



NEXGEN

Far Infrared Heating For Homes & Buildings

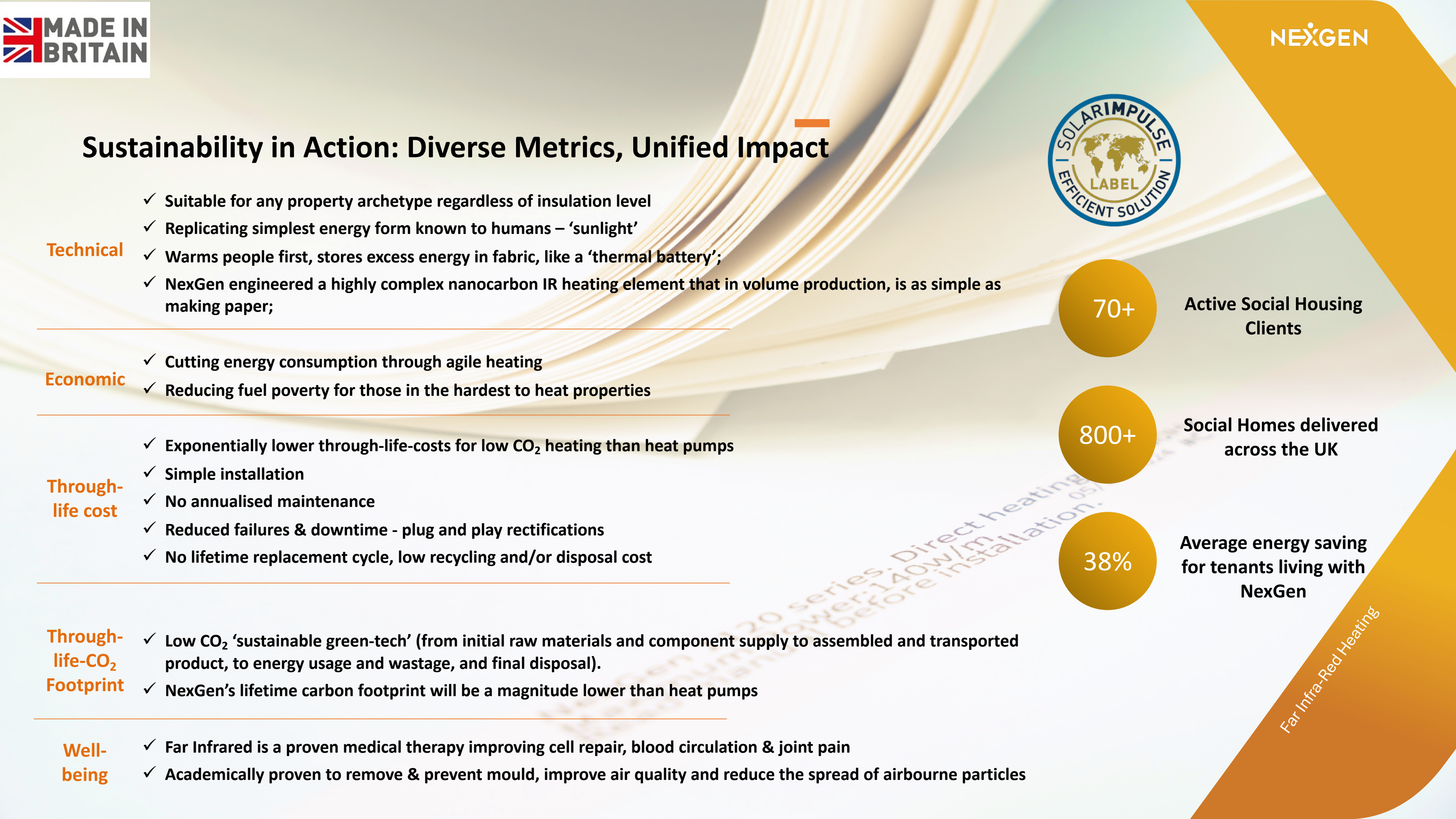
Introducing NexGen – World's First '3D' heating system using Far Infra-Red

NEXGEN

NexGen is an Electric Graphene Ceiling paper designed to efficiently heat homes and buildings using Far Infra-Red (IR) wavelengths. The IR technology delivers unique heating emittance, 70%+ IR radiant & 30% conductive. The Company's innovative solution is an ultra safe, low voltage, low-temperature system, precisely engineered to emit Far Infra-Red waves that replicate the radiant and comfortable warmth of sunshine.

NEXGEN CAN BE FITTED ON WALLS , FLOORS & CEILINGS





Sustainability in Action: Diverse Metrics, Unified Impact



Technical

- ✓ Suitable for any property archetype regardless of insulation level
- ✓ Replicating simplest energy form known to humans – ‘sunlight’
- ✓ Warms people first, stores excess energy in fabric, like a ‘thermal battery’;
- ✓ NexGen engineered a highly complex nanocarbon IR heating element that in volume production, is as simple as making paper;

Economic

- ✓ Cutting energy consumption through agile heating
- ✓ Reducing fuel poverty for those in the hardest to heat properties

Through-life cost

- ✓ Exponentially lower through-life-costs for low CO₂ heating than heat pumps
- ✓ Simple installation
- ✓ No annualised maintenance
- ✓ Reduced failures & downtime - plug and play rectifications
- ✓ No lifetime replacement cycle, low recycling and/or disposal cost

Through-life-CO₂ Footprint

- ✓ Low CO₂ ‘sustainable green-tech’ (from initial raw materials and component supply to assembled and transported product, to energy usage and wastage, and final disposal).
- ✓ NexGen’s lifetime carbon footprint will be a magnitude lower than heat pumps

Well-being

- ✓ Far Infrared is a proven medical therapy improving cell repair, blood circulation & joint pain
- ✓ Academically proven to remove & prevent mould, improve air quality and reduce the spread of airborne particles

70+

Active Social Housing Clients

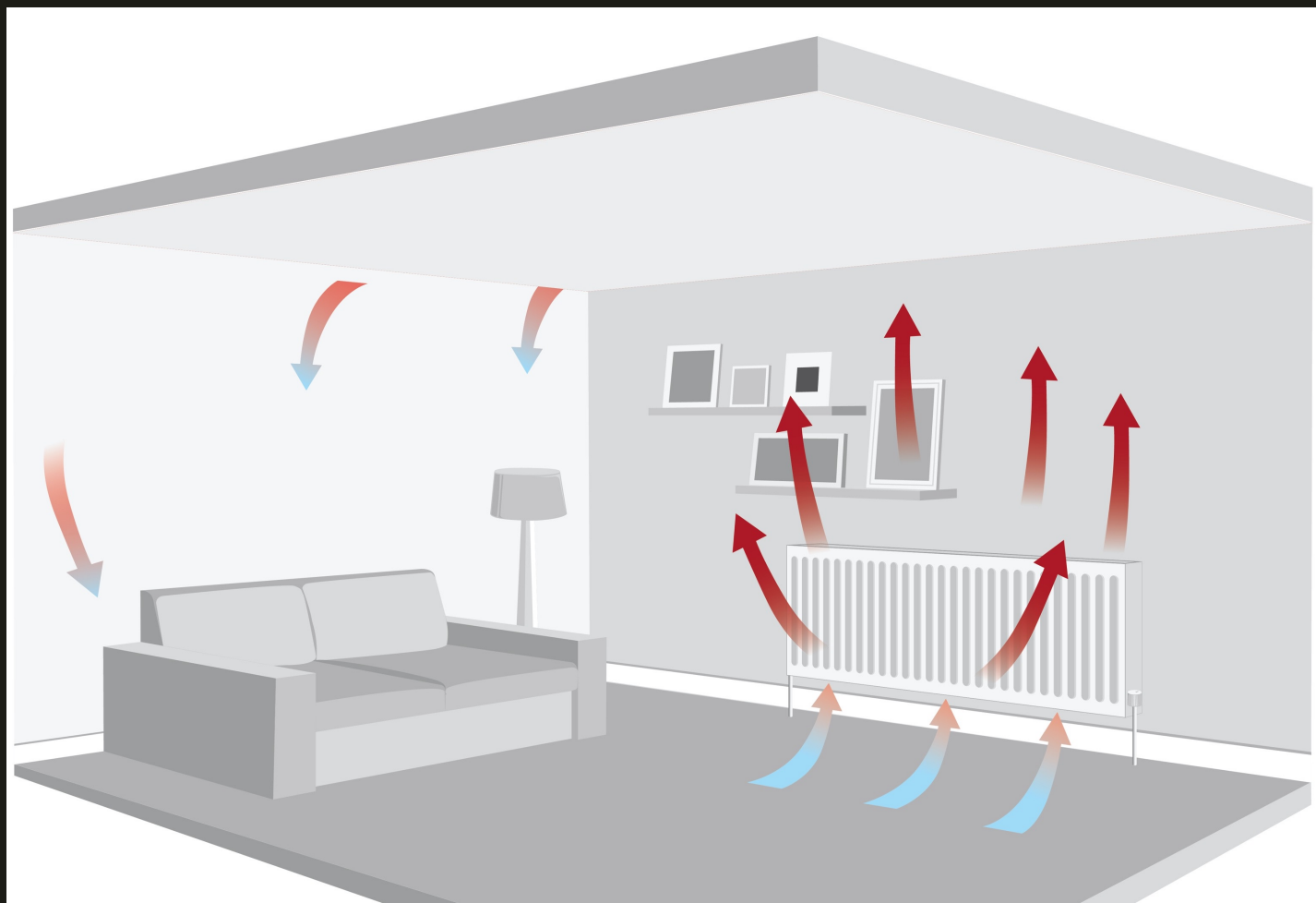
800+

Social Homes delivered across the UK

38%

Average energy saving for tenants living with NexGen

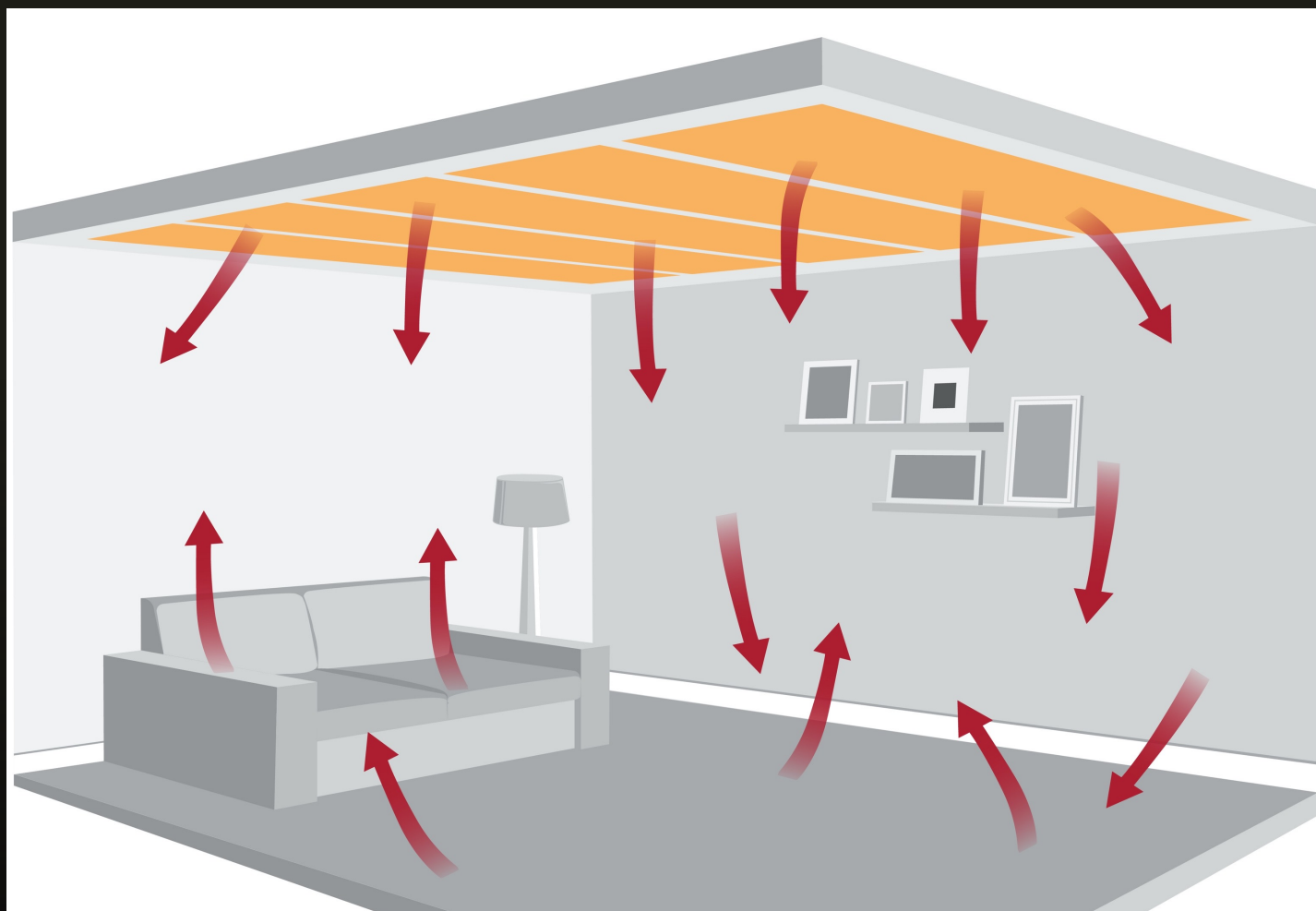
Far Infra-Red Heating



The challenge of **Convection Heating** – With the poorest Housing & Building Stock in Europe

Disadvantages;

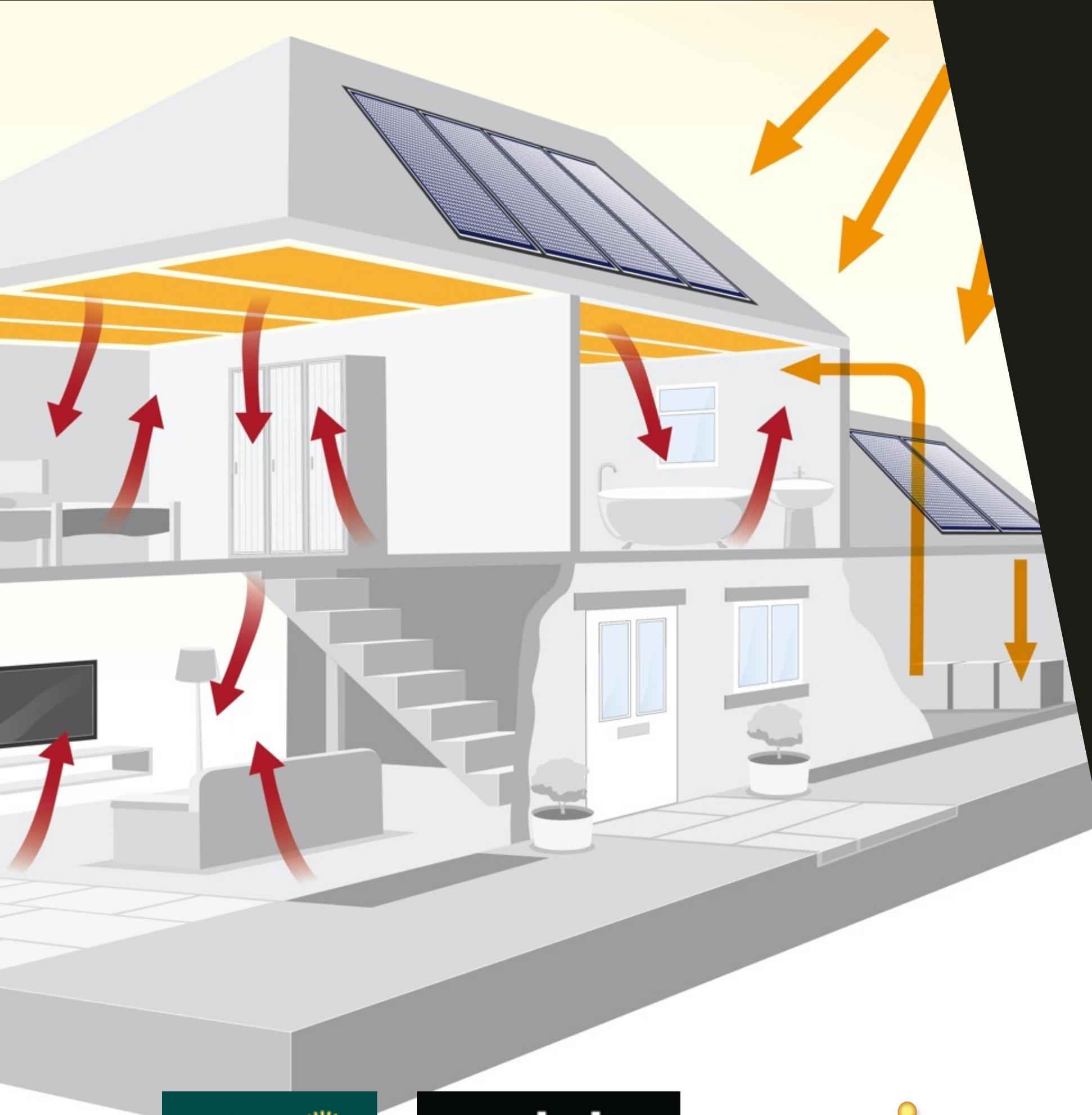
- **Rapid Air Movement:** Heated air is mobile to quickly travel to the coldest surfaces in a room. Circulating air carries dust & other airborne particles.
- **Slow warming:** Air is often slow to warm – especially with lower radiator temperatures of Heat Pumps.
- **Uneven Heat distribution:** Radiators struggle to provide heat coverage to the whole room leading to cold spots and temperature gradients.
- **Temperature Loss :** Rooms cool down rapidly, accelerated further in poorly insulated properties with multiple air changes.
- **Cold Spots:** Natural temperature gradient across rooms – can lead to moisture forming



NexGen Far Infrared as the solutions: Engineered to the frequency of sunlight humans' warmth receptors respond to best.

Advantages;

- **Suitable for hard to heat:** Agnostic to air changes within a property
- **Fast warming:** Infrared output can be felt within 3-4 minutes
- **Even Heat distribution:** 80-90% ceiling coverage – 10x emitter size of standard radiators
- **Warmth that lasts:** Infrared energy stores in the property fabric (thermal mass effect)
- **Safe & Seamless:** Low voltage, Low surface temperature, can be integrated into ceilings



Combining NexGen with Renewables

NexGen, Zenergy & Renewables: NexGen's agile system aligns perfectly with renewable energy, battery storage and overnight off-peak low tariff energy, enhancing its value as a low demand heating technology.

NexGen is tracking to deliver over 80% of its future projects paired with renewables and energy storage – this is also the catalyst to attracting third-party funding options for client decarbonisation, ESG and fuel poverty projects, where the technology's simplicity, longevity and low through-life costs are critical to ROI.

NexGen has funding options available to social housing, council, public sector and commercial organisations where ESG and fuel poverty are core deliverables – current partners could deliver circa £2bn per annum of project funding.





Post Installation

Safe, clean & seamlessly integrated into a home

Invisible Heat: Rooms finished with NexGen will be near invisible to the eye with just the in-room thermostatic controls on show.

Out of reach: Adhered to the most unencumbered surface, our ceiling mounted systems are safely out of the way & encounter less damage.

Quiet: Free from any moving parts, liquids or gases our systems are silent to your home and others.

Self-Contained: With all components integrated within the home we have no external space constraints or requirements. We just need a ceiling.

Low Maintenance: No annually prescribed maintenance, a 15 year guarantee on the heating elements. Likely included in 3 or 5 year EICR.

Durable: Our nano-graphene composite materials, free from movement create stable, long lasting and efficient heat well into the future even with multiple coats of paint.

Space: Benefit from greater floor space and freedom of room configuration with the removal of large radiators and wet pipework.

NexGen vs Air Source Heat Pumps

Air Source Heat Pumps (ASHP) are the UK Government’s current ‘preferred option for Low CO₂ heating’. Despite grant subsidies, take-up remains slow, hugely behind target. NexGen is the first IR technology to go for UK Government accreditation and EPC inclusion. Market analysis shows NexGen will be c.£600 per annum lower cost to own and operate in an average size UK home – with no grant.

Estimates below: NexGen v ASHP - Through Life Cost Modelling - capex + energy usage + annualised maintenance + upgrading or replacement cost – using costings for 3 bed homes EPC C banded properties - UK average size 94 m2 – October to March.

Cost	ASHP	NexGen
System and installed pricing	£14,000	£9,000
SunAmp hot water system		£1,500 ¹
Assumption average running costs £0.27 per Kw – Oct – March (Heating Only)	£598 – Assuming a winter average COP of 3.0	£634 - Note: more efficient with solar / battery, as technology can operate direct from DC batteries
Maintenance & upgrades		
Annual maintenance	£300 per annum x 20 years = £6,000	No annualised maintenance
Annual repairs call outs	£125 per annum x 20 years = £2,500	Allowance for 20 years replacing transformers = £2,000
System replacement upgrade	Client guide £5,000 every 12 years = £5,000	No upgrades
Warranty cover	5 years extendable to 7 years	15 years
Total cost of ownership	= £39,460 over 20 years = £1,973 per annum	= £25,680 over 20 years = £1,284 per annum
Delta (through life costs)	ASHP +£689 per annum x 20 years = £13,780	

Delta of £689 is equivalent to c.2,551.85 kWh of electricity per annum on current UK electricity pricing at £0.27 pence per kW:

¹As ASHP also provides hot water, capex of £1.5k per home for the SunAmp electric hot water system has been included

Far Infra-Red Heating



Proven to combat - Damp & Mould

NexGen heats evenly the fabric of the property using the power of Infrared — including walls, floors, and furniture — keeping surfaces above dew point and eliminating the risk of condensation that leads to damp and mould. With integrated in-room humidity sensors that monitor and automatically trigger heating against dew point risks in unheated areas, NexGen helps safeguard tenant wellbeing and indoor air quality, while also reducing maintenance costs and reactive repairs across the estate.

NexGen reduced the wall moisture content in a sandstone tenement block in Glasgow from — 35% to 5% within 5 days of heating at 23 degrees - Study conducted by Sureserve Asset Services

Where Innovation Meets Social Impact; What our user think

Question asked: How would you describe the heat when the NexGen Heating system is on?

‘Heats up very fast. Feel warm before room temp is up. Cools slowly during milder weather’

Question asked: If you had damp and mould areas prior to NexGen, have you noticed any changes?

‘Yes, used to feel dampness particularly in bedrooms on clothing, this has improved massively.’

‘No more mould growing around windows. Clothes don’t feel damp’

‘Property had damp and mould growing on the windows previously, seems dry now’

Question asked: Have you noticed any changes in the quality of air in your home?

‘The air quality has improved for me, particularly in the bedroom’

‘Atmosphere is not as stuffy when heating at higher temperature’

‘I’m coughing less in general and reduced inhaler’

Question asked: Please add any comments on the functionality and ease to control the heating.

‘Very easy to control. I have set times for each room depending on my use. This is very easy to amend when I’m out if my plans need to change. The system heats very quickly’.

‘Easy to use / program’

‘More options in the app and I love that I can switch it on when I’m on my way home’

‘Warms up quickly’


£

‘We were spending £5 a day now its £1.80’



‘We used to set the heat pump to 21, now we’re comfortable at 19’

Co2

c.900 tones of Co2  saved by our users to date

Far Infra-Red Heating

The logo for NEXGEN, featuring the word in a bold, sans-serif font. The 'N' and 'E' are black, while the 'X' is a stylized orange arrow pointing right. The 'G' and 'E' are orange. A small orange sphere is positioned above the 'X'.

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