The Article

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Who will pay for the great energy transition?

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“I’m afraid there is no more money.” That was the notorious message which the Labour Treasury Minister Liam Byrne left behind on his desk for the incoming Tory Chancellor, George Osborne, in 2010.

Faced with this legacy, Osborne — who in Opposition had talked about “sharing the proceeds of growth” — now had no choice than to put up the austerity sign and move grimly forward. Could this same message be the legacy of the present Government, whether to itself or to Labour, after the next election?

Of course, the underlying circumstances are quite different. Then, in 2010, it was the colossal costs of fighting off the 2008 world financial crisis — the subprime mortgage avalanche — which had drained the Exchequer. Now, it is because of Covid – the biggest pandemic in history — and protecting us against impossible energy bills that has done the same. Together, these emergencies have soaked up little short of £1 trillion.

Either way, and whoever wins this next time, the coffers will be empty. This time the list of demands for more spending is actually longer, far greater and more pressing than thirteen or fourteen years ago. From health, physical and mental, to defence, to social care, to housing, to education (for crumbling schools), to roads, railways, environment and demands for real pay levels to be restored, the universal cry is for more government funding on every conceivable front.

And looming over this “budget impossible” scene is the on-coming biggest bill of all: for a colossal energy transition. This will be the largest upheaval in economic and industrial history, far outweighing the Industrial Revolution in size and impact, both political and physical. We must save the planet from cooking, flooding and climate-induced wars — the ultimate existential threat, as a long line of political leaders like to put it.

In the British case, the realisation of the sheer immensity of the sums involved in decarbonising all energy consumption has been late in coming. Indeed, it has only recently dawned in public debate. This is because the news of wind power electricity rapidly growing and replacing all coal and some gas as well, has seemed reassuring. Why worry, when on some windy days electricity supply has been 100 percent green?

But now it is dawning that the reassurances are false, and the presentations going with it are misleading. This is because, while on average more than half of our electricity now comes from renewable and low carbon sources (wind, solar, hydro and much shrunken nuclear power), the electricity sector is only *one fifth, or less*, of total UK energy usage. The Office of National Statistics has a provisional figure for last year of 18.5%. So the renewable contribution to the *overall* UK energy requirement currently works out at just 8-9%.

Thus, it is the other 90-plus per cent — overwhelmingly oil and gas, except for 10% bioenergy sources, whose carbon neutrality is debatable — which has to be replaced. Here we are talking about jaw-dropping costs, with no clear idea of who is to pay and very few plans or projects even in place. Electric home heating, hot water and cooking, electric transport, electricity in place of gas for all industry, electric aviation and shipping, farming, electricity for hydrogen electrolysis, for powering tens of millions of heat pumps: all have to be supplied, reliably, affordably and cleanly — in addition to existing electricity supplies.

Greatly increased energy efficiency, along with an end to the UK’s miserable insulation record, are rightly hoped to ease the challenge of supplying an all-electric future. But the most sober estimates are that to provide reliable but entirely clean energy overall, in line with Net Zero targets, will require a nine-fold expansion in wind power, off-shore mostly but on-shore as well, and at least a five-fold expansion in nuclear capacity for back-up and basic load, when all but one of the UK's past nuclear plants are closed down in the next three years at the safe end of their lives.

If the state once again has "no more money", and all possible budget room has been allocated (in some cases twice over!) how are the enormous infrastructure and support costs for this energy transition to be financed? A rush of thinking is turning belatedly to new ways (ideally off budget) in which a penurious state can marry with private investment funds to fill the yawning gap. This may be the direction in which salvation eventually lies.

But for the moment it is instructive to see how this dilemma is playing out in Labour Party strategy, as it prepares for possible government. The front-line assault on the present Government is almost entirely munitioned by criticism of "Tory cuts" and austerity and the promise of more funds on all sides. This includes hand-on-heart promises to "green" the whole economy in line with Net Zero goals.

The hard-headed Shadow Chancellor, Rachel Reeves, knows this is impossible. Already government borrowing is through the roof; tax revenues and the burden of other levies and charges on consumers are near their limits, though the Left insists on marginal additions from squeezing non-doms, VAT on private school fees and the like. She well knows that resorting to much higher taxation for state capital spending would end up hitting all income groups, both middle and lower, and would tie an albatross to the Labour cause.

This has already reportedly led to the green evangelist Ed Milliband being denied an extra £28 billion for climate causes, but even this sum is of course a mere speck in the totals that would be needed for a state-financed energy transition. Private sources will obviously have to be found, and probably can be with the right framework, although marrying this with the deep-seated Left-of-centre aversion to private finance will be tricky.

Public funding for large-scale new nuclear power stations, on the lines of the Hinkley C plant in Somerset, now under construction but more than £13bn over budget and at least a decade overdue, would be particularly far out of reach. But so too are private investment funds for this kind of risk-laden project. Here the dilemma becomes acute.

To attract private investment funds, whether from domestic sources or from overseas FDI sources, requires projects to be investable, enduring and in a generally favourable private enterprise ambiance. Economic commentators talk about a worldwide “scarcity of resources”, but in fact there is none at all. That only applies to scarcity of state resources and to governments fearful of more burdens on their hard-pressed electorates, especially in a populist age.

Financial Times commentators and others have written about “Bidenomics”: massive new state subsidies for green innovation and infrastructure. They have suggested that this pendulum-swing away from markets and the private sector will spread to the UK. But while a US Government may have the budget room to follow this course, that is not at all how things are over here.

Nor are some of the highly protectionist aspects of American state finance the kind of thing which we would want to copy in the UK. On the contrary: it would be an additional tragedy if Biden’s budget largesse in the climate cause dragged the world further away from free and open trade doctrines, precipitating the kind of dark and insular protectionism which gave rise to the Second World War.

n the US the misnamed Inflation Reduction Act, which pours subsidies into American industry and flouts international trade laws, is already causing disruption to British manufacturers and prompting business exits from the UK. The so-called Washington Agreement — designed to ease the pain and offer some complex relief arrangements (not yet clarified) for use of critical minerals in UK car exports to America — is of marginal help.

We can find a better way. Several of the Middle East sovereign funds are poised to invest in UK infrastructure, especially in the energy sector, with Qatar in the lead. Even UK pension funds — now said to be above £3 trillion, and once massive investors in the UK, but now investing over 90 percent overseas — could return to home projects, structured to be suitably safe and over reasonable time terms. But none of them are going to touch mammoth nuclear projects which take ten years or more to complete, are full of political risk and seem to be left over from a past world when governments could afford such things.

This is why, in country after country, energy planners are turning to much smaller nuclear units, which can be factory-fabricated and completed for operation in under three years, and where highly reliable and attractive terms for investors can be offered. It is also why, in the British case the idea of replicating Hinkley C with another giant at Sizewell C on the Suffolk coast seems incomprehensible. It would be a dangerous diversion from the path to which a variety of new nuclear power technologies are leading. Instead, the clear priority should be smaller nuclear reactors, and the one British manufacturer truly ahead in this business, Rolls Royce, should be heavily encouraged.

The fact that the EPR design being used at Hinkley Point, and proposed for Sizewell, has an extremely poor provenance is a further reason why pursuing this large-scale route is so unwise. Every single EPR project so far has had deep troubles – huge budget overruns, massive delays, endless problems with component failures, corrosion, bad welding and much else. Even the EPR at Taishan in China — built jointly by EDF and CGN (both state enterprises) and lauded as the one example of the EPR design working well — has now had to be closed.

Our Net Zero objectives and our ambition of a modern decarbonised energy system in a green nation can still be met. But this aim will have to be paid for almost entirely by private investment resources, since state funds have indeed run out. There is once again “no more money”.

Funds are available and waiting, but private investment needs reliable destinations and reliable returns — pension funds especially so. This will require major reform of pensions regulations here at home and an exceptionally friendly face to attract back a strong stream of foreign direct investment (FDI). We had this in the past and it could come again, bringing with it higher growth and improved productivity, as it did in the past century.

There are, however, two preconditions. A strong pro-enterprise ambiance on all fronts — not just financial, but cultural, educational, social and environmental — in an open society, will be essential, and the strength and well-resourced independence of our judicial system must remain central’.

It is not clear which political party is living up to these standards sufficiently. Neither the Conservatives nor Labour look at present to have properly understood all the needs of our times, or the dangers to be met ahead. The right path to energy transition is nevertheless there and available to be taken."