

# NOx so simple to choose the right path

**S**o here we are some 10 years on from the start of dieselisation of the vehicle fleet and what is the net result? Well there is no doubt that improving mpg has led to a reduction in Carbon Dioxide emissions overall and the utilisation of Particulate Traps has eliminated a large amount of the black soot that we were used to seeing splurge out of the exhausts but at what cost overall though?

The elephant in the room is NOx or more precisely NO2 which has seen an ever increasing demand on the health service as a result of the breathing difficulties it undoubtedly creates in us all. The way that Particulate traps work means that NO2 levels are increased.

So using diesel is a bit like playing whac-a-mole, no sooner do you think you solved one issue when another one pops up. Without doubt the concerns over Air Quality and NOx in particular are gaining more and more focus with the EU breathing down our necks to improve the atmosphere in our Towns and Cities. Who would want to be in charge of Air Quality these days with so many conflicting priorities?

In today's climate it is getting ever more difficult for Local Authorities to plot their way through the plethora of latest 'Green' offerings that appear on the market. From the supposedly quick fix add ons (that never appear to work in reality) to the more costly complete vehicle and fuel options. Add to this the increased pressures to deliver tangible CO2 savings and

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(sometimes contradictory) Air Quality emission improvements whilst having to deal with reductions in budgets and one can't but help being of the opinion that anyone in a Local Authority with a transport portfolio or sustainability brief is a bit of a poisoned chalice!

How can you go about determining the correct way forward for your Authority that balances cost effectiveness, real Carbon and Air Quality reductions, budgetary prudence, and long term progress? How can you assess all the offers landing on your table and be sure that you are getting sound sensible advice? Particularly in a world where "they would say that wouldn't they" prevails with every sale pitch you get.

When it comes to Commercial Vehicles (Vans, Trucks and Buses) we need to split it into bite sized chunks to allow for proper analysis and identification of options before bringing it all back together to ensure that as a whole it is holistic in its delivery.

Vehicle choice should be based on an assessment of 'Right Vehicle, Right Fuel, Right Drive Cycle'. Each type of power train or fuel option has its own 'sweetpot' of operability, and understanding this is fundamental in sorting the wheat from the chaff. Thus recognising the functional drive cycle of any of your vehicles, its daily, monthly, annual mileage

and its hours of operation is the key. It is the tool that allows the discounting of options that aren't practical or appropriate. This will then leave us with a much smaller set of options that can be considered and worked upon in detail.

Secondly the future options need to be set alongside your own fleet's Vehicle change out policy as this will further help in the review of the tangible opportunities to deliver the required balance of short term and long term aims.

Getting good independent supportive advice on the assessment phase can save much heartache from what seemed like the right investment but is found not to perform or deliver in reality. An example would be an electric Van; in theory they are great for inner cities but be aware of

topography – carrying that weight up a hill with the wipers on (it does rain in the UK) and the lights whilst trying to keep up with the flow of traffic knocks six bells out of the batteries and you don't recover it all back on the decent (perpetual motion does not exist). Yes, driver training helps but then there is reality...!

When considering Heavier Commercial Vehicles such as RCVs, Trucks, and Buses then the range of economic options narrows significantly. Biomethane as a vehicle fuel provides the lowest carbon footprint for these types of vehicles whilst maintaining their economic functionality. However this depends on engaging with enough vehicle operators to justify the refuelling station build. Thus knowledge of all the vehicle options including dual fuel conversions and their resulting performance is needed to convince the various parties to join a consortium to develop the refuelling. Natural gas itself saves Carbon against diesel and delivers the lowest Air Quality emissions of any fossil fuel.



Biomethane vehicles have been successful for firms such as Coca Cola

## JouleVert

### Integrating Low Carbon Vehicles and Fuels

JouleVert is a truly independent consultancy that advises councils, fleet operators, technology providers and government on low carbon solutions.



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