Media Partner

The Herald

#SXLExpo

Welcome back


RHODAR
Specialist Enabling Works


RHODAR
fibre

RHODAR
Specialist Enabling Works

ASBESTOS
DEMOLITION
FIRE PROTECTION
REMEDIATION

Built Environment

Rhodar Scotland - Our Proud Story:

When: Established 25 years ago (Rhodar 48 yrs)

Where: Glasgow & Edinburgh Hubs

Example Clients: Scottish Police, NHS Scotland, MOD, 24 out of the 32 Scottish Local Authority regions; Universities, Distilleries ie Chivas / Pernod Ricard…

In addition to Scotland Excels national framework (since 1st iteration 2011)

By the Way….RAAC & Asbestos!

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RAAC - Reinforced autoclaved aerated concrete
ACM's – Asbestos Containing Materials

} **50's, 60's, 70's, 80's Build**

Asbestos bitumen VCL bonded onto RAAC

Added complexity if asbestos present: RAAC & asbestos regularly found together (CAR2012/HSG247)

Asbestos Removal

‘Behind the scenes’

Asbestos Industry “The Two Sides”

RHODAR
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HSE

Licensed
Asbestos Removal

UKAS INSPECTION

UKAS TESTING

Asbestos Consultants /
Surveyors / Analysts

Asbestos Industry “The Two Sides”

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HSE

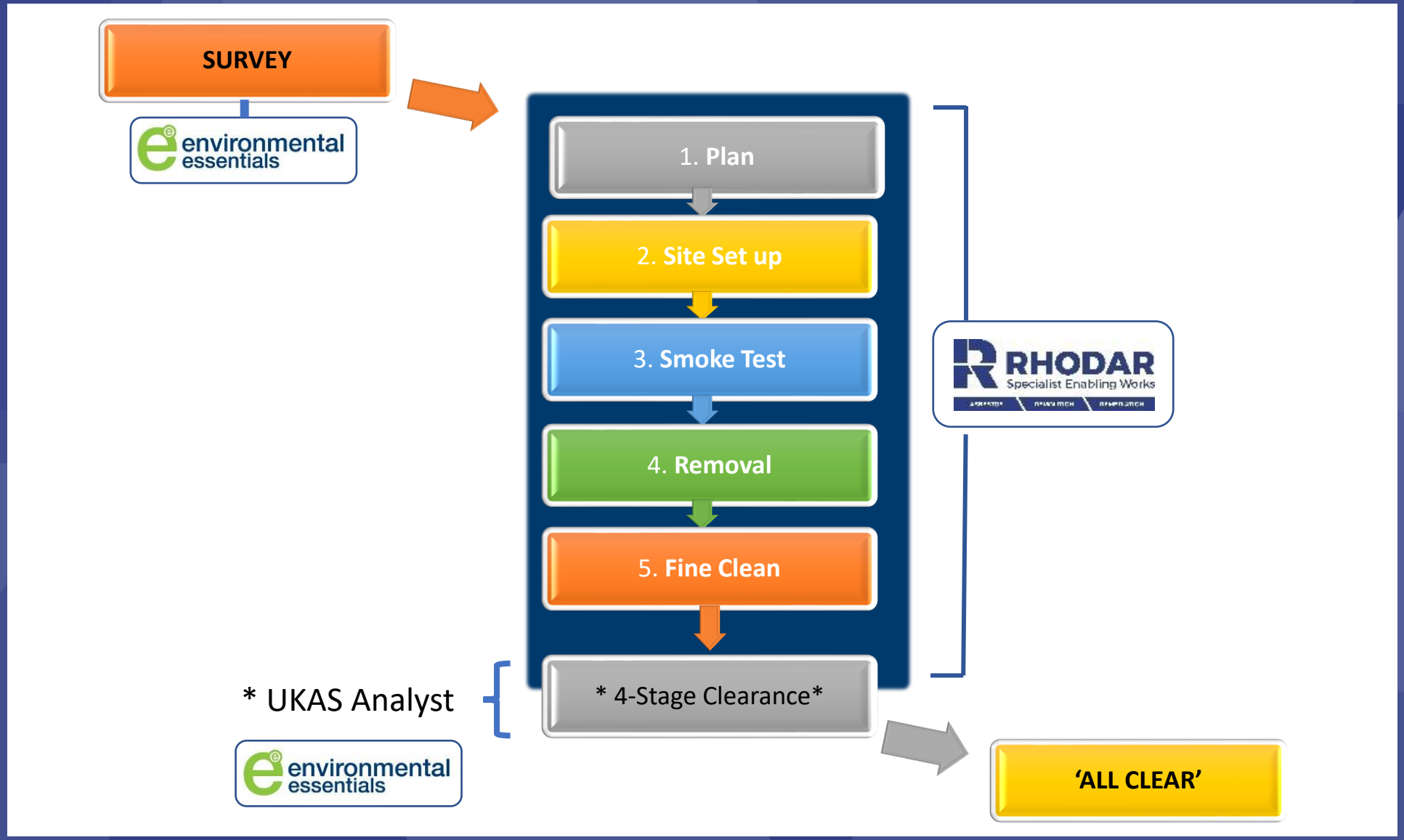
Licensed
Asbestos Removal

Our core focus…

Asbestos Removal

Steps in the Process

Asbestos Removal – The ‘Steps’



Asbestos Removal – The ‘Steps’

1. Plan

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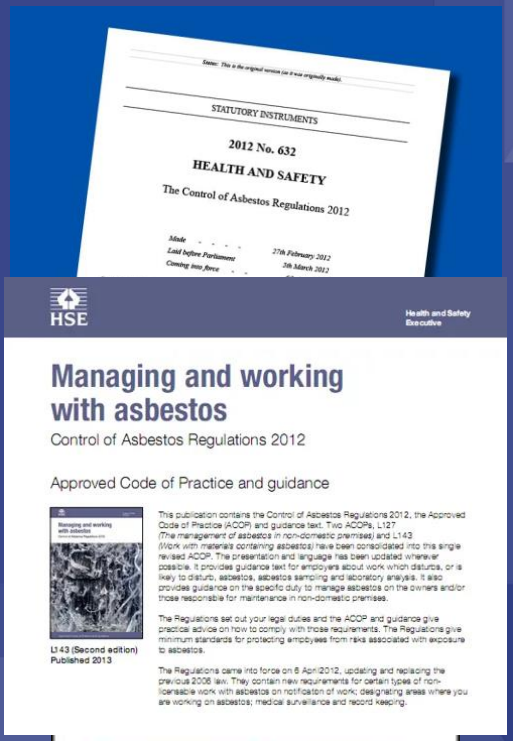

Duty & Legislation – a very simple story…

Under CAR2012 (Control of Asbestos Regulations 2012):

- **Reg 11: Preventing/reducing exposure to asbestos**
- **Reg 16: Preventing/reducing spread of asbestos**

Over-arching this:

- **Reg 4: Duty to Manage Asbestos…**

(HSE website – free downloads, campaigns, initiatives)

Asbestos Removal – The ‘Steps’

1. Plan

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‘Permissioning’ Regime (CAR2012; HSG247; L143, HSG248)

- **HSE 3-year Licence** (max’ duration)
- **Licences introduced in 1983**
- **Notify our work to the HSE*** (14-day notification – ‘ASB5’)

Risk Based Approach ie:

- **If you are going to exceed the control limit** (0.1fcm^3)
- **Not short duration; not *‘sporadic & low intensity’***
- **Mostly friable ACMs**

***Or EHO / ORR/ ONR**

Asbestos Removal – The 'Steps'

1. Plan

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Illustration of Asbestos Work Categories

HSE

High fibre release when disturbed = higher risk work

Low fibre release when disturbed = lower risk work

- Loose fill lagging insulation
- Lagging and sprayed insulation
- Asbestos insulation – if significant work that exceeds the control limit
- Loose dust & small pieces of debris (gross contamination)
- Asbestos insulating board (AIB) – if significant work that exceeds the control limit
- Asbestos insulation/ AIB – if short duration work below control limit and removal work not part of maintenance
- Textured decorative coatings – using gels/steam for large-scale removal
- Paper, felt and cardboard e.g. electrical equipment insulation, ropes and yarns or cloth, or gaskets and washers – depending on condition – if poor condition or degraded during work NNLW, if kept virtually intact non-licensed
- AIB – if short duration work below control limit and part of maintenance work
- Textured decorative coatings – only when carefully cutting around backing sheets to achieve removal intact
- Strings kept virtually intact e.g. removed whole
- Resin-based materials e.g. friction products/brake lining
- Conveyor belts/ drive belts
- Asbestos cement products
- Thermoplastic/vinyl floor tiles, bitumen roof felt shingles, asbestos paper damp proof coatings, mastics, asbestos paper backed PVC floors, resurfaced PVC panels & compounds

Licensed Asbestos Work

Notifiable Non-Licensed Asbestos Work

Non-Licensed Asbestos Work

Asbestos Removal – The ‘Steps’

1. Plan

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- **Review the site survey** (UKAS; HSG264)
- **Review the Specification**
- **Site visit with client**
- **Plan of work** (‘PoW’)
- **RAMS** (Risk Assessment – Method Statement)
- **Resources – the right team**
- **Notification to HSE** (ASB5 or NNLW or NL)

  - who, what, where, when…and how?

Asbestos Removal – Building the enclosure

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Built using 1000-gauge polythene and sustainable wood

FSC

Asbestos Removal – The ‘Steps’

2. Site Set up

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Asbestos Removal – The 'Steps'

2. Site Set up

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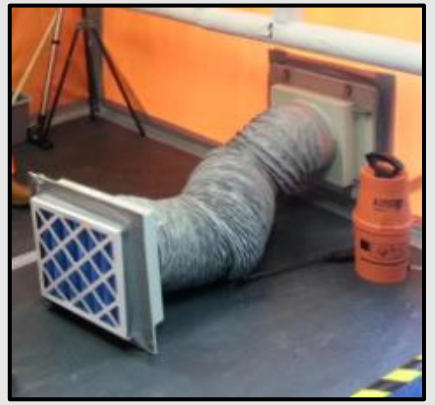
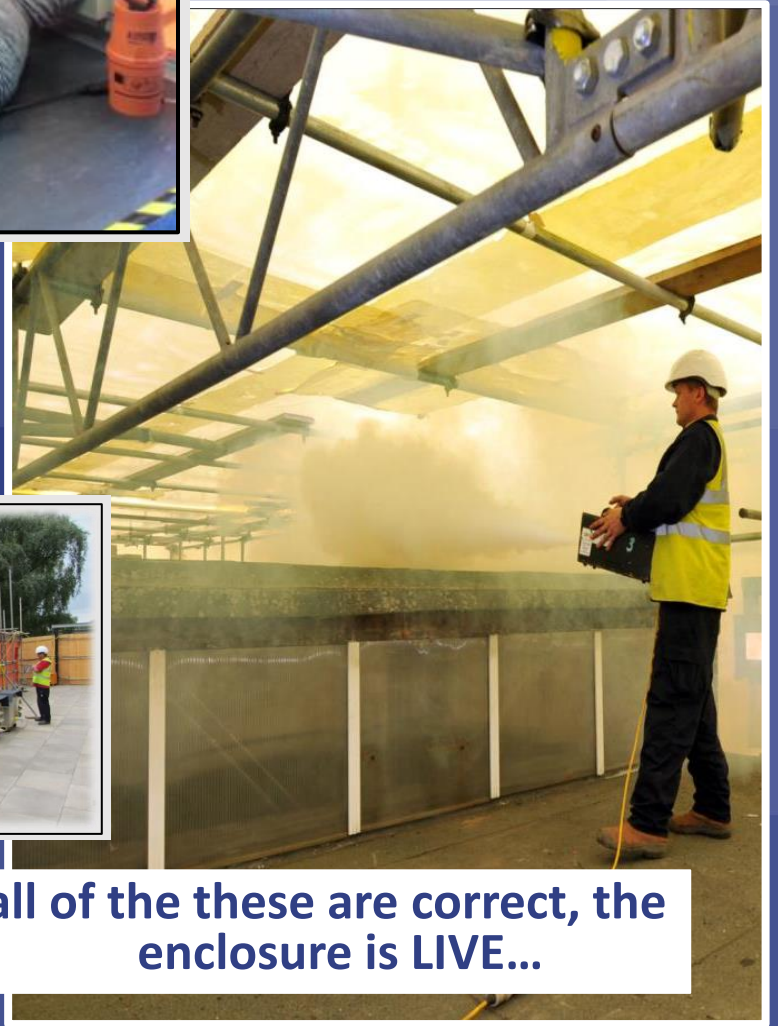
- Is the enclosure air-tight?
- Negative Pressure/Air Flow/Air mixing
- Does the enclosure have any dead spots
  (roving heads may need to be utilised)
- The smoke test ideally must be independently witnessed *(analyst, client etc)*
- Minimum of 8 air changes per hour
  (for enclosures over 120m³)
- Minimum of 16*air changes per hour
  *(*actually 1000m³ - for enclosures under 120m³)*





If all of the these are correct, the enclosure is LIVE…

Asbestos Removal – The ‘Steps’

2. Site Set up

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NPUs (Negative Pressure Units)

‘3 stage’ air-lock

‘3 stage’ bag-lock

Typical Air-Lock & Bag-Lock set-up

Asbestos Removal – The ‘Steps’

2. Site Set up

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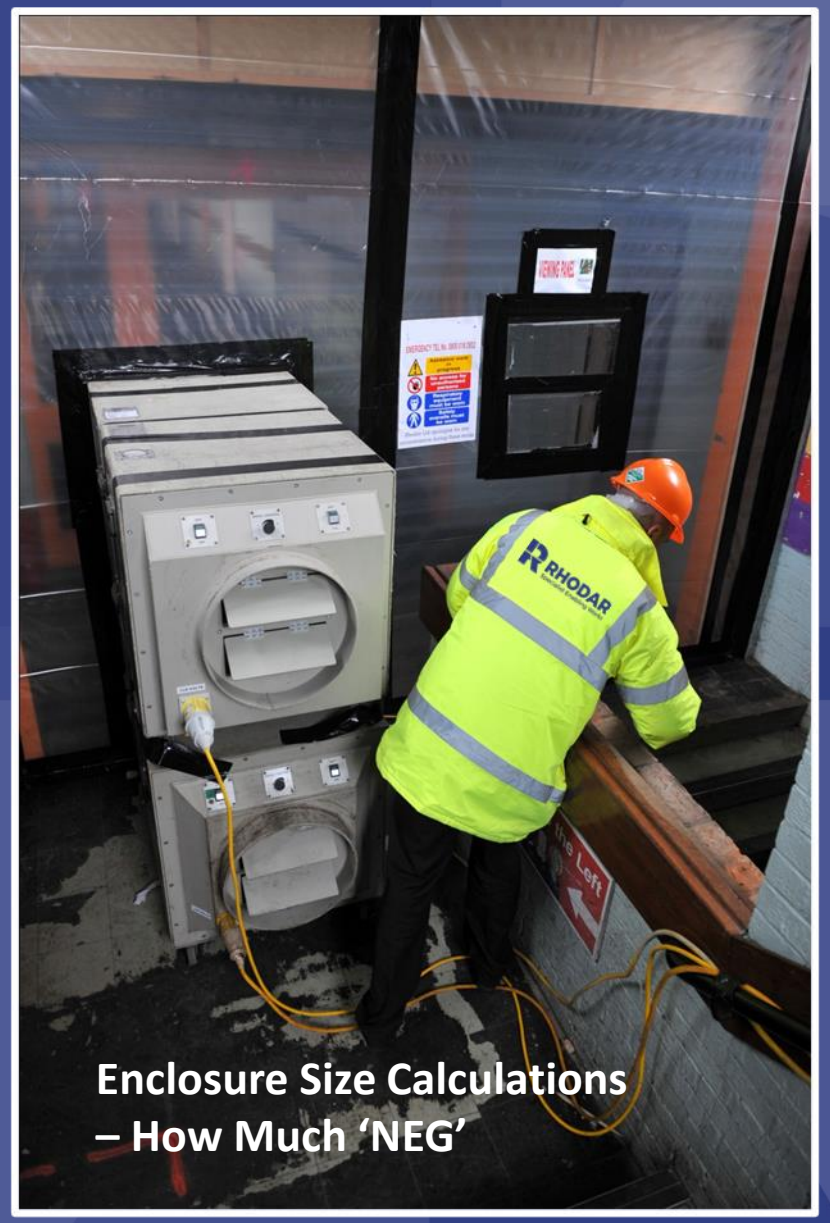

Enclosure Size Calculations
– How Much ‘NEG’

Negative Pressure Units – NPU’s(aka ‘Air Movers’)

- Connected to external enclosure wall
- ‘Scrubs’ the air – HEPA Filters
- Facilitates 8 changes of air per hour
- Maintaining air flow/mix ‘negative’ pressure

Asbestos Removal – The ‘Steps’

2. Site Set up

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DCU’s - ‘Decontamination Units’ aka Hygiene Facilities

Asbestos Removal – The ‘Steps’

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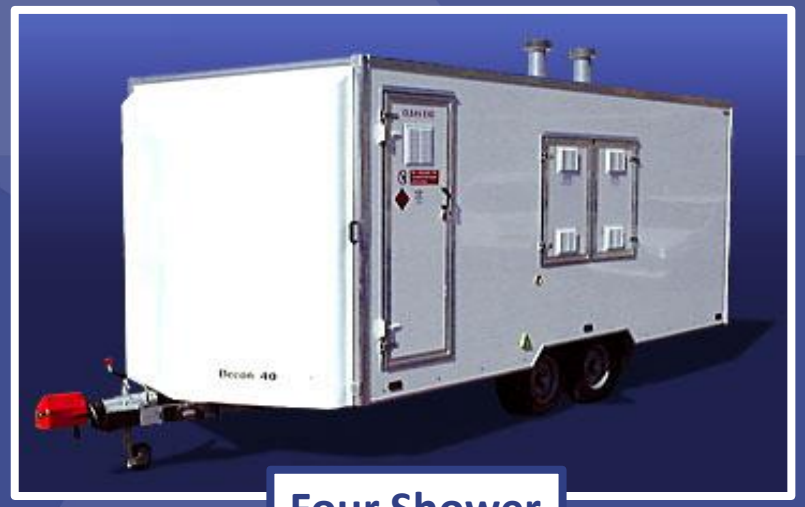
Self-Contained



Four Shower

Alley Cat

Specially designed units that contain shower and changing facilities to enable the operatives to decontaminate via a 3-stage compartmental process .

(Various sizes & operative capacities of DCU are available the on-site ratio = 1 shower head per 4 operatives)

Asbestos Removal – The ‘Steps’

2. Site Set up

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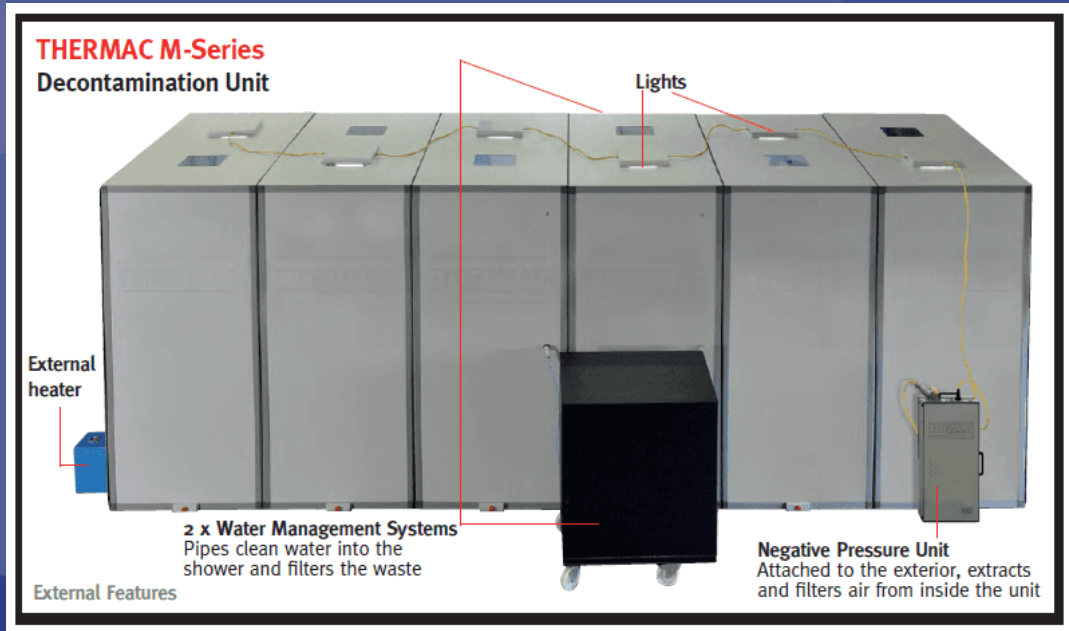

Modular Decontamination Unit (DCU)

Enables the DCU to be located as close to the work area as possible, where it is not practical to use a mobile DCU unit
(e.g. High Rise office blocks)

Asbestos Removal – The 'Steps'

2. Site Set up

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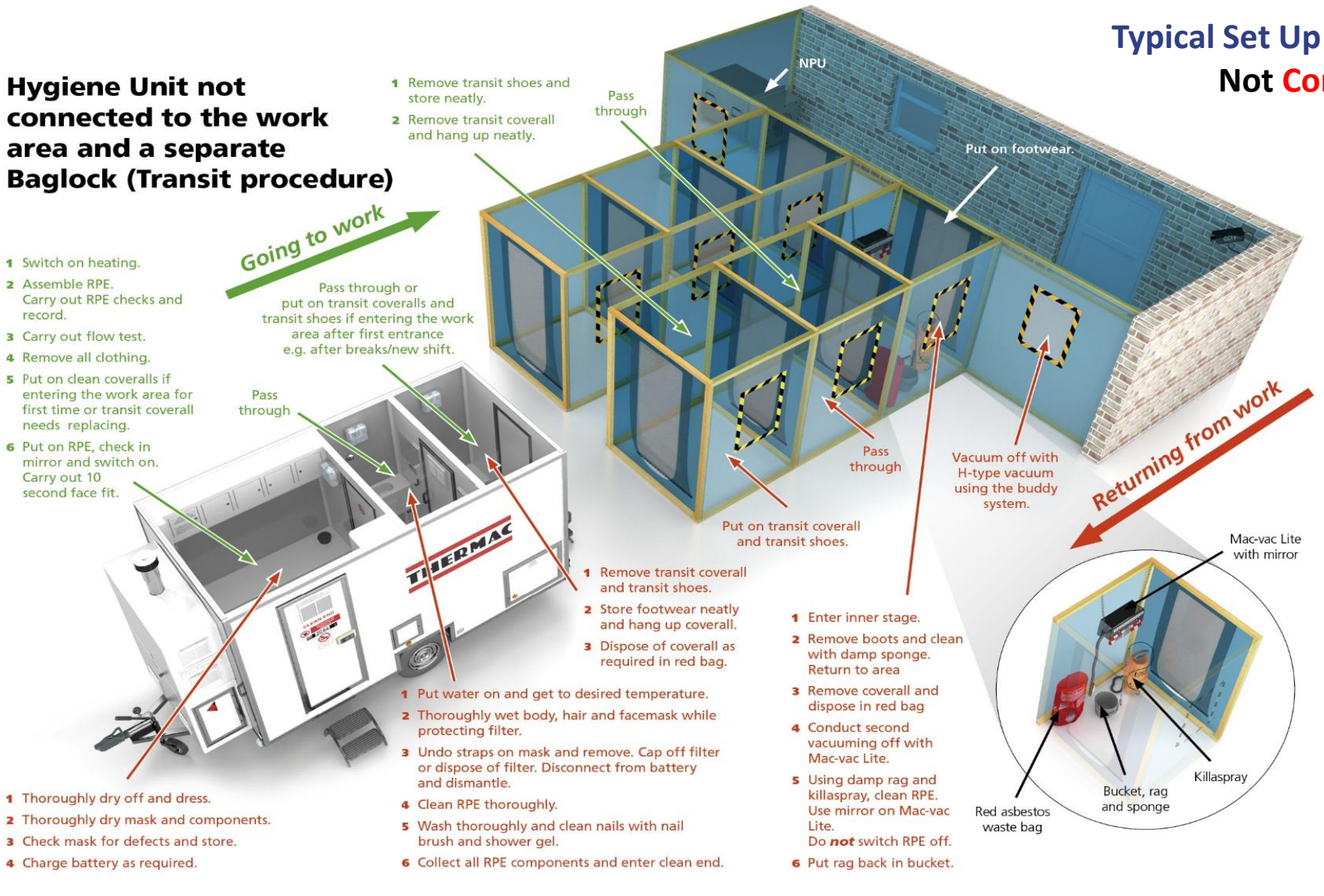
Typical Set Up – Hygiene Unit Not Connected

Hygiene Unit not connected to the work area and a separate Baglock (Transit procedure)



1 Remove transit shoes and store neatly.
2 Remove transit coverall and hang up neatly.

1 Switch on heating.
2 Assemble RPE. Carry out RPE checks and record.
3 Carry out flow test.
4 Remove all clothing.
5 Put on clean coveralls if entering the work area for first time or transit coverall needs replacing.
6 Put on RPE, check in mirror and switch on. Carry out 10 second face fit.

1 Thoroughly dry off and dress.
2 Thoroughly dry mask and components.
3 Check mask for defects and store.
4 Charge battery as required.

1 Put water on and get to desired temperature.
2 Thoroughly wet body, hair and facemask while protecting filter.
3 Undo straps on mask and remove. Cap off filter or dispose of filter. Disconnect from battery and dismantle.
4 Clean RPE thoroughly.
5 Wash thoroughly and clean nails with nail brush and shower gel.
6 Collect all RPE components and enter clean end.

1 Remove transit coverall and transit shoes.
2 Store footwear neatly and hang up coverall.
3 Dispose of coverall as required in red bag.

1 Enter inner stage.
2 Remove boots and clean with damp sponge. Return to area
3 Remove coverall and dispose in red bag
4 Conduct second vacuuming off with Mac-vac Lite.
5 Using damp rag and killaspray, clean RPE. Use mirror on Mac-vac Lite. Do ***not*** switch RPE off.
6 Put rag back in bucket.

Asbestos Removal – The 'Steps'

2. Site Set up

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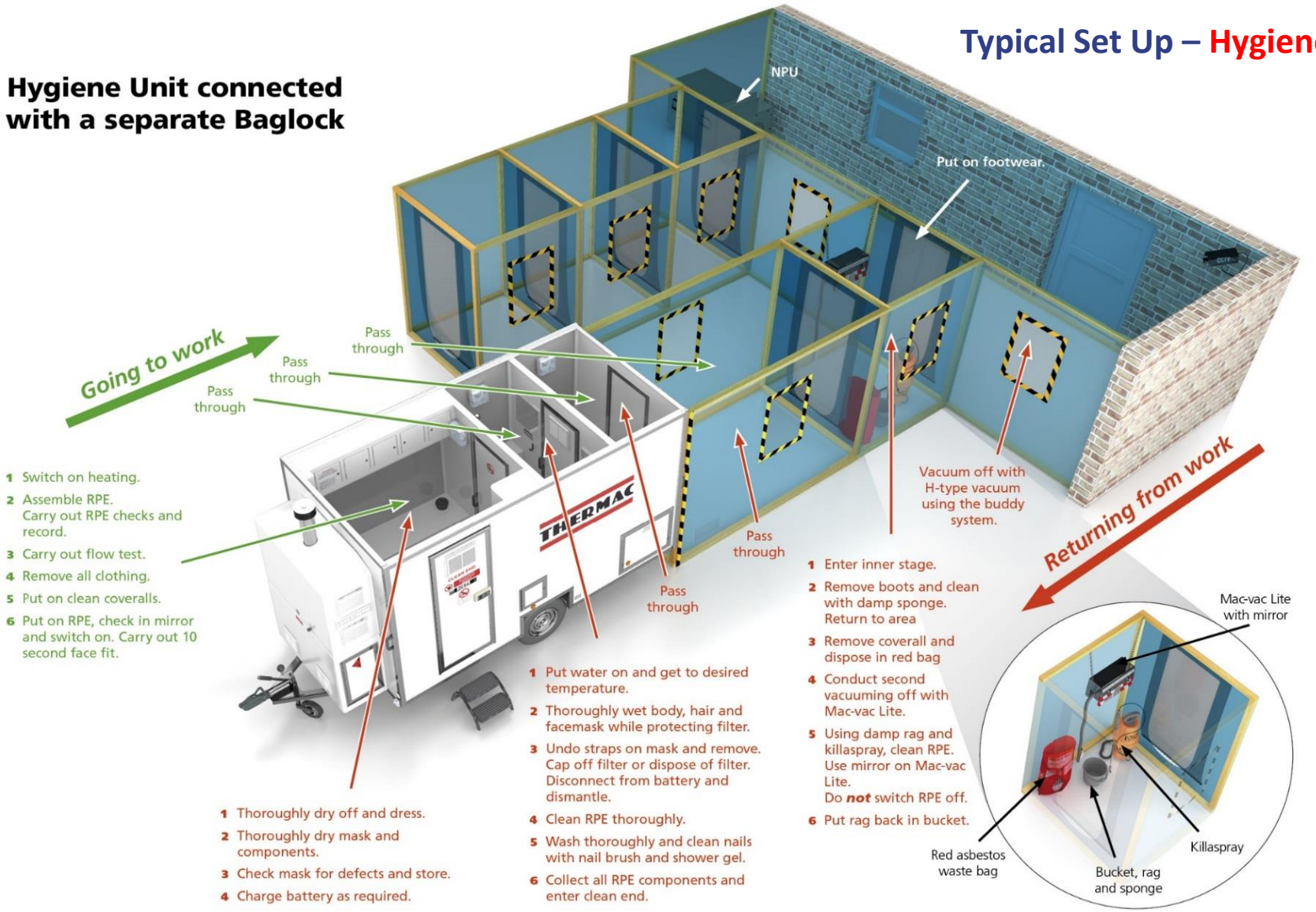
Typical Set Up – Hygiene Unit Connected



Asbestos Removal – The ‘Steps’

4. Removal

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PPE for
‘Setting Up’

PPE colour for
‘Transiting’

PPE for ‘work inside the enclosure’

Asbestos Removal – The ‘Steps’

4. Removal

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Half Face Masks

fit2fit ACCREDITED RPE Fit Test Provider

QFFT

Full Face Masks

P3 Paper Masks

Air-line Fed Full Face

Asbestos Removal – The ‘Steps’

4. Removal

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Appropriate methods as per PoW:

- shadow vacuuming
- asbestos Injection
- quill* (and ice) blasting
- wrap and cut

Encapsulation

Asbestos Removal – The ‘Steps’

4. Removal

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Asbestos Injection Machine

Used to inject a measured quantity of surfactant into ACMs over a set time frame to suppress fibre release and ensure optimum wetting to a ‘doughy’ consistency, facilitating wet strip removal

Asbestos Removal – The ‘Steps’

4. Removal

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Bagging sectional asbestos lagging & AIB

Shadow Vacuuming

Asbestos Removal – The ‘Steps’

4. Removal

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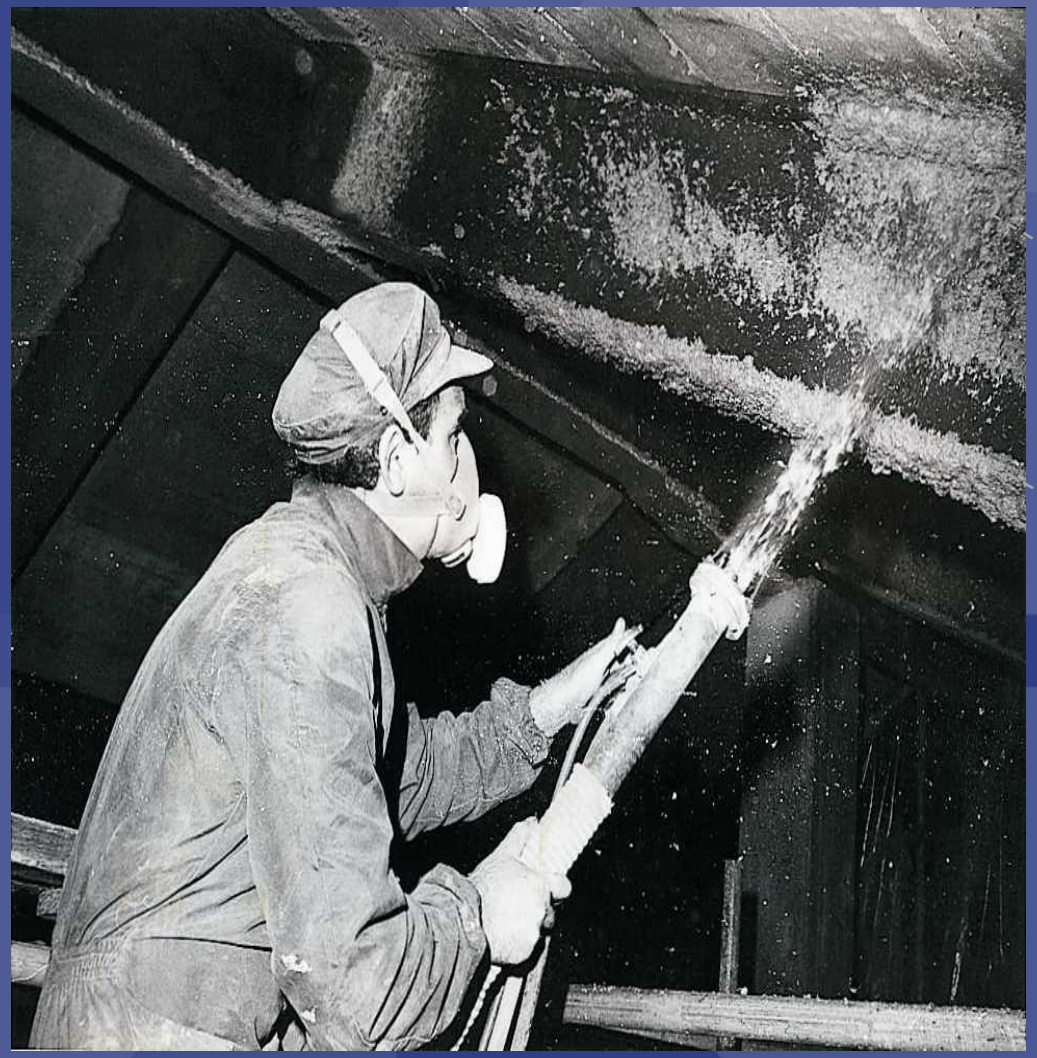
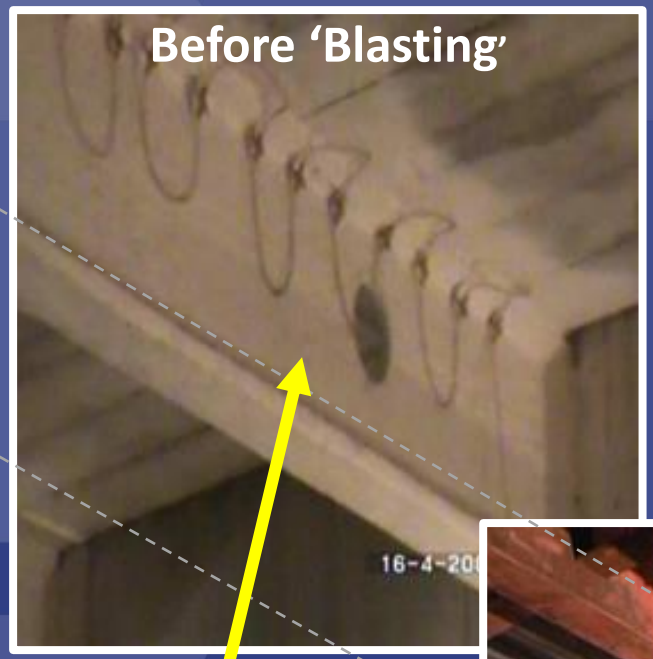


Original application of ACM Sprayed Coating



Sprayed Coating ‘Limpet’

Asbestos Removal – The ‘Steps’

4. Removal

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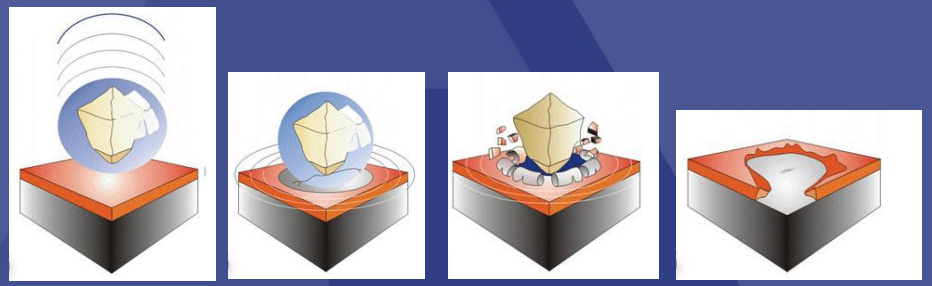

Dustless, Shot-Blast System

Used to fine clean certain asbestos materials using a mixture of high pressure water, air & garnet (or *glass, walnut shell..*) formulated to be dustless.

aka -

- ‘Quilling’
- ‘Quill Blasting’
- ‘Torbo-Blasting’

Asbestos Removal – The 'Steps'

4. Removal

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Needle Gun – Innovative ('Quilling' Alternative)

- Trelawny heavy duty low vibration needle/chisel scaler
- Pistol Grip, makes light work of removing limpet coatings
- Vibro Lo™ vibration reduction system- levels up to 8 times lower than standard
- TVS Vacuum Shroud
- Increased in blows per minute (B.P.M)
- **Beryllium Copper needles** (high strength/non-spark/non-magnetic)

Asbestos Removal – The ‘Steps’

5. Fine Clean

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Operative Fine Cleaning

The final stage

- Intricate clean – Very, very meticulous
- All surfaces cleaned – ‘invisible fibres’ (Every nook and cranny)
- Full visual inspection, once satisfied handover to UKAS Analyst…

Our aim: *leave no detectable trace*

Asbestos Removal – The ‘Steps’

4-Stage Clearance

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The UKAS Analyst

4-Stage Clearance (4SC) Analyst checks

Pre-enclosure removal:

1. Work area; paperwork
2. Visuals; disturbance tests
3. Clearance air monitoring (0.01fcm³)

Post-enclosure removal:

4. Clear Hygiene Unit; full site clearance

“Certificate for Reoccupation”…(CfR)

‘ALL CLEAR’

Asbestos Removal – Improving the process

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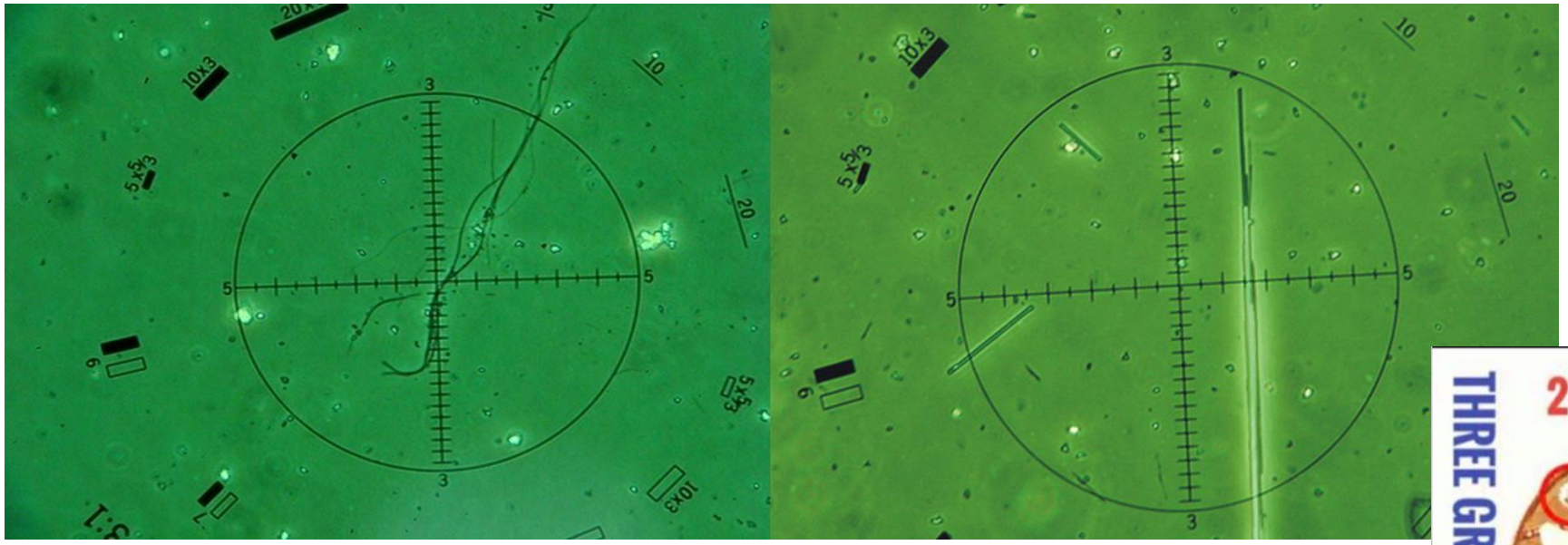
Down the microscope: What the analyst sees



In line with the WHO method: Respirable fibres are defined as those which are:

- >5 µm long
- <3 µm wide
- Length : width ratio of >3 : 1

Measured using the Walton Beckett Graticule

Asbestos Removal – Improving the process

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How much asbestos is in the Air? Nothing? Not likely?

	No. of Fibres	Cubic metre
Outdoor Rural	0.000001 f/cm^3	1 f/m^3
Outdoor Urban	0.0001 f/cm^3	100 f/m^3
Schools (ACM's in good condition)	0.0005 f/cm^3	500 f/m^3
Flats and Housing	0.0005 f/cm^3	500 f/m^3
Control Limit	0.1 f/cm^3	100,000 f/m^3
Clearance indicator	0.01 f/cm^3	10,000 f/m^3

Asbestos Removal – a snapshot of the process

(Play Video)

Asbestos Removal – Common Pitfall

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The ‘No.1’ Pitfall

‘No Specification’
(…and no site visit)

Asbestos Removal – Common Pitfall

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A
Typical
Survey >>>

Possible to price from....?

Survey Report Reference: AAS-GSIDE002

Material Description: Asbestos Insulation

PHOTO #1

RISK ASSESSMENT

Asbestos Type: 3 CROCIDOLITE AMOSITE CHRYSOTILE

Product Type: 3

Extent of Damage: 1

Surface Treatment: 2

Sample Ref. No.: SW/TW/090913/001

Position: Internal

Approx. size of item: 15 Lm

REGULATORY COMPLIANCE PROCEDURES

Manage, inspect annually, if to be disturbed remove using HSE Licensed Contractor.

Asbestos Removal – Common Pitfall

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!!!

Approx. size of item: 15 Lm

PHOTO #1

But what about….

a) Where does the pipework go?
b) Are there any residuals/snots?
c) Are the quantities accurate?
d) Environmental clean? (!)
e) Removal method?

a + b + c + d + e = +£200% ?

Asbestos Removal – Common Pitfall

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Result?

Wide ranging pricing spread

+

Potential for Variations / 'Extras'

+

Risk of Job delays & liquidated damages

Asbestos Removal – Common Pitfall

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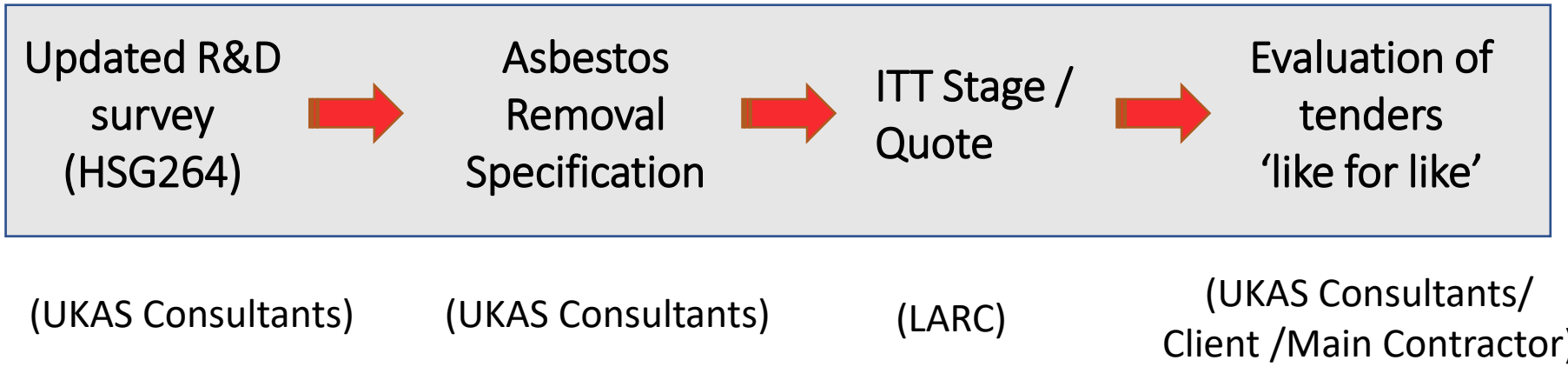
The Solution:

A current R&D Asbestos Survey must be converted into a tight specification highlighting method, quantity & programme - written by a UKAS Consultant



Asbestos Removal – Common Pitfall

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Asbestos Abatement Specification

✓

Best Practice

NB: Lot 1: Asbestos Surveys; Lot 2 Asbestos Removal; Lot 3 Analytical – **Independence!**

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Fairness, Inclusion and Respect in construction

Working together in pursuit of excellence

Energy Efficiency Projects

September 2024

Content

- Meet the team
- Valley Group Limited
- Accreditations
- Energy Efficiency Framework
- Community benefits
- East Dunbartonshire Council School Projects
- Torrance Primary School

Meet the team

Sean Harkin, Managing Director

Jason Hamilton, Head of Mechanical & Heating

Kerry Mackie, Bid Director

Valley Group Limited

2014 — Valley Electrical Services Ltd established in Paisley by Sean Harkin

2017 — Turnover steadily increasing

2019 — Plumbing and heating division established

2020 — Energy and renewable divisions established

2021 — Rebranded as Valley Group Ltd

2021 — Certifications achieved

2022 — Appointed to Frameworks

2022 — PAS 2030 certification achieved

Financial year ending February 2023 — £7.8m turnover

Financial year ending February 2024 — £11.8m turnover

2024 — Invested in new project management system

Accreditations

valley

SELECT

SC simply certification
PAS 2030 certification
Retrofit Installation of EEM

Qualitymark. protection
ACCREDITED

CfA Centre for Assessment ISO 9001 20/0188 UKAS MANAGEMENT SYSTEMS 0120

CfA Centre for Assessment ISO 14001 21/1805 UKAS MANAGEMENT SYSTEMS 0120

CfA Centre for Assessment ISO 45001 21/1806 UKAS MANAGEMENT SYSTEMS 0120

TRUSTMARK
Government Endorsed Quality

MCS

GAS safe REGISTER

RECC
RENEWABLE ENERGY CONSUMER CODE

Acclaim Accreditation
SSIP

SNIPEF
Plumbing and heating association

We are a Living Wage Employer

disability confident
EMPLOYER

Lighthouse
The Construction Industry Charity
CLUB

Constructionline
Gold Member

Wider Valley Group

- Established 2014
- 4 divisions: Mechanical; Electrical; Renewables; Energy
- Covering all aspects of installations - domestic and commercial
- 103 employees
- 3 premises
- In-house bid team, HSQE and direct labour workforce
- 5 apprentices
- 2 graduate training positions
- A portfolio of social value projects

Accountable Professional Customer focussed Integrity

Energy Efficiency Framework

valley

SCOTLAND EXCEL

- Fife Council – Solar PV and Battery Storage
- East Renfrewshire Council - Kirkhill Primary School
- Shettleston Housing Association - Windows
- East Renfrewshire Council - External Wall Insulation
- East Lothian Council - Solar PV and Battery Storage
- Scottish Police Authority - Whole House Refurbishment

Scotland Excel – Community Benefits

- Social value high on our agenda
- Supported multiple community benefits
- Work experience placements
- Foodbank collections
- Apprentices
- Community group volunteering
- Employability support

East Dunbartonshire Council
School Projects

- Boiler replacement programme
- Tendered via Scotland Excel Energy Efficiency Framework
- Heating at 14 primary schools upgraded
- Collaborative working with all stakeholders
- All works carried out within live environments
- Effective planning and preparation

East Dunbartonshire School Projects

- New boilers, water heaters, pumps, BMS control panel, insulation, flues
- Variable speed pumps, which work on demand, dependent on load
- New BMS monitor and control heat and usage

Torrance Primary School

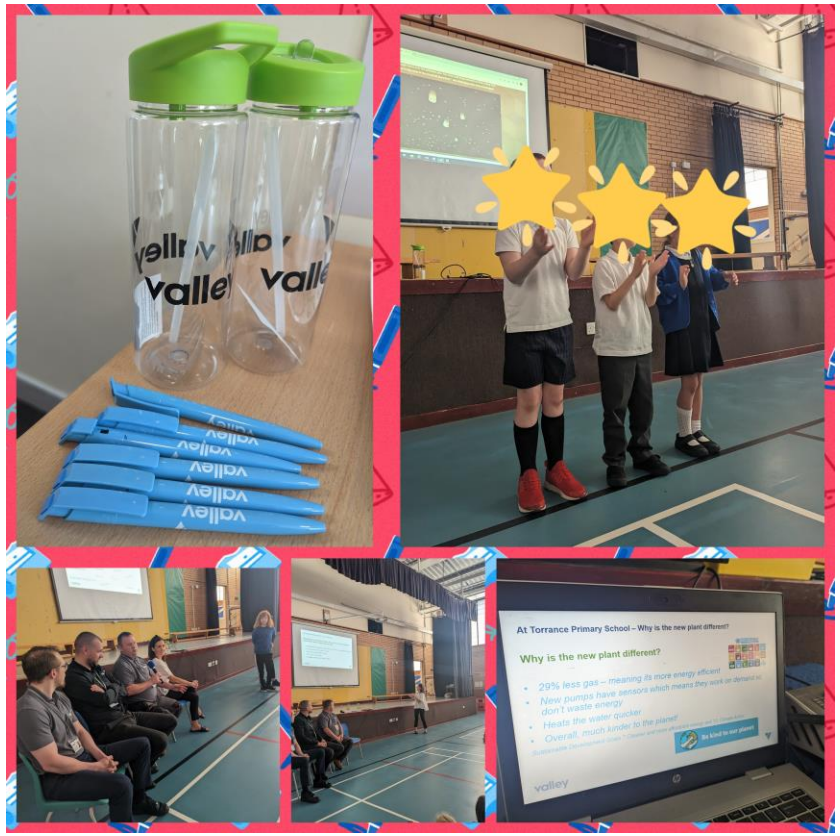
- New Boilers, Water Heater, Pumps & BMS Control Panel
- Working in a busy school means we can't turn off the heating/hot water & we need to keep everyone safe

Some non negotiables

- Portable/Temp boiler to heat the school while we removed the old one
- Fencing around the area of work
- Deliveries carefully scheduled
- PPE and branded work-wear worn at all times
- Portable kitchen and toilet facilities

Community Benefit

- Invitation to school assembly
- Explained to the kids what work we were carrying out
- What other work Valley Group delivered
- Asked them what jobs they would like to do?
- Drawing competition
- Donation of loose parts for play



Thank You

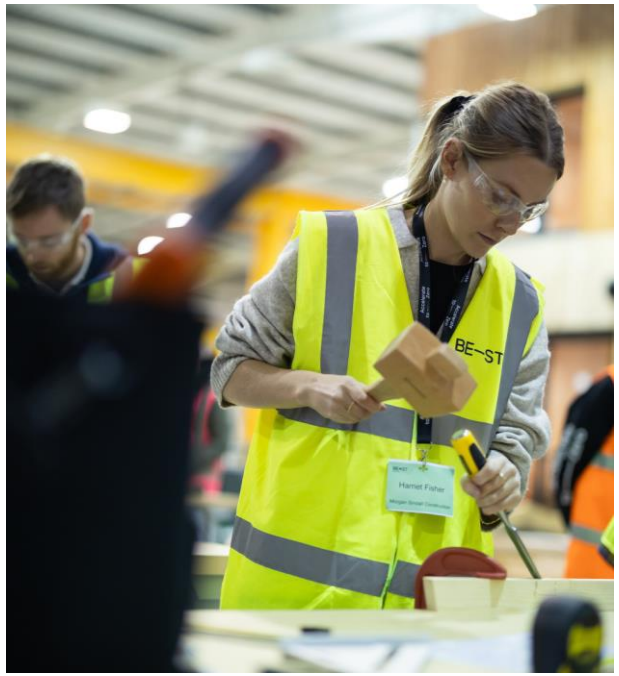
Mainstreaming Innovation:

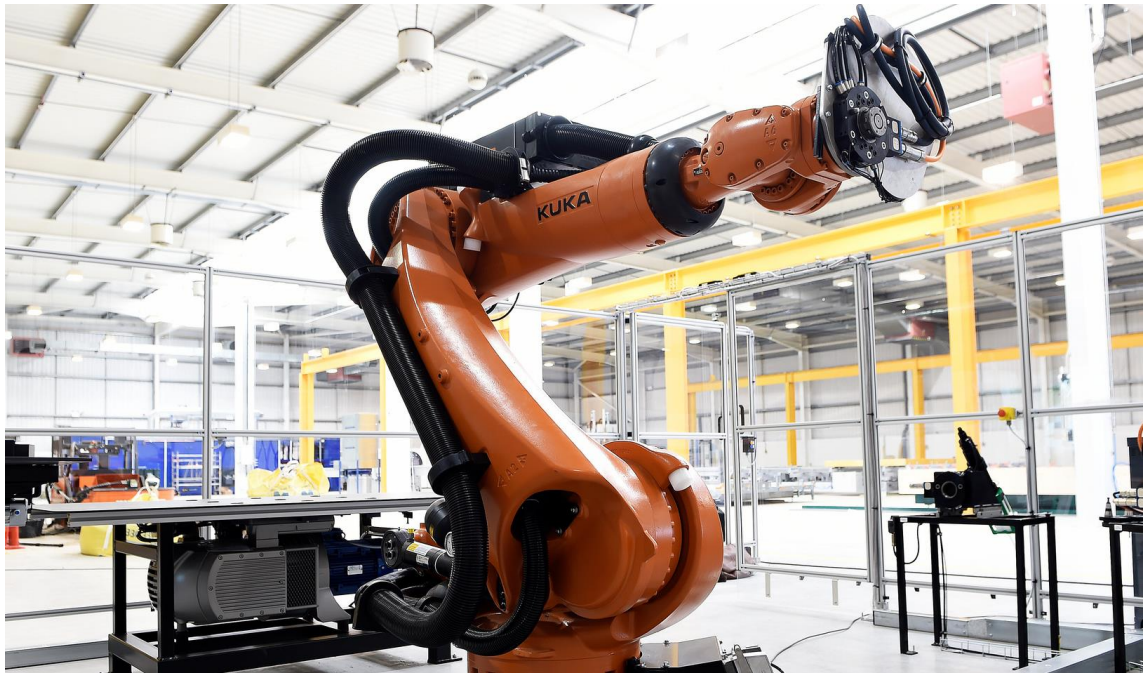
Driving transformational change at scale & pace

Scotland Excel
Estates Management Expo
17.09.24

Stephen Good
CEO @ BE-ST

Built
Environment
—
Smarter
Transformation





BE–ST

BE-ST is Scotland’s national innovation centre for construction and the built environment and a United Nations International Centre of Excellence for high performing buildings.

BE—ST

Our mission is to **accelerate** the built environment's **just transition** to **net zero** carbon.

Accelerate:
We need to move faster. We're (still..!) in the middle of a climate crisis. Incumbent anchoring to the status quo is a powerful barrier to change.

Just Transition:
We need the transition to net zero to be fair, equitable and just. The risks and rewards need to be shared fairly with everyone.

Net Zero:
We prioritise the reduction of operational and embodied carbon as far as is practicable, rather than focusing on offsetting and capture schemes.

BE–ST

What is Innovation – 2227 2479

Mentimeter

What does innovation mean to you?

0 responses

Login to edit this Menti

Change that unlocks new value …For which someone is willing to pay

BE—ST

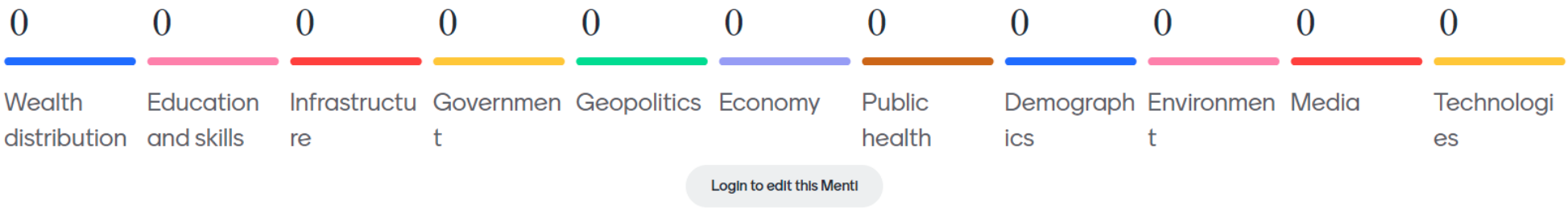
Disruptive Landscape

BE—ST

Disruptive Landscape - 2227 2479

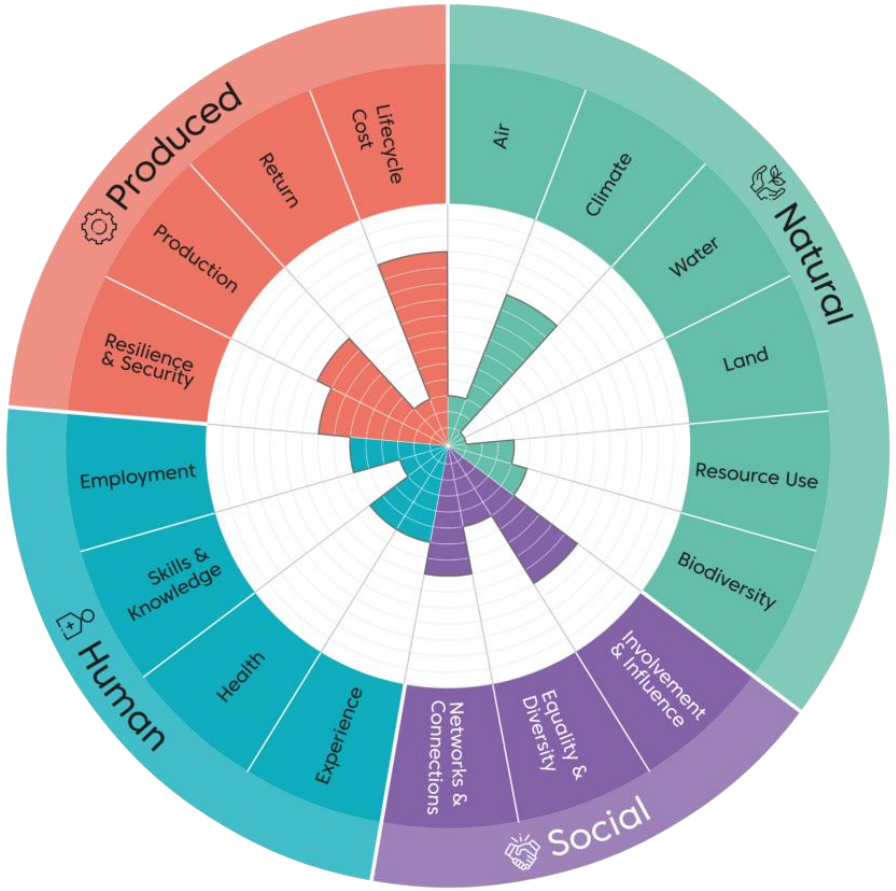
Mentimeter

Select the three most relevant disruptors to your business

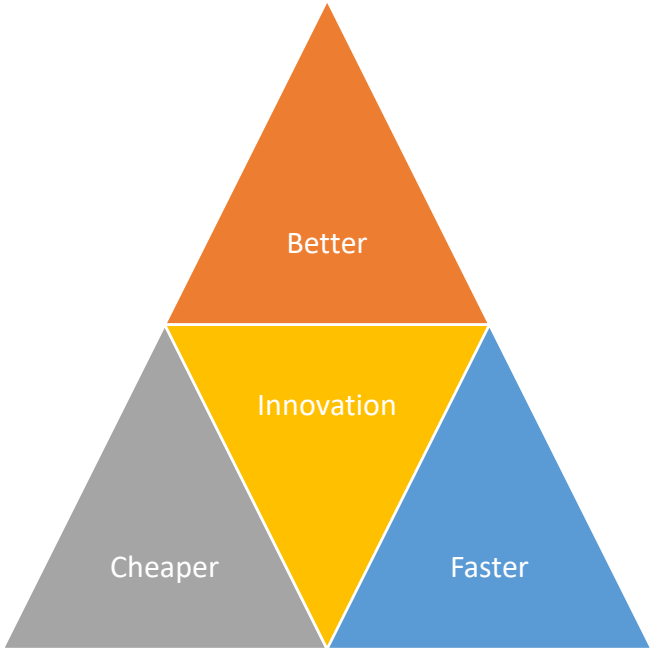


BE—ST

Defining Value



What do clients want?

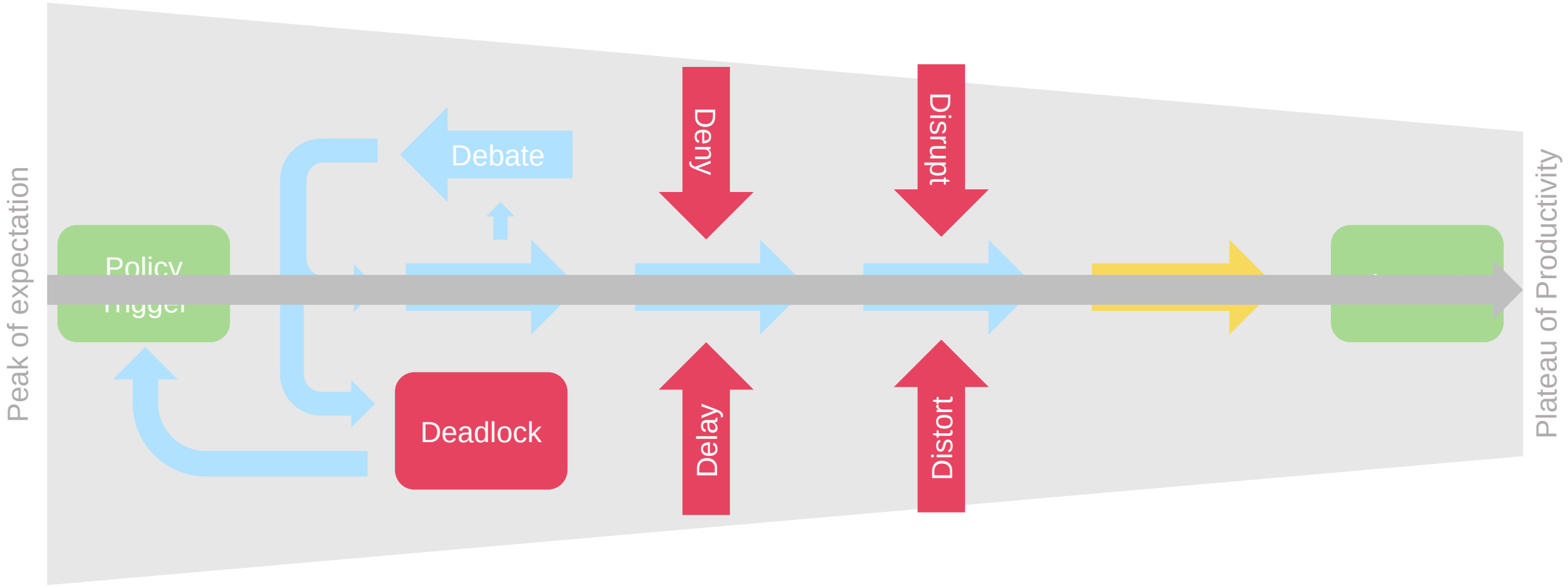


What does this mean for businesses?

We need to find ways to reduce **material** and **labour** intensity whilst increasing **quality**, **productivity**, and **profitability**

BE–ST

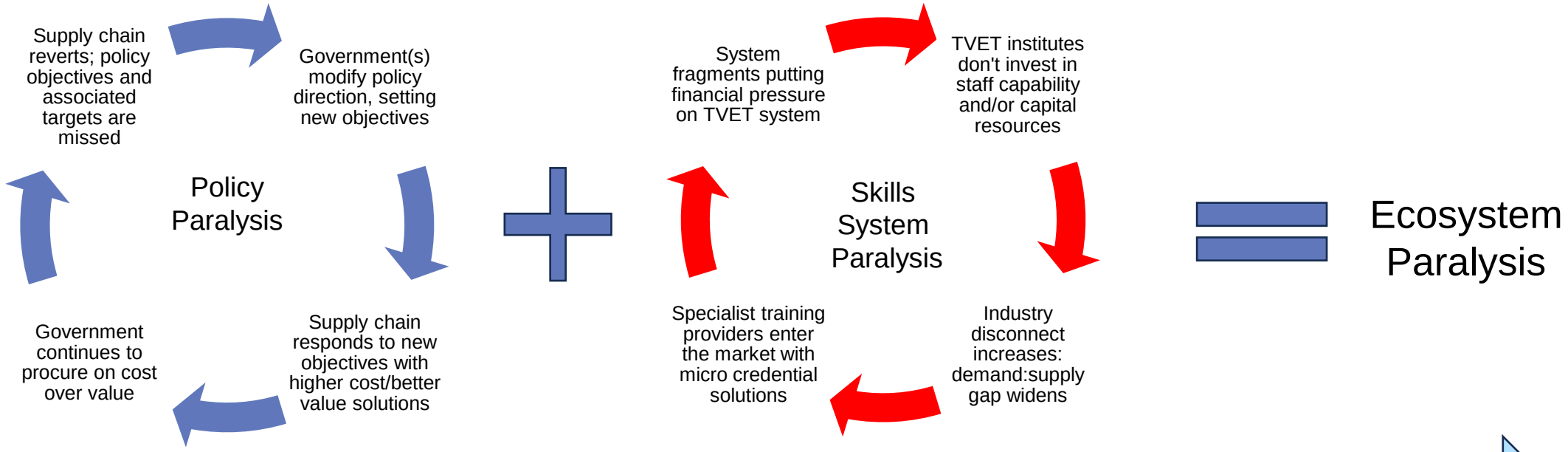
Friction in the system



Key Messages
+ Incumbents motivated to defend the status quo at all costs
+ Friction within the system diminishes success outcomes relating to cost, time, and objectives

BE–ST

Ecosystem Paralysis



Key Messages
+ Intervention(s) required to break the cycle(s)
+ Optimising the **system of systems** will require radical change

BE—ST

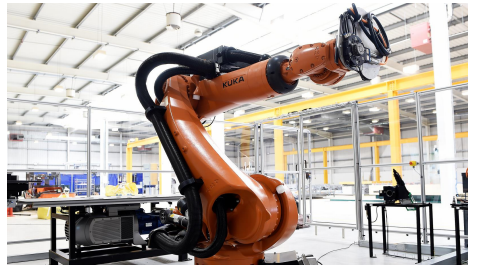
Material and Business Model Innovation

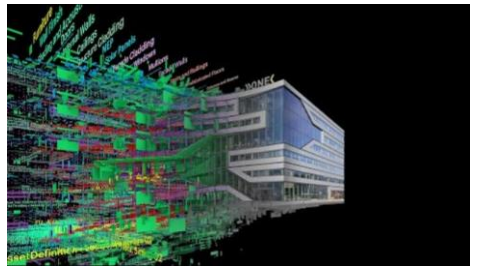
BE—ST

System and Process Innovation

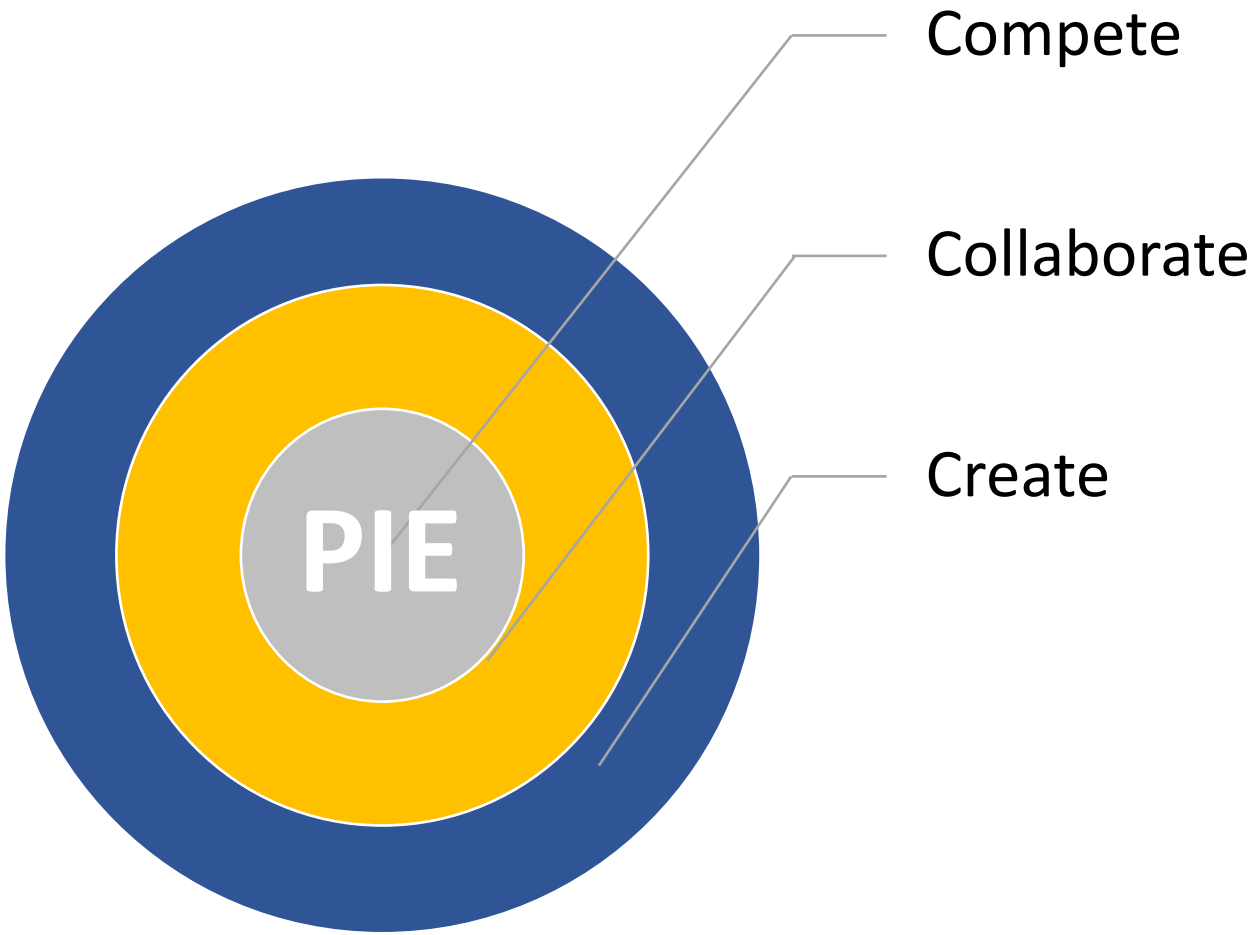
BE—ST

Technological Innovation





Where and How to Play



BE—ST

Where to Play- 2227 2479

Mentimeter

Where would you most value innovation support?

- Product innovation
- Process innovation
- System innovation
- Business model innovation
- Workforce skills innovation

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Thank You - Q&A

Stephen Good
CEO @ BE-ST
sgood@be-st.build

Built
Environment
—
Smarter
Transformation

HAGS®

Inspiring all generations

Hazlehead Park, Play Park Redevelopment

Introduction

- Mark Gornall
- Head of UK Sales
- 10 Years working for HAGS
- Circa 20yrs in Play Industry
- Husband, and father to 2 young girls
- Passionate about bringing communities together through the products and services we provide
- Giving our customers best value, through well-designed, high-quality solutions

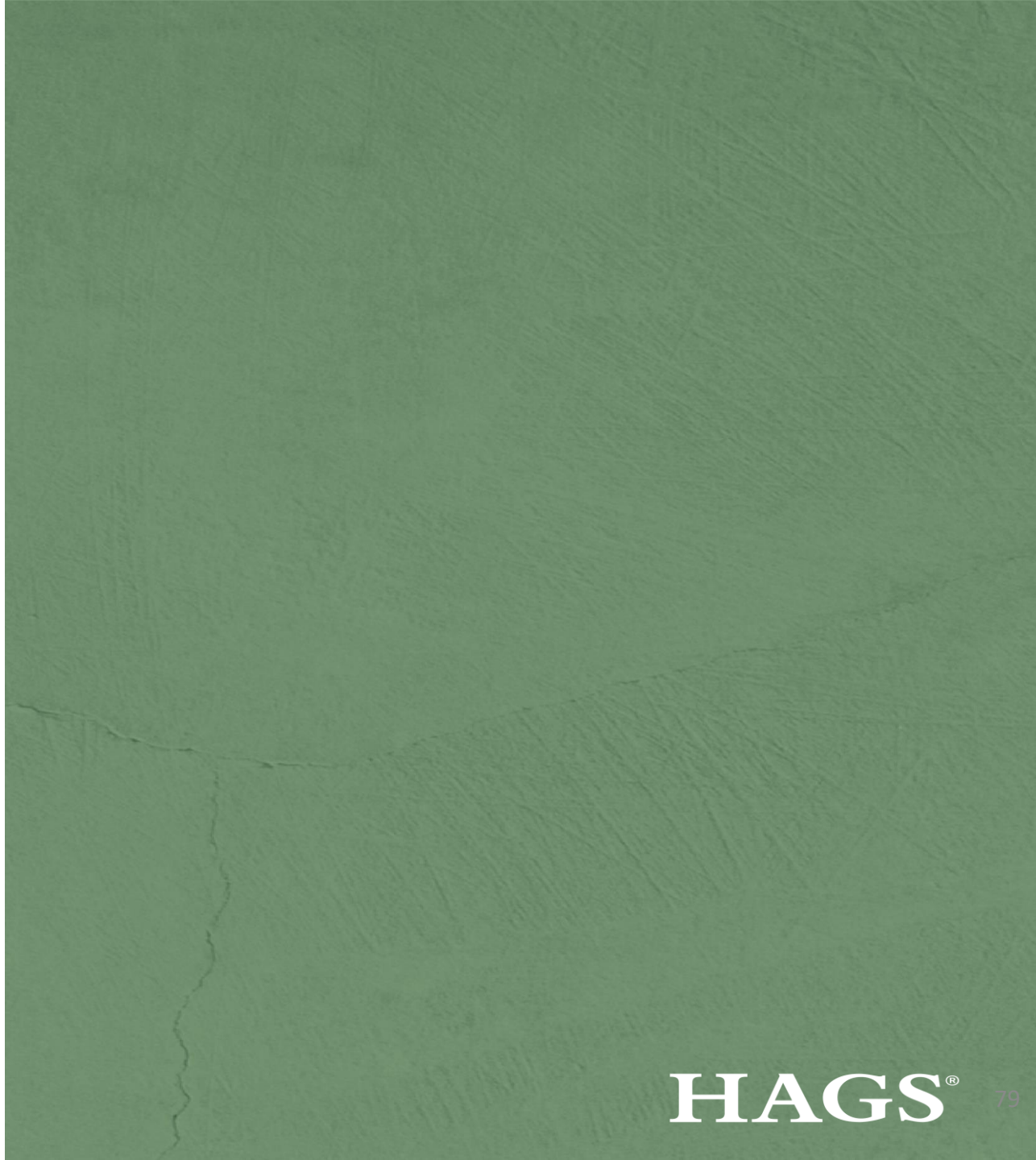
HAGS®

Introduction

- A market leading designer, manufacturing, supplier and installer of commercial recreational equipment
- Products covering Outdoor Play, Sport, Fitness and P&UF
- Founded in 1948 in Aneby, Sweden
- Recognised for creating joy, learning and community through the products and services we provide
- Underpinned by our strapline of ‘Inspiring All Generations’

HAGS®

Hazlehead Play Park, Aberdeen



Hazlehead Play Park, Aberdeen

HAGS®

Hazlehead Park

- A Green Flag awarded Park, and one of Aberdeen's oldest historic properties, spread across 180 hectares
- Land gifted to the City by King Robert the Bruce in 1319, and returned to Aberdeen Town Council in 1920
- Made up of formal gardens, woodland walks and nature trails, two golf courses, mini zoo, café and children's play area
- Today alongside its public amenities it hosts annually the Aberdeen Highland Games, Music Festivals and Concerts
- A key destination for the Community of Aberdeen and those from further afield

Hazlehead Park's Piper Alpha statue

Hazlehead Park Memorial Garden

HAGS®

The Project

- To redevelop the existing play park through community consultation, design and installation works
- Creating a new destination play facility, inclusive and accessible to the Aberdeen community and those travelling from further afield
- One which offers a high-quality designed solution which overcomes the sites existing challenges.
- Which is compliant with EN1176/77 safety standards
- Provides the Client and the Aberdeen public with a best-in-class asset, which withstands thousands of visitors and lasts for decades

Former Hazlehead Play Park

Former Hazlehead Play Park

HAGS®

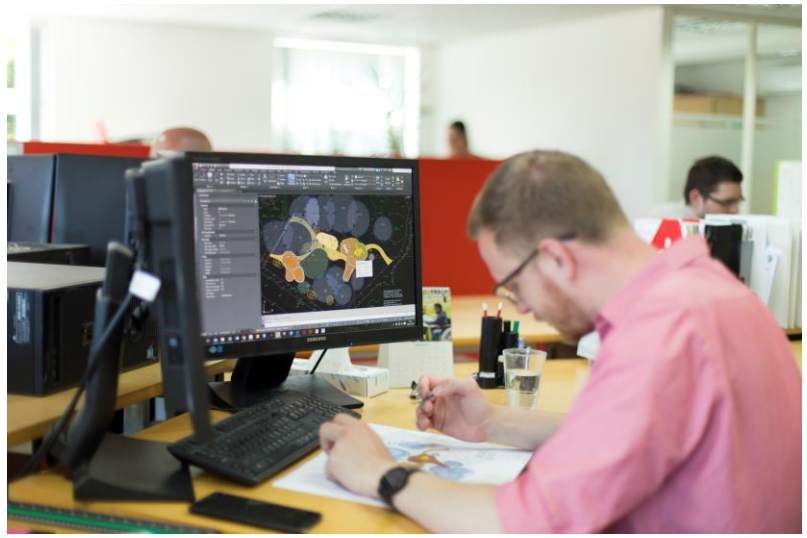
Meeting Key Deliverables

Toddler & Junior focussed	Visually defined zones of play for the target age groups. With age-appropriate equipment
At least one central fully accessible play item/unit	A fully accessible, inclusive play unit with extensive play opportunity spanning 30m x 20m in size
Maximised range of Play activities	Products offering play activities which deliver on every one of the Fields in Trust play value assessment matrix
Accessibility throughout	Seamless, accessible safety surfacing throughout 95% of the playable space
Landscaping to maximise site opportunity	Extension of footprint into the soft landscape, and integration of play features and elements
Design / Install appropriate drainage system	Extensive land and sub-surface drainage and soakaway system

HAGS®

The Approach

- Site assessment and engagement with the clients Project Lead on site
- Site surveys and planning
- Design development and creation
- Refinement of design and costings
- Multi department collaboration to prepare and submit



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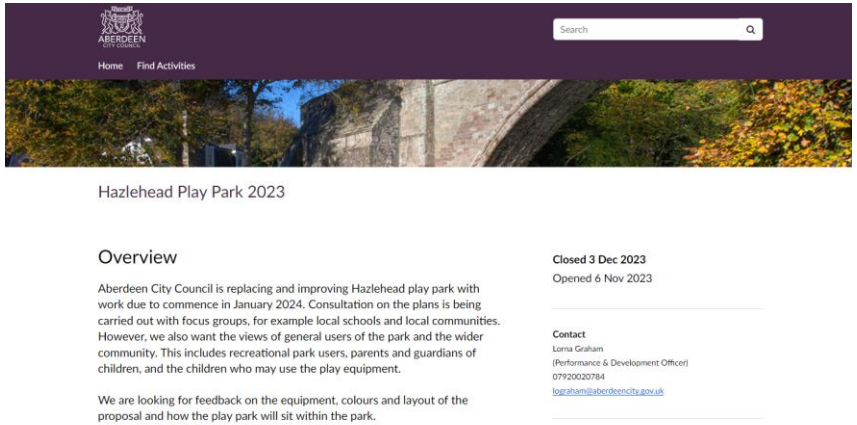
Public Consultation

- Meeting within Ward Councillors – an inform session
- Online public consultation conducted via SM channels and Aberdeen CC website
- HAGS created and handed out flyers within the Park across a weekend
- In person meetings held with Hazlehead School and Sense Scotland



sense Scotland

HAGS®

The Delivery

- Works on site commenced in February 2024, with practical completion July 2024
- Overseen by HAGS' Project Manager
- Works undertaken by two of HAGS' approved sub-contracted installers
- Twice weekly meetings held with the Client for progress monitoring and quality control
- Register of Play Inspectors International (RPII) certified inspection undertaken prior to handover
- Formal opening event 22nd July 2024

Construction – March 2024

Construction – May 2024

HAGS®

The Outcome

HAGS®

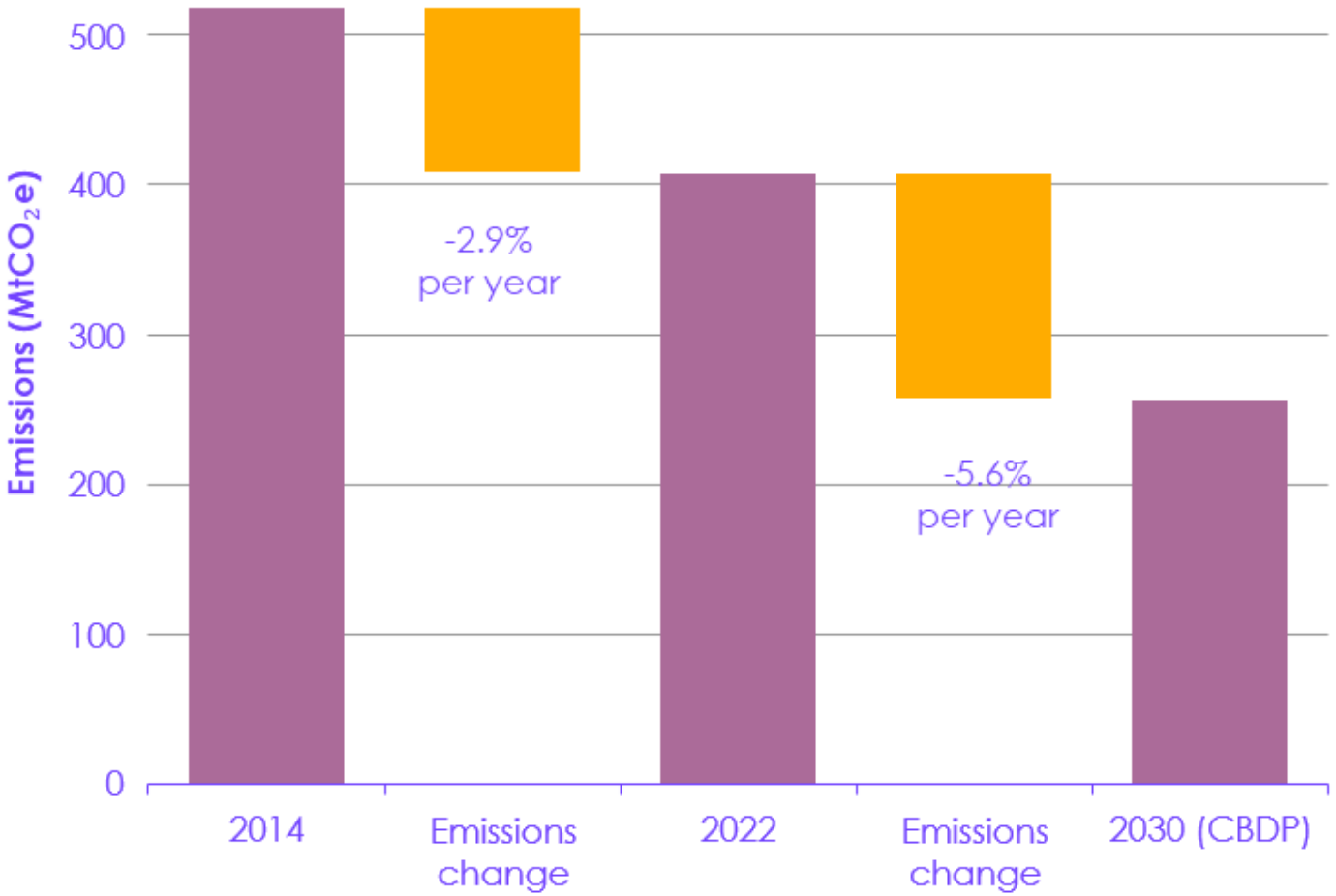
Inspiring all generations

Stuart Gadsden

Scottish housing decarbonisation: If not now, when? If not you, who?

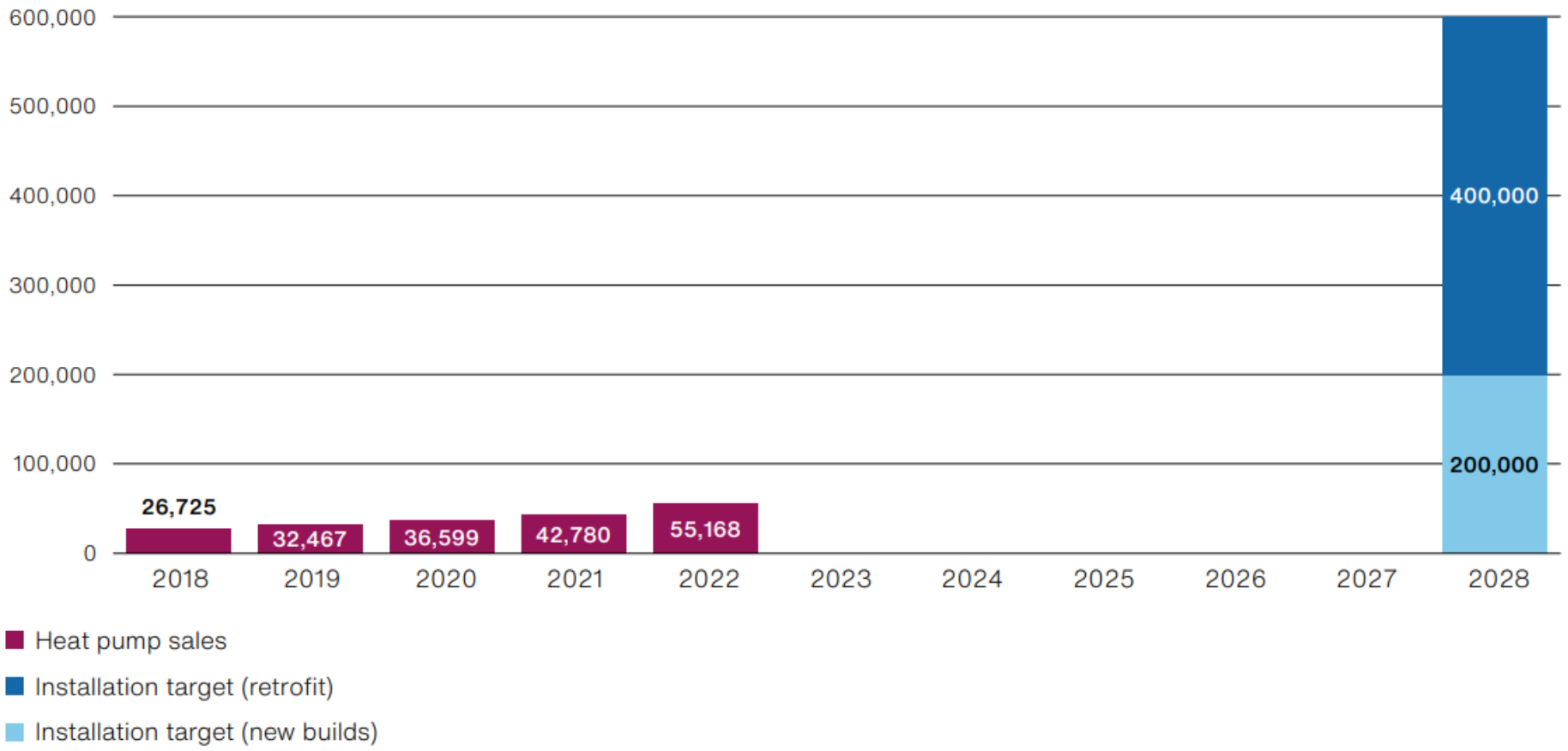
A burning platform

Change in UK emissions from 2014 to 2022 and required change from 2022 to 2030



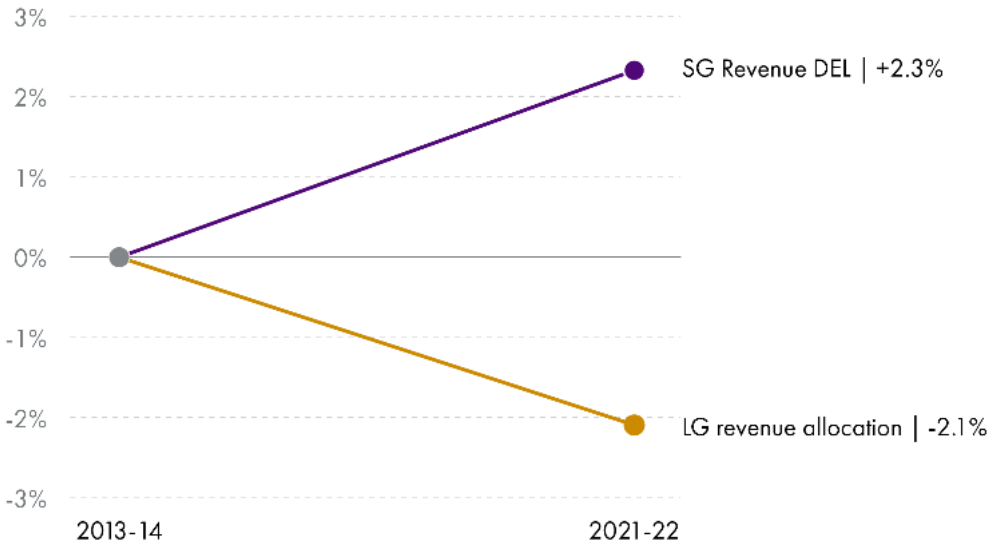
Source: CCC, 2023 Progress Report023 Progress Report

UK Heat Pump Sales 2018 to 2022 compared to the 2028 Heat Pump Installation Target



Source: NAO: Decarbonising home heating

Local Government revenue allocation has been falling over time, and will see a real terms cut from 2023/24 to 2024/25



Capital allocation to local government 23/24 and 24/25 (real terms 23/24 prices, £m)

	2023-24 Budget document	2024-25 Budget document
General Capital Grant	607.6	469.0
Specific (ring-fenced) capital grants	139.0	119.10
Capital Funding within other Portfolios	80.0	39.3
Total capital in Finance Circular	**826.6**	**627.5**

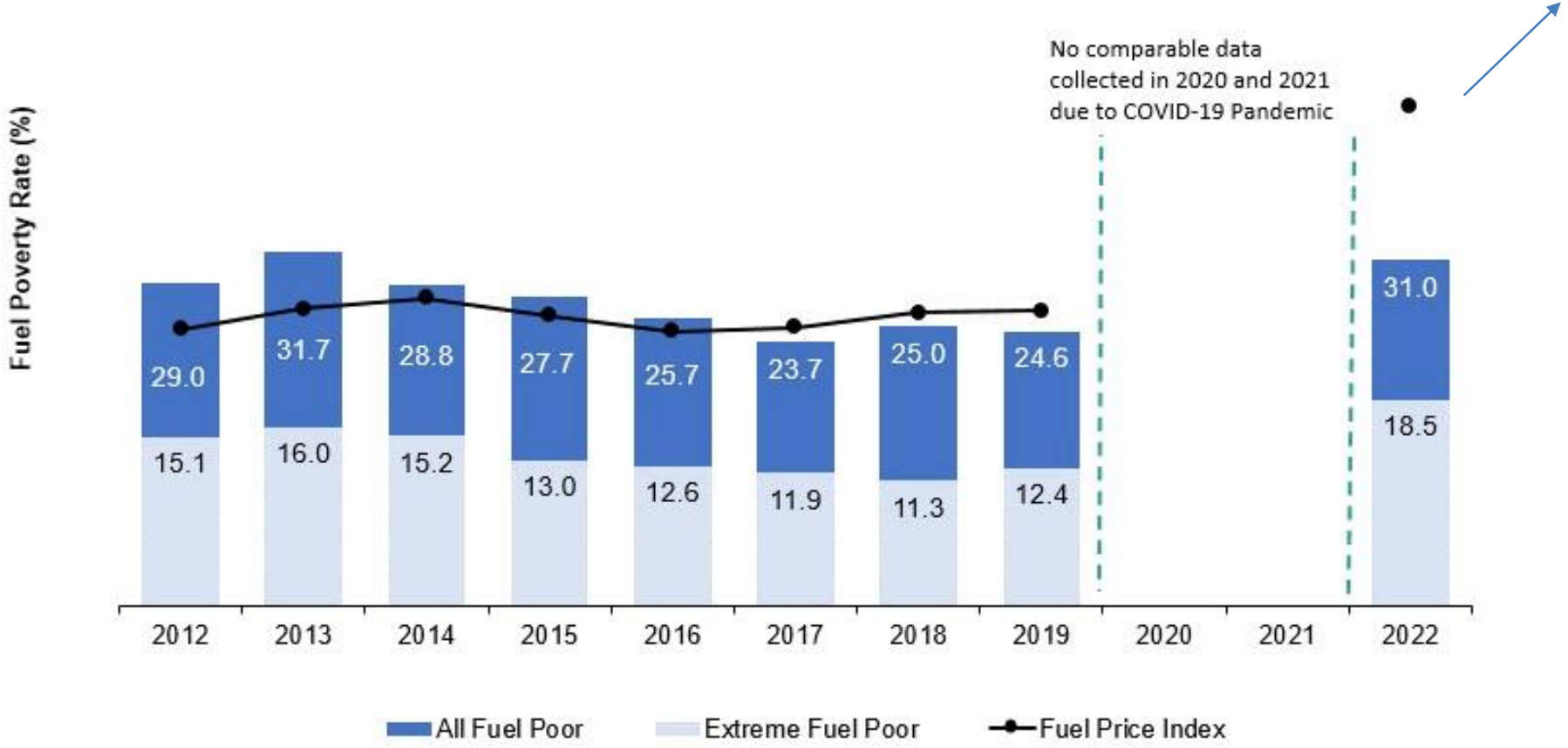
Scottish Government Budget documents 2023-24 and 2024-25

24.1% real terms drop this year

Source: local government finance: budget 2024-25 and provisional allocations to local authorities

Fuel poverty and extreme fuel poverty have accelerated in Scotland in recent years

…and now prices rising again



Source: Scottish Government

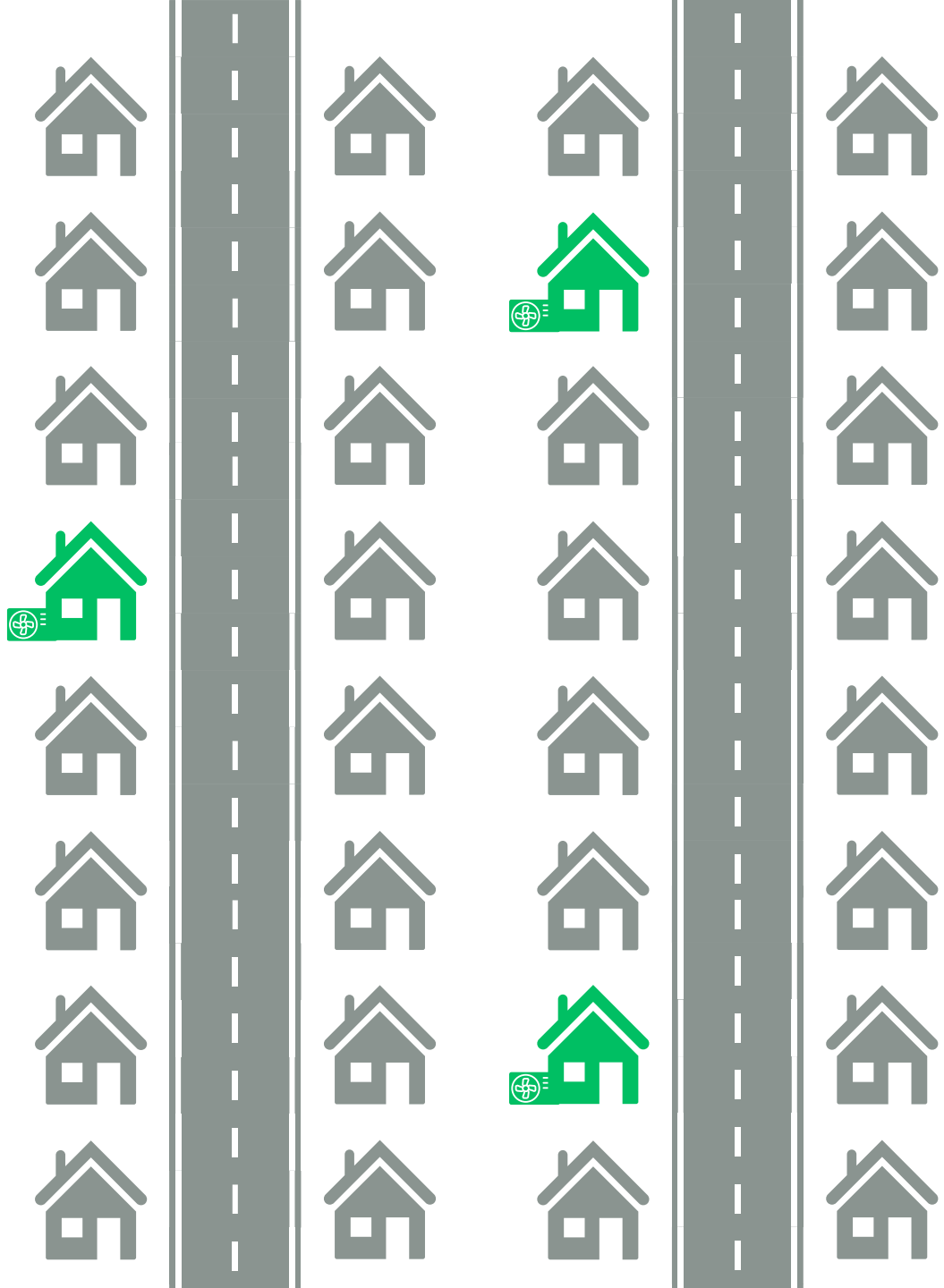
House-by-house or area-by-area?

The house-by-house pathway

Able-to-pay and willing-to-be-disrupted

Acquiring ASHPs, solar PV, storage, and efficiency upgrades

Capturing running cost and comfort benefits first



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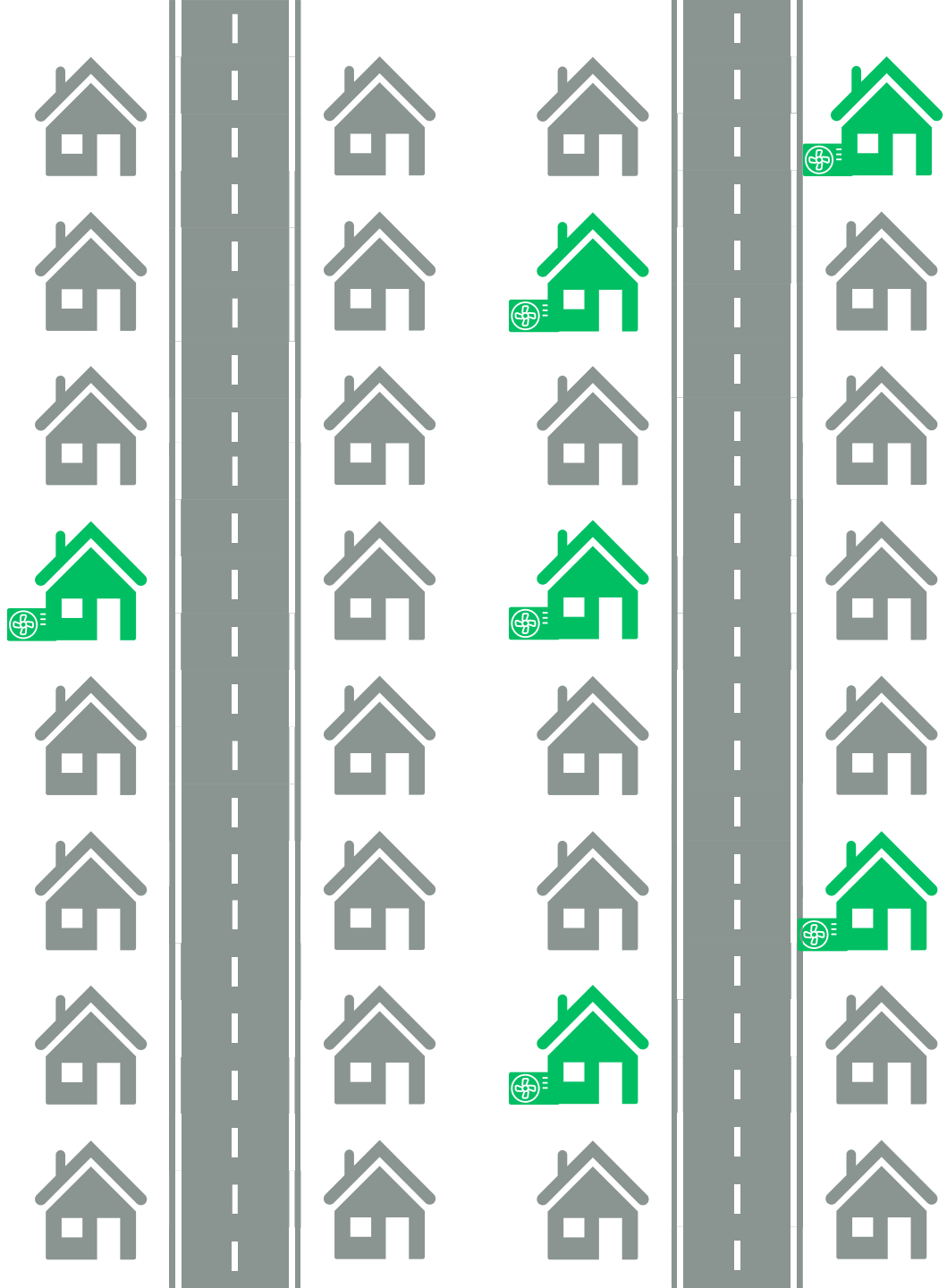
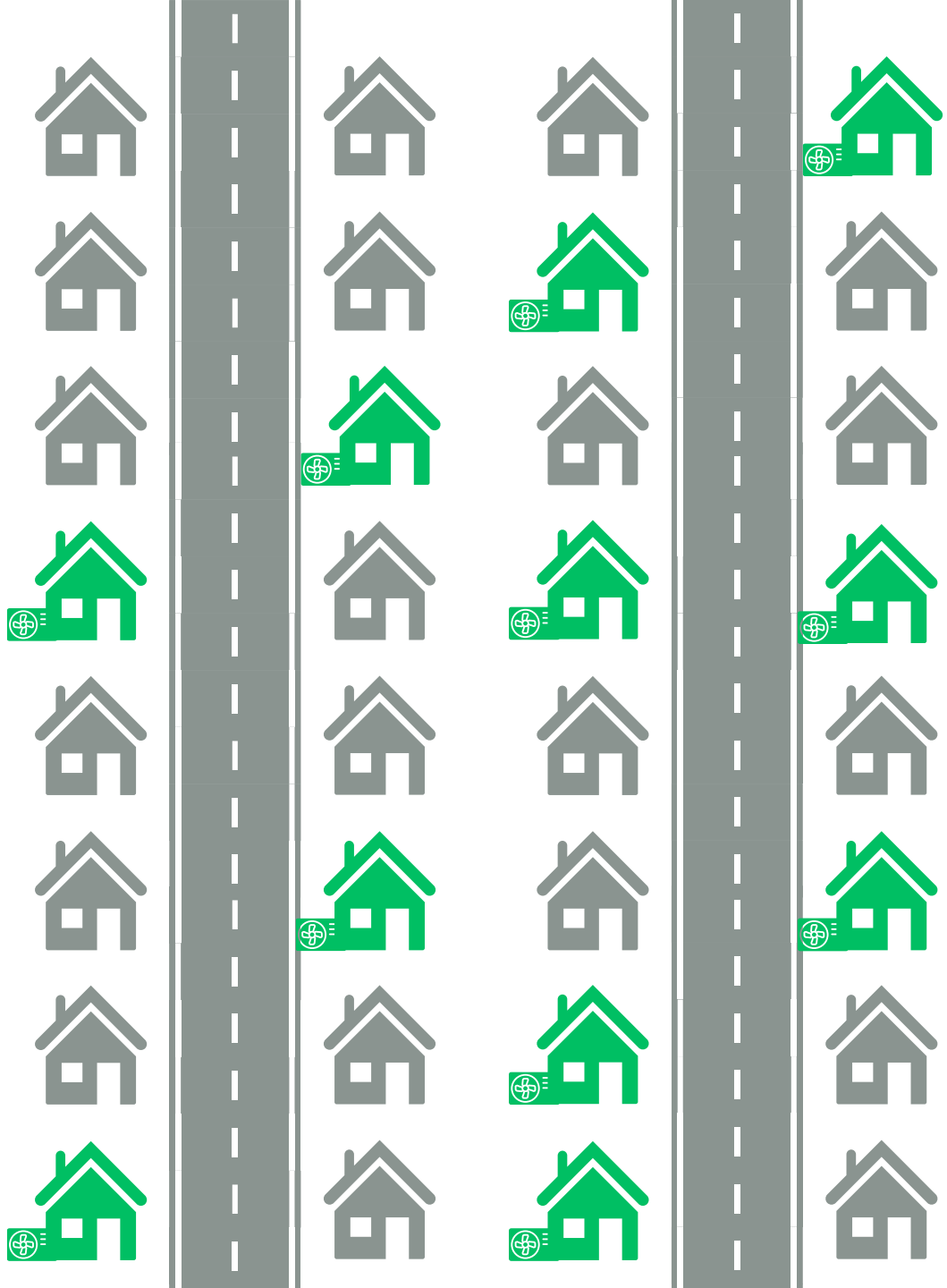


The house-by-house pathway

With fewer gas customers, covering the same fixed costs

The least-able-to-pay left shouldering the costs

Exacerbating fuel poverty, and higher overall transition costs

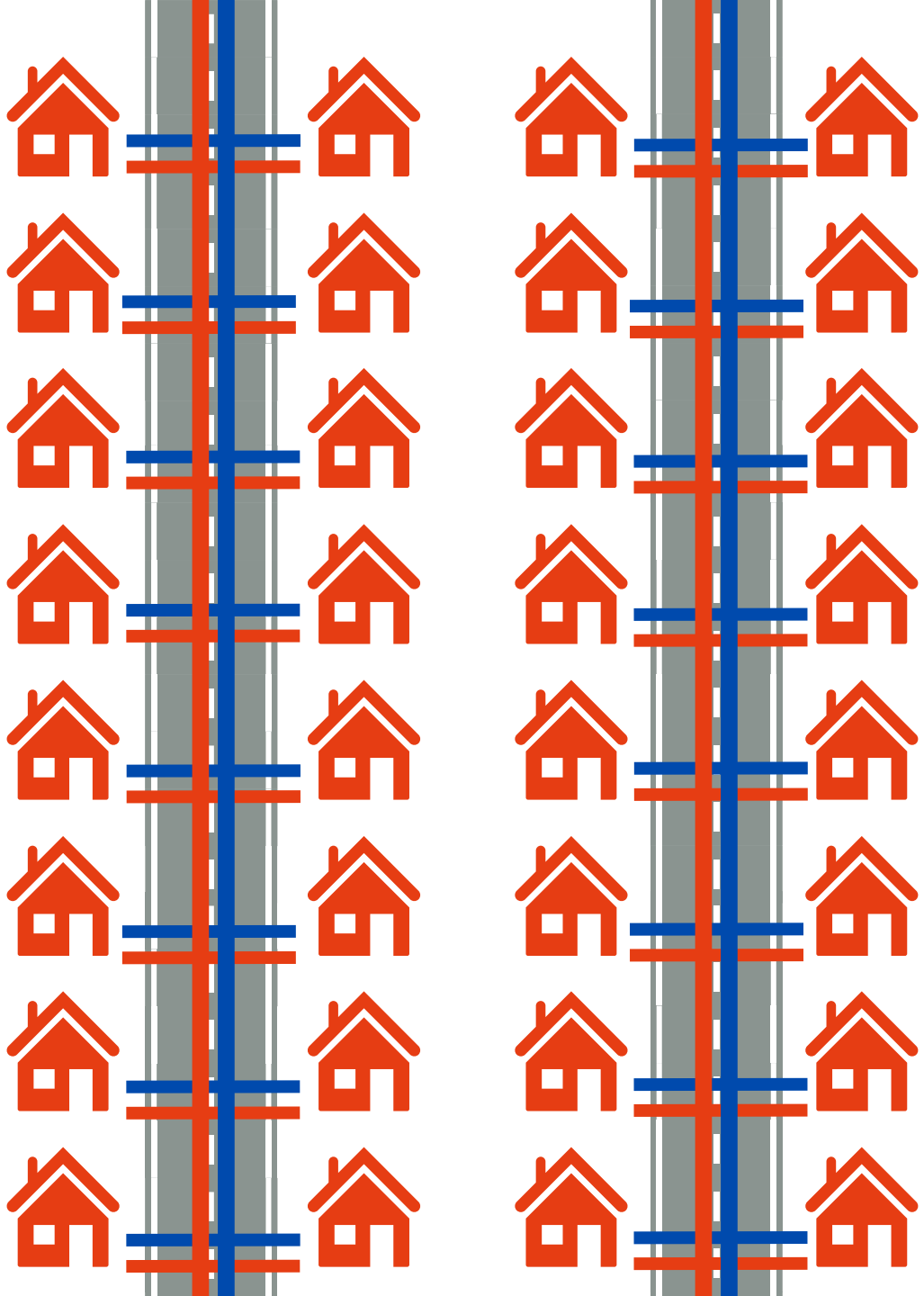


Taking a networked approach: opportunity for a smoother, more equitable transition

Higher system efficiencies, lower costs

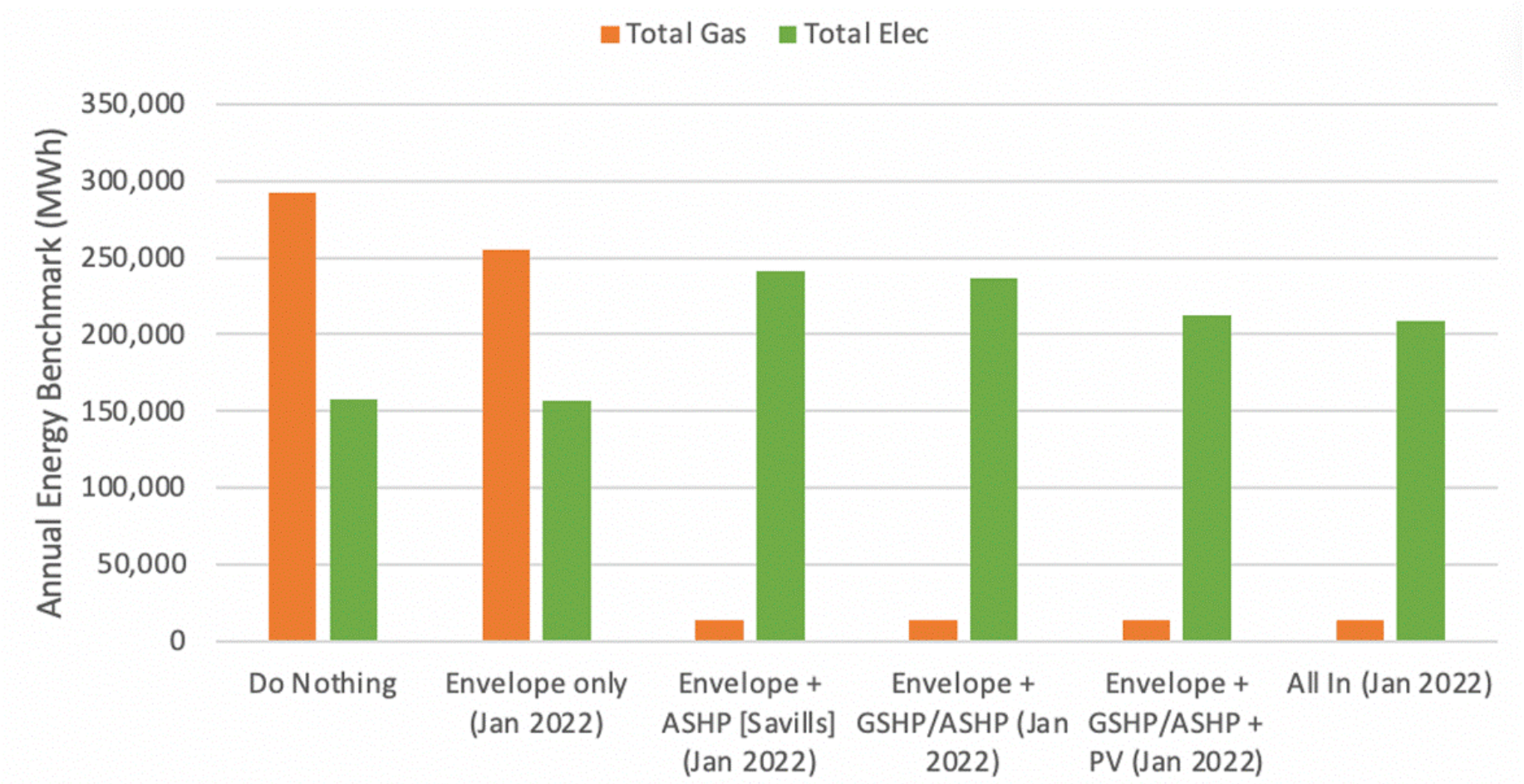
The scale necessary to meet climate targets

More systematic decommissioning of the gas grid



Fabric first (or a bit later)?

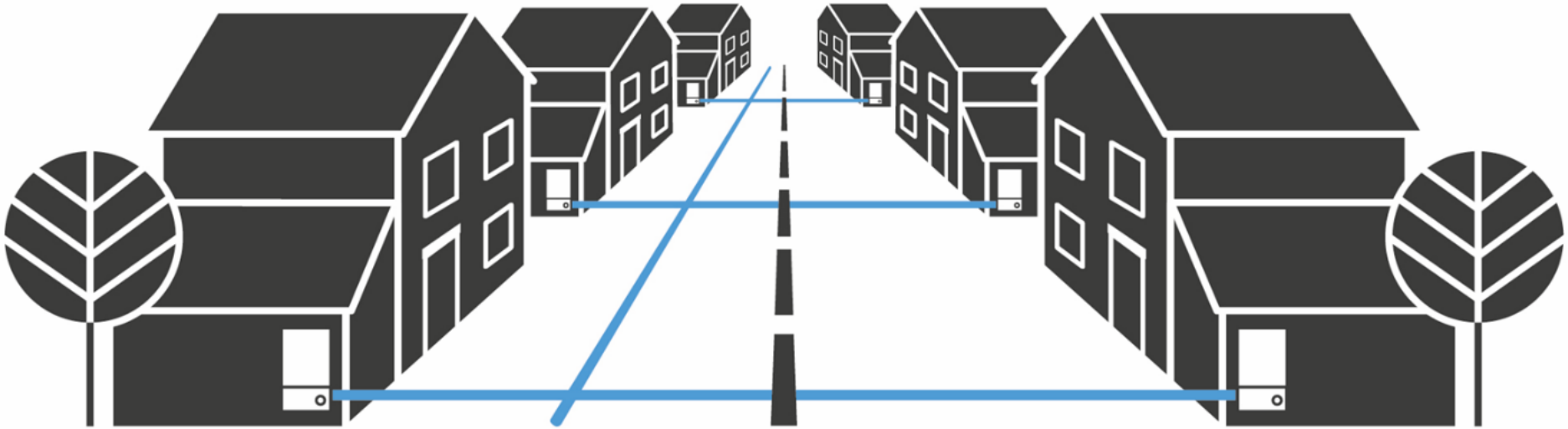
Resulting expected change in the use of gas and mains electricity



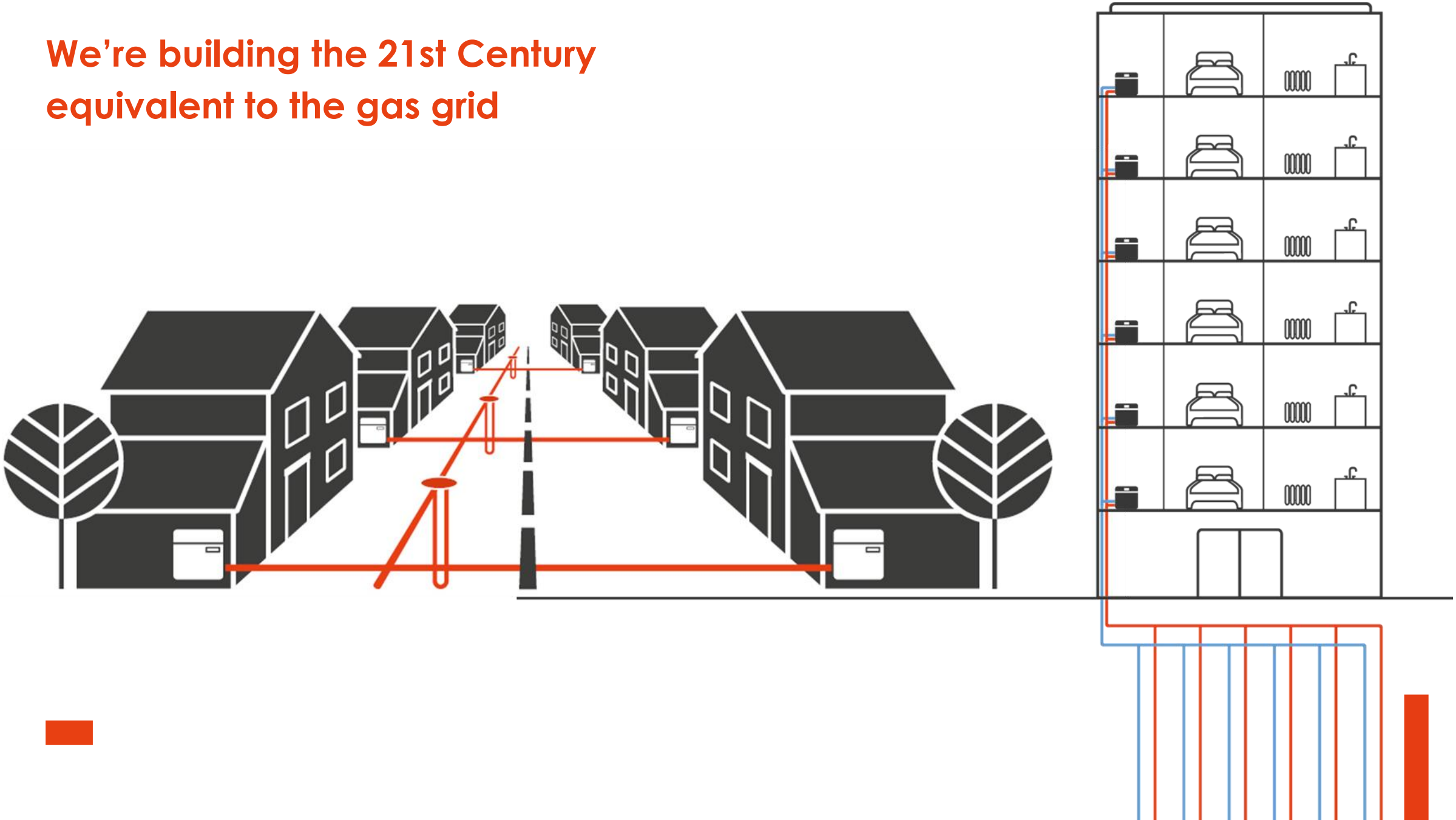
Source: UCL, Bartlett Review: Decarbonising London's Social Housing

Our approach

How streets look today



We're building the 21st Century equivalent to the gas grid



Examples of our work

Gentoo Core 364, Sunderland

- 364 flats (7 tower blocks)
- From gas to networked heat pumps
- 19,990 tCO2e saved over lifetime of heat pumps
- Saving residents on fuel bills

Chadwell St Mary, Thurrock Council

- 273 flats (3 tower blocks)
- From direct electric to networked heat pumps
- 7,080 tCO2e saved over lifetime of heat pumps
- Resident bills cut by 50%

Clarion Housing, Chelsea

- 81 period social homes in London
- Renovated from derelict
- Had these had gas boilers installed, typical carbon emissions reduction would have been c80%

Rope Walk, Lar Housing Trust, Edinburgh

- 10 affordable / low income homes
- New build
- Annual kgCO2 saved: 11,809

Grampian Housing Association, Ballater

- 24 social rent properties
- Renovation of an old school, from direct electric heating
- Annual kgCO2 saved: 13,135

Here's what we're currently looking at

Old Shettleston Road, Glasgow

- Decarbonising 'hard to decarbonise' tenements
- Scottish Heat Network Fund
- 39 homes

Here's what we're currently looking at

Paisley, Renfrewshire

- Decarbonising two tower blocks
- Scottish Heat Network Fund
- 180 homes

Near term opportunities

Funding routes

Scottish Heat Network Fund

- 50% of eligible CapEx, including system construction and internals, excluding grid connection costs
- 50% of commercialization support, capped at £1m and capped at 10% of total CapEx
- New low or zero direct emissions district heat networks, new zero direct emissions communal heating systems, expansion of existing heat networks

Social Housing Net Zero Heat Fund

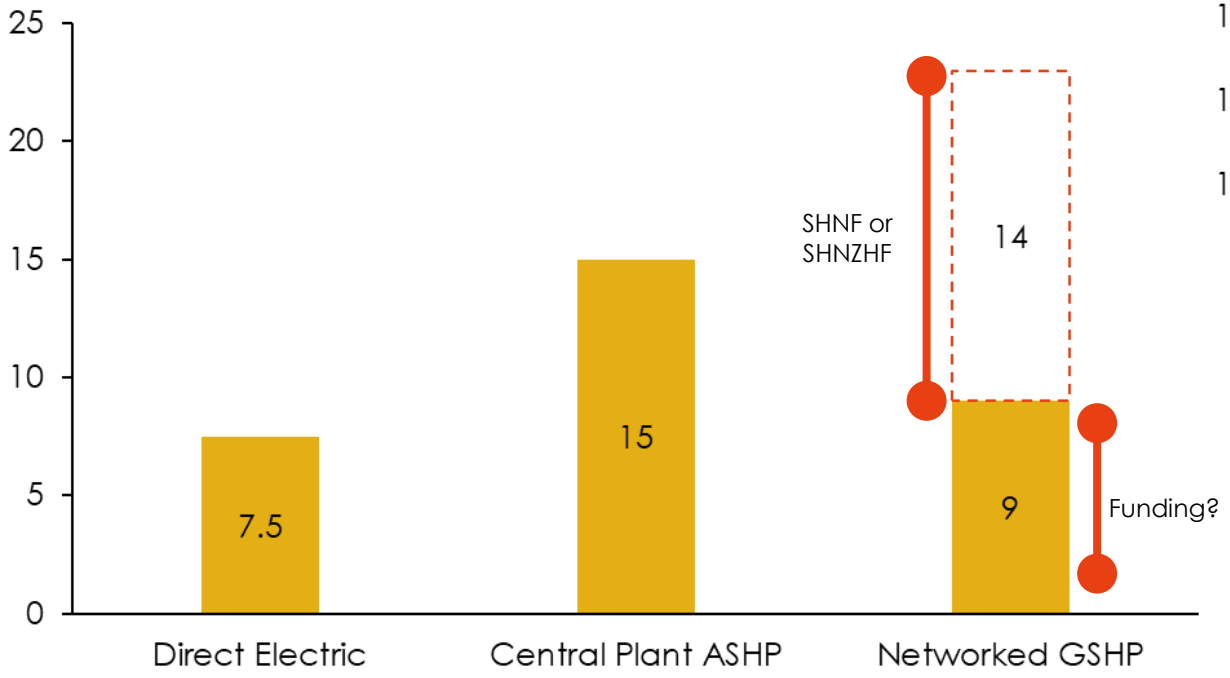
- Up to 60% of eligible CapEx
- Must deliver significant emissions and energy consumption reduction, and savings for social home residents.
- Must align to one of two themes:
  - Zero Direct Emissions Heating Systems
  - Fabric First Energy Efficiency, **with** zero direct emission heating systems

Self-fund + with KUL funding

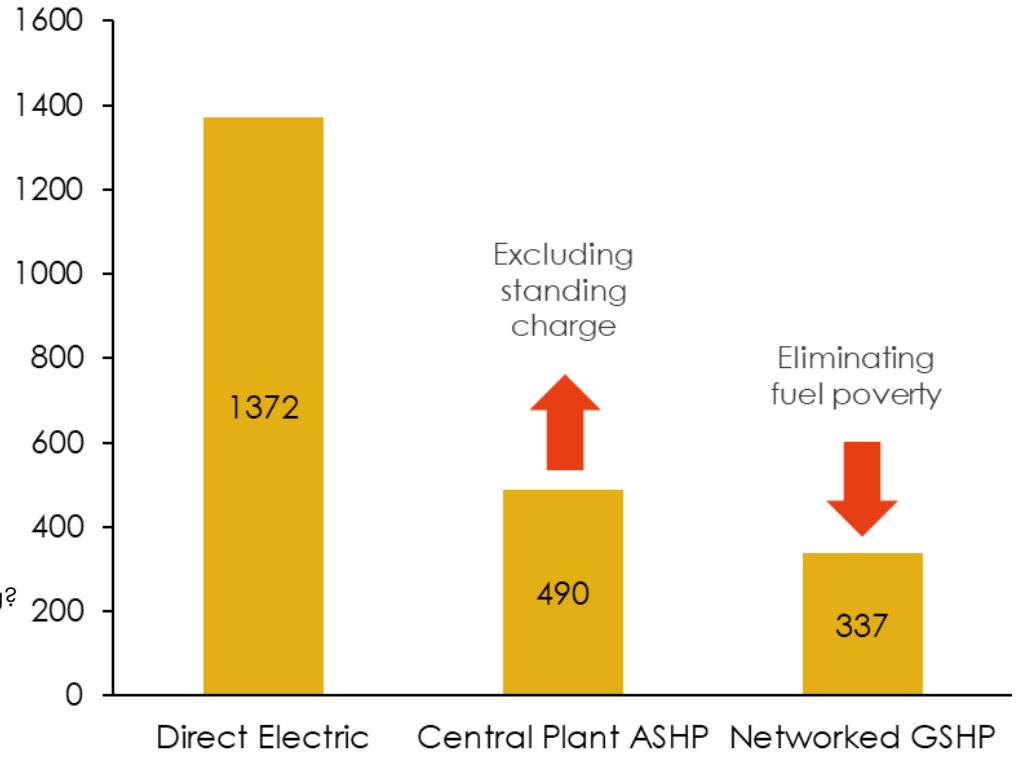
- If you can self-fund, but want to manage working capital, Kensa Utilities can provide competitive funding for the shared ground array, paid back via a standing charge over 40 years.

Making the costs work for everyone

Upfront costs for you (£k per flat)



Annual running costs for residents (£ per flat)



Thank you

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Thank you!