ADDRESSING OVERHEATING IN PUBLIC BUILDINGS

Find the risk. Diagnose the cause. Verify the response.



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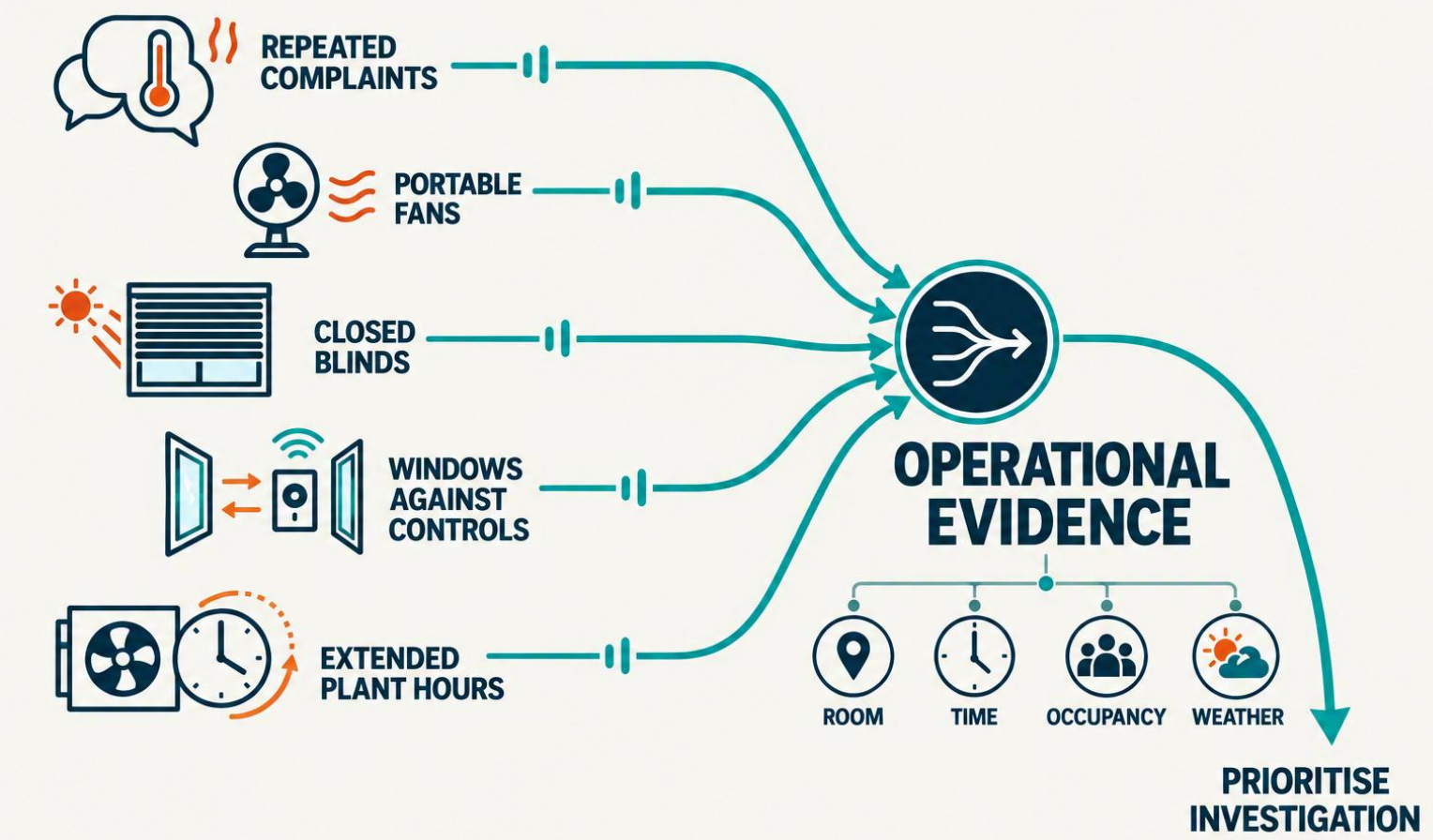
RECOGNISE — PRIORITISE — ASSESS — DIAGNOSE — INTERVENE — VERIFY

The consequences appear before the formal assessment

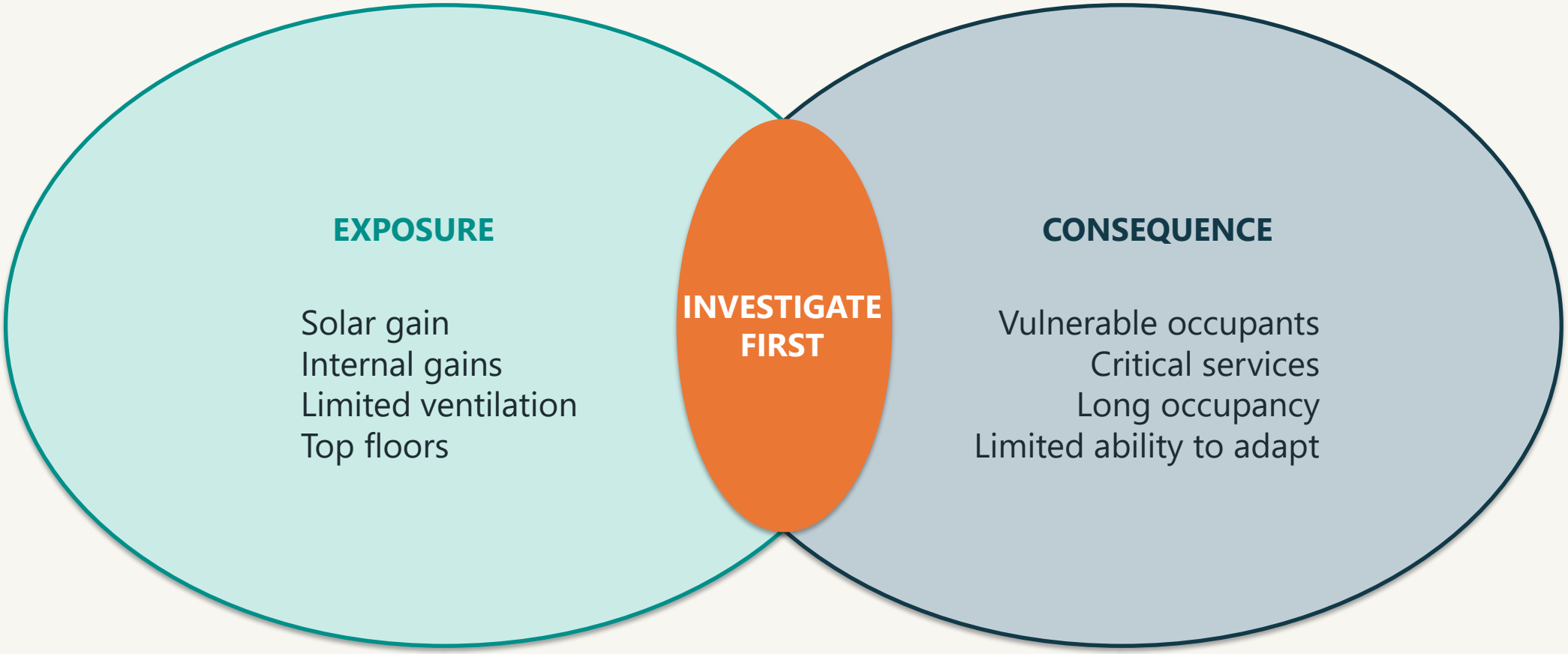
Recurring workarounds are signals. Context turns them into evidence.



Record the room, time, occupancy and weather — not just the complaint.

Prioritise where exposure and consequence overlap

The hottest-looking building is not always the highest estate risk.



Start with rooms and zones, not just whole-building averages.

Use proportionate evidence to test the whole heat balance

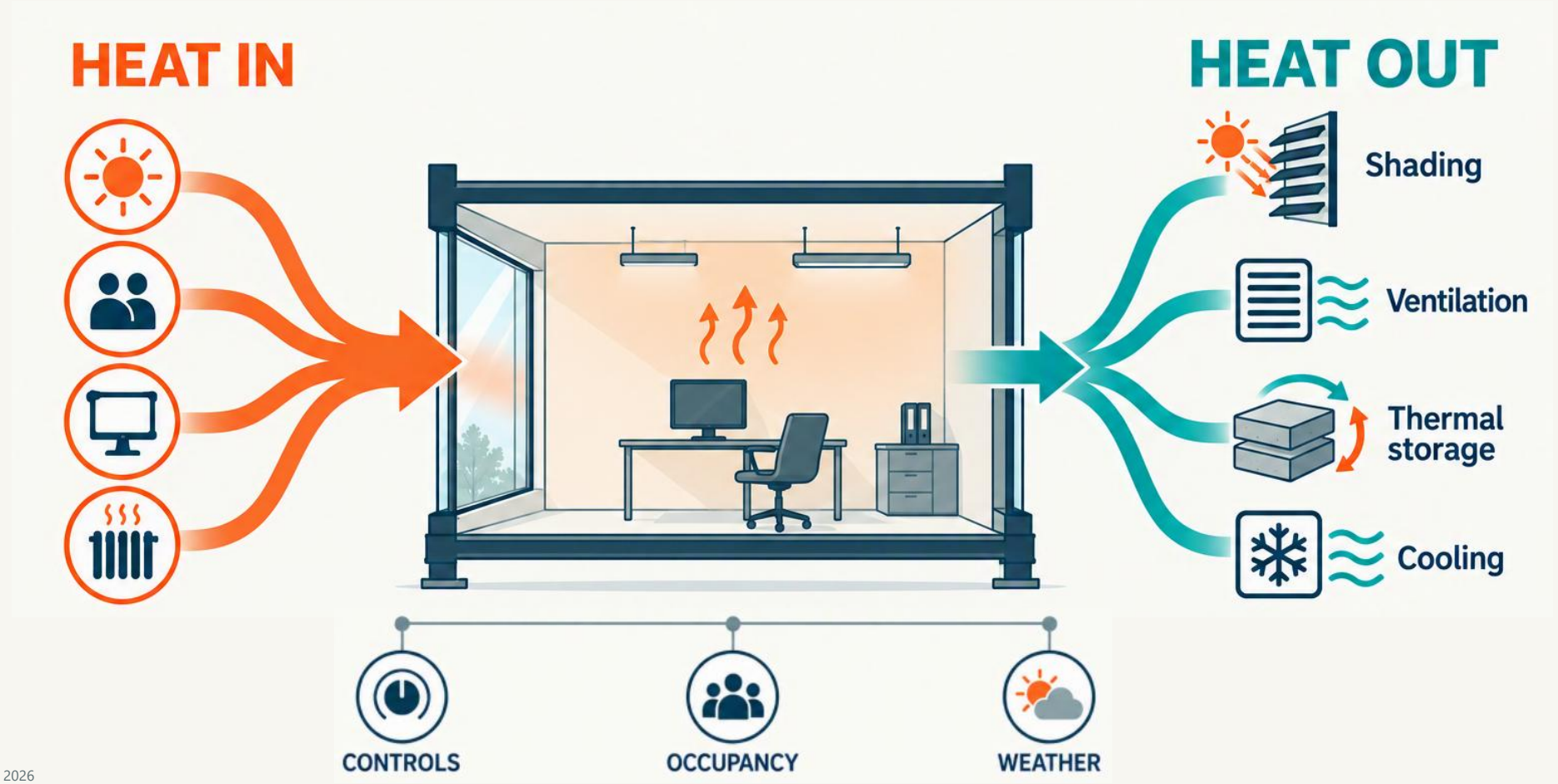
Escalate the assessment only when the decision requires it.

SCREEN — Complaints + estate data

MONITOR — Temperature + CO_2 weather + occupancy

INVESTIGATE — Fabric + ventilation controls + gains

MODEL — Future climate complex options



A high-performing design can still produce poor lived experience

An anonymised, recently constructed public-sector education building

- **ALL-ELECTRIC**
- **ASHP HEATING**
- **HYBRID + MECHANICAL VENTILATION**
- **ROOF-MOUNTED SOLAR PV**

YET USERS REPORTED

Overheating and underheating

36°C **REPORTED**
Reception during hot weather

32°+ **OBSERVED**
Classroom spot readings

Design intent is only the starting point.



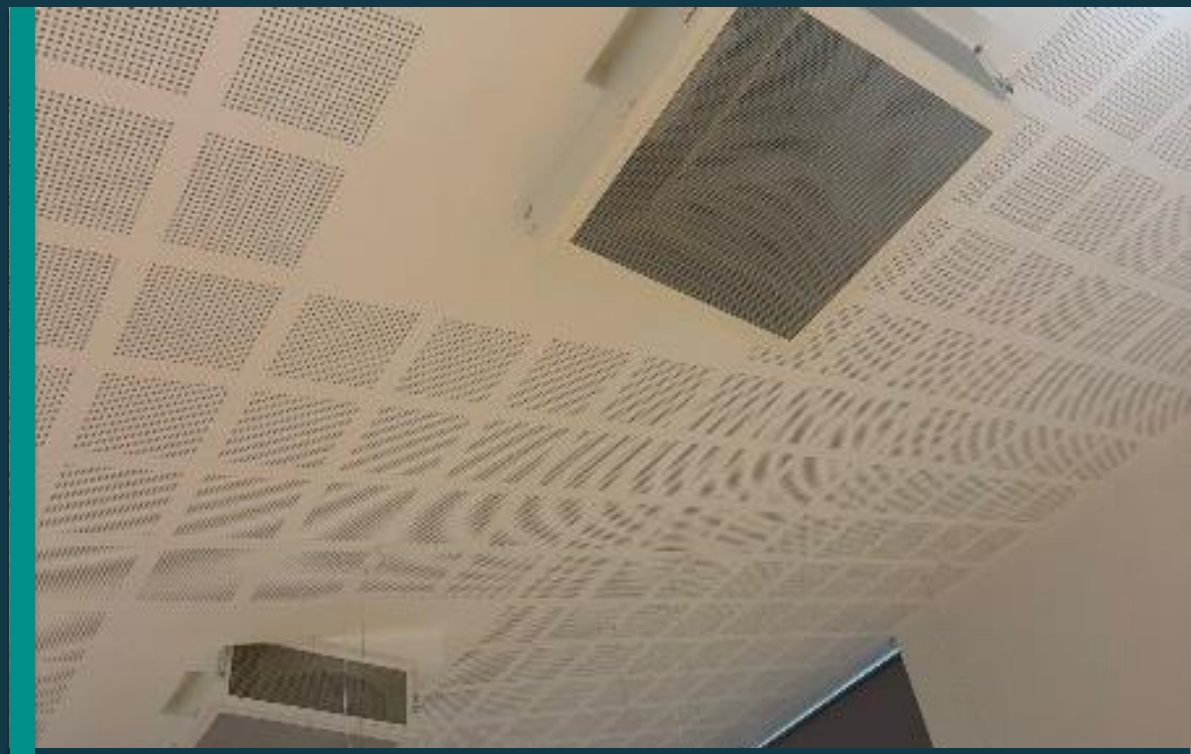
The building lost part of its heat-removal pathway

Installed capacity only matters when the complete air path and operating mode work.



OBSERVED

Supply fan not operating
Extract duct disconnected



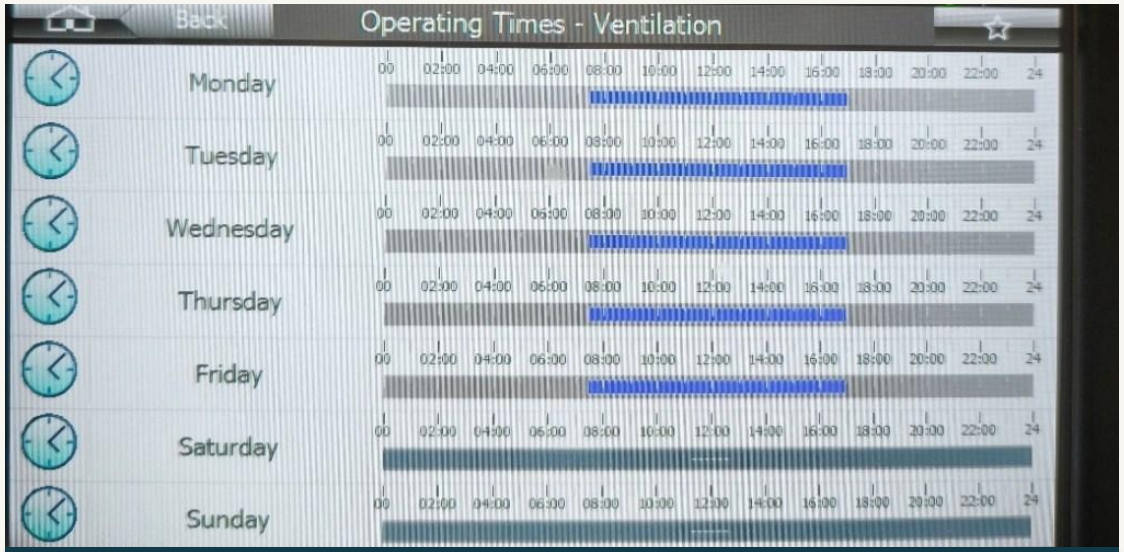
OBSERVED

2 Windcatchers not operating
1 operating only in test mode

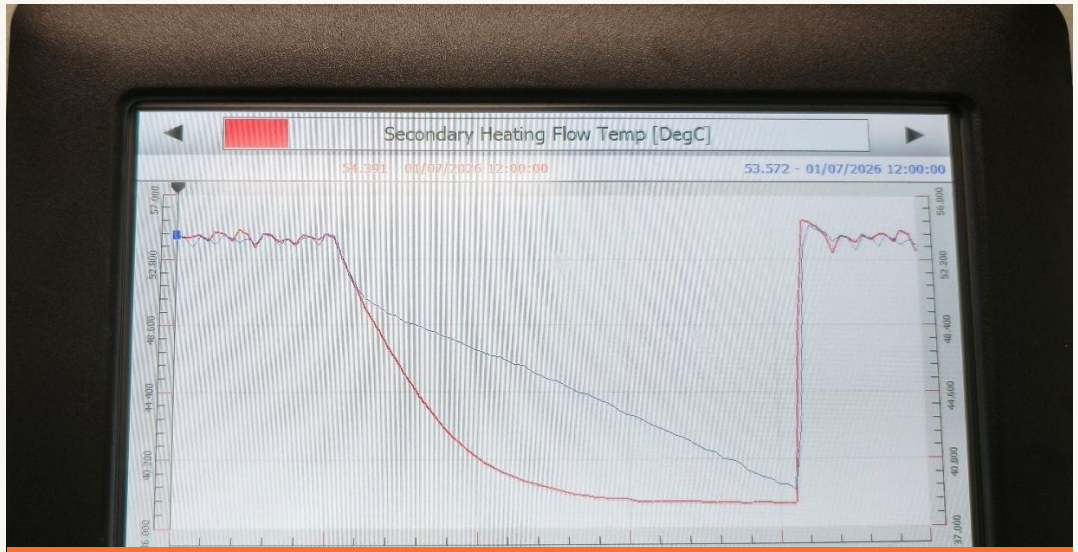
Design capacity is not operational capacity.

The controls pointed to the wrong time and the wrong season

Two observations justified a focused controls investigation



+2 h 02 min BMS clock ahead



50–55°C Heating-related temperatures in July

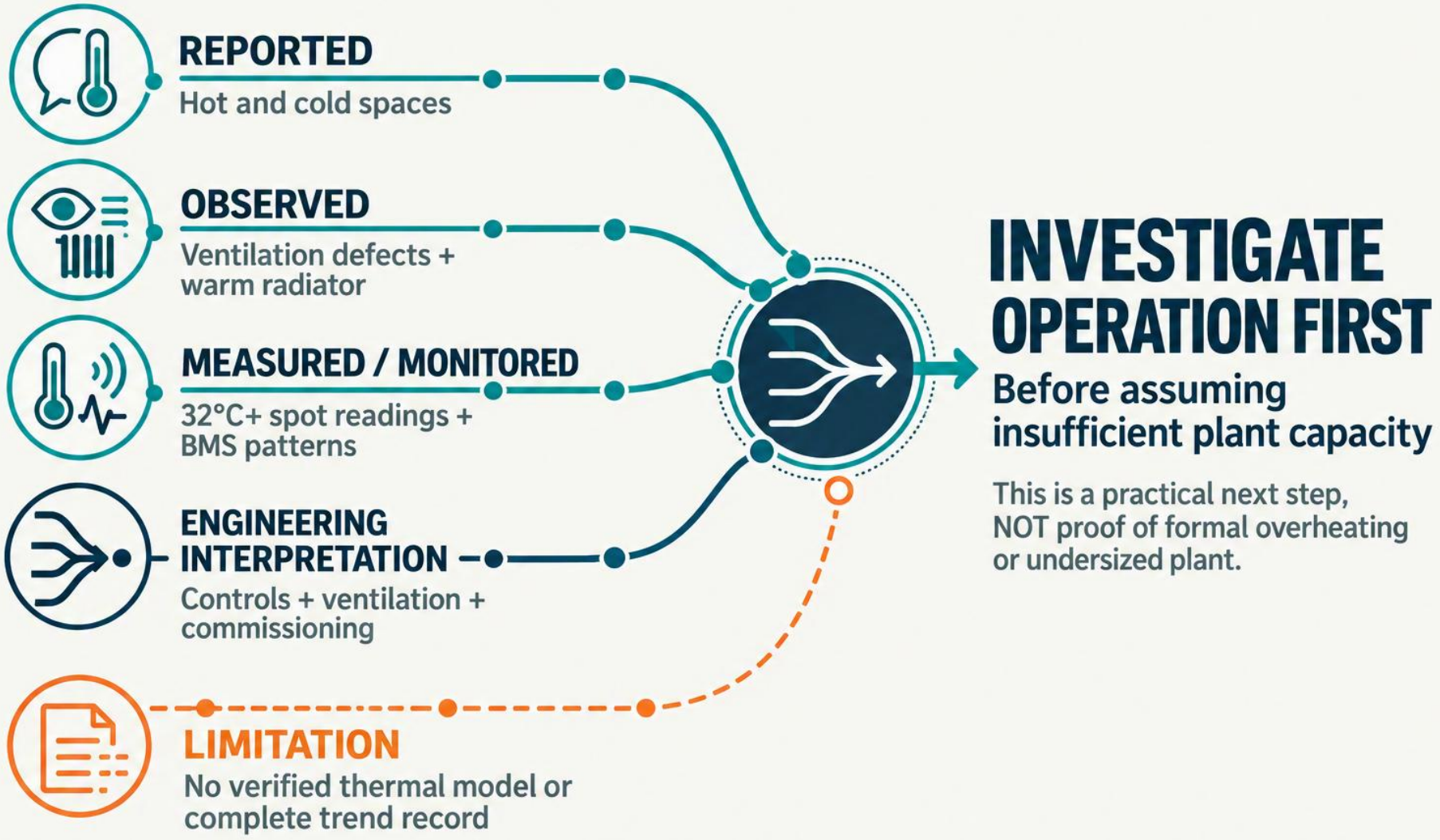


Warm radiator observed during the summer visit

Evidence for investigation, not a complete diagnosis

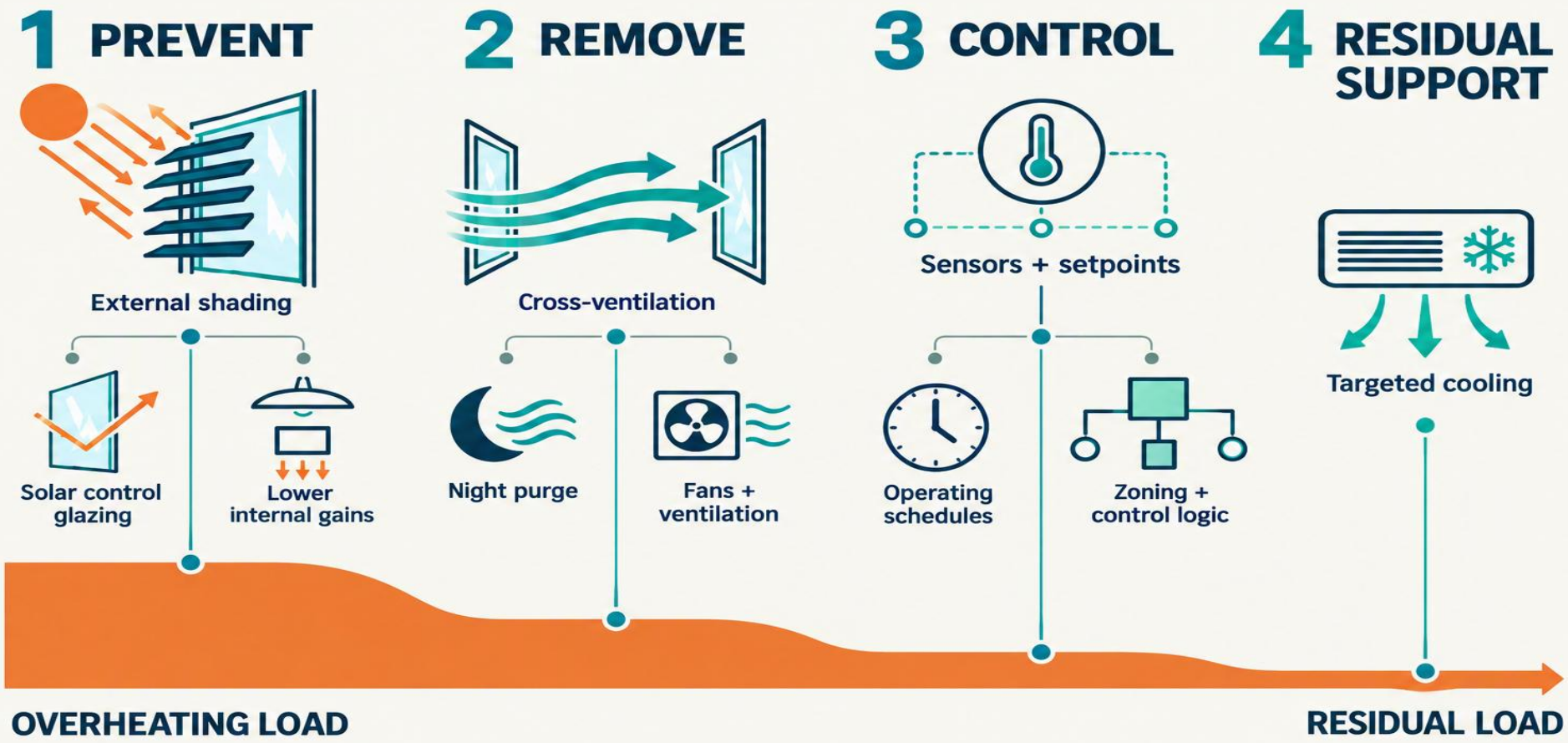
Diagnosis comes from converging evidence

Strong enough to justify action, but not to overstate certainty



Reduce the load before adding cooling

Address causes first; size active support for the residual risk



Passive first does not mean active cooling never.

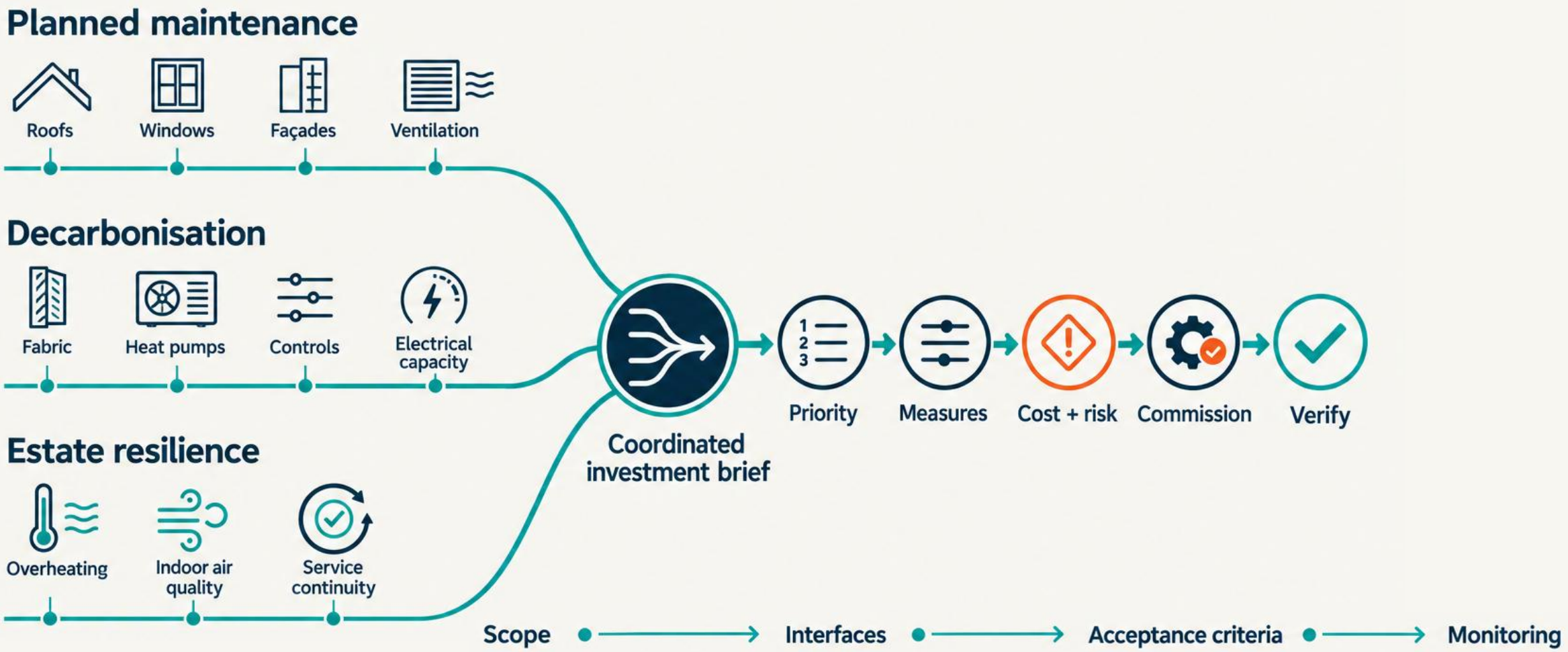
A useful assessment becomes a coordinated investment brief

Move from findings to scope, interfaces and measurable outcomes

WHAT ARE WE SOLVING?

WHAT MUST WORK TOGETHER?

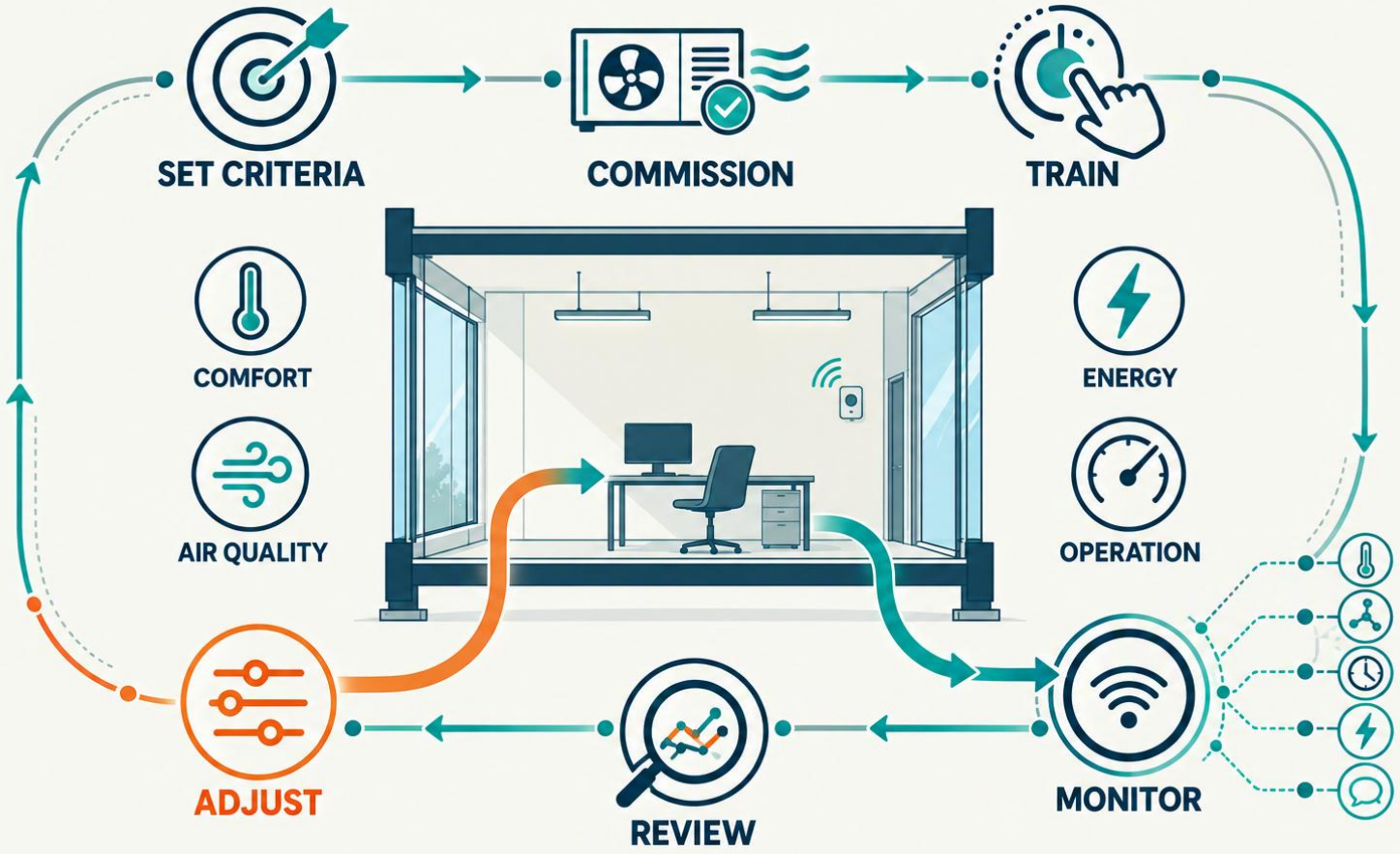
WHAT WILL PROVE SUCCESS?



Define success before procurement

Verification is part of the intervention

Commissioning, training and monitoring are project outputs



Did comfort improve without creating another operational problem?

Start with one estate-wide evidence register

Record repeated comfort complaints, workarounds and affected rooms in one place.

START NOW

Room · time · occupancy · weather · system response

1. **Where are the strongest recurring signals?**
2. **Have ventilation, controls and commissioning been checked?**
3. **How will improvement be verified?**

DOWNLOAD THE FREE APSE GUIDE
Reducing Overheating in UK buildings - A Guide for Local Authorities

[APSE CONTACT DETAILS – TO BE SUPPLIED BY JAMES]

Contact APSE to discuss overheating risk across your estate

Further support through APSE