

Midlands Aerospace Alliance

Sustainable Advantage in Aerospace



Likely drivers and challenges

Key Drivers



“Doing the right thing”



Supply chain pressure

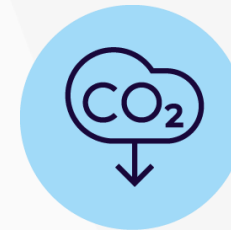


Compliance



Energy & transport costs

Challenges



Defining scope 1, 2 & 3



Funding



Business priorities

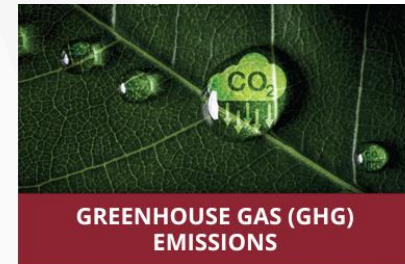


Choosing the right solution

Net zero in Sector?



MOOG



Reduce our scope 1 and scope 2 GHG emissions by 40% by 2030, compared to a fiscal year 2022 baseline.

Plan: Focus on the top 10 contributing sites that represent nearly 80% of our total global GHG emissions footprint.

Progress: Developed detailed emissions reduction plans for five sites in three continents, four of which are among our top 10 emitters. Projects are underway in three of the top 10 sites. Launched a global deployment strategy to engage all employees in emissions reduction efforts.



As a strategic supplier to the largest aircraft engine manufacturers, Moog is supporting those companies in their transition to using Sustainable Aerospace Fuels. As part of the Future Engine Technology for the Control of Hydrogen (FETCH) research program, Moog is developing hydrogen gas turbine fuel metering systems and liquid hydrogen fuel system valves to enable net zero aircraft. Moog is also investing in the development of hybrid and electric propulsion systems to support the industry's transition to net zero in 2050.

Sustainable Operations

Maintain net-zero future for Boeing operations through conservation and renewable energy

Partner with supply chain for responsible business practices

- Achieve 55% absolute reduction in Scope 1 and Scope 2 GHG from 2017 base year.¹
- Maintain net-zero emissions for Scope 1 and Scope 2.
- Achieve 100% renewable electricity.
- Work with our suppliers to increase GHG reporting and proactively address risks driven by climate change-driven risks.
- Achieved 16% absolute GHG reduction at year-end 2022 from 2017 base year toward 2030 goal (Scope 1 and 2).
- Achieved net-zero at manufacturing and work sites, for a third year, by emphasizing and incentivizing employee conservation and increasing renewable electricity use while procuring verified offsets for the remaining GHG.
- Achieved 35% renewable electricity in 2022 by purchasing renewable electricity and renewable energy credits.
- Implemented supplier code of conduct aligned to ESG elements including climate change and environment priorities.
- Launched supplier engagement via CDP Climate Change submissions to report emissions, assess reduction targets/progress and identify collaboration opportunities.

LEADING THE TRANSITION TO NET ZERO CARBON

netzero

rolls-royce.com

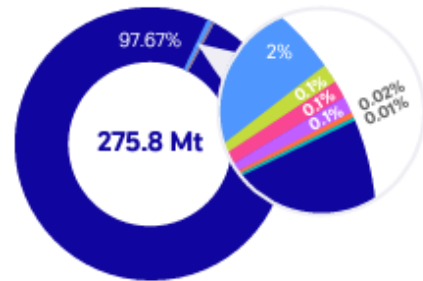
Our emissions footprint

We are committed to ensuring our products can be used in ways that are compatible with net zero.

Our decarbonisation strategy starts with the emissions in our own operations, extends to our value chain, and ultimately focuses on the contribution we can make to the global transition.



Our emissions footprint



- Existing fleet (use of sold products): 270 Mt
- Purchased goods and services (including raw materials): 5 Mt
- Product test emissions: 300 kt
- Own manufacturing, production and office facilities: 285 kt
- Employee commuting: 200 kt
- Business travel: 50 kt
- Logistics: 30 kt



Environment

Innovation for a More Sustainable Future

Climate Action

Living up to our purpose means solving complex challenges for customers while minimizing environmental impact to help create a better world for future generations. Our climate action program addresses potential risks to our business with a series of key objectives.

Objective #1
Align technology solutions with changing customer expectations and requirements due to climate change.

As energy transitions to cleaner alternatives such as hydrogen, electrification and renewable aviation fuel, Parker must be responsive and focus innovation to best meet the needs of our customers and the markets we serve.

We are incorporating environmental impact assessment tools into our Simple by Design process. This will allow us to consider this important aspect during the product design phase of the project.

50%
Reduce Carbon Emissions 50% by 2030

Objective #2
Reduce carbon from our operational footprint (scopes I and II).

Parker has chosen a science-based 1.5 degree ambition to achieve our Scope I & II carbon goals. To achieve these goals, our global operations have incorporated energy and carbon reduction targets into their business planning and execution process. These reduction plans may include energy efficiency assessments, lean kaizen events and climate life cycle analysis on new equipment purchases. These

activities will be carried out at each division location by leveraging High Performance Teams (HPTs) focused on environmental footprint reductions. Certain facilities will also be implementing on-site renewable power systems to reduce Parker's reliance on fuel-based energy purchases.



Parker's Querétaro, Mexico facility is saving approximately 60 MT CO₂ annually by using power from rooftop solar panels, and several locations worldwide are currently pursuing their own solar installations.

Carbon Goals

Scope	2030	2040
I and II	50%	100% (Carbon Neutral)
III	15%	25%

Carbon Goals are Science-Based Targets

100%
Achieve Carbon Neutrality by 2040

Carbon and Energy Use

Metric	FY19	FY20	FY21	FY22
Absolute Carbon (MT CO ₂)	703,100	617,700	600,300	580,100
Absolute Carbon Reduction vs. Baseline (FY19)	-	12%	15%	18%
Carbon Intensity (MT CO ₂ /Sales in Millions)	49	45	42	37
Scope I Energy (MWh)	634,200	543,200	551,900	544,400
Scope II Energy (MWh)	1,186,200	1,094,300	1,088,400	1,081,500
Energy Intensity (MWh/Sales in Millions)	127	120	114	104

Objective #3
Reduce carbon from our indirect footprint (scope III).

Parker's goal is to reduce absolute emissions related to materials sourcing, logistics and services (indirect footprint) by 15% by 2030, and 25% by 2040. We have initiated the baseline step with our suppliers and logistics providers through the CDP Supply Chain program and incorporated these expectations into our supply chain requirements.

Objective #4
Reducing risk of operational disruption due to climate change.

Every Parker operational facility is required to have a business continuity plan that includes scenario planning for risks such as extreme weather events, and supply disruption contingency planning for suppliers in areas of high risk of operational disruption due to climate change.

Our planning process for new facilities also accounts for whether there is any significant climate risk associated with the proposed location.

Objective #5
Meeting customer expectations for carbon footprint reporting.

From customers that have elevated their own climate strategy, we see an increasing expectation to provide quantification of our carbon footprint, either in aggregate or by individual product. We are committed to providing the information necessary to address a customer-level inquiry.

Our 2021 CDP Climate Assessment resulted in a B- Management Level Classification.

How can Inspired help?

Carbon action Programme



Our Approach



1 Calculate GHG emissions

Scope 1,2 and 3 emissions, following GHG protocol methodology

1

3 Model emission reduction pathways

With senior leadership/ ESG or sustainability committee/ employees/ procurement team

3

5 Net-zero strategy development (Roadmap)

Create a climate transition plan broken into short, medium and long-term

5

2

2 Identify decarbonisation opportunities

Following Science Based target initiative guidelines

4

4 Hold a net-zero strategy workshop

With senior leadership/ ESG or sustainability committee/ employees/ procurement team

6

6 Implementation of decarbonisation actions

Utilising a combination of software, optimisation and technical solutions

**Any
questions?**



Thank you

For more information, get in touch:
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