

**Expand the Just Transition:
the contribution of Further and Higher Education to
achieve net zero and climate justice**



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The argument

Thus far COP26 has 'codified the emergency' but actions have been underwhelming. In response, the scale and urgency of the crisis requires that the Just Transition (combined Green and Social transitioning) be expanded and accelerated (conceived in this symposium as the 'race to net zero'). This will not be achieved by new national and global policies alone, important though they are, but by synergistic actions between different societal levels from bottom to top and from local to global. The presentation and paper take a 'whole system approach' by exploring the different elements of the Just Transition and building a multi-dimensional 'Just Transition Social Ecosystem' model. The Just Transition as a passage of time can be seen as an ever-quickenning marathon. The societal and chrono conceptual framework can be applied any sphere of public life. In this case it is applied to further and higher education (FHE) in which tertiary institutions are seen as key Just Transition actors with fundamental educative and linking roles – local, national and global - to support the acceleration of ecological and societal transitioning. It is also argued that in order to become influential JT connective forces, FHE organisations will first have to reimagine themselves as place-based civic institutions and an active part of a connective global world.

Part 1. Intersecting crises – complex contexts for the Just Transition

The climate emergency constitutes an existential crisis, being the greatest singular challenge facing humanity in the 21st Century. But it is not the only challenge – global heating intersects with other crises, notably the Covid pandemic that has exacerbated existing social and economic divisions. It follows, therefore, that the solutions should seek not only to address the leading crisis, but also to understand the relationship between these multiple challenges to address them in a holistic and transformative way. This is the combinational thinking behind the concept of the ‘Just Transition’.

In response to the current Covid crisis politicians of all hues, both in the UK and internationally, have been using the term Build Back Better (BBB). However, what constitutes BBB depends on political orientation. For the UK Government, BBB is used to repackage a number of government growth policies in a post-Covid environment. For others, BBB is about developing greater societal resilience and social justice not only in relation to the recovery from Covid, but also in addressing the multiple crises that comprise the climate emergency¹. This points to the importance of investigating various climate-related terms because they have differing consequences. The warning from the UN is that the failure to follow a transformative path for BBB could result in a disastrous 2.7C temperature rise². Clearly the increasing realisation of the scale and depth of the crisis demands a transformative approach that underpins the concept of the Just Transition.

Part 2. Concept evolution - from the Green New Deal to the Just Transition

Over the past two decades, terminology about a changing climate has rapidly evolved with an increasing sense of urgency. Only a few years ago the terms climate change and global warming were common currency. Now the language has evolved to include - global heating, climate breakdown, climate crisis, climate shock and climate emergency. A similar evolution has been taking place in relation to measures required to combat the existential threat. Over the same time-period, terms such as the Green New Deal, the Green Industrial Revolution, the Green Transition and the Just Transition have constituted a new lexicon. On closer scrutiny, these terms appear to have different yet overlapping emphases and it

¹ A wider resilience and climate-related interpretation has been proposed by the OECD (2020) *Building back better: A sustainable, resilient recovery after COVID-19* - <https://www.oecd.org/coronavirus/policy-responses/building-back-better-a-sustainable-resilient-recovery-after-covid-19-52b869f5/> - accessed 30 Oct 2021.

² UN Environment Programme (2021) *Emissions Gap Report* - <https://www.unep.org/resources/emissions-gap-report-2021> - accessed 30 Oct 2021.

may prove useful in the first instance to draw out various distinctions to better comprehend the concepts, policies and practices associated with each and their possible relationship.

Green New Deal (GND) – invoking the memory of Roosevelt’s New Deal, the GND is a call for public policy to address the challenge of the climate emergency. Having entered public and political discourse over the past two decades there are now a variety of GND plans in civil society in the United States, the UK and elsewhere. The GND is formally recognised in the EU and is known as a European Green Deal ³.

The Green Transition (GT) – is used interchangeably with the GND, but in this paper it is primarily associated with the target of moving towards net zero carbon emissions by 2050 which will include the rapid phasing out all fossil fuels and embarking on a massive home insulation programme. The UK (and the US) are also committed to a net zero electricity production by 2035. However, climate campaign groups have argued that richer countries need to achieve net zero by 2035-2040 if we are to stand any chance of restricting increases in global temperatures to 1.5°C; a target enshrined in the Paris Accords ⁴.

Green Industrial Revolution (GIR) – this refers to a range of specific economic and industrial policies from political parties and governments aimed at supporting the GND and GT. In the case of the Labour Party, the emphasis is on a comprehensive green infrastructure including energy production and conservation, industrial innovation and zero carbon production, transformed land use, food production and animal welfare. Labour also recognises the concept of climate justice, the role of new forms of public ownership of the key energy companies, a new governance framework that emphasises regional and local climate innovation and an emphasis on scientific and technological innovation and skill development ⁵. The Conservative Government also uses the term Green Industrial Revolution, but its 10-point plan focuses more narrowly on green energy production that includes nuclear, electric car production, energy wastage and carbon capture ⁶. There is no visible social or public dimension.

³ European Commission (2020) *A European Green Deal: Striving to become the first climate neutral continent* - https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en - accessed 30 Oct 2021.

⁴ Extinction Rebellion (2020) *Enough is enough – how our governments letting us down* - <https://extinctionrebellion.uk/the-truth/the-emergency/part-6/> - accessed 31 Oct 2021.

⁵ Labour Party (2019) *Manifesto – A Green Industrial Revolution* - <https://labour.org.uk/manifesto-2019/a-green-industrial-revolution/> - accessed 31 Oct 2021.

⁶ Gov UK (2020) *The ten-point plan for a green industrial revolution* - <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution> - accessed 31 Oct 2021.

Despite these differences, a shared argument of the GIR is that developing green technologies will be associated with new higher skilled, more satisfying and better paid jobs.

The Just Transition (JT)

As the language of climate action has become more radical in response to an intensifying crisis, so have concepts of change. The Green Transition is increasingly being accompanied by the concept of the Just Transition founded on the argument that any climate strategy should also promote social and climate justice. The JT was pioneered by the trade union movement to secure workers' rights and livelihoods when economies are shifting to sustainable production to combat the climate emergency and to protect biodiversity⁷. The JT was also born out of a growing recognition of systems of environmental racism where low-income communities of colour and low-income communities have been (and continue to be) disproportionately negatively impacted by hazardous pollution and industrial practices⁸. Moreover, the JT also recognises global inequalities in which communities in the global south are already being impacted by a heating climate, leading to growing food insecurity⁹.

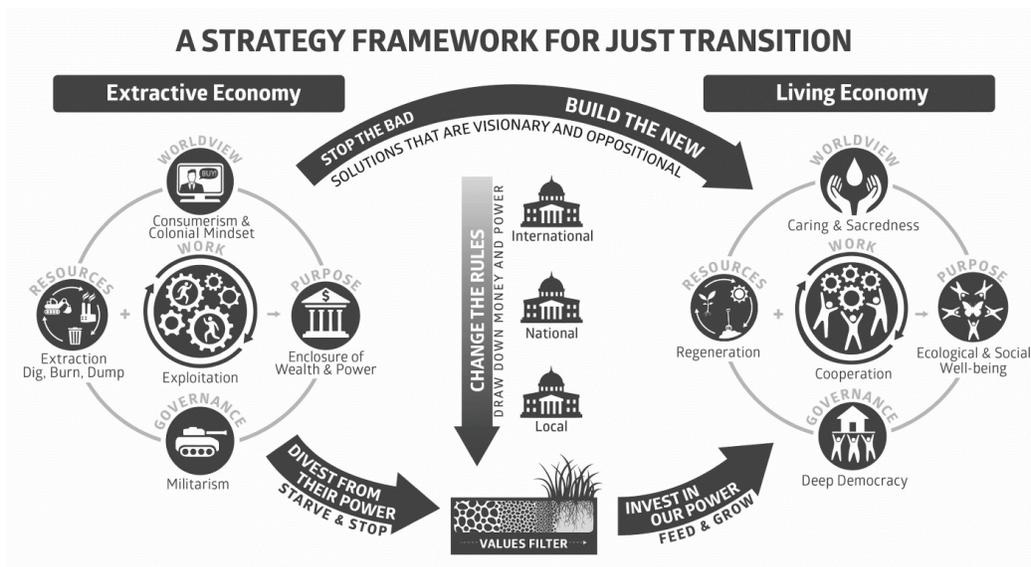
The concept of 'transition' denotes the movement from condition to another together along with the processes of change. 'Grand transitions' are multi-dimensional, taking place at different levels of society, from the micro to the macro and spatially from the local to the global. This combinational approach is pursued in the emergent conceptual framework. However, at its most practical, the JT aims for better jobs, improved health and a better living and natural environment that will benefit, in particular, the most vulnerable. In an effort, however, to achieve the twin aims of decisive climate action and social justice, the JT is conceived as societally and globally transformative involving a movement from an extractive, consumer and exploitative economy to a living and caring economy and society, based on regeneration, co-operation and the deepening of democracy (see Figure 1). At its most radical, the JT could be viewed as post-market and post-capitalist.

⁷ For an academic introduction to the Just Transition see – Newall, P. and Mulvaney, D. (2013) The political economy of the 'just transition' *The Geographical Journal* doi: 10.1111/geoj.12008 - https://www.iss.nl/sites/corporate/files/66-ICAS_CP_Newell_and_Mulvaney.pdf - accessed 31 Oct 2021.

⁸ Climate Justice Alliance (2021) *Just Transition: A Framework for Change* - <https://climatejusticealliance.org/just-transition/> - accessed 31 Oct 2021.

⁹ Deutsche Welle (DW) (2021) *The global injustice of the climate crisis* - <https://www.dw.com/en/the-global-injustice-of-the-climate-crisis-food-insecurity-carbon-emissions-nutrients-a-49966854/a-49966854> - accessed 4 Nov 2021.

Figure 1. The Just Transition processes of change



Source: Climate Justice Alliance, 2021

At the same time, the Just Transition also has more pragmatic interpretations in which ‘progressive capitalism’, for example, sees danger in ignoring the climate threat and business opportunities from what they see as the inevitability of more radical climate policies ¹⁰.

The Just Transition can, therefore, be best understood as a multi-layered and values-led ‘organising concept’ in which the policies of the Green New Deal, the targets of the Green Transition and the strategies and practices of the Green Industrial Revolution can be located, related and amplified by linkages to social and climate justice.

Part 3. An emergent conceptual framework – The Just Transition Ecosystem

The Just Transition defined

The Just Transition has been defined as a ‘vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy. The transition itself must be just and equitable, redressing past harms and creating new relationships of power for the future through reparations’ ¹¹.

¹⁰ Principles for Responsible Investment (RPI) - <https://www.unpri.org> – accessed 5 Nov 2021.

¹¹ The Climate Justice Alliance (2021) -Just Transition: A Framework for Change - <https://climatejusticealliance.org/just-transition/> - accessed 28 Oct 2021.

Just as the Green New Deal has spawned numerous national and local GND plans so has the Just Transition. A notable example is Scotland's *Just Transition Commission: A National Mission for a Fairer, Greener Scotland* that is seen as society-wide and embracing all sections of the economy (e.g. energy; production and supply chains; land; transport and procurement) ¹². There is also an emphasis on the engagement of stakeholders so that the JT becomes recognised as a collective project with a focus on the development of new understandings, knowledge and skills in order that all sections of the population can participate in the greening of a fair economy and society.

The battles for the climate and social justice are not only fought at the global and national strategic levels, but also on local and regional terrains that provide the immediate contexts for changing economic, social and ecological practices. While the COP26 deliberations will understandably focus on national commitments to the green transition and international agreements to reach net zero, this paper takes a place-based whole-system approach by focusing on four interconnected system levels together with a number of connective factors to explore the change dynamics of the Just Transition.

The conceptual evolution of the Just Transition Ecosystem

The concept of ecosystem has also evolved to involve an active social dynamic. The original concept of a natural ecosystem describes the inter-relationship of a range of ecological factors that interact as a functional unit to produce an equilibrium and sustainable natural condition. The concept of a social ecosystem, on the other hand, describes the interaction of a range of human social factors functioning as a multi-level social and political organism to produce a new level of development. A social ecosystem is less focused on stability and more on change.

The model illustrated in Figure 2 is based originally on Bronfenbrenner's human ecological theory that stressed the inter-dependence of four system levels (micro, meso, exo and macro) on the psychological formation of the child ¹³. This was subsequently adapted by Hodgson and Spours (2015) to conceptualise place-based vocational education and training that takes place in localities and sub-regions (see Figure 2). The Bronfenbrenner system levels were given an explicit spatial and structural interpretation to conceptualise how social actors worked across different, but connected geo-political

¹² Scottish Government (2021) *Just Transition Commission: A National Mission for a Fairer, Greener Scotland* – <https://www.gov.scot/publications/transition-commission-national-mission-fairer-greener-scotland/> - accessed 31 Oct 2021.

¹³ Bronfenbrenner, U. (1979) *The Ecology of Human Development: Experiments by Nature and Design*, Cambridge, MA: Harvard University Press.

scalars. The social ecosystem model has placed particular emphasis on the ‘exosystem level’ to reflect the complexities of ‘middle-range’ civic, economic and political activity between the micro and macro system levels¹⁴. This expanded level, that also comprises local governance, has been hollowed out by neoliberalism and the social ecosystem model seeks to repopulate this layer of civic activity. The totality of the inter-dependent levels can be seen as constituting a comprehensive social ecosystem applied to TVET, but that could also be relevant to other aspects of civic and public life¹⁵.

Three elements of the new JT social ecosystem

This paper undertakes another elaboration by applying the geo-spatial social ecosystem model to the Just Transition by way of three developments. First, the four social ecosystem levels have been identified as sites of JT activity indicating a whole societal approach from bottom to top. Second, the social ecosystem model has been provided with greater scope and dynamism by the identification of a number of connective forces – 1. vision, culture, learning – unifying processes to connect the different levels; 2. the role of JT ‘intellectuals’ as bridging actors; 3. global awareness and connectivity to link with those in the climate front line; 4. a critical appreciation of the potential contribution of assistive technologies, artificial intelligence and machine learning; and 5. the concept of time through concepts of ecosystem evolution and acceleration. The third development involves consideration of the dialectic of the vertical and horizontal factors and forces of the expanded modern state that introduces an active political economy dimension in terms of power and knowledge into the model through what has been termed 45-degree politics¹⁶.

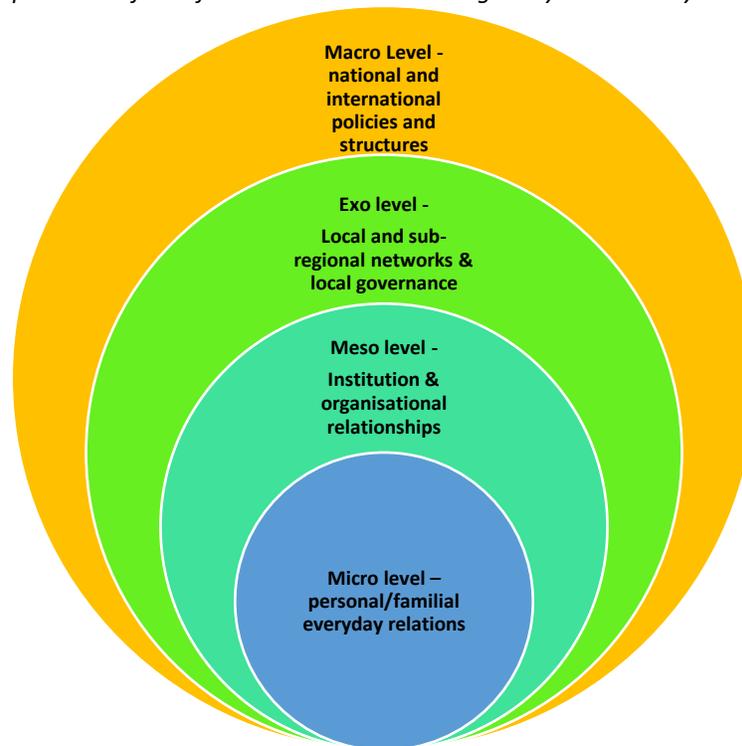
¹⁴ Hodgson, A. & Spours, K. (2015) ‘An ecological analysis of the dynamics of localities: a 14+ low opportunity progression equilibrium in action’ *Journal of Education and Work*, 28, 1, 24-43.

¹⁵ For social ecosystem concepts applied to TVET see Hodgson, A. and Spours, K. (2018) *A social ecosystem model: conceptualizing and connecting working, living and learning in London’s New East* – available at <https://www.kenspours.com/set-and-cities> and Grainger, P. and Spours, K. (2018) *Future of Work and Education for the Digital Age: A Social Ecosystem Model: A New Paradigm for Skills Development?* - <https://dera.ioe.ac.uk/34351/1/T20-Social-Ecosystem-Model-revised-KS-2.pdf>.

¹⁶ Lawson, N. (2019) 45 degree change: transforming society from below and above - <https://www.compassonline.org.uk/publications/45o-change-transforming-society-from-below-and-above/> - accessed 6 Nov 2021.

The first element – Inter-dependent levels of a JT social ecosystem

Figure 2. A spatial interpretation of Bronfenbrenner’s human ecological systems theory



1. JT Microsystem - the transitioning of human relations and everyday life

In Bronfenbrenner’s human ecological model, the microsystem referred to a person’s immediate lived environment (e.g. family relations, peers and immediate learning relationships). The adapted model has retained a similar focus. However, the application of this personal and human-centred level to the Just Transition opens up the possibility for a critical exploration of the transition of everyday living. It is becoming increasingly clear that the targets of the Green Transition will not be achieved without significant and rapid changes in everyday beliefs and the ways in which we lead our lives (e.g. changes to the way we travel, generally consuming less – particularly meat - conserving household energy and recycling more). While some will want to portray these as losses to be resisted, the fact is that the Just Transitioning of the human microsystem could lead to significant gains in terms of the quality of human relations and lived existence – the idea of a life well-led in the ‘Good Society’ in which we learn to live

with less but are not poor¹⁷. While the Green Industrial Revolution promises to provide more well-paid jobs, these this will impact on a relatively small proportion of society in the first instance.

The rapid transitioning of everyday life will require not only the development of collective ecological consciousness (referred to later as the General Intellect), but also economic incentives and regulations to encourage important life changes (e.g. to electric vehicles and back to public transport; installations of heat pumps and home insulation). More radically, it is relevant to also think about the role of a Universal Basic Income (UBI), that has been in unexpected ways trialled through the COVID pandemic, to help with the Just Transitioning at the microsystem level. Helping a greater number of people feel more economically secure is key to the rapid sustainable transitioning of everyday life.

2. *JT Mesosystem – from Civic Anchor Institutions to the Just Transition Organisation*

The mesosystem in the adapted model is primarily concerned with the role of organisations in their social contexts. Applied to the JT, the mesosystem level concerns the role of public, private and third sector organisations in driving the JT locally and regionally. Reflecting the multi-level nature of the JT concept the Just Transition Organisation (JTO) can be defined by a series of commitments and capacities.

First, by applying Mazzucato's concept of 'mission-led innovation'¹⁸, to the climate emergency, becoming a JTO could involve a deep commitment to the values, purposes and processes of the transition. In most organisational cases this would result in a radical extension of existing institutional missions so that core functions are remade in terms of a distinctive contribution towards the achievement of net zero and climate justice.

Second, the JT is essentially a place-based concept in which cities, regions and localities become prime settings for collaborative action by an array of organisations¹⁹. The concept of a place based JTO builds on the idea of a 'civic anchor institution'. Anchor institutions have an important presence in a place,

¹⁷ Knight, B. (2017) *Rethinking Poverty – what makes a Good Society?* Policy Press - <https://library.oapen.org/bitstream/handle/20.500.12657/31217/634731.pdf;jsessionid=2FAFD58144549F7227E800F7AF9E5EA1?sequence=1> – accessed 31 Oct 2021.

¹⁸ Mazzucato, M. (2016) From market-fixing to market-creating: a new framework for innovation policy *Industry and Innovation* 23 (2) <https://doi.org/10.1080/13662716.2016.1146124> - accessed 28 Oct 2021.

¹⁹ OECD (2020), *Managing Environmental and Energy Transitions for Regions and Cities*, OECD Publishing, Paris, <https://doi.org/10.1787/f0c6621f-en>.

usually through being largescale employers with the ability to make a strategic contribution to the local economy. They are also tied to a particular place by virtue of their mission, histories, physical assets and local relationships. Examples include local authorities, NHS trusts, universities, further education colleges, trade unions, large local businesses, the combined activities of the community and voluntary sector and housing associations ²⁰. In response to the COVID pandemic, City of Glasgow College for example, has identified itself as a civic anchor institution through its rapid movement to remote working to protect students and staff, support for local food banks and offering services to vulnerable care experienced young people ²¹.

Building on concept of civic anchor institutions, becoming a JTO would not only involve influencing a particular setting, but contributing to the transformation of that environment as part of the Just Transition. On the other hand, it is possible that a multitude of organisations, large and small, could become JTOs by placing sustainability and inclusion at the heart of organisational purpose and being prepared to collaborate in order that their distinctive contribution can work in synergy with the specialisms of other similarly committed organisations.

Third, a JTO would also need to transform its internal cultures, structures and practices. One illustration of this path is the process of become a 'Teal organisation'. Laloux's historical organisation theory asserts that over the past 10,000 years humanity has progressed through different organisational types. These have been given a colour and metaphor – red (wolfpack), amber (army), orange (machine), green (family) and teal (living organism) - with the historical observation that organisational change is accelerating exponentially ²². A Teal organisation (the latest evolution) prioritises a social mission, self-management and collaboration which would appear to fit with JT principles. However, there is a strong counter argument that states that 'not everyone should become Teal' because of the relevance of a degree of hierarchic leadership to make organisations effective in the current context ²³. Becoming a Just Transition Organisation would constitute a very important and practical step not least because it does not depend on size or influence. The key is commitment to the transition.

²⁰ CLES (2021) *What is an anchor institution?* <https://cles.org.uk/what-is-community-wealth-building/what-is-an-anchor-institution/> - accessed 31 Oct 2021.

²¹ City of Glasgow College (2021) *A civic anchor in a time of crisis* - <https://www.cityofglasgowcollege.ac.uk/news-events/news/civic-anchor-time-crisis> - accessed 31 Oct 2021.

²² Laloux, F. (2014) *Reinventing Organizations: A Guide to Creating Organizations Inspired by the Next Stage in Human Consciousness* – Nelson Parker

²³ This argument is made in - Farag, M. (2017) *The Rise and Fall of a Teal NGO* - https://ssir.org/articles/entry/the_rise_and_fall_of_a_tea_ngo - accessed 31 Oct 2021.

3. JT exosystem – networks and the structures of local and regional governance

JT organisations no matter how pivotal their role in the locality will not be able to undertake the Just Transition on their own. Inter-organisational collaboration will prove to be a key factor in addressing the complex problem of transitioning. The central idea is that place-based networked collaboration can achieve not only a synergy of different specialisms, but also opportunities for mutual learning. As Mazzucato argues, working on effectively horizontal terrains requires ‘prospective’ thinking involving a deep knowledge of the complexities of the locality and its key challenges, together with a capacity to foster a shared sense of mission between a variety of social partners and their specialisms ²⁴.

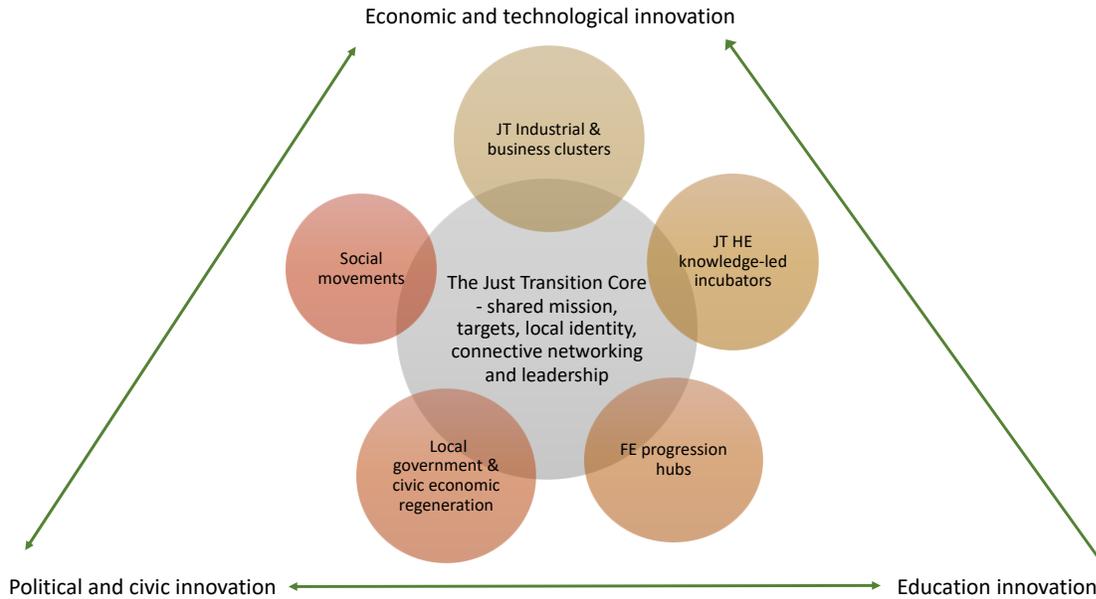
Just Transition local system leadership, therefore, would seek to bring about a ‘synergy of differences’ with a common focus on inclusive green economic growth, sustainable living and lifelong learning in support of the Just Transition. At the same time, there would also be a vital role for the macro governmental level to provide strategic investment and incentives to collaborate, devolving necessary political responsibilities to the lower system levels so as to coordinate a diverse range of catalytic factors including public investments and allied private sector initiatives.

The JT local system would have to comprise different types of organisational innovation – economic and technological; educational and political/civic. Figure 3 illustrates the potential roles of five different social partners which providing their distinctive forms of innovation.

The collaborating organisations would be bound together by a shared mission that includes a profound commitment to ecologically and economically transform ‘the place’ and an agreed area plan with JT targets, processes and evaluation criteria. Regarding leadership, the local or regional authority is an obvious candidate given spatial planning roles, but there will also be significant leadership roles for JT anchor institutions. A key point to recognise here is that success may depend on the capacities of collective leadership because JT transition responsibilities are fundamentally shared. But equally important is the role of popular civic participation.

²⁴ Mazzucato M. (2016).

Figure 3. – Social partners in Just Transition local systems



As Figure 2 shows, the JT Ecosystem runs from the bottom to the top, from the micro to the macro. All too often in our politics change (or the lack of it) is driven from above. While there is a strong case for decisive national leadership, particularly to kickstart the JT process, longer-term success will depend on popular civic participation. The fact is that most transformative ideas and practices do not come from political parties, but from different parts of civil society where prefigurative experimentation can take place and where civic actors are closest to lived problems²⁵. JT local systems, therefore, need to be participatory so there is a constant flow of energy and ideas from below. But it is also the case that bottom-up localist initiatives can become isolated or even peter out. Connecting and sustaining forms of popular participation may be a prime function of ‘middle range’ organisations that can connect the upper and lower reaches of the ecosystem.

The exo-system will also include city region or sub-regional economies because these are the terrains on which new green jobs and technologies can be developed. It is commonly understood that new green jobs are highly skilled because of the demands of engineering and technology in both the public and private sectors. This assumption underpins the promise of green jobs being better paid jobs. However,

²⁵ Spours, K. (2016) *The Very Modern Prince: the role of the integral political party in the networked age* Compass discussion paper. London: Compass. - <https://www.compassonline.org.uk/wp-content/uploads/2016/11/The-21st-Century-Party-Very-Modern-Prince-2.pdf> - accessed 31 Oct 2021.

for the Just Transition to be truly economically and socially comprehensive, will also involve the transformation of jobs which provide the essential goods and services for everyday life, in what has been termed the ‘foundational economy’.

High-tech jobs will be fuelled the proposals of the Green Industrial Revolution including developments in green energy production, transport and productive processes. At the same time, new ideas and practices are emerging about changes to forms of consumption including net zero restaurants, bars, beverages and non-waste shopping ²⁶. Consideration should also be given to implications for health and social care in what has been referred to as the ‘caring economy’ ²⁷. With a focus on production, consumption and caring, it may be that the greening of the foundational economy could have a disproportionate impact at the micro-level by helping people think about leading more sustainable and quality-based everyday lives.

The idea of a combination of economy (high and lower level), however, has other dimensions – notably the alliance of public, private and third sector economic and social efforts. Mazzucato and other economists have identified a key role of government investment attracting increased private activity through a process of ‘crowding in’ ²⁸. This is an evidence-based counter argument to an assertion that public sector always ‘crowds out’ private enterprise. For the Green Industrial Revolution to scale up, new industrial and technological strategies will need to become prime sites of crowding in or, in other words, the focus of economic and social alliances played forged in city regions and sub-regional economies.

4. ‘Macrosystem’ - wider national policy, societal and global contexts

While thus far the emphasis of the JT ecosystem has been on its lower and intermediate levels, there remains a critical role for the wider macro level. In the adapted geopolitical ecosystem model, the macro level refers primarily to the roles of national policy and strategic leadership. The international

²⁶ BigHospitality (2021) Net zero restaurant initiative launched - https://www.bighospitality.co.uk/Article/2021/10/04/Net-Zero-Restaurants-initiative-launches-The-Sustainable-Restaurant-Association?utm_source=copyright&utm_medium=OnSite&utm_campaign=copyright – accessed 31 Oct 2021.

²⁷ The Care Collective (2021) *The Care Manifesto: The Politics of Interdependence* The Care Collective (LSE) <https://pagesofhackney.co.uk/webshop/product/the-care-manifesto-the-politics-of-interdependence-the-care-collective-lse/> - accessed 31 Oct 2021.

²⁸ Mazzucato, M. (2015) *Building the entrepreneurial state: A new framework for envisioning and evaluating a mission-oriented public sector*, Working Paper, No. 824, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY - <https://www.econstor.eu/bitstream/10419/109993/1/815376626.pdf> - accessed 31 Oct 2021.

terrain could also be included within the macro level, but that wider landscape is not in scope in this paper.

Undoubtedly the establishment of the Just Transition requires national leadership and, in the Scottish case, this is evidenced by the support of the Scottish Government for the Just Transition Commission. National governments have critical roles to play because they provide the strategic investment and the policy and governance frameworks, or what Finegold refers to as catalytic and supportive elements to stimulate the development of a high skill Just Transition ecosystem²⁹. But this should not be one-way traffic of top-down policy management. Rather, the macro level in the JT ecosystem should be seen in an interdependent and reciprocal process with the other levels. On the one hand, it is a demonstration of political maturity to have the confidence to devolve significant powers to the lower levels of governance, recognising that these are the terrains upon which the Just Transition actually happens. At the same time, macro-level actors are dependent on the actions and the policy and practice learning that comes from the middling and lower levels. Put another way, the leadership role of the macro-level is essentially a partnership activity in which a prime role of the macro-level is stewardship of the JT ecosystem as a whole.

The second element - connective factors and forces

Connective factors and forces have fundamental roles in a dynamic ecosystem model to provide cohesion and innovation within and between the system levels. Thus far five connective forces have been identified.

- *Vision, culture, learning* – unifying processes to connect the different levels. It is here that the paradigm shift in thinking has to take place in which the response to the crisis in rapid and adaptive learning.
- *The role of JT 'intellectuals'* – bridging actors - individual and collective – have key connective and educative roles (see Part 4 for an elaboration).
- *Global awareness and connectivity* – links with those in the climate front line involving a radical extension of horizontal networking.

²⁹ Finegold, D. (1999) 'Creating self-sustaining, high-skill ecosystems', *Oxford Review of Economic Policy*, 15, (1) 60-81.

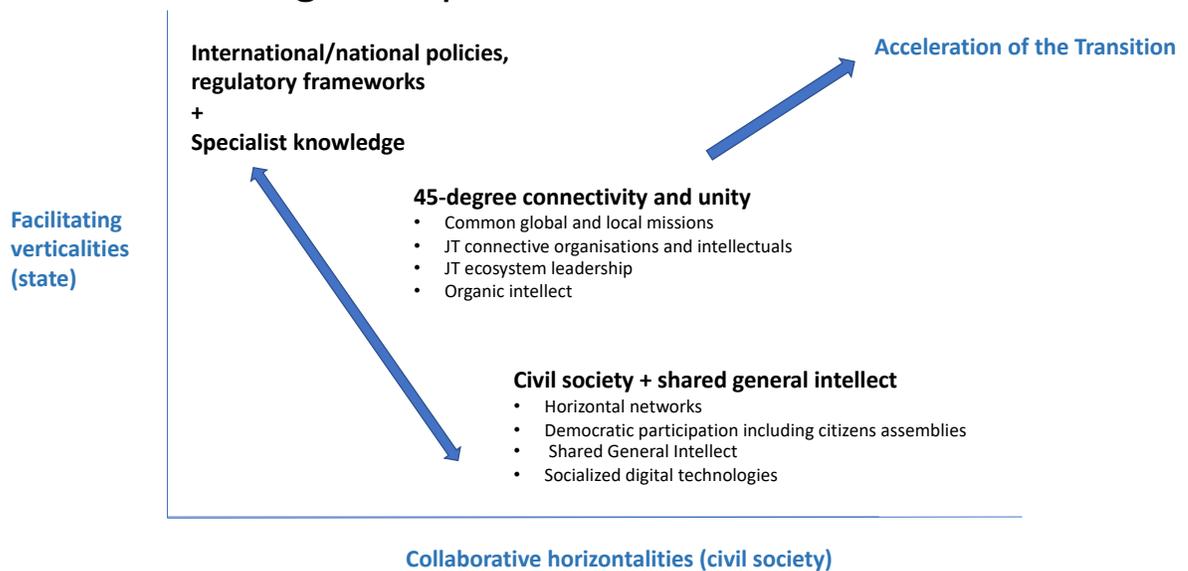
- *Socialised advanced technologies* – new contributions of artificial intelligence and machine learning. This is not conceived of as a ‘technological fix’, but the introduction of an important socialised set of tools that can work in collaboration with other connective forces.
- *Ecosystem evolution and acceleration* – the paradox is that the Just Transition is a long evolutionary haul but, at the same time, has to accelerate to meet the scale of the crisis.

The third element - the dialectic of horizontal and vertical factors and forces

The third part of the model concerns issues of political power and knowledge based on two political recognitions. First, thorough-going change cannot be a simply top-down dominated by vertical and hierarchical forces because it will not possess an understanding of the lived experience and will also lack consent. Second, horizontal movements can bring about paradigm shifts in thinking and practice, but on their own cannot bring about sustainable change. There has to be some engagement with the vertical. Put another way, radical and sustainable political and economic change requires a dialectical relationship between horizontal and vertical forces (power and knowledge) with critical roles for 45-degree factors (see Figure 4) ³⁰.

Figure 4. 45-degree politics of the JT: relationships of knowledge and power

45-degree politics of the JT: relationships of knowledge and power



³⁰ Lawson, N. (2019)

Part 4. The roles and relationships of Further and Higher Education

The position and identity of further and higher education institutions within the JT ecosystem

During and following COP26 there should be a heightened sense of urgency about tackling the climate emergency. But FHE institutions along with their social partners should also be reminding the wider public that we will have to build our way out of the COVID pandemic in a sustainable way while emphasising that no-one should be 'left behind'.

Further education and higher education institutions are large middle range organisations whose activity and influence straddle the meso- and exo- levels. They have budgets in the millions, they can cater for tens of thousands of students and employ hundreds if not thousands of staff. Both FE and HE have particularly critical roles in skill development, economic and social innovation and knowledge production. FE colleges focus on several levels of provision but, in particular, Entry through to Level 3. Some FE colleges, however, contain significant amounts of higher education provision. Further education colleges are rightly seen as institutions that promote education progression and transitions both to work and higher study and through these they can play important social inclusion roles. Higher education provision comprises courses at Level four and above and these can be vocational and academic. HEIs are also known for their research innovation roles. While both types of institutions can have distinctive identities, they do overlap and some colleges have become hybridised further and higher education institutions. In whatever form FHEs are fundamental pillars of lifelong learning and economic development.

While these institutions have enormous potential to become involved in the Just Transition, how far this happens depends on organisational perspective. Since FE Incorporation nearly 30 years ago colleges have been told by different generations of policymakers that competition is the best road to quality and national funding mechanisms were designed to drive up volume and drive down costs. Over the past two decades, however, the institutional situation has diverged across the four countries of the UK with FE in the three smaller countries becoming less marketized and more collaborative than in England³¹. There is now an increasing emphasis on becoming place-based institutions in which FHE can be seen to

³¹ Hodgson, A. and Spours, K. (2019) Further education and skills across the UK: new opportunities for policy learning? An introduction to the special issue, *Journal of Education and Work*, 32:3, 215-223, DOI: [10.1080/13639080.2019.1621273](https://doi.org/10.1080/13639080.2019.1621273)

be moving towards a post-market mindset, even in the highly marketized English FE Sector³². This is why the concept of a civic anchor institution is an important foundation for becoming a JT organisation.

While FHE institutions will understandably pride themselves on their specialisms, here we are talking not only about the distinctive roles of further and higher education institutions, but also their relationships. While the concept of the Just Transition has both national and global meanings, it is at the sub-national levels that the concept is applied in practice. But In order to realise the JT process at these middling ecosystem levels will involve identifying the key contribution of each social partner so that together they can achieve ecosystem synergy. Whatever way

Key roles and responsibilities of FHE institutions in the JT local and regional system

Applying this emergent JT ecosystem framework to the world of further and higher education has led to the initial identification of a range of key activities that represents a significant expansion of the roles and responsibilities of colleges and universities.

1. *Increasing the scope of action - relating working, living and learning.* Colleges and universities are normally thought about connecting the worlds of learning and work. The concept of 'living' has remained largely beyond their boundaries, with concern about how lives are led being the preserve of civil society and campaign organisations. But the concept of the Just Transition places sustainable living centre stage, as does the claim to be a place-based organisation. It follows therefore that FHE institutions should also see the support for sustainable living as a key responsibility and how this can become a feature of all forms of provision including technical, vocational education and training (TVET).
2. *Moving beyond the academic/vocational divide* – the sharp divide between general and vocational education was problematical before the climate crisis – now it is redundant and an obstruction to more expansive thinking and practice. JT-informed general education would include applied

³² For recent discussions of placed-based post-market logic in further education see - Doel, M. (2020) *Collaboration or Competition And The Future of Further Education* - <https://www.fenews.co.uk/featured-article/41127-collaboration-or-competition-the-future-of-further-education-dilemma-no-1> and Grainger, P. and Little, P. (2019) *Colleges as Anchors in Their Spaces: A Study in college leadership of place* – Further Education Trust for Leadership - <https://fetl.org.uk/publications/colleges-as-anchors-in-their-spaces-a-study-in-college-leadership-of-place/> - accessed 31 Oct 2021.

elements and JT vocational activity would include theoretical elements, the combination of which would create new linkages between what has traditionally been seen as separate educational tracks, particularly in England.

3. *The Just Transition provision role – inclusive combinational economies require combinational TVET* – if the Just Transition is to be truly inclusive and involve a diversity of economic and social organisations, then diverse and combination economies will require ‘combinational TVET’. This will emphasise not only high-skill approaches and graduate jobs, but also the remaking of other forms of employment at intermediate and foundational skill levels.
4. *Rethinking skills - skills utilisation and skills escalators* – some but not all policymakers still subscribe to the of ‘skills supply’ paradigm – that the role of education and training is to supply the skills that employees need³³. This has hit up against the paradox that many employers have found routes to profitability without being fully committed to training and under-using the skills of their workforce that interferes with the signals being sent to FE and work-based providers. Attention has thus turned to the concept of ‘skills utilisation’ which focuses on how skills are used in the workplace to support workplace innovation. The point to understand, however, is that employers do not magically implement skills utilisation; they have to possess strong reasons to do so. Here we return to the concept of the Just Transition and its central aim of remaking green jobs at all levels. With this kind of vision, the question would then focus on the incentives and support framework to enable the scaling up of skills utilisation and workplace innovation. It follows therefore that FHE institutions should identify their prime skills-related role as one of utilisation and not just supply. But the question remains as to the ways to ensure a focus on skills utilisation at different economic and functional levels in an inclusive economy. Here it may be useful to consider the concept of ‘skills escalators’ that aim to provide a continuous ladder of progression from further education provision, into the workplace and then onto lifelong learning³⁴. Building skills escalators are essentially an alliance-based activity requiring a close and continuous partnership between education providers and workplaces. Just Transition movement has also emphasised that the concept of skills needs to be expanded to include, for example, the concept of care and empathy.

³³ For a summary of this area of research see – Institute for Employment Studies (2021) *Skill demand and utilisation* - <https://www.employment-studies.co.uk/what-we-know/skill-demand-and-utilisation> - accessed 31 Oct 2021.

³⁴ Colechin, J., Murphy, H., Stevens, C., Penacchia, J., Ray, K., and Vaid, L. (2017) *Evaluation of the Skills Escalator Pilot* Leicester: Learning and Work Institute.

5. *Becoming magnet institutions and transition network building*— part of the idea of being a civic anchor institution is becoming a magnet for other often smaller organisations and, in the process, forming new productive networks around particular specialisms. A particular version of the FHE that of the science and innovation park, but the magnet process can take many different forms including the leasing of space to micro-organisations and SMEs. Finegold in his work on high skills ecosystems highlighted the role of university-based technological innovation as a major catalyst for the development of Silicon Valley ³⁵. However, the Just Transition will require not only shifts in what have been termed elite entrepreneurial ecosystems ³⁶, but also the spread of transition-based networks all parts of the economy and civil society. Interestingly, the ‘transition towns movement’ was established in 2004 by a further education college in Kinsale, Ireland where it creatively adapted areas such as energy production, health, education, agriculture to produce a "road map" for a sustainable future for the town. Since then, the transition towns network has grown to over 1000 grassroots initiatives across 43 countries ³⁷.

6. *Research, specialist knowledge production and Just Transition intellectuals* - the Just Transition will push the boundaries of knowledge production. Human history has shown that new knowledge can arise very quickly in periods of crisis but this, of course, is not guaranteed because of other reactions that may be marked by denial and despair. FHE institutions have a key role to play in the development of new forms of specialist societal, technological and economic knowledge in their research and innovation incubator roles. Working closely with high tech companies, FHE institutions can use their research and specialist knowledge to place themselves at the forefront of the Fourth Industrial Revolution and the use of artificial intelligence and machine learning to aid the JT. At the same time, it will be important for these institutions to work with other civil society partners to increase levels of ecological and social awareness in the wider population that could be understood as an ecologically informed ‘general intellect’ ³⁸. The Just Transition could, therefore, be seen as offering a new type of lifelong learning to support sustainable futures. Across all types of provision one of the key aims could be to foster a new generation of ‘Just Transition intellectuals’. By this I am

³⁵ Finegold D. (1999)

³⁶ Grainger, P. and Spours, K. (2018) *Future of Work and Education for the Digital Age: A Social Ecosystem Model: A New Paradigm for Skills Development?* - <https://dera.ioe.ac.uk//34351/1/T20-Social-Ecosystem-Model-revised-KS-2.pdf> - accessed 31 Oct 2021.

³⁷ Transition town Kinsale - <https://www.kinsale.ie/organizer/transition-town-kinsale/> - accessed 31 Oct 2021.

³⁸ For a discussion of the general intellect and specialisation see Spours, K. (2017) *From the ‘general’ to the ‘organic’ intellect: Reflections on the concepts of specialization and the curriculum of the future* in Guile et al. (eds) *Sociology, Curriculum Studies and Professional Knowledge* London: Taylor Francis.

not referring to the term intellectual as a ‘person of letters’, but adopting the Gramscian sense of an intellectual being a cultural and political organiser³⁹. Thus far this role has fallen largely to radical civil society campaigns and organisations such as Extinction Rebellion. Following COP26, the question is whether further and higher education sees one of its prime functions as being the production of JT intellectuals - social and ecological activists that also have highly developed vocational and research specialisms required for the necessary innovations of the Just Transition.

Turning principles into actions

Such as the sense of urgency following COP26, the principles, roles and responsibilities outlined above will need to be rapidly translated into first steps action plans. Beyond collaborative behaviour FHE institutions could develop a set of JT responsibilities. The points outlined below are an elaboration those contained in the Scottish Just Transition document. This action list is very provisional and would benefit from becoming a major focus of discussion during the COP26 day event.

1. ***Mission review to become a JT organisation***- adopting a Just Transition mission statement which extends the mission of the civic anchor institution.

2. ***Curriculum and provision*** - undertaking a JT curriculum review which aims to:
 - bring about the ‘greening’ of the FE and HE curriculum
 - develop new JT related provision in a range of strategic areas (e.g. heating and construction, transport, land-use, hospitality; environmental engineering) and at different levels including apprenticeships
 - identify key barriers to curriculum and qualifications change.

3. ***Research and development*** – take steps to establish a JT research culture that will identify new inter-disciplinary R&D themes in collaboration with key social partners with the aim of producing

³⁹ For a recent discussion of the Gramscian concept of organic intellectual in relation to environmentalism see Rätzel N., Stevis D., Uzzell D. (2021) *Introduction: Trade Union Environmentalists as Organic Intellectuals in the USA, the UK, and Spain*. In: Rätzel N., Stevis D., Uzzell D. (eds) *The Palgrave Handbook of Environmental Labour Studies*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-71909-8_25.

new JT knowledge and general awareness, but also a new generation of JT intellectuals and local leadership.

4. **Network building** - encouraging the establishment of JT local networks and system and playing a leading role in them.
5. **Remaking inclusive labour markets** - collaborate with local government and regional partners in a JT labour market review to identify potential Green Transition skills, emergent new forms of employment and where existing forms of employment need be moved in a JT direction (also termed as transition out). The review would wish to identify existing inequalities in order to increase the employment of women, BAME and disabled people in a remade labour market.
6. **Collective planning** - contribute towards a Phase 1 of a JT local and regional plan that would be undertaken by a JT network.
7. **Human development** – involve the whole community and workforce through the participation of civil society organisations and trade unions in plans for human development so that all sections of society can participate in and benefit from the Just Transition.

The facilitating role of government (the macro)

The final words of this paper are directed at higher level policymakers. Understandably, one of the first steps in developing the Just Transition is the establishment of a provisional policy framework. That appears to be certainly the aim of the Scottish JT document. At the same time, however, this paper has emphasised the importance of establishing or extending existing networks to aid the just transition and the role of key civil society actors including those from further and higher education in the new collective effort. But history shows that sustainable change does not just come from above (policy and policy levers) or from below (networked practice). A key lesson from the past is the need to establish a positive reciprocal relationship between the different levels – this is what is understood by the JT ecosystem dynamic. In the case of network and institution building for the Just Transition, that will require macro national facilitation in the form of funding, a more flexible curriculum and qualifications framework (particularly south of the Border) and supportive forms of accountability. Many a network has floundered in the situation in which it tried to develop one set of aims only to be measured by

another and quite different set of priorities. The success of the Just Transition Ecosystem will depend on everyone from bottom to top facing in the same direction.

Part 5. Making a compelling vision a rapid reality – some key questions

- 1. How do we respond to COP26?*
- 2. What other ways can the Just Transition be conceptualised?*
- 3. How do we think about middle range roles – institutions and networks?*
- 4. What are the immediate tasks for FHE in the UK in relation to accelerating the Just Transition?*
- 5. How do we create an inclusive global dimension at the centre of the Just Transition process?*