

Rt Hon George Eustice MP

Secretary of State for Defra
Department for the Environment, Food and Rural Affairs (Defra)
2 Marsham Street
SW1P 4DF

14 May 2022

Dear Secretary of State,

Re: Air quality impacts of Non-Road Mobile Machinery (NRMM) in the urban environment

I am writing on behalf the **Environmental Industries Commission (EIC)** Air Quality and Noise working group who recently met to discuss concerns over the lack of progress with a national framework towards Non-Road Mobile Machinery (NRMM) and specifically the impacts of air quality from this specific sector.

In the 2020 Budget, to help meet its climate change and air quality targets, the government announced that they would be removing the tax rebates on red diesel by 1st April 2022 which means that from that date, companies in the construction industry will no longer be able to use red diesel in any of their non-road mobile machinery as part of the UK's goal to reduce its impact on global warming and to bring the country's greenhouse gas emissions to net zero by 2050.

In the construction industry, red diesel is used mainly for powering off-road machinery such as bulldozers, cranes, excavators, and mobile power generating equipment and it is estimated that this accounts for approximately 15% of all diesel fuel being used in the UK today, producing nearly 14 million tonnes of carbon dioxide a year as well as impacting air quality by increasing nitrogen oxide (NOx) and particulate matter (PM) emissions in the urban environment that results in increased cases of respiratory illnesses such as asthma and premature deaths.

In 2018 it was estimated that in London alone, NRMM machinery on Construction Sites was responsible for around 7% of all NOx emissions and 8% of PM emissions.

So, by removing the tax incentive on red diesel to reflect more fairly on the impact of the emissions they produce, it is likely to have a short-term commercial impact within the construction industry, in terms of investments being made on newer machinery with lower emissions.

However, there are alternatives to the purchasing of new machinery or the repowering of machinery with new engines such as:

- a) Using renewable "Drop in Fuels" such as HVO (Hydrotreated Vegetable Oil) or paraffinic fuels such as "GTL"
- b) Investing in retrofit emissions technology such as SCRT to dramatically reduce NOx/PM Emissions that can be fitted to existing machinery upgrading them to the latest Stage V equivalent emissions
- c) Retrofitting with "Stop-Start" technology that will reduce amount of fuel being used

Adopting any (or all) of the above solutions will have a positive impact on cutting carbon emissions and improving air quality.

So, what's holding back the uptake of the cleaner alternatives?

We know that transitioning to Electric or Hydrogen Powered Machinery is not practical due to the lack of machinery availability and infrastructure that is currently in place.

Plus, the investment capital costs of new NRMM are so significant that owners/operators will seek to extend the operating life of existing equipment as long as possible, which means that the “legacy” equipment with higher emissions will be expected to be in service for a long period of time in order for the operator to recoup their investments.

That means NRMM operators who may wish to upgrade existing machinery with more environmentally friendly solutions is faced with limited choices and/or high prices for the alternative products. This coupled with the current high cost of fuel and the additional tax burden from not being able to use red diesel, is preventing the change to transition to the use of cleaner, greener alternatives.

Despite EIC having been advocating the use of “Retrofit Emissions Devices” and “Alternative fuels” for many years there seems to be very little appetite by HM Treasury and DEFRA to encourage their uptake, even though approved devices and fuels have been adopted by the on-road sector for many years and fiscal incentive programs having been provided by previous governments for the likes of buses, coaches, and trucks across the whole of the UK.

EICs ultimate goal would be to ensure that all NRMM Machinery used in the Construction Industry across the whole of the UK in an urban environment meets the most modern-day emissions standards, by promoting the use of approved retrofit devices and fuels by Local Authorities throughout England and the devolved Governments in Scotland, Ireland, and Wales as part of their planning process.

However, to do this will require intervention and leadership at a National Level by Government with possible fiscal measures (as with the on-road sector in previous years) using matched funded programs to encourage the uptake of cleaner alternatives which make it commercially viable for NRMM Operators to make the change

Making the case for change

In London where the NRMM LEZ was introduced (the only one of its kind in the UK) there is already an approved “Retrofit Accreditation Scheme” that is being run by the Energy Saving Trust for accrediting devices that are capable of meeting Stage V equivalent emissions with a number of technology providers having been approved and systems having been fitted that demonstrate dramatically lower emissions of all primary legislated emissions as well as secondary emissions.

These devices have also been accepted by HS2 as part of the National High Speed Rail Program across the UK and are currently being adopted by the British Ports Authority (see attached report)

Plus using alternative “Renewable” fuels such as HVO or paraffinic fuels in conjunction with the accredited retrofit “SCRT Devices that have been demonstrated to also improve emissions

Looking to the future

Electrification of small NRMM is feasible although on some of the larger equipment it may not be a practical solution, this is where Hydrogen powered equipment could be considered.

Hydrogen is one of a handful of new, low carbon solutions that will be critical for the UK's transition to net zero, but its infrastructure is unlikely to be implemented until 2030 and beyond.

In the interim, a more practical solution is to adopt use of Renewable "Drop-In" Fuels and like with on-road funded initiatives, to encourage/incentivise the use of Retrofit Emissions Devices that have been accredited under the London NRMM LEZ "Retrofit accreditation Scheme" which is a much more cost effective solution to replacing or repowering NRMM Equipment, and looking to roll this out Nationally as part of a "National Framework of NRMM LEZs"

I look forward to your response.

Yours sincerely,

Michael Lunn

On behalf of the Environmental Industries Commission (EIC)