

## Feature: Carbon Strategy

We have set ourselves a target of achieving carbon neutrality by 2017. But what does this actually mean and how are we working to achieve it? In this section we describe our efforts to date and plans for the future as we develop our carbon neutrality strategy.

### Towards Carbon Neutrality – Developing our Strategy

The issue of climate change and the actions required to tackle it remain a prominent feature of global agendas at many levels. Climate change, in fact, presents many opportunities for Johnson Matthey. Our products and technologies have a role to play in mitigating its effects and we are working to ensure we are well positioned to maximise the benefits to our business. At the same time, we recognise that we must also manage the potential negative impacts arising from climate change and understand how our business will operate in an increasingly carbon constrained world.

Achieving carbon neutrality is an aspiration of Johnson Matthey's Sustainability 2017 Vision and working towards this target forms the foundation from which we can manage the positive and negative impacts of climate change. It provides a stimulus for the group to take advantage of the opportunities arising from climate change by developing products and technologies that can be a part of the solution. At the same time, achieving carbon neutrality also requires us to focus on minimising our contribution to the problem and gives us an impetus to drive down emissions resulting from our activities.

The launch of this vision in December 2007 marked the start of our journey towards carbon neutrality. We have set ourselves a target of achieving it by 2017. But what does carbon neutrality actually mean to Johnson Matthey and what plans are we developing to achieve it?

### What is Carbon Neutrality?

For Johnson Matthey the working definition of carbon neutrality states:

"Achieving carbon neutrality means that through a transparent process of calculating emissions, reducing those emissions and offsetting residual emissions, our net carbon emissions equal zero."

Following the launch of Sustainability 2017 there has been a structured, ongoing debate involving employees and external stakeholders to initiate the process of developing a strategy to achieve zero net carbon emissions. We have held two 'Carbon Days', facilitated by external experts, at which representatives from Johnson Matthey's global businesses and functions met to establish a definition for carbon neutrality, examine the best practice of (and pitfalls encountered by) others and explore methods that we may apply. As a result of these Carbon Days, recommendations have been made which form the basis of a carbon neutrality strategy.

The strategy is now in its early stages of development and its objectives have been defined:

- To reduce the total global warming potential (GWP) of Johnson Matthey's activities to a minimum on a cost effective basis.
- To offset residual GWP on an annual basis.
- To reduce the GWP of our products across the supply chain (including the in-use, end of life and recycling phases) to support our customers.
- To develop new products and services to meet the sustainability needs of customers in the low carbon and clean technology sectors.
- To competently substantiate claims on the GWP of our activities including our operations and our products / services.
- To publish, on an annual basis, the carbon savings attributable to low carbon products and services supplied to our customers.

### Reducing GWP

Since the launch of Sustainability 2017, facilities across the group have been engaged in energy efficiency initiatives to reduce their CO<sub>2</sub> emissions. Businesses are also setting energy reduction targets as part of their annual sustainability plans to drive further progress.

Work is also underway to explore the viability of replacing current sources of fossil fuel derived energy used by the group with sources that have a lower embedded carbon content. On site / decentralised green energy generation can offer many benefits and our businesses are encouraged to investigate what government subsidies may be available locally for these investments. Johnson Matthey's operations in West Deptford, USA secured state funding and have installed a fuel cell powered combined heat and power (CHP) plant to power one of its production plants. Our in house calculations show that converting some of our other plants around the world to green energy could bring about double digit reductions in carbon footprint. We are also examining the benefits versus risks associated with installing wind power at suitable sites.



### Q&A

**What does sustainability mean to you?**

It is a way for all human beings to collectively live in a sustainable world ...

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### Better Measurement and Understanding

At present we are measuring our progress towards achieving carbon neutrality by looking at the group's GWP. Total GWP is based on our direct and indirect energy usage and CO<sub>2</sub> equivalence (i.e. greenhouse gas Scope 1 and 2 emissions defined under the Kyoto Protocol) which provide a strong platform for monitoring the impacts associated with energy use in our operations. We are working to broaden the scope of our GWP measurement to include all aspects of our business (in particular process emissions and transportation of materials) and to consider the beneficial impacts of our products and services.

As part of this, we plan to undertake carbon footprinting studies on a product by product basis (including the contribution from supply chain and logistics). This is a challenging and complex programme of work but we believe this will show the broadest impact of our operations and at the same time will demonstrate the benefits that our products and services provide to our customers, society and the planet. Some early work on this broader scope for carbon measurements is already underway.

Ensuring that both new and existing products are optimised across the whole supply chain for their carbon footprint means we need to also grow our understanding of our product life cycles and incorporate broader 'life cycle thinking' into our business processes. As described in the Products, Sustainability and Technology section of this report, Johnson Matthey is building expertise in this area and has been trialling a range of methodologies and tools. We are also developing a 'Life Cycle Experts' group within Johnson Matthey to establish a deeper understanding of the economic, environmental and social impacts of what we do.

As we develop our capability in measurement and analysis we aim to engage with our stakeholders across the supply chain so together we can adopt the most appropriate methodologies that are acceptable to all.

### Getting to Net Zero

Many companies claiming to be 'carbon neutral' purchase high quality offsets to achieve net zero carbon, alongside their carbon reduction initiatives. While these offsets probably do result in genuine emission reductions, Johnson Matthey has sought to develop a more pragmatic approach to offsetting residual GWP which is more aligned with the group's overriding strategy and objectives.

Johnson Matthey already purchases and surrenders around 13,000 European Union Allowances (EUAs) annually for compliance purposes as our operations in Royston, UK are regulated under the European Union Emissions Trading Scheme (EU ETS). We consider it legitimate to count these allowances as 'offsets' towards carbon neutrality. The group also earns Certified Emissions Reductions (CERs) for nitrous oxide abatement projects that are covered by the Clean Development Mechanism (CDM). At present these CERs are sold on the open market but there is the option for us to retire (rather than sell) them and thus include their contribution in our carbon neutrality measures.

So what about the residual GWP? A core part of our carbon neutrality strategy concentrates on how we would 'offset' our residual GWP. Rather than purchasing high quality offsets to achieve zero net carbon, Johnson Matthey is developing an approach which will underpin the development of new low carbon and clean technology products and services for our customers. We are working towards creating our own internal 'carbon levy' which would be applied annually to residual GWP. This would be used to generate additional funding to specifically support 'clean technology' R&D in the company, building on our existing core science and low carbon R&D programmes. The detailed mechanisms are still to be developed and we recognise that this approach requires careful internal management and transparent reporting. Although still in its conceptual stages, the establishment of this approach would drive both emissions reductions and new product development in Johnson Matthey and ultimately support the generation of new sustainable products for our customers. Given that the in-use carbon savings delivered by new products and technologies are likely to be far greater than Johnson Matthey's actual carbon footprint, we believe that this approach has considerable merit.

### Summary and Next Steps

As demonstrated by our progress to date, while we have reduced total GWP since the launch of Sustainability 2017 by 6% to 371,414 tonnes CO<sub>2</sub> equivalent, we still have a long way to go to reach net zero. Throughout Johnson Matthey, individuals, sites, businesses and functions have really embraced the challenge of achieving carbon neutrality. Initiatives to date have, in general, delivered incremental improvements and we recognise that a real step change in approach is required to accelerate performance. The establishment of a carbon neutrality strategy for Johnson Matthey is an important milestone in driving improved performance and we look forward to reporting on its further development in next year's Sustainability Report.



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**CASE STUDY**

**Progress Towards Advanced Biofuels**

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