

DMAC

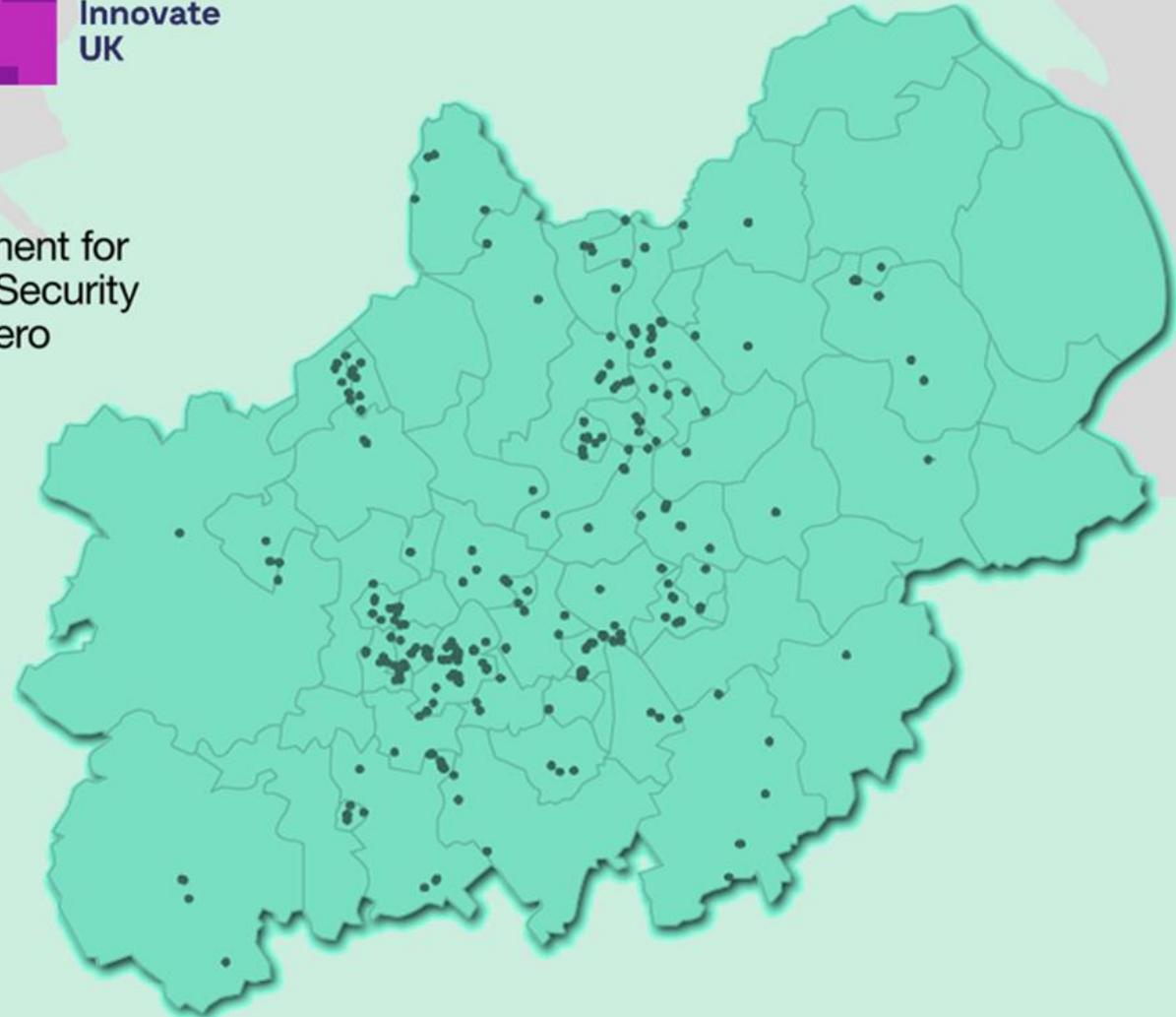
Decarbonising the Midlands Aerospace Cluster

Launch Webinar

26th March 2024



Department for
Energy Security
& Net Zero



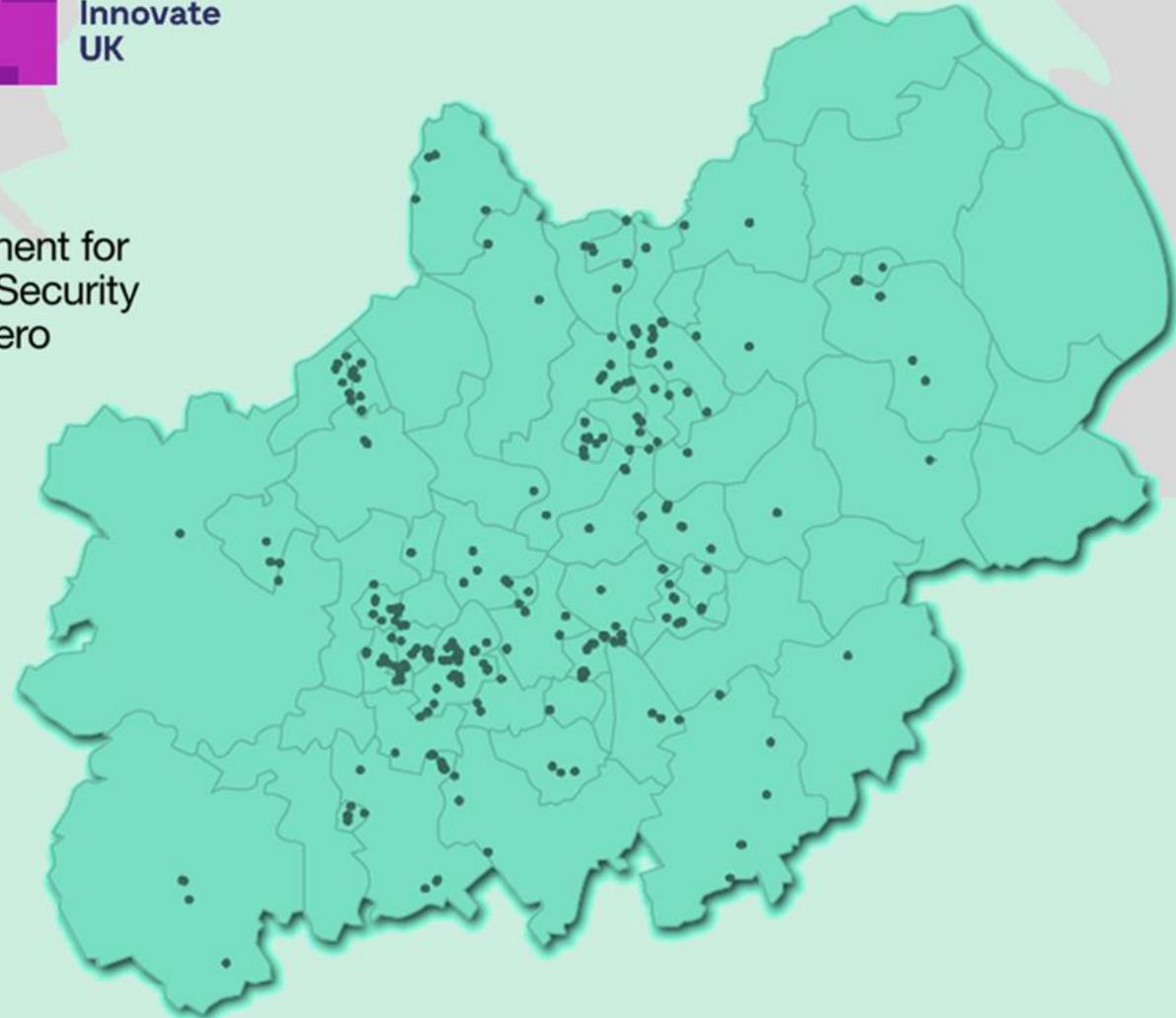
DMAC

Decarbonising the Midlands Aerospace Cluster

Housekeeping
& Recording



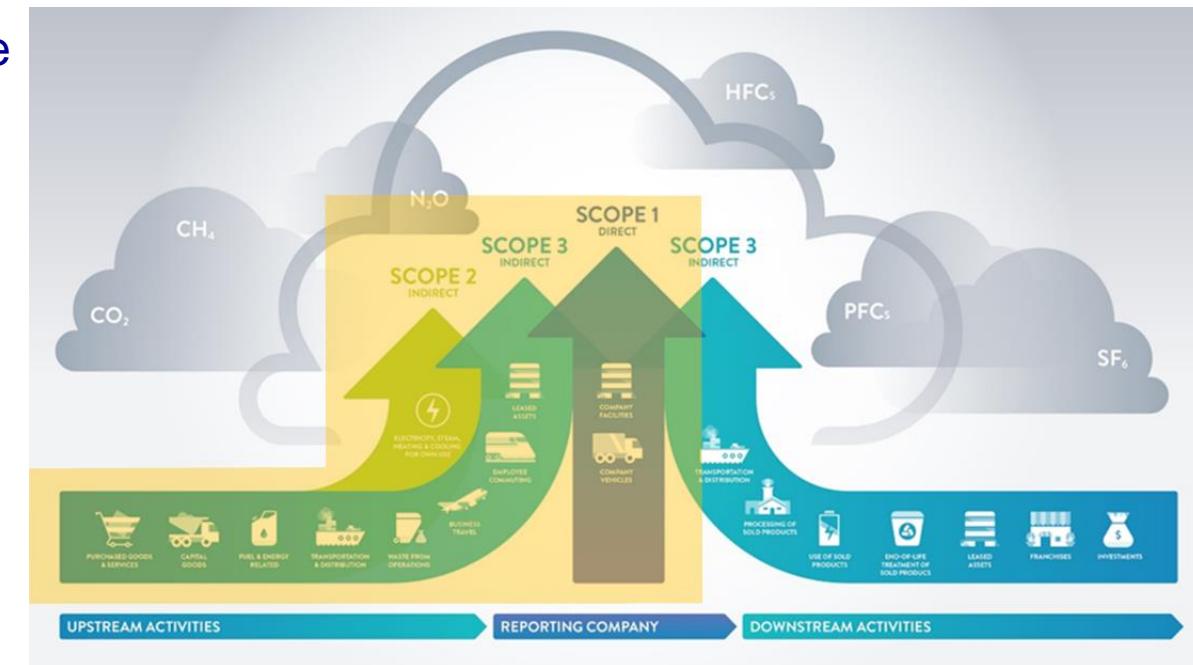
Department for
Energy Security
& Net Zero



Agenda

- 09:30 Welcome & Introductions
- 09:40 Background
 - Midlands Aerospace Cluster
 - Industrial Decarbonisation Challenge
- 09:50 DMAC Programme
 - Objectives
 - Team
 - Plan / Activities
 - Engagement
- 10:20 Q&A & Discussion
- 10:30 Close

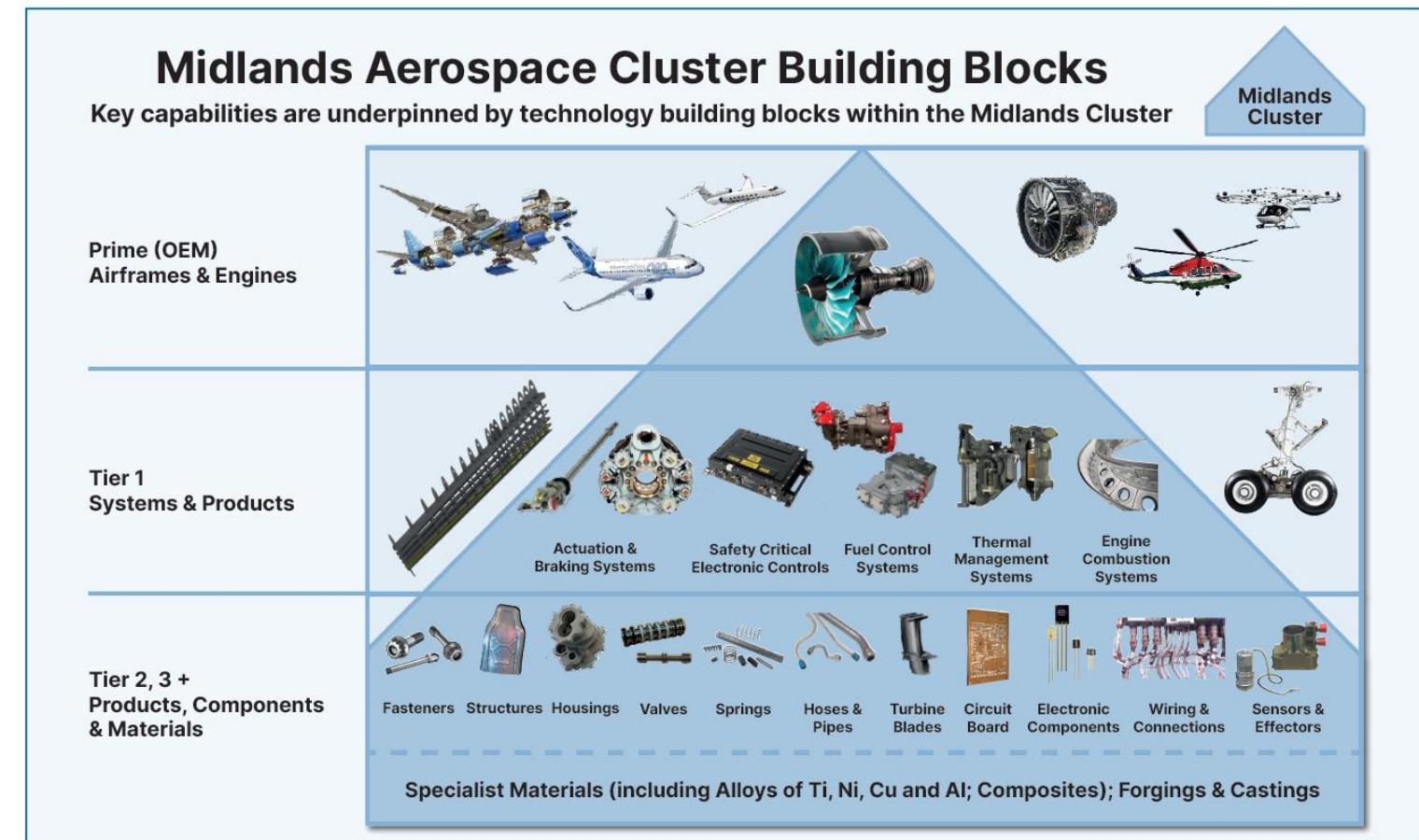
DMAC: Decarbonising the Midlands Aerospace Cluster



Background: Midlands Aerospace Cluster

Aerospace sector:

- **Safety-critical**
 - Highly regulated
- **Complex, hi-tech systems**
 - Broad range of technologies
 - Long product life-cycles:
 - High-investment development
 - Long in-service support
- **Global industry**
 - UK turnover ~£27bn¹
 - Overseas competition
- **Emissions challenge**
 - Jet Zero
 - Net Zero



1: ADS Industry Facts and Figures 2023; Aerospace.

Background: Midlands Aerospace Cluster cont'd

The Midlands plays a significant role in UK aerospace sector:

- 21% of UK aerospace sites
- 36,500 jobs

Economic impact to the region:

- > 2% of regional economy
- Sustaining over 100,000 jobs

Company grouping	Individual Midlands companies	Midlands job calculation	Technical specialist aerospace suppliers (Bespoke list, 524 firms)
OEM & Tier 1s	8	17,753	36,500
AS9100 accredited 'Flying Parts' makers	246	12,020	+ Generic suppliers (+ 33,600)
Other technical specialist suppliers	290	6,767	70,200
Total:	524*	36,540	+ Induced effect (+35,100) 105,300

* 20 individual companies overlap categories across sites; hence the reduced total.

Aerospace growth:

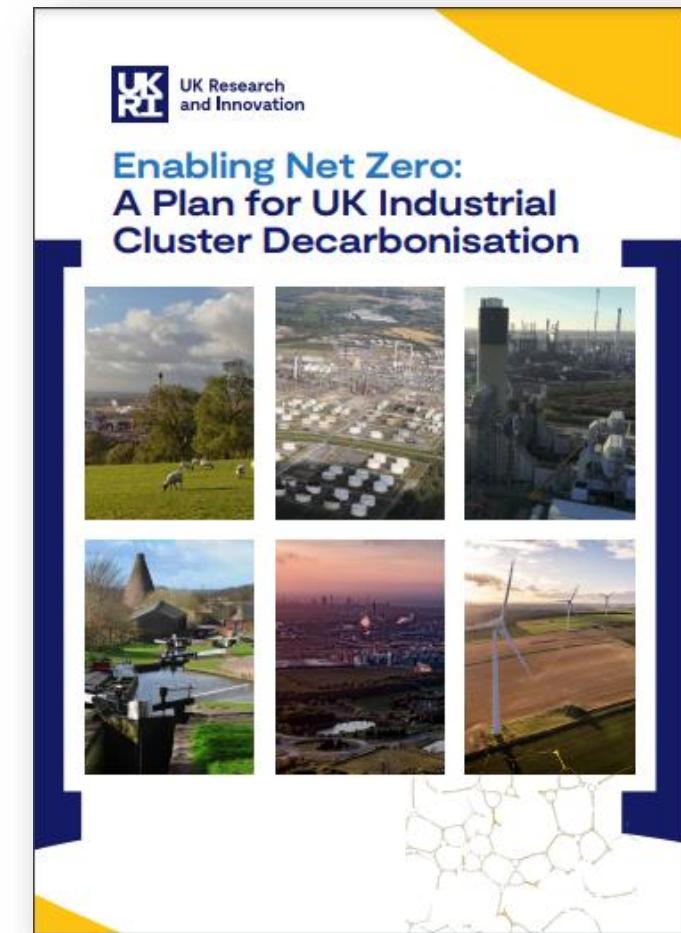
- Long-term growth of air travel is faster than global GDP
- Aerospace industry doubled in size between recent peaks:
 - 2000 to 2019, 3.7% growth p.a.



Background – IDC Fund

Industrial Decarbonisation Challenge (IDC) Fund

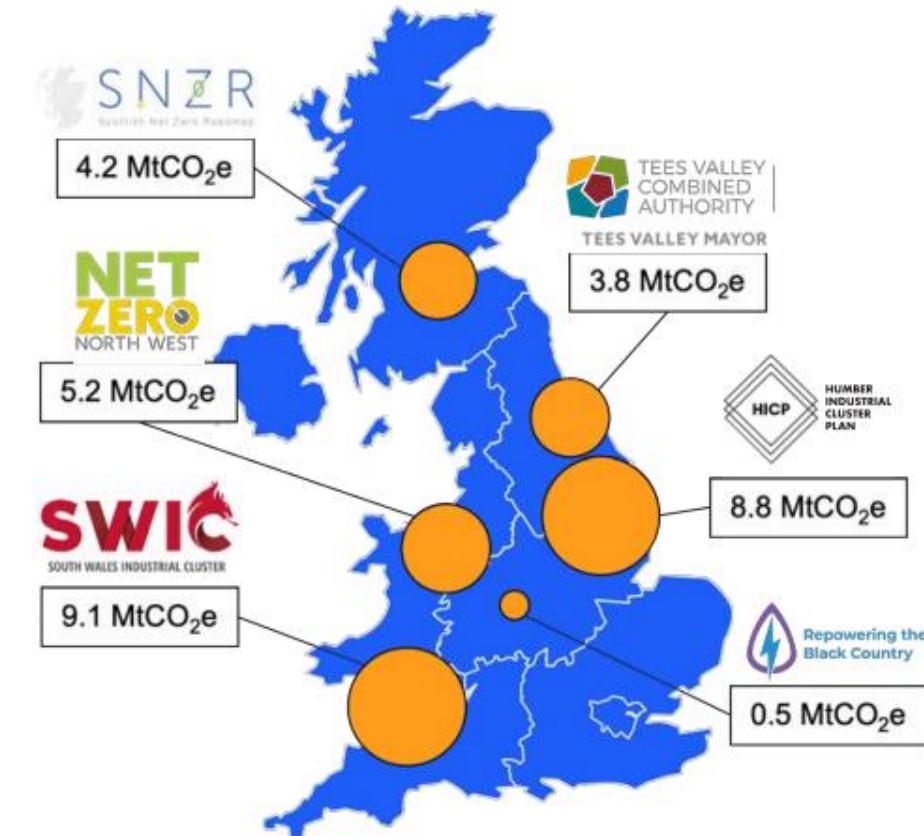
- Budget: £210 million
- Duration: 2019 to 2024
- £171 million for collaborative projects to enable industrial cluster decarbonisation
- Part of Industrial Strategy Challenge Fund (ISCF)
 - Managed by UKRI
 - Aim: to propel research & innovation to tackle UK's primary industrial and societal challenges.
- Ref: "Enabling Net Zero: A Plan for UK Industrial Cluster Decarbonisation" (Oct 2023)



Background – IDC Fund cont'd

Six cluster plan projects were launched

- representing c.50% of UK's industrial GHG Emissions
- Humber Industrial Cluster Plan
- Net Zero North West Cluster Plan
- South Wales Industrial Cluster
- Scottish Net Zero Roadmap
- Repowering the Black Country
- Net Zero Tees Valley Cluster Plan



Background – DESNZ LIDP

Local Industrial Decarbonisation Plans – Objectives:

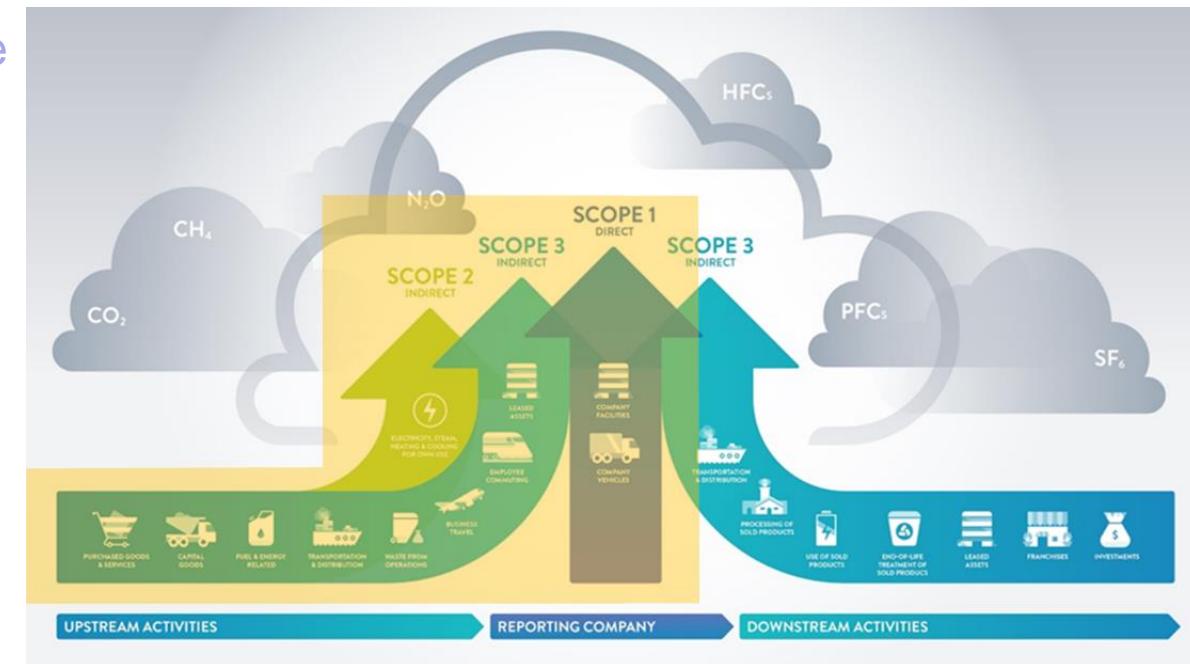
1. To support the development of credible, context-sensitive, strategic plans for decarbonising local industrial clusters.
2. To increase organisational collaboration and strengthen decarbonisation planning skills, capacity and capability in local industrial clusters.
3. To gather evidence to inform decarbonisation of other local industrial clusters and dispersed sites.

In December 2023, DMAC was one of 12 successful bids for LIDP funding.

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DMAC: Decarbonising the Midlands Aerospace Cluster

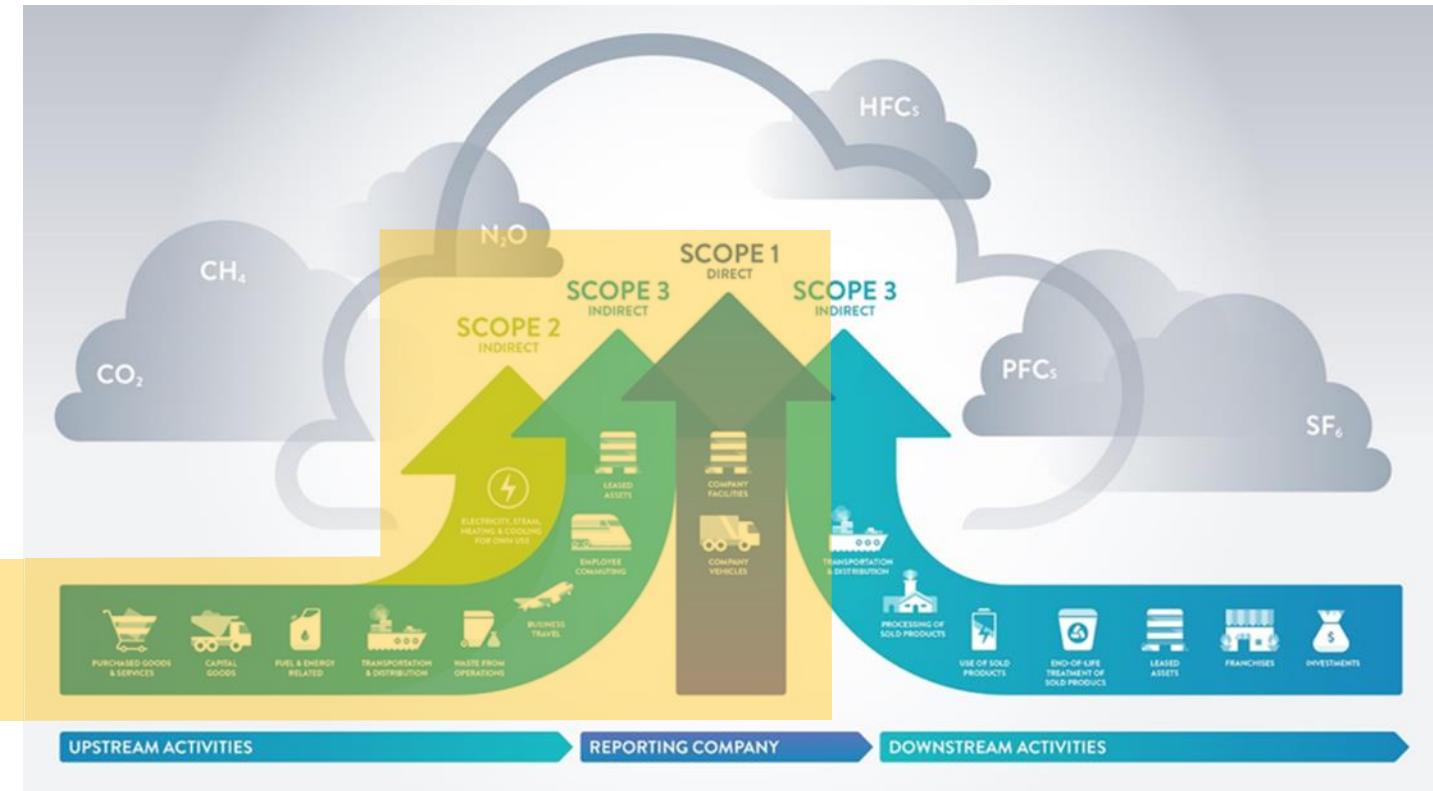


DMAC Programme: Background

UK target: ‘Net Zero’ by 2050 set in law.

What is the sector strategy to achieve this in the aerospace supply-chain?

DMAC focus is on Scope 1, 2 and upstream Scope 3.



Spearheading the decarbonisation of the aerospace supply-chain in the Midlands

Incentives to Decarbonise the supply-chain



Environmental Sustainability

- ‘Do the right thing’
- Investors
- Customers
- Government

Economic Sustainability

- Reduce costs
- Engage workforce
- Business continuity
- Necessity



DMAC Programme Overview

Objective: To understand how the Midlands Aerospace Cluster could achieve Net Zero by 2050.

Deliverables:

1. Current State

- GHG emissions baseline & fly-forward



2. Potential solutions

- Assess for technical & commercial viability
- Assess timescales and policy alignment



3. Credible, strategic plan

- Further areas of research
- Implementation projects
- A re-useable methodology



One year programme (Jan to Dec 2024) to deliver a credible strategic plan for the decarbonisation of the Midlands Aerospace Cluster ... and beyond!

DMAC core team



The core team comprises of the MAA with six industrial supply-chain partners, two Tier 1's & four supply-chain (three established aerospace companies, one new entrant).

DMAC extended team

- **Industrial Team**
- **Steering Committee**
- **Advisory Board**
- **Extended Team**
(Supporting Organisations)



The core team comprises of industrial supply-chain partners, assisted by a broader Advisory Board and Supporting Organisations including policy makers and decarbonisation experts.

DMAC Advisory Board

Decarbonising the Midlands Aerospace Cluster (DMAC) Advisory Board

Midlands Aerospace Cluster OEM & Tier 1 Companies

Rolls-Royce
(OEM Aeroengines)
Jen Houghton
Head of Environmental
Strategy

ITP Aero
(Engine modules)
Brendan Kelly
HS&E Business Partner

Collins Aerospace
(Actuation Systems)
Dr Dawn Pope
EH&S Advisor -
Sustainability

Moog
(Actuation/Control Systems)
Mark Turner
Supply Chain Director

Parker-Meggitt
(Equipment/Control Systems)
Amanda Martins
EMEA Sustainability
Manager

Representatives from Local Aerospace Cluster Alliance, Project Partners, Academia, HVM Catapult & Local Authorities

**Midlands Aerospace
Alliance**
Dr Andrew Mair
CEO

**Project Partner
Representatives**
Representatives from
partner companies

**Warwick Manufacturing
Group / HVM Catapult /
University of Warwick**
Simon Webb
CTO - WMG

Local Authorities
WMCA
Charlie Hopkirk
Cluster Delivery Manager
WMCA

Regional Policy
Midlands Engine
Jacob Vivian
Project Manager – Policy
& Partnerships

DMAC Supporting Organisations include...



Advisory Board



Pro Environmental Enterprise
Support Network (PEES)



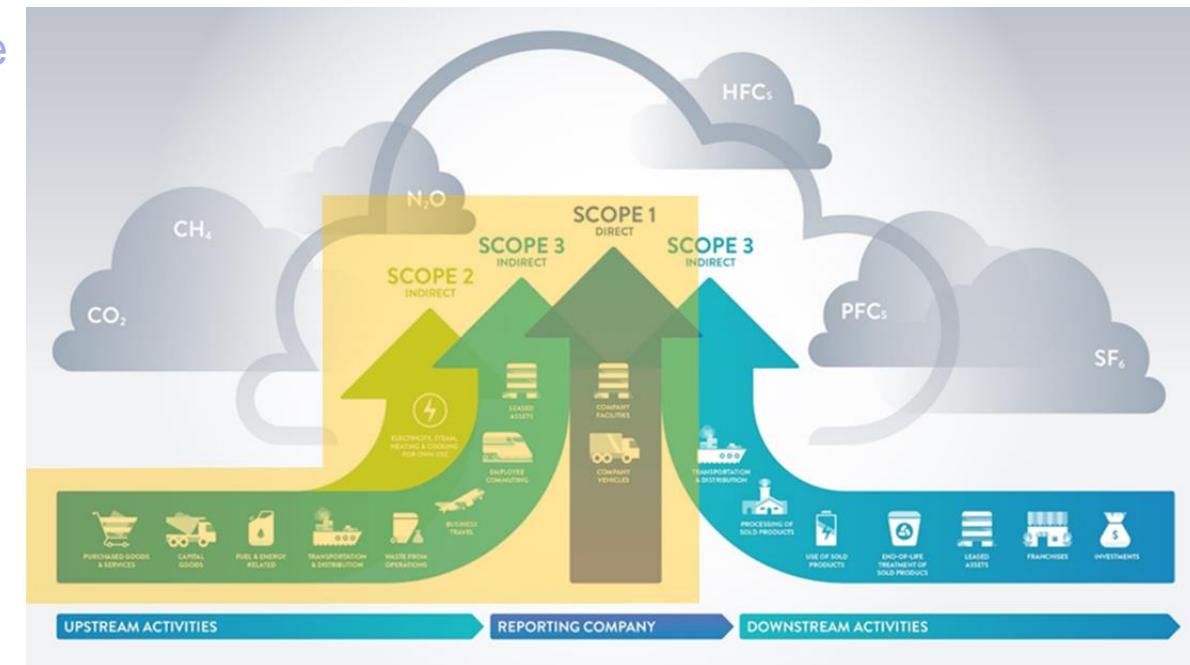
West Midlands
Combined Authority



Agenda

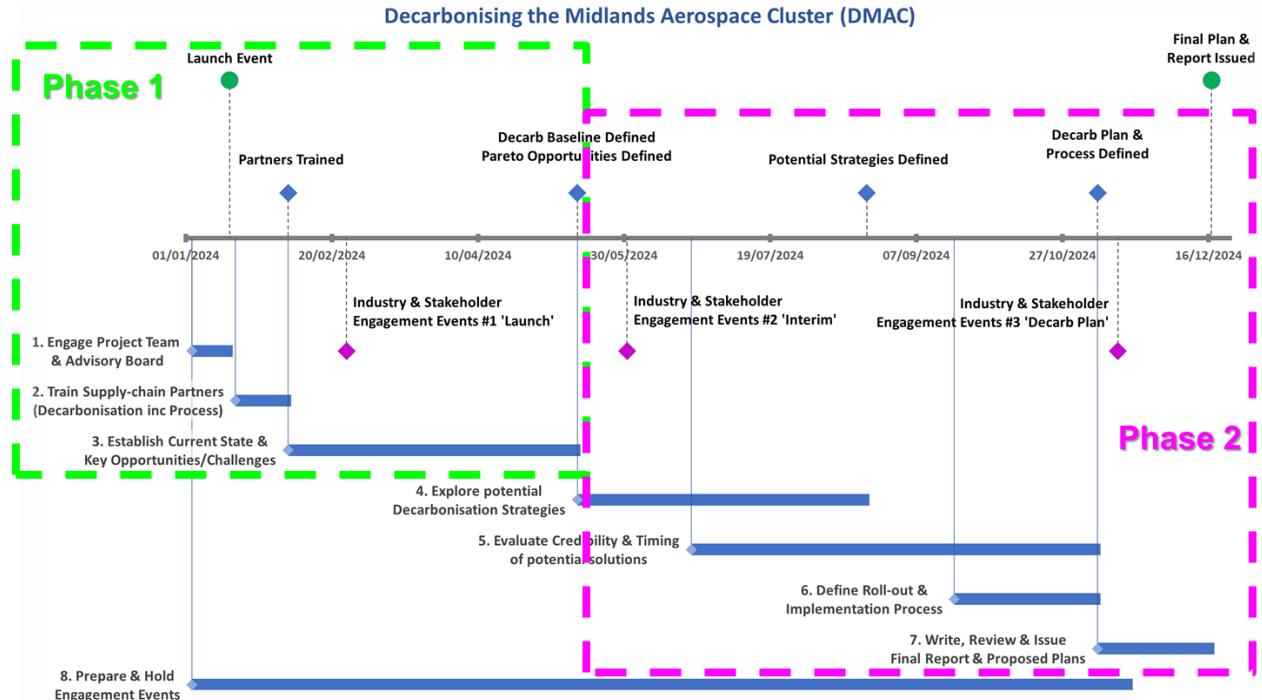
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DMAC: Decarbonising the Midlands Aerospace Cluster



DMAC Programme - 2 Phases

- Phase 1:**
 - Establish a baseline for GHG Emissions in the local cluster
 - Standardise approach for aerospace supply-chain sector
- Phase 2:**
 - Develop strategic plan to meet UK's Net Zero 2050 target
- Dissemination & Engagement Events**



DMAC Phase 1 (Live)

- Get all partners up to similar levels
- Methodologies for generating emissions baselines:
 - By product
 - By organisation / cluster / region

Note: Driver is for obtaining a resolution that enables better decision-making for emission reduction and/or elimination.
- Produce a 'hit list' of challenges & opportunities for the local cluster

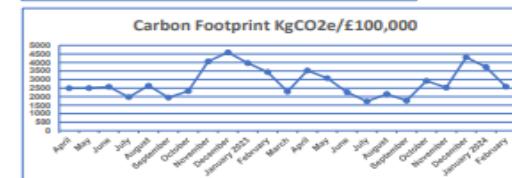
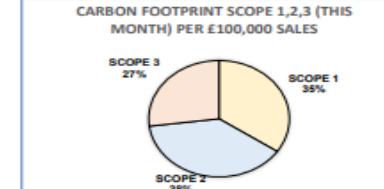
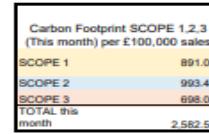
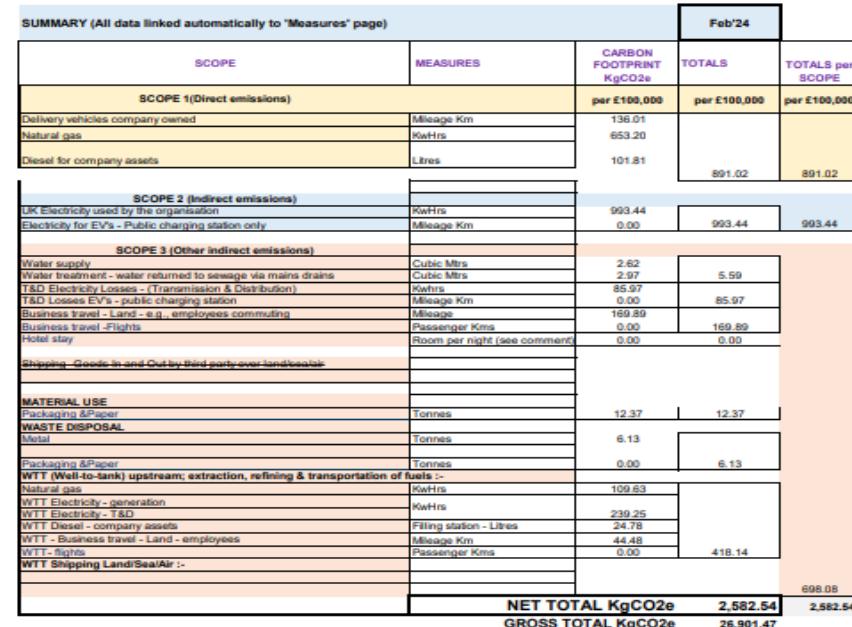
Team Emissions Reporting & Reduction Plans

Partner Status: Jan 2024	Scope 1 & 2 Emissions Baseline	Scope 3 Emissions Baseline	Plans/Actions in place to reduce emissions
Company #1			
Company #2			
Company #3			
Company #4			
Company #5			
Company #6			
Company #7			



Partner Status: March 2024	Scope 1 & 2 Emissions Baseline	Scope 3 Emissions Baseline	Plans/Actions in place to reduce emissions
Company #1			
Company #2			
Company #3			
Company #4			
Company #5			
Company #6			
Company #7			

Sustainability in the supply chain...data!!!!



Ref quote; UK Government GHG Conversion Factors for Company Reporting:-
"We annually publish a new set of factors at the end of May / start of June. Compared to the previous year's factors, changes may be made due to new data availability, methodology improvements or corrections to errors in methodology".

Despite a 22% increase in Jan'24 sales over Jan'23 sales, Jan'24 saw a decrease in net CO2 footprint of 6% compared to Jan'23

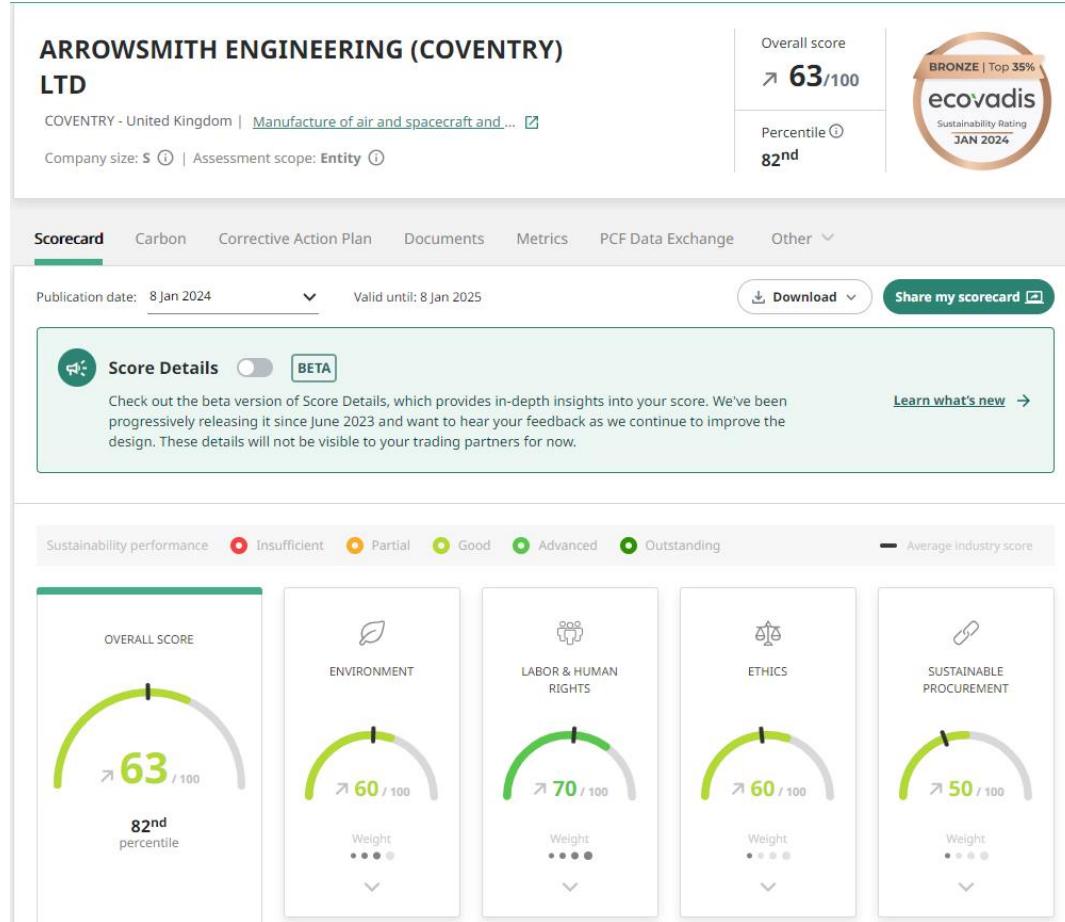
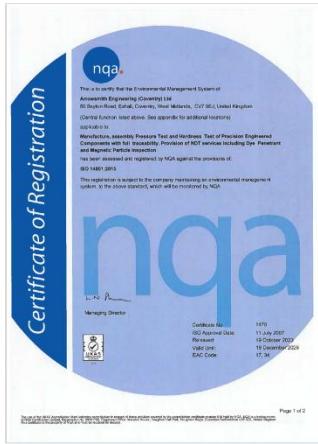
**Comparing period April 22-Feb 23 with period April 23 - Feb 24
Net CO2 footprint has decreased by 6%**



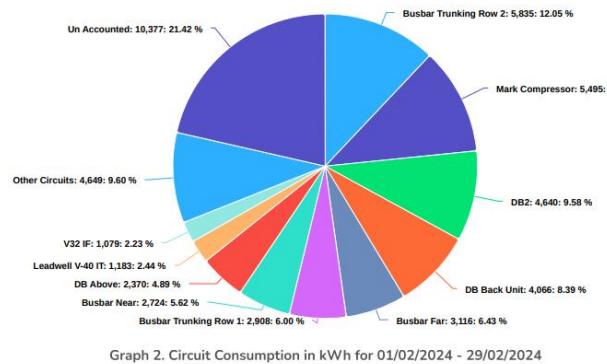
Monthly spread sheet is prepared, collating scope 1, 2 & 3 data at a glance.

CO₂ reduction of 6% over period Apr-Feb 23 compared to period Apr-Feb 24.

Accreditation schemes available



Moving forward...



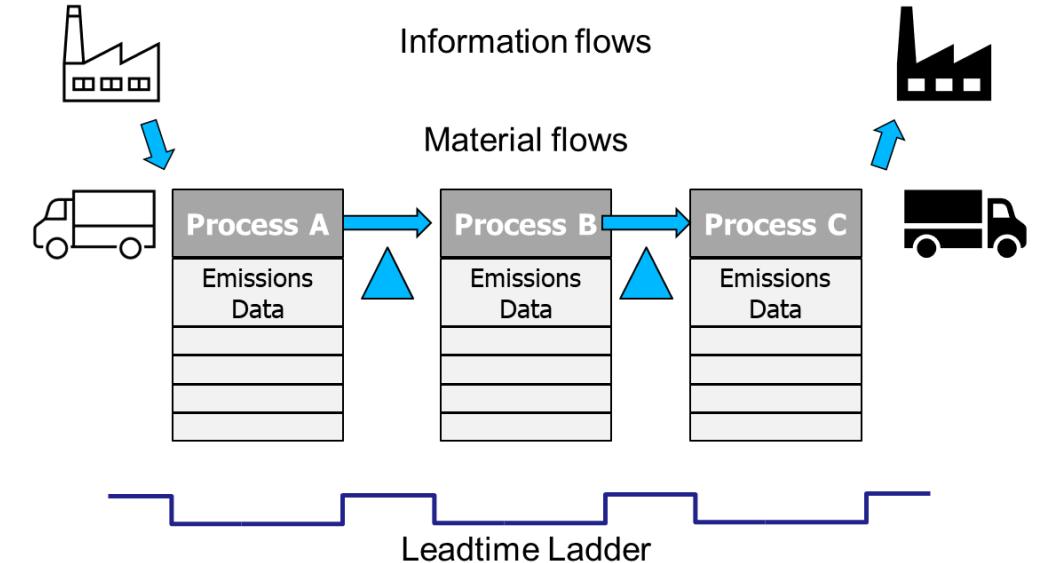
EMC100i transformer Voltage Optimisation Unit



PowerDown220's portal: "I can see a total reduction of power over that period of 10.2% which equates to a saving of £764"

Emissions by Product: 'Carbon Stream Mapping'

- **Drivers:**
 - Upstream Scope 3 data resolution to enable better informed decisions
 - Prepare for 'by-product' emissions reporting
- **Approach:**
 - Akin to Value Stream Mapping
 - 'Lean Event' style (Continuous Improvement)
 - Current state to Future state
- **Status:**
 - First 'pilot' event @ G & O Springs on 28th March 2024



Emissions by Organisation / Cluster / Region

- **Drivers:**
 - Upstream Scope 3 supply-chain data resolution to enable better informed regional & cluster decisions
- **Approach:**
 - Use detailed regional aerospace database:
 - Capabilities / Key Manu. Processes
 - Employees, Turnover, Location(s)
 - Acquire Scope 1 & 2 data for samples for different key processes
 - Create scalable models for different business capabilities
 - Up-date as actual data replaces model data
- **Status:**
 - In-progress



> 500 companies in aerospace cluster



DMAC Engagement

We have 3 formal DMAC events:

- Launch Webinar (today)
- Two in-person events:
 - Findings (mid-year, date tbc)
 - Strategy (Q4, date tbc)

Next related MAA event:

- 'Expert help and grants on sustainability'
09:30 to 10:30 on 25th April 2024

The graphic features a blue-toned background with abstract geometric shapes and a faint image of a person in a factory setting. The main text reads "MANUFACTURERS! EXPERT HELP AND GRANTS ON SUSTAINABILITY" in large, bold, white capital letters. Below it, a subtitle says "All you need to know" in one meeting! In the center, there's a call to action: "Join our INNOVATIVE MANUFACTURING WORKING GROUP for an online web meeting". At the bottom, the date and time are listed: "25th April 2024 09:30 – 10:30 and 15:00 – 16:00". A note at the bottom right states: "Locally-led Innovation Accelerators delivered in partnership with DSIT, Innovate UK and City Regions". Logos for UKRI, Innovate UK, West Midlands Combined Authority, and Innovation Alliance are at the bottom.

Interested in supporting DMAC?

We invite other supply-chain companies to join and support us, for example:

- Developing our understanding of where the supply-chain is on its decarbonisation journey
- Building a ‘typical’ emissions baseline model for different types of manufacture
 - Scope 1 and 2 emissions data for Alloy/materials production, Castings & Forgings (inc. furnaces), Heat Treat, Composites, Plastics, Ceramics, Electronics etc.
- Case studies for both achievements & challenges
- Developing local cluster strategies

Contact: Dr Pamela Farries

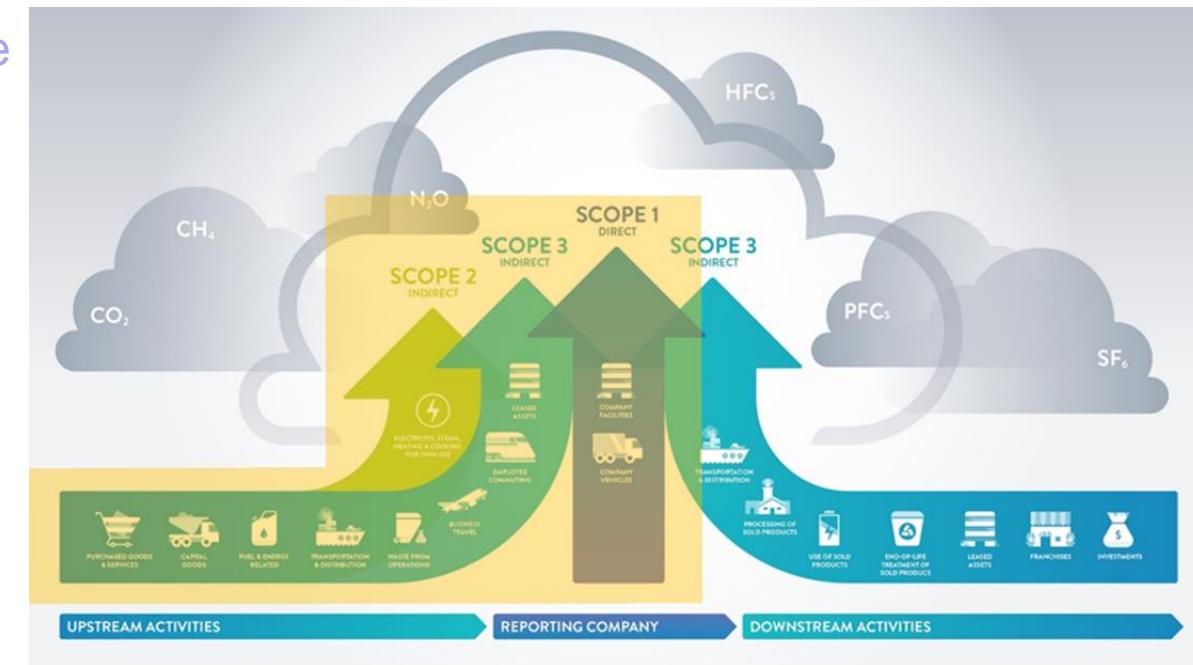
Technology Manager
Midlands Aerospace Alliance

pamela.farries@midlandsaerospace.org.uk

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Thank you



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