



CLAIRE HAIGH's
MONTHLY COLUMN *for*

**PASSENGER
TRANSPORT**

Claire Haigh, Founder & CEO of Greener Transport Solutions, writes a monthly column for *Passenger Transport* magazine. This report includes:

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CLAIRE HAIGH



Have we heard the Covid wake-up call?

Our attention is focussed on the pandemic, but the actions we take now will shape our response to the ‘biggest threat’ we face

► As we begin to picture life post-pandemic the key question is: has Covid-19 delivered the necessary wake-up call?

The pandemic has turned the world upside down. The long-term impacts in terms of how we live our lives could be profound. But will these impacts help or hinder global efforts to tackle climate change?

The climate crisis is already hitting worst case scenario levels that if left unchecked will lead to the collapse of entire ecosystems. At the UN Security Council meeting last week, Sir David Attenborough described it as the “biggest threat to security that modern humans have ever faced”. UN secretary-general Antonio Guterres described it as a “crisis multiplier”.

A little closer to home, at last week’s annual conference of the Association of British Insurers, head of the Environment Agency, Sir James Bevan, spoke of the alarming increases in extreme weather and flooding and concluded: “That is why our thinking needs to change faster than the climate. And why our response needs to match the scale of the challenge.”

Where are we now?

Prior to the pandemic it was clear that the world was way off track. Globally we need to reduce emissions by 7.6% every year to 2030 to keep within safe limits. Economic shutdowns are not economically sustainable, and according to Bill Gates even these extreme measures delivered only 5% reduction in emissions at best.

Despite all the declared good intentions to “build back better”, analysis published last month by Vivid Economics and Finance for Biodiversity concludes that governments have “largely failed” to harness the opportunity. So far, just \$1.8tn of \$4.6tn spent on stimulus measures in environmentally impactful sectors has been green.

The pandemic has emboldened the active travel agenda, and the ease with which large parts of the economy have transitioned to digital format holds the prospect of big potential emissions savings long term. However, there is a very real risk that we will see a car led recovery. The ‘avoid public transport’ messaging means that the net shift has been from public transport to private car.

The 2030 ban on sales of new petrol and diesel cars and vans is welcome, but we will still need to reduce volume of traffic by 20-60%. The Scottish Government has pledged a 20% cut in car kilometres by 2030. The UK Government will be under pressure to make a similar commitment. We need massive shift from private transport to public, shared and active travel - and a public transport sector on

“There is a powerful case for investing the £27bn roads budget in broadband”

its knees will not be equipped to play its part in delivering that shift.

The dramatic reduction in flying is of the order that environmental campaigners could once have only dreamt. However, the aviation sector is predicted to have recovered by 2024-25. Progress on CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation) has been too slow. Air Passenger Duty urgently needs reform. The dramatic surge in air travel bookings last week that followed the PM setting out his roadmap for reopening the economy gives an indication of the latent pent-up demand.

What have we learnt?

Beyond these direct impacts, the pandemic has shone a light on fundamental changes needed in how we plan for transport and how we make funding decisions. Transport is not an end in itself. Decarbonisation needs to be thought of in the context of the wider economy and across all key enablers of economic activity.

Digital connectivity has grown massively in terms of gaining access remotely to people, goods, services and opportunities. A trend greatly accelerated by Covid-19. There is a powerful case for investing the £27bn roads budget in broadband. This must go alongside a more efficient system for freight and logistics. Otherwise, growing internet shopping will bring our roads to a standstill.

To achieve the necessary efficiencies, we will need to overcome the silos of government both locally and nationally. The National Audit Office concluded in its review of Net Zero that cross departmental co-operation needs to be strengthened. The Department for Business, Energy & Industrial Strategy is yet to put in place essential components for effective cross-government working.

The pandemic has taught us that we need to be much better prepared for systemic shocks. The Environmental Audit Committee has warned that if the economic recovery from Covid-19 is not used as an opportunity to ‘grow back better’, climate change and biodiversity collapse may deliver an even greater crisis. It highlights the link between air pollution and higher Covid-19 mortality rates and urges government to use the forthcoming transport decarbonisation strategy to set out plans for long-term investment in public transport.

In its latest report, the Environment, Food

“We need massive shift from private transport to public, shared and active travel”



Junction 5 of the M74. The Scottish Government has pledged a 20% cut in car kilometres by 2030

and Rural Affairs Committee has called on the government to address alarming levels of poor air quality in England, highlighting that air pollution disproportionately affects those from lower socioeconomic backgrounds. Responding to fears that social distancing concerns may cause an increase in car use, both committees are calling for a public campaign to encourage people to use public transport once the pandemic is over, and for government investment in walking and cycling to match up to its rhetoric.

One legacy of the pandemic should be an increased focus on risk and resilience in appraisal and investment decisions. We need to give much greater consideration to the wider social, economic and crucially environmental impacts of investments. Transport appraisal needs wholesale reform. Current conditions overwhelmingly favour car travel.

It is encouraging that the new Green Book paves the way to shake up road and transport appraisals. Our current framework for analysing investments is on the basis of cost benefit analysis which looks at individual projects and focuses principally on time savings. However, we need a low carbon road, rail, air integrated system. This will require us to prioritise carbon reduction and appraise total packages of policies, not single schemes. Pricing of transport will be critical area.

Currently the price signals to consumers are wrong. Rail travel is six times more carbon efficient than air travel, but the cost of flying has fallen while rail fares have increased. The failure of road taxation to cover externalities means that we over consume roads. The Transport Select Committee’s inquiry into zero emissions vehicles and road pricing is timely. We need to accelerate the shift to zero emissions vehicles. At the same time, some form of road pricing will be essential to replace diminishing revenue as vehicles get cleaner and to reduce vehicle mileage.

The pandemic has heightened inequalities and laid bare that the equity issue must be central. In its interim Net Zero Review, the Treasury concludes that the combined net effect of climate action on UK economic growth is likely to be small, but that the effects will not be equally felt. High carbon sectors will have to adapt or decline. Carbon pricing will be an important lever in addressing negative externalities. However, this will need to be supplemented by other policies in order to ensure “an equitable balance of contributions from households, businesses and taxpayers”.

Will our thinking change in time?

Will the speed and scale of our response to the climate crisis be sufficient? Will our thinking, as Sir Bevan urges, “change faster

than the climate”?

The Committee on Climate Change has called for the 2020s to be the decade of decarbonisation. Emissions need to be down 78% by 2035 relative to 1990. The CCC’s sixth Carbon Budget represents an agenda for enormous state intervention and investment across the whole economy. So far there is no immediate sign of the spending taps being turned off, but this will be an area of growing contention, particularly within the Conservative Party, as we move beyond the immediate Covid crisis and inflation starts to rise.

The spending required to tackle climate change will involve levels of public funding that would once have been inconceivable. However, the pandemic has turned conventional economic orthodoxy on its head. A prevailing view now is that the years of austerity that followed the 2008 financial crisis were very damaging. A key question going forward is whether Modern Monetary Theory, which is effectively what governments have been applying to ensure minimum economic damage from Covid-19, becomes mainstream thinking for the longer term.

In addition to ensuring levels of investment commensurate to the scale of the challenge, we must disincentivise high carbon activities and behaviours. The outgoing secretary general of the OECD, Ángel Gurría, said we must, “put a big fat tax on carbon”. A survey published last week by the Zero Carbon Campaign found that two-thirds of people see a carbon tax as a fair way to raise money. It is encouraging that the PM has instructed government departments to draw up proposals to put a price on carbon emissions across all areas of the economy.

The challenge, of course, will come when these proposals come into direct collision with reality. The fact that successive governments have failed to put a penny on the price of fuel duty for over a decade despite record low oil prices gives an indication of just how difficult this is going to be. ■

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CLAIRE HAIGH



Electric vehicles won't be enough

Simply swapping petrol and diesel cars for electric ones won't hit our decarbonisation targets. Mode shift has a crucial role to play

► The prime minister has been under pressure for some time to demonstrate ambition on tackling climate change and to burnish the UK's credentials as host of the COP26 UN climate summit next year. Last week he finally launched his plan for a "green industrial revolution". Centrepiece of his 10 Point Plan was the announcement to bring forward the ban on sales of new petrol and diesel cars and vans from 2040 to 2030.

Let's not underestimate how significant this is as a statement of UK intent and a signal to the rest of the world. The PM had been under intense pressure from the car industry to set a later date, but in the end opted to set one of the earliest deadlines of its kind in the world. The UK is Europe's second biggest car market, and this sends a clear signal round the world that the UK means business. So to that extent a big tick in the box.

What would have made this an announcement a real game changer would have been if proposals for a national road pricing scheme had been included alongside the 2030 ban. It had been speculated ahead of the announcement on November 18 that Treasury had seriously been considering road pricing to replace diminishing receipts from fuel duty and other road taxation. Some £28bn was paid last year by motorists filling up cars, vans and lorries at fuel stations. Almost £6bn came from VAT on fuel, while another £6.5bn from vehicle excise duty.

However, road user charging has long

been regarded as politically toxic. Successive governments have feared a backlash from motorists. It seems that once again road pricing has been pushed onto the back burner.

Welcome though the 2030 ban will be to jumpstart the market for electric vehicles (EVs) in the UK, the fiscal implications still have to be addressed. Crucially, the ban on its own won't bring about the necessary

“We will still need to reduce traffic on our roads by anywhere between 20% and 60% by 2030”



reductions in emissions from road transport. Even with all new car sales being ultra-low emission (ULEVs) by 2030, at least 40% of the fleet will still be petrol or diesel. It is estimated that we will still need to reduce traffic on our roads by anywhere between 20% and 60% by 2030 to meet our carbon reduction targets.

Transport is the worst performing sector of the UK economy for reducing emissions and road vehicles are responsible for 90% of transport emissions. Rising demand for car and van travel is the central reason why transport emissions remain stubbornly high. Worryingly transport emissions are 4% higher than in 2013, and only 3% lower than in 1990. Progress to improve efficiency of new cars has been largely offset by their increased use, and the tendency to larger vehicles. Notably sales of SUVs rose to 14% of sales of new cars by 2015, and rose still further to 21% in 2018. While demand for EVs doubled over the last year, EV sales are still below 7% of all new vehicles bought across the UK.

The 2030 ban on sales of new petrol and diesel cars and vans will certainly accelerate the shift to EVs and address the issue of diminishing efficiency gains from conventional vehicles. As a concession, perhaps following industry lobbying, new hybrid cars and vans will be allowed until 2035. Toyota, which owns two British manufacturing plants had previously warned that outlawing the hybrid models made at its Burnaston factory would jeopardise future investments in the UK. Honda, which also manufactures cars in the UK, has said that measures relying almost solely on battery cars within 15 years were "too narrow". Whether this concession is enough to keep industry on side remains to be seen.

Nevertheless, the PM's bold move seeks to address a big problem, and he demonstrated the government's commitment to it in accompanying pledges to fund chargepoints (£1.3bn), batteries (up to £1bn) and grants (£582m).

Lack of infrastructure is one of the biggest barriers to EV take up. Consumer confidence to buy EVs will require a massive scaling up of charging points. It was estimated earlier this year that there were just over 30,000 public EV chargepoint connectors available in the UK, shared between around 230,000 plug-in vehicles. A wholesale transition to EVs for all 32 million cars registered in the UK would

“We must avoid public transport becoming a major casualty of the roll out of EVs”

require more than four million chargepoints.

The production of batteries is another big challenge. Currently most batteries for British cars are imported from China, Japan and South Korea. The UK has only one small battery plant in Sunderland supplying the Nissan production line. It is estimated that to deliver on the 2030 target up to five new ‘giga-factories’ would be required at a cost of £3bn. The commitment to the development and mass scale production of EV batteries is a key plank in the PM’s green industrial revolution, which aims to boost international investment in UK manufacturing bases in the Midlands and North East.

The gulf in car prices is also problematic, with EVs costing approximately £10,000 more than cars with an internal combustion engine (ICEs). Grants play an important role in making EVs more widely affordable. ULEVs are typically owned by people in the richest two income deciles. Only 4% of ULEVs are owned by people in the lowest two income deciles. Households in the bottom 40% mostly buy second-hand cars, and the second hand car market for EVs is underdeveloped.

These affordability and equity issues must be addressed, but it should also be noted that they are likely to be short term. International Council for Clean Transportation estimates that in the UK EVs are already 5% cheaper to own over a four-year period, and these savings will increase as EVs become more affordable. Battery prices are falling rapidly and we could expect parity on price of EV and ICE as early as the mid-2020s. If this happens and we haven’t introduced road pricing, there is a very real risk that lower running costs will cause traffic to increase worsening both congestion and pollution.

Greener Journeys has long argued that whilst electrification of the vehicle fleet is an essential part of the decarbonisation of transport, on its own it won’t be enough. It is vital that we keep a clear sense of proportion about the role EVs can play in reducing emissions, improving social equity and tackling congestion.

The most obvious immediate benefit of switching to EVs is the reduction in local air pollutants such as NOx emissions. However, these air quality benefits will be undermined if by reducing the running costs of motoring, EVs lead to more traffic and congestion on our roads, with slower traffic speeds causing increased pollution from other vehicles. In



‘Green industrial revolution’: Prime minister Boris Johnson (right) and chancellor Rishi Sunak

nose-to-tail traffic emissions from vehicle tailpipes increase fourfold. It is also important to reduce tyre particulate pollution which is increasingly recognised as a serious health issue.

EVs are lower in carbon emissions per mile driven than an ICE equivalent when the emissions from the fuel or electricity are counted on a well-to-wheel basis. However, across the whole lifecycle, from construction to decommissioning, an EV emits broadly the same CO₂ as an ICE. As the production processes shift to using renewable energy whole lifecycle benefits of EVs will grow, but today there is no such thing as a zero emissions vehicle.

Norway’s policy on encouraging EVs has been extremely successful. Norway has the most ambitious target in the world, with all new cars to be ULEV by 2025. By 2018 already 45% were ULEV. Measures have included tax incentives, free parking, free access to bus lanes and no charges on toll roads. However, Norway’s policy has encouraged more driving, and success in EV roll out has come at the expense of public transport. Public transport’s share of commuting has fallen from 23% to 6%. The car’s share has risen from 65% to 83%.

We must avoid public transport becoming a major casualty of the roll out of EVs. Whilst people on lower incomes have been effectively priced out of the EV market, an

equally serious social equity issue is the risk to public transport. 24% of all households and 44% lowest income households have no access to a car. It is vital that we protect public transport networks. A 10% reduction in public transport connectivity is linked to a 3.6% increase in social deprivation.

The big risk is that in lowering the cost of motoring electrification will make mode shift to public transport and active travel harder to deliver. Mode shift has a crucial part to play in decarbonisation as does reducing the overall travel demand.

There is nothing green about a traffic jam. Road pricing has always been the most effective way to tackle traffic congestion and reduce pollution but now there is a fiscal imperative as government faces a £40bn hole in its public finances. The switch to EVs provides the chance for an honest conversation with the public about road taxation. This is surely an opportunity not to miss. ■

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CLAIRE HAIGH



COP-26 is chance to bring UK together

Next year's global COP-26 climate change summit in Glasgow is a chance to unite the four nations of the UK and show leadership

▶ No one should be in any doubt about the prime minister's commitment to the union. Nor should anyone doubt his commitment to build back better and make the UK a world leader in clean wind energy.

The question is how feasible are his plans and do they go far enough?

Concern is growing that the government is failing to defend the union. It was reported over the weekend that Michael Gove has created a unit to fight Scottish independence. Earlier this month the government published terms of reference for an independent Union Connectivity Review, chaired by Sir Peter Hendy, which will explore ways to "improve connectivity between our four nations".

Word is that the PM is particularly keen on a bridge from Scotland to Northern Ireland which he believes would strengthen the union.

In his speech to the Conservative conference Boris Johnson set out his ambition for the UK to become a world leader in offshore wind and green energy. He pledged to invest £160m to upgrade ports and factories for building turbines, increase the current target of 30GW by 2030 to 40GW, and set targets for floating offshore wind farms. The plan also aims to create 2,000 jobs in construction and support a further 60,000 more.

Commitment to decarbonisation

The PM's ambition for the UK to be at the forefront of the green industrial revolution has been met with support from business groups,

although many called for the ambition to be matched by the right long-term incentives and regulatory framework. The Committee on Climate Change welcomed the announcement as "a step in the right direction" but stressed if we are to reach net zero UK emissions by 2050, we will need to see similarly bold commitments to cut emissions from our buildings, industry, transport and land.

Many argued that the funding announced goes nowhere near far enough and questioned the practicalities. Alan Whitehead MP commented: "Boris Johnson has said that by 2030 offshore wind will heat every home and power every kettle and washing machine, but the target he outlines - 40GW - is less than half of the total capacity we would need by the early 2030s." Professor Dieter Helm urged the government to deliver its long-promised energy white paper and commented: "Energy taxation is a mess. Now is the time to introduce a carbon tax, common across energy, transport and agriculture, and applied at the border."

That message seems to be getting through. Treasury and the business department are currently locked in battle over how to ensure polluters pay for their emissions after Brexit.

"Energy taxation is a mess. Now is the time to introduce a carbon tax"

Professor Dieter Helm

The idea of raising revenue while cutting emissions is apparently gaining increasing traction across government. Most notably it has been reported that chancellor Rishi Sunak is examining proposals for a UK-wide carbon tax. Meanwhile, the business department is drawing up a new emissions-trading system. A decision is expected in the next few weeks.

The signs are that Boris Johnson's Government is at least beginning to grapple with some of the big issues.

Scotland is leading the way

The Scottish Government has a very strong track record. Last week the Committee on Climate Change published its 2020 progress report to the Scottish Parliament. The report shows that Scotland's greenhouse gas emissions fell by 31% in the decade 2008 to 2018, faster than any other nation of the UK and any G20 nation over the same period.

In September 2019 Scottish Parliament voted unanimously to commit Scotland to net zero emissions by 2045 and to a target of 75% reduction by 2030. Since then, the Scottish Government has taken important steps to embed Net Zero as core Government policy. The Programme for Government September 2020-21 has a clear focus on green recovery, and Scottish Budget 2020-21 has prioritised tackling climate change.

Importantly, Scotland is embracing a whole economy transition to net zero. Historically, climate action has been led by parts of government which deal with energy and environment. Increasingly action on reducing emissions to net zero and ensuring policies are resilient to climate change will need to be led by all directorates, and driven from the centre of government.

There is much to celebrate about Scotland's approach and significant progress has been made. Emissions have fallen rapidly whilst the economy has grown. Scottish renewable generation has tripled, and fossil-fuelled generation has fallen by more than 70% in the last decade. However, reductions have been heavily weighted to action in the power sector. Emissions from all other sectors have fallen by just 14% over the same period. Aviation and surface transport have both increased.

Scotland missed its annual emissions target in 2018 and prior to Covid it was not clear that it was on track to meet its legislated target

“When it comes to tackling climate change, we are all on the same team”



Supporting sustainable transport:
A £4m grant from Transport Scotland has helped First Bus to purchase a new fleet of 22 full electric Alexander Dennis buses. The vehicles will enter service in Glasgow next year

for emissions reductions in 2020. The impact of the lockdown means that its 2020 target is likely to be met, but key structural changes that will drive emissions reductions outside electricity generation have not been achieved.

Must go further on transport

Transport is Scotland's largest greenhouse gas emitting sector responsible for 37% of emissions and the only sector to see an increase. Unlike most other sectors, surface transport did not see a fall in emissions in the decade between 2008 and 2018. Emissions were 1% higher than in 2008 and 10% higher than in 1990. Aviation emissions are up 57% on 1990 and up 5% on 2008 levels.

The Scottish Government has responded with an ambitious programme for Government which puts “sustainable transport at the heart of decision making”. However, the scale of the challenge is immense. All key indicators are pointing in the wrong direction.

Trips by car and van are rising, single occupancy trips are on the increase. Over the past decade bus patronage has declined by 20%. Despite policies such as Smarter Choices Smarter Places and Cycling Action Plan there has been no significant shift from cars to public transport, walking and cycling over last decade. Public transport has been further massively hit by Covid-19.

In its embrace of sustainable transport, the Scottish Government has demonstrated real leadership. National Transport Strategy demonstrates a clear break with the past, “not taking steps to effectively manage demand for car use is no longer an option”. It commits to updating the appraisal guidance and investment decision-making processes to ensure that the sustainable transport hierarchy is embedded within it.

The Scottish Government has committed significant investment in bus and active travel infrastructure; is implementing low emissions zones; intends to phase out new petrol and diesel cars in Scotland by 2032 or earlier; to decarbonise scheduled flights by 2040; and is committed to cost-effective railway electrification, coupled with targeted battery and hydrogen technology.

Despite these commitments Scotland will need to go much further. Two-thirds of Scotland's transport emissions are from road transport. A major shift is needed from private transport to public and shared transport, and active travel. The Scottish Parliament took a step in the right direction by voting for Scotland's Workplace Parking Levy last year. But, ultimately, there can be no sustainable transport system without road pricing.

We also need to reduce the need for travel. The pandemic has accelerated some structural

changes in the economy such as more working from home which should be harnessed. There is a powerful case for investing in broadband instead of building new roads. This must go alongside a more efficient system for freight and logistics. Otherwise growing internet shopping will bring our roads to a standstill. The integration of sustainable transport with new housing will be essential if we are to avoid building in congestion and pollution.

Transport is the fastest growing source of global greenhouse gas emissions. Scotland's experience shines a light on the challenges and shows just how difficult it is going to bring down transport emissions - not just in Scotland and the rest of the UK but globally. Glasgow's role as host of COP26 in November 2021 presents an opportunity to demonstrate Scotland's climate leadership.

What about saving the union?

The Union Connectivity Review will assess how the quality and availability of transport infrastructure across the UK can support economic growth and quality of life. Carbon reduction will be one of the key criteria. The context of the review, however, is Brexit which threatens to shatter the Union.

The latest Ipsos MORI poll suggests that something fundamental will be needed to reverse the growing tide in favour of Scottish independence. 58% of those likely to vote are now in favour of independence, as against just 42% who would vote to stay in the union. As for a united Ireland, it seems unlikely that a bridge across the Irish Sea, if such a project were even viable, would be sufficient to keep Northern Ireland as part of the UK if pressure for unification grows. A real game changer will be needed.

Next year the eyes of the world will be on us. Climate change is an existential threat to humanity which respects no boundaries. When it comes to tackling climate change, we are all on the same team. ■

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CLAIRE HAIGH



We need a green recovery from Covid

The pandemic may have distracted attention from the climate crisis, but that overwhelming threat has far from diminished

► Even in a year where “unprecedented” has become a cliché there are moments with a sense of tectonic plates shifting. President Xi Jinping’s pledge last week that China will be carbon neutral by 2060 was one such moment.

It would be easy to be cynical. China is still building coal-fired power plants, and President Xi undoubtedly scored a political point against Donald Trump. However, China has also become a wind, solar and battery superpower, with hydrogen now in its sights. As President Xi declared, “humankind can no longer afford to ignore the repeated warnings of nature”.

Climate change is shaping up to be one of the big issues of the US presidential election. Wildfires on the West Coast have so far incinerated five million acres of forest and thousands of homes and killed at least 35 people. President Trump is well known to be a climate sceptic. Jo Biden has underlined his determination to make tackling climate change his top priority. November 3rd will be another defining moment.

The pandemic may have distracted attention from the climate crisis, but the imperative of tackling that overwhelming threat has far from diminished.

Through its presidency of COP 26 and its hosting of the G7 next year, the UK is uniquely positioned to promote greater international ambition and ensure a green recovery. However, the UK has yet to commit to updating its national contribution to the Paris Agreement by the end-of-2020 deadline.

What does the UK need to do to demonstrate the kind of leadership the world needs? What solutions are needed nationally and internationally? Is there a silver bullet?

Green stimulus, green jobs

The first obvious point to make is that we need a green recovery from Covid-19. The CBI wants the UK to become a global leader in clean energy, creating more green jobs to help the economy recover. A recent inquiry by the All Party Parliamentary Group on the Green New Deal, ‘Reset’, concluded that “people want a fairer, greener, more community-oriented future”. That was also a central conclusion of the UK climate assembly, which has called for a tax on frequent flyers, a ban on selling SUVs and a cut in meat consumption. The overwhelming consensus is that we must build back better.

The recovery following the 2008 financial crisis saw a sharp rebound in emissions due to carbon-intensive stimulus packages. However, a landmark study from the Smith School in Oxford demonstrates that green stimulus packages are more effective at supporting increased economic activity, generating higher numbers of jobs and long-run cost savings as well as having strong potential to cut emissions.

“A green and resilient recovery must have public transport at its heart”

Ideal investments are those that put newly unemployed people to work quickly, delivering a high short-term multiplier, while producing valuable assets that meet the needs of the future, delivering a high long-term multiplier.

Clean energy investment, for example, has positive high long run multiplier impact and a positive climate impact. By contrast airline bailouts without attaching climate conditions score lowest on both counts. Traditional transport infrastructure investment such as road building has high long run multiplier impact but potentially a negative climate impact. Connectivity infrastructure investment, by contrast, has both a potential high long run multiplier impact and a positive climate impact.

Rising demand for car and van travel is the central reason why transport emissions remain high. There is a strong green investment case for switching the £27bn roads budget to broadband. Covid-19 has accelerated some structural changes in the economy, with more people working from home and shopping online. At the same time, we need a more efficient system for freight and logistics, and public transport must be central to reducing emissions and ensuring a fair and green recovery.

Local leaders need to be able plan for housing, transport and jobs on an integrated long-term basis. Reform of appraisal will be needed as existing conditions favour car-based policies. New developments in urban centres well connected by public transport can stimulate 50% more economic growth than developments on the fringe whilst dramatically reducing congestion and pollution.

A sharper focus on risk and resilience

The economic recovery from Covid-19 also needs a much sharper focus on risk and resilience. The pandemic has demonstrated the unpreparedness of the global economy to systemic risks, despite early warnings from scientists. We must put an end to economic short-termism and the maximisation of economic efficiency over the resilience of communities.

In 2019, climate change was linked to at least 15 extreme weather events costing \$1-10bn each. The Intergovernmental Panel on Climate Change predicts such events will become more frequent with the rise in

“The costs of pollution should be integrated into every decision”

global temperatures. Investing in high-carbon activities without climate conditionality in the hope that it will stimulate the global economic recovery will only prepare the ground for future systemic crises.

Government support to companies should be conditional on climate commitments and accelerate clean energy investments. The automotive sector should be bailed out on the condition that it accelerates electrification. Financial aid to airlines should be conditional on carriers paying taxes and starting to use low-carbon fuels in the future.

A green and resilient recovery must have public transport at its heart. We currently risk replacing one health crisis with another. By discouraging use of public transport to ensure social distancing we remove one of the most efficient ways to tackle air pollution. Road transport is the main contributor to air pollution causing 40,000 early deaths a year. Diesel cars and vans are responsible for 70% of transport NOx emissions. A modern diesel bus produces fewer NOx emissions than a modern diesel car despite having the capacity to carry 20 times more passengers.

Furthermore, studies have demonstrated a link between long-term exposure to PM2.5 air pollution, much of which comes from diesel cars, and higher infection and death rate from Covid-19. A spike in air pollution from increased car use would aggravate any future respiratory pandemic.

Getting the price signals right

Dieter Helm describes “making polluters pay” as the single most radical and effective policy that could be adopted both for economic prosperity and for the environment. The costs of pollution should be integrated into every decision made by businesses and consumers. Price signals should incentivise consumers to lower their carbon footprint by making lower carbon choices.

How can it be cheaper to fly from London to Edinburgh than to get the train? The Rail Delivery Group calculates that emissions per passenger km for air travel is at least six times that of rail travel. The burden of taxation should be shifted to from rail to air. There should also be incentives for people to shift from road freight to rail freight. A freight train can carry on average as much as 76 HGVs.

The main conclusion of the Transport



Knowledge Hub (TKH) Workshop on ‘Decarbonising Transport’, was that we need a total reformulation of transport pricing. Consideration should be given to how today’s digitally connected society could support personalised mobility pricing. We should also avoid terms like ‘road pricing’ and ‘congestion charging’ as these are politically undeliverable. Instead we should use terms like ‘eco-charge’ and ‘eco-levy’.

The failure of road taxation to cover external costs means that we over consume roads. The freeze in fuel duty since 2011 has caused 5% more traffic, an additional five million tonnes of CO2 emission and a quarter of a billion fewer bus journeys. A joint paper for the TKH (Glaister et al, March 2020) argues that in the longer term the answer is road user charging, but in the meantime increasing fuel duty would be a useful interim measure. To make any increase in fuel duty less unacceptable to the public, the incremental revenue should be ring-fenced for beneficial transport purposes.

A ban on selling petrol and diesel cars from 2030 is likely to be announced imminently. Whilst this will be a big moment for car manufacturing it will do nowhere near as much as in terms of reducing emissions as pricing properly for the use of roads.

The closest thing to a silver bullet

Climate change is a global problem requiring

global solutions. The question of equity must be central with wealthier countries decarbonising more quickly. We need to move to a system of emissions reporting based on consumption. A sustainable consumption pathway will require aggregate demand to go down.

It is tempting to look for Moonshots. Will technology save us? Can the UK become a global leader in areas such as sustainable aviation fuels, the hydrogen economy and carbon capture, utilisation and storage?

The answer may be less conducive to photo ops but would be infinitely more effective: a tax on carbon. Revenues from carbon taxes should then be rerouted to invest in green infrastructure and future technologies, and to ensure a fair and just transition.

Through its presidency of COP 26 and hosting of the G7 next year, the UK should lead international efforts to establish a strong, predictable and rising carbon price. For a prime minister keen on eye-catching solutions, that would be the closest thing to a silver bullet. ■

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