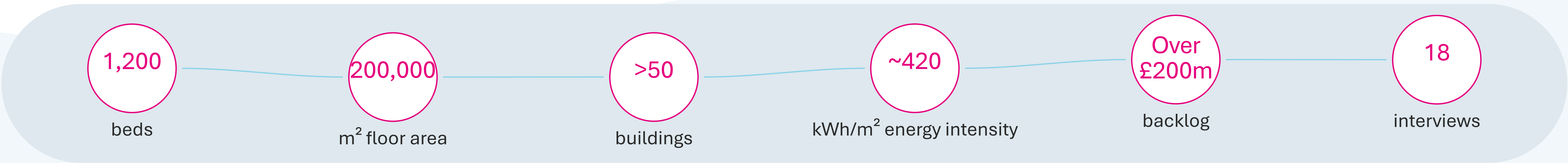
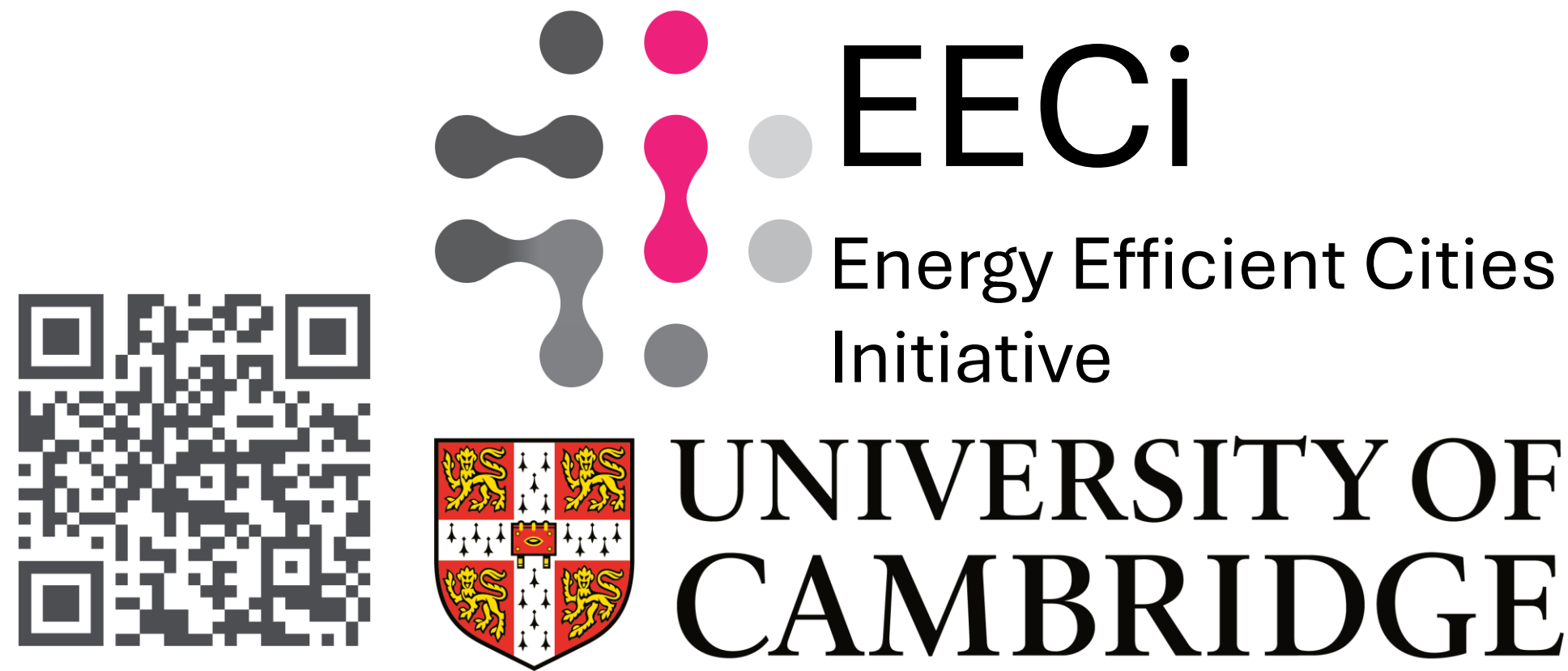


Organised for continuity, not for net zero

Retrofit decision-making in NHS hospital estates

Hospital estates are already organised for a kind of resilience, just not the kind net zero needs.
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99 GWh delivered energy a year: 56% thermal, 44% electricity.

Resilience Acute hospitals are built to absorb disruption: clinical continuity, patient safety, ageing plant kept running. This resilience logic works, but is only suited to a short horizon, and decarbonisation competes with it for the same capital and the same risk appetite. The question this project helped answer is not whether estates value resilience, but *resilience to what, over what timescale, decided by whom.*

Why this NHS estate?

The estate chosen is not the typical estate. Against 219 general acute hospital sites in the national estates return it sits in the top 2% for floor area, is more electrified than 88% of them, ranks 12th for installed heat pumps, and holds a heat decarbonisation plan where 90 sites have none. By all accounts, this is a well-performing, well-run estate.

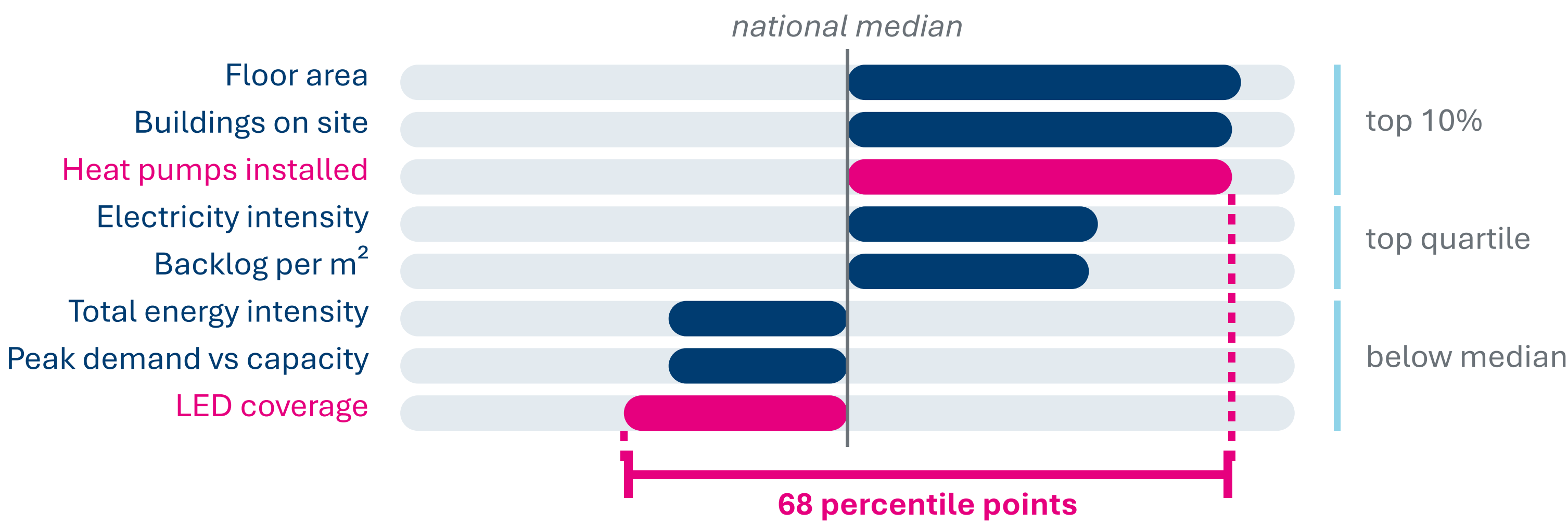


Figure 1 – national leader, national laggard. One estate, eight measures. Heat pumps: 12th of 219, with 122 sites having none. LED lighting: 42% against a median of 70%, bottom quartile. Leading on the grant-funded measure; lagging on the cheap one no grant heading covers.

The hierarchy

- 1 Clinical patient safety, continuity, infection control
- 2 Managerial / financial payback, cost-efficiency, capital appraisal
- 3 Engineering & energy reliability, system performance
- 4 Public-sector governance allocation rules, grant eligibility, contract terms

Rightly so, Clinical safety was quoted by all as being the top priority for all involved in retrofit projects

Sustainability endorsed at board level, enforced at no decision site

Three structural blockers

Capital is rationed against physical risk. A £200m backlog against roughly £10m a year is twenty years of catching up. Retrofit competes against works that stop something failing.

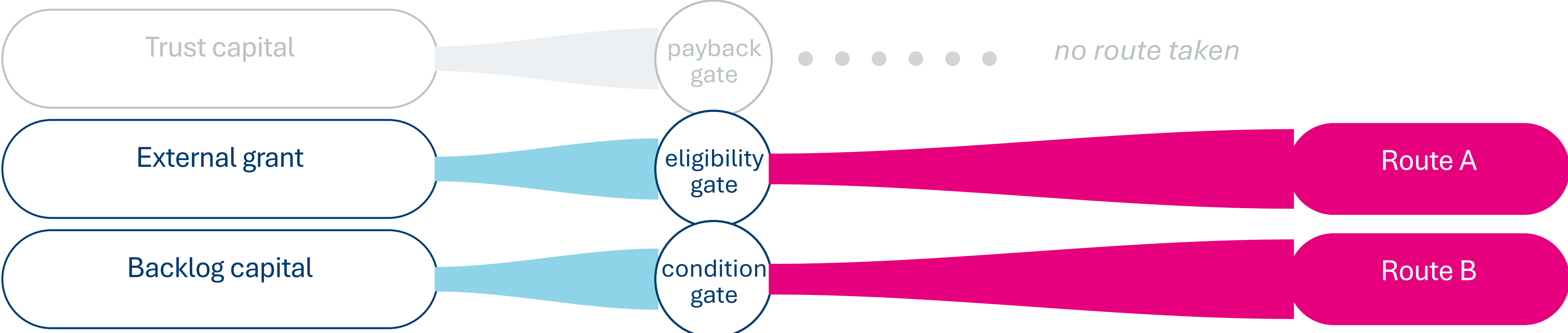
Carbon has no cash value at the gate. Appraisal runs on payback and present-day cash.

Funding availability sets strategy, not the reverse.

“Here’s the funding pot for something, make something fit.”
— Estates energy

“I’m not aware of a business case that we’ve quantified the carbon value, put it in, and that it’s changed the outcome of the decision, which is sad, but the funding for the NHS is in pounds.”
— Capital planning

Three routes, two outcomes



Route A: grant. A heat decarbonisation scheme, 88% externally funded. Fabric and infrastructure fell outside the funding envelope, so heat pumps were specified for 80 °C rather than 50 °C, an efficiency penalty set by a funding rule, not an engineering judgement.

Route B: backlog. An end-of-life chiller replaced with a heat pump chiller doing simultaneous heating and cooling, tied to roof photovoltaics. Justified on asset condition, it never met the payback gate.

“We needed the new plant, we needed a new cooling plant in the building anyway, so we took the opportunity from an engineering perspective to prove that technology would deliver what it needed to do and it was reliable.”
— Estates engineering

The contrast. Route A is legible, funded, strategic on paper, yet locked in a worse asset. Route B is invisible and opportunistic, and delivered the better outcome, in no decarbonisation business case anywhere.

What would change this

The clinical hierarchy is not the problem to solve. The decision tree and funding allocation is.

- Fund across years, not within them.** Annual budgets and grant deadlines force the scope compromises.
- Appraise backlog and decarbonisation together.** The route that works already does, one project at a time.
- Close the feedback loop.** No post-project measurement means no evidence at the next gate.

Discuss this in a workshop

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