



WAREHOUSE

Energy Efficiency Guide



SMARTER LIGHTING. CONTROLLED ENVIRONMENTS. LEANER OPERATIONS.

Warehouses often operate with vast spaces, high ceilings, and extended hours — which makes them quietly expensive to run. Lighting and heating are the big culprits, but poor habits and basic design issues (like dock doors left open) add up quickly.

Targeted energy efficiency saves money, improves conditions for staff, and supports sustainability goals — especially for logistics-heavy businesses.

Where Energy Goes in the Warehouse

- **Lighting:** High-bay lights across large areas, often left on
- **Heating:** Space heaters, blowers, radiant panels in open zones
- **Ventilation:** Especially in chilled or sensitive stock zones
- **Refrigeration:** In chilled/frozen warehouses
- **EV Charging:** Growing demand for electric vans or forklifts
- **Dock Doors & Loading Bays:** Constant thermal loss if unmanaged



PRACTICAL ENERGY ACTIONS

Lighting

- Upgrade to LED high-bays with motion sensors and daylight controls
- Zone lighting based on use – racking aisles, packing, admin
- Turn off entire lighting banks in unused areas during quiet shifts
- Use natural light where safe and possible (rooflights, windows)

Heating & Ventilation

- Use radiant or destratification heaters to target people, not empty air
- Install air curtains or fast-acting shutters at bay doors
- Maintain door seals and dampers
- Only condition zones in active use – not full volume if avoidable

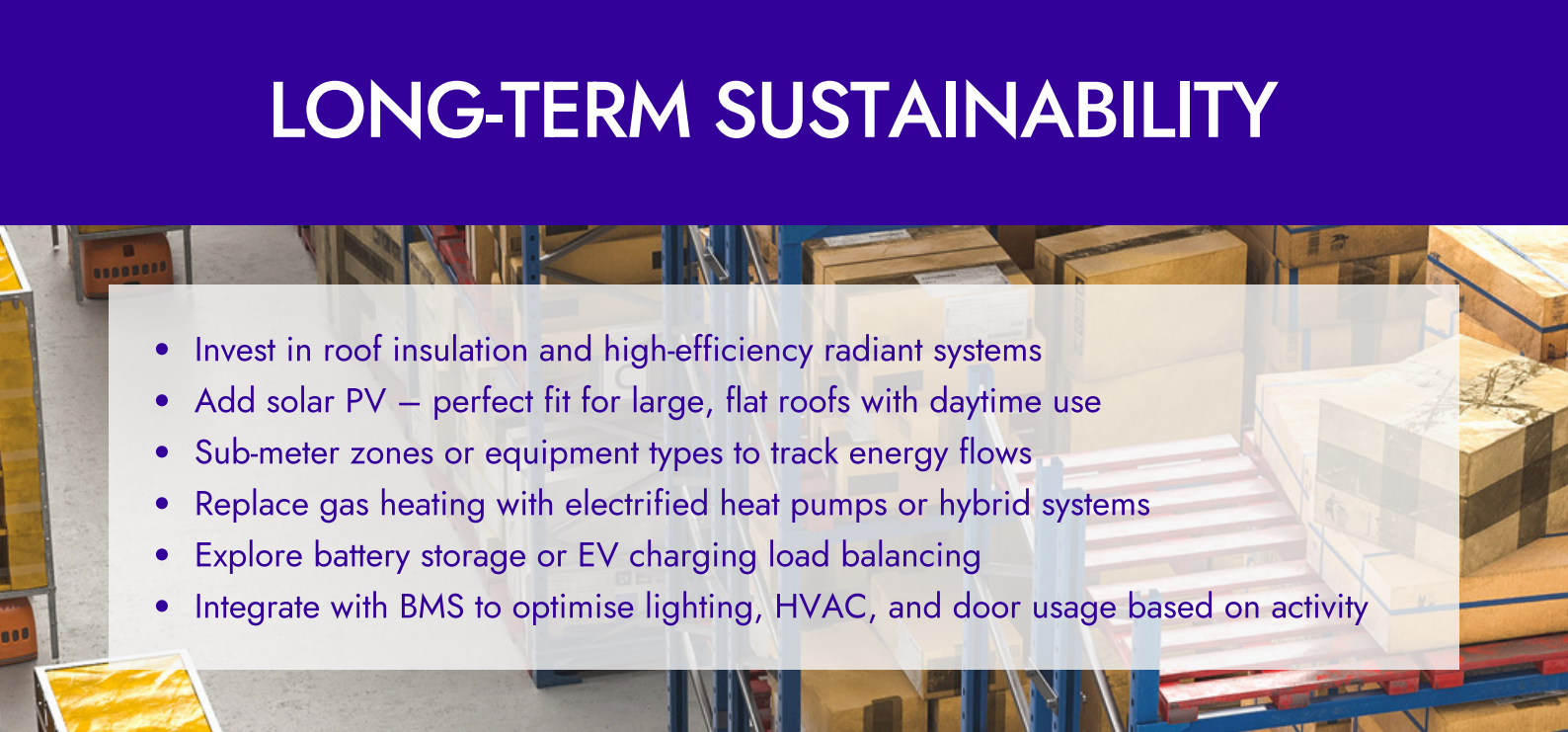
Equipment & Plug Loads

- Plug conveyors, vending, and ancillary kit into timers or smart strips
- Switch off idle screens, printers, or office equipment
- Consider self-charging forklifts or hybrid kits for off-grid hours

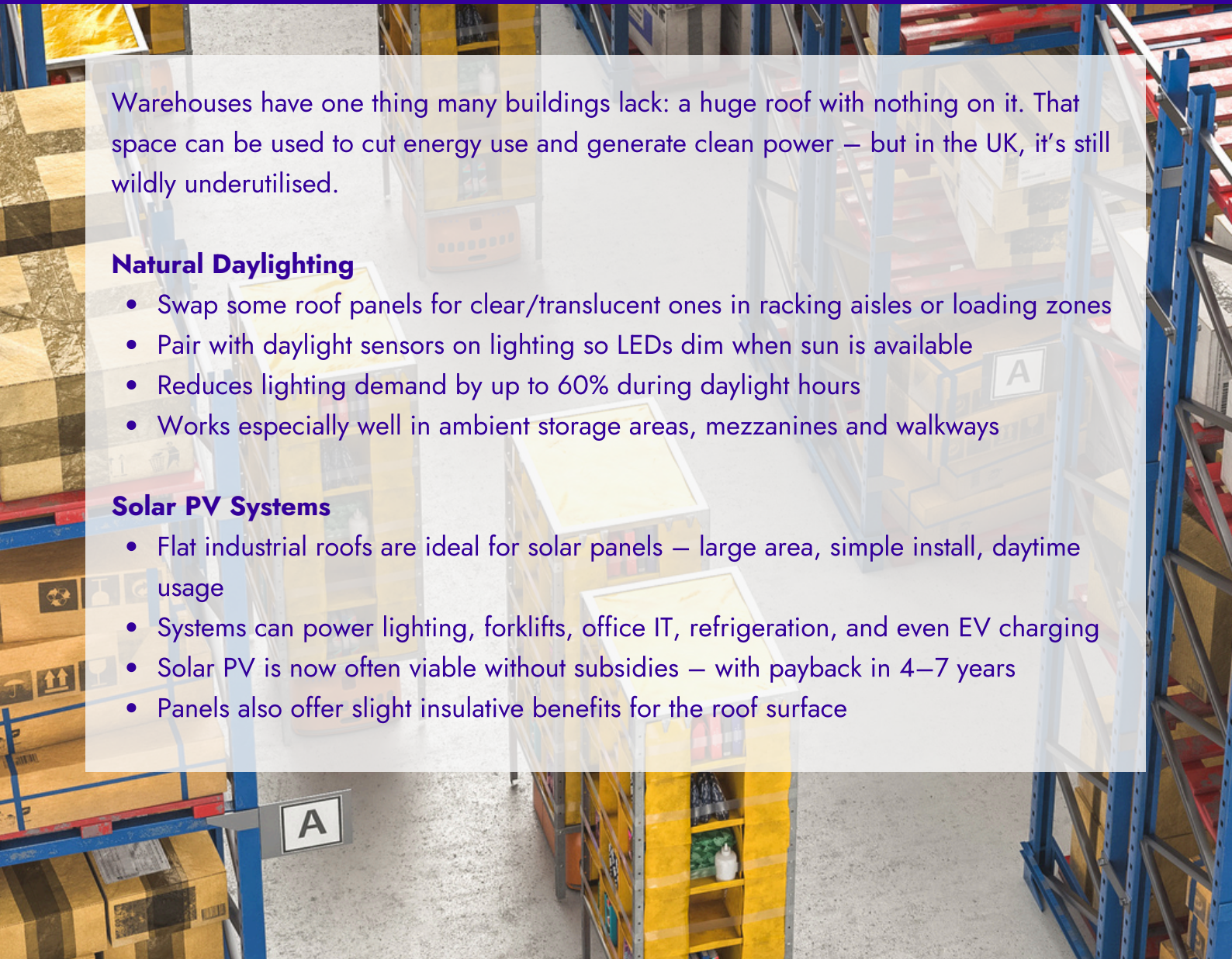
Refrigerated Spaces (if applicable)

- Maintain setpoints strictly – 1°C too cold adds 2–5% to energy
- Check door seals and close protocols
- Use strip curtains or double-door systems
- Defrost cycles optimised for actual conditions

LONG-TERM SUSTAINABILITY

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- Invest in roof insulation and high-efficiency radiant systems
 - Add solar PV — perfect fit for large, flat roofs with daytime use
 - Sub-meter zones or equipment types to track energy flows
 - Replace gas heating with electrified heat pumps or hybrid systems
 - Explore battery storage or EV charging load balancing
 - Integrate with BMS to optimise lighting, HVAC, and door usage based on activity

ROOF UTILISATION: DAYLIGHT & SOLAR



Warehouses have one thing many buildings lack: a huge roof with nothing on it. That space can be used to cut energy use and generate clean power — but in the UK, it's still wildly underutilised.

Natural Daylighting

- Swap some roof panels for clear/translucent ones in racking aisles or loading zones
- Pair with daylight sensors on lighting so LEDs dim when sun is available
- Reduces lighting demand by up to 60% during daylight hours
- Works especially well in ambient storage areas, mezzanines and walkways

Solar PV Systems

- Flat industrial roofs are ideal for solar panels — large area, simple install, daytime usage
- Systems can power lighting, forklifts, office IT, refrigeration, and even EV charging
- Solar PV is now often viable without subsidies — with payback in 4–7 years
- Panels also offer slight insulative benefits for the roof surface

Raised Solar Structures

In Europe, companies use elevated solar canopies over loading bays or car parks.

Benefits:

- Keeps parked vehicles cooler
- Reduces rain-related loading delays
- Doubles as generation capacity when roof space is limited
- Ideal for logistics operators with electric fleet plans – EV charge points can draw directly from PV

“If you’ve got the roof space, you’ve already paid for the land. Make it work harder.”

Design & Planning Considerations

- Assess structural integrity – most modern roofs can take ballasted PV arrays
- Investigate if your area qualifies for permitted development (no planning needed)
- Use local planning constraints to your advantage – solar is far easier to get approved than extensions or rebuilds

For those that invest in on-site renewable energy generation, decarbonisation of your scope 1 and 2 comes far quicker. When you can generate your own energy, you gain access to green pathways and cost savings. Say you have propane forklifts, changing those to EV means you not only remove the emissions from the propane, but you also drop the cost too as now you can charge straight from your panels into the Forklift.

Staff Behaviour & Culture

- Include energy routines in open/close and shift changeovers
- Train staff to close dock doors quickly – avoid propping open
- Assign responsibility for lighting & heating zones by team
- Use signage: “Dock closed = £100/day saved”, “Zone unused? Lights off.”
- Run monthly feedback loops – “Last month’s savings = £1,500 = new gear for the team”
- Appoint a shift energy lead – rotate to keep it fresh

The people working the floor know where waste is. Listen, train, and empower them.

SUMMARY ACTIONS

Area	Action	Benefit
Lighting	LED upgrade + zoning + motion sensors	Cuts up to 70% of lighting energy
Heating	Use radiant/destratification heating & door control	Avoids heating empty air
Ventilation	Seal, zone and maintain systems	Prevents energy leakage
Dock Management	Fast-close doors, air curtains, strict behaviour	Saves £100s per door, per month
Plug Loads	Timers, shutdowns, self-powered equipment	Reduces base load and idle draw
Refrigeration	Maintain seals, strip curtains, optimise defrosting	Keeps energy use and product quality in line
Staff Behaviour	Inductions, signage, shift checklists	Maintains performance, avoids drift
Long-Term Strategy	Roof insulation, solar, sub-metering, smart control	Structured savings + future-proofing



Need Support? Let's Talk

Want support optimising your warehouse's energy performance?

We help operators cut waste, improve control, and reduce costs – without disrupting operations. .

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