

COUNCIL 13 JANUARY 2022
MEMBER QUESTIONS

Question from Councillor Chris Schofield

What steps are Cornovii developments limited taking to limit the carbon footprint of their developments?

Response from Councillor Dean Carroll, Portfolio Holder for Physical Infrastructure

Cornovii Developments Limited (CDL) is aiming to become the leading Shropshire sustainable housebuilder. CDL have introduced a number of measures to help achieve this aim:

- All CDL development sites are built to future homes standard (31% more efficient than existing new build homes) and will achieve a EPC rating A. This has been achieved through using a timber frame system, increased insulation and inclusion on the majority of sites renewable technologies. CDL is unaware of any other developer currently building homes to this standard within Shropshire.
- CDL's development partners are currently Shropshire-based with over 75% of sub-contractors coming from a Shropshire postcode. This has supported CDL's objective of supporting the local economy and minimising its sub-contractors' carbon footprint.
- CDL is also delivering a number of sustainability measures across all its development sites including the inclusion of biodiversity measures (for example a bird and bat sanctuary), electrical vehicle infrastructure, sustainable drainage solutions, reuse of material and inclusion of smart technology (such as HIVE systems).
- The CDL Team has also recently submitted a planning application for the London Road innovation scheme - the first scheme in the country made up of low carbon, zero carbon, self and custom build homes. This development site will be the most sustainable housing development site built in Shropshire and will be an exemplar scheme.

CDL would welcome an opportunity to discuss its sustainability approach with Members further if they wish to have a briefing with the company.

Question from Councillor Rosemary Dartnall

In early November the Shropshire Star reported that Shropshire Council plans to use the electricity produced at the Battlefield Energy Recovery Facility to produce green hydrogen for a new vehicle fuelling centre.

Hydrogen transport fleets are expected to contribute substantially towards our zero carbon obligations, as on-road emissions from this mode of transport are low, but this is not the whole story: what is the environmental cost of producing the hydrogen fuel in the first place?

There are two disconcerting aspects of hydrogen production from energy recovered from waste.

- First, the recovered energy comes at a high carbon cost, due to the composition of the waste fed into the system. Likely to be between 2.5 to 3.5 times the current greenhouse gas emissions of the national grid, or close to the 1970s GHG cost of using 100% coal produced electricity.
- Second, hydrogen production is demanding on resources and is not overly efficient, which means by starting with high carbon electricity the hydrogen fuel produced will have high carbon emissions.

It takes 50kWh of electricity and 10 litres of pure water to make just one kg of hydrogen. The only way to make low carbon hydrogen fuel is to use renewable electricity such as wind, hydro or solar.

We have a moral duty to be absolutely honest about the environmental cost of new fuel initiatives. If we are not candid, we continue with greenwashing rather than tackling the urgent issues at hand.

Will the PfHs involved please indicate whether or not there is a plan to build a hydrogen fuel facility using high GHG electricity produced from waste at Battlefield? If such a plan exists, how will low carbon hydrogen be produced from high carbon electricity?

Response from Cllr Ian Nellins – Portfolio Holder for Climate Change, Natural Assets and Green Economy

This question raises technically complex issues about the relative carbon impacts of the performance of different forms of energy generation, waste management and transport fuels. The carbon impacts of these different activities must be considered together rather than separately in the context of the potential to use ERF-derived power to manufacture hydrogen as a fuel for commercial vehicles. It is worth noting that the principal purpose of the Battlefield ERF is to provide a sustainable

alternative to landfill for non-recyclable materials in the municipal waste generated in Shropshire.

Whilst it is correct that, as the national grid decarbonises through the adoption of more renewable energy generation, the electricity from the ERF will emit relatively more carbon, the recovery of energy from non-recyclable waste also avoids significant carbon emissions from landfill. Importantly, heat and transport fuels are expected to decarbonise much more slowly than electricity. The recovery of both heat and power from waste would therefore both increase the efficiency of the plant and improve its carbon performance. The manufacture of low carbon fuel for commercial vehicles would also favourably affect the carbon balance of the overall system, by offsetting a proportion of the significant county-wide carbon (42% of all emissions) currently derived from transport.

The ERF plant currently processes around 90,000 tonnes (approx. 45%) of municipal waste in Shropshire and produces enough electricity to power around 10,000 homes for a year. The plant is also designed to capture waste heat, and although it does not currently do this, the Climate Change team hope to commission a study later this year, using Government funding, to explore how this heat could be captured and used as part of a local heat network in the north of Shrewsbury.

The purpose of the ERF is to recover energy from residual waste unsuitable for recycling and composting. It may be possible to further improve the carbon performance of energy recovery at the plant by removing more fossil material from the residual waste stream over time through more re-use and recycling.

As well as reducing its own corporate carbon footprint, Shropshire Council has a key role to play in supporting the decarbonisation of the Shropshire economy by demonstrating the development and application of new technology to help build confidence and inform investment decisions by local businesses and infrastructure providers. If the manufacture of hydrogen transport fuel from the Battlefield ERF is successfully developed, then this will significantly improve the likelihood of other local production, powered by fully renewable power sources such as solar energy.