

Quick wins to demonstrate to the world our decarbonisation commitment

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The race is on for the UK to be carbon neutral by 2050. All industries have an important role to play with rail ahead of the curve on the decarbonisation agenda.

Rail is already a naturally low-carbon mode of transport with figures released last year by RSSB revealing despite making up around 10% of all distance travelled across the UK, rail is responsible for less than 2.5% of total transport emissions.

But with plans to phase out diesel-only trains among the initiatives by the railways, the impact of the industry in leading the carbon neutral targets is gathering pace.

Decarbonising means reducing, and ultimately eliminating carbon dioxide emissions to tackle climate change, with battery, hydrogen and electrification all having a key role to play when it comes to the railways.

Monika Büscher is a Professor of Sociology and Director of the Centre of Mobilities Research at Lancaster University and is leading research on decarbonising transport.

She leads the work package on social acceptance and societal readiness in the **DecarboN8** network plus programme, funded by the UK Engineering and Physical Sciences Research Council, which aims to decarbonise surface transport in the north through place-based innovation. The network invites collaboration and funds seed projects.

She's spoken to Rail Business Daily about the challenges and opportunities, highlighting three key points.

"The North is at the vanguard of innovation to address the crisis and our responsibilities towards future generations," she said.

"Transport for the North, for example, is the first to commit to articulating a carbon pathway for an 80% reduction of emissions by 2050. But the challenges and the opportunities of low-carbon innovation are enormous.

"In the DecarboN8 network we ask 'are we ready for a mobility transformation?' which highlights three key issues (thanks to Kevin Anderson, Roger Kemp, Anthony Rae for some of the information below)."

The scale of the crisis is massive and ill understood

"TfN have a commitment to identify targets, but no actual targets yet. In the absence of leadership from the Department for Transport, it's difficult to know what exactly we are facing. But we can't, and we don't need to, wait for targets. We know that we need a mobility transformation.

"To give you just some food for thought, modal shift (e.g. from cars to trains) is unlikely to shift much more than 10% of road traffic onto rail. In the North, which is poorly served by rail in comparison to the South East, with adequate investment it might be possible to shift 20% of road traffic. That's good but not enough.

"If we seriously electrify transport, that will place unprecedented demand on our grid. To manage that, we need the technology and infrastructure to support smart charging. That means the UK needs roughly 2m chargepoints by 2025, 8m by 2030 and 12m by 2035. At present there are about 30,000 public charge points plus possibly 50,000 privately-owned."

Societal readiness

"Are people ready to change the way they travel and the way they use energy? The 70% who want urgent action from the government are, we can assume, readier than ever, and the citizen climate assembly will make recommendations for UK net zero by 2050 very soon, and the Youth parliament has declared the climate emergency the biggest issue facing young people.

"In the DecarboN8 network we're finding a groundswell will to change, but a lack of knowledge on what to do. So the question is changing: it's not are people ready, but are our innovations in policy, technology, infrastructure fit for purpose? Are they ready for society to actually put them to use in everyday life?

"People don't make mobility choices as individuals. With workplaces, school and supermarkets a car ride

away from home, changing the way we travel means changing the way we live. We need a system change: live near work, shop locally, stop ordering goods online. And that societal transformation needs to be fair. How can we achieve equity in change?”

Opportunities

“There are huge challenges, but also huge opportunities. Northern urban areas, because they are generally badly served by electric trains, trams, buses, etc. are well placed to make a step change, which will also benefit local industry.

“Changes that reduce long-distance commuting, will increase the strength of local communities. Large numbers of technicians will be needed to install chargepoints, heat pumps, etc. Good news for local universities and colleges, which do STEM and STEAM subjects – connecting engineering with arts, humanities, social science.

“The innovation that is needed for a global transformation of transport and connectivity is mindblowing. In the North, we are already leading this effort. And there are some quick wins to be made here to demonstrate to the world that it can be done and show our grit and creativity.

“But they require radical and rapid change. One thing we really have to stop doing is making decisions that make things worse. I love TfN, but the TfN plan to expand road networks could be such a bad thing.

“Providing for greater demand almost always creates greater demand. Same with airport and port expansions – likely to increase airtravel and shipping. That contradicts our national commitment to decarbonise. We have to really question why we would lock ourselves into old high carbon economic growth models like that. There are more innovative routes to levelling up, let’s choose those.”