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Common Weal Policy

RESILIENT SCOTLAND (PART THREE: THE 20-YEAR PLAN)

COMMON WEAL



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KEY POINTS

- There are many changes we can guess at over the next 25 years and many of them can help to build a resilient society and economy, but they all remain speculative. This Phase of the Plan will focus on how to deliver the full Green New Deal which has been started under Phase Two as the need for this is certain.
- This Phase contains an essential element of 'sustaining demand'. In Phase Two the economy has been supported to gear up for delivering this Phase and the ongoing viability of the economy developed is essentially underpinned by the supply chain needs of decarbonising Scotland (and tackling the other environmental crises). This Phase is impossible without the capacity created in the previous one, but sustaining the progress achieved in that Phase is reliant on what is done now.
- The complete green overhaul of the economy will cost a total of £175 billion. This project will take place only once and will then serve many generations so spreading the cost is appropriate. Financing this over 50 years will cost approximately £5 billion a year, but it will generate (at a very conservative estimate) 100,000 jobs, £4 billion of additional tax revenue each year and an additional £2.5 billion of additional direct income annually. This means that the investment not only pays for itself but generates a very substantial annual surplus.
- The report provides detail on how it will impact directly on our lives, including the higher average pay, greatly improved housing, better-quality food and more resilient economy which will result. This is all achieved through collective action so citizens will not have to make any personal contribution at all to the cost of this project.
- The report then summarises briefly the range of work still required in buildings, heating, electricity, transport, food, land, resources, trade, learning and our lifestyles.

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INTRODUCTION

At this point and if the Resilient Scotland Plan has been followed (including a successful independence referendum), Scotland will be ready to move into the full delivery phase of a Green New Deal. But first it is worth discussing what is and is not included in the third part of this report.

The 20 year period for delivering the Green New Deal will not begin for five years so will still be underway 25 years from now. The scope for major social, economic and political change over that period is enormous, in Scotland, in the UK, in Europe and around the world. New technologies will be invented, new discoveries made, new thinking will emerge. Trying to guess or predict what that might mean is futile – 25 years ago the internet was a few years old, very basic and a complete mystery to most of the population and shopping from home involved a catalogue, phone call and a very long wait. The Resilient Scotland Plan is not intended as a work of futurology and so, after briefly considering the kinds of social development that might be possible it will focus on the things we know we need to do no matter what happens.

The bulk of that is about reducing Scotland's negative environmental impact to zero through an extensive Green New Deal, embedding a transformed economy at the same time. Common Weal dedicated most of last year to developing a comprehensive, costed proposal to achieve exactly that and published it as the Common Home Plan. The contents of this section are based on that Plan and full details can be found on the Common Weal website. This section contains a brief summary.

But first, let's look briefly at some of the other issues that can make Scotland a resilient nation in that timescale – there are of course some negative threats as well (impact of climate change, threat of a new cold war, further rise of surveillance) but this will look at the opportunities.

LONGER-TERM OPTIONS FOR RESILIENCE

While it is not the role of this report to predict from here all the things that might be possible in creating resilience two decades from now it would be remiss not to consider some of the issues that may arise. The following is a fairly arbitrary list of some of the kind of things that we are likely to find ourselves looking at over that period. Nothing here is a recommendation or an action point, just a short discussion of what may become possible in our near future.

Quality of life

A wide range of social, technological and economic factors may change our relationship to work. If we are measuring progress less on how much people spend then the drive constantly to increase income may slow down at the same time as technology is improving productivity. We may soon be on the verge of an era when the four day working week is finally a norm, greatly changing the balance between the time spent in and outside work. The economy we have has constantly sought to monetise our free time (encouraging us to swap cost-free options for paid-for entertainment). If we have successfully deconsumerised and improved shared facilities we may have a very different pattern of activity in our lives – with everything from more cooking for ourselves to greater exercise to more community participation and more play and learning. This could have a much bigger impact on our life and wellbeing than might be initially apparent, including health and mental health benefits. The transformation possible in quality of life if we move to a sharing economy is enormous, with borrowing and leasing being routine and so giving people access to many, many more goods and services than most people have had access to in the past.

Work

It is tricky to predict trends in work since attempts to do this in the past have proved inaccurate. However, it is clear that there is

a leap forward taking place with automation and artificial intelligence. Many things it was previously assumed only a human could do will be automated and what remains is likely to have a greater focus on human interaction (for example care, which it is hard to automate). This will probably be matched with increasing 'dematerialisation' (more of the economy will be virtual – the shift from CDs and DVDs to streaming and downloading is an example).

There will also be changes to how we manufacture because of the capability of 'additive manufacture' (usually known as 3D printing), making immediate and localised bespoke manufacture an easy option. All of this has major consequences, from positive ones (the need to work fewer hours) to very concerning ones (the sky-rocketing inequality that will result from who owns the automation technologies). Since the major means of redistributing wealth in society is wages for labour, if labour becomes less important to the economy we may need to reconsider what we think of as the fundamentals of economics. Whichever way this happens it seems likely that we will largely work much closer to (if not actually at) home. That too will change the nature of town planning as people become more reliant on their local economies again. It will also result in social changes; we will be less likely to change house so often so can be more embedded in a community, and we will be able to stay closer to family which can help us be more involved in mutual care.

Community, place and transport

Different eras view 'place' differently. Just as, in the middle of the 20th century we stopped seeing towns and cities through the lens of Victorian civic and commercial imperatives and moved to a modernist view of place where cars and fast transport dominated and where a lot of economic activity moved out of urban centres, we may see a shift into a new era of how we view place. This could be driven by technology greatly decreasing the need to travel as more work and commerce moves online. The same factors which could make us more isolated and fragmented as a society could, conversely, create much greater social cohesion – depending on how we manage them. For example greater shopping online could

result in less community interaction or it could mean a return to much more local shopping (fresh goods local, non-fresh goods bought online and out of town supermarkets an anachronism). Working from home will increase the need for local services and shopping options as fewer people commute to cities.

This will also bring the potential for stronger communities and family units raised under work above. If we get decentralisation right there will be a much more active local democracy and much more local shared infrastructure to facilitate lives and to support people as reduced working hours changes behaviour patterns. This would imply that our planning system would return to a focus on rounded community and away from fast-profit development (so for example local shopping and localised economies to serve people working closer to home). The impact of the arrival of automated transport (driverless cars) could be enormous. Not only could it lead to the end of personal car use and the resultant changes in how we do urban planning and design (existing garages will become free space – potential being converted into home working spaces or to facilitate hobbies or simply as extra bedrooms) but it could greatly increase mobility with significant consequences for our lives.

Health

Health is a particularly difficult area to predict into the future given the uncertainty of technology development. However, two aspects are very likely to involve substantial change. The first is automation; already machine learning means basic triage (first contact and initial symptom diagnosis) is actually more accurately done digitally. This will free up the notoriously-difficult-to-reallocate health budgets in a number of ways. For example, more emphasis can (finally) be put on early intervention and preventative action and where doctors do see patients they will have proper time to assess and treat. This will surely be accelerated now there is much higher public awareness of the importance of public health measures and not just individual healthcare. The other big and predictable change is in care. We will continue to age as a population and the drive towards a National Care Service

means that there is every reason to believe that there will be something approaching a revolution in the delivery of care, and that may not be all that long in coming.

Tax and spend

If Scotland has become independent it will be possible finally to address the very extensive flaws in the UK tax code – but that may only be the start of the changes. There has long been a debate about whether tax should shift from income to wealth or ownership or to other activities. If work is shorter and the total volume of labour is in decline (and you can't impose an income tax on a robot), the whole nature of the tax system could change. Even issues like the means of taxing digital activity and the problems of jurisdictions in tax will be likely to result in changes. It is unclear the long-term impact that will result from the current changes in monetary practice in developed economies and whether a Universal Basic Income will start to become normal, or whether a different approach takes precedence. All of this means that it is very unlikely that tax and spend will look the same in 25 years.

Generations and inequality

Probably addressed more as a function of other economic reform, nevertheless the pressure to deal with the growing intergenerational wealth gap will result in change. The biggest issues are probably housing and work and if anything like the Resilient Scotland Plan is enacted that will have changed substantially anyway. The question which it is harder to answer is how non-housing wealth will be dealt with and whether there will be redistribution of wealth through tax, whether it will result from structural changes in the economy – or whether there is simply growing social antagonism, especially among the young.

Democracy and governance

The way people interact online and the steps forward in participatory democracy may change how people see democracy substantially. The potential for citizens or service users to govern institutions or functions of government directly

is substantial and this may grow as an element of democracy. The 19th century democratic processes we have currently are visibly creaking already and the signs that some kind of change may result are many. It is of course imperative that Scotland avoids any drift into the roll-back of democracy or is swept up by authoritarian impulses from abroad. This may currently seem unlikely here but care should be taken not to assume these kinds of retrograde development are impossible.

Media and knowledge

We are already living through one of the great historical transformations on how we receive and produce knowledge. For good and ill, the top-down model of the transmission of knowledge (through institutions like schools and universities and through a large print media) is breaking down, primarily because of social media. At the moment this is causing greater fragmentation of opinion (or alternatively is making much more visible the extent to which opinions are fragmented) and is substantially changing where the public inclines to place its trust. It is difficult to know where this will go from here – towards greater fragmentation or to a bounce-back towards 'authoritative sources'.

This is likely to be influenced by how the media develops. The old media model is quite clearly reaching a crisis point, undoubtedly exacerbated by the Covid crisis. Will news production diversify with many smaller producers, or will it consolidate into a smaller number of major players? And what will happen with broadcast, where curated television is clearly on the decline and 'self-curated' streaming services are quickly replacing that market? Some of these trends are almost certain to continue, particularly the role of a national television channel, but whether we are nearing 'peak social media', whether it will accelerate further or whether it will diversify and specialise more is hard to judge. The dominant role of the main monopoly providers (with Facebook already under serious scrutiny) is likely to change, but in which way? Greater hegemony or regulation and the break-up of the market?

Technology and resilience

Of course this opens up the real possibility that we are so reliant on technological systems that their interruption is in itself the biggest threat to resilience. This must be considered with great care, particularly if the current trend away from physical currency accelerates. Technology changes will also bring new legal and human rights issues and if society is to be built around technological systems then the public must have trust in them. Getting the legal position right will be important.

THE IMPORTANCE OF SUSTAINING DEMAND

A Green New Deal is a very large fiscal investment made collectively to transform an economy for environmental and social ends. It is not simply decarbonisation; it is using the need to decarbonise to address many other economic, environmental and social problems through a large public works programme. The concept is based directly on the New Deal used to drag the United States out of the Great Depression in the 1930 and such an approach is therefore entirely appropriate for addressing the economic difficulties we face because of Covid.

It is important to understand that this Phase of the Plan is not an optional add-on to the earlier phases. Over the four years of a parliamentary term a lot of stimulus will have been introduced to help achieve structural economic recovery, but much of it is based on long-term demand, and that economic demand must be sustained or the transformation will unravel. Throughout the last four years a Scotland following this Plan will have developed a wide range of supply chain industries, trained a large workforce and undertaken a lot of surveying and project development to undertake the work. This can only now be sustained if the work is actually done – which is to say Phases One and Two are contingent on Phase Three if they are to be effective.

It will have taken time to develop a supply chain industry for producing large volumes of organic

insulation materials; it now needs an economy which can absorb them. It will have taken time to support North Sea supply chain companies adapt to the needs of a district heating installation programme so that programme must go ahead. The thousands of people who have retrained in essential trades for retrofitting buildings to the necessary environmental standards will be unemployed unless the work is carried out. Much of the work of the industrial strategy preparing Scotland for this moment will be undone.

And a roll-back of the commitment to this work would have a cascade effect through the new economy; the recovery and transformation will have (quite correctly) signalled to the entire economy that this is the direction of travel and that businesses need to prepare for that future. Changing direction at this point will cause too much of that preparation to fail.

This point is emphasised for two very important reasons. The first is that it is essential that everyone is clear that you do not transform an economy in a couple of years (just as you can't turn the tide on Scotland's environmental harm in one parliamentary term). This is not a short-term project so there absolutely has to be long-term commitment. The second is that this Plan is an integrated proposal with its various parts carefully designed to work together such that capacity is created on the basis that demand will follow and that demand is built up confident that the capacity will be in place. That is what creates the resilience; it is the chaotic free market which is the vulnerability (though to be clear it is only in a limited range of sectors of the Foundational Economy where this is being pursued and the large part of the economy made up of optional consumption will continue as a regulated market model).

FINANCING PHASE THREE

The Green New Deal phase will take a total of 25 years. This is based on a careful assessment of the fastest pace at which the most time-consuming part of it will take (which is retrofitting buildings for zero carbon heating and to achieve the necessary thermal performance).

Some will feel this is too slow as a result of the International Panel on Climate Change's target timescales, but that must be put in context. This Plan will take Scotland not to net zero carbon but to net negative carbon and much of that will be done quickly. In fact it is unlikely that any nation would drop its emissions faster than Scotland would at this point. But there is no point in setting targets or conditions which cannot be met; there are straightforward real-world barriers to faster progress in some areas. In the case of building retrofit, a workforce of close to 30,000 people specifically trained to deliver the retrofit work would be able to do about 120,000 houses a year and will require a large volume of supply chain materials. If we are to repay the cost we need to source as many of these materials as possible in Scotland so there is a supply capacity which must be put in place too so simply doubling the workforce to make things happen faster may not be sufficient (even if it was technically feasible, which it may not be). It will take close to 25 years to complete Scotland and that reality can't be wished away.

However, a lot of what has to be done will have been started earlier in Phase Two (there is still much which can be done under devolution) and the incubator phase for the rest of it will have accelerated progress. We therefore believe that the remaining work can be completed in about 20 more years. There is very much to say about that 20 year project – simply making the choices as to how we decarbonise is fiendishly tricky though when you work through the issues there are a surprisingly limited range of options and some stand out as clearly preferable to others. Making these assessments is not an easy process and understanding all the issues involved requires setting out a lot of information. There isn't space here to work through all these issues but Common Weal has already done this in the Our Common Home project which produced the Common Home Plan. This is a comprehensive, costed Green New Deal for Scotland which would completely tackle Scotland's contribution to all of the seven environmental crises. This has all been explained in detail in the Common Home Plan and so the content will only be summarised here.

The total cost of the plan over the 25-year period will be £175 billion. While this might once have seemed a dauntingly large number it is

now quite clearly dwarfed by the kind of money which has been found overnight to deal with the consequences of Covid – but unlike that money this investment will repay itself. Setting aside any potential for using alternative monetary policies to provide finance (which may well be possible), to understand why this investment repays itself Common Weal modelled the costs based on a straightforward public borrowing assumptions. To do this Common Weal imagined that all of the required investment was borrowed on day one (not what would actually happen as spending would obviously be phased over 20 years but is much easier to model and produces a more conservative outcome which can't be accused of over-stating outcomes). This is a once-in-many-generations project like Victorian sewer building and this infrastructure will all still be in place and operating hundreds of years from now so it is entirely reasonable that the financing be paid back over 50 years.

Taking a very conservative estimate of borrowing costs (not basing this on the currently extremely low borrowing rates), financing this debt will result in an annual cost of approximately £5 billion. However because this is being done as a fully-integrated plan the spending is structured to remain inside the Scottish economy and so will create virtuous growth. Common Weal also modelled this using the standard economic model of the Scottish economy (though frankly that model isn't really capable of making a very accurate assessment of this level of economic change). Again using very conservative assumptions indeed the economic impact model suggests it will comfortably generate an additional £4 billion per year in tax revenue and an additional sum not less than £2.5 billion in other direct revenues. It will also create not fewer than 100,000 new jobs (and this is almost certainly a substantial underestimate). This means that far from being a fiscal burden this investment will much more than pay for itself. The breakdown of the costs involved can be found in the table below.

Task	Cost (£bn)
Improving thermal efficiency of existing housing stock	40
Upgrading thermal efficiency of public buildings	5
Support for small and medium businesses in improving thermal performance of their buildings	3
District heating ring main	9
District heating ring main to house (including boiler replacement)	25
Thermal generation and heat store to heat ring main	17
Installation of new renewable energy capacity	21
Nationalisation of existing energy capacity	10
Upgrade electricity grid and install local battery storage	4
Build electrolysis plants and hydrogen storage	10
Invest in zero-carbon travel including charging and refuelling infrastructure	10
Invest in new food distribution systems, supply-chain shortening, novel food production and import substitution	1
Establish a National Resources Agency and invest in transition to a circular economy	1
Invest in a transformation of land practices	10
Workforce training, retraining and business transformation	1
Industrial Strategy	2
Create a research and development hub for the entire project	1
Total	175

THE DIFFERENCE IT WILL MAKE TO OUR LIVES

The Common Home Plan is based on a very important principle; the causes of the environmental crisis are structural and collective not individual and personal, which means the solutions cannot be individual but must be collective and must change not just the technologies we use but the structural causes of the harm being done. This has an immediate consequence – there is zero additional cost to citizens for this entire transformation. Everyone gets a very substantial upgrade to their house without having to pay anything extra, no-one has to spend their own money to bring about a circular economy, no-one's electricity bills will rise to pay for decarbonisation. Every single thing that has to be done to make the green transition we need to make is covered in the above costs.

The so-called 'Green Deals' (this is a free market attempt to subvert the meaning of Green New Deal) involve passing the cost for all of this to households and requiring them to do the work through the private sector. That means that rather than the highly-efficient public borrowing, public works model of the Common Home Plan a highly inefficient free market approach will pass much higher costs straight to citizens. Rather than a house being insulated and its heating system being replaced for free, households will have to arrange and pay for the work themselves at an average of not less than about £30,000. So the first impact on our lives is that it will save most people an enormous amount of money in the process of getting to where we need to get to.

The next most obvious outcomes of implementing the Common Home Plan are environmental; Scotland would be close to an entirely carbon-free economy and so go beyond 'net zero' since forestry and land management would enable large-scale sequestering of atmospheric carbon. It would end resource waste, regenerate land and soil, enable the re-establishment of wildlife populations and greatly decrease the reliance on biocides. This would all have a positive impact on Scotland's urban and rural landscape, making the nation more beautiful.

The third impact is economic. The Plan would result in the rapid growth of a wide range of industry sectors in Scotland – particularly the production of wood-based construction materials, a large land management industry, significant increases in food production and processing and the establishment of a lot of light industry. On top of this there will be a substantial increase in component supply and heavy manufacturing to create supply chains, particularly for district heating, hydrogen production and the energy system. Hydrogen itself will become a large industry in Scotland with the potential to lead Europe and become its largest hydrogen exporter. There are a number of other smaller industry sectors which would emerge.

The fourth impact is social. The Plan would result in a substantial shift from low-productivity industry sectors to high-productivity ones and, along with a large volume of new job creation, would result in a sharp decline in inequality and poverty. Indeed, shortage of labour supply is likely to be a much bigger problem than lack of available employment. Along with proposed steps such as exploring a Universal Basic Income scheme and much more access to sharing economy provision, poverty would be structurally eradicated. There will be other direct social impacts; people will have greater time for democratic and community participation, consumption-based drivers of poor mental health (feeling bad about yourself because advertising makes you feel like you've 'failed') would be very substantially tackled and so on.

Finally there will be a substantial impact on our individual lifestyles. People will have warmer homes at less cost, gain access to better quality food, be protected from the impacts of pollution, have easier access to a fast and efficient transport system, be able to own land and much more. The goods that people use will be of a higher quality but will cost them less over all because many more products will be borrowed, rented or leased, they will last much longer and be entirely repairable. Spending will shift from shopping to participation, relaxation and socialising, improving quality of life.

THE TEN PARTS OF THE COMMON HOME PLAN

The Plan then gets into the nitty-gritty of what has to be done. This is divided into ten sections – buildings, heating, electricity, transport, food, land, resources, trade, learning and us (a section about our lifestyles and our behaviours). Some of them are very technical (electricity), some of them require a lot of explanation of why a specific option was chosen from the possibilities (heating), some involve a lengthy list of actions (resources) and some just take more describing (us). So there's a lot in them – but what follows will give you a reasonable summary of the shape of the whole Plan.

Buildings

All new-build houses would be required by building regulations to be as draft-free and well-insulated as a 'Passivhaus' and to be constructed from mainly renewable or recycled materials. The already-established National Housing Company will have a large, trained workforce ready to get every house in Scotland up to 90 per cent heat-efficiency (with any building where this is technically difficult to achieve achieving at least 70 per cent efficiency). There will be no extra cost to the individual household for getting this work done because it will be paid for collectively – it is estimated it will cost an average of £15,000 per house if done as a mass public works programme. All the materials needed must be wood-based and so the flourishing of a lot of light industries to manufacture these materials from Scottish timber will have been developed during Phase Two. Commercial buildings would be expected to achieve the same heat performance but only small businesses would be subsidised.

Heating

Heating is the most difficult part of the domestic economy to make renewable (air travel is hardest over all) – there just isn't any easy or inexpensive option. The Common Home Plan analyses those options in detail (mainly hydrogen, electricity with or without Air Source Heat Pumps or a

District Heating Scheme) and concludes that they'll all involve spending very large amounts of money and will all cause major disruption but that a district heating system produces by far the most stable outcome, is most future-proofed and would provide the lowest-cost heating to households. Ring mains heated from large-scale renewable sources (particularly solar thermal, geological heat recovery, biomass and industrial heat recovery with hydrogen and electric top-up for peak periods) would be built round every town and city and then the hot water would be connected to individual houses via sub-grids. In the house the current gas boiler (in the vast majority of cases) would be swapped for a 'heat exchanger' which takes heat out of the sub-grids and uses it to heat the house and the house's hot water (without requiring changes to internal plumbing and radiators).

While it is a very big task, this ought to be possible for any house currently connected to the gas grid – and those which are not on the gas grid would have an off-grid renewable system fitted based particularly around bioLPG and biomass. This will cost about £10,000 per household (as well as another £25 billion for ring mains and renewable heating) but as with housing it will be paid collectively so there will be no additional cost to the household. The work will have been planned by an Energy Development Agency and will be implemented by a National Energy Company. It will work closely with the National Housing Company and both adaptations (thermal performance and new heating system) will be done to each house at the same time to minimise disruption and increase efficiency.

Electricity

Scotland produces something like as much as it consumes in renewable energy, but it tops this up at peak times with nuclear and gas-powered electricity. To get rid of non-renewable generation altogether the total amount of current renewable generation capacity needs to be doubled (very approximately – the detailed numbers are in the report) and there needs to be a way to store excess electricity for when it is needed. But since a lot of extra electricity is needed to decarbonise transport as well the total deployed capacity will need to be doubled

again to about four times its current level (this is one of the problems with electric heating – that could require the amount of electricity to be doubled yet again). This will put extra stress on the electricity grid so it must be updated to implement more smart-grid technology and local battery storage for 'power smoothing' (this is dealing with the daily ups and downs in usage at peak periods).

There then needs to be longer-term energy storage to make efficient use of renewable energy. There are many ways to do this but for strategic reasons it is suggested that Scotland should develop a large-scale hydrogen generation and storage industry. When there is spare electricity it will be used to make hydrogen and then when the electricity is needed the hydrogen will be used to power turbines that generate that electricity. It should be noted that this is not currently the most efficient way to store electricity but because Scotland has such enormous potential to develop a hydrogen industry it is worth taking some early efficiency losses to help accelerate the development of this industry. The renewable energy will mostly come from onshore and offshore wind but some may also come from solar (though using solar energy for heat rather than electricity is much more efficient so is the preferred use).

The Plan does not include any marine energy for domestic use so that can be developed to create a hydrogen export industry. The demand for hydrogen is not just for energy storage but also to top up heating and for large vehicle transport – the Plan calculates that Scotland will need 800,000 tonnes a year. This is produced in electrolysis plants (electricity is passed through water, splitting it into hydrogen and oxygen). At an industrial scale this technology is improving rapidly; if it was based on the biggest existing electrolysis plant Scotland would need 600, but that is still a comparatively small-scale demonstration plant and they will become much bigger. All of this work will be done collectively by the National Energy Company and planned by the Energy Development Agency, with the grid and existing generation capacity gradually taken into public ownership. This will create a strategically-integrated all-public energy system in Scotland.

Transport

Of everything covered in the Common Home Plan, transport is the issue where technology is progressing most rapidly and so is hardest for which to make detailed plans. This is explored in detail but the conclusion is fairly straightforward – small vehicles are almost certain to become battery-electric powered and larger vehicles will be hydrogen fuel-cell powered (the role of autonomous vehicles is much less certain). This means the immediate priority is to produce a core electric recharging infrastructure and a hydrogen refuelling network (estimated to require between 20 and 30 large refuelling depots across Scotland) and this has been started in earnest in Phase Two. There will then need to be investment in converting trains, buses and ferries and commissioning new ones. The difficulties of air transport are discussed and while there is unlikely to be a technical solution in the near future, some work-arounds are proposed – for example, offering families which take summer holidays by hydrogen ferry extra days of holiday entitlement to cover the longer journey times.

The means of decarbonising private transport depend on the nature of vehicle ownership which in turn depends on the impact of driverless vehicles. This is often underestimated; with next to no market in secondhand electric vehicles the process of transitioning private vehicles will either be very expensive (many tens of billions of pounds with everyone that currently owns a car having to pay at least five-figure sums to replace them) or very slow (if we have to wait for a mature second hand market in electric vehicles). But driverless vehicles are likely not to be privately owned and be much closer to a taxi model. At that point Scotland would have to decide whether it wants that core transport capacity to be entirely privatised or be treated like a public service. A public approach could very greatly accelerate the transition – but would not be covered by the above costings. A privatised version would cost much more.

Food

As a result of Phase Two, food growing in Scotland will already be moving to an agroecology model where land is allowed to

regenerate itself with every harvest – and this will require the support and retraining of farmers. This is a very big task and is likely to increase the size of the workforce. Our diets should change so we eat less meat but that the meat we do eat is of a higher quality. Long supply chains (where food that used to be produced locally is hauled around the world on carbon-emitting ships) must be shortened so much more of the food we eat is not only grown but also processed much more locally. To support that ‘externality taxes’ (see Resources and Trade below) should be developed so that food which is produced responsibly is not undercut by food which is produced irresponsibly.

This must be accompanied by a legal ‘Right to Food’ and exploration of a ‘food budget’ or Universal Basic Income so all additional public revenue from externality taxes is returned to consumers and low income households in particular are protected from the impact of any food price rises. Scotland should become less reliant on importing foods produced unsustainably in other parts of the world; in Phase Two we should have been piloting new technologies such as ‘vertical farming’ and this will be the time to assess those and roll them out further. More grow-your-own should be encouraged, for example by providing more allotments. Cooperative food distribution systems should have been developed but will be in their infancy because of Phase Two actions; the development of local food economies should now be accelerated.

Land

Scotland’s land must be managed to much higher-quality standards and this will require the training of 20,000 professional land managers. Much of the Common Home Plan (or any realistic Green New Deal for Scotland) isn’t possible without essential land-based supply chains feeding new industries with the materials they need. Most of the actions needed are already covered in Phase Two but this programme of land reform and land development must continue throughout the remaining 20 years to achieve the 50 per cent forestry target. At the end of this process Scotland’s landscape will be dominated by woodland, pasture and agriculture with renewable

energy and light industry mingled across the country and the actions taken on fishing will have stimulated a thriving fish processing industry in Scotland's coastal communities.

Resources

There is no such thing as 'waste' – that is just a way to describe a failure to use resources well. The goal of a circular economy is to produce no waste at all but to continually reuse and recycle resources and as a result of Phase Two Scotland will already be taking big steps in this direction. Most of the steps necessary for this can be taken under devolution but the use of externality taxes will now have become possible.

This is where taxes are applied to goods to reflect the true cost of their production including all the mitigation costs of the harm they do and the lifecycle costs of disposal and recycling. A product which is produced organically with renewable energy, is not transported long distances and is composed only of materials which can be reused or composted it will incur no tax. If the product also has elements which require to be recycled then that will incur a tax increment approximate to the cost of the recycling. If the product has elements that need to be landfilled it will incur a tax increment to cover the lifetime costs of landfill (and that lifetime can be many decades), though eventually we need to ban products that result in landfill. If a product is made with petroleum-based plastic it will incur the cost of recycling and eventual disposal plus a sum to cover lifetime plastic pollution mitigation costs (here the lifetime can be centuries). If a product is transported long distances a tax increment to cover the mitigation of the carbon emissions and oceanic pollution would be applied (we have come to believe that something from a thousand miles away has the same cost as something from a few miles away; it absolutely does not). If the manufacturing of a product creates enormous pollution, uses carbon-emitting energy or degrades soil then a tax increment would again be applied.

This will increase the cost of many products, but that additional cost would be returned to the consumer, ideally via a Universal Basic Income. It simply means that the consumer is

making a realistic choice on price; currently we buy disposable products that do great harm and then complain about our Council Tax bill (which has to pay for the disposal), the renewable energy subsidy in our electricity bill or the enormous cost of climate change mitigation. We pay either way; if we want a green market economy then that market must price goods accurately.

Trade

For some this will be the most controversial aspect of the Plan. It looks at the impact Scotland's trade has (particularly the nature of its imports) and argues that Scotland can't turn a blind eye to the impact of our lifestyles simply because that impact happens in other countries (very often poorer countries in the global south). The Plan suggests there should be urgent debate about replacing VAT with an externality tax. Externality taxes are mostly controversial in the field of imports because they correct the inaccurate pricing model which implies that long supply chains and production methods do not have any cost element. The reason this is seen as controversial is because of the ideology of 'globalised free trade' which believes that any steps taken to achieve this accurate market pricing are nothing more than 'protectionism'. Applied domestically there would be little controversy about externality taxes outside of domestic politics; applied to all products there would be cries of protectionism. This is simply not the case; externality taxes are explicitly about applying tax conditions evenly to all products, so an organically-produced avocado wrapped in bioplastic and imported on a hydrogen-powered freighter would incur no tax at all while a disposable plastic item produced locally would. This issue should not be controversial but will be and so it requires debate and negotiation – but we cannot be intimidated out of this essential step.

Learning

There are many elements of the Common Home Plan that require substantial learning but these are all within the powers of devolution so most of this should be in place by now.

Us

This section was left to the end of the Common Home Plan specifically because it emphasises collective action over individual action. But that does not mean lifestyles don't have to change because they do. Most of the changes we need to make will be the result of the structural changes called for throughout the Plan. In particular, investment in the circular economy will reduce the need for consumption (people will become used to borrowing tools and other items they use rarely from 'share shops' and consumer goods will be manufactured to a higher quality and will be repairable). This will shift spending away from consumption and onto participation, socialising and relaxation. Advertising and marketing will be much more strictly controlled and in a number of areas will be banned altogether. A National Consumer Agency will already be assessing the products for sale in Scotland and will begin to moving from a labelling approach to a regulatory one to ensure all products meet circular economy criteria. Between them all of these steps will enable us to improve the quality of our lives while protecting the world's environment at the same time. By now, hopefully, government, politics and the media will already be used to focussing on measures other than growth in defining success – quality of life is what politics will emphasise instead and indicators will be measuring progress towards that.

CONCLUSION

There is little more that now needs to be written. The Resilient Scotland Plan has provided extensive detail on a practicable, deliverable programme for achieving what everyone now says is necessary – a vibrant, green economy which creates good jobs and delivers economic

fairness. It is well past the time where it is viable for individuals and organisations still to be talking about broadly supporting the principle and we are now racing past the point where vague aspirations and boiler-plate language should be accepted. It is no good to talk about 'green investment' if, by now, we are not identifying where that investment should come from, who should pay for it and how, and where specifically that investment should be going. It is farcical to suggest that a bit more of what we're currently doing is even close to sufficient. Pick your crisis – Covid or the environment. Either in themselves requires an expenditure of effort and a level of investment that societies make only every few generations. Combine them and the case for being that generation is overwhelming.

Common Weal pioneered the word 'resilient' to describe this process for a very specific reason. What creates environmental vulnerability is the same thing that creates economic and social vulnerability. It is the economy in which we were promised all failures would be ended through growth – yet it is the economy where 40 years of growth have actually accelerated the failures and caused an increase in the rate at which the economy 'falls over' in the face of even minor crises. It is time for Scotland to use its eyes and its brains. If we are promised that growth fixes everything. If, after 40 years of growth, so many things got worse. If that economy gets more vulnerable the more it stretches supply chains and the more it extracts. If so, how can more of the same achieve resilience? Resilience is not made out of vulnerability, it is the alternative to vulnerability.

This is a historic moment, a moment when everything has to change. If we have learned anything through the Covid crisis it is that half measures and hoping for the best achieve next to nothing. You do it – or you don't do it. This Plan is something serious we can do. So will we do it? It's up to us.