



Session Two

Refuelling, Retrofit and Rentals



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Tyseley Energy Park



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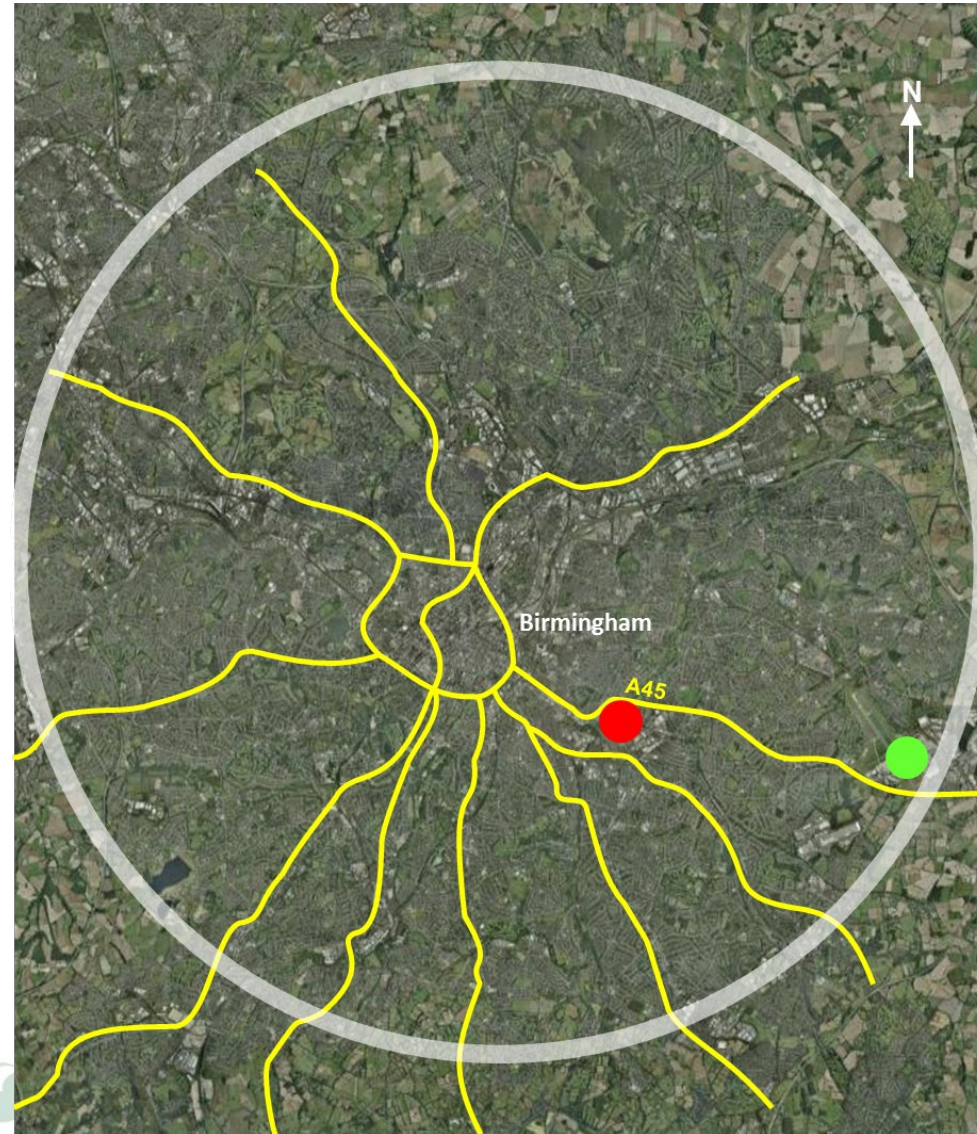
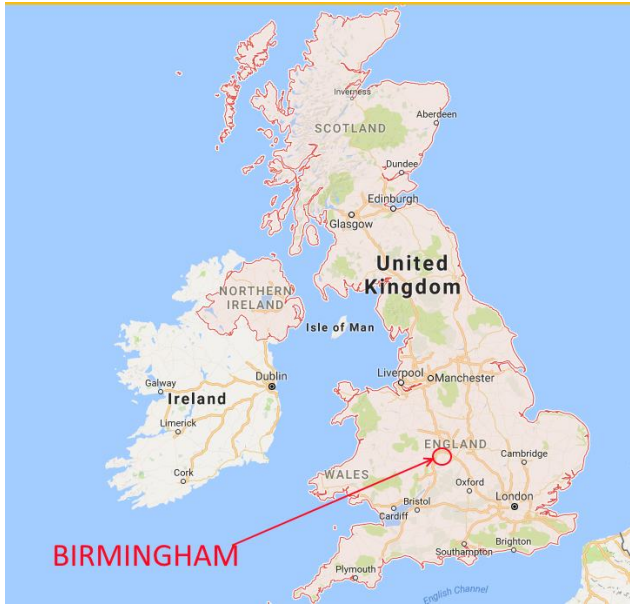
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Tyseley Energy Park



Location







RESIDENTIAL

RETAIL / BUSINESS AND INDUSTRIAL

INDUSTRIAL

VEOLIA EFW

A45

STREET

5

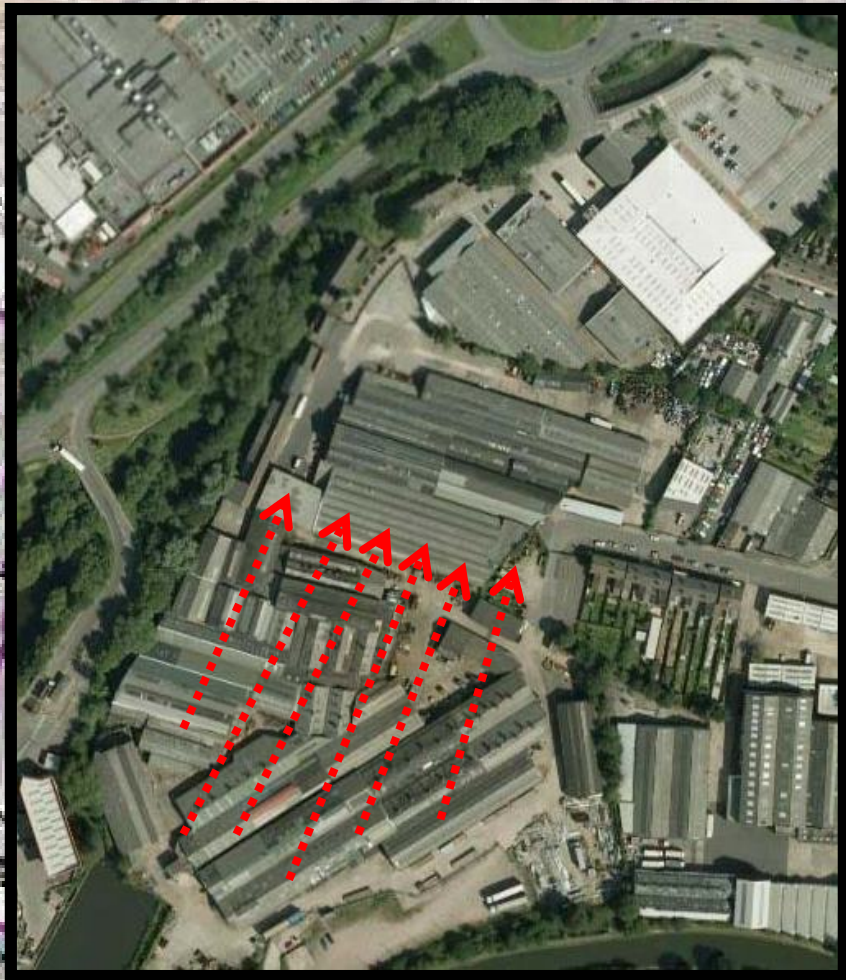
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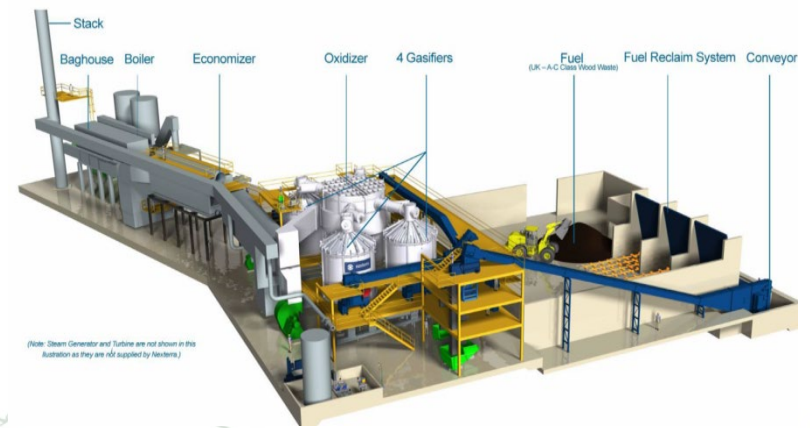
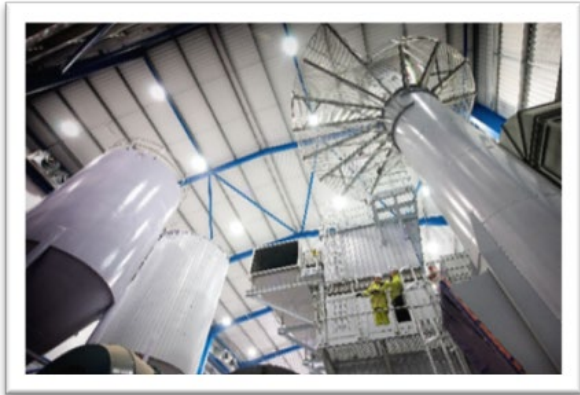
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INDUSTRIAL





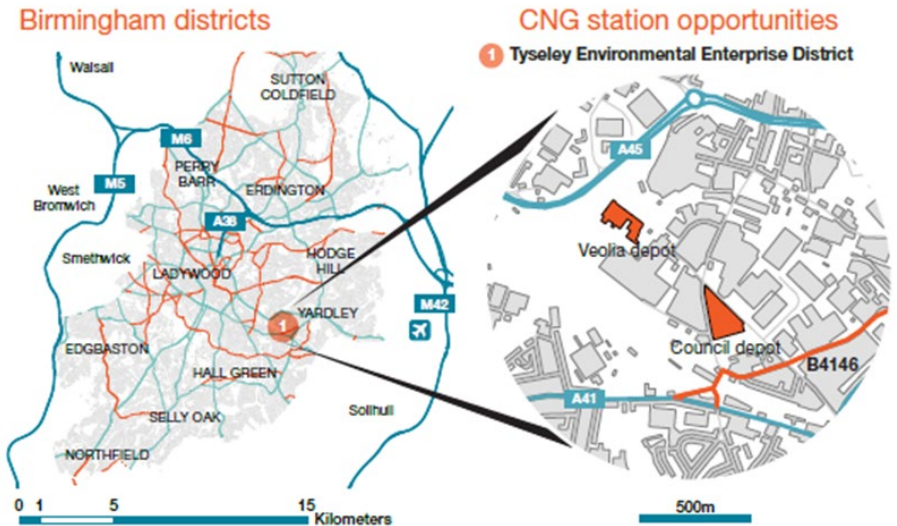






Low and Zero Carbon refuelling Station – Background

- Birmingham is non-compliant to air quality standards with regards to the annual average value for NO₂.
- Government mandated Birmingham to introduce Clean Air Zone.
- Compliance to be brought forward to 2020 through the inclusion of additional measures in the form of ‘access controls’ including CAZ.
- Strategy set out within Birmingham Blueprint for infrastructure development
- Tyseley Energy Park identified because:
 - Located alongside two waste depots
 - c. 350 heavy vehicles converging at the adjoining EfW site.
 - Direct access off the A45
 - Intermediate Pressure gas network
 - Low cost renewable power



Gas to Liquid (GTL)

This 'drop-in' fuel can be used as a direct replacement for conventional diesel fuels, suitable for both on-road and off-road applications without the need for engine modifications. It can reduce harmful emissions and improve local air quality.

Gas-to-Liquid (GTL) fuel is part of the paraffinic family of fuels which has improved combustion properties inside standard diesel engines, helping to reduce emissions and improve local air quality. Trials have shown that GTL Fuel can reduce nitrogen oxide (NOx) emissions by up to 37%, and particulate matter (PM) by up to 90% compared to conventional diesel.



For more information please see:

www.certasenergy.co.uk

Compressed Natural Gas

CNG can be used by HGVs as an alternative to diesel. A CNG refuelling station operates by extracting gas from a natural gas pipeline, compressing the gas by using on-site compressors and then dispensing it into trucks.

By displacing diesel with bio-CNG a 90% reduction in CO2 emissions compared with a diesel truck is achieved. CNG also helps reduce harmful particulate emissions from engines and CNG vehicles also run approx. 50% quieter than a comparable diesel vehicle. The pumps will be fully automated, self-service operated.

For more information please see:

www.cngfuels.com



Electric Vehicles

Improved vehicle design and battery performance and falling prices is enabling widespread electric vehicle market penetration. This combined with policy support and restrictions on other vehicles to improve air quality will increase this momentum even further.

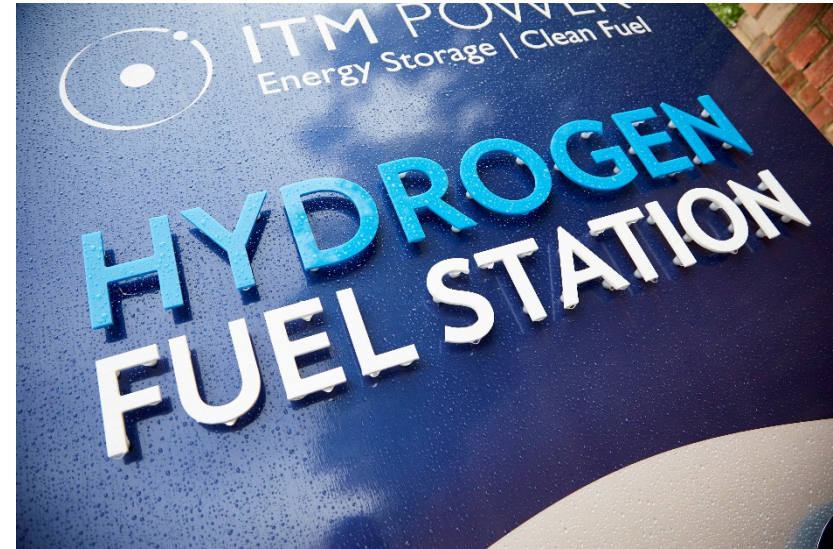
The HV175 is a High Power Ultra Fast charging solution, able to supply up to 320 kW by connecting two **HV175** units to an user interface unit with adequate cable and connector.

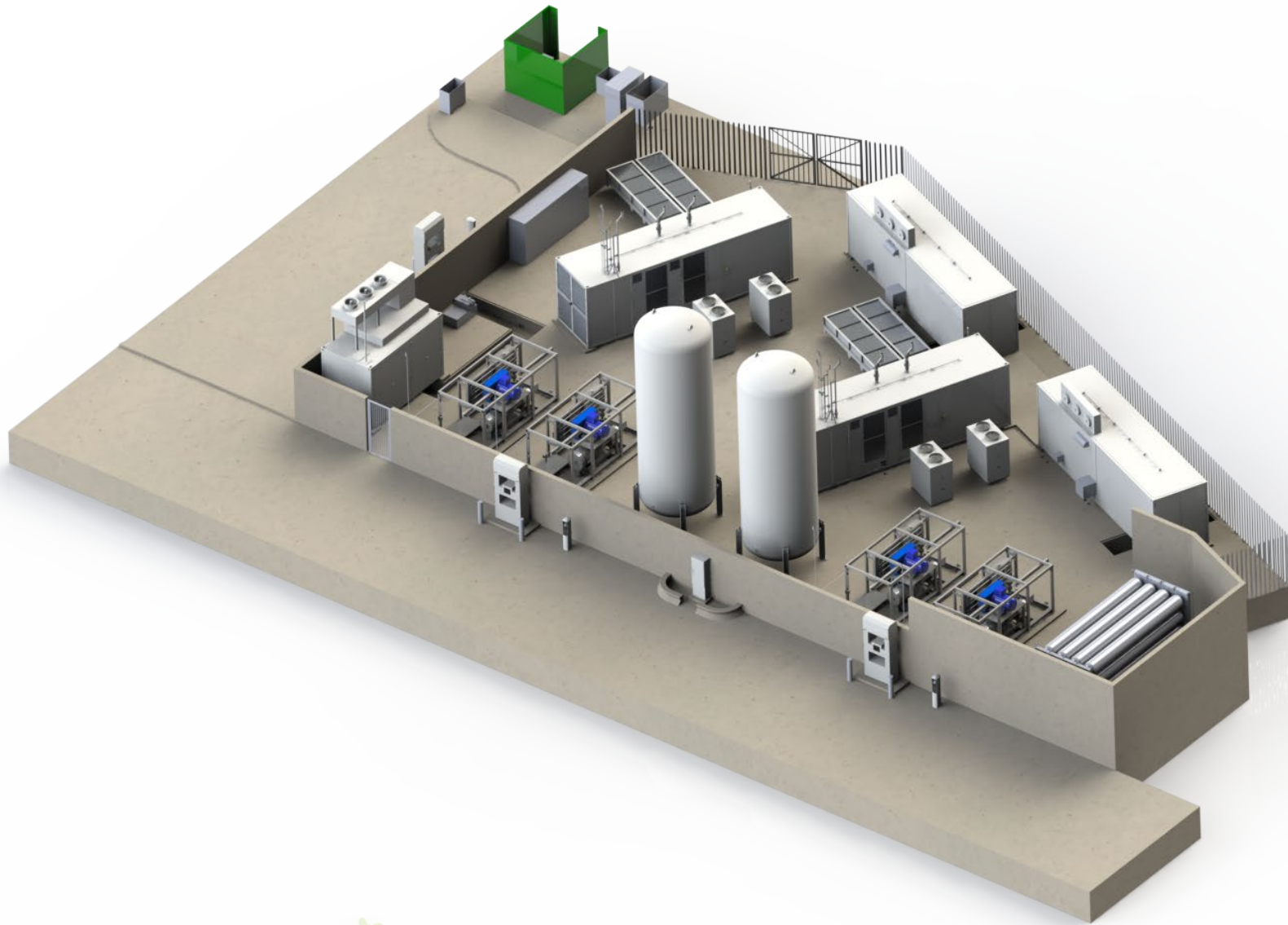
Connecting more **HV175** units to a mechanical connection allows higher currents as can be used by some heavy vehicles



Hydrogen

- The hydrogen station will generate the hydrogen on site, eliminating the requirement for deliveries, and therefore providing a clean fuel
- The hydrogen is produced using a 3.5MW ITM Power Proton Exchange Membrane (PEM) electrolyser, which splits water into hydrogen and oxygen. The hydrogen generated is very high purity, meeting all requirements for Fuel Cell Electric Vehicles (FCEVs).
- range, keeping to existing driving habits.
- When hydrogen is used in a fuel cell, it returns back to water vapour, meaning hydrogen as a fuel is a very clean fuel option.
- For more information please see:
<http://www.itm-power.com/> or email fuel@itm-power.com

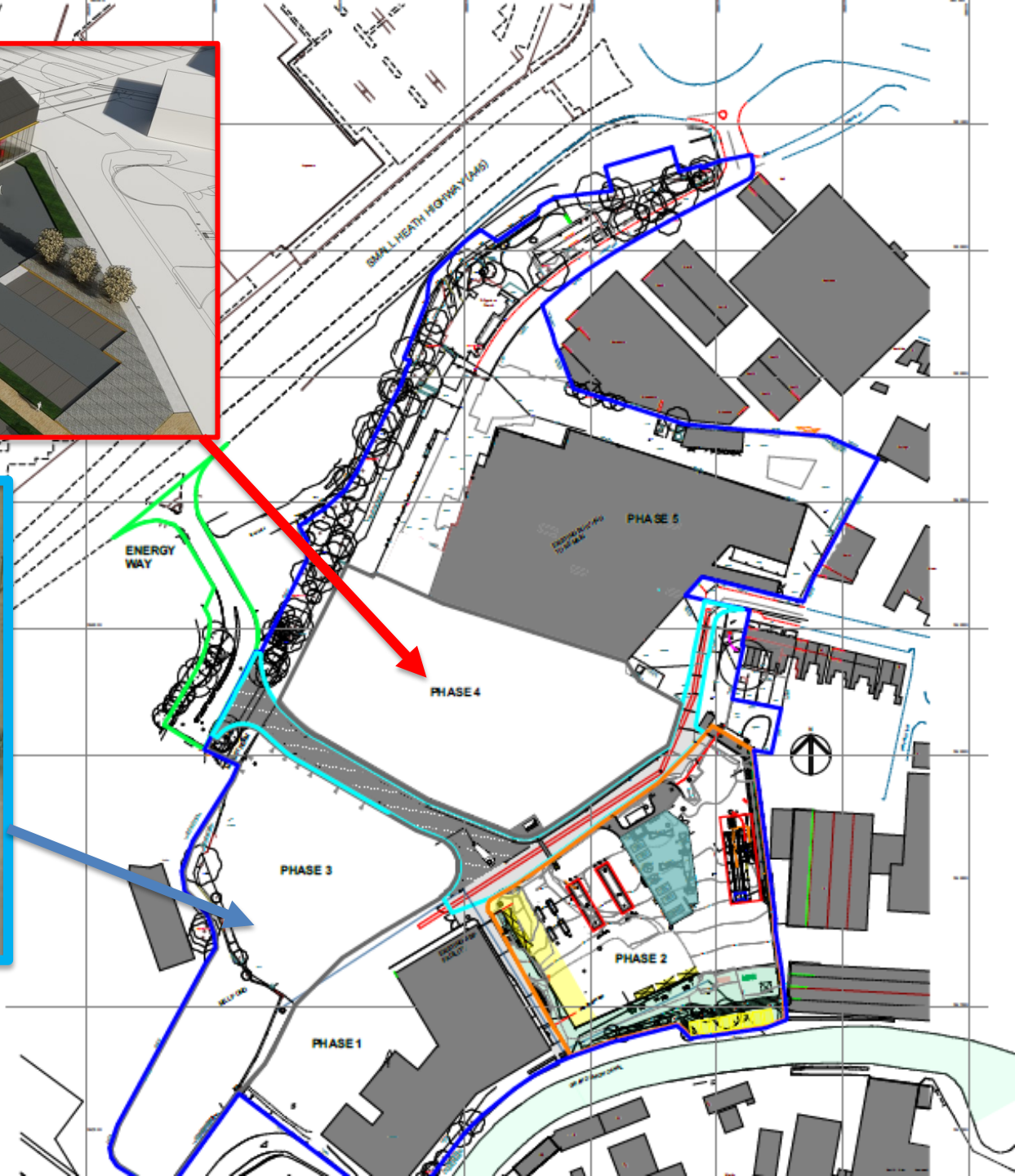














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For further information visit www.tyseleyenergy.co.uk

