


Pathway to UK net-zero: a gargantuan task- The House 10.07.24



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Lord Howell

 @Lordhowell

Former Secretary of State for Energy, Lord Howell, shares his insights on the challenges facing the United Kingdom’s path to net-zero and the urgent investments needed to achieve these goals

In the current public debate about energy supplies, climate threats and the cost of living – all three being closely interwoven – huge bubbles of delusion and contradiction are beginning to surface.

Foremost among them is the widely proclaimed view that decarbonisation and the creation of the all-electric economy, in line with the UK’s climate goals, are proceeding in a timely and

successful manner. About 50 per cent of the UK power sector, we are told, is already fed by renewables, mostly wind, but also solar power, hydro, nuclear and some biomass.

Regrettably this is misleading, dangerously so, even though it is being repeatedly asserted by all the political parties and numerous energy and climate authorities. What is actually meant is that our electric power is decarbonised by almost 50 per cent – a very different thing.

Yet power from electricity generation is only currently about 20 per cent (one fifth) of our total energy usage (latest ONS estimate). The other 80 per cent, mostly gas and oil, is the far bigger part that has to be converted to ‘all renewable sources’ to get on the fossil-free net-zero path.

This is a gargantuan task, larger by far, proportionately, than the entire Industrial Revolution (which took about a century to achieve). Five times the present national electricity output is going to be required, and more like nine times the present electricity from green sources, to meet the power demands of all industries and upwards of 28m households. Since gas would no longer be available for heating or cooking, electric boilers or heat pumps would have to replace them.

To put that in everyday life terms, figures from Imperial College, London, world leaders on the climate crisis, confirm that today a typical UK household with three bedrooms and a petrol or diesel car outside requires a load capacity of six kilowatts. Take away all gas, and all petrol or diesel, and the needed replacement electrical capacity of the same household jumps up to 29 kilowatts.

“The pathway to the net-zero 2050 goal is not completely closed. The formidable obstacles may be just about surmountable”

Where is all this increased electricity to come from? How much extra is it going to cost? This figure may be moderated by far better insulation in every home, and by much greater efficiency in electricity use for every device. But Britain already has some of the most expensive electricity in Europe.

Even more energy cost damage to industrial competitiveness is also inevitable and happening already.

A prospective Labour government wants to bring forward the UK decarbonisation goal to 2030 – almost certainly unfeasible. Nevertheless, the pathway to the net-zero 2050 goal is not completely closed. The formidable obstacles may be just about surmountable. If – and the ‘IF’ is a very big and expensive one –

- new investment takes place in offshore and onshore wind farms (five times the present quantity needed)
- the whole National Grid is hugely expanded (by 400 per cent) to bring the electricity from new coastal switching stations via armies of pylons to towns and industries, without storage (hydrogen or battery)
- more international interconnectors are constructed to link up with neighbours with whom to exchange power at critical times. (Who said we could ever be energy independent? No one is nowadays)
- very heavy investment begins now (i.e. not five or 10 years hence) in restoring the UK’s run-down nuclear power sector, ideally in smaller modular reactors, which would be highly profitable and can attract private investment, and the skills to make this all happen
- new investment goes ahead to further gas-fired electric power for when the wind does not blow nor the sun shine, and in carbon capture and storage projects and green hydrogen for transport.

Note that while the UK state has the needs and ambitions, the private sector has the money, plenty of it. The two will have to find revolutionary and ideology-free new ways of marrying together – of which there are tiny signs visible in the health sector at last.

But getting any of this going fast enough will demand political leadership rooted in honesty, frankness, innovative ingenuity and facing the facts – qualities sadly in very short supply just now.

This article was originally published in The Path To Net Zero supplement circulated alongside The House magazine. To find out more visit [The Path To Net Zero hub](#).
