

**Optimise building performance,
reduce energy consumption and
ensure compliance, in partnership
with Carbon Numbers**

12pm, Thursday 11 April

iwfm

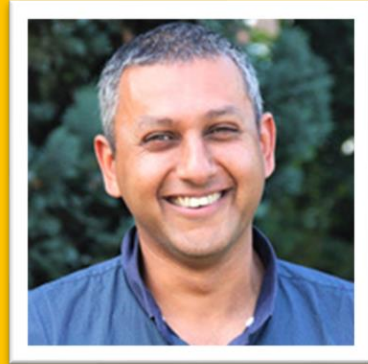
WEBINAR SERIES

Navigating turbulent times

Panellists



Host
Sofie Hooper
Head of Policy and
Research, IWFM



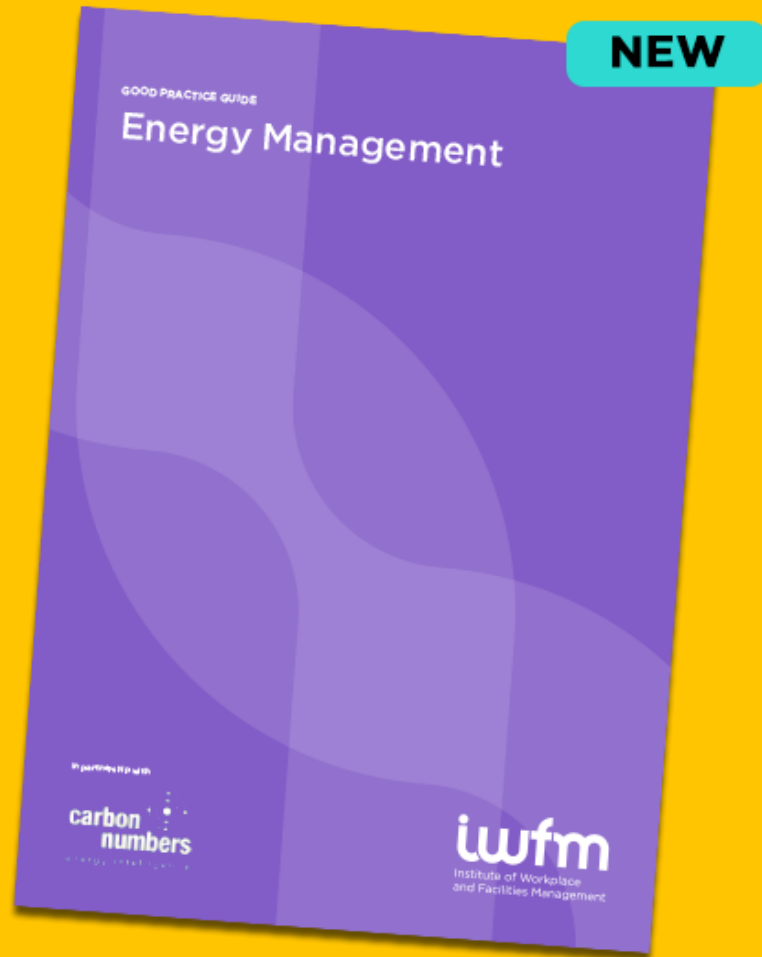
Sunil Shah
Managing Director and SFMI,
Acclaro Advisory



Neil Fright
CEO, Carbon Numbers



Laura Forster
Building Performance Expert,
Innovate UK



Energy Management GPG in partnership with Carbon Numbers

Download at iwfm.org.uk/insight or scan the QR code to download >



Carbon Numbers

Founded in the UK in 2012, Carbon Numbers is a leader in employing cutting edge technologies with a dedicated fibre network and cloud-based IT system to deliver energy-saving BMS, lighting, energy, an. Carbon Numbers aims to support organisations with ever-increasing energy costs, in reducing and managing their building(s) carbon footprint.

[Find out more about our partnership >](#)

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Navigating turbulent times





Sunil Shah
Founder Acclaro Advisory
and SFMI

Introduction

- Director level at Johnson Controls (CBRE), Jacobs and DPP across the building lifecycle
- Member of Government Sustainable Construction Taskforce, involved in first net zero discussions
- Involved with IWFM Sustainability SIG from 2002, being a Chair or member almost every year since
- Author of a series of books on the subject of holistic delivery of sustainability within the property sector
- Acclaro provides and runs the SFMI Programme, which has developed Scope 3 guidance for the FM sector in conjunction with IWFM
- Worked with UCL, Government and Carbon Buzz to run a curated knowledge transfer programme (CBxchange) across the building sector.
- Provided detailed training programme to support the findings from Building Performance Evaluation findings



We are a carbon neutral organisation, offsetting our Scope 1, 2 and 3 emissions since we started and setting up a Transition Fund to ensure effective climate progress

Introduction

What is the purpose of this document?

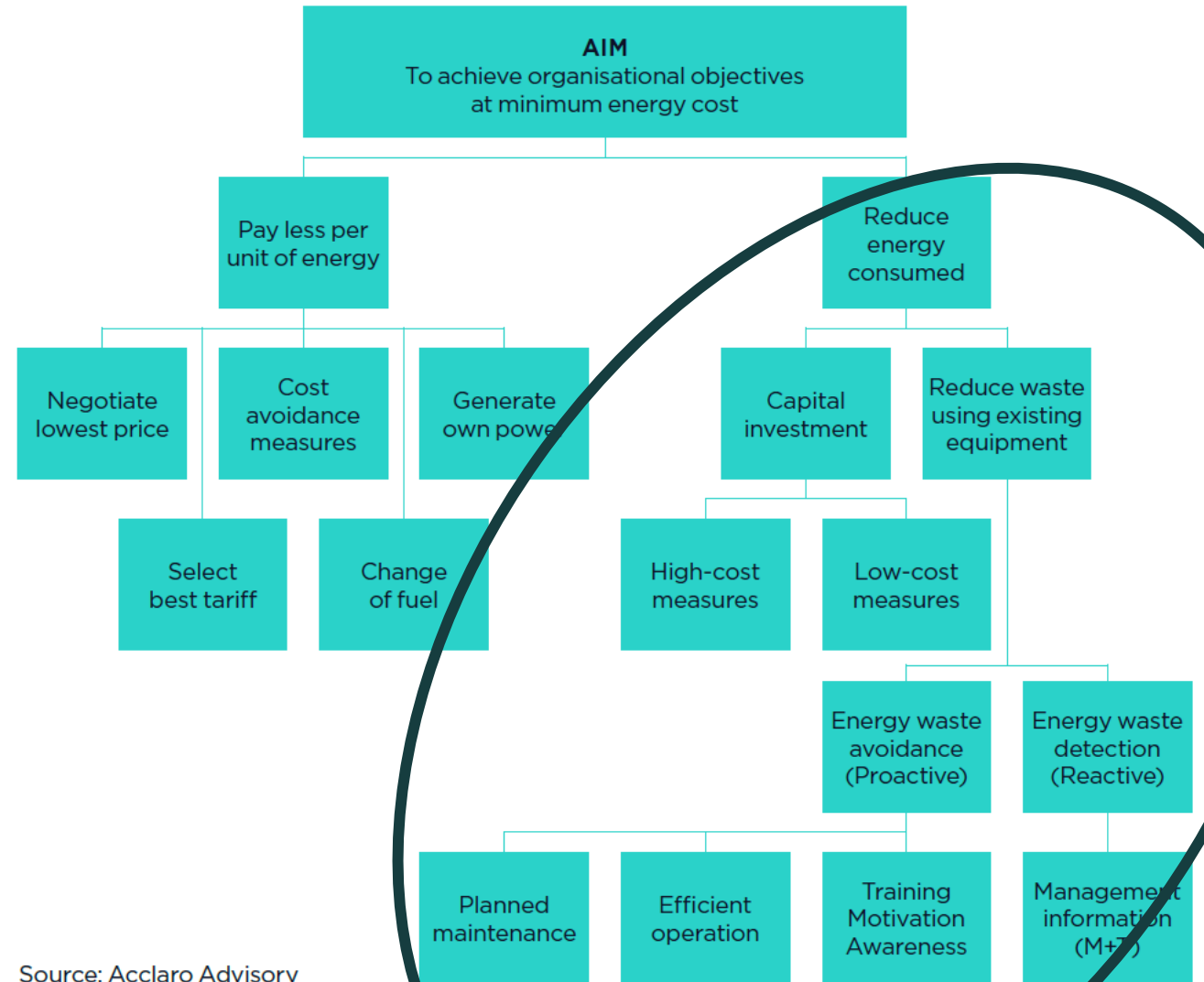
- Looking at energy management from an FM perspective to manage the demands of the customer, reduce costs, ensure compliance and meet corporate targets. This is not a straightforward role and relies upon clear engagement to enable effective decision making.

Who is this document for?

- Those responsible for existing buildings, referencing technical guidance documents.

What does the document cover?

- The GPG focusses upon reducing the energy consumed within the building, and the mechanisms associated with data capture, identification and implementation of efficiency measures based upon energy hierarchy, together with the communication and engagement of stakeholders, such as customers and senior managers.

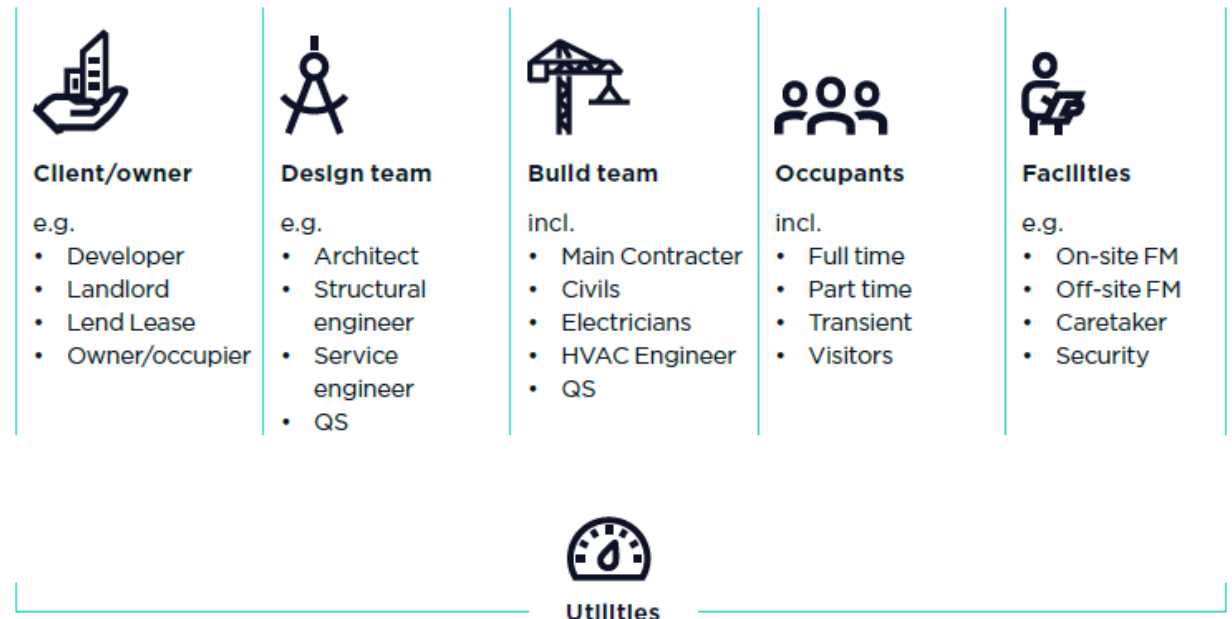


Source: Acclaro Advisory

Drivers for Energy Management

Direct Responsibilities

- Increasing regulatory disclosure
- Data accuracy to enable decision making
- Cost pressures and volatility in markets
- Corporate net zero targets
- Lifecycle impacts inherited



Source: Acclaro Advisory

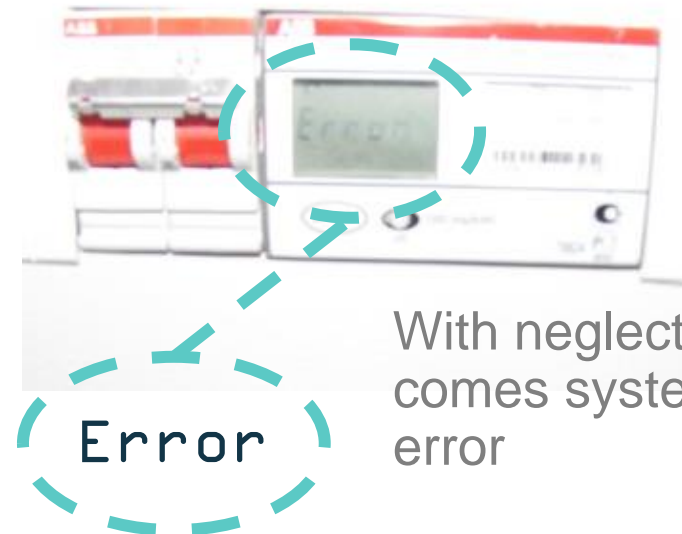
Data Usefulness: Quality vs Quantity

Decide what energy data is required

It is not always necessary to meter everything!

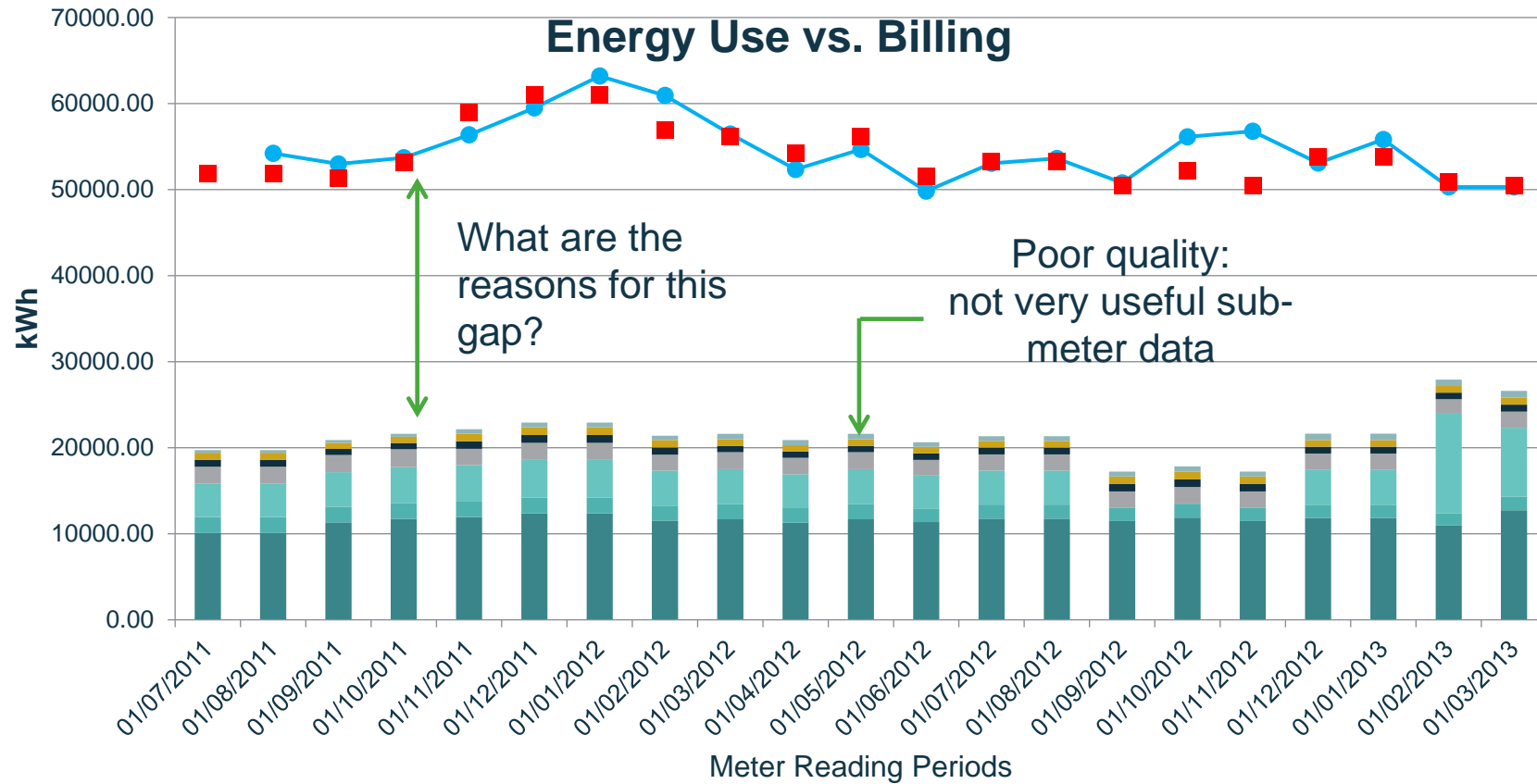


- Do you need data for:
 - areas (e.g. tenants) or
 - end-use (e.g. lighting, hot water, etc.)?
- Data overload can get tedious and lead to system neglect

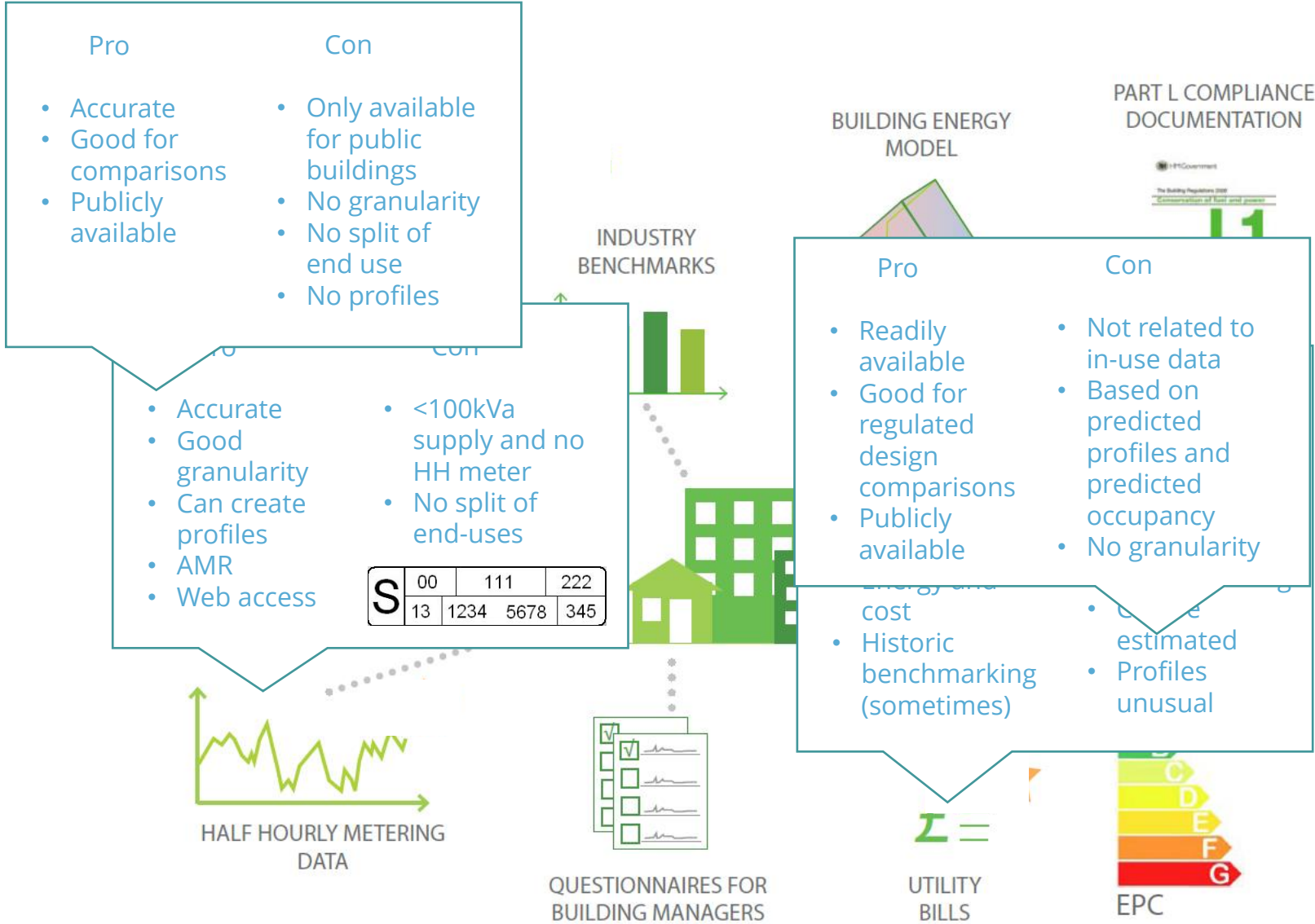


With neglect,
comes system
error

Quality over Quantity



It is important to reconcile the sub-metering: i.e. sum of the sub-meters correlate with the utility meter



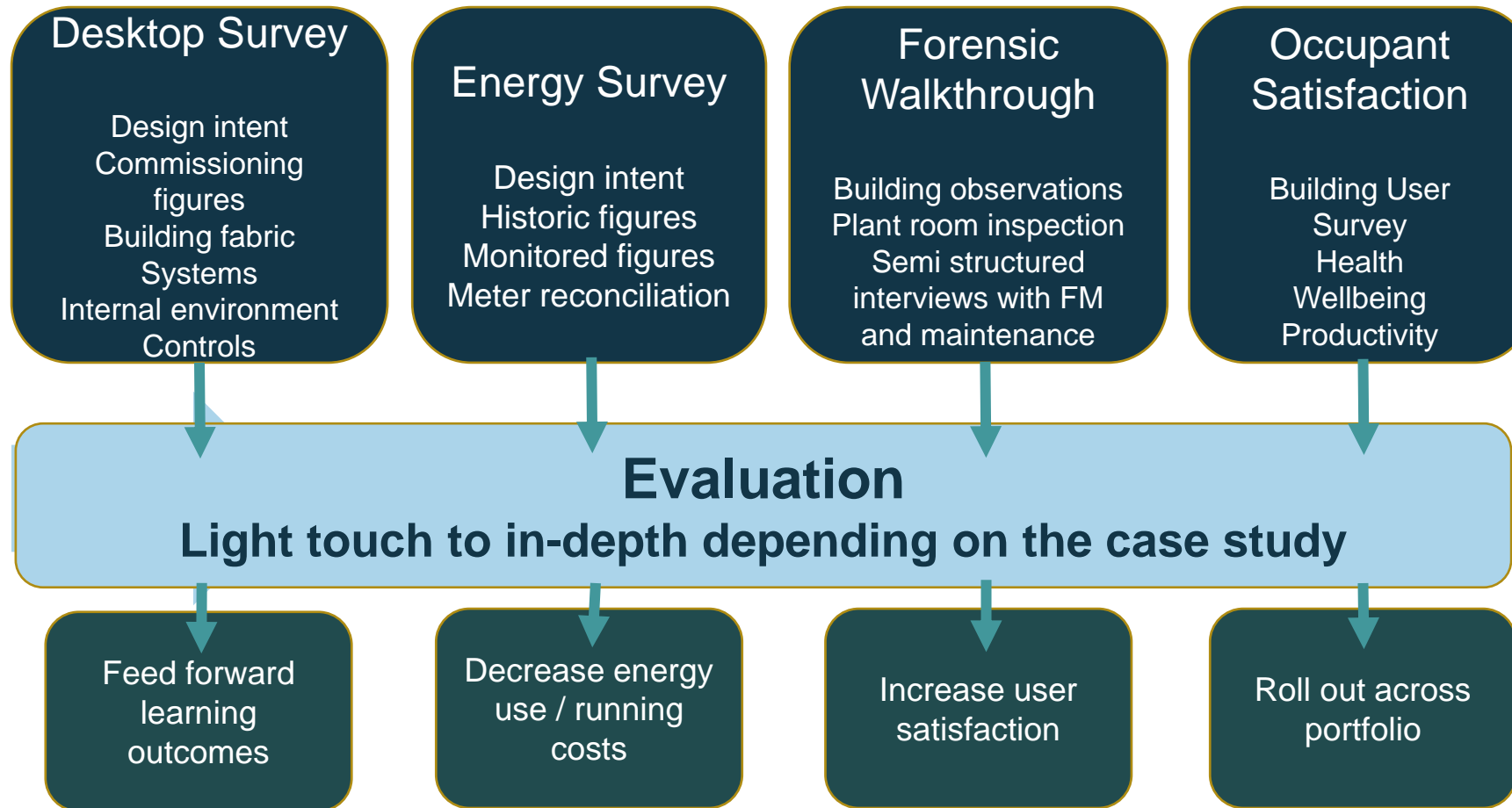
Where do we go from here - an AUDIT?

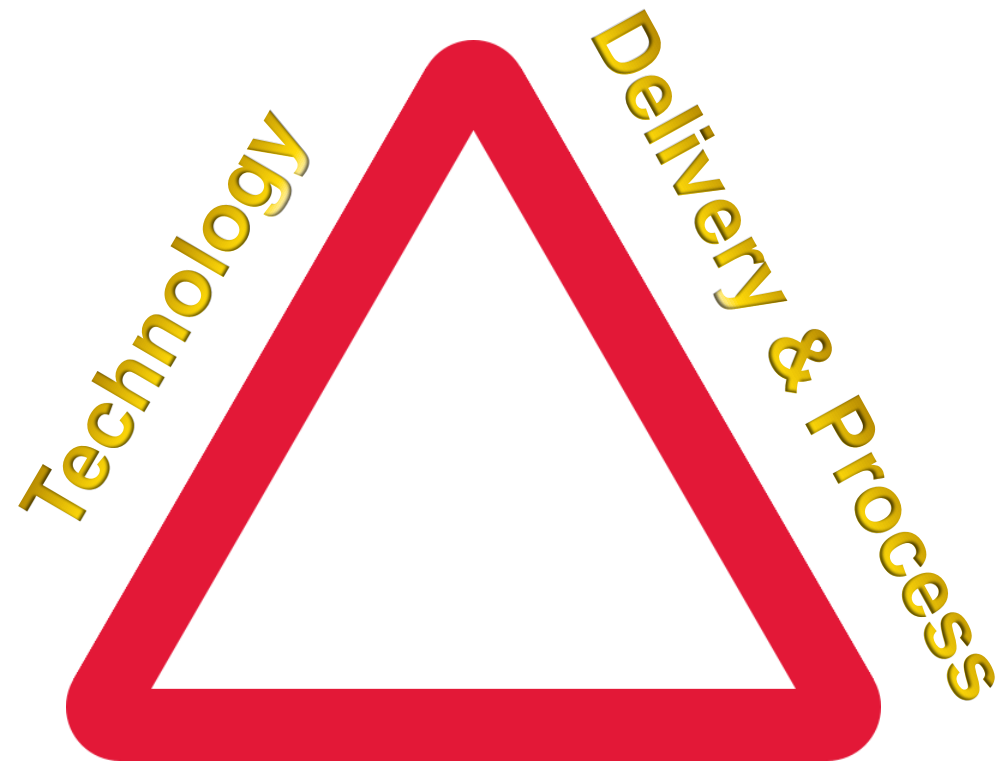
- An audit will focus on the current position
- Provides an overview
- Is this a good or bad building?
- What is our CO₂ reduction potential?
- Should we survey or not?

Objective of an energy survey:

- determines the current position - *you cannot manage what you don't measure*, establishes consumption, costs etc
- Identifies potential areas of waste, potential energy saving measures and priorities for action

Post Occupancy Evaluation





BMS & Metering



What Does the Data Tell Us?

Key Themes

Hours of operation

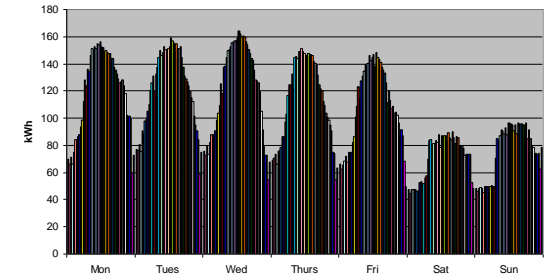
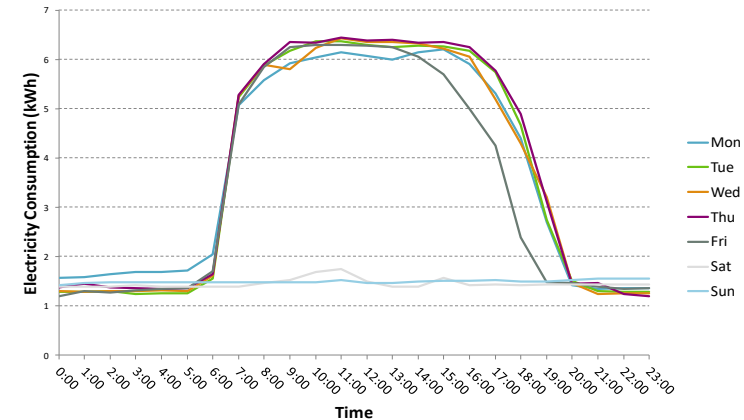
➡ Operation not matched to occupancy

Controls

➡ Inappropriate controls, not being used correctly, complex, poor labelling, incorrect settings and set points

BMS

➡ Complexity, issues around functionality, commissioning, communication and training



What Does the Data Tell Us?

Key Themes

Commissioning (buildings and equipment)

➔ Inadequate, incomplete, key staff not involved, poorly timed, handover material not useful

Sub-meters

➔ Lack of an understood metering strategy, reconciliation not carried out, issues of functionality, sub meters not installed



What Does the Data Tell Us?

Key Themes

Windows

➡ Lack of understanding of ventilation strategy, actuator control / opening issues

Lighting

➡ Excessive levels and inability to control

Plant and equipment (generally)

➡ Efficiency (technology), condition, size, age



What Does the Data Tell Us?

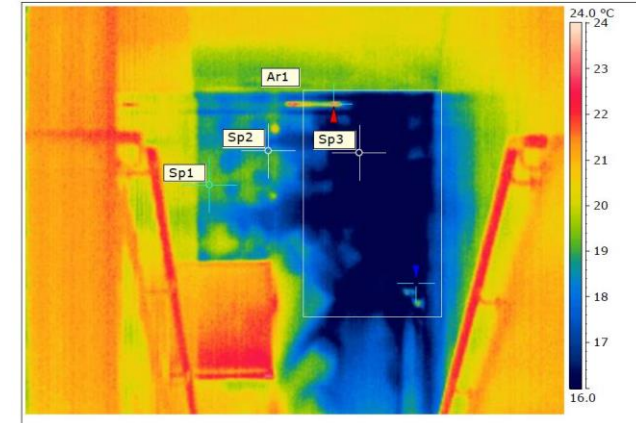
Key Themes

Fabric performance (from thermographic and air pressure testing)

➡ Construction quality around junctions, specification detailing, integrity of air barriers

Renewables & 'Innovative Systems'

➡ Issues around design, installation, integration with other systems, operation and maintenance, complexity and control





**Thank you Boots
for cutting carbon emissions
through energy efficiency**

201 Bishopsgate

**Using BMS and sub metering,
contractors found
issues leading to a
reduction of 20% of
the building
electricity
consumption**



**Re-commissioning of store
set points and operating
hours to match occupancy
(saved 7-11%)**



**John Lewis Partnership Re-
commissioning of HVAC and
controls (~10% savings)**

The CPD number for
today's event is
9201055

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