



Johnson Controls

TYCO HOLDINGS (U.K.) LIMITED

UK Carbon Reduction Plan 2024

This Carbon Reduction Plan captures the operations of Tyco Holdings (U.K.) Limited and all its wholly owned subsidiaries in the UK. Tyco Holdings (U.K.) Limited is a wholly owned subsidiary of Johnson Controls International plc.

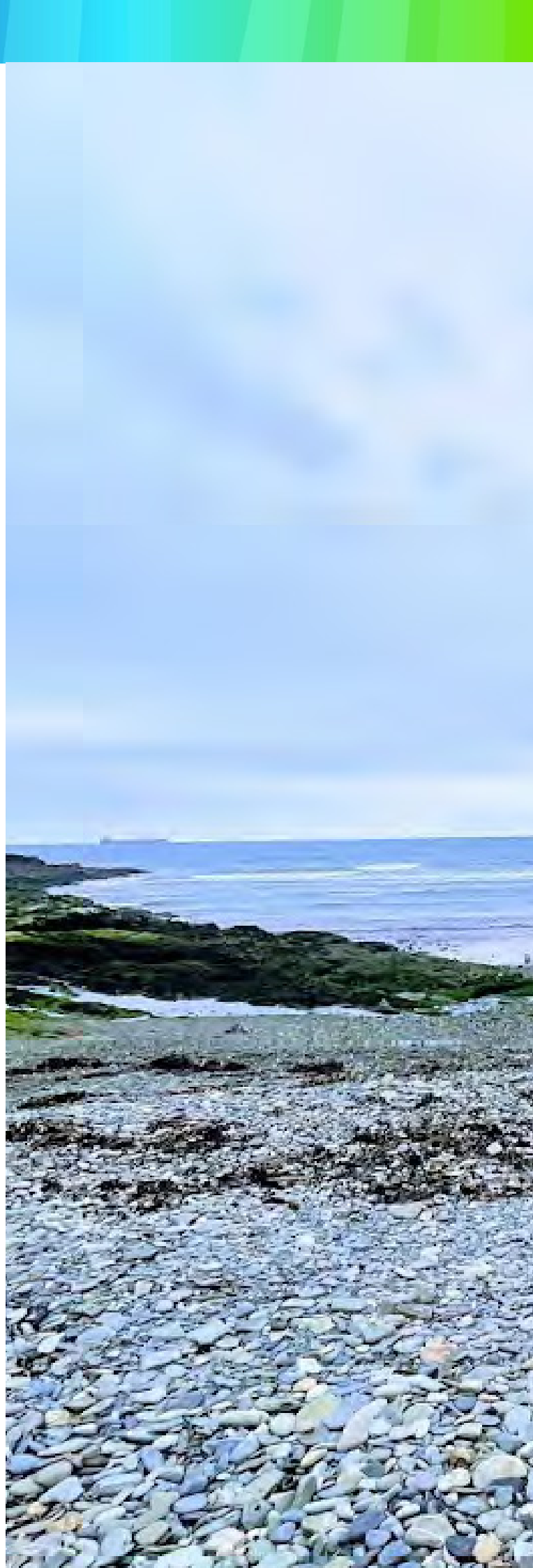


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This Carbon Reduction Plan conforms to the requirements of the Procurement Policy Note PPN06/21 "Taking Account of Carbon Reduction Plans in the procurement of major government contracts" published in June 2021 and the supporting "Technical standard for the Completion of Carbon Reduction Plans." This report focuses on Tyco Holdings (U.K.) Limited and its wholly owned subsidiaries within Johnson Controls control for the fiscal year 2023, October 1, 2022 – September 30, 2023.

This report pertains to the following legal entities;

*Controlled Electronic Management Systems Limited
Tyco Fire & Integrated Solutions (UK) Limited
Macron Safety Systems (UK) Limited
ADT Fire and Security PLC
ShopperTrak Limited
AsPro Crest Limited
New Tech Security Limited
Esotec Limited
RTLS Communications Limited
Nu-Form Fire UK Limited
Powertec Pumps Limited
Envision Intelligent Solutions Limited
XCell Misting Limited
Asset Plus Energy Performance Limited
Vindex Systems Limited
Computerised and Digital Security Systems Limited
GEM Security Services Limited
E2 Services Limited
Johnson Controls Building Efficiency UK Limited*





ABOUT JOHNSON CONTROLS

Sustainability is at the heart of Johnson Controls and fundamental to everything that we do. At Johnson Controls, we transform the environments where people live, work, learn, and play. As a global leader in smart, healthy, and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places, and the planet. Building on a proud history of nearly 140 years of innovation, we deliver the blueprint of the future for industries such as healthcare, education, data centres, airports, stadiums, manufacturing and beyond through OpenBlue, our comprehensive digital offering. Today, with a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world's largest portfolio of building technology and software as well as service solutions from some of the most trusted names in the industry.

Our commitment to achieving net zero

Johnson Controls has a global, enterprise-wide commitment to achieve Net Zero scope 1 and 2 emissions by 2040, 10 years ahead of goals set out in the Paris Agreement. These commitments apply to Tyco Holdings (U.K.) Limited and its wholly owned subsidiaries in the UK.

As of the end of our fiscal year 2023, we have achieved a 44 percent reduction in absolute scope 1 and 2 emissions against our 2017 baseline. This positions us well on our way to achieving our 2030 science based target of reducing Scope 1 and 2 emissions by 55 percent, a target aligned with maintaining a 1.5°C world. Of our purchased electricity, 42 percent is met or matched by renewable sources of energy. In addition, we're proud to have already surpassed our 2030 science based target to cut our scope 3 emissions from use of sold products by 16 percent, achieving a 27 percent reduction against our 2017 baseline.

More information on Johnson Controls global Net Zero commitments and climate action is available at:

www.johnsoncontrols.com/corporate-sustainability/environment

Our 2024 Sustainability Report is available at:

www.johnsoncontrols.com/2024Sustainability

Baseline Emissions Footprint and Current Emissions Reporting

Tyco Holdings (U.K.) Limited and its wholly owned subsidiaries in the UK.

Tyco Holdings (U.K.) Limited Emissions Footprint	Fiscal 2017 Baseline emissions:	Fiscal 2023 Current emissions:
Unit of measure	(Metric tons CO ₂ e)	(Metric tons CO ₂ e)
Scope 1	50,963	13,202
Scope 2 (Market-based)	3,443	1,750
Scope 3 (Total)	8,444,879	6,257,836
Upstream T&D	15,597	5,995
Waste	475	520
Business Travel	1,187	1,040
Use of Sold Products	8,081,133	6,022,211
Employee Commuting	6,883	7,382
Other Scope 3 emissions	339,604	220,688
Total Emissions	8,499,285	6,272,788

Details pertaining to the emissions calculations:

Emissions are reported for the fiscal year 2017 and 2023 and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard¹ and use the appropriate Government emission conversion factors for greenhouse gas company reporting². This report includes data from business operations that were at least 51 percent under Tyco Holdings (U.K.) Limited's operating control and financially consolidated during the reporting year in line with the Greenhouse Gas Protocol Corporate Accounting Standard, Chapter 3, Setting Organizational Boundaries, Control Approach. European Residual Mix emissions factors are used to calculate Scope 2 market-based emissions. Actual fiscal 2023 UK Scope 1 and 2 emissions from Tyco Holdings (U.K.) Limited and its wholly owned subsidiaries in the U.K. is reported. Fiscal 2017 scope 1 and 2 emissions are back-casted based on percentage share of actual emissions for Tyco Holdings (U.K.) Limited and its wholly owned subsidiaries in the U.K. for fiscal 2022. Any restatements of the fiscal 2017 emissions will be explained in this section if that is required. Metrics are tracked according to our fiscal year, October 1 – September 30. Scope 3 emissions are calculated using a revenue share approach, applying the share of our total revenue applicable from Tyco Holdings (U.K.) Limited and its wholly owned subsidiaries in the U.K. in the current fiscal year to each scope 3 emissions category. Downstream T&D emissions are insignificant for Johnson Controls and are not reported at an enterprise level nor in this Carbon Reduction Plan.

1. ghgprotocol.org/corporate-standard

2. www.gov.uk/government/collections/government-conversion-factors-for-company-reporting

Please refer to our [2024 Sustainability Report](#) for total global emissions and further detail on our emissions reporting.

Case study:

London Borough of Hounslow Decarbonisation Programme



Most of the world's heating needs today are met with direct fossil fuel combustion. To decarbonise our buildings and maintain a reliable grid, we need to efficiently electrify these fuel combustion systems with heat pumps.

As part of the UK's Public Sector Decarbonisation Scheme, Asset Plus (a Johnson Controls Company) worked closely with the London Borough of Hounslow Energy team to obtain £18,865,326 of grant funding to implement decarbonisation measures across 33 of its primary schools and 33 of its corporate sites including four leisure centres.

Work commenced with the introduction of electrical infrastructure upgrades and smart metering to ensure that the low carbon technologies were able to run effectively. Following this, air source heat pumps (ASHP) have been implemented across many of the buildings and act as their main source of heating. Introducing building fabric upgrades and piping insulation has helped the buildings to further reduce emissions and energy costs by limiting the loss of heat. In addition, solar PV have and LED lighting upgrades were installed at some of the schools. Both measures ensuring that the electricity consumption from the heat pumps is more than offset. The leisure centres have also had significant ventilation upgrades alongside the other measures which have enabled these buildings to eradicate the use of gas consumption and become Net Zero Carbon, which has been a major step forward for the local community.

£18,865,326
grant funding secured



33
schools



33
public buildings



4
leisure centres

UK Carbon Reduction Projects

The three primary contributors of our scope 1 and 2 emissions are energy usage at our facilities, refrigerant loss in manufacturing and our fleet. We measure emissions monthly, applying continuous improvement throughout the year to drive our carbon transition. Our scope 1 and 2 carbon reduction strategy is driven by four key strategies:

1. Facility decarbonisation
2. Refrigerant loss reduction in manufacturing
3. Fleet emission reduction through efficiency and electrification
4. Transition to renewable electricity globally

Our carbon footprint and actions to reduce emissions in the UK are aligned to the actions and progress globally.

Scope 1 and 2:

Our facilities

Buildings account for nearly 40 percent of all global greenhouse gas emissions and our Johnson Controls facility footprint is no exception.

The largest contributor to our Scope 1 and 2 emissions are our manufacturing locations. At all manufacturing locations, Johnson Controls Manufacturing System (JCMS) defines progressive levels of maturity in environmental and sustainability management, goals and practices. It also provides a framework for continuous improvement in operational management. For new and existing buildings, we seek to decarbonise our building footprint and those of our customers. We have an Energy Hunt Program across our manufacturing facilities. Energy Champions are trained and understand their role to identify continuous improvements in reducing energy and emissions and implement simple daily energy reduction actions like turning off lights and closing doors. This program drives culture change and helps our teams systematically identify energy, emissions and cost savings opportunities by evaluating measures that include heating, ventilation and air conditioning (HVAC) temperature scheduling, lighting, supply and demand of compressed air, building envelope, and employee energy awareness and engagement.

Energy Saving Opportunity Scheme

The Energy Saving Opportunity Scheme (ESOS) is a mandatory directive for large undertakings to assess their energy use and identify energy savings opportunities in their business operations, at least every four years from the initial compliance date. We are actively engaging with ESOS by conducting audits of energy and fuel consuming activities including those coming from buildings and transportation under our operational control to reach 95 percent of Significant Energy Consumption (SEC) threshold for our compliance purposes across all our UK legal entities. Our audit approach prioritised locations that have similar size or energy consumption patterns in their assets and activities.

We have conducted building energy audits at many sites, including;

- Hanworth Road, Sunbury-On-Thames
- Hewett Road, Great Yarmouth
- Stockport Trading Estate, Greater Manchester
- Sydenham Business Park, Belfast
- Grimshaw Lane, Manchester

Site surveys were conducted in accordance with British Standard BS EN 16247 – Energy Surveys (building and process) and aimed to identify existing building services and controls, assess all energy consuming processes on site, and quantify energy consumption to determine measures for reducing overall energy usage. In the UK, we reduced our building footprint by over 400,000 sq. ft since 2017.

A transport energy audit was also carried out to review our operational fleet and fuel consumption data to identify fuel saving opportunities. The scope of the transport audit was based on the requirements set out in the British Standard for Transport, BS EN 16247-4. Quantified energy reduction measures were identified for buildings and transport; energy savings from these have been also assessed with life cycle cost analysis to prioritise emissions reduction measures which we are incorporated into our action plan for implementation.

Refrigerant loss reduction in manufacturing

Our refrigerant decarbonisation roadmap includes both the reduction of refrigerant loss within facilities as well as the transition to products with low and ultra-low Global Warming Potential (GWP) refrigerants. Our team of environmental health and safety, operations and research and development professionals work collaboratively to build the transition plan for decarbonising our refrigerants. To achieve emission reductions from refrigerants, the multidisciplinary management teams' action the reduction through:

- Annual goal setting
- Education and awareness
- Optimising current management of processes, standards and protocols
- Investment, implementation and sharing of best practices including leak detection programs, digitization and monitoring

In the UK, we have one manufacturing site that charges our products with refrigerant. At this facility, we have a closed-loop system and have installed flow meters and needle valves to monitor and control usage and ensure there are no leaks. In addition, all data is digitally recorded and monitored daily to identify and eliminate unexplained losses. Leak checks are performed weekly on the system and an annual pressure test of lines is conducted. All delivery receipts/invoices are cross referenced with delivery dockets to ensure gas quantities align with actual totals.

Reduce fleet emissions through efficiency and electrification

Our second largest contributor to GHG emissions is our global fleet, comprised of both field service operations and management fleet. In 2020, we added full electric company cars (EV) to our fleet options for eligible employees in the UK and across Europe. The initiative has been particularly successful with UK drivers where concurrent changes to tax policy provided additional incentives to employees to use EVs.

Our electric vehicle fleet in the UK has increased since their introduction in 2020 to 471 (May 2024) electric vehicles. In the UK, over 52 percent of Johnson Controls cars delivered in fiscal 2023 were electric vehicles (EV) increasing our total EV car fleet to 31 percent. The majority of these EVs will replace diesel vehicles .

Where possible we are accelerating the change cycle for employees, allowing them to move to an EV earlier than their normal replacement date.

Scope 3, (Category 11, Use of Sold Products)

Delivering sustainable products and solutions is core to our business and our growth as a global leader in smart, healthy, sustainable buildings. Our Scope 3 target is a 16 percent reduction from the use of sold products in 2030 from our 2017 baseline and has been approved by the Science Based Target Initiative. The use of sold products represents more than 95 percent of our scope 3 emissions.

At the end of fiscal year 2023, we have reduced scope 3 emissions from the use of sold products by 27 percent compared to fiscal year 2017.

Low Carbon and Energy Efficient Products

Addressing climate change necessitates that we manage our entire carbon footprint. With most of our scope 3 emissions coming from the use of sold products, it's critical that we deliver low-carbon solutions to our customers.

At Johnson Controls, we're leading the carbon transition with sustainable products and services across three strategic pillars: energy efficiency, low-GWP refrigerants and electrification.



Energy efficiency

Building heating, cooling, and ventilation operation is responsible for over 50 percent of energy consumption in residential and commercial buildings, thus representing a significant share of the nearly 40 percent of global GHG emissions attributable to the built environment. Improving the energy efficiency of these products will reduce energy-related emissions and our customers' operational expenses, while also creating a smoother transition to a distributed, zero-carbon energy system.

Johnson Controls has a market-leading portfolio of energy-efficient HVAC products, many of which exceed regulatory and market requirements by 30 percent or more. Despite this, we continue to improve the energy efficiency of our products, through incremental improvements to existing models, new product launches that result in significant changes in efficiency, assisting our customers in making optimal product selections for their applications, and shifting our share of products sold to higher efficiency models.

Low-GWP refrigerants

Conventional refrigerants used in today's HVAC products are hydrofluorocarbons (HFCs), fluids that do not harm the ozone layer, but can have high Global Warming Potential (GWP). Phasing out these HFC emissions globally could reduce the global temperature rise by 0.5°C by 2050.

Johnson Controls has helped lead the global phase-out of HFC use in accordance with the Kigali Amendment to the Montreal Protocol. We're currently transitioning our HVAC portfolio to low-GWP refrigerants and already provide options that can reduce GWP by more than 78 percent. However, we're still investing heavily in solutions that will drive those reductions even further, while maintaining product safety and performance.



DECLARATION AND SIGN OFF

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans. This report focuses on operations within our control for the fiscal year 2023, October 1, 2022 – September 30, 2023.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body).

Signed on behalf of the Supplier:

James Earnshaw

Date: June, 2024