

# Industrial Decarbonisation of non road mobile machinery

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# Housekeeping

- You will remain muted with your cameras off during the event so please use the Q&A box to ask questions about the two funds.
- The event is being recorded and you will be sent a link to the recording and slides after the event to share with colleagues.

# Agenda

- 11.00 Welcome
- 11.05 Decarbonisation of NRMM in the mining industry
- 11.15 Industrial Energy Transformation Fund
- 11.25 IETF application support services
- 11.30 Q&A
- 11.40 Red Diesel Replacement Fund
- 11.50 Q&A
- 12.00 Close

# Decarbonisation of NRMM in the mining industry

Kevin Sabin

Group MD at Brownlee Cale Ltd and President of ABMEC



# Industrial Energy Transformation Fund

## Non-Road Mobile Machinery

Lily Tozer

Department for Business, Energy and  
Industrial Strategy



# Industrial Energy Transformation Fund

Two objectives:



Reduce energy costs and emissions for industry



Bring down costs and risks of deep decarbonisation technologies by demonstrating those technologies

- The fund is open to businesses registered in England, Wales or Northern Ireland.
- The IETF is targeted at **industrial processes**

# Non-Road Mobile Machinery

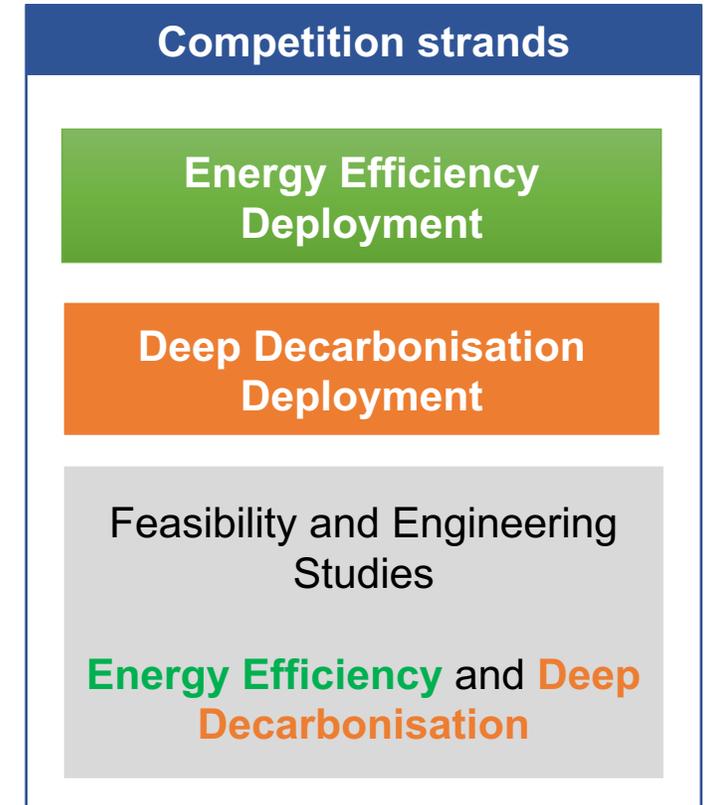
- In this application window, we have responded to stakeholder feedback and extended the scope of the scheme to include projects that improve the energy efficiency and/or reduce emissions of non-road mobile machinery (NRMM).
- This complements the existing support for static industrial equipment, helping sites to decarbonise and save energy at every stage of their processes.



# IETF funding and competition windows

The IETF has a budget of £289m out to 2025, and one remaining application window to allocate funding.

Window	Open for applications	Closed for applications	Budget
Phase 2: Autumn 2022	October 10 <sup>th</sup> 2022	January 13 <sup>th</sup> 2023	~£70m



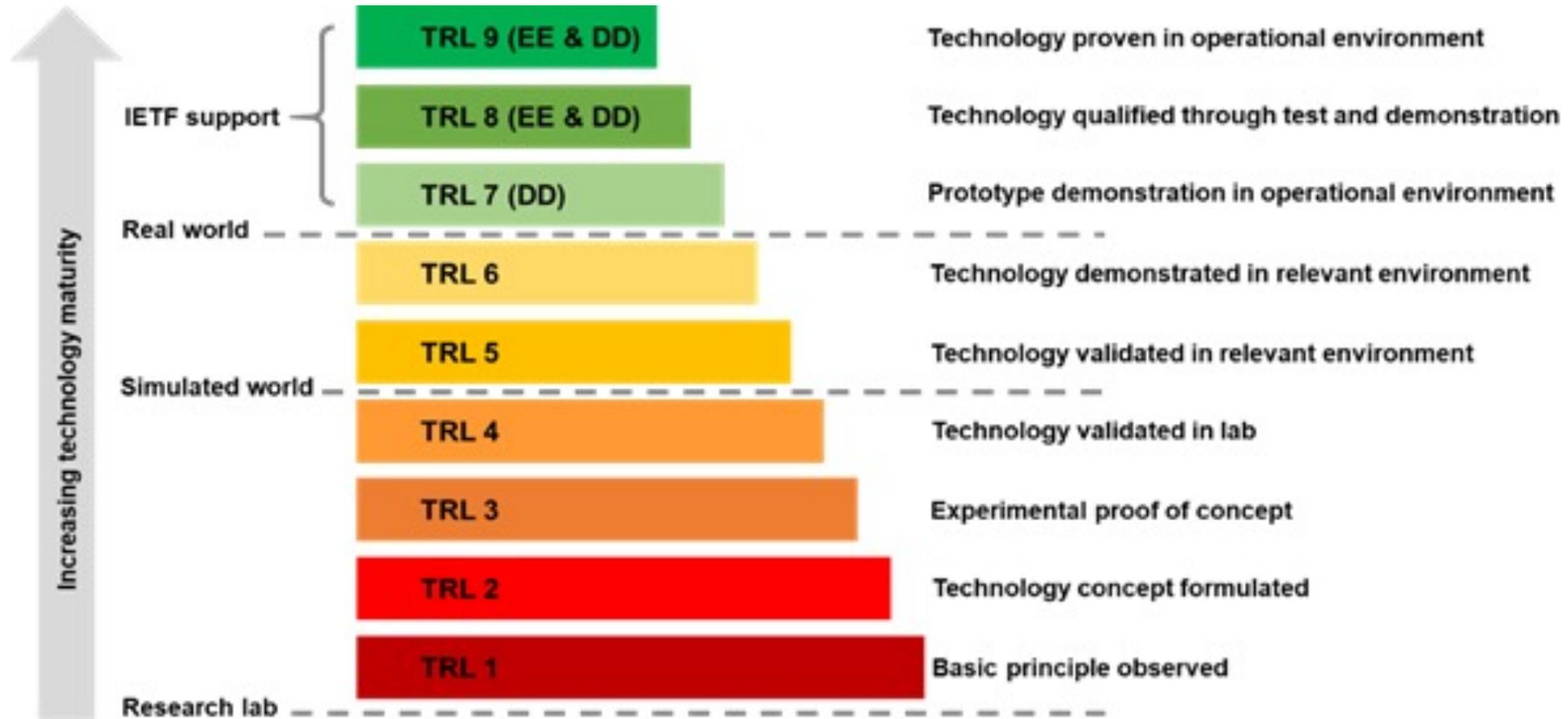
# Who is eligible to apply?

To lead an application, your organisation must be registered **in England, Wales or Northern Ireland**, and intend to carry out a study or project at a site in these regions.

As lead applicant, **you must carry out an eligible industrial process** at an **existing** site (or sites).

Eligible industrial processes	Standard Industrial Classification (SIC) codes
Mining and quarrying	05101 through to 05200; 07100 through to 08990; and 09900
Manufacturing	10000 through to 33200
Recovery and recycling of materials	38320
Data centres	63110

# Technology Readiness Level (TRL)



# Energy Efficiency

Energy efficiency proposals should **reduce the energy consumed by industrial processes at site level**, attributing benefits to both the bill savings (we anticipate most efficiency projects will have a positive payback) and any associated emissions savings.

At the end of your project (project completion) you must have installed and begun to operate (or be ready to operate) the energy efficiency technology.

Examples of eligible projects include:

- Installing automatic conveyor systems to replace trucks
- Upgrades to mobile crushing and shredding equipment
- Smart warehousing transport systems and improved energy management systems

# Energy Efficiency (EE) deployment

Minimum threshold	Maximum threshold	Maximum subsidy intensity*	Must start by	Must complete by
£100k total grant funding per application	£14m total grant funding per project	30% (large company) 40% (medium) 50% (small/micro)	1 <sup>st</sup> May 2023	31 <sup>st</sup> March 2025

# Deep Decarbonisation

Decarbonisation proposals should **reduce the emissions produced by industrial processes at site level**. While in some cases there may be an associated energy saving, this is not the key driver for the proposal and in many cases energy bills may in fact increase.

At the end of your project (project completion) you must have installed and begun to operate (or be ready to operate) the decarbonisation technology.

Examples of eligible projects include:

- Electrification of forklift trucks
- Fuel switching shovelling machinery away from diesel to hydrogen

# Fuel switching

From	To
Any Fuel	Electricity
Fossil fuels	Waste energy
Fossil fuels	Waste fuel
Fossil fuels	Biogas or biomethane and compressed or liquified natural gas, <b>only for</b> sites that are remote from the gas grid
Fossil fuels more carbon intensive than the gas grid (e.g. coke, coal, oil)	Gas grid
Fossil fuels	Hydrogen

Fuel switching is only permitted where the switch is to a less carbon intensive fuel. Carbon intensities for most fuels are provided by the UK Government GHG Conversion Factors guidance.

The gas grid is used as a benchmark for acceptable fuel switches (unless your site does not have gas grid connection).

**Costs associated with fuel production are not eligible**

# Deep Decarbonisation (DD) deployment

Minimum threshold	Maximum threshold	Maximum subsidy intensity*	Must start by	Must complete by
<b>£100k</b> total grant funding per application	<b>£30m</b> total grant funding per project	50% (large company) 60% (medium) 70% (small/micro)	1 <sup>st</sup> May 2023	31 <sup>st</sup> March 2025

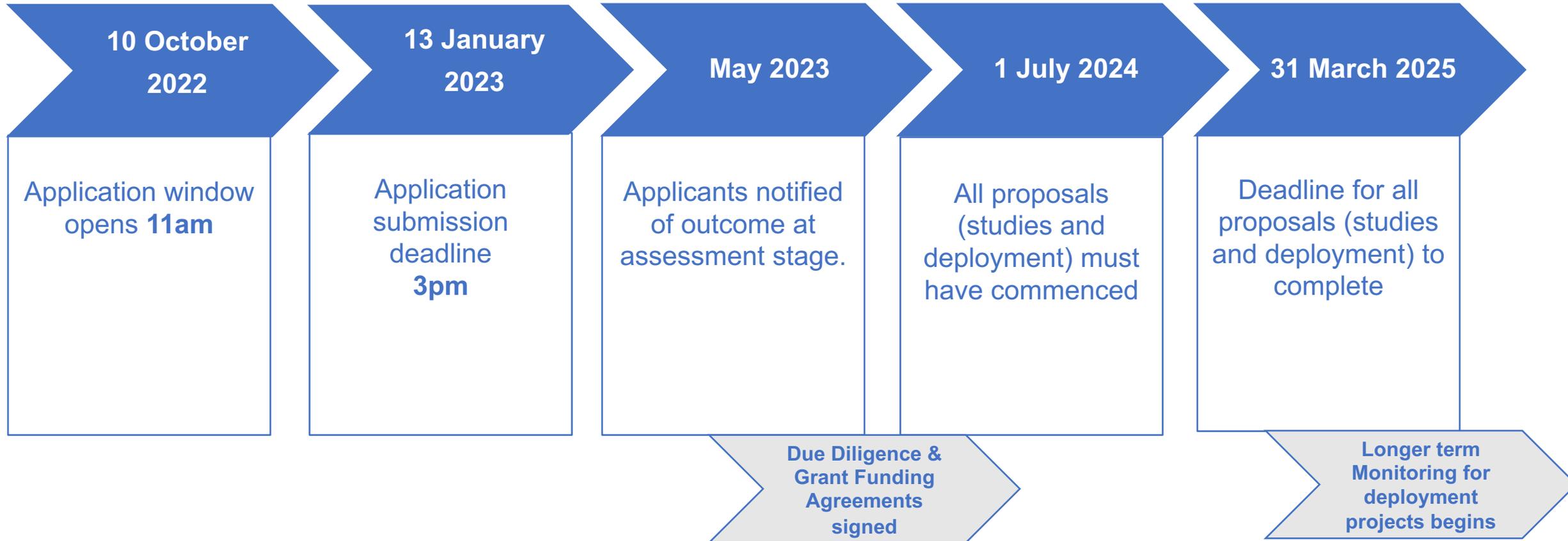
# Feasibility studies

Minimum threshold	Maximum threshold	Maximum subsidy intensity
<b>£30k</b> total eligible cost per study	<b>£7m</b> total grant funding per study	50% (large company) 60% (medium) 70% (small/micro)

# Engineering studies

Minimum threshold	Maximum threshold	Maximum subsidy intensity*
<b>£50k</b> total eligible cost per study	<b>£14m</b> total grant funding per study	25% (large company) 35% (medium) 45% (small/micro)

# Autumn 2022 Timeline



# How to apply

- You can find all application details and guidance at <https://www.gov.uk/government/publications/industrial-energy-transformation-fund-ietf-phase-2-autumn-2022>
- The lead applicant needs to create an account and set up an application
- As lead applicant, you can invite others to collaborate on an application.
- Only the lead applicant can submit the proposal.
- You can save your work at any stage and log back in to continue an application.

IETF test project

## Application details

### Manage application

#### [Manage application](#)

Edit project name and reference.

#### [Manage users](#)

View collaborators and manage permissions.

#### [Invite collaborators](#)

Invite others to edit the application.

## Competition

 Please save your changes before navigating away from this page. Answers are NOT automatically saved. It is recommended that you save frequently to avoid losing work.

You must complete this section before you can proceed with the rest of the application. Once you have completed this section, you will not be able to change your answer later.

Which competition are you applying for?

- Studies
- EE Deployment
- DD Deployment

[Save and continue](#)

# IETF - Who's Who?



Department for  
Business, Energy  
& Industrial Strategy

- BEIS is delivering the **Phase 2: Autumn 2022** competition window.
- BEIS will manage the application, assessment and award process.
- All relevant application materials can be found on Gov.uk.



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- We have partnered with the KTN who can help you to partner with other businesses, access the Virtual Technology Marketplace, and will be running events throughout the window.



Scottish Government  
Riaghaltas na h-Alba  
gov.scot

- If you have a site in Scotland you can apply through the Scottish IETF, our sister scheme, delivered by the Scottish Government.



# Thank you!

Contact us: [ietf@beis.gov.uk](mailto:ietf@beis.gov.uk)

# Application Support Service

Jenni McDonnell MBE

[Jenni.McDonnell@ktn-uk.org](mailto:Jenni.McDonnell@ktn-uk.org)

[www.ktn-uk.org](http://www.ktn-uk.org)



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# Services



- Help to understand the competition information
- Help with the application process
- Help to find partners
- Help to identify relevant technologies to deploy

# Help to understand the competition information

## Competition Guidance

IETF Guidance: <https://www.gov.uk/government/publications/industrial-energy-transformation-fund-ietf-phase-2-autumn-2022>

## Eligibility Checks and Questions

We encourage you to contact the IETF support service at [ietf@beis.gov.uk](mailto:ietf@beis.gov.uk) if any help or clarification is needed as you work on your application.

You can contact the same address for guidance on whether your proposal is eligible before you start to write the application. Please include “**Eligibility screening**” in your email title to access this service.

# Help with the application process

## Competition Clinics

Fortnightly webinars to ask questions about the scope, eligibility rules and application process in an open forum with BEIS and KTN.

Register: <https://eur.cvent.me/7zZdl>

## How to apply videos

A step-by-step video tutorial to help you to complete the online application and understand what is required for each section of the application form

Links to view the videos

<https://vimeo.com/showcase/9479972>



# Help to find partners



## IETF Networking platform

Register at <https://ietf-phase2.meeting-mojo.com/>

Complete your profile to improve usability and search for partners

The IETF networking platform will remain open for the whole of Phase 2 (until March 2025) to allow you to continue networking between competition windows

This platform will be used this afternoon for one to one meetings with BEIS to discuss project ideas

# Help to identify relevant technologies

## Technology Marketplace

An online platform to help industrial sites to find suitable energy efficiency and decarbonisation technologies to deploy. The platform hosts 27 videos from different technology providers such as heat recovery, carbon capture, fuel switching, process optimisation, energy storage and heat pumps etc.

## Register your interest

Industrial site owners – [register for access to the marketplace](#), closes in March 2025

Technology providers – [register to add your video to the marketplace](#), closes on 13<sup>th</sup> January 2023

**Note:** If you would like KTN to film your tech video please register and we will contact you.

We have over 150 industrial sites accessing the site so it is a great opportunity to raise awareness of what you have to offer.

# Help to identify relevant technologies

## Technology Showcase 17<sup>th</sup> November

A live event showcasing funded projects from IETF Phase 1 Spring 2021 and the Industrial Heat Recovery support programme

Hear from

- Industrial sites on their plans to deploy energy efficiency technologies to reduce their energy demand
- Technology providers who have novel and innovative technologies which reduce carbon through energy and resource efficiency
- BEIS on future funding for industrial sectors

Register <https://eur.cvent.me/zEMGM>



# Q&A

Please add your questions to the  
Q&A box

[www.ktn-uk.org](http://www.ktn-uk.org)

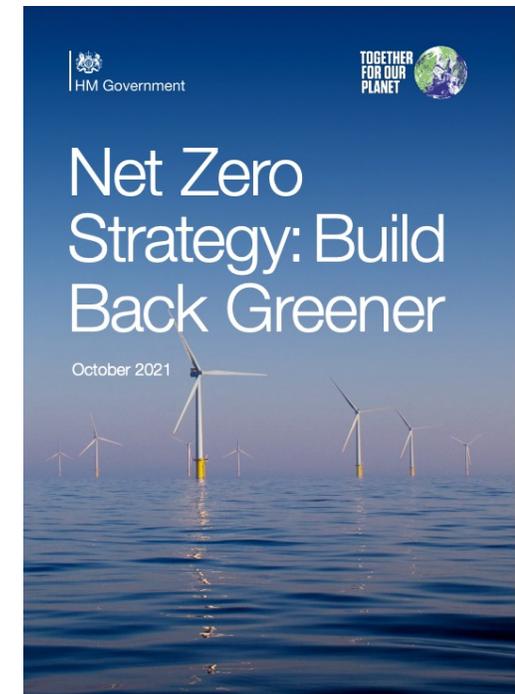


# NZIP Red Diesel Replacement Programme

Jasmine Ng  
Energy Innovation Programme Manager

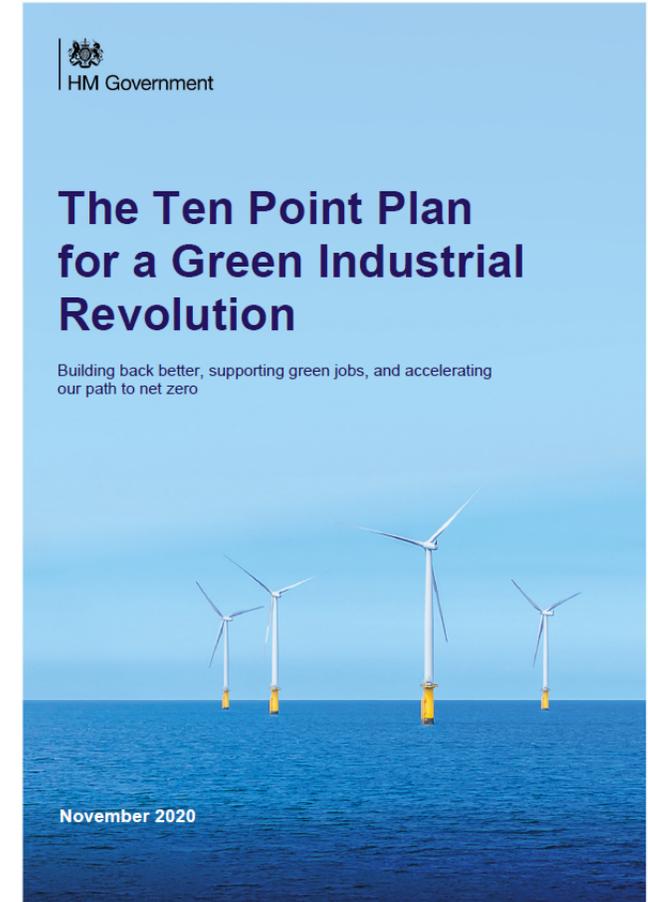
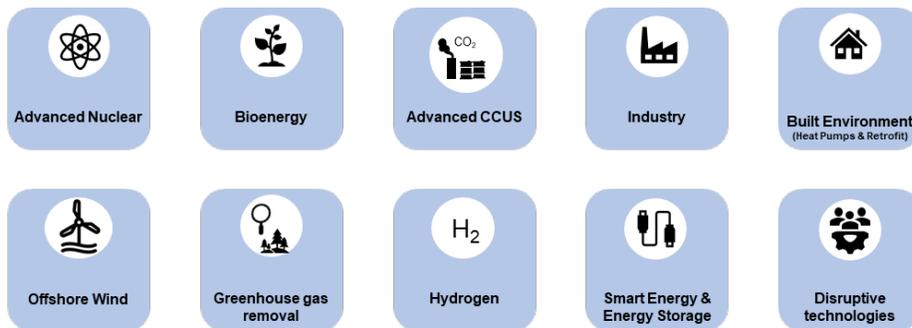
# Non-Road Mobile Machinery (NRMM) Decarbonisation

- NRMM accounts for around **11.2 MtCO<sub>2</sub>e per year** (2019) in total with 6.0 MtCO<sub>2</sub>e coming from industrial NRMM – primarily construction. Other important sources include: agriculture, mining/quarrying and manufacturing.
- The **Net Zero Strategy (NZS)** set out that government intervention on NRMM is likely to be necessary to reach net zero. The first stage of government support involves innovation funding, specifically the **Red Diesel Replacement competition**.
- NZS also committed to cross-government work on policies that support the deployment of technological solutions and required infrastructure.
- A dedicated team in BEIS has been established to work on further policies to support decarbonisation of industrial NRMM.



# Red Diesel Replacement Background

- Red diesel in the UK
  - Used in Non-Road Mobile Machinery (NRMM)
  - **Rebate on red diesel removed in April 2022 to encourage decarbonisation**
- The **Net Zero Innovation Portfolio (NZIP)** will provide **£1bn** of funding for **innovation over 4 years (2021 – 2025)**
  - As described in the “Ten Point Plan for a Green Industrial Revolution”
  - NZIP will support the **development and adaptation of low carbon technologies** and systems across **industry, power and the built environment.**



# Red Diesel Replacement Competition Aims & Objectives

The NZIP Red Diesel Replacement (RDR) competition will provide £40m in grant funding to develop and demonstrate low-carbon alternatives to red diesel for the construction, mining & quarrying sectors.

-  **Develop commercially viable and globally applicable low-carbon alternatives to red diesel, looking at long-term solutions**
-  **Demonstrate an integrated, low-carbon solution at a moderate scale on site** for the mining and quarrying sector, and the construction sector
-  **Accelerate the commercialisation of low-carbon red diesel alternatives**
-  **Disseminate the learnings and results of the Red Diesel Replacement programme** to international stakeholders, industry and other sectors which utilise middle distillate fuels
-  **Inform policy teams on the potential of these low-carbon alternatives and create awareness of the spin-off opportunities** for other sectors (e.g. agriculture and waste)

# Overview

## Phase 1: Separate development of component technologies

- **Lot 1:** Distribution, storage and energy delivery systems development
- **Lot 2:** Development of equipment (components/sub-systems) and fleet management infrastructure (facilities for maintaining, hosting and servicing equipment)
- **Lot 3:** Fuel development
- **TRL4+:** Lab & Test bench demonstrations/Development prototypes

**~£6.7m, 17 projects  
11 months duration**

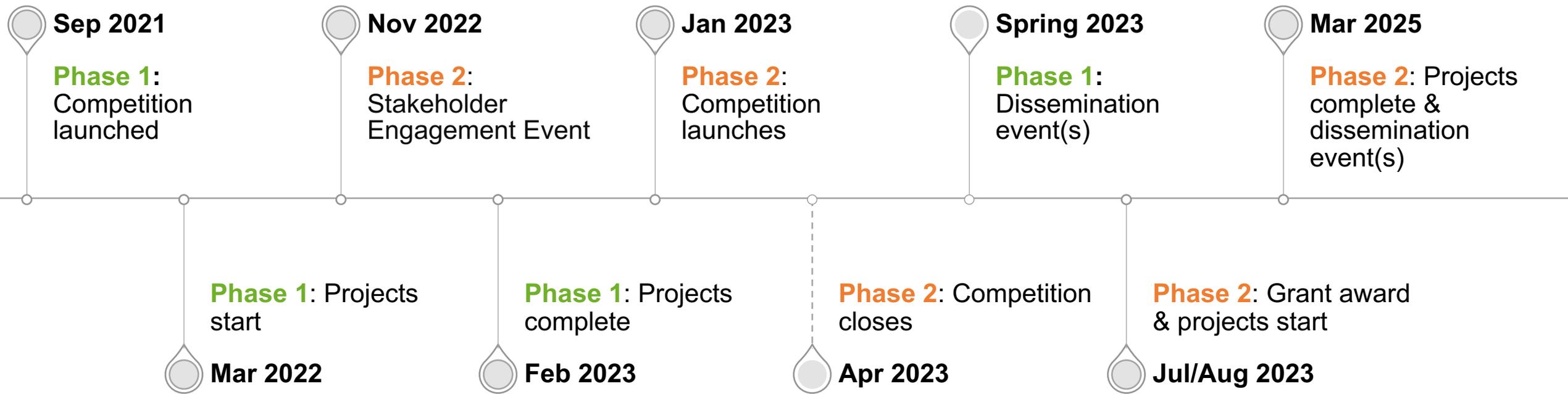


## Phase 2: System integration and demonstration

- Consortia developing an integrated, end-to-end, zero carbon demonstrated solution
- Up to £15 million per project, match funding required
- Open to all, not specifically Phase 1 Grantees
- **TRL7** by project end: Operational prototype

**£32.5m, ~3 projects  
19 months duration**

# Timeline



# Phase 1 Projects



**Lot 1 – Distribution, storage and energy delivery systems development**



**Lot 3 – Fuel development**



**Lot 2 – Development of equipment & fleet management infrastructure**



# Phase 2 Stakeholder Engagement Event

## Who is it for?

- OEMs
- Fuel producers/suppliers
- Technology developers
- End-users and sites
- Anyone interested in submitting an application for Phase 2

## When & where will it take place?

- 3 November 2022
- Online



## Why is this happening?

- Gather feedback on Phase 2 competition proposal prior to launch
- Connect organisations to form suitable consortia for Phase 2
- To answer project specific questions:
  - Possible site locations
  - Site type
  - Technology types
  - Site upgrade requirements
  - Operator ownership
  - Power/fuel requirements
  - Grid requirements

## What to expect during the event?

- Overview of Phase 2 competition requirements & feedback gathering
- Introduction to networking platform & business pitches
- Opportunities to make lasting business connections

Register for the Phase 2 event by sending an email to [RDR@beis.gov.uk](mailto:RDR@beis.gov.uk) by 1 Nov

# Thank you for listening

Contact: [RDR@beis.gov.uk](mailto:RDR@beis.gov.uk)

# Q&A

Please add your questions to the  
Q&A box

[www.ktn-uk.org](http://www.ktn-uk.org)



## Thank you

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