

Solution Providers in Retrofit Performance Coatings and Solar Generation.

- Window Insulation Retrofit Coating
- PV Enhancer Coating
- Solar PV – Zero Capital Outlay Power Purchase Agreements
- Max Liquid Ceramic Insulation



Holistic Retrofit
Solutions^{ltd}



Retrofit not Replace



About Us

Our Vision

At HRS, our vision is to pioneer a future where every home and building experiences enhanced comfort, energy efficiency, and sustainability through innovative retrofit concepts. We strive to be the forefront leaders in the industry, revolutionising the way coating applications contribute to energy conservation and indoor climate control.

Mission

To offer our cutting-edge technologies and expertise to empower customers to reduce their carbon footprint while enjoying improved living and working environments. Our commitment revolves around the development of state-of-the-art coatings, Innovative products, and Renewable services that refine the industry.

Our Goal

By fostering a culture of relentless innovation, environmental consciousness, and customer-centricity, HRS aims to set new benchmarks in performance, durability, and affordability. We envision a seamless integration of our solutions into viable buildings, positively impacting lives through our climate-conscious approach for future generations.

Core Values

Trust, Transparency, Reliable, and passionate,

Holistic Retrofit

Solutions Ltd



What we offer

Supply and Install



Window Insulation Retrofit Coating

Why incur high costs and unnecessary carbon emissions by replacing your windows when you can achieve significant improvements at a fraction of the expense? By combining our Retrofit Coating with Draft Seal, you can enhance your windows' performance without the need for a costly replacement.

Solar PV Enhancer

There's no requirement for continuous maintenance or concern about reduced generation. The PV enhancer maintains cleanliness over extended periods in various atmospheric and climatic conditions, guaranteeing optimal output and durability over time.

Solar Power Purchase Agreement partnership

Without any upfront investment, our SNRG Partnership provides your commercial buildings with Solar, Battery, and EV technologies at no cost for the infrastructure. Coupled with an energy provision plan, we ensure that you pay a minimum of 20% better than the OFGEM Grid rates, guaranteeing improved cost and energy efficiencies

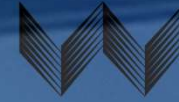
Insulation Coatings

The Max Liquid HVAC ceramic coating presents an innovative and cost-effective substitute for conventional insulation methods, offering a swift application process with minimal disruption and maximum performance.

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Window Insulation

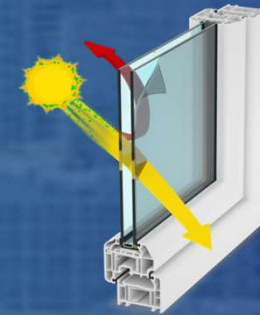


Window Insulation offers a low-emissivity coating designed for existing windows, delivering proven energy savings and enhancing occupant well-being. This innovative solution involves a simple coating applicable to all window types, shapes, and styles, capable of retrofitting rather than requiring application during the window's initial glazing manufacture. Its technology has similarities to a Low-E coating but outperforms the factory-applied coatings.

- Thermal improvements- resistance up to 40%
- 20-30% typical Heating/Cooling cost-saving
- Contribute to EPC points Uplift via RdSAP
- Improvement of existing double glazing to Low E
- Blocks 99% of Skin and Eye damaging Ultraviolet light
- Blocks 85% of Infrared Light which causes Overheating
- Minimal impact on visible light transmission
- Reduces Condensation by 50% thus reducing mould
- Cost to benefit ratio is significantly greater compared to replacement.
- Internal application, No scaffolding required.
- 10-Year Warranty



WINTER
Energy is reflected into the room, keeping interiors warmer.



SUMMER
Reduces heat build-up in rooms without restricting daylight access.

Before

After



Solar PV Enhancer

The Solar Enhancer Coating represents a groundbreaking advancement in solar energy technology. This innovative coating is specifically designed to enhance the efficiency of solar panels by significantly increasing light absorption and energy conversion rates. Applying this coating to solar panels, amplifies their performance, allowing for greater electricity generation from the same surface area. Additionally, the coating's self-cleaning properties help maintain optimal efficiency by reducing dust and dirt buildup, ensuring consistent and reliable energy production. Overall, the Solar Enhancer Coating not only boosts solar panel performance but also extends its lifespan, making renewable energy more accessible, efficient, and cost-effective for a sustainable future.

- Super Hydrophobic – creating non-stick, self-cleaning effect.
- Anti-static – advanced non-stick surface characteristics.
- Graphene Enhanced for added strength and conductivity
- Resistant to high temperatures with outstanding weather resistance.
- Anti-reflective properties enable over 90% of all available light to reach the PV semiconductor.
- Changes the glass from insulating into conductive (Ohms) removes the insulative energy loss through the glass, enhancing energy passage.
- Patent Product – Over 10M/m2 installed globally

Figure 1 - Hydrophobic Surface and Beading Water

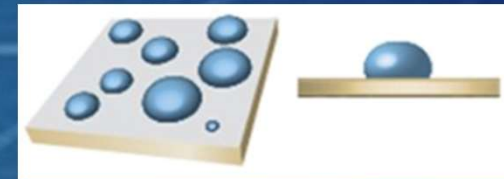
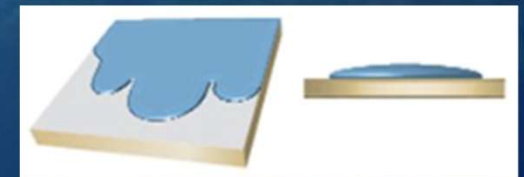


Figure 2 - Hydrophilic Surface has Better Cleaning Ability



Solar Power Purchase Agreement



Holistic Retrofit Solutions has joined forces with a fully funded renewable energy solution offered by SNRG through a Power Purchase Agreement (PPA). This partnership introduces an affordable method for accessing solar energy without any upfront capital costs. Customers can now enjoy the benefits of solar energy without the initial financial burden of installation or setup.

Through this PPA, customers engage in an arrangement with SNRG, granting them access to solar-generated electricity at a discounted rate of 20% or more when compared to traditional energy sources available on the OFGEM Market via the grid. This discounted rate is systematically tracked, ensuring continuous cost savings, and is applied to the ongoing energy supply. This format ensures that customers consistently pay less, providing them with reliable and sustainable power throughout the duration of the agreement.

The key components of this agreement typically include:

- Zero Capital Cost on the Infrastructure
- Ongoing Renewable Energy Supply:
- Discounted Rates tracked with up to 30% bill reduction
- Guaranteed to be 15% lower than OFGEM market rate for PPA Lifetime.
- Sustainability Benefits with reduced emissions and increased EPC performance
- Available for new/existing Commercial buildings and New Build Residential
- Smartgrid capabilities
- EV Charger stations
- 15 – 20 – 25 Year agreements available
- Ongoing maintenance and replacement products covered
- Solid Financial backing
- Ongoing Partnership with evolution of product



ANTIN
INFRASTRUCTURE PARTNERS

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Case Studies examples



Buxton Station Energy Savings Assessment Summary

Area of Glazing	Fuel Type	Cost per kWh	U-Value Reduction	Solar Factor Reduction
52.68m ²	Gas and Electric	£0.08 Gas £0.34 Electricity	Up to 1.76 W/m ² K	0.22

Annual Financial Savings	Lifetime Financial Savings	Annual CO ₂ Savings	Lifetime CO ₂ Savings	Life Cycle
£3,756.56	£75,131.00	3.36TCO ₂ e	67.2TCO ₂ e	20 Years

Annual Fuel Consumption Before Works	Annual Fuel Consumption After Works	Annual Fuel Savings	Lifetime Fuel Savings	Inclusive of Future Price Rises?
kWh	kWh	13,154.46kWh	263,089.2kWh	No

The calculations expressed in this report are adapted from ISO 52016-1:2017 Energy Performance in Buildings, SBEM and the 2021 ASHRAE Handbook Fundamentals. Each figure reflects the outcome of calculations through these methods based on Window Insulation and does not necessarily reflect the opinion of any other stakeholder.



Solar Panel Assessment – PV Enhancer Coating

***** Airport Proposed PV Farm

Background

The efficiency of photovoltaic solar cells is largely restricted to approximately 70% of their true potential due to high reflectivity and static nature, resulting in deposits of dust and dirt. This loss due to reflectivity and environmental conditions can be counteracted using super hydrophilic, anti-reflective, and anti-static coatings, supplied by Window Insulation.

Product introduction

Window Insulation's PV Enhancer Coating not only minimises the reflection of the solar cells, improving efficiency but simultaneously improves the cells' ability to self-clean and photo-catalytically degrade the pollutants. The anti-static properties enable the coating to actively repel dust and dirt. This can lead to an improvement in efficiency of 20 - 30%.

Production Forecast	
PV Generator Output	1,276.58 kWhp
Spec. Annual Yield	1,055.25 kWh/Wp
Performance Ratio (PR)	80.34 %
Yield Reduction due to Soiling	17.7 %
Grid Feed-in	1,349,316 kWh/Year
Grid Feed-in in the first year (incl. module degradation)	1,041,149 kWh/Year
Standby Consumption (inverter)	124 kWh/Year
CO ₂ Emissions avoided	634,134 kg / year

Figure 1 - Production Forecast from Provided Document

Output of Solar Panels Formula: E = W * SH * Pe

E = Energy in kWh per day
W = Wattage of the solar panel
SH = Average sunlight hours per day
Pe = DC to AC current efficiency, usually around 80%

Two different PV modules are proposed for use on the solar farm, one with a 460W output and one with a 500W output.

$$E = 0.46 * 4 * 0.8 = 1.472 \text{ kWh/day}$$

$$E = 0.5 * 4 * 0.8 = 1.6 \text{ kWh/day}$$

Multiplying these values by the number of solar panels and the number of days in a year:

Module Area 1: 1,472 * 177 * 365 = 62,861.76 kWh/year
Module Area 2: 1,472 * 158 * 365 = 53,915.68 kWh/year
Module Area 3: 1.6 * 448 * 365 = 261,632 kWh/year
Module Area 4: 1.6 * 397 * 365 = 231,848 kWh/year
Module Area 5: 1.6 * 1461 * 365 = 853,224 kWh/year

Totalling 1,493,381.44 kWh/year * 90.34% performance ratio = **1,349,120 kWh/year***

*The value calculated for output by Window Insulation is within 0.7% of the forecast provided.

Assume losses due to dirt and dust deposits equate to 20%
20% of 1,349,120 kWh is a potential loss of **269,824 kWh/year**

At a non-domestic unit cost of 54.19p/kWh**, this equates to a performance difference of up to **£146,263.80 per year**

**<https://www.comwell-insight.com/press/cornwall-insight-release-final-forecast-for-the-april-price-cap/>

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Thanet House Energy Savings Assessment Summary

Area of Glazing	Fuel Type	Cost per kWh	U-Value Reduction	Solar Factor Reduction
300m ² Estimated	Gas and Electric Heating	£0.0526 £0.2500	1.5W/m ² K	0.22

Annual Financial Savings	Lifetime Financial Savings	Annual CO ₂ Savings	Lifetime CO ₂ Savings	Life Cycle
£18,699.47	£373,989.40	22.5TCO ₂ e	450TCO ₂ e	20 Years

Annual Fuel Consumption Before Works	Annual Fuel Consumption After Works	Annual Fuel Savings	Lifetime Fuel Savings	Inclusive of Future Price Rises?
N/A	N/A	88,000kWh	1,760,000kWh	No

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Through strategic partnerships and network connections we aim offer our clients a more **“holistic approach”**.





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