the site operator earlier in design, transition planning, testing schedules and operational protocols.
- Coordinate works with events and operational calendars to minimise disruption and contractor downtime.
- Monitoring agreed at start but kit not defined early enough – wifi and connection issues.
- Make sure your site is the right one – balance opportunity - site not optimal.
- Low or variable heat demand can make early performance assessment difficult.
- Legionella protocols – needed definition

Closing message

- Innovation does not mean accepting unmanaged risk.
- Can be done in a controlled environment in which new solutions can be tested, measured and improved.
- The Julie Rose Stadium project shows how an urgent asset need can become a cost saving opportunity
- Accept there will be imperfections and learning on both sides.
- It is a responsibility – backers have put their capital into a project – need to help them make it work – not same as standard contractual relationship
- Partnership pilots and blended finance can give councils access to technologies and expertise that core budgets alone may not support.
- The next step ideally would be to explore - scaling up, schools, sport?
- Could however public sector estate be used in this way more deliberately in future