Equitable Recovery Strategies

Why public ownership and democratic control must be at the heart of Green and Integrated Public Healthcare Deals

Dexter Whitfield

A Supplement to the book **Public Alternative to the Privatisation of Life**

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Dexter Whitfield, Director
Adjunct Associate Professor,
Australian Industrial Transformation Institute,
Flinders University, Adelaide

Mobile +353 (0)87 7055509
Tel +353 (0)66 7130225
Tralee, County Kerry, Ireland
Email dexter.whitfield@gmail.com
Web www.european-services-strategy.org.uk

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Abbreviations

AfDB	African Development Bank
ADB	Asian Development Bank
AG	Aktiengesellschaft - Public Company in Germany
A/S	Aktieselskab - Public Company in Denmark, Sweden & Norway
CEO	Chief Executive Officer
DFI	Development Finance Institutions
DFID	Department for International Development (UK)
ECT	Energy Charter Treaty
EIB	European Investment Bank
ESG	Environment, Social and Governance
ESSU	European Services Strategy Unit
EU	European Union
G20	Group of 20 Industrial and Emerging-Market Countries
GDP	Gross Domestic Product
GIG	Green Investment Group
GW	Gigawatt
ICT	Information and Communications Technology
IFC	International Finance Corporation
ILO	International Labour Organisation
IMF	International Monetary Fund
Inc.	Incorporated
IEA	International Energy Agency
IMF	International Monetary Fund
INPP	International Public Partnerships
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
ISDS	Investor-State Dispute Settlement
LLC	Limited Liability Company
LLP	Limited Liability Partnership
LTD	Limited
MMT	Modern Monetary Theory
MW	Megawatt
NHS	National Health Service
OECD	Organisation for Economic Co-operation and Development
P3	Public Private Partnership
PLC	Public Listed Company
PPIAF	Public Private Infrastructure Advisory Facility
PPP	Public Private Partnership
PSiiP	Public Service innovation and improvement Plan
PSI	Public Services International
PWLB	Public Works Loan Board
S.A.	Société Anonyme (public company in France, Spain, Latin America)
SME	Small and Medium Enterprises
SPV	Special Purpose Company
TEEB	The Economics of Ecosystems and Biodiversity
TUED	Trade Unions for Energy Democracy
UK	United Kingdom
UKCI	UK Climate Investments LLP
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
US	United States
WBG	World Bank Group
WEF	World Economic Forum
WHO	World Health Organisation

Current exchange rates

€ to US$ x 1.132	£ to € x 1.105
€ to £ x 0.904	£ to US$ x 1.248
€ to A$ x 1.633	£ to A$ x 1.805
US$ to € x 0.883	A$ to €. x 0.612
US$ to £ x 0.801	A$ to £ x 0.554
US$ to A$ x 1.446	A$ to US$ x 0.691

Summary

Key findings

- There is a need for new economic strategies combining a Green Deal and an Integrated Public Healthcare System Deal.
- Globally, renewable energy projects are primarily owned and operated by private companies and private equity funds. Public finance is mainly used to attract private investment in renewable energy projects.
- A global secondary market operates with merger and acquisition deals that include renewable energy manufacturers, project developers, project owners and renewable energy funds which seek to increase market share.
- The renewable energy sector could ultimately mirror the private ownership and control of the fossil fuel sector but it will not be under democratic control and its equality, employment and social policies are likely to be business as usual.
- Green Deals must revert the commercialisation of nature and biodiversity, which should be treated as public goods with public protection and strong regulatory frameworks.
- Retrofitting housing is very important because heating and hot water for UK homes account for 25% of total energy use and 15.3% of greenhouse gas emissions in 2018. However, it is vital to draw on the lessons of earlier failed schemes, to recognise the complexity of retrofitting 27m public and private homes and the estimated £911bn (€1,007bn) cost.
- The Covid-19 pandemic has highlighted the urgent need to integrate public health, primary care, medical care and social care to create an Integrated Public Healthcare System.
- Equality and political, economic, social and environmental justice must be the core objective of public policy planning and management.
- Government and public authorities should develop a Conversion Strategy and should consist of a national organisation or agency to develop alternative use proposals; identify international, national and regional demand for green products and services; provide technical support or grants to trade union and community organisations; develop national training and reskilling programmes for workers; and economic development programmes for areas affected by fossil fuel closures.
- A 16-part Code of Practice for Quality Employment is for a 'just transition' and must apply to all jobs in the economy.
- The economic consequences of the Covid-19 pandemic are still unfolding with a steep fall in GDP, soaring rate of unemployment, rising levels of public and private debt and increasing budget deficits.
- Measures to increase revenue by £81.9bn (€90.5bn) per annum or £409.5bn (€452.5bn) over a five-year period would make a significant contribution towards addressing the cost of the Covid-19 pandemic in the UK and longer-term financing of new economic policies, Green and Public Healthcare Deals.
- Recovery strategies must establish certain parameters to include: no austerity measures; no tax increases for employees up to and including the average industrial wage; no privatisation and no reinvention of public private partnerships.
- The decarbonisation target will hopefully be achieved, but unless the decommodification of public services and adoption of radical public management is undertaken at the same time a new surge of privatisation would be preceded by further

financialisation and marketisation with profound consequences for services and jobs.

- Key strategic issues are identified together with examples of organising, building alliances and alternative plans.

It is important to establish the key parameters which include:

- No austerity measures – the decade of measures following the 2008 global financial crisis have only just slowed and there had been no significant changes in policies or funding except for some additional funding for the NHS. Services that were inadequate before 2008, such as social care, mental health and special educational needs, are even more inadequate in 2020.
- No tax increases for employees up to and including the average industrial wage.
- No privatisation – there is a strong rationale given the high cost and negative impact of earlier privatisation. In fact, there is an overwhelming case for increased public ownership.
- No reinvention of public private partnerships – whilst the UK government terminated the Private Finance Initiative a new PPP model would simply repeat all the failings of PFI.

A summary of economic recovery, Green Deal and Integrated Public Healthcare System Deal proposals is available in Appendix 1.

Introduction

There is a school of thought that believes the climate crisis is an emergency to 'save the planet' by 2050 irrespective of the means. In other words, the outcome takes precedence over the quality of the inputs, processes and the outputs. This reflects a neoliberal 'business as usual' approach.

There is an assumption in many Green Deals that because they are wide-ranging and substantive they will be 'transformative' or achieve a 'transition'. However, what this means in political economy terms is not spelt out. So the question we have to ask is, what is being 'transformed' or what is the ultimate objective of the 'transition'?

Globally, renewable energy generation projects are currently primarily owned and operated by private companies, private equity funds and fossil fuel companies. A small number are foreign state-owned companies, although some of these companies have supply chains designed to maximise manufacturing and outsourcing from low cost economies. However, some energy distribution networks are owned and operated by municipal and non-profit organisations, for example in Germany (Wagner and Berlo, 2015). The public sector has a key role in financing renewable energy generation projects in industrialised economies. But public money is being used to attract private finance by reducing private sector risks, payment of feed-in tariffs and the usual corporate welfare benefits of guarantees, subsidies and tax concessions. The World Bank and other development banks and agencies have a similar financial role in emerging economies with the same objectives. Fossil fuel subsidies are being replaced by renewable energy generation subsidies and, in effect, facilitating global private sector capital accumulation.

There is, however, an opportunity over the next three decades to significantly increase public investment in the ownership and operation of renewable energy generation. Failure to do so will mean that energy generation will be 'green' by 2050 but ownership and control will mirror today's ownership of fossil fuel energy generation. It will severely constrict the implementation of 'just transition' policies. Furthermore, it has become more and more apparent that there is an urgent need for the public sector to intervene to integrate the different health functions into a unified public healthcare system.

Objectives of the report

This report has five main objectives.

Firstly, to propose new economic strategies combining Green and Integrated Public Healthcare System Deals. *Decarbonisation of energy* must run parallel with the *decommodification* of public services and the de-commercialisation of nature and biodiversity. They must be aligned with *democratisation* and participation and *political, economic, social and environmental equality and justice* (Whitfield, 2020a).

Secondly, to describe how the renewable energy sector is increasingly owned and operated by private equity funds, fossil fuel energy and oil companies and smaller renewable energy companies. Further rapid expansion of the sector and achievement of 100% decarbonisation could create a private sector monolith largely reflecting the fossil fuel industry's corporate ownership. Thus public ownership of renewable energy generation and distribution is critical.

Thirdly, to stress the importance of achieving a fundamental change in the security, terms and conditions, training and quality of employment.

Fourthly, to emphasise how equality, social and environmental justice and the elimination of discrimination must be at the core of all policies.

Finally, to identify some key organising and action strategies that trade unions, community and civil society organisations must develop in order to determine the scope and implementation of the above policies.

Political economy framework

The political economy of privatisation framework developed in Whitfield (2020) is built on the dual concepts of accumulation by dispossession (Harvey, 2003) and the primary and secondary circuits of capital (Lefebvre, 2003) within which the financialisation, marketisation and individualisation processes create the opportunities, framework and political legitimacy for privatisation. Equally important to understand is the presence and viability of national and global companies and various types of investment funds that participate in privatisation. They demand public subsidies, guarantees, grants, tax concessions and favourable regulatory frameworks as a condition of their participation in the marketisation and privatisation process.

Neoliberal ideology has had a major influence in extending privatisation beyond the sale of state-owned corporations and outsourcing of support services to encompass core services, PPPs and choice mechanisms for patients and pupils. It created the conditions for the deepening of financialisation, marketisation and individualisation. Instead of the 40-year era of neoliberal ideology becoming less dominant, the post-Covid-19 pandemic recession could have the reverse impact by further embedding it in economies with devastating consequences.

Hence the importance of developing new political economy strategies combined with the Green and Healthcare System Deals.

Structure of the report

Parts 1 outlines the scope of new economic strategies to a post-pandemic economy combining with Green and Integrated Public Healthcare System Deals. Renewable energy generation is largely owned and operated by the private sector and this market is examined in Part 2.

Parts 3 and 4 set out the potential scope of a Green Deal and an Integrated Public Healthcare System Deal followed by the important role of 'just transition' policies in Part 5. The financing of new economic policies, Green and Healthcare System Deals in a post-pandemic recession and financial crisis are examined in Part 6.

The spectre of a surge in privatisation both in the economy generally and specifically in the implementation of Green and Healthcare System Deals which is discussed in Part 7.

The report concludes with a discussion of strategic issues and the need for organising, building alliances and alternative plans in Part 8.

Part 1
New strategies for a post-pandemic economy

The need for a new economic strategy

The strategy outlined in this report is focused on investment, regeneration and rethinking and is premised on the absence of further major shocks and consequently there will be limited need to continue the job protection and credit schemes common in many economies. High unemployment, closures and severe pressure on public resources are forecast and welfare state programmes will be severely strained (see Part 6).

The strategy is based on going forward rather than returning to 'normal' by backfilling what existed before the pandemic. The polices outlined are essential – the climate targets have to be met by 2050; digitalisation and automation should be harnessed for social and economic needs in manufacturing and public services and not left to neoliberal exploitation and entrepreneurialism; radical change in the healthcare systems is critically important with social care publicly delivered.

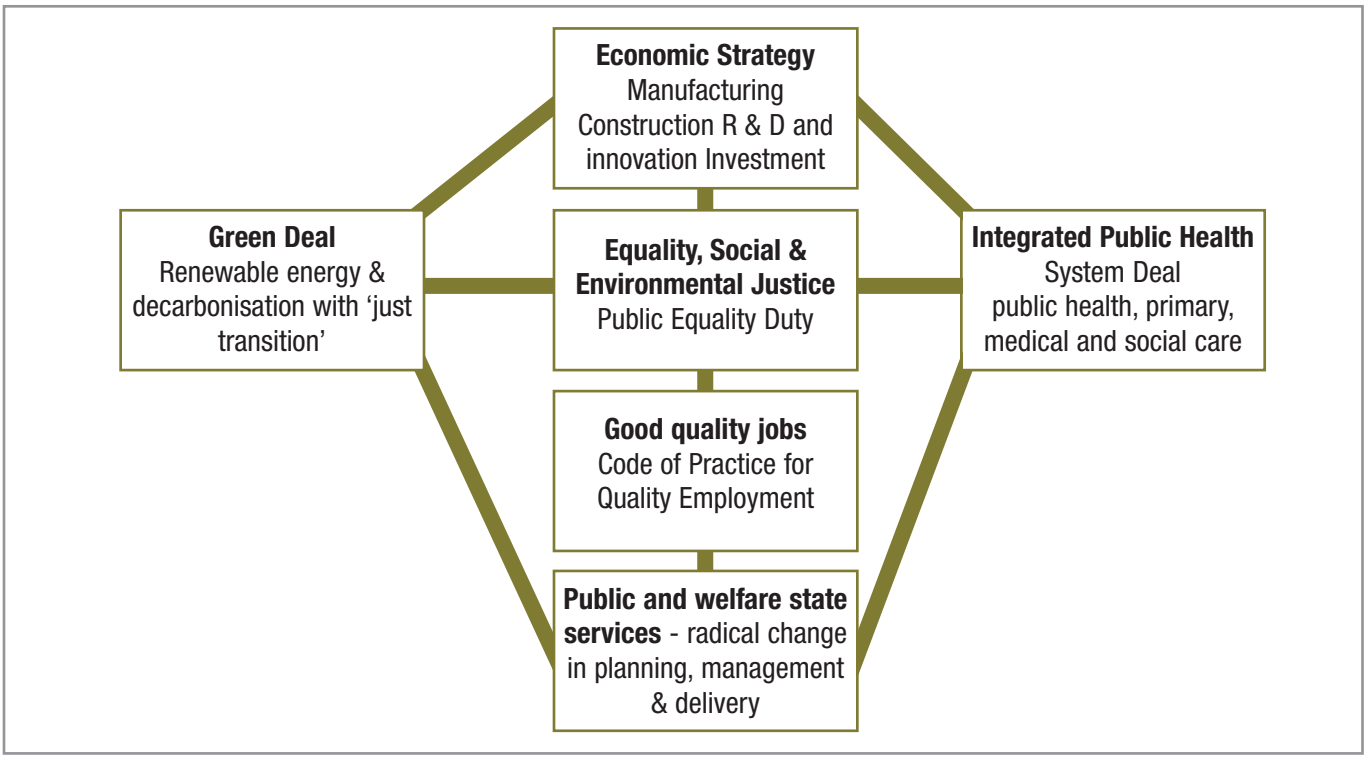
Strategic proposals

The strategy is a longer-term policy programme which includes Green and Integrated Public Healthcare System Deals which should be an integral part of recovery or stimulus plans.

A **Green Deal** is designed to achieve key climate targets in stages with full decarbonisation by 2050 (see Part 3 for detailed additional policies). An **Integrated Public Healthcare System Deal** is intended to integrate public health, primary, medical and social care between 2020-2030 to improve a free at point of use universal healthcare system, tackle the health impact of climate change and be better prepared to respond to potential future pandemics.

The economic recovery strategy is summarised in Figure 1.1 indicating the key parts of the strategy and the linkages between them. Specific policy proposals

Figure 1.1: The potential effect of automation on jobs



for a green Deal and an Integrated Public Healthcare System Deal are set out at the end of Parts 3 and 4 respectively. Equality and environmental justice are discussed below and in Part 5 which also details policies to improve the quality of employment. The need for decommodification of public services is referred at several points in the report and discussed in detail in Chapters 14-16 in Whitfield (2020).

The need for a Green Deal

Rising temperature impacts on plants, animals and food production and working conditions for workers in all activities. Rising sea levels leads to the salinization of groundwater in coastal areas, coastal erosion, flooding from storm surge and related salinization of agricultural land and permanent inundation of coastal land and settlements. Over 143m people in Sub-Saharan Africa, South Asia and Latin America are projected to be forced to move within their countries to escape the impact of climate change by 2050 (World Bank, 2018). Global external migration of an estimated 200m people by 2050 will be caused by environmental phenomena (Flavell et al, 2020).

The need for an Integrated Public Healthcare System Deal

The changing global climate has an impact on human wellbeing, health systems and the stability of local communities, economies and international trade and relations (Watts et al, 2020) and increased rates of infectious diseases (Lustgarten, 2020). Rising water insecurity – 500m people experience permanent severe water scarcity caused by drought, groundwater depletion, glacial retreat, ice sheet loss and severe surface water loss. The global demand for water is increasing, but 80% of wastewater is discharged untreated into the environment (Piesse, 2020).

The majority of the global population has resided in a climate envelope around 11 oC to 15 oC Mean Average Temperature (MAT) for thousands of years. However, temperature increases in the next 50 years *"…in the absence of migration, one third of the global population is projected to experience a MAT >29 oC currently only found in only 0.8% of the Earth's land surface, mostly concentrated in the Sahara"* (Xu et al, 2020). The study draws on evidence that high temperatures impact on the capacity for physical labour, mood, behaviour and mental health through heat exhaustion.

Analysis of hourly data from nearly 7,900 weather stations revealed that the 'wet bulb' temperature (TW) readings approaching or exceeding TW 30°C had doubled since 1979 (Raymond et al, 2020). Some readings exceeded TW 35°C, considered the theoretical survivability limit. The study predicts "…the TW will regularly exceed 35°C at land grid points with less than 2.5°C of warming since preindustrial – a level that may be reached in the next several decades" (ibid). Increasing extreme humid heat will have a diverse and drastic impact on health. Global warming could also cause catastrophic loss of biodiversity around the world based on predictions to 2100 (Trisos et al, 2020).

In 2019, 135m people were acutely food-insecure in 55 countries and territories. *"Conflict/insecurity was still the main driver of food crises in 2019, but weather extremes and economic shocks became increasingly significant."* An estimated 75m stunted children were living in the 55 food-crises countries (Food Security Information Network and Global Network Against Food Crises, 2020).

> *"Climate change is already contributing to the global burden of disease and poses "an unacceptably high and potentially catastrophic risk to human health" (Watts et al, 2015).*

> *"Climate change affects health and worsens inequalities; older people are at most risk of extremes of heat and cold; lower income groups are disproportionately impacted by extreme weather by virtue of living in poorer quality housing in vulnerable locations and conditions and not being able to afford to move, and tenants are more vulnerable than owner-occupiers as they have less ability to modify their homes and to prepare for and recover from climate events"* (Marmot Review, 2020).

The Centre for the Mathematical Modelling of Infectious Diseases COVID-19 working group have estimated 1.7bn people, 22% of the global population have at least one underlying condition (chronic kidney disease, diabetes, cardiovascular disease and chronic respiratory disease) that puts an increased risk of severe COVID-19 symptoms if infected. An estimated 349m people are at high risk of severe COVID-19 and would require hospital admission. Countries with older populations, African countries with high HIV/AIDS prevalence and small island nations with high diabetes prevalence were most at risk (Clark et al, 2020).

Need for joint Green and Integrated Public Healthcare System Deals

In effect there are very strong inter-connections between Green and Integrated Health System Deals. But to be effective, both Deals must reject:

- neoliberal ideology and practice, in particular free trade, competition and markets to allocate resources and deliver services and state control of money supply;
- deregulation to create new opportunities for capital accumulation;
- deconstruction of democracy to a partnership between state and finance/business and consolidate corporate welfare;
- reconfiguration of the role of the state to reduce functions and cut taxes:
- individual responsibility for own actions and well-being in workplace, living space and consumers in the market place:
- and to reduce the cost and power of labour and the marginalisation of equalities and social justice (Whitfield, 2020a).

Decarbonisation and the switch to the production of renewable energy combined with the closure of coal mines, oil and gas extraction and distribution and stranding of assets is critical. Retrofitting homes, public facilities and business premises will improve people's health, wellbeing, working conditions, energy efficiency and reduce illness caused by cold and damp homes and ultimately reduce the demand on healthcare services.

A holistic and integrated approach to public health, the provision of health and social care, environmental health/justice is essential. It must include air quality and free of pollutants in a regulatory framework of quality standards, monitoring and inspection and testing by governments and public authorities with significant penalties for poor performance and evasion.

A joint approach to impact assessment and economic/social and environmental cost benefit analysis in Green and Public Health Deal projects will increase the capability to achieve social and environmental justice, democratic accountability, participation and transparency.

Other challenges and opportunities include digitalisation and automation and the impact on jobs; increasing urbanisation and the growth of smart cities and megacities; the implications for public services, climate action, nature and biodiversity; and risks in the global economy such as slowing growth, mounting fears of another global recession alongside rising levels of corporate and household debt that were evident in late 2019 (Whitfield, 2020a).

Proposed equitable recovery strategies

A series of recovery strategies should be implemented and integrated with Green Deals and Public Healthcare System Deals.

Increase investment to achieve 100% renewable energy: Both public and private investment will be required if the 2050 or an earlier target is to be met for a fully effective network of generation, storage and distribution and *"…extend and modernise the grid to support higher renewable penetration and electrification of heat and transport"* (Allan et al, 2020).

A **national high-speed quality sustainable and low-cost broadband network** is vital for the economy and for Green and Integrated Public Healthcare Deals and to increase the digitalisation and automation of public services. Similarly, a national network of **rapid recharging stations** and **electric road charging** is critical for the transfer to electric vehicles. Upgrading of the electricity grid may also be necessary.

Manufacturing with emphasis on local/regional/national production: The manufacture of electric cars, vans, trucks and buses and rail (light and mainline) and electrification of remaining rail lines could have major local and national economic benefits. Similarly the production of renewable energy systems to meet increased levels of demand together with the production of heat pumps, insulation materials and double/triple glazing in the retrofitting of housing. Digitalisation and automation equipment and software will be needed which could be met either by the expansion of existing firms and/or creation of new enterprises. Allan et al (2020) propose incentivising key energy-intensive industrial sectors (steel, cement, ceramics, chemicals, pulp and paper) to produce first low-carbon and then zero-carbon products with a guarantee to purchase them at a profitable price upon successful transition.

Local/regional/national production of essential key products that meet quality standards is required in Green and Public Healthcare Deals and the delivery of

public services. Rethinking supply chains is vital to avoid repetition of the fraught global search for the required standard of Personal Protective Equipment (PPE) which was a result of poor strategic planning, flawed procurement and narrow cost-based decision-making that ignored wider economic development policies. It led to a continuing failure to supply health and social care workers with the required standard of PPE resulting in far too many deaths.

Increased off-site modular production in the construction industry to expand the provision of public housing and community facilities. In addition, new local Public Construction Organisations should undertake the large-scale retrofitting programme of housing, public facilities and business premises required in the Green Deal. Action will also be needed to relocate housing and stop further planning approvals on flood plains.

Research, development and innovation to increase large-scale battery storage at lower cost; possible use of hydrogen as alternative heating system to replace the 85% of UK homes that are gas heated and account for 18% of UK greenhouse gas emissions (Thomas, 2019); wireless induction charging to replace street level charging points; construction industry research to produce alternative products to concrete (Patterson, 2020); agricultural research to reduce emissions from cattle farming (Global Research Alliance on Agricultural Greenhouse Gases, 2014), waste disposal of batteries and plastics. It should also focus on new public transport modes and waste management to increase recycling, reuse and disposal systems.

A **National Conversion Agency** to acquire, convert and adapt factories, plants and to demolish and reclaim land and property for new economic and social use such as the manufacture of electric cars, vans, buses, heat pumps or components for renewable energy systems. This agency must also provide support to local campaigns with alternative plans that oppose closures.

Digitalisation and automation to meet social and economic needs: A programme of digitalisation and automation must be focused on meeting social and economic needs and usefulness to maximise benefits and to avoid technology-driven applications, such as those based on 'we will because we can' and aimed to 'disrupt' existing provision simply to extract profit.

Public housing programme is vital to meet housing needs, rising homelessness, and continued sale of public/social housing and must be built to quality standards, maximise energy efficiency, with access to public transport, schools, children's centres, public open spaces and local facilities.

Increase flood prevention work, sea wall and **river basin works** to limit erosion; assess and strengthen dams; improvements to stormwater systems; increase protection against natural disaster; and waste management, recycling facilities and food waste.

A **National Investment Bank** will have responsibility for public investment in manufacturing industries, utilities and water and public infrastructure such as transport, education, public housing, health and social care. Increased public investment will reduce the cost of corporate welfare and tax evasion.

Democratisation for accountability and participation: Trade unions and community organisations must have new rights of participation and disclosure of information for Public Service innovation & improvement Plans (PSiiPs) see Whitfield (2020). Full disclosure should be required for the finance, construction and operation of all renewable energy and other projects, so that their impact can be fully assessed, including employment and equality policies, practices and the scale of public subsidies, guarantees and/or tax concessions are revealed. Public authorities should have democratic control of strategic local/regional economic development policy making and implementation to maximise the focus on public priorities and to significantly reduce vested business interests.

De-commercialise nature and biodiversity: Protecting and restoring nature and biodiversity have a key role in preventing the emergence and spread of future diseases and safeguarding food security (European Commission, 2020a).

> *"Nature regulates the climate, and nature-based solutions13, such as protecting and restoring wetlands, peatlands and coastal ecosystems, or sustainably managing marine areas, forests, grasslands and agricultural soils, will be essential for emission reduction and climate adaptation. Planting trees and deploying green infrastructure will help us to cool urban areas and mitigate the impact of natural disasters"* (ibid).

Proposals to commercialise nature, for example, stopping the sale of forests, deforestation, outsourcing ecosystem services, imposing charges to access

areas of natural significance or proposing to build hotels in such areas are essential.

Rising temperatures, wildfire, drought, windthrow, biotic attack and land use change, are changing the dynamics of forests (McDowell et al, 2020).

> *"Collectively, the evidence reveals that it is highly likely that tree mortality rates will continue to increase, whereas recruitment and growth will respond to changing drivers in a spatially and temporally variable manner. The net impact will be a reduction in forest canopy cover and biomass"* (ibid).

Sustainable agriculture must increase the efficiency of arable and livestock farming and promote nature conservation and biodiversity in order to achieve zero emissions by 2040. EU plans a 50% reduction in the use of chemical pesticides and 25% of agricultural land must be organically farmed by 2030 (European Commission, 2020). The EU also proposes a Zero Pollution Action Plan for Air, Water and Soil, a minimum 20% reduction in use of fertilisers, planting 3bn additional trees by 2030 and restored and protected marine ecosystems (Ibid).

Equality, social and **environment justice**: A comprehensive **Public Sector Equality Duty** must apply at all stages of policy making, implementation and operation (see Chapter 11, Whitfield, 2020a). Comprehensive economic, social, equality and environmental impact assessments and cost/benefit analyses with the same scope are a requirement for all projects and be subject to public disclosure and participation. The findings and key criteria should be used at the later stage of assessing the implementation process and final review. Similarly workforce monitoring should identify that working practices comply with the original standards. A systematic reduction in inequalities and poverty could be achieved by better planned and integrated public services and infrastructure, with specific objectives and targets to reduce service and employment inequalities. This will require strengthened legislation, regulations and enforcement, best practice guidance and coupled with comprehensive impact assessments.

Environmental justice must ensure that class/ geographic differential treatment is avoided in the allocation of funding and/or prioritisation of projects for coastal/river erosion; housing and business premise retrofitting and in decisions regarding relocation from flood plains and/or levels of compensation or valuation of assets written off or demolished.

Decommodification for public provision and **radical public management**: A decommodification process (redesign of services, jobs, regulations, democratic accountability, participation and disclosure) in government and public authorities with the adoption of radical public management committed to public ownership and provision. This would terminate the financialisation, marketisation, individualisation and privatisation processes to significantly improve the quality of public services and terms and conditions and training of public employees (Whitfield, 2020a).

Public ownership and **provision** is essential for rail and bus transport (free in towns and cities), health, education, water services, utilities and criminal justice to include a local Public Construction Organisation to undertake housing and public facility retrofitting and repair and improvement work. Public service principles and values will replace the narrow neoliberal ideological obsession with profit, competition, markets, outcomes and entrepreneurialism. Public provision and delivery of a universal health care system must eliminate all forms of privatisation.

Affordable quality childcare: Access to good quality low cost childcare is essential for parents in work, training and/or education and for the early development of young children, with additional funding for provision supporting children from low income households (Trade Union Congress, 2020).

Good quality jobs and **training**: The elimination of insecurity and exploitation of labour must be a prime objective. A 16-part Code of Practice for Quality Employment with terms and conditions, pensions, health and safety, training and rights should be negotiated with trade unions and used to develop protocols to facilitate the implementation of the Code (see Part 5). Employment and equality standards must be continuously maintained, with immediate action taken against any employer failing to meet them. Skills development and training in manufacturing and construction industries will be essential if climate action targets are to be achieved. However, few of these objectives will be achieved unless there are strong alliances of political, trade union, civil society and community organisations with well organised activist memberships who are willing to challenge corporate power and conservatism (see Part 8).

Re-regulation for public standards and **values**: Systematic deregulation over the last forty years has eroded health and safety standards, the public equality duty and rights to meaningful public participation and information must be re-established and enhanced.

New regulations must have clarity, be comprehensive and impose effective sanctions on public authorities and private organisations that fail to fully implement them. Establish regulatory frameworks and standards and environmental taxes and charges on harmful production and pollution; monitor, evaluate and assess progress in meeting targets; hold private sector obligations, commitments, investment and quality standards to account. New regulations and inspection of residential and nursing homes will include higher standards and quality of care accompanied by more rigorous monitoring, inspection and reporting which must include staffing levels, skills and training together with the pay and conditions of all staff.

Social and **environmental conditions for publicly funded bailouts of private companies**: The condition of bailouts should include a public stake in the business proportionate to the value of funding; maximum pay ratios between the highest and media employees of bailed out companies; evidence of paying a living wage by employer and contractors; accreditation of Fair Tax Mark compliance of tax payments; worker representation on boards and full trade union recognition; alignment with and adherence to sustainable development goals and framework; a commitment to moratoria on buyback of shares and to agreed proportion of profits as dividends; avoidance of disproportionate and unnecessary pay awards for senior executives (High Pay Centre, 2020). In the case of securing a 'just transition' for the workforce then full nationalisation might be desirable (New Economics Foundation, 2020).

International agreements: Trade agreements must exclude support for fossil fuel policies and subsidies and Investor-State Dispute Settlement (ISDS) mechanisms (Sinclair, 2017). All public service provision must be excluded from trade agreement negotiations; debt cancellation should be agreed for developing countries; and the World Bank Group and its agent's promotion of PPPs (Asia-Pacific Economic Cooperation, 2019). Social Impact Bonds, Environmental Impact Bonds or similar derivatives should be continuously and stridently opposed (Whitfield, 2020b)

Flawed concept of Environment, Social and Governance (ESG)

ESG criteria are increasingly used by financial institutions, investment funds and other corporate institutions. Its rapid and wide adoption indicates it is intended to be limited in scope and effect, creating a superficial branding for policy decisions and projects. There are several key shortcomings in this model. Firstly, there are commonly agreed criteria so the private sector can pick and mix depending on what function they are being applied to.

Secondly, it is devoid of equalities and social/environmental justice criteria.

Thirdly, employment is rarely included comprehensively.

Fourthly, 'governance' must include democratic accountability and continuous civil, community and trade union participation.

Finally, economic, social, equality and environmental strategies must be underpinned by public service principles and values that are significantly absent.

> *"Risk Documentation produced by the IMF and World Bank (2016), OECD and the World Bank Group (2015 and 2018) and the Global Infrastructure Hub (2019) are fundamentally flawed because they do not address all the potential risks with few, if any, references toequalities, employment, environment, climate change, or nature and biodiversity. In other words, they have yet to adopt even the basic Environmental, Social, Governance (ESG) agenda"* (Whitfield, 2020a).

Part 2
Markets and deals

Renewable energy market

The private sector accounted for around 87% of total renewable energy finance between 2013 and 2016, averaging US$223bn annually during 2013-2014 and rising to US$300bn in 2015. Direct public investment varied between 12% and 16% of the total between 2013 and 2015, averaging US$40bn, falling to 8% (US$21bn) in 2016 (Climate Policy Initiative and International Renewable Energy Agency, 2018). The focus is specifically on investment in renewable energy and not climate finance, which includes expenditure on transport, energy efficiency and adaption.

The direct public investment data excluded spending on capital subsidies, grants or rebates; public investment loans or grants (mainly for research and development); feed-in tariffs/premiums (a fixed payment to renewable energy producers, per unit of energy generated and injected into the electricity grid); and tradable renewable energy certificates which have been used by governments and public authorities to attract private investment in renewable energy projects. One or more of these inducements are used by 147 countries although data is available for only 27 European countries and Japan (ibid). Data for 2017/18 revealed the private sector accounted for US$278bn (82%) of investment in renewable energy. The public sector spent a further US$60bn by Development Finance Institutions (90%) and the remainder by domestic finance (Climate Policy Initiative, 2019).

> *"The main providers of public finance for renewable energy are donor governments and their agencies, climate funds and development finance institutions. DFIs (national, multilateral and bilateral) accounted for the majority of public investment between 2013 and 2015, an average of USD 35 billion or 85% of total public investment over this period"*
> (International Renewable Energy Agency, 2018).

Development Finance Institutions contributed US$132bn in 2018 whilst private finance climate finance was US$323bn in the same year (Climate Policy Initiative, 2019).

Project developers contributed an annual average of 40% of total private investment in renewable energy between 2013 and 2016, followed by commercial financial institutions with an average 23%, corporate actors 14% and households, including wealthy individuals, 16%, in the same period. Institutional investors, private equity, venture capital and infrastructure investors accounted for only 1%. However, the latter may be underreported because the data refers to *"…only primary greenfield financing and exclude re-financing, acquisitions or secondary market activities"* (Climate Policy Initiative and International Renewable Energy Agency, 2018). This is supported by the evidence in Table A1 in Appendix 2.

An indication of the global scale of mainly privately-owned renewable energy projects is illustrated in Table A.1 which identifies 10,712 operational projects (or under construction) in May 2020 with a total of 286,208 MW capacity. It focuses on significant ownership of renewable energy projects in North America, Europe and global companies that operate in many regions. It is not comprehensive and represents 11.3% of global renewable generation capacity at the end of 2019 (International Renewable Energy Agency, 2020). The Table excludes China and does not cover all the renewable energy companies in each country or region. The data identifies ultimate ownership, the number of operational projects and MW capacity together with additional information about the type of project and planned projects. Most companies have development plans to significantly ramp up renewable energy capacity over the next few years. For example, the Blackrock Global Energy & Power Infrastructure Fund III raised US$5.1bn when it closed in mid-April 2020 but plans investments in oil and gas and renewable energy (Financial News, 2020).

Eight companies are listed more than once, for example Orsted, Iberdrola and Statkraft, but the total number of companies in Table 2.1 takes this into

Table 2.1: Main renewable energy owners and operators

Type of company	Number	MW	% of total
Renewable energy company	20	117,972	41.2
Subsidiary of a power company	4	67,652	23.6
Private Equity Fund	4	44,259	15.5
Infrastructure fund	4	4,435	1.6
Investment Bank or company	3	18,635	6.5
Publicly owned	2	33,255	11.6
Total	**37**	**286,208**	**100.0**

Sources: Table A.1 in Appendix 2

account. Renewable energy companies and subsidiaries of larger energy companies account for 70% of MW capacity compared to 23.6% by financial funds such as private equity, infrastructure and investment companies. Two companies with a majority public sector shareholding have 11.6% of total MW capacity. At least seven renewable energy companies, or their parent company, are registered in offshore tax havens representing 28,960 MW capacity (although a full investigation of the registration of all companies has not been undertaken).

Public finance of renewable energy has to date been limited to attracting private investment to develop, own and operate wind, solar and other renewable energy projects. This has included land acquisition and feed-in tariffs to de-risk private investment. Private investment from various sources accounted for 58.5% of finance (Table 2.2) in contrast to the 27.1% from public sources to facilitate the development of projects.

"…the very important role that private finance plays in the energy transition. After all, the majority of funds originate here and it is clear that private finance will need to increase by a factor of two or more in order to match" future requirements. *"…it would be risky to rely solely on private finance, particularly the seemingly overabundant supply of funds from institutional investors, to implement the transition to green energy sources. As we have argued, different types of finance have different qualities: finance is not neutral. In the 20th century, public sources were crucial for providing the funds to risky, long-term projects that are so*

Table 2.2: Financial actors' share in cumulative finance provided over the period 2004-2014

Category	Source of finance	% share of finance
Private	Energy firms	11.3
	Private utilities	17.1
	Industrials	10.4
	Commercial Banks	11.7
	Institutional investors	7.2
	Charities/not for profit	0.8
		Sub total: 58.5
Public	State banks	7.6
	State utilities	12.6
	Other state corporations	4.4
	Government agencies	2.5
Unclassified		15.0

Sources: Mazzucato and Semieniuk, 2018

central for innovative activities. Neglecting this qualitative difference and betting on private finance only risks derailing the transition because of the lack of one of the crucial ingredients of success in the past: patient mission-oriented public finance" (Semieniuk and Mazzucatto, 2019).

Secondary market mergers and acquisitions

Merger and acquisition deals have included renewable energy manufacturers, project developers, project owners and renewable energy funds, which seek to increase market share. For example, in 2019 Aquila Capital acquired two onshore wind parks in Finland with 53 MW capacity; a 400 MW wind farm in Norway, one of Europe's largest wind farms; a portfolio of rights to 400 MW onshore wind projects and 300 MW of solar projects in Spain; and ended the year with a strategic partnership with Daiwa Energy & Infrastructure (Daiwa Securities Group Inc) to strengthen investment in Europe and the Asia-Pacific region. Daiwa Energy acquired a 40% stake in Aquila (Aquila Capital press releases in 2019). Total, the French oil company, acquired a 51% stake in Seagreen 1, the £3bn North Sea offshore project, from the UK utility company SSE in June 2020.

A group of 13 UK renewable energy infrastructure funds announced 24 transactions between July 2019 and January 2020 involving the sale or purchase of renewable energy assets (Hawkins, 2020).

> *"The share of renewables in global power generation is set to rise from 26% today to 30% in 2024"* (International Energy Agency, 2019).

The renewable energy market has three prime participants:

Developers and **operators**: Renewable energy companies build, operate and maintain wind, solar, hydro and biomass projects.

Financiers: Private finance can be raised from several sources such as renewable energy investment funds, private equity funds, infrastructure funds, mutual and pension funds, private equity and infrastructure funds.

Manufacturers: Include turbines, blades, solar panels, energy from waste plants, biomass and hydro project technology.

The structure and operation of the market is a direct consequence of the pressure to significantly increase the scope of renewable energy globally relying on the predominant role of private finance, manufacturing, production and operation as agreed by most nation states. Green Deals have been developed and promoted on this basis. They have not challenged the absent role of the state and have assumed that the existing arrangements would continue as Green Deals expanded their role in economies and are reliant on increased public resources. This is the major flaw in Green Deals.

Privatisation of UK Green Investment Bank

The privatisation of the UK's Green Investment Bank to Macquarie in June 2017 can be judged on financial grounds in terms of the revenue obtained by the government (House of Commons Committee of Public Accounts, 2018). But equally important, it deliberately unleashed the conversion of the Green Bank (now Green Investment Group) into a global operator under 100% control of Macquarie which has been at the 'frontier' of PPPs and private infrastructure investment and use of offshore tax havens (Whitfield, 2010).

> *"A lack of concern about ownership leads to a plethora of overseas financial interests within the Scottish economy. This leads to the offshoring of jobs and tax revenues; limits transparency and lessens the accountability that workers, communities and Government hold over multinational companies"* (Scottish Trade Union Congress, 2019).

> *"We do not accept the Government's assertion that the market failures the Green Investment Bank was set up to address have been resolved. While significant progress has been made in decarbonising power, considerable policy and investment challenges remain in decarbonising transport, domestic heating and industry"* (House of Commons Environment Audit Committee, 2018).

Market forces in Scotland

The UK renewable energy sectors are dominated by foreign-owned public and private companies with 7% owned by private UK companies with one offshore wind turbine in public ownership (Scottish Trade Union

Congress, 2020). Between 2014-2018 there were an estimated £36.6m of acquisitions in the low carbon and renewable energy sector in the UK, with Scotland accounting for £7.1m (Office for National Statistics, 2020).

Despite Scotland's offshore wind capacity increasing by over 250%, employment in the sector declined from 2000 to 1,700 between 2017-18 and remain a fraction of the direct jobs predicted a decade earlier (Scottish Trade Union Congress, 2020). Renewable companies, such as the French state-owned utility company EDF, have outsourced turbine manufacture to an Italian company and most of the 54 steel foundations are expected to be built in low-wage Indonesia and shipped to Scotland – each one releasing up to 4,500 tonnes of CO^2. Wages on foreign and UK registered ships carrying out survey work for offshore wind sites, cable laying and activities are as low as $2.44 per hour (ibid).

Growth of PPP renewable energy projects in developing countries

UK Climate Investments LLP (UKCI) is *"…a joint venture between the Green Investment Group (GIG) and the UK Government's Department for Business, Energy and Industrial Strategy (BEIS). UKCI has a dedicated team of investment professionals who are supported by the wider Green Investment Group team and Macquarie Infrastructure and Real Assets' global platform and networks."* The Green Investment Group wholly or jointly finance renewable energy projects and own and operate projects singularly or as part of joint ventures with other energy companies.

A World Bank Group, Climate Investment Funds, Energy Sector Management Assistance Program and Public-Private Infrastructure Advisory Facility study of the role of the public sector in mobilising commercial finance for solar projects in developing countries recently concluded *"Public financing for solar PV plants is not critical, given the commercial maturity of the market"* (World Bank Group et al, 2019). It also recommended governments' plans and policies should be predictable and offer long-term visibility; they should undertake reforms for financially sustainable power utilities, to reduce the reliance on government guarantees; and should invest in grid infrastructure, especially for solar PV deployment (ibid).

The fundamental flaws of PPPs was clearly summarised by UNCTAD (2019):

> *"The World Bank has acknowledged that, despite its efforts, PPPs have attracted very little private investment. Even where they have been more successful, the risks were generally borne by the Bank and host country governments (IEG of the World Bank, 2014). PPPs in infrastructure have, moreover, undermined transparency and public accountability as they frequently appear as "off book" transactions. Infrastructure is a public good that must be broadly accessible, but accessible and inclusive infrastructure may conflict with the objectives of private investors who seek to recover upfront investment costs through user and other fees. Blended finance introduces additional opportunity costs. It is increasingly being used as aid, which typically favours private partners from donor countries, while being driven by profit rather than public interest."*

Corporate responses and strategies

Eliminating fossil fuels

Green Deals are intended to ensure rapid decarbonisation with a 'just transition' to renewable energy which means the run-down and stranded assets of coal, oil and gas industries in parallel with the expansion of investment and green energy assets and production. This provides extensive opportunities for corporate welfare such as the private sector obtaining guarantees, subsidies, grants, tax concessions, contracts and commissions that will ultimately influence the impact and effectiveness of Green Deals.

Climate action policies and targets will challenge the vested interests of finance capital and the drive for capital accumulation by shrinking or eliminating fossil fuel markets and requiring valuable assets to be stranded. Fossil fuel companies, private equity funds, pension funds, insurance companies and investment funds could incur losses. Finance and industrial capital will inevitably seek to have a significant role in the wide sweep of contracts required in the implementation of climate policies.

The scale of the task should not be under-estimated. For example, the World Bank Group announced in December 2017 that it would no longer finance exploration and extraction of oil and gas after 2019, in line with the 2015 Paris Climate Agreement. Yet the Bank recently agreed to provide US$55m to Guyana to aid fossil fuel extraction by a consortia of ExxonMobil,

Hess and China's state-owned CNOOC (Jolly, 2020). The World Bank Group continues to prioritise fossil fuel projects over renewable energy. For example its active energy project finance of equity, loans and guarantees is US$20.8bn for fossil fuel projects compared to US$7bn for renewable energy projects, excluding large hydropower (Urgewald, 2019).

The Sanders US Green New Deal includes a section on 'End the Greed of the Fossil Fuel Industry and Hold them Accountable' and consists of a series of proposals.

Financial (end fossil fuel subsidies, polluter pays, prosecute and sue for damages, divest Federal pensions from fossil fuels, place a fee on imported carbon pollution-intensive goods and pressure financial institutions to transition investments to clean energy bonds). However, renewable energy projects are likely to lead to a surge in a demand for new subsidies, guarantees, tax concessions together with demands that the public sector bear a large share of the reclamation costs of coal, oil and gas production sites.

Bans of offshore drilling, fracking and mountaintop removal coal mining, ending all new fossil fuel infrastructure permits and imports and exports of fossil fuels.

Energy Charter Treaty is an international agreement with investment rules that apply to 53 countries, including the European Union, which has led to 129 corporate claims by March 2020, a record for trade and investment agreements. Governments have been ordered or have agreed to pay over US$52bn in damages to fossil fuel companies. The ECT is the world's most dangerous investment agreement. It: undermines democracy and could put a brake on climate action; limits sovereignty and policy-space to regulate in the public interest, including for affordable energy prices; investor privileges do not bring the claimed economic benefits; locks-in countries for decades; and modernisation is an attempt to re-legitimise an outdated, dangerous, and increasingly controversial agreement (Corporate Europe Observatory et al, 2020).

Regulatory controls and sanctions: The corporate sector's core strategy of capital accumulation and the related strategies will continue. The private sector will seek to own and control large parts of renewable energy (to expand current market share), retrofitting activities, infrastructure design, build, finance and operate and will seek to diversify into climate change activities such as consultancy and the provision of services. They will also try to slow down the transition process as a means of delaying their exit from fossil fuels whilst trying to maximise opportunities in the implementation of climate policies.

Private equity and investment companies are concerned about the impact of climate polices on their assets. For example, BlackRock Inc. with US$7 trillion assets under management and Larry Fink, Chair and CEO, BlackRock recently wrote to its CEOs:

> "*Climate change has become a defining factor in companies' long-term prospects. Last September, when millions of people took to the streets to demand action on climate change, many of them emphasized the significant and lasting impact that it will have on economic growth and prosperity – a risk that markets to date have been slower to reflect.* ***But awareness is rapidly changing, and I believe we are on the edge of a fundamental reshaping of finance.*** (BlackRock, 2020, bold text in original).

But that was in the very early stages of the Covid-19 pandemic. This is greenwashing unless companies like BlackRock directly implement climate action policies across all their property, infrastructure and business interests.

Growth forecasts: In March 2020 Australia had 96 projects in construction or due to start construction soon. Wind projects will increase generation capacity by 6,196 MW at a capital cost of A$10,250m and create 5,018 jobs. Solar projects will increase generation capacity by 5,769 MW at a capital cost of A$10,071m and create 9,094 jobs (Clean Energy Council, 2020).

Far reaching consequences of the coronavirus pandemic, which led to very significant publicly financed support for businesses and laid-off/unemployed workers, rapidly increased health spending all of which has led to increased public debt plus the loss of economic demand resulting in reduced spending caused by the lockdown and loss of manufacturing output.

Markets in the healthcare system

The UK's National Health Service have been subjected to a varying degree of marketisation and privatisation

over the last 40 years. The social care sector has largely been privatised as local authorities sold off residential care homes from the mid 1970s onwards with private equity firms gaining a significant market share. Support services such cleaning, catering, and porters were subjected to outsourcing under Thatcherism. The NHS has been subjected to privatisation by stealth for out-of-hours services, transport and other services as a result of continuous pressure from the neoliberal phalanx of private health corporate interests, right-wing ideologues in Parliament and neoliberal public managers (Whitfield, 2020a).

Most new hospitals since the 1990s have been built under the Private Finance Initiative, and although the programme has been terminated, the contracts of some hospitals remain operable for the next two decades. Some trusts have outsourced cancer screening services and the operation of specialist equipment such as scanners. Nationally the Department of Health and the NHS have made extensive and expensive use of management consultants. The provision of many health centres in the primary care sector, at least in the urban areas of England, have been built under the Local Improvement Finance Trust (LIFT) PPP model which continues separately from the terminated PFI programme. The centres provide doctors surgeries, physiotherapy and pharmacies.

Several other European countries have universal healthcare systems financed by taxation. However, there is wide variation in healthcare systems globally in the degree of universal access, the public/private share of provision, the role of primary and secondary private or non-profit insurance, the delivery of primary care; and charges to patients. See health system profiles of 20 countries in Commonwealth Fund (2020).

Part 3
Green Deals

This section illustrates the scale of the climate change targets in the UK, Republic of Ireland, USA and Australia, the risks involved in climate change, analysis of Green Deals, retrofitting housing using the UK as an example, the cost of rising sea levels and the restoration of nature and biodiversity (Table 3.1). The focus is inevitably on sectors of the economy that account for the largest levels of greenhouse gas emissions which vary between economies.

Energy supply and transport are significant emitters of greenhouse gases in all four countries with agriculture a significant sector in three countries. However, differences in the categorisation of some other sectors, such as business, residential and industrial process, make the identification of other priority sectors difficult to identify.

Climate risks

Physical climate change risk has seven characteristics which are generally increasing except some areas may gain increased agricultural yields in Canada, Russia and norther Europe. Other risks are spatial (wide variation between and within countries), nonstationary (changing parameters about infrastructure design), nonlinear (changing thresholds and ability to adapt), systemic (flooding can impact on property values, insurance costs, tax revenue), regressive (poorest communities most vulnerable) and unprepared (adapting to pace, scale and cost of change) (McKinsey, 2020).

The process of achieving decarbonisation and the rapid expansion of renewable energy projects will encounter significant risks including:

Table 3.1: Annual greenhouse gas emissions by sector in UK, Republic of Ireland, USA and Australia *(a metric ton of carbon dioxide equiv - $MtCO_2e$)*

	UK		Republic of Ireland		USA		Australia	
	2018	%	2017	%	2017	%	2019	%
Energy supply	104.9	23.2	11.7	19.3	1,778.3	27.5	1178.1[1]	133.6[1]
Business	79.0	17.5	5.5	39.5			2100.5[2]	218.9[2]
Transport	124.4	27.6	12.0	19.8	1,866.2	28.9	100.3	18.9
Public	8.0	1.8	0.8	1.5				
Residential	69.1	15.3	5.7	9.5	330.9	5.1		
Agriculture	45.4	10.0	20.2	33.3	582.2	9.0	66.4	12.6
Industrial process	10.2	2.3	2.1	3.7	1,436.5	22.2	34.7	6.5
Waste management	20.7	4.6	1.0	1.5	416.0	6.4	11.8	2.2
Land use, land use change & forestry	-10.3	-2.3	n/a	n/a	-714.1	-11.1	-18.4	-3.5
Other							57.3	10.8
Total CO_2			**60.7**	**100.0**			**530.7**	**100.0**
Other greenhouse gases					46.6	0.7		
Total greenhouse gases	**451.5**	**100.0**	**60.7**	**100.0**	**5,742.6**	**88.9**	**530.7**	**100.0**

Sources: 2018 UK Greenhouse Gas Emissions, Final Figures, Department for Business, Energy & Industrial Strategy, 2020: Ireland's Greenhouse Gas Emissions Projections 2018-2040, Environmental Protection Agency, 2019, Dublin; U.S. Greenhouse Gas Emissions and Sinks, 1990-2017, U.S. Environmental Protection Agency, Table 2-10, 2019; Quarterly Update of Australia's National Greenhouse Gas Inventory: June 2019, Department of the Environment and Energy, 2019. Note: Some columns do not sum because of rounding. 1. Combines electricity generation and emissions from solid fuels (coal mining) and oil and natural gas extraction, processing and transportation. 2. Includes manufacturing, construction, commercial and residential sectors. 3. Includes manufacturing combustion (7.7%) and commercial services (1.8%).

- Failure to achieve decarbonisation targets;
- Private sector refuse to strand coal, oil and gas assets within agreed timetable;
- Additional public and/or private costs rise above forecast;
- Market failure as rate of retrofitting private housing stalls;
- Quality of work does not meet standards;
- Employment targets not achieved – job losses exceed jobs created and many employers ignore 'just transition' regulations;
- Conversion projects locked in legal and financial disputes over viability of projects;
- Environmental works fail to prevent continued flooding.

Analysis of Green deals

The European Green New Deal has the following elements:

- Increasing the EU's climate ambition for 2030 and 2050
- Supplying clean, affordable and secure energy
- Mobilising industry for a clean and circular economy
- Building and renovating in an energy and resource efficient way
- Accelerating the shift to sustainable and smart mobility
- From 'Farm to Fork': designing a fair, healthy and environment-friendly food system
- Preserving and restoring ecosystems and biodiversity
- A zero-pollution ambition for a toxic-free environment
- Pursuing green finance and investment and ensuring a 'just transition'
- Greening national budgets and sending the right price signals
- Mobilising research and fostering innovation
- Activating education and training
- A green oath: 'do no harm' (European Commission, 2019a)

UK – Green New Deal (Green New Deal Group); England & Wales - Green New Deal (Green Party); The Green New Deal for Scotland (Common Weal). A Green Deal for Scotland was costed at £170bn spread over 50 years. It is estimated that £160bn (94%) of this expenditure is classified as manufacturing and construction with the remaining £10bn (6%) as expenditure on services. Hence Green Deal expenditure will focus on 25% of the economy (production 18% of GDP, construction 6% and agriculture 1%) because services account for 75% of GDP in the economy.
USA – The Sanders US Green New Deal includes Medicare for All, tuition-free college and student debt cancellation, universal childcare and pre-kindergarten, elimination of homelessness and was costed at $16.3 trillion plus a further $53 trillion over 10 years for (Sanders, 2020). It includes retrofitting housing, public buildings, sports facilities (such as schools, hospitals, care homes) and business premises with new heating systems, insulation and increase weather resistance; a national broadband network that is fast and reliable; repair and improvement of water systems; coastal, river and river basin protection to prevent erosion and flooding and improve land drainage in general; public land conservation and de-commodification of nature and biodiversity and increased forestation; sustainable agriculture and horticulture.

Underlying assumptions in Green Deals

The absence of proposals to significantly increase public management will be a major drawback for the implementation of a Green Deal and the related other strategies for the welfare state, the quality of employment and reducing inequalities.

Acceleration of climate change leads to the need for a climate emergency which has become the exclusive policy focus and action strategy resulting in the marginalisation of other crises or emergencies such as the future of welfare states; the need for strategies to harness automation and digitalisation for social need; increasing global inequalities; and crises caused by increasing political polarisation.

The climate crisis is a critical issue but there is a danger of it is becoming exclusive and resulting in the marginalisation of industrial strategy and the future of the welfare state, particularly after a decade of austerity cuts in many countries. The vague talk about trade deals and new Brexit 'freedom' is meaningless because it excludes discussion about how to harness automation and digitisation for social needs and reducing inequality and poverty.

> *"We need a carbon-free economy that explicitly addresses human dependence on the biosphere and policies that guide economic decisions accordingly. Our goals need to shift from GDP*

growth and the pursuit of affluence toward sustaining ecosystems and improving human well-being by prioritizing basic needs and reducing inequality" (Ripple et al, 2019).

Stranded fossil fuel assets

The global cost to energy companies of stranded energy assets, keeping fossil fuels in the ground, is estimated to be $989bn to meet the 1.5c warming target (Livsey, 2020). Regulation and monitoring of stranded fossil fuel asset sites will need to ensure there are no carbon dioxide or methane gas leakages or attempts are made to reactivate the sites.

It is likely that 100% targets will not be met because of technical/operational reasons, such as the failure to achieve 100% 24hour sustainability of supply from renewable sources and/or persistent opposition and delaying tactics of fossil fuel companies and investors. Thirty years may seem time enough to technically achieve the targets but based on recent economic history there could be at least two major economic crisis/recessions in the 30-year period which could severely slow progress.

Community-owned renewable energy projects

There is currently limited role for community-owned renewable energy projects or projecting this 'solution' for rural areas and small towns on to larger cities, regions and national in developed and developing countries at a time of increasing urbanisation and growth of mega-cities.

The context of public policy priorities and resources in a post-coronavirus crisis situation is difficult to predict and whilst public health policies and the economy will be an immediate priority this should not exclude longer-term planning by governments and public authorities to gain a significant share of future renewable energy generation.

Retrofitting homes, public facilities and business premises

Retrofitting housing can significantly reduce greenhouse gas emissions because heating and hot water for UK homes accounts for 25% of total energy use and 15.3% of greenhouse gas emissions in 2018 (Department for Business, Energy & Industrial Strategy, 2020). Electricity for appliances and lighting accounted for further 4% of greenhouse gas emissions. Very few homes are air-conditioned although rising temperatures could increase demand and emissions (Committee on Climate Change, 2019).

Retrofitting of public facilities, houses, flats and apartment buildings and business premises will need to include insulation of floors, walls and roofs, double or triple glazing with shading, low carbon heating, draught proofing, highly energy-efficiency appliances, highly water-efficient devices, green space (for example, gardens and trees) and flood resilience and resistance. This will require new design and construction standards for retrofitting and regeneration areas; state planning to ensure production and supply of heat pumps, triple glazing and other appliances and equipment.

An earlier UK Green Deal retrofitting 'flagship' policy (launched in January 2013) ended in March 2016 having improved only 14,000 homes. The Conservative/Liberal Coalition government had spent £240m with a further £3bn cost to suppliers in meeting their energy company obligations but scheme had not generated additional energy savings and was not value for money' (National Audit Office, 2016). The scheme was poorly designed, had limited financial appeal and had a narrow engagement with consumers (Rosenow and Eyre, 2016). This Green Deal was based on a pay-as-you-save scheme that avoided the need for capital but nevertheless led to government loans and a planned deal with the later privatised Green Investment Bank. *"Ultimately, this failure of their preferred private financing model was the critical issue prompting the end of the policy"* (ibid). Clearly any future retrofitting scheme cannot rely on significant take-up if it relies solely on house-holder finance.

Australia launched a A$3.9bn Energy Efficient Homes Package in 2009 as only an estimated 60% of homes were insulated. The scheme has three parts – incentives for owner-occupiers to install insulation; another for tenants and private landlords and one for the installation of solar hot water heaters. The insulation programme insulated 1.1m roofs at a cost of A$1.45bn but it *"…has been a costly program for the outcomes achieved, including substantial remediation costs"* (Australian National Audit Office, 2010). 75,000 homes had to be re-inspected because of electrical safety concerns at a cost of A$424m. Programme risks were under-estimated, programme administration was under-resourced, inadequate

governance, no monitoring of job creation - later estimated to be between 6,000-10,000 (ibid).

The physical and mental health benefits of improving thermal efficiency, reducing dampness and noise, creating warmer and drier temperature, reducing fuel poverty, and reducing environment-attributable deaths and diseases have been widely quantified (for example, Prüss-Ustün et al, 2016; International Energy Agency, 2014; Marmot Review Team, 2011; Adams and Monaghan, 2015; and European Commission, 2015). Poor housing conditions are currently estimated to cost the NHS £1.4 – £2.0bn per annum in England alone due to excessively cold homes, falls on internal or external stairs and injury from fires (Nicol et al, 2015).

An integrated approach is essential because of the impact of policies across sectors. For example, climate action policies, such as retrofitting housing, requires an integrated public sector approach to deal with the range of issues that will arise in cases where temporary rehousing is required, coordinating support for those with a disability or older people receiving care packages at home.

Retrofitting the public and private housing stock and business premises will be complex, resource intensive and will have potential operational impacts that must be foreseen in the planning process. It cannot be undertaken by outsourcing to local or national builders because it would almost certain to result in disputes, complaints and long lists of rectification works. Local or regional Public Construction Organisations should be established to undertake and coordinate retrofitting of housing, public building and business premises and provide longer-term repair, maintenance and improvement services (Chapter 15, Whitfield, 2020a). These organisations should play a key role in ensuring the consistently good quality retrofits and contribute to new housing design and construction systems built to high energy, heating, insulation, space and quality standards, with security of tenure and affordable public housing. This approach will improve people's health and reduce the impact on health services.

Retrofitting will have to take account of the following:

- Legislation and regulations for different levels of retrofitting;
- Geographic inequalities and local needs in planning work programmes;
- Multi-skilled teams of surveyors, heating engineers, glazing and building workers;
- Race/equality training essential for all employees;
- Decisions made on the scale of heating replacement, electrical and window glazing based on building condition and sustainability for a retrofit;
- Temporary or permanent rehousing may be necessary where residents have health issues and cannot remain during the works;
- Public provision should ensure the quality of employment, working conditions, health and safety, pension contribution schemes and trade union representation;
- Access to grants and appeals procedure;
- Increased inequalities faced by low income home-owners in application process and affordability, particularly for low income pensioners;
- Monitoring and inspection of retrofitting work, process for responding to poor performance, identifying rectification work to address defaults and dealing with disputes.

The UK housing stock in 2019 was 63.7% owner-occupied, 19.2% privately rented and 17.1% local authority/housing association. Thus over four-fifths of the total costs would be borne by owner-occupiers. Given the scale of individual and total costs, it is clear that significant public financial support through grants/loans will be needed to achieve retrofitting targets. Average future household energy savings of between £70-£260 per annum would meet only a very small proportion of the retrofit costs. A repayment of loans via energy bills will take a long time to conclude. The analysis took account of the 3m public housing homes in England that had been improved to the Decent Homes Standard by 2016 and a further 120,000 in separate retrofit projects. However, it does not take account of the poor design and construction quality of new private housebuilding (Kollewe, 2017). Fewer than 500,000 homes have low carbon heating (Committee on Climate Change, 2019).

Some 85% UK dwellings have natural gas heating which would normally have to be replaced by heat pumps but would put additional demand on power generation. Research is underway to examine the feasibility of blending hydrogen with natural gas which would not require any changes to appliances (Department for Business, Energy & Industrial Strategy, 2018). Replacing natural gas with 100% hydrogen is another alternative (Thomas, 2019). Hydrogen projects are underway in Denmark (Milne, 2020), California (Global Construction Review, 2020)

Table 3.2: Cost of retrofitting UK housing

Measures	Unit cost (£)
Air source heat pump and ultra-high level of fabric efficiency (equivalent to a space heat demand 15 kWh/m2/yr)	26,300
Passive cooling measures package	9,200
Water efficiency package of measures	3,300
Flood resilience and resistance package of measures	3,100

Sources: See Table 1.1 in Committee on Climate Change, 2019 for the basis of the calculations produced by construction consultants.

and Norway and Australia (IEA Global Renewables Outlook, 2020).

The estimated cost of retrofitting housing in the UK is based on 27.2m households minus 500,000 that currently have low carbon heating according to the Government's Committee on Climate Change (2019). It includes the cost of heat pumps because the feasibility and cost of using hydrogen alongside natural gas is unknown so an alternative cost model is not currently possible. The cost of retrofitting is based on four elements described and costed in Table 3.2 following work commissioned by the Committee on Climate Change from three construction consultancies.

Various policies and projects led to about 10m homes having loft insulation and about 6m having cavity wall insulation between 2008-2017 (ibid). Taking account of this insulation rate combined with installations before and after this period and the very low rate of solid wall insulation, the cost of the heat pump and ultra-high level of fabric efficiency in Table 3.2 has been reduced to £21,300.

The cost of the flood resilience package is only applied to 10% of households because an estimated 90% reside in geographic locations where flooding would be unlikely or reside in flats. The passive cooling and water efficiency measures are included in the cost estimate.

The total cost of retrofitting UK public and private housing is estimated to be £911bn (Table 3.3). It excludes the estimated £10bn fire safety costs that housing associations face following the Grenfell disaster (Booth, 2020) and the public sector administrative costs of a grant/loan scheme that is likely to be required to persuade owner-occupiers and private landlords to retrofit. The costs are based on 2030 prices. If phased over a 30-year period the annual cost will be £30.4bn at 2030 prices.

Table 3.3 excludes the cost of retrofitting business premises. The cost excludes the backlog of repairs and maintenance which will have to be completed as part of the retrofitting process. The cost would significantly smaller if hydrogen can successfully replace or be used in combination with natural gas in the existing network which would avoid the cost of installing heat pumps as noted above.

The public/private distribution of costs will ultimately depend on the level of government grants to incentivise owner-occupiers and private landlords to retrofit. The effect of a 33.3% grant scheme for owner occupiers and private landlords would be to increase the public cost to £407bn and reduce the private sector cost from £755bn to £504bn. Retrofits increase durability of houses and flats and ultimately the value of public and private assets. The cost of retrofitting housing in other countries will be highly dependent on

Table 3.3: Possible public/private distribution of retrofit costs

Sector	UK % of stock 2019	Public cost £bn	Private cost £bn	Total £bn
Public housing	17.1	156	–	156
Owner-occupied	63.7		580	580
Private rented accommodation	19.2		175	175
Total	**100.0**	**156**	**755**	**911**

Note: The share of costs in England, Wales, Scotland and Northern Ireland reflects the structure of the stock in each jurisdiction

stock ownership, the type of housing, climatic conditions and heating systems.

The Kirklees Warm Zone was an energy efficiency project that insulated lofts and cavity walls in 51,000 home over a three-year period finishing in late 2010. The cost was £20.9m financed by Kirklees Council (£11.7m) and Scottish Power (£9.2m) and created 126 full time jobs, plus 79 indirect jobs and 44 induced jobs (Butterworth et al, 2011). Other economic benefits included reduced CO2 emissions, fuel savings, savings to the NHS, and increased house value and a net benefit of monetised values of £248.8m. The same work on a national scale would create 128,650 direct, indirect and induced employment impact although this represents only one part of a retrofitting programme.

Public Housing USA

Senator Bernie Sanders and Representative Alexandria Ocasio-Cortez launched a Senate Bill for a US$100bn Green Deal for public housing in November 2019. The plan sought to rehabilitate, upgrade, modernize, and transition public housing; to rehabilitate public housing that is severely distressed and causing residents to be exposed to unhealthy and unsafe environments; to upgrade and equip all public housing with cutting-edge materials, infrastructure, and all-electric appliances made in the United States in order to improve energy efficiency, water quality, and material living standards in public housing; to support United States manufacturing; to modernize public housing laws in order to maximize tenant participation and management by low- and very low-income individuals in the rehabilitation, upgrade, and transition of public housing through education, training, and jobs; and to transition the entire public housing stock of the United States, as swiftly and seamlessly as possible, into highly energy-efficient homes that produce on-site, or procure, enough carbon-free renewable energy to meet total energy consumption annually (Sanders and Ocasio-Cortez, 2019).

Rising sea levels, flooding and natural disasters

The threat of continued and more expansive flooding of cities and rural areas is confronting many countries as a result of rising sea levels, melting glaciers and heavier rainfalls.

Six major floods have occurred in England, Wales and Scotland in the last twenty years that affected 100,000 homes and cost over £7bn. This excludes the impact of the extensive 2019/20 winter floods. UK Conservative governments have consistently ignored the findings of the 2008 Pitt review following the flooding of 55,000 properties in June/July 2007 when 7,000 people had to be rescued and 13 people died. The review recommended that spending on flood defence be increased 10% annually which the then Labour government enacted for two years but then Conservative austerity spending meant that an average annual increase of 1.2% since 2010/2011 (Wren-Lewis, 2020). Another study concluded that revenue funding had increased by only £3m in real terms between 2009/10 and 2018/19 whilst capital expenditure had increased by a mere £34m in real terms since 2009/10 (Scape Group, 2020).

Despite repeated flooding in many areas, 70,000 homes have been built on flood plains that were not insured and 20,000 were not protected by flood defences (Tanner, 2020). Furthermore, 11,410 new homes are currently planned for seven high-risk flood areas (Halliday and Barratt, 2020). There is a clear case for the relocation of people with homes and businesses in flood plains to avoid the heartache, personal health and costs of further flooding given the IPCC forecasts. This could add several £bn in relocation and compensation costs.

The cost of protecting US coastal communities from rising sea levels

Rising sea levels in the last century have been caused by global warming which increased the volume of oceans plus the result of melting mountain glaciers and the Antarctic and Greenland ice sheet loss. The basic costs for the US alone are substantial.

The analysis developed four scenarios ranging from aggressive reduction in carbon emissions to 'business as usual' with minimal change in emission levels and used IPCC forecasts of changes in sea levels. The cost analysis is based on the second scenario with an estimated sea level rise of 11-24 inches by 2100. It is based on a 1-year storm surge of 6.5 feet which reflects common storm events. However, 100-year storm surges such as Hurricane Sandy which had a 13ft storm surge *"…will become more prevalent as climate change worsens"* (Center for Climate Integrity, and Resilient Analytics, 2019). Global economic damage from flooding was US$82bn in 2019, the

largest cost of natural disasters, but only US$13bn (16%) of damage was insured (Aon, 2020).

The cost of increasing seawalls in the US alone is estimated to be US$416.2bn by 2040 for 50,145 miles of sea defences, rising to US$518.2 by 2100. But these costs *"…reflect the bare minimum coastal defenses that communities need to build to hold back rising seas and prevent chronic flooding and inundation over the next 20 years. They represent a small portion, perhaps 10 to 15 percent, of the total adaptation costs these local and state governments will be forced to finance during that time and into the future"* (ibid).

Four states had significant cost forecasts for 2040 - Florida US$75.9bn, Louisiana US$38.4bn, North Carolina US$34.8bn and Virginia US$31.2bn. Another study concluded the global sea level rise had been under-estimated and could exceed 2 metres by 2100 resulting in a land loss of 1.79 M km2, including regions of food production, and displacement of up to 187m people globally (Bamber et al, 2019).

Restoration of nature and biodiversity

> *"The nature of private investment is to focus on financial risks and returns and revenue streams, but many nature-related projects have no revenue source. Indeed, nature tends to benefit when there is less economic activity. Conversely, it can be easier to finance businesses that keep their costs low by harming nature. Attempts to create revenue sources from nature projects using innovative financing models have produced mixed results: ecotourism remains a niche; biodiversity offsetting has major conceptual flaws and a poor record of protecting nature; and Payments for Economic Services (PES) schemes such as conserving biodiversity or maintaining watersheds are, in reality, public subsidies"* (Finance Watch, 2020).

Green Deals must revert the commercialisation of nature and biodiversity which should be treated as public goods with public protection and strong regulatory frameworks. They should specifically address the commodification and privatisation of nature and biodiversity. They fail to challenge The Economics of Ecosystems and Biodiversity (TEEB) United Nations Environment Programme (UNEP) which has been accepted by most nation states and public authorities. For example, the European Green Deal refers to *"…Europe's natural capital"* and earlier EU guidance on *"…integrating ecosystems and their services into decision-making".*

Proposed Green Deal policies

Increase direct public investment in renewable energy generation, storage and distribution Government and public authorities should increase investment and ownership in new projects and operational assets to strengthen their role in the planning, provision and operation of the renewable energy sector;

Nationalise major fossil fuel generation and supply companies and national grid – the cost must reflect the phasing out of fossil fuel generation, the cost of closures and reclamation, and monitoring stranded assets;

Increase energy efficiency standards for new buildings: There is a significant gap between the claimed energy efficiency of many new homes and the level of defects that compromise energy efficiency on handover to buyers;

Support and collaborate with research on use of hydrogen and other technologies – see above for research and application;

National network of electric rapid recharging stations is essential for the expansion of electric car ownership and for the electrification of bus, van and truck fleets;

Retrofitting of housing, public buildings and business premises requires detailed planning and costing with decisions made on the level and terms and conditions of public grants and/or loans that may be available to private homeowners and landlords. This must include administration of the scheme and draw on the lessons learnt from earlier failed projects;

Works to increase protection against sea level increases and floods should be planned and resourced so that they can be programmed and commenced. A rehousing from flood plains could be commenced immediately;

Appliance replacement programmes for household items such as cars, refrigerators and other older electrical equipment, will increase energy efficiency,

reduce energy costs and increase employment in the manufacturing sector. Colombia started a five-year 'return and save' National Program for Refrigerator Replacement in 2017 with a 14-point VAT reduction. Household energy is expected to reduce by 15%-35%, reduce CO2 emissions and ensure environmentally friendly disposal and recycling plus industrial benefits (Ministry of Mines and Energy, 2018);

Conversion of bus, van, small truck and taxi fleets to renewable energy: Public sector organisations have fleets of vehicles ranging from national post offices, delivery and waste collection vehicles where conversion to renewable energy can have a significant impact;

Job training and apprenticeships in new technologies is critical to increase public sector capability and to increase employment opportunities in the renewable energy sector, industrial and manufacturing and research.

Part 4
Integrated Public Healthcare System Deals

The Public Healthcare System

The system has four parts:

Public Health includes surveillance, monitoring, health protection and promotion and disease prevention – see below.

Primary Care includes general practice, community nursing service, occupational therapy, mental health, physiotherapy, community pharmacy, dentistry and optometry for the diagnosis of ill health, referral to secondary care services, prescribing, direct management of acute illness and long-term conditions, rehabilitation and health promotion. Delivered through surgeries, clinics, health centres and home visits.

Medical Care includes in-patient, out-patient care, ambulance and emergency services, radiation and chemotherapy services delivered in hospitals.

Social Care includes care delivered at home, and residential and nursing home provision.

The neoliberal practice of abolishing or weakening environmental regulations is rife in many economies. Samet and Burke (2020) discuss attempts to separate regulation from science and to remove science-based regulations and policies intended to protect public health. The Trump administration has reversed 64 environmental regulations (air pollution and emissions, drilling and extraction, infrastructure and planning, animals, toxic substances and safety, water pollution) with a further 34 underway (New York Times, 2020). The power of US states to veto energy fossil fuel energy projects was further curbed in June 2020 (Meyer, 2020 and Eilperin and Stein, 2020). Indonesia proposes to abolish environmental impact assessments, deregulate mining and relax zoning in coastal areas (Jong, 2020).

The UK government identified a pandemic as the number one risk following the then Labour Government's Health is Global strategy 2008-2013 (HM Government, 2008). But 'complacency amplified by austerity policies' (Wenham, 2020), Brexit and later ignoring WHO advice to 'test, isolate and contact trace' were followed by a series of blunders which contributed to the UK having the highest Covid-19 death rate in Europe. Furthermore, £850m was cut from the ring-fenced public health budget between 2014/15 and the end of 2019 with the areas with the highest needs suffering the highest cuts. *"Almost £1 in every £7 cut from public health services has come from England's ten most deprived communities – compared to just £1 in every £46 in the country's ten least deprived places"* (Thomas, 2019).

Organisational and operational integration of healthcare systems is crucial but is likely to be challenged by professional interests who fear change to the established order and the erosion of their power. These are the same interests that were the root cause of many of the failures in the response to the pandemic – the lack of joint planning and communication, the failure to distribute personal protective equipment according to need, protectionism of public/private interests and institutional racism.

Scope of public health

Ten essential Public Health Operations are promoted by the World Health Organisation although there are some variations in emphasis between regions:

1 Surveillance of population health and wellbeing.
2 Monitoring and response to health hazards and emergencies.
3 Health protection including environmental occupational, food safety and others.
4 Health promotion including action to address social determinants and health equity.
5 Disease prevention, including early detection of illness.
6 Assuring governance for health and well-being.
7 Assuring a sufficient and competent public health workforce.

8 Assuring sustainable organisational structures and financing.
9 Advocacy communication and social mobilisation for health.
10 Advancing public health research to inform policy and practice.
World Health Organisation, Europe, 2020)

The World Federation of Public Health Associations and the World Health Organisation launched *A Global Charter for the Public's Health* of functions and services in 2016 which condensed the ten functions into seven:

Governance: public health legislation; health and cross-sector policy; strategy; financing; organisation; assurance; transparency; accountability and audit. Information: surveillance, monitoring and evaluation; monitoring of health determinants; research and evidence; risk and innovation; dissemination and uptake.

Protection: international health regulation and co-ordination; health impact assessment; communicable disease control; emergency preparedness; occupational health; environmental health; climate change and sustainability.

Prevention: primary prevention; vaccination; secondary prevention: screening; tertiary prevention; evidence-based, community-based, integrated, person-centred quality healthcare and rehabilitation; healthcare management and planning.

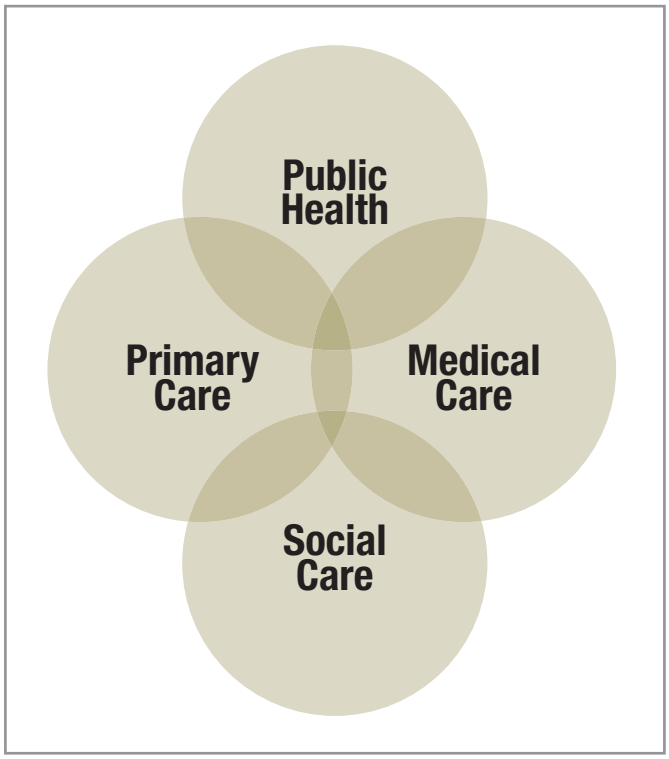
Promotion: inequalities; environmental determinants; social and economic determinants; resilience; behaviour and health literacy; life-course; healthy settings.

Advocacy: leadership and ethics; health equity; social-mobilization and solidarity; education of the public; people-centred approach; voluntary community sector engagement; communications; sustainable development.

Capacity: workforce development for public health, health workers and wider workforce; workforce planning: numbers, resources, infrastructure; standards, curriculum, accreditation; capabilities, teaching and training.

The need for integration is reinforced by the impact of climatic conditions on food production, nutrition, access, humanitarian food supply to displaced populations and access/improvement to public hospitals (Food Security Information Network & Global Network Against Food Crises, 2020). In addition, the delivery of primary care, hospital medical services, rehabilitation, social care and other specific services such as maternity, mental health, disability and dentistry services all operate within the broader Public Health functions outlined above. The marginalisation of one service, for example, social care, has been subjected to marketisation, privatisation and rampant austerity policies which has now been exposed by the high level of patient and care worker deaths in the Covid-19 pandemic.

Figure 4.1: Integration of public health, primary, medical and social care

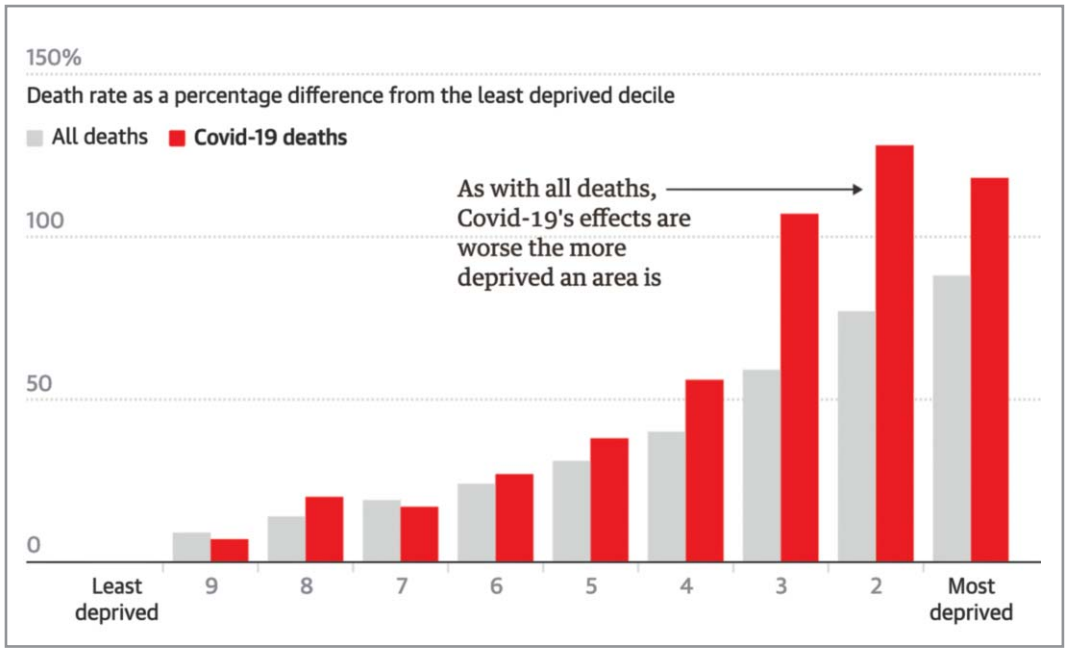


Social determinants in healthcare

Marmot et al (2020) identify six critical policies which must at the centre of the healthcare system:

1 Develop a strategic plan for action on the social determinants with the aim of reducing inequalities in health
2 Proportionate universalist allocation of resources and implementation of policies
3 Early intervention to prevent health inequalities
4 Develop the social determinants of health workforce
5 Engage the public
6 Develop whole systems monitoring and strengthen accountability for health inequalities.

Figure 4.2: Covid-19 has had proportionally higher impact on the most deprived areas of England



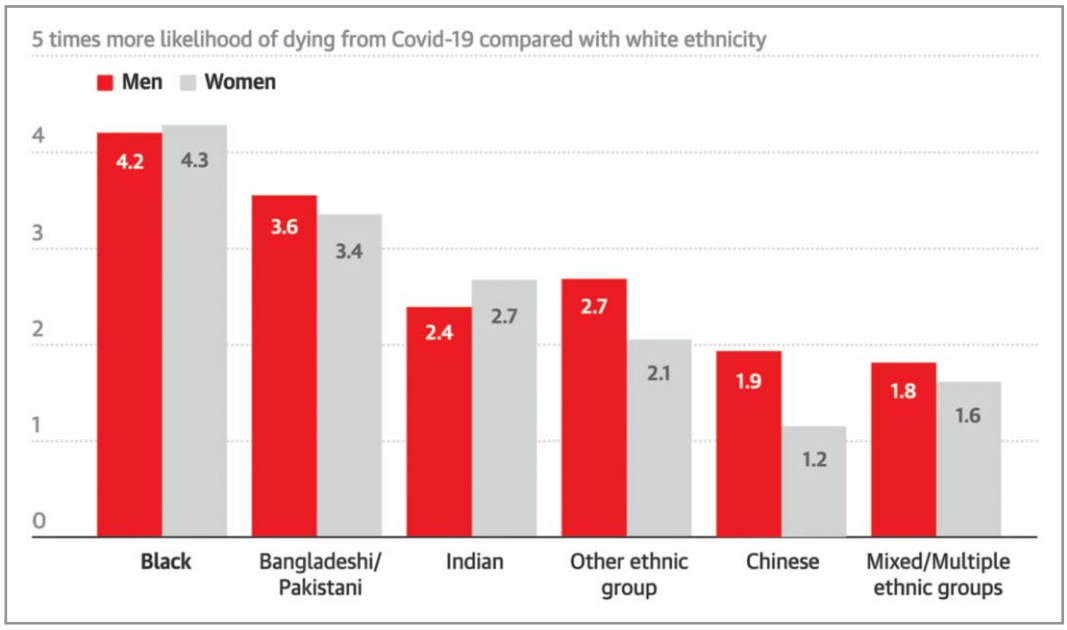
Source: Guardian Graphic – Source: ONS. Note: Age-standardised mortality rates, all deaths involving the coronavirus (Covid-19), Index of Multiple Deprivation, England, deaths occuring between 1 March and 17 April 2020

Race and class in Covid-19 death rates

Not surprisingly, the most deprived areas of England have the highest mortality rates compared to the least deprived (Figure 4.2).

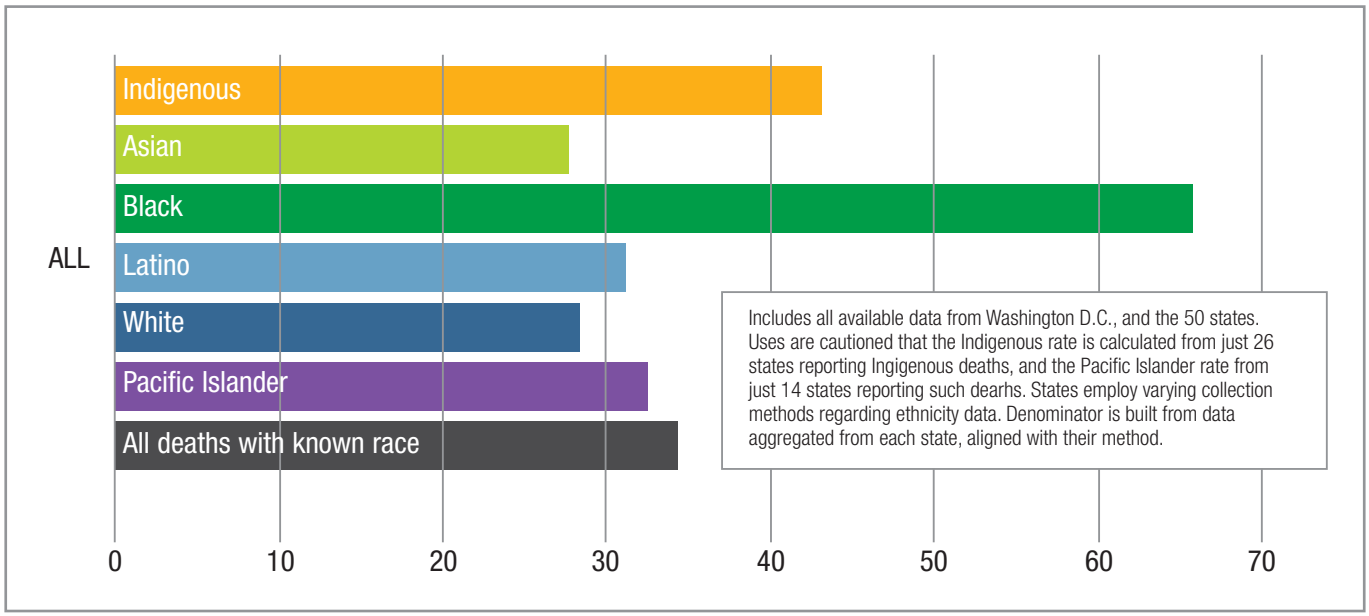
Black people are four times more likely to die from Covid-19 than white people. In fact, all ethnic minority groups have a higher mortality rate than white people in England (Figure 4.3). The Office of National Statistics data only covers the period to 10 April 2020 so further research will be forthcoming. In the USA, the mortality rate for black people is 2.3 times higher than the rate for Asians and Latinos and 2.6 times higher than the rate for white people (APM Research Lab, 2020).

Figure 4.3: Black men and women are over 4 times more likely to die from Covid-19 than their white counterparts



Source: Guardian Graphic – Source: ONS. Note: Age-adjusted-odds ratio for the risk of death involving Covid-19 by ethnicity, 2 March to 10 April 2020

Figure 4.4: Covid-19 has had proportionally higher impact on the most deprived areas of England



Sources: APM Research Lab, 24June 2020.

Black Americans continue to experience the highest overall mortality rates and most widespread occurrence of disproportionate deaths. It has never fallen below twice that of all other groups except for Indigenous Americans.

The health and social care economy

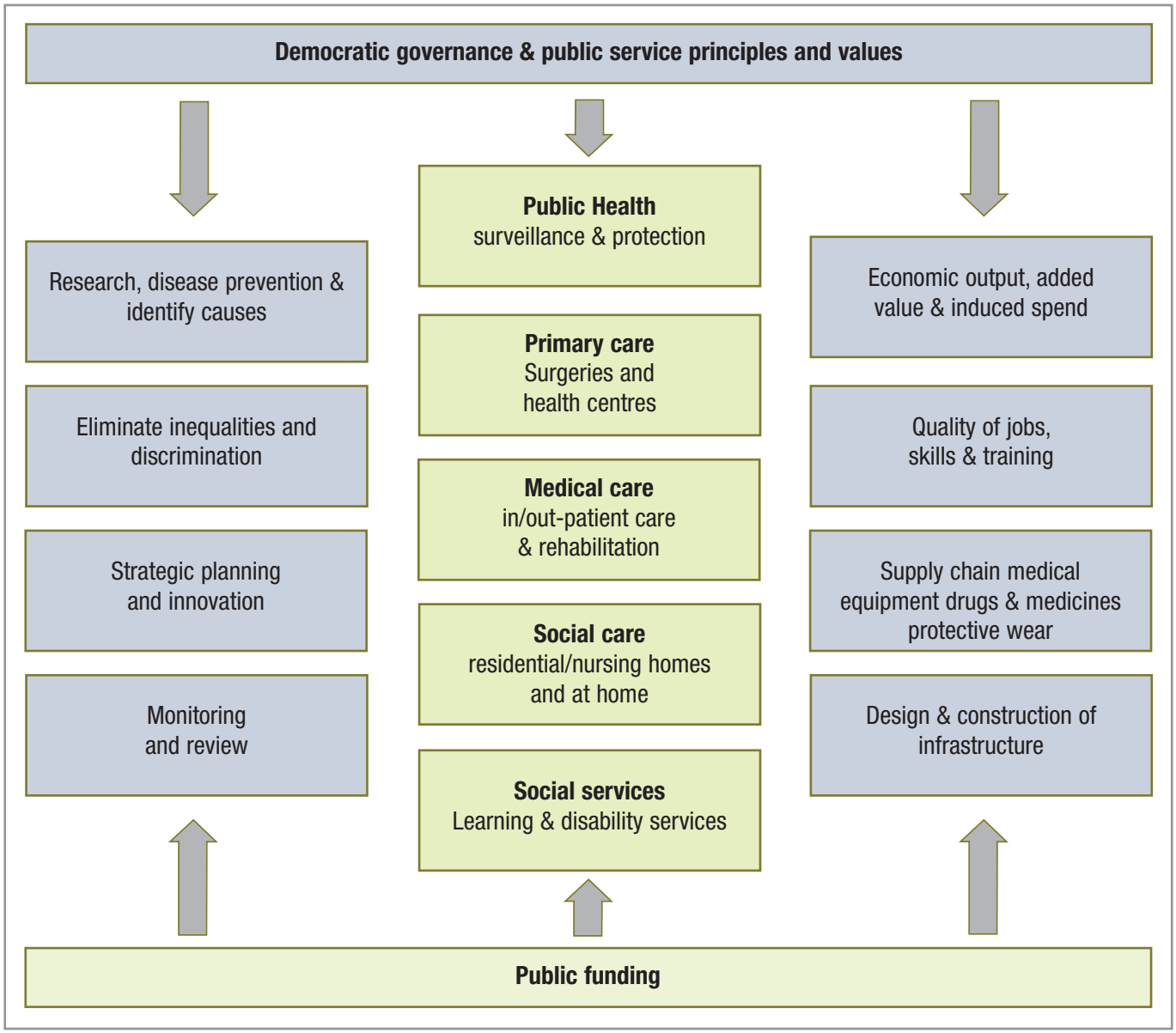
It is vitally important to understand the different functions of public health, primary care, medical care, rehabilitation, social care, research, the skilled staff, the accommodation needed to provide these activities, and the supply of goods and services that enable them to function. The health economy is a major employer in most local economies, which, in turn, supports additional jobs via household spending. For example, the NHS, public authorities, private and voluntary sector organisations employed 551,802 people in England's North West regional economy in 2015, a further 129,433 jobs were supported by health organisations purchasing goods and services in the region and household expenditure by direct and indirect jobs support a further 159,403 jobs – a total of 840,638 jobs (Whitfield, 2015).

There are important linkages between functions, as demonstrated in Figure 3.5, that make the activities and functions interconnected and inter-dependent on each other. Simply, public health activities include health promotion and prevention which improves wellbeing but also reduces the demand for medical care in hospitals which in turn is dependent on social care providing post-operative care in the community. It is an 'economy' because of these dependencies and the need for joint working, not in a commercial or market sense, but through joint planning, collaboration and organisational learning. There are also important links and dependencies to other public authorities, such as social services departments.

The health and social economy cannot be totally self-sufficient because it needs to draw on goods and services (medical equipment, drugs, food) supplied by the wider economy. This requires internal standards, processes and values. However, neoliberal ideology has led to the fracturing of the health and social care economy with the privatisation of organisations, the separation of organisational structures into clients and contractors with their own vested interests, a plethora of outsourcing contracts and social care being subjected to continuous austerity which has had very negative impact on patients, staff and how the whole health and social care economy operates.

Consequently, neoliberal public management has come to dominate virtually all parts of the health and social care economy with its values of competition, privatisation, cost-cutting, the exploitation of labour and the narrow focus on 'outcomes'.

Figure 4.5: The public healthcare system economy



Public Healthcare System Deals

The advantages of the integration of public health, primary care, medical care and social care were set out in Part 1 to increase joint working, improve understanding and to promote the need for better collaboration and ultimately improving healthcare for all. The four elements of the healthcare system are public goods and should be publicly financed, provided, operated and managed.

The threat of further pandemics is real, so the lessons of Covid-19 must be shared across the healthcare system to be better prepared next time and to more effectively provide healthcare to all the patients who have had medical treatment postponed and the outpatients seeking treatment who are now on longer waiting lists.

Achieving equality, economic, social and environmental justice must be a core objective across the entire health economy. Economic, social, equality and environmental impact assessments and cost-benefit analyses must be standard practice for all projects.

A post-pandemic review of social care, including residential, nursing and homecare, must draw out the lessons for the future design, planning and management of facilities together with a resourced strategy to radically upgrade the terms and conditions (including travel expenses where applicable) and occupational pensions for all staff. It must include

trade union rights and representation in negotiating, access to training and career development. The review must include representatives of trade unions, community organisations, women's and other civil society organisations. Given the history of the privatisation of social care beginning in the 1970s in the UK, the social care sector took the brunt of austerity policies following the 2008 global financial crisis and will require extensive vigilance.

A comprehensive review of local/regional/national supply chain delivery and stock of medical and Personal Protective Equipment (PPE) must be undertaken to prevent the abysmal procurement and operational failures experienced during the Covid-19 crisis in 2020 (Hall et al, 2020). The advantages of national supply organisations only exit when they are competent and effective. UK experience included:

- Only 22% of 6,469 social care workers identified as being a priority for testing were able to access testing (National Care Forum, 2020).
- All 400,000 PPE gowns ceremoniously delivered by the Royal Air Force form Turkey had to be impounded because they did not conform to UK standards and will be returned and a refund sought (The Guardian, 2020).
- The UK government launched a new PPE website which took a month to become operational but a week later only 2% of 58,000 primary care, social care and community providers had been invited to use the new portal. By 24 April 5,890 care home deaths had been linked to Covid-19 (Health Service Journal, 2020)

Many other countries also experienced similar difficulties in obtaining PPE.

Proposed Public Healthcare System Deal policies

Prepare a Public Health Climate Plan to identify and prepare for the health risks posed by climate change and how to prevent and respond to them.

Integration of public health, primary care, medical care and social care by 2025 under democratic control and accountability with trade union, community and civil society organisation participation, demonstrated by more joint working and a plan for an integrated healthcare system. It should be implemented in parallel with decommodification and direct public delivery of all services in the healthcare system.

The impact of marginalising key services – social care

- Continuing privatisation of local authority residential care homes after change in funding and improved standards led to an entrepreneurial surge.
- Merger and acquisitions of care homes by private equity funds.
- Exploitation of labour – low wages, poor conditions, few in occupational pension scheme, non-payment of travel expenses and quality of employment excluded from inspection criteria.
- History of poor-quality care in private residential/nursing homes.
- Austerity spending cuts target home-based social care services with widespread outsourcing and further erosion of terms and conditions.
- Decade of blatant disregard by successive Conservative governments.
- Coronavirus pandemic led to up to 62% of deaths occurring in care homes.
- Grave shortage of Personal Protective Equipment and testing for staff in residential and nursing homes and many surgeries.
- Political and trade union difficulties to organise and represent care workers and to build effective opposition.
- The suspension of routine inspection of care homes during the Covid-19 pandemic made them invisible at a critical time (Tarrant and Hayes, 2020).

"Using the market to deliver social care on a low-cost basis had manifestly failed even before the current pandemic: one in five care homes are rated as inadequate or needing improvement, personal care is provided to people in their own homes in 15-minute slots, with the sector as a whole suffering from a 30% turnover rate – a fact which might explain why there are currently over 120,000 vacancies" (Rowland, 2020).

Promote publicly provided national healthcare systems funded by tax revenue, free at the point of use, such as UK, Norway, Sweden, Denmark, Italy and New Zealand, with minimal secondary health insurance.

De-commodify health services with re-integration of client and provider functions, abolition of commissioning, redesign services for public delivery and amend jobs, regulations, democratic accountability, participation and disclosure for social needs – in effect reversal of the marketisation process and termination of contracts and the transfer of assets and staff to the public sector. This would systematically reduce the influence of corporate interests in the health policy making, procurement and infrastructure planning and maintenance processes. This will reduce procurement to the purchase of goods, but not services.

Review local, national and international public health responses to the Covid-19 pandemic and prepare comprehensive resourced plans to be prepared to tackle future pandemics and other health crises by 2021.

Bring private care homes into public ownership and develop a new model of 'life centres', comparable to children's centres, and provide local home care services on behalf of a National Care Service. Emphasis on quality of care, democratic accountability and good terms and conditions for staff.

Significant reduction in health inequalities with allocation of financial resources, targeting of specific inequalities, monitoring and assessment of changes in the health of the population working closely with trade unions, community and civil society organisations will be essential.

Staff recruitment and training programme with upgraded terms and conditions of employment with a minimum of a Living Wage and progression towards a more unified pay structure and employment conditions to promote career development and flexibility.

Rethinking and reorganising supply chains following the global supply failure of personal protective equipment in the Covid-19 pandemic must re-assess procurement practice and the reliance on budget-driven 'lowest price' contracting which ignored the benefits of national, regional or local production and jobs.

Increase public ownership of the health estate with new facilities in future publicly owned and operated including primary care health centres, hospitals and related facilities. Termination or nationalisation of PPP contracts should be developed (Mercer and Whitfield, 2018).

Improve in-house capability, planning and public management and reject all forms of privatisation. Application of digitalisation and automation in healthcare system to ensure it improves access to healthcare re monitoring conditions, patient contribution by administering drugs and taking required exercise and diet - feed into social care system where relevant. Much more preventative system.

Redesign of hospitals and the healthcare system and adoption of health economy model to assess patients by telemedicine, find ways to triage and check-in patients remotely, quarantine the infected in separate facilities and reduce physical contact with medical staff to prevent the spread of disease and to continue to provide regular services to other in-patient, out-patients and emergency services. Covid-19 has resulted in a significant backlog in patient seeking care because cancer screening and non-emergency care was cancelled in many hospitals. The process of discharge with continued monitoring and specifically planned care provision should be part of this redesign of the integration of the healthcare system.

Strengthen controls and regulation of drug companies to control prices, increase generic drugs, production of vaccines and design of research programmes and increase global cooperation to stop drug companies gaming the system.

Part 5
'Just transition' policies, jobs and quality of employment

This section examines the potential scale of job losses and opportunities for job creation and the need for comprehensive employment and equality legislation and regulations. The need for technical, political and financial support for trade union and community initiatives to sustain and convert factories to produce renewable energy products and equipment to meet climate objectives.

Managed decline of fossil fuel energy production and jobs

A net gain of 28.6m jobs is estimated taking account of the jobs created in renewable wind, water, and solar energy construction and operation compared with loss of jobs in fossil fuel production and distribution in 143 countries (Table 5.1).

The Stanford University and the University of California at Berkeley study of the impact of Green Deal energy plans accounted for direct, indirect and induced jobs (Jacobson et al, 2019). The analysis does not take account of jobs lost in the manufacture of combustion appliances including automobiles, ships or industrial machines or those gained from electric vehicle manufacture, the electrification of public transport and other similar initiatives.

Renewable energy projects and job creation

Between 2002-2015 renewable energy projects installed 11,234MW of generation capacity in California which created 32,636 construction job-years (Table 5.2). Various construction trades accounted for 78% of the job-years. The construction of one MW generation capacity of onshore wind power projects involved 0.65 construction job-years compared to an equivalent figure of 4.3 construction job-years for solar power projects. These are on-site construction job-years and do not take account of connections to substations and transmission lines.

Table 5.1: Job gains in the energy sector in 143 countries

Energy sector	
Renewable wind-water-solar jobs created	**No. of Jobs**
Construction jobs	**24,389,000**
Generation	15,285,000
Storage	8,159,000
Transmission	945,000
Operation jobs	**30,151,000**
Generation	21,709,000
Storage	7,697,000
Transmission	745,000
Total jobs produced	**54,540,000**
Business-as-usual jobs lost	
Oil and gas extraction, pipeline construction, petroleum refining	4,374,000
Coal mining	1,257,000
Uranium mining	85,100
Support for oil and gas	3,329,000
Mining and oil/gas machinery	1,074,000
Auto filling and repair stations	2,254,100
Fossil electric power generation utilities & non-utilities	1,294,000
Nuclear and other power generation	1,150,000
Natural gas distribution	1,169,000
Rail, road, water transportation of fossil fuels	1,726,100
Biofuel except electricity	6,682,000
Jobs lost from not increasing fossil fuel use	1,488,000
Total jobs lost	**25,892,000**
Net gain of jobs created minus jobs lost	**28,648,000**

Sources: Jacobson et al, 2019, Table S28

Induced employment in the local economy is also excluded.

The California Clean Energy Jobs Act had created 19,812 jobs in school energy projects by the end of

Table 5.2: Renewable energy MW installed and construction jobs created, California, 2002-2015

Type of Renewable Energy	New In-State MW Capacity Built	Total Construction Job-Years	Blue-Collar Construction Job-Years	White-Collar Job-Years per MW	Blue-Collar Job-Years per MW
Photovoltaic (PV)	5,575	21,724	16,945	0.9	3.0
Large Commercial (0.25 1MW)	15	88	69	1.3	4.5
Community Scale (1–5 MW)	618	2,405	1,876	0.9	3.0
Utility (>5MW)	4,942	19,231	15,000	0.9	3.0
Concentrated Solar Power	897	6,014	4,691	1.5	5.2
Land-Based Wind Power	4,226	2,754	2,148	0.1	0.5
Geothermal	105	457	357	1.0	3.4
Small Hydro	48	341	266	1.6	5.5
Biomass (+Biogas)	381	1,346	1,050	0.8	2.8
Battery Storage	2	n/a	n/a	n/a	n/a
Total Renewable*	**11,234**	**32,636**	**25,456**	**0.6**	**2.3**

Note: * May not sum or multiply due to rounding. **Source:** Institute for Research on Labor and Employment, University of California Berkeley (2016a and 2016b)

June 2018 consisting of 8,702 direct jobs, plus 3,811 indirect jobs and 7,299 induced jobs. Total expenditure was $1.5bn giving a ratio of 5.9 direct jobs per million dollars of investment (Institute for Research on Labor and Employment, University of California Berkeley, 2019).

An analysis of wind power and job generation examined 20 journal articles and 11 reports of research in Europe and North America (Aldieri et al, 2019). Direct and indirect jobs/megawatt (Table 5.4) were 10.64 plus between 2.0 - 3.44 jobs in operation and maintenance plus induced employment 1.59 of jobs/megawatt giving total employment of between 13.23 and 15.64 jobs per megawatt generated.

Employment gains have been forecast from Green Deals for several years. For example, Pollin et al

Table 5.3: Distribution of hours worked on the California K-12 school clean energy programme

Building System	Job category	% hours	Average hourly wage rate US$
Heating, ventilation and air conditioning	Plumbers/pipefitters	6	45.87
	Sheetmetal workers	8	44.73
Lighting	Electricians	18	48.22
	Asbestos workers	4	n/a
	Carpenters	16	44.47
Building Envelope	Flooring workers	2	n/a
	Glaziers	1	n/a
	Painters and Plasterers	5	n/a
	Roofers	5	n/a
General Construction Support	Labourers	21	36.32
Other	Cement, Heating ventilation and air conditioning, iron, operating, other skilled and unskilled construction workers	14	40.39
Total		**100**	

Source: Institute for Research on Labor and Employment, University of California Berkeley (2019) Wage rates at 2016, quarter 3 – average wage rate for apprentices was $24.75.

Table 5.4: Jobs per megawatt in wind power installations

	Direct Max (Jobs/MW)	Direct Min (Jobs/MW)	Indirect (Jobs/MW)	Total Direct & Indirect (Jobs/MW)	Maximum Operation & Maintenance (Jobs/MW)	Minimum Operation & Maintenance (Jobs/MW)	Max Induced (Jobs/MW)
Journals	5.68	2.35	6.61	10.64	3.44	2.0	1.59
Reports	5.76	4.35	8.05 - 9.16	–	0.29	–	–

Source: Aldieri et al, 2020

(2008) forecast that 2m US jobs be created by a US$100bn Green Recovery programme ($50bn tax credits, $46bn direct government investment in green infrastructure and retrofits and $4bn for federal loan guarantees) compared with 1.7m jobs if the same amount was spend on household consumption and only 542,000 jobs if spent entirely in the oil industry.

A UK proposal to create 1m climate jobs in a National Climate Service was estimated to cost an initial £66bn (£30bn wages in year one, £5bn employers national insurance and pension contributions and £31bn cost of materials, supplies fuel, rent and interest. However, the government would receive £47bn in taxes, tickets and electricity bills giving a net cost of £19bn per annum. The proposal included jobs in renewable energy, building, transport, education, industry, agriculture and waste and estimated to reduce greenhouse gas emissions by 83% over 20 years (Campaign Against Climate Change, 2014).

A global overview of job effects per MW of wind power installations concluded: *"(a) job creation seems to be limited; (b) each new project should consider a unique assessment, since all projects have been undertaken within different institutional frameworks, labor markets, and during separate years, meaning that the technology is not comparable; and (c) the number of jobs depends on the labor intensity of the country "* (Aldieri et al, 2019).

Garrett-Peltier (2017) estimates that every $1m in spending generates 7.49 full-time jobs in renewables infrastructure, 7.72 in energy efficiency, but only 2.65 in fossil fuels. *"Renewable energy generates more jobs in the short run (higher jobs multiplier), when jobs are scarce in the middle of a recession, which boosts spending and increases short-run GDP multipliers (which are derived from expanding demand). In the long run, renewable energy conveniently requires less* labour for operation and maintenance" (Hepburn et al, 2020).

National and local support and public financing of conversion projects

Governments and public authorities should provide technical and financial support for employees involved in campaigning for the conversion of factories to produce products needed to meet Green and Public Healthcare deals and other economic policies.

Transparency and disclosure of information about ownership and operation of factories and plants will be essential. The sale of land and buildings should be prohibited until community and trade union proposals have been fully assessed and considered. Similarly, the use of 'avoidance of market competition' by factory owners to refuse to sell a factory or other building to a community project must be prohibited. Regulations should encourage factory owners to sell or lease factories to non-profit organisations with an alternative plan.

Options for redundant factories and plants could include:

- Retain existing factories and convert production, for example from petrol/diesel cars to electric vehicles or production of renewable energy or medical and personal protective equipment.
- Retain buildings but convert them to an entirely different use to meet community needs.
- Demolish a building or plant to reclaim the land for community use such as open spaces and/or sports facilities.
- Demolition to reclaim land for agriculture or nature and/or forestry.

Resisting closure of the General Motors Oshawa car plant in Ontario

The closure of the GM Oshawa car assembly plant was announced in November 2018 with the loss of

15,000 jobs and a C$4bn annual loss to Ontario's GDP. A coalition of trade union and community organisations formed Green Jobs Oshawa which campaigned to convert the plant to produce battery electric vehicles starting by replacing the fleets of public sector vehicles in Canada (Socialist Project, 2020).

They commissioned a feasibility study which concluded that public investment of C$1.4bn-C$1.9bn to acquire and retool the plant would create over 13,000 jobs and reduce CO2 emissions by 400,000 metric tonnes by year 5 (Christianson, 2019).

However, in May 2019 GM confirmed that Oshawa would be turned into a 'aftermarket plant' producing parts and a test track would be created for autonomous and advance technology vehicles 'saving' 300 jobs (Irwin, 2019). Belatedly, GM and the Canadian government announced in late April 2020 the plant will produce one million masks but not the much needed N95 masks per month at cost for hospitals and care homes, employ 50-60 workers and use only 30,000 square feet of the 10m square foot site (Gindin, 2020).

The Canadian Postal Workers Union supported the Green Jobs Oshawa campaign recognising that a publicly owned plant could deliver a renewable energy postal fleet as part of their 'Delivering Community Power' project to reimagine Canadian postal services.

This includes charging stations for electric vehicles at 6,300 post offices, postal banking to provide financial services for those underserved by commercial banks, an expanded role for door-to-door mail carriers to strengthen the social fabric and post offices as hubs for green innovation and community connections and helping fill the rural broadband service gap (Canadian Union of Postal Workers, 2019).

An alternative in-house approach

The Royal Wolverhampton NHS Trust commenced production of about 5,000 visors daily for the 850 bed New Cross hospital, two smaller hospitals, primary care centres and local care homes. Over 100,000 visors, designed by the laboratory manager in the prosthetic department, have been produced in the hospital library at New Cross by a 34 strong team of hospital staff volunteers. The chair of the NHS Trust reported, "Our clinical staff say they're the best visors they've ever used" (Campbell, 2020).

A national conversion strategy

Government and public authorities should develop a Conversion Strategy with the objective of facilitating the alternative use of factories, plants and the reclamation of land for community or alternative social benefit. This strategy should consist of:

A national organisation or agency to develop alternative use proposals with the ability to nationalise or acquire companies, buildings and land. As Gindin (2020) proposes, it should be proactive and intervene before plants are run down;

Identify international, national and regional demand for green products and services, particularly the scope within education, health and social care and other public services and advise on the most effective methods of targeting this demand and generating potential orders;

Provision of technical support or grants to trade union and community organisations to assess the viability and sustainability of proposals;

Developing national training and reskilling programmes for workers confronted by closures and transfer/relocation (see Code of Practice for Quality Employment, Table 5.4).

Economic development programmes for areas affected by fossil fuel closures: switching the focus of infrastructure investment from general construction work to retrofitting housing and business premises will require an element of retraining.

This approach requires trade unions to develop conversion strategies and to be proactive in strategic planning within the public and private sectors. This includes service plans such as Public Service innovation and improvement Plans (Whitfield, 2020a).

Code of Practice for Quality Employment

New employment regulations will be needed to cover all aspects of 'just transitions' such as consultation and participation in planning and decision-making processes; information disclosure; transfer between employers to retain current terms and conditions as a minimum; retraining and redeployment; equality policies fully implemented; participation in changes to working practices; monitoring and reporting of compliance with regulations and enforcement action.

A *Code of Practice for Quality Employment* should be adopted to include of training and education, skills development, terms and conditions, pensions, health and safety, workplace participation, trade union organising and recognition rights – see Table 5.5. It should applicable to all jobs in the economy.
It is important to offer alternative employment to those losing jobs in fossil fuel industries in the response to climate change to protect job conditions, prevent exploitation, and to win their support for climate action policies and implementation (with national variants taking account of different legislation contexts).

Trade union organising in new projects/sectors
It will be vital for relevant trade unions to seek to represent and organise workers in factories and plants that have been converted to a different production process.

Democratic accountability and transparency
The different elements and stages of the transition process must be accountable and transparent, including disclosure of public subsidies, guarantees, tax breaks and other forms of corporate welfare. This must include full disclosure of the ownership of companies and consultants and their investment partners and sub-contractors. It should include details of:

- Local supply chains
- Limits and consequences of global acquisition strategies

Table 5.5: Code of Practice for Quality Employment

Item	Additional detail
Terms and conditions, security of employment and right to flexible working	National or sector wage rates agreed with trade unions or minimum of a Living Wage rate. Zero-hour contracts and bogus self-employment should be banned.
Pension scheme	All employees should automatically be enrolled in an occupational pension scheme.
Training for redeployment and reskilling, apprenticeships and access to education. Workforce planning required for all public sector and medium/ large private employers	Training Plan for specific tasks, new technology, digitalisation and automation.
Equal pay and conditions, access to jobs, representation, participation, training and promotion	Equality and non-discrimination policies and practices embedded in all aspects of the Code.
Redeployment	Staff either displaced or facing substantial change to their job should be offered retraining and, if necessary, redeployment with full protection of terms and conditions.
Relocation assistance	Workers willing to relocate to areas with wider employment opportunities
Voluntary redundancy package	Designed for older staff in fossil fuel industries and include pension arrangements, retraining and relocation payments.
Changes in working practices	Full negotiation of proposed changes, rationale and objectives with workers and trade unions.
Application of new technology and new equipment	Assessment of impact, health and safety implications and knock-on effects.
Continuous workplace improvement	Workforce and trade unions should be engaged in service planning and have the opportunity to make alternative proposals.
Trade union rights	Includes the right to organise, represent and negotiate
Participation in planning and delivery of functions and services	In climate and health and social care policy planning and implementation process and in relevant Public Service innovation and improvement Plans (Whitfield, 2020a)
Commitment to in-house provision and delivery	Any change must be subjected to full impact assessment and cost/benefit analysis with trade union involvement
Compliance with relevant health and safety regulations and training	Health and safety officer inspections and training in use of equipment.
Information disclosure	A protocol on access/disclosure should identify conditions
Contract compliance and scrutiny	Employers agree to regularly monitor and review the performance of consultants and/or private contractors if they are engaged in planning or service delivery.

- Joint ventures with foreign firms and use of low wage and non-union labour
- Local/national impacts and benefits
- Innovation and research and development

Principles, values and standards are critically important to determine the achievement of targets and the processes that are adopted to better meet collective and individual needs.

Implementation of equality and environmental justice
A 17-part definition of environmental justice was drawn up in 1991 by the First National People of Color Environmental Leadership Summit in Washington DC (Bullard, 1991). The number of people without access to electricity fell below 1bn for the first time in 2017 (International Energy Agency, 2018).

Criteria for the principle of economic equity has been defined in a New Social Contract for Low-Carbon Transition as:

- Generates jobs with family-supporting wages, benefits, career paths, and safe and healthy working conditions.
- Supports prevailing wage and skilled workforce standards in the construction industry.
- Increases access to career-track jobs for workers from disadvantaged communities.
- Provides income supports, retraining, and job placement into comparable jobs for displaced workers or bridges to retirement for older workers.
- Supports economic development for communities affected by plant closures and sector shrinking (Center for Labor Research and Education, 2016).

The European Green Deal states *"The European Pillar of Social Rights will guide action in ensuring that no one is left behind"* (European Commission, 2019a and 2019b). To achieve this, the whole economy would be truly transformational but it will require policies, regulations and legislation that extends well beyond the scope of Green Deals. It would also reflect a successful power struggle waged by wide and unprecedented alliances of civil, community and trade union organisations.

This raises important issues about how Green Deals are prepared in terms of setting and prioritising objectives, agreeing policies, regulatory frameworks and the monitoring and enforcement of performance and implementation, and determining the public sector's role in public ownership and provision of services and functions. Equally important, will be decisions concerning democratic accountability, participation and transparency and the role of community, trade union and civil society organisations in this process.

The differential impact of investment in different sectors of the economy is highlighted in Table 5.6. However, they merely reflect current employment conditions, for example, the differential of 584,000 men's employment in industry and construction compared to 173,000 jobs for women. Similarly, the 988,000 jobs for women in education, health and social work compared to 428,000 for men.

Table 5.6: Investment effects on employment in different sectors on gender (000 jobs)

Sectors	Men			Women		
	Green	Social	Total	Green	Social	Total
Agriculture and fishing	7	5	12	3	2	6
Manufacturing and construction	**551**	**33**	**584**	**163**	**10**	**173**
Trade, hotels and restaurants	48	23	71	46	22	68
Transport, storage and communication	27	16	43	7	4	11
Finance and business service	**168**	**34**	**202**	**131**	**27**	**158**
Public administration and defense	3	2	6	2	1	3
Education	**2**	**301**	**302**	**4**	**594**	**598**
Health and social work	**4**	**121**	**126**	**13**	**377**	**390**
EU27	**809**	**536**	**1,345**	**369**	**1,038**	**1,407**

Note: Investments are made directly in the underlined sectors. **Source:** Foundation for European Progressive Studies (FEPS) and Economic Council of the Labour Movement (ECLM) (2017) based on the FEPS-ECLM International Input-Output Model.

'Just transition' of displaced workers and community impact

The meaning of 'transition' and 'transformation' objectives of climate action must be explicit. There is a danger that they mask further embedding of neoliberal ideology and policies within economies and thus the acceleration of financialisation, marketisation, individualisation and privatisation. The 'transition to' and 'transformation of' appear to be focused solely on action in response to climate change rather than any fundamental change in political economy.

The European Green Deal refers to *"…deeply transformative policies",* for example:

> *"To deliver the European Green Deal, there is a need to rethink policies for clean energy supply across the economy, industry, production and consumption, large-scale infrastructure, transport, food and agriculture, construction, taxation and social benefits. To achieve these aims, it is essential to increase the value given to protecting and restoring natural ecosystems, to the sustainable use of resources and to improving human health. This is where transformational change is most needed and potentially most beneficial for the EU economy, society and natural environment. The EU should also promote and invest in the necessary digital transformation and tools as these are essential enablers of the changes"*
> (European Commission, 2019a).

> *"…transform the economy with the aim of climate neutrality"*

This begs the question as to whether the ultimate objective of transformation is solely to achieve climate neutrality. It is almost certain to lead to wider transformation both in the above-mentioned sectors and in the wider economy because of the impact of digitalisation and automation, demographic change and increasing urbanisation and growth of mega cities.

So the question is whether this transformation should or can be centred on climate neutrality, the nature of transformation and the political economy in which it takes place. All Green Deals in effect propose climate action transformation to be implemented between 2020-50 and assume the continuation of broadly the same political economic conditions. There are no accompanying plans for change in the role of the state. De-facto this surely means that transformation will be shaped, organised and implemented according to neoliberal ideology and values.

The following principles should guide the transition to environmentally sustainable economies and societies:

> *"….coherent policies also need to provide a just transition framework for all to promote the creation of more decent jobs, including as appropriate: anticipating impacts on employment, adequate and sustainable social protection for job losses and displacement, skills development and social dialogue, including the effective exercise of the right to organize and bargain collectively"*
> (International Labour Organisation, 2015).

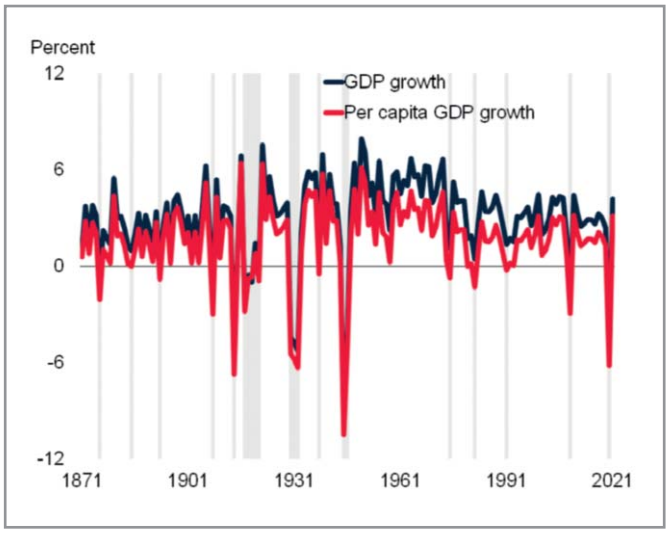
The EU Just Transition Fund is intended to *"…support the transformation of industrial processes necessary for a successful energy transition, promote economic diversification of the most affected territories, consistent with the conclusions of the impact assessment on the need to support smart industrial transformation"*
(European Commission, 2020b and 2020c).

Part 6
Financing new economic policies, Green and Healthcare System Deals

Financial consequences of Covid-19 pandemic
This section of the report is written in the middle of the 2020 lock-down period and the release of the first forecasts of the potential scale of the global depression, which is already much deeper than the 2008 financial crisis.

Governments have adopted a range of measures to counter the effects of the pandemic. They include increasing health budgets; funding the furloughing employees in a wide range of companies and enterprises; funding new temporary hospitals and additional equipment; payments and loans to companies that have been forced to close in lockdowns; increased unemployment benefits, payments to individuals; all of which increase government deficits and debt. The situation is briefly illustrated in four graphics.

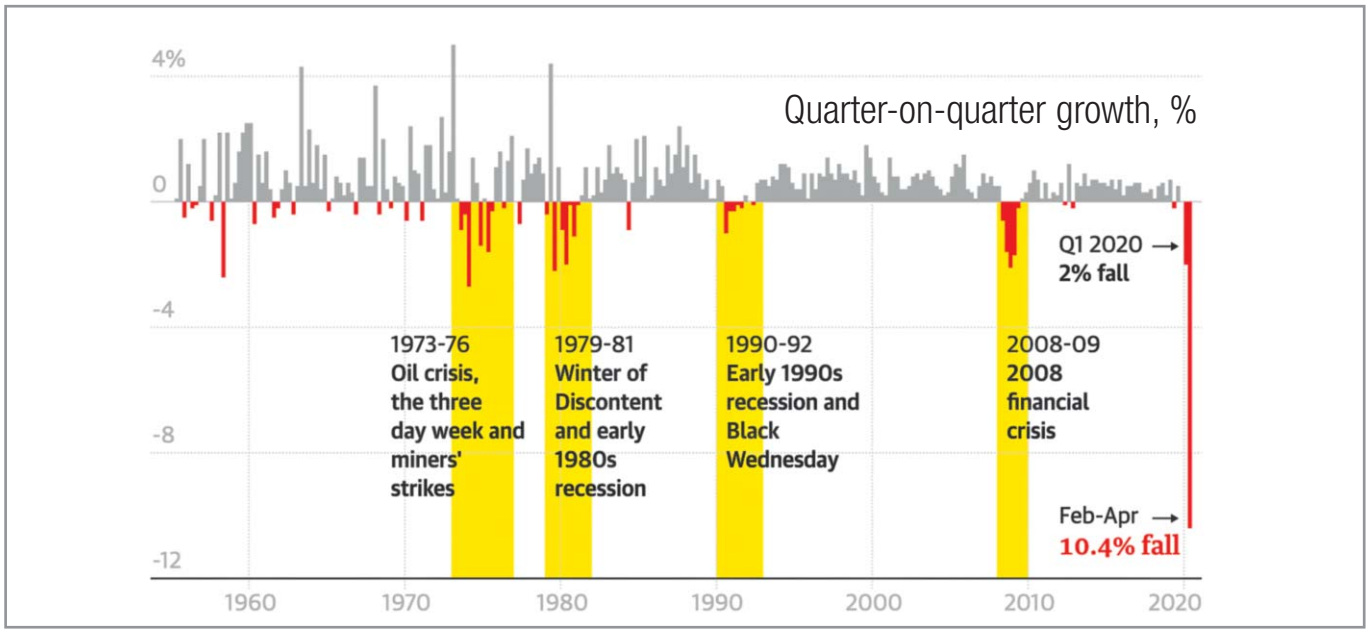
Figure 6.1: Global GDP Growth



Source: World Bank Group, 2020

For example, the UK government established three lending schemes for three types of businesses: loans of £50,000 for small businesses; small and medium sized businesses could access up to £5m and large businesses could access up to £200m. Lending in the three schemes was about £27bn by the end of March

Figure 6.2: Loss of GDP in the UK



Source: Guardian Graphic, source: ONS

2020 and was estimated to ultimately reach £111m-£123bn. However, in early June it was estimated that between £32bn-£36bn will become unsustainable (The CityUK Recapitalisation Group, 2020). A total of £330bn loan guarantees were available to companies but the take-up is not known.

Current projections indicate that the COVID-19 global recession will be the fourth deepest in the last 100 years and the most severe since the end of World War II (Figure 6.1).

GDP declined an unprecedented 10.4% in the UK between February and April 2020 (Figure 6.2) and with the lockdown slowly being relaxed then subsequent months GDP data are certain to continue the negative trend.

The unemployment percentage rate in 2020 in OECD countries is compared with earlier years which enables comparison with decade following the 2008 global financial crisis.

Interest rates are historically low which makes government borrowing a viable approach. The OECD forecast that general government gross debt as a percentage of GDP will increase from 119.9% in 2017 to 136.2% in 2021 if Covid-19 remains a single virus outbreak. It would rise to 148.6% in 2021 if there is a second outbreak.

The OECD estimated general government gross debt as a percentage of GDP in 2021 in a small group of comparator economies, assuming a double virus outbreak; gross debt in France was estimated to be 151.7%; Germany 95.9%; Italy 191.8%; Spain 150.4%; Japan 256.9%; Canada 110.1%; and USA 140.1% (OECD, 2020).

UK municipal authorities and other public authorities can borrow from the Public Works Loan Board (PWLB) at similar low rates of interest to finance local infrastructure projects such as new public housing and local facilities. The PWLB is operated by the Treasury's Debt Management Office.

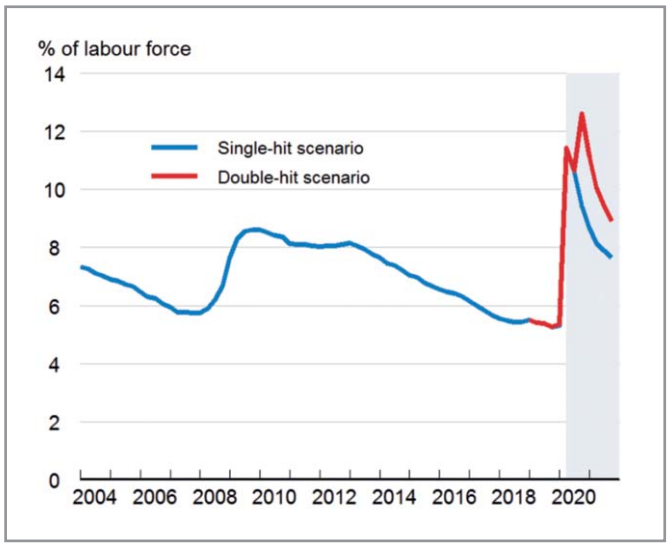
The shaded area in Figure 6.4 indicates forecasts. Aggregates are calculated using nominal U.S. dollar GDP weights. Sample includes 27 advanced economies and the Euro Area and 153 Emerging Market and Developing Economies (EMDEs).

Although global debt levels are now comparable to those at the end of the second world war (Figure 6.5) the above forecasts suggest they will rise even higher which could hold back future economic growth (Armstrong, 2020).

Budget deficits

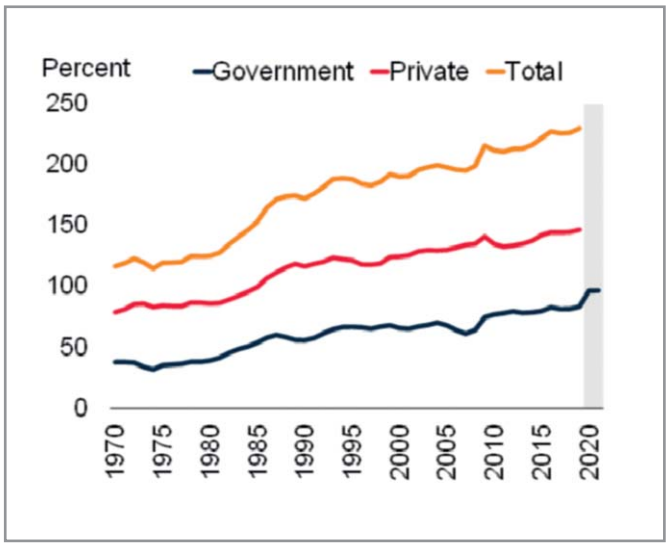
The UK government is expected to have a budget deficit of about 5% of GDP by 2024 but this depends on economic conditions over the next four years. Economic forecasts have ranged from the very optimistic (Office for Budget Responsibility, 2020 and Bank of England) to others that are more pessimistic (Giles, 2020).

Figure 6.3: Unemployment in OECD economies



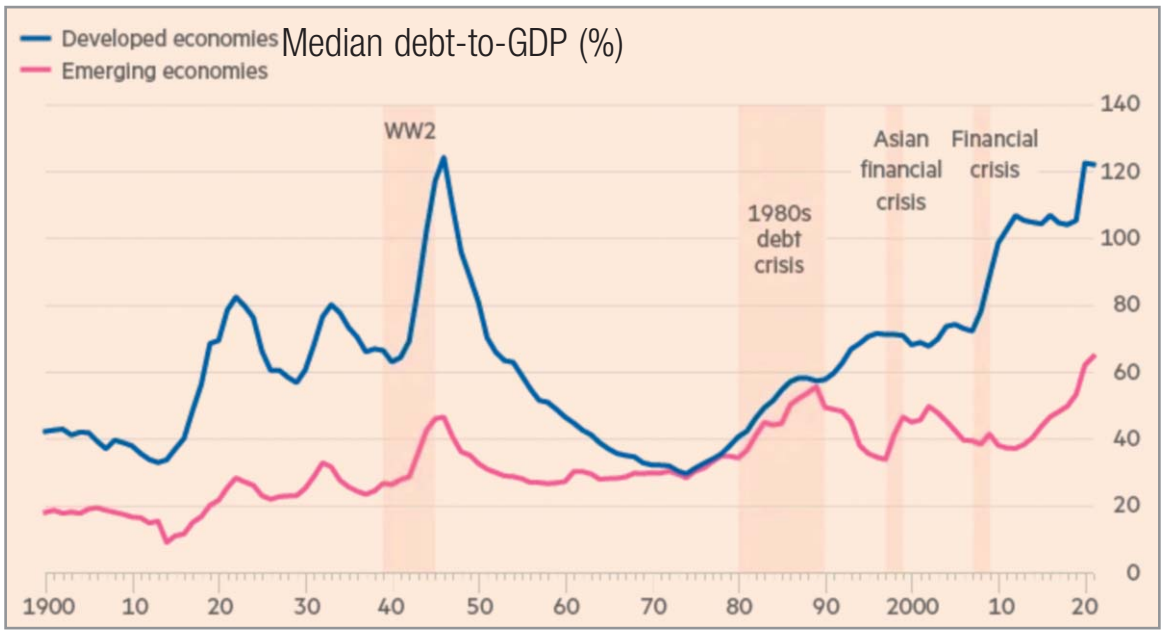
Source: OECD, 2020.

Figure 6.4: Global debt as a percentage of GDP



Source: World Bank Group, 2020.

Figure 6.5: Global debt levels soar



Source: Financial Times Graphic, note: Median debt-to-GDP ratio of a country grouping based on G20 advanced and G20 emerging economies. Sources: IMF Historical Debt database, IMF WEO datebase, Goldman Sachs GIR

Financial resources

It is important to establish the key parameters which include:

- No austerity measures – the decade of UK measures following the 2008 global financial crisis have only just slowed and there had been no significant changes in policies or funding except for some additional funding for the NHS. Services that were inadequate before 2008, such as social care, mental health and special educational needs, are even more inadequate in 2020.
- No tax increases for employees up to and including the average industrial wage.
- No privatisation – there is a strong rationale given the high cost and negative impact of earlier privatisation. In fact, there is an overwhelming case for increased public ownership.
- No reinvention of public private partnerships – whilst the UK government terminated the Private Finance Initiative a new PPP model would likely repeat the failings of the previous policy.

Sources of revenue

End fossil fuel subsidies: Fossil fuel subsidies by governments increased 38% in 2019 to **US$478bn** in 77 economies. However, budget transfers, tax breaks and public expenditure on fossil fuel support increased 10% to US$178bn in 44 OECD and G20 countries in 2019 (OECD and International Energy Agency, 2020).

Part 2 referred to the World Bank's continued higher level of subsidies for fossil fuel projects. UK subsidies to fossil fuels were **£10.6bn** per annum in 2016, the highest in Europe plus increased subsidies to overseas fossil fuel projects to **£2.0bn** in 2018 (European Commission, 2019a and 2019b, The Guardian, 2019).

Estimated increased annual revenue: Increased annual UK revenue of **£39.3bn** could be achieved from seven sources; eliminating the cost of marketisation and privatisation; increased corporate tax of 2% per annum from 19% to 30%; a wealth tax of 1% on assets over £500,000; changes to package of tax reliefs, subsidies and policies; reduction in offshoring; property tax to replace Council Tax; Nationalisation of PPP projects; and reduced infrastructure transaction costs (Whitfield, 2020a)

Changes to taxable income and gains: A study of HM Revenue & Customs records of 40m self-assessment returns identified significant under-payment of tax by individuals who had received more than £100,000 per annum in taxable income and capital gains.

Wide variations in the percentage tax rate were discovered. Removing all tax reliefs except for pensions and gift-aid relief at the basic rate and charging taxable income and gains as earnings would raise about **£20bn** (Agyemang, 2020 and Advani and Summers, 2020). It would also contribute towards greater tax equality.

Reduction in pensions tax relief for higher earners: This cost £38bn in 2018-19 but if tax relief on all pension contributions was limited to the basic rate of 20% this would increase revenue by over **£10bn** per annum.

Summary: The above revenue measures would increase revenue by £81.9bn per annum or **£409.5bn** over a five-year period, a significant contribution towards addressing the cost of the Covid-19 pandemic in the UK and longer-term financing of new economic policies, Green and Public Healthcare Deals. It is important to note that the large figures for national debt, deficits and public borrowing circulating in the media will be managed over a number of years.

Revenue from carbon taxes: Carbon pricing may be considered by some as another source of potential revenue, however, the UK Committee on Climate Change stressed that carbon pricing will not, in isolation, *"…provide sufficient decarbonisation"*. It said carbon prices are *"…unlikely to be an effective mechanism in bringing forward low-carbon innovation in multiple sectors"* and referred to examples including carbon capture and storage and low-carbon heat (Current News, 2019).

> *"To date, there is little evidence that carbon pricing has produced deep emission reductions, even at high prices. While much steeper carbon prices may deliver greater abatement, political economy constraints render their feasibility doubtful."* Furthermore, *"…we argue that carbon pricing serves several important purposes in such an instrument mix, but also that the global commitment to deep decarbonisation requires acknowledging the vital role of instruments other than carbon pricing"* (Tvinnereim & Mehling, 2018).

Quantitative Easing: The UK government launched a new programme in March 2020 by reducing interest rates 0.1% and £300bn of quantitative easing by late June 2020 (the Bank of England creates electronic money and buys government or private sector bonds on the open market). Bondholders receive cash with the expectation this will generate economic activity. The bonds are added to the bank's balance sheet as assets.

Pension and sovereign wealth funds investment

Pension fund investment should focus on joint funding in public sector renewable energy projects instead of funding new private sector projects and/or private sector mergers/takeovers of operational projects, basically aiding investment funds and private companies building market share in the interests of shareholders.

Specific European funding

Recovery plan for Europe
(27 Member countries excluding UK)

Recovery and Resilience Facility has a budget of €560bn of which €310bn for grants and €250bn for loans to assist Member states' recovery strategies.

REACT-EU has a €55bn budget for recovery assistance via flexible grants to municipalities, hospitals and companies.

The European Agricultural Fund for Rural Development has a €90bn budget of which €15bn is available to support rural areas in making structural changes aligned with the EU Green Deal.

Just Transition Mechanism is to help mobilise at least €40 billion between 2021-2027 in the most affected regions.

The Enhanced InvestEU Programme will finance investment projects via the EIB and national banks. The programme will have €15.3bn with a further €15bn for a Strategic Investment Facility.

The new Solvency Support Instrument, with a €31bn budget, will help mobilise private capital for companies.

A new Health Programme with a €9.4bn budget, EU4Health, is intended to strengthen health security and prepare for future health crises.

Reinforcing rescEU is the EU's Civil Protection Mechanism with a €3.1bn budget to respond to large-scale emergencies.

(European Commission 2020d, 2020e, 2020f
These budgets will be financed by the EU borrowing up to €750bn by issuing bonds in the 2021-2024 period.

Financial Transaction Tax – Germany and France have continued the proposal for a tax of 0.2% on the purchase of shares in domestically listed companies

with a market capitalisation of €1bn. Austria, Belgium, Greece, Italy, Portugal, Slovakia, Slovenia and Spain are participating in the tax. Germany is expected to receive €1.5bn additional annual revenue from the tax (Lomas, 2020).

Conditions imposed on private investment

Given the constraints on public finance following the public cost of the Covid-19 pandemic, it is critically important to set out conditions that will apply to private investment.

- Subsidiary companies and any Special Purpose Companies must be registered in the country where the investment is being made and must not be located in a tax haven, nor use any tax avoidance scheme.
- Cooperate with information to support public sector economic, social and environmental impact assessment and cost benefit analysis at options appraisal and evaluation stage (Whitfield, 2020);
- All private investment will be rigorously monitored and inspected by government and/or public authorities according to an agreed framework, standards and criteria and performance results will be published. Accompanied by an agreement to facilitate access to sites and workplaces;
- Projects will be subjected to scrutiny review on a regular basis. Trade unions, community and civil society organisations and individual service users must be able to give evidence.
- The public sector must require open book accounting.
- Recognition of trade unions for organising and negotiation rights is essential.

Critical analysis of Modern Monetary Theory (MMT)

The advocates of the Green New Deal in the US and UK expect it to be financed by the application of Modern Monetary Theory (MMT) and discussed briefly in Whitfield (2020). MMT is applicable only in sovereign currency issuing governments, such as the UK, US, Australia that have the power to create money. It is not applicable to Eurozone countries.

The basic MMT message is that government does not need taxes or bonds to finance public spending. However, inflation is a major concern.

> *"The state may control and issue the currency and governments may never run out of it, but the capitalist sector controls technology, labour conditions and the level of skills and intensity of the workforce. In other words, the productivity of labour (real value) is not in the control of the state with all its dollar printing. So an economy is limited by productivity and the size of the labour force when fully employed. If the government then goes on pumping money in when output cannot be raised further, inflation of commodity prices will follow and/or inflation in speculative financial assets"* (Roberts, 2019).

The articles and papers below are highly recommended:

- Against MMT, James Meadway, *Tribune,* 3 June 2019 https://tribunemag.co.uk/2019/06/against-modern-monetary-theory
- Modern Monetary Theory Isn't Helping, Doug Henwood, *Jacobin,* 21 February, 2019 https://jacobinmag.com/2019/02/modern-monetary-theory-isnt-helping
- MMT 1 - Chartalism and Marx, Michael Roberts, 28 January 2019 https://thenextrecession.wordpress.com/2019/01/28/modern-monetary-theory-part-1-chartalism-and-marx/
- MMT 2 – the tricks of circulation: The Green New Deal and changing America, Michael Roberts, 2 March 2019, https://thenextrecession.wordpress.com/2019/02/03/mmt-2-the-tricks-of-circulation/
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Claims made for a Universal Basic Income

Whether is it symbolic, or mere coincidence, is beside the point but there has been renewed calls for UBI in the middle of the Covid-19 pandemic. I examined various proposals by the OECD and a UK cost analysis, published by Compass, in Chapter 17, Whitfield (2020).

The UK version would be in two parts with an upgrade in the UBI coming after 20 years. A Citizen Wealth Fund would be created *"…using a mix of asset sales, capital transfers, new revenue streams, a small amount of borrowing and returns reinvested"* (Roberts and Lawrence, 2018). The Compass campaign group has claimed that 84% of people support the introduction of a UBI based on an Opinium survey of 2,000 UK adults in March 2020 (The Mirror, 2020). There is no evidence that those polled were asked whether they agreed with having a new programme of privatisation to fund a UBI.

A UBI cash handout is a diversion from the struggle for new economic strategies, Green and Integrated Public Healthcare System Deals and more fundamental reform of the economy.

Part 7
A new surge in privatisation?

Cause and effect

Green Deals contain references to de-carbonisation but few, if any, to decommodification which could mean that commissioning, competition and outsourcing and other forms of privatisation remain in place. The lack of proposals for public ownership, provision and radical public management in Green Deals and the continued domination of the private sector in the finance, development and operation of renewable energy projects is likely to continue the 'business as usual' environment. In addition, the post-pandemic economic policy agenda is currently dominated by the language of 'resilience', community wealth-building, transition and transformation but with few proposals that map out how the engrained neoliberal ideology could be replaced by socialist principles and values. In this context and given the pre-pandemic conditions in which Green Deal proposals were drawn up, a further surge in privatisation is mostly likely to occur.

Now the global economy is confronted by a post Covid-19 pandemic financial crisis much deeper than the 2008 financial crisis, as mentioned in Part 6. Nation state economies are trapped between the significant demands of achieving climate targets in stages over the next thirty years whilst having to manage a financial crisis with mass unemployment and declining production and growth. At the same time, another decade of austerity is politically unacceptable and would be vehemently opposed this time around, as would an 'auction' of public assets to raise revenue.

Hence the need for new economic strategies with Green and Integrated Public Healthcare System deals. The post-Covid-19 global recession is almost certain to lead to political and corporate interests trying to cherry-pick economic policies and a contractual role in Green and Public Healthcare Deals. This would result in a fractured piecemeal approach which would inevitably mean the loss of the integration, effectiveness and sustainability objectives.

Meanwhile, private equity funds that own chains of private hospitals, nursing and residential homes had successfully raised additional capital in the pre-pandemic period and are thus in a strong position to consolidate their healthcare assets. Many have exploited the Covid-19 pandemic by accessing government bailout money despite having billions of cash to invest. Medical services companies owned by KKR, Apollo and Cerberus received US$60m, $500m and $400m no-interest loans respectively from the US Health and Human Services Department. In addition, a consortium of TPG Capital, Humana Inc and Welsh, Carson, Anderson & Stowe obtained $250m in similar loans.

> *"That money, from two programs intended to provide emergency funding to financially strapped health-care companies, went instead to hospitals, clinics and treatment centers controlled by the richest investment firms as they seek to take advantage of an economic downturn caused by the pandemic to buy ailing businesses"* (Kocieniewski and Melby, Bloomberg News, 2 June 2020).

In Australia, the Lendlease Corporation, owner of retirement villages, has claimed A$15m government funding from the JobKeeper programme despite having recently raised A$1.5bn from investors and has not paid corporation tax since 2012 (West, 2020).

What form will surge take?

The debate over when decarbonisation should be achieved ranges from 2025, 2030, 2040, 2045 and 2050. It was obvious that short-term targets of 5 or 10 years were never achievable and would have effectively mean that a large proportion of the work would have been outsourced and privatised, a big bonanza for private contractors. Public sector capabilities would have been concentrated on procurement and contracting in order to meet immediate targets instead of building capability to directly provide functions and services.

Green and Public Healthcare Deal expenditure will be additional to meeting post-austerity catch-up to return to 2010 public spending levels. Furthermore, increased public expenditure will be needed to address the additional outstanding housing and health service needs evident immediately prior to the covid-19 pandemic. Finally, expenditure over the next thirty years will be needed to restore the planned repair and maintenance of public infrastructure to arrest the decline in the condition of public assets.

To assume a continuing role for markets and market forces ultimately means a significant expansion of financialisation, marketisation and privatisation. This will result in a significant surge in the scale of privatisation specifically in all the aspects of climate action such as renewable energy, decarbonisation, retrofitting, nature and biodiversity, environmental protection, agriculture, transportation, housing, health, education and other public services.

Claims about the apparent 'end' of neoliberalism and austerity are over-optimistic because they can only be terminated when the embedded ideology, policies and processes have been rejected, reversed and replaced.

Marketisation is a five-part process of separating purchaser/provide functions, commodifying public services and jobs, embedding competition and procurement, restructuring democratic accountability and participation and extending business involvement in public policy making are terminated (ibid). In other words, de-commodification, re-democratisation and radical public management are a pre-requisite to ending privatisation. Simply returning outsourced services in-house will achieve limited objectives and is unlikely to be sustainable without these changes.

"Outsourcing by itself is not the problem. But the outsourcing of critical state capacities clearly is, especially when the resulting public-private "partnerships" are not designed to serve the public interest" (Mazzucato and Quaggiotto, 2020). But all outsourcing is an integral part of the financialisation, marketisation and privatisation process that is based on a narrowly conceived options appraisal and ultimately a belief in markets and contracts.

For example, the supply chain of building products, equipment, training, the inspection of millions of properties to identify the required works and outstanding repairs and maintenance, plus the administration of government grants will take many years.

A privatisation surge

The threat consists of a combination of one or more of the following forms of privatisation to the detriment of public service provision and meeting the climate change targets:

Sale of public assets – publicly owned land and forests, green investment banks, renewable energy and other infrastructure assets could be sold to raise finance for climate investment or to increase government revenue.

Asset recycling – long-term lease (49-99 years) of public infrastructure to gain lump sum in place of public investment but ultimately financed by new/higher user charges;

Corporatisation and transfer – climate change functions transferred to arms length companies or fully corporatised to evade public sector equality policies and terms and conditions;

Outsourcing – multi-billion contract 'bonanza' for private contractors in new market for retrofitting homes and business premises, plus wide use of expensive environmental and technical consultants;

Public-private partnerships – new models of PPPs and Environmental and/or Social Impact Bond projects could emerge that require guarantees, subsidies and tax breaks and increase the cost of climate action. It is essential that the private sector directly finance a large proportion of climate action policies and not via PPPs;

Private provision publicly financed – a combination of pay-for-performance, demands for increased productivity and cost reduction could increase private/philanthropic delivery of core public services;

Privatisation of governance – more joint ventures, partnerships or trusts are likely between public authorities and the private sector – the latter have a double interest in accessing a flow of contracts but also in controlling the pace of climate action to safeguard private interests;

Commodification of nature and biodiversity – is likely to accelerate the treatment of nature as 'capital', outsourcing of ecosystem 'services' and the creation of 'green' markets to embed capital accumulation in the natural world.

Loss of human and labour rights – the reduction in terms, conditions and pension rights and the right to organise are inherent in all forms of privatisation;

Privatisation of the public realm, domain and sphere – more public spaces under private control, reduced spaces for public debate, public knowledge becomes commercialised, privately owned and provided at market rates (Whitfield, 2020a).

Impact and consequences

The consequences of this surge will have a long-term negative impact on economies and people's lives and will reduce the likelihood of climate action targets being achieved. It will lead to a loss of public sector capabilities, the transfer of power to private companies who want to weaken legislation and regulations, extend climate targets and oppose stranded assets. Privatisation depends on the financialisation, marketisation and individualisation of public services and assets which creates new opportunities for capital accumulation and corporate tax evasion. The evidenced consequences of privatisation are summarised in Appendix 3: *The case against privatisation.*

Effective alliances and opposition

The building of strong and sustainable local, national and international alliances of trade unions, community, tenants, women's, environmental and other civil society organisations and political parties to challenge right-wing governments, international agencies and corporate interests will be critically important. Critical analysis must be accompanied by alternative plans and strategies that articulate and demonstrate their effectiveness and sustainability to build public and political support.

Part 8
Strategic issues

The concluding section discusses the means to achieve the objectives of new economic strategies, green and integrated public healthcare deals. It highlights some post-pandemic economic recovery strategies needed to achieve radical changes.

Local Green Deals can be an important means of accelerating their implementation, increasing local trade union, community and civil society participation and building wider support for national and global policies. Many Green Deal polices, such as retrofitting housing, have national targets but are reliant on the effectiveness of local implementation. The degree and speed that local transit, light rails and metro lines adopt green policies, such as electric buses and free transit, are very much the responsibility of local policy making.

Transformation and transition claims: Be aware that there is long history of claims about the benefits of 'transformation' ending up being little more than business as usual, with little or no change in the quality or scope of service activities, buildings with far fewer, less skilled jobs created than originally promised. Whilst the proposed 'just transition' policies are vitally important, they will only be achieved through rigorous trade union and community challenging, monitoring and scrutiny of policy implementation.

Conversion of factories and sites for alternative use: Many opportunities are likely to arise for socially useful production, for example, electric vehicles in closed car factories and the reclamation of land at mines and power stations. Projects will need to build community support, provide evidence of the viability of a project, sustainability of funding and set out the social, environmental and economic benefits.

Job creation and the quality of employment: Regulatory frameworks will have a crucial role in the implementation of projects to ensure that targets and quality can be achieved and there is a 'just transition' that protects jobs and worker's rights together with those of service users, tenants, owner-occupiers and business owners. Trade unions must demand comprehensive regulatory frameworks for the transition process (see Part 4) and should equally demand that the application of regulations is constantly monitored and reported. Trade unions should collect data on regulatory failures.

Housing retrofit costs: The analysis in Part 3 indicates UK public costs of nearly £755bn based on the full cost of retrofitting public housing and one third of the cost of retrofitting owner occupied and privately rented housing compared to the cost of retrofitting public housing at £156bn. Further work is needed to estimate the cost of different options and the cost of administration.

Conditionality: The imposition of conditions and impact requirements and regulatory frameworks can be a crucial part of policies to ensure there is a comprehensive operating framework backed by legislation (Federal/state/city) and democratic governance and accountability. Training will be needed to understand the legislation available in different situations and how communities can maximise their use.

Challenge corporate welfare: The achievement of decarbonisation targets and the implementation of Deal policies will require combined public and private action. The private sector will have to withdraw from or abandon assets and activities that have been or remain profitable. Equally, they will have new investment opportunities in renewable energy and a potential bonanza of contracts for the implementation of policies. However, disputes will inevitably arise over the justification or level of compensation, liability for the full or partial costs of closure of mines, oil and gas terminals and factories and the responsibility for demolition and land reclamation will inevitably create the conditions for public subsidies, grants, tax concessions and other forms of secret corporate welfare arrangements. Public disclosure must include historic profits and evidence of public/private costs, liabilities and track record. Fossil fuel subsidies should

be withdrawn (estimated US$5.2 trillion globally in 2017, Coady et al, 2019) and corporate welfare grants, guarantees and tax breaks.

Public ownership and provision with radical public management: The process of de-commercialising public services should be to abolish the commissioning process, commit to in-house provision and thus minimise options appraisals, business cases and the procurement process. In effect, it means reversing the marketisation process to replace the contract culture with public service principles and values. It is essential that civil, community and trade union organisations constantly monitor and assess this process.

Limiting public ownership to the retail sale of energy to users is futile. Much is made of municipal ownership of energy in the UK but that is limited to the retail function, the last part of the production and distribution process. The local authority owned Bristol Energy has losses of £32.5m and is up for sale whilst Nottingham Council's Robin Hood Energy has a £23m loss with accountants reviewing the company (Ford, 2020).

Digitalisation and automation: It is vitally important that these are developed and applied with the objective of improving the effectiveness and efficiency of services and improving the quality of life for service users. This requires trade union branches, community and civil society organisations to closely monitor and assess all proposals and, if necessary, to produce alternative ways of implementation. It is vital that proposals are part of the remit of Public Service innovation and improvement Plans (see Chapter 16, Whitfield, 2020a).

Oppose new forms of PPPs: They could emerge as financial/construction consortia and infrastructure funds search for new opportunities for public/private joint ventures in regeneration, renewable energy, conversion of factories, reclamation, coastal and river defences and environmental works. The large volume of critical analysis of PPPs should be used to counter the claims of 'new models', expose the potential impact of PPPs and prepare and promote alternative public investment solutions.

Demand integrated public health care system: exposing the current failures and how they can be rectified by a unified service under democratic control and accountability. It is vital to focus on the new policies and strategies. Simply repeating past failures will only reinforce defensiveness and protection of vested interests, thus making radical change even more difficult.

Welfare state and public services: A full reversal of austerity policies nationally, coupled with adequate funding of local government, should create the opportunity to restore the provision of children's centres and special educational needs services. The emphasis should be on increasing the level of benefits and provision of childcare, children's centres, lunch clubs for older people and learning and disability services.

Ensure public service principles and values: with the focus on inputs, processes, outputs and outcomes that determine the quality, effectiveness, equality and efficiency of services. Be aware of the debate about Environment, Social and Governance (ESG) indicators being promoted by corporate interests. Why are *equality* and *employment* missing from the title and why does governance not include trade union, community and civil society *participation*? ESG should be seen as a mask intended to conceal the private sector's bottom line in seeking to maximise profitability and market share.

Financial resources: explore all funding options and demand evidence regarding decisions from the funding sources to avoid imposition of decisions by 'debt/deficit hawks'. Challenge the narrow intergenerational arguments that focus on the future debt 'burden' but fail to take account of the use value of public assets available to future generations. It will be critical to keep reinforcing the four demands about no austerity, no tax increases for employees up to average industrial wage, no privatisation and no reinvention of PPPs described at the end of the Summary.

Organising, building alliances and alternative plans

The new strategic agenda will create new opportunities and challenges that will require building broader alliances, joint working and the implementation of integrated provision. The emphasis on public ownership and provision will mean radical changes with the removal of neoliberal processes such as commissioning, the re-integration of client and provider functions and the termination of all forms of privatisation. This will require the transfer of services and jobs to the public sector underpinned by public service principles and values and radical public management (Whitfield, 2020a). It will challenge

vested interests and established exploitative practices embedded by four decades of neoliberalism combined with a decade of austerity.

Green and Public Health Deals open up many opportunities to establish alliances between community organisations and trade unions to influence the planning and scope of projects and the employment and training conditions. They have a key role in preventing the Green Deal agenda being overly influenced or dominated by 'innovators' and 'entrepreneurs' instead of the basics needs of Green Deals. Draw on the lessons of Airbnb which widened the range of accommodation available to tourists but had a disastrous impact on affordable housing to rent in major cities, many of whom are imposing new regulations to reduce the negative impact. Similarly Lyft and Uber ride-hailing services claimed they would reduce congestion. However, a joint study commissioned by Lyft and Uber into traffic data in six major US regions showed that they had caused an increase in congestion (Fehr & Peters, 2019).

United Frontline Table (UFT) comprises alliances, coalitions, networks and support organisations: Asian Pacific Environmental Network, Center for Economic Democracy, Climate Justice Alliance, Dēmos, Grassroots Global Justice Alliance, Gulf Coast Center for Law and Policy, Indigenous Environmental Network, It Takes Roots, Kentuckians for the Commonwealth, Labor Network for Sustainability, New Economy Coalition, People's Action, Right to the City Alliance, The Rising Majority, Trade Unions for Energy Democracy, and UPROSE. Following a Green New Deal Climate and Regenerative Economy Summit in Detroit in 2019, UFT recently produced a toolkit on *Protect, Repair, Invest and Transform: A People's Orientation to a Regenerative Economy*.

The UFT toolkit *"…offers community groups, policy advocates, and policymakers a pathway to solutions that work for frontline communities and workers. These ideas have been collectively strategized by community organizations and leaders from across multiple frontline and grassroots networks and alliances to ensure that regenerative economic solutions and ecological justice—under a framework that challenges capitalism and both white supremacy and hetero-patriarchy—are core to any and all policies. These policies must be enacted, not only at the federal level, but also at the local, state, tribal, and regional levels, in US Territories, and internationally"* (Climate Justice Alliance).

A coalition of Hamburg trade unions and local organisations narrowly won a binding referendum to re-municipalise energy in the city – electricity in 2014, gas in 2018 and long distance heating in 2019. Weghmann (2019) identified four key lessons from the campaign:

> *"By reclaiming its energy grid, Hamburg could invest to modernise and extend the grid and make it fit for renewable energy; a very broad-coalition led to a successful referendum in September 2013 that paved the way for the re-municipalisation, despite a private-sector fightback and a counter-campaign that mobilised against it; fears among workers, which resulted in the trade union movement adopting an anti-re-municipalisation stance, did not materialise; civil society campaigns for re-municipalisation need to ensure they involve workers from the very beginning."*

Alternative plans: Trade union branches, community and civil society organisations should develop alternative plans/proposals when they are confronted by closures or new developments that threaten the living conditions, jobs and local economy or when they need to achieve radical changes to existing policies, policies or regulations. They should, where possible;

- Establish an alliance operational structure setting out joint working arrangements, maintaining accountability to trade union branches, community and civil society organisations through reporting back and setting agendas.
- Conversion proposals for factories and plants (Oshawa example).
- Comprehensive 'just transition' proposals and regulations.
- Integration and joint working proposals for a Integrated Public Healthcare System or between two specific sectors.
- Proposals for the redesign of public services, jobs, regulations, democratic accountability, participation and disclosure for social needs.
- Use the Public Service innovation and improvement Plan model to develop an alternative plan for a service.

Alliance action in Minneapolis: Trade union and community organisations in the Minnesota twin cities of Minneapolis-St. Paul report on *'Sky High Pollution: How Minnesota corporations pollute our planet and politics'* to highlight how commercial and industrial

building account for half of all greenhouse gas emissions. The group included the Service Employees International Union Local 26; MN350; Sierra Club Northstar Chapter; Black Indigenous and People of Color Environmental Justice Table; and Minnesota Youth Climate Strike.

The owners of major corporate headquarters had not invested in clean energy and were usually members of the Chamber of Commerce which has a record of opposing clean energy. The report identified the companies (for example General Mills, UnitedHealth Group, Samsung Electronics) and estimated the annual cost of global greenhouse gas emissions, annual company profits and whether they had emission reduction targets. The campaign called for *"…a Green Cleaning Training Programme to train and certify green technicians in the expanded use of non-toxic green chemicals, recycling, and reducing a building's carbon footprint",* to withdraw membership of the Chamber of Commerce and closure of the Hennepin Energy Recovery Center which incinerates waste from commercial buildings – similar plants emit high rates of carbon dioxide and toxins (SEIU Local 26 et al, 2020).

Civil society, community and trade union organisations must have rights to participate in the planning and implementation of Green and Public Health Deals and individual projects, for example in Public Service innovation and improvement Plans (Whitfield, 2020a). Participation is essential in building public support to tackle climate change and for the specific policies adopted. It has a key role in minimising climate deniers and equally those who promote simplistic targets or solutions. Green Deals have generally been prepared by policy organisations, political candidates and/or political parties with limited direct participation of community and trade union organisations. Rank and file participation in both Deals is critically important to ensure they are relevant to people's needs and aspirations.

The application of digitalisation and automation in public and private sectors should involve workforce/user participation to maximise social use and effectiveness and address economic, social and environmental priorities.

Community non-profit forms of ownership are increasingly promoted as an alternative to public ownership. Of course such projects have an important role where circumstances are appropriate, but the scale of change in public policy and the welfare state requires that national, regional and local public ownership must be the dominant model.

Trade union members will need a higher than current level of organising support, critical analysis, policy alternatives and strategic advice over the next decade responding to economic, climate change, public health and public expenditure policies. Building local, national and international alliances with other trade unions, tenants, community, women's and environmental organisations will be needed to achieve their objectives.

Organiser training and capacity building of civil, community and trade unions and alliances to increase awareness and understanding of the climate action agenda and to demand direct participation in the planning, options appraisal, impact assessment, implementation and monitoring and democratic accountability of policies and projects.

Monitoring and evaluation: Trade union, community and civil society organisations should ensure that rigorous and comprehensive monitoring is carried out of job impacts, transfers, retraining, access to job creation and enforcement of the code of quality employment. It should be publicly reported and taken into account in the evaluation and assessment of programmes.

Worker resource centres: US Worker Centres have a vital role in organising low-wage workers and providing support and advice on representation, labour laws, migrant rights, living wages, health and safety and fighting racism. They also provide education, such as English as a second language. A UK network of local trade union resource centres disappeared over 25 years ago as public authorities and national trade unions leadership withdrew support. But the model of building alliances with community and civil society organisations, undertaking local economy research, providing a resource for local trades council-initiated cooperation and campaigns, and supporting organisations of the unemployed remains as critical, if not more so, today. Organisational models cannot simply be imported from other countries, but the lessons and strategies must be applied according to local needs and circumstances.

Action strategies: The development of alternative proposals and plans has been an integral element of the seven-part strategy against privatisation. Many struggles have been successful when alternative

proposals have been developed alongside organising in the workplace and community; forging coalitions and public service alliances; intervening in the transformation and procurement processes; organising industrial, civil and community action; building political support; and challenging the vested interests of business organisations and political allies (Whitfield, 2012). Recent books have discussed lessons learnt, organising and action strategies: *Global Auction of Public Assets* (Chapter 11); *In Place of Austerity* (Chapter 7); *Unmasking Austerity* (Chapters 2 and 3) and *Public Alternative to the Privatisation of Life* (Chapter 18).

Appendix 1
Summary of economic strategies, Green and Integrated Public Healthcare System Deal proposals

Summary of economic strategies, Green and Integrated Public Healthcare System Deal proposals

Economic recovery strategies
Green Deal and an Integrated Public Healthcare System Deal
Increased investment to achieve 100% renewable energy
National high-speed quality sustainable low-cost broadband, rapid electric recharging networks and upgrading of the grid where required
Manufacturing with emphasis on local/regional/national production
Increased off-site modular production in the construction industry
Research, development and innovation to increase large-scale battery storage
National Conversion Agency to acquire, convert and adapt factories
Digitalisation and automation to meet social and economic needs
Public housebuilding programme
Increased flood prevention work, sea wall and river basin works
National Investment Bank
Democratisation for accountability and participation
De-commercialise nature and biodiversity
Sustainable agriculture to increase the efficiency of arable and livestock farming
Equality, social and environment justice
Decommodification of public provision and for radical public management
Public ownership and provision
Affordable quality childcare
Good quality jobs and training with Code of Practice for Good Quality Employment
Re-regulation for public standards and values
Social and environmental conditions for publicly funded bailouts of private companies
International agreements
Green Deal strategies
Increased direct public investment in renewable energy generation, storage and distribution
Nationalise major fossil fuel generation and supply companies and national grid
Increased energy efficiency standards for new buildings
Support and collaborate with research on use of hydrogen and other technologies
National network of electric rapid recharging stations
Retrofitting of housing, public buildings and business premises
Infrastructure programme for public transport and housing
Works to increase protection against sea level increases, floods and natural disasters
Appliance replacement programmes to increase energy efficiency, reduce energy costs and increase national and local manufacturing jobs
Conversion of bus, van, small truck and taxi fleets to renewable energy
Job training and apprenticeships in new technologies

Summary of economic strategies, Green and Integrated Public Healthcare System Deal proposals *(continued...)*

Integrated Public Health System Deal
Prepare a Public Health Climate Plan
Integration of public health, primary care, medical care and social care
Promote publicly provided national healthcare systems funded by tax revenue
De-commodify health services
Review local, national and international public health responses to the Covid-19 pandemic
Bring private care homes into public ownership and develop a new model of 'life centres' comparable to children's centres and provide local home care services via a National Care Service
Significant reduction in health inequalities
Staff recruitment and training programme with upgraded terms and conditions of employment
Rethinking and reorganising supply chains
Increased public ownership of the health estate with directly owned and operated hospitals and health centres
Improve in-house capability, planning, public management and reject all forms of privatisation
Redesign of hospitals and the healthcare system and adoption of the health economy model
Strengthen controls and regulation and restrict the power of drug companies

Appendix 2
Summary of economic strategies, Green and Integrated Public Healthcare System Deal proposals

Table A.1: Ownership of renewable energy projects

Company	Ultimate ownership	Projects	Capacity MW	Additional information
USA				
Invenergy LLC	Invenergy LLC	157	24,786	Includes 5 projects 178 MW in Europe & 2 in Uruguay 135 MW
NextEra Energy Resources	NextEra Energy Inc.	152	21,000	USA and Canada
Cypress Creek Renewables LLC	Cypress Creek Renewables LLC	14	16,000	Solar and storage facilities in 14 states
Acciona Energia	Acciona Group, Spain	309	10,071	9 in USA 785 MW; 5 in Canada 283 MW; 4 in India 164 MW; 2 in S. Africa 232 MW; 3 in Egypt 150 MW; 6 in Chile 518 MW; 5 in Mexico 1,307 MW
Avangrid Renewables	Iberdrola Group S.A. owns 81%	68	6,000	Onshore & offshore wind & solar projects
Orsted A/S	Orsted A/S	10	5,460	Offshore wind
Xcel Energy Inc	Xcel Energy Inc	59	4,770	Wind 3,700 MW, Solar 1,000 MW, Hydro 12 projects
BHE Renewables	Berkshire Hathaway Inc	21	4,654	Solar, wind, geothermal, hydro & natural gas projects
TerraForm Power	Merged with Brookfield Renewable Energy in Mar 2020	47	4,223	USA 2,767 MW, Canada 146 MW, EU 1,092 MW, other 197 MW
Duke Energy	Duke Energy Corp.	73	2,914	Wind 1,600 MW, Solar 400 MW, Biofuel 233 MW 10 plants, Hydro 32 projects
Geronimo Energy LLC	National Grid Ventures	18	2,890	Wind & solar - National Grid plc acquired 51% stake July 2019
Borrego Solar Systems Inc	Borrego Solar Systems Inc	84	900	All solar systems
US Solar	United States Solar Corporation	41	93	16 projects in construction, 27 MW
Canada				
Pattern Energy Group Inc	Pattern Energy Group Inc, USA	31	4,380	8 projects Canada 1,629; 12 projects USA 2,372 MW; 1 Puerto Rico 101 MW; 6 Projects Japan 385 MW
Innergex Renewable Energy Inc	Innergex Renewable Energy Inc, Canada	68	3,488	Mainly Canadian projects; 12 projects France; 7 projects USA; 2 projects Chile
Northland Power	Northland Power Inc., Canada	23	1,497	+ Netherlands 360 MW & 282 MW Germany
Europe				
Orsted	Orsted A/S, (51% owned by Danish government)	9	3,040	Wind farms in Denmark Germany, Netherlands
Foresight Energy Infrastructure Partners	Foresight Group LLP	79	1,370	11 in Spain 92 MW; 2 in Portugal 10 MW; 6 in Italy 11 MW
Valorem Group S.A.S.	3i infra 28.5% shares (Guernsey)	20	940	Wind 800 MW. Solar 140 MW, 1500 MW in development
NTR plc	NTR plc, Republic of Ireland	20	576	UK, Ireland, France, Sweden & Finland (wind power)

Table A.1: Ownership of renewable energy projects *(continued...)*

Company	Ultimate ownership	Projects	Capacity MW	Additional information
UK				
Orsted A/S	Orsted A/S	13	6,310	Plus 3 offshore in progress
SSE Renewables	SSE plc, Scotland	40	4,000	Onshore/offshore (UK and Ireland) and hydro with 7,000 MW planned
The Renewables Infrastructure Group (UK) Ltd	TRIG Limited (Guernsey)	73	1,629	France, Sweden, Ireland, UK, Germany
International Public Partnerships	International Public Partnerships Limited (Guernsey)	7	1,470	Offshore wind UK
Greencoat UK Wind	Greencoat Capital LLP	35	979	Onshore & Offshore projects
3i Infrastructure	3i Infrastructure plc (Jersey)	33	900 (1,000 in dev.)	100% Infinis 180 MW; 28.5% stake in Valorem 340 MW; 25% stake Attero energy from waste 180MW
Greencoat Solar	Greencoat Capital LLP	93	720	Acquires additional 156 MW of projects from Blackrock in May 2020
John Laing Environmental Assets Group (Guernsey)	Listed on London Stock Exchange	31	298	Wind 13 projects 169 MW; Solar projects 80.2 MW: Anaerobic 6 projects 30 MW (2 wind projects France)
Equitix Limited	Tetragon Financial Group (Guernsey)	11	138	Includes 5 wind farms & 1 solar project acquired from Blackrock
Scottish Power Renewables	Iberdrola S.A.	39	Included in global total	Wind and solar
Republic of Ireland				
StatKraft Ireland	Statkraft A/S	20	1,300	Acquired Element Power Ireland in 2018
SSE Airtricity Ltd	SSE plc	28	768	Onshore wind
Greencoat Renewables plc, Republic of Ireland	Greencoat Capital LLP	15	462	Includes 3 onshore wind projects in France 52MW
Invis Energy	The Craydel Group	5	223	Onshore wind Development planned 350 MW
Asia				
Azure Power Global Ltd	Caisse de dépôt et placement du Québec (CDPQ) Canadian pension fund has 50.9% stake	10	7,000	Solar parks in 24 states
UPC Renewables	UPC Renewables, Hong Kong	50	6,000	Wind and solar in China, India, Philippines, Indonesia, Australia
BayWa r.e.	BayWa AG, Germany	725	3,100	Manages over 8,300 solar, wind & bioenergy projects in 22 countries

Table A.1: Ownership of renewable energy projects *(continued...)*

Company	Ultimate ownership	Projects	Capacity MW	Additional information
Global				
Iberdrola S.A.	Iberdrola S.A., Spain	1,155	53,200	Spain, Mexico. Brazil, USA (see above), UK
Blackrock Global Renewable Power Fund, USA	Blackrock Inc, USA	740	19,100	Invested $5.5bn in wind & solar projects globally since 2011
Brookfield Renewable Energy Partners (Bermuda)	Brookfield Asset Management, 60%, Canada	5,274	18,883	USA, Canada, Latin America, Europe & Asia and 13,000 MW planned
Statkraft AS	Statkraft AS, Norway (owned by Norwegian government)	375	17,145	68% Norway, 10% Nordic region, 17% rest of Europe, 5% rest of world (78% hydropower)
Green Investment Group and Macquarie's wind assets in UK, Germany & China (11,700 MW) in 2015	Macquarie Capital (Australia)	118	13,530	Projects in 25 countries. 20,000 MW global planned
Aquila Capital (Hamburg)	Aquila Capital Holdings GmbH (includes Alceda Fund Management (Luxemburg) and KimaInvest Green Concepts. Daiwa Energy has 40% stake.	210	5,000	14 countries: 143 hydropower plants, 50 solar projects, 548 wind turbines
Lightsource BP Renewable Energy, UK	50/50 Joint Venture with BP	285	2,000	Europe, Americas and Australia 10,000 MW planned
Daiwa Energy & Infrastructure Co. Ltd	Daiwa Securities Group, Japan.	10	105	40% stake acquired in Aquila Capital in 2020
Australia				
Acciona Energia	Acciona Group, Spain	9	2,644	Wind projects except for 2 solar 60 MW
Foresight Energy Infrastructure Partners	Foresight Group LLP	5	252	Solar parks in Queensland and Victoria
Total		10,712	286,208	

Appendix 3
The case against privatisation

The evidence over the last four decades demonstrates that the flaws and failures of privatisation are systemic and predictable:

- the quality of service is dependent on the combination of inputs, processes, outputs and outcomes, so the focus only on outcomes deliberately undermines key qualitative aspects that are critically important for service users and public employees.
- financial savings are rarely achieved despite the pre-contract claims and they are usually obtained by cutting the quality of services and/or reducing staffing levels and reducing terms and conditions including hiring new staff on reduced terms
- given that privatisation has failed to achieve its objectives in core public services then it is inevitable that it will fail in the more complex areas such as sustaining nature and biodiversity and the mitigation of climate change.
- the private sector is not more efficient than the public sector and there is little evidence that privatisation achieves efficiency gains.
- the separation of purchaser and provider (client and contractor) puts competition, procurement and a contract culture at the centre of public management which accelerates privatisation.
- competition between public and/or private providers does not improve the quality of service but widens the role of markets and market forces which ultimately reduce quality, equality and sustainability.
- the loss of democratic accountability and the dominance of corporate business management practice leads to disempowerment of political representatives, service users and public employees and increasing secrecy.
- neoliberalism has utterly failed - financialisation, marketisation, individualisation and privatisation have led to dispossession, disinvestment, destabilisation, depoliticisation and disempowerment.
- increases inequalities and erodes social justice, human and trade union rights.
- impact investing and private finance of public provision is privatisation by stealth and simply another means to maximise capital accumulation at public cost.
- entrepreneurialism and individualisation in public services encourage private solutions and profiteering and are not in the wider public interest.
- undermines and reduces both access to and the quality of public goods and services, the public realm, public sphere and public domain.
- the public-private partnership model is high-cost and high-risk for the public sector, increases inequalities and ultimately accelerates privatisation.
- corporate welfare subsidies, guarantees, tax breaks, discounts, debt write-offs and high transaction costs, combined with higher user charges, is exploitation of public resources and people's needs for shareholder gain.
- the priority must be to adopt a strategy for public ownership and innovation and improvement of in-house provision, working with services users and public employees to change how public goods and services are financed, organised and delivered.

Source: Whitfield, D, (2020) *Public Alternative to the Privatisation of Life,* Spokesman Books, Nottingham, (Chapter 18)

Appendix 4
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