

Building new industrial capacity in the UK

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Lord Patrick McLoughlin, a former Secretary of State for Transport and distinguished public servant, has written an essay piece setting out his thoughts on the Global Centre of Rail Excellence opportunity. Lord McLoughlin sets out how GCRE can develop new industrial strength in our economy and make the UK an international leader in rail innovation

The UK leads the world in many critical areas of industry and innovation.

From the international aerospace manufacturing that goes on around Bristol and North Wales; to the financial services expertise we have in the City of London and Edinburgh; to the significant research and development infrastructure in areas like pharmaceutical innovation located around Oxford and Cambridge – the UK has centres of knowledge, skill and capability that are key drivers of economic growth.

That matters because, as the UK Government **has itself acknowledged**, in an increasingly globalised world it's finding those advantages based on quality; new ideas and cutting edge innovation that will drive the UK economy forward and make our products and manufacturing attractive, particularly in the face of

cheaper imports and competition from overseas.

But as much as we are rightly proud of what we currently do in the UK, we have to continually ask ourselves the 'what next' question. What will fuel our economy and create the jobs and skills of the future? What competitive advantages can we find in transitioning sectors of the economy or modes of life, for example in emerging technologies like AI or life sciences as we deal with growing life expectancy and the enormous pressures placed on our health service.

And just as importantly, where can we locate the new expertise and new infrastructure that can help us turn that transition into economic advantage? Our task in the coming years is to re-imagine the UK economy and turn problems into opportunities, by making a virtue out of the economic challenges we face and the changes we need to make.

Net Zero gives us one of those opportunities. It offers the chance to leverage the power of the economic transition to come to not only put ourselves on a sustainable path to 2050, but at the same time use the investment that needs to be made to develop new industrial capacity here in the UK. Chris Skidmore's independent [Net Zero review](#) published earlier this year made this point by clearly stating that '*Net zero is the growth opportunity of the 21st century*'.

And it's not a controversial statement to make to say that government has a critical role to play in realising that ambition. You don't need to be a big state advocate to believe that government should play an active and enabling role, in partnership with business, to help develop new industrial capacity and kick-start the new jobs of tomorrow.

In particular, government has to think about how it finances new magnets of growth and the infrastructure needed to make them work. It needs to help projects navigate the complexity and financial risk involved in new ventures by de-risking innovation and enabling infrastructure to a point where the market can see an investable proposition.

Critically, it needs to help projects navigate through the point where they have demonstrated significant commercial potential, but can't yet attract traditional investment funding. Many bodies such as PwC [have highlighted such a gap](#) as posing a threat to our net zero response. A report they published last year said that '*Investment has been skewed towards the "low-hanging fruit" of well-proven technologies, leaving a series of sectors underfunded, where there are commercially viable approaches with high carbon abatement potential.*'

What government can provide is a stabilising role; help to bridge the early financing gap and, crucially, support during difficult moments along the way, such as high interest rates and above average inflation. These forces can often imperil new capital investment in sound industrial and innovation schemes because it's easier and safer for established investment houses to leave their funding in lower risk savings options.

Perhaps the most obvious place we can see this happening internationally is in the US. President Biden has made no secret of the fact that the Inflation Reduction Act, signed into law in August 2022, is a clear and strategic choice by the US Government to ensure that in making the shift to a decarbonised, net zero economy the US is at the same time developing the infrastructure, expertise and capacity to not only

transition its own economy, but develop new industrial strengths in the US for the future.

Through partnership and investment it is ensuring that in 10, 20 years' time the US has the dominant industrial strength and manufacturing capacity in areas such as clean energy innovation technology. The increase in battery, solar panel, and wind turbine production in the US is estimated to help create **more than 9 million** good jobs over the next decade – an average of nearly 1 million jobs each year.

Such changes are ones that have a security dimension too, as more localised supply chains become more important in a world becoming ever more unstable. The EU's own **Green Industrial Plan** sets out a similarly ambitious plan to take advantage of the investments governments across Europe will have to make in net zero transition to also develop new manufacturing strengths and give it greater security.

The question is, what can the UK do to develop its own new capabilities and competitive advantages – and just as importantly, how does it provide the sustainable finance to help bring those opportunities to life? Well, the good news is that there are important opportunities out there. One lies in the field of rail and mobility innovation.

For many years the UK and Europe has lacked a purpose-built, offline facility at which to undertake high quality innovation of rail products, technologies and processes. For a multi-billion pound industry, it's strange that rail has not developed an international quality hub of expertise and knowledge at which it can focus research, development and testing activity.

Other industrial sectors have such facilities. For example, automotive have multiple examples including the **MIRA technology park** in Warwickshire, and **Millbrook** in Buckinghamshire – world class facilities where automotive teams can undertake a range of innovation activity from conceptual and engineering design to prototyping, testing, development, validation and certification for both vehicle development and new automotive technologies.

The Global Centre of Rail Excellence in South Wales is a solution to many of these challenges in the rail sector. As a world class facility for rail research, testing and certification of rolling stock, infrastructure and cutting edge new technologies it will help develop the high-quality, internationally recognised centre of research, development and innovation that the rail industry needs for the future.

This is particularly true when it comes to developing the railway of tomorrow. The GCRE facility can provide a place to research, test and develop new traction technologies critical to our net zero future and be a place to test the new digital signalling infrastructure critical to the efficient transition to a fully digital railway. Critically, it would be a facility that would put the UK at the forefront of rail innovation across Europe, as it too lacks a comparable, purpose-built facility such as GCRE.

Perhaps most importantly, it would help the UK begin to cut the enormous costs of railway infrastructure through the development of new, more affordable and climate resilient infrastructure. It could help us tackle many of the perennial problems of major projects going over time and over budget by undertaking more comprehensive integration testing before they get into difficulty. With GCRE HS2 might well have found a more manageable way to deal with the problems it has faced.

But perhaps just as importantly, the new industrial capacity GCRE would create would be located in a part of the UK that badly needs the new jobs and skills. Being built on the western edge of the South Wales coalfield, the Global Centre of Rail Excellence represents one of the most powerful and important economic regeneration ideas for a region that has suffered more than four decades of deindustrialisation.

To make levelling up a reality the UK Government will need investable projects that both itself and others can confidently support to make the UK a more balanced economy. In its own [Levelling Up White Paper](#) it committed to increase public investment in R&D outside the South East by at least 40% by 2030. That will require having strong, value for money infrastructure proposals that research councils can invest in. With each £1 of public R&D investment leveraging £2 of private R&D investment in the long run, the returns are significant and so the positive stimulus government can provide to get investible projects going is critical.

I believe that both the Welsh and UK Governments were right to invest £70m in GCRE's development, because it has put the concept into a deliverable position much quicker than would otherwise have been the case. Critically, it's stolen a march on European rivals looking at similar ideas and ensured the facility will be built here in the UK, in a place where it can have a positive regenerative impact.

There is no easy route or political shortcut to developing a viable future for the UK economy. It has to be built on developing new industrial strengths for our economy and active partnership working with the private sector to build the infrastructure, capacity and skills you need to ensure that new activity is done here in the UK, with sustainable finance and bold decisions to see those visions through.

Making sure that the UK is home to Europe's premier site for rail innovation and the global leader in new decarbonisation technologies would certainly be a good start.

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