

MIDLANDS ENGINE OBSERVATORY ACADEMIC INSIGHTS

A 'Just Transition' towards 'Green jobs'

Theme:

The transition to a net zero economy will have a substantial impact on future employment and economic resilience, which will vary by sector and place.

Area of Focus:

Looking at how a just transition to green jobs will be key to ensuring the long-term resilience of local economies against the impact of a move to net zero.

Key Findings:

- Currently, there is a lack of consensus around what a 'green job' actually is, there is no official definition provided by government or metric by which to measure it. Creating a challenge for the monitoring and evaluation of the performance of green job support interventions in the years to come.
- High-risk businesses need to be supported and incentivized to transition to net zero or risk 'carbon leakage', as the high costs of pollution domestically may prompt businesses to relocate production to countries.
- Around 1 in 10 jobs nationally are estimated to need reskilling in the transition to net zero. Which will be more concentrated in sectors that are higher polluting (e.g. steel). Significantly impacting places based on the industry make-up of their economies.
- Of the 100 local authorities which have the highest levels of employment in high emitting industries, 74 of these are deemed economically vulnerable. Therefore, it would be beneficial for the government to align a plan for a just transition with the levelling up white paper.
- As the impact of a transition will be non-homogenous across sectors and regions, the government will need to conduct a sectorial and regional assessment, to ensuring regional and sectorial skills transitioning.



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Midlands Engine Impact:

- Around 40% of all employment across the Midlands is employed within high emitting industries, such as manufacturing and aviation. These sectors will be highly vulnerable to a transition to net zero and will need support to reskill their staff, to pivot towards the use green new technologies and processes.
- 22% of the most economically vulnerable areas to a net zero transition in the UK, will be located within the East Midlands. This is due to a high concentration of employment in the manufacturing sector, as well as the region being characterised by low skills, low wages and high unemployment increasing its vulnerability, comparative to other regions.
- However, of those most likely to face high levels of disruption from the transition, also face higher levels of opportunity, in new job creation and decarbonization clusters. Areas in the West Midlands stand to have the largest opportunities, due to the strength of industrial clusters and STEM research facilities within the region.

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A 'Just transition' towards 'Green Jobs'

Introduction

In this piece we discuss the lack of clarity around what defines or constitutes a 'green job', as well as how to effectively measure them. We also consider the need for a 'just transition' to ensure that in the coming years those working within high polluting sectors are effectively supported to transition into low polluting roles. It considers the consequences of a failure to effectively support this transition and makes a series of recommendations, which will need to be addressed in order for the UK to ensure its long-term resilience and sustainability of sectors and places that will be highly impacted.

What are 'Green Jobs'?

This is a very good question. Most of us talk about green jobs and we generally think of people designing electric vehicles and working in the renewable energy sector. However, [according to the ONS](#), there is no official definition of 'green jobs' and often more than one definition is cited and different definitions can suit different uses. Even within the government's [Green Jobs Taskforce report](#), the difficulty in setting a single definition of a 'green job', which could be applied to the whole economy, is outlined.

For instance, if you are a car engineer and make both EV cars and fossil fuel-based cars, are you working within the green economy or not? Additionally, there are every few [SIC codes which differ green jobs from the wider industry](#), for instance the 4-digit SIC codes under car manufacturing do not include EV car production; therefore, you cannot separate this sector from the wider car production industry. It is therefore, very difficult to quantify and define 'green jobs'.

Currently, the ONS focuses on two definitions for which it estimates green jobs. The first data set, with which [ONS estimates green jobs](#), is based around the UN System of Environmental Accounting definition, which defines the [Environmental Goods and Services Sector \(EGSS\)](#) as "areas of the economy engaged in producing goods and services for environmental protection purposes, as well as those engaged in conserving and maintaining natural resources." The second data set, which the ONS estimates green jobs with is the [Low Carbon and Renewable Energy Economy \(LCREE\) survey](#). The [specific definition](#) of sectors included within this survey is: "economic activities that deliver goods and services that are likely to help the UK generate lower emissions of greenhouse gases, predominantly carbon dioxide". This is a much [narrower definition than the UN's and less internationally comparable](#), however the ONS claims that LCREE potentially [collects more activity](#), as it samples businesses across the economy, no matter their primary purpose.

However, last year the Green Jobs taskforce created a new definition of 'green jobs' following the [investigation of the skills needed](#) to reach net zero by 2050 and how workers in high-polluting sectors can be [supported to transition](#) to the new green economy. The [Green Taskforce report](#) defines 'green jobs' as: "employment in an activity that directly contributes to - or indirectly supports - the achievement of the UK's net zero emissions target and other environmental goals, such as nature restoration and mitigation against climate risks."

However the ['Investing in a Just Transition UK project'](#), led by researchers from [The Grantham Research Institute at LSE](#) and the [Sustainability Research Institute at the University of Leeds](#), are leading a process of research and dialogue to identify specific roles that investors can play in linking the environmental and social dimensions of the transition to a zero-carbon and resilient economy in the UK. These researchers divide 'green jobs' into two categories, the first is ['transition aligned'](#) this described jobs within the workforce that

could derive benefits and new opportunities from the transition, expected to be in high demand due to their important role in the net-zero economy. The second category is '[transition reskill](#)', which are jobs within the workforce likely to require significant changes in skills and knowledge, these jobs will likely be within high polluting sectors such as manufacturing.

Currently, there are a wide range of definitions and metrics which are being used to understand and estimate 'green jobs'. The [Environmental Audit Committee highlights](#) that a lack of consensus around the definition and monitoring metrics for 'green jobs' will create an issue for the monitoring of performance of green job support interventions in the years to come.

The case for a 'Just Transition'

In order to meet future climate change goals, [enshrined in international agreements and legislation](#), businesses will need to be supported as they decarbonise and green their business models, including the upskilling of staff with green skills. Especially those in high polluting sectors, such as steel and cement, which will have to make costly and technologically complex upgrades to their business models and processes to cut emissions. In order to prevent this, a '[Just Transition](#)' needs to be supported, which means greening the economy in a way that is fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind.

For instance, [research conducted by TUC](#), has found that in the high polluting manufacturing sector, [660,000 jobs could be at risk](#) if the UK fails to transition to net zero as fast as other nations. The analysis has identified, jobs that could be moved offshore to countries that offer superior green infrastructure and greater support for decarbonising industry. This is referred to by many policy makers as '[carbon leakage](#)', meaning the high costs of emitting greenhouse gases domestically could prompt businesses to [relocate production](#) to countries with less strict rules on emissions, or countries which offer greater support for transitioning to net zero than the UK. If firms do relocate abroad for the above reasons, then the [Environmental Audit Committee](#) has stated that this could greatly undermine the climate change agenda and therefore the long-term sustainability of green jobs.

Sectorial Impact

The [LSE](#) and [Placed-Based Climate Change Action Network \(PCAN\)](#), has found that one in five workers, and 6.3 million jobs in total, will be affected by the transition to net zero, with around 3 million workers requiring upskilling and another 3 million that will be in high demand. The sectors which are likely to face the largest transitional changes towards lower-carbon jobs are:

1. **Energy:** The energy sector is unlikely to see declines in demand in the future, however it will see major changes in the demand for type of energy. For instance, last year saw the oil and gas sector see one of its [steepest ever declines in market capitalisation](#), with thousands of jobs being lost. During the transition employees within this sector will have to undergo significant reskilling, to adapt to switching to the use of clean energy technologies.
2. **Construction:** In the UK one of the largest contributors to climate change is built infrastructure. Generally, infrastructure in the UK often has poor energy efficiency and as a result many consume large amounts of energy to heat their homes. In the coming years, the [LSE and PCAN report estimates](#) that 30% of the current workforce will need to be reskilled to meet the demand of changing regulation, policies and new technologies in infrastructure, as we progress to a net zero future.

3. **Transport and Storage:** Here a transitional reskill of 26% of the current workforce will need to be supported, [according to the LSE and PCAN](#). Currently there are policies in place to ban the sale of combustion engine cars after 2030, therefore those within the transport industry will need to be reskilled in how to manufacture and operate, new EV or Hydrogen car technologies.
4. **Manufacturing:** It is [expected that around 17% of jobs](#) within the current workforce will need a transition reskill. Manufacturing can be high polluting, due to the production of goods consuming vast amounts of energy and producing high volumes of waste. The sector will have to [develop a more circular approach](#) to the production of goods.

The sectors which are expected to be most impacted by decarbonisation in the coming years, were also some of the most heavily impacted sectors by the pandemic. Supporting a [just transition as part of a green recovery](#), will not only support these industries as economies reopen, but support their long-term resilience against market changes, as we progress towards climate change goals.

[Research](#) has also highlighted that many trade unions in high polluting sectors are sceptical of the rhetoric around a just transition, given past transitions have scarred communities leaving a trail of social and economic destruction in their wake. For instance, the impact of the decline of [mining and manufacturing sectors](#) and the structural unemployment that was left as the industries declined, caused long-term social and economic damage, with many of those areas that suffered still feeling the impact of being left behind. In order to ensure a just transition, [distrust](#) that often characterise inter-regional, inter-movement, and industrial relations must be rectified.

Additionally, the [Centre for Progressive Policy \(CCP\)](#) also found that on average earnings for some of the highest emitting jobs is £680 per week, comparative to the rest of the economy for which the average weekly wage is £580. People are unlikely to want to transition if it means accepting a lower wage, but many high emitting industries will have to change, some already are and some jobs may disappear from the economy entirely. Ensuring that people can transition to a new or altered role in their existing industry or can find well-paid and secure employment elsewhere, will be key to ensuring economic resilience in the future. Which will help industries avoid the kind of [economic dislocation found in the 1980s](#) after the decline of mining.

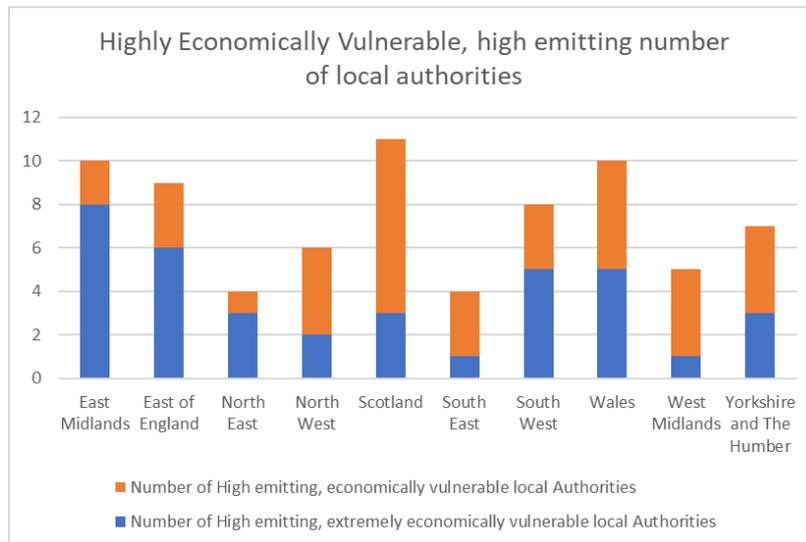
Place-based Impact

Additionally, some of the UK's [most deprived areas](#) are likely to face some of the largest transitional changes, for both reskill of jobs and jobs that will be in high demand in the future. This is because the sectors which are likely to [face the largest transition](#), such as manufacturing, construction and energy, usually have higher employment rates within stereotypically 'left behind' areas. However, the [RSA](#) also highlights that a substantial number of the areas which are expected to be most impacted by these future sectorial changes, are not considered within the [levelling up agenda priority areas](#).

Research, by the [CPP](#) looked at the vulnerability of different areas to a transition to a greener economy. This was carried out by looking at the volume of employment within local areas that are reliant on high emitting GHG emission industries. Alongside, this they calculated the economic vulnerability of these areas based on a number of key variables including skills, age of population, economic diversity and employment rate. As a result, they [created two categories](#) of areas 'High Emitters and extremely economically vulnerable' and 'High Emitters and economic vulnerable'. Finding that 100 local authorities will have the highest reliance on high emitting industries for employment and of these 74 were deemed to

be economically vulnerable.

The table below shows the number of Highly Economically Vulnerable, high emitting Local Authorities:



Source: Centre for Progressive Policy, 2021

Scotland has the highest number of high economically vulnerable, high emitting number of local authorities, this is unsurprisingly given that Scotland is one of the largest oil and gas exporters in Europe. However, the [Scottish Government has already set up a commission](#) looking into a Just transition ‘to support the delivery of this ambition, in a way that is co-designed and co-delivered by communities, businesses, unions and workers, and all society’. The aim of the commission is to understand who will be most affected by a net zero transition, including the consideration of other economic variables, to help set the foundations to plan for a just transition.

Wales is also expected to be highly impacted in certain areas largely as a result of the heavy manufacturing communities, such as Port Talbot. However, the area which will see the highest number of extremely economically vulnerable areas impacted, is the East midlands. Of the 37 extremely vulnerable areas 22% are within the East Midlands (8 out of 37). Again, much like Wales this is due the high concentration of employment within heavy manufacturing communities.

Impact on the Midlands

The Midlands area is likely to be highly impacted by a net zero transition, due to the high concentration of heavy manufacturing industries. [Onward found](#) that the East Midlands and the West Midlands had the highest percentage of jobs within high emitting industries, around 40% for both regions. These areas are both characterised by constituencies with large industry, manufacturing and aviation employers.

Finding that many of the constituencies and regions that were identified as transition vulnerable in the report, were also areas which Onward identified in their [Repairing our Social Fabric and Levelling Up research](#) as particularly at need of social regeneration and economic development. The [CPP](#) also found, as can be seen in the diagram above, that the East Midlands also had the highest number of extremely economically vulnerable areas, with a high concentration of high emitting employment. This means that some of the areas which will be [most in need of levelling up](#) going forward will also be the regions that face the greatest change during the net zero transition.

However, whilst areas in the Midlands may be one of the areas to face the greatest economic loss for a transition to net zero, they are also one of the areas which have the opportunity to gain the most as well. The [Social Market Foundation](#), created a Net Zero Opportunity Index which ranked areas based on key opportunities including proximity to renewable energy sites, proximity to a decarbonising industrial cluster, and proximity to a top university for STEM research with associated innovation opportunities. [Finding](#), that those areas at greatest risk of disruption were also the areas mostly to face the greatest opportunities, for new job creation and decarbonization clusters. The Midlands, especially the West Midlands, ranked high on their index indicating that the region may see relatively higher levels of economic and employment opportunity in the transition to net zero, comparative to other regions.

Ensuring a 'Just Transition'

Clearer Definitions

Currently, there is no official single definition or single way to measure green jobs, as highlighted by the [Environmental Audit Committee](#). As well as the [ONS](#) and the [Green Jobs taskforce](#), outlining the difficulty of creating a single definition to capture all green jobs within the economy, as a result more than one definition is often cited and different definitions are often used to suit different uses. A number of different definitions have been suggested or used within a number of different government reports surrounding 'green jobs', for instance at least 3 different definitions are [debated by ONS](#), but this definition differs to the one within the [Green Jobs Taskforce report](#) by BEIS.

Additionally, there is little labour market intelligence on 'green jobs', as it is difficult to distinguish 'green jobs' from wider industries. The [RSA recommends](#) in their Decarbonisation Dynamics report, which looks into the UK transition to Net Zero, that the UK's SIC codes that form the backbone of official statistics need to better distinguish between green and polluting industries. Decision makers need clearer data surrounding 'green jobs' going forward in order to make well informed policy decisions.

Furthermore, the lack of an official definition and metric with which to measure green jobs, may make it increasingly difficult for decision makers trying to ensure a just transition. The [Environmental Audit Committee](#) highlights, that without a clear definition and metric, the Government will be unable to assess whether its policies are leading to good quality, green jobs in the sectors and regions where they are most needed. [Recommending](#) that the Government needs to set out how it will measure progress towards its green jobs targets; including defining 'green jobs', and how it will measure the number, type and location of these, for the purpose of monitoring and evaluating the impact of its policies.

Clear Policies and a Robust Plan on decarbonisation across the UK

According to the [Climate Change Committee \(CCC\)](#), the UK's emissions reduction targets may now be in line with scientific advice, however the policy commitments that match these targets are insufficient. The [CCC recommends](#) that the climate challenge must be reflected throughout all policy and planning decisions, and must be a key consideration in the Government's proposed planning reforms.

Additionally, [EY states](#) that in order help industries transition to a more sustainable business model, governments must incentivise the market and mandate change. The government could mandate change by imposing tougher regulations and standards on energy

performance, emissions and pollutants. [Taxes](#) could be placed on those not meeting these standards, whilst rebates are given to those that do meet them. Grants, subsidies and loans are also a proven incentive for encouraging the transition to net zero and are recommended as an incentive for industry by IPPR, in their '[A Just Transition report](#)'.

Place based Policies

The [Environmental Audit Committee](#) advised the government last year that the Government would need to publish a 'just transition' plan by the end of 2021 which;

- Assesses regional as well as sectoral impact, to ensure regional skills transitioning plus employment and pension support is in place, and
- A strategy to maintain public support for net zero.

Green jobs is a cross cutting issue, requiring action across Government alongside co-ordination with local authorities and the devolved administrations to deliver the Government's ambitions. The Plan would need to outline, clear lines of responsibility and a mechanism for co-ordination, otherwise green jobs risks being given insufficient priority within departments, constraining the Government's efforts to develop the green jobs and skills needed in the economy. Failure to embed the idea of a just transition across all government departments, could consequently negatively impact the future livelihoods and communities of workers in high-polluting industries and these impacts will likely disproportionately affect different places based on the high-polluting industry makeup. This is also why the Environmental Audit Committee also recommends it should also [align with the levelling up agenda](#) going forward.

There are also a number of opportunities which could be felt by local areas based on their industry make-up, usually in areas of need of levelling up. However, in order for local places to benefit from these opportunities the government needs to provide greater funding in a [place-based sectorial manner](#), focusing on the areas that are most in need of levelling up, mainly the Midlands and the North.

Public Investment

The current UK government level of investment into decarbonisation are significantly falling behind competitor economies. [Research conducted by TUC](#), found that the UK is the 6th out of the G7 economies for its green recovery investment. Whilst the UK treasury is currently only planning to invest £180 per person on green recovery and jobs over the next decade, the US government is planning to allocate over £2,960 per person. Scaled by population [TUC estimates](#), the UK's green recovery investment plans are just a quarter (24%) of France, a fifth of Canada (21%) and 6% of the US plan. Without greater investment into decarbonisation there may be a loss or deuteriation of high polluting industries in the UK as they potentially move elsewhere, where there is greater transitional support offered.

Up-skilling of the workforce

As we transition towards a greener more sustainable economy, jobs may be lost in high-polluting sectors and replaced by green jobs. In the long-term the [Environmental Audit Committee recommends](#), that in order to ensure a 'just transition' of people from high-polluting employment to low-polluting employment, the government needs a [place-based](#) targeted skills plan to up-skill those in 'at-risk' industries. The government will need to work alongside businesses, educational institutions and local government to better understand [current and future skills gaps](#) surrounding green jobs.

[Adult learning](#) and [on-the-job training](#) is expected by researchers, to be an important route

for reskilling and upskilling existing workers that need to transition into green occupations. Firm-level investments in skills will need to be incentivised, the [LSE suggests](#) that, for instance making government support packages conditional on training provision or introducing human capital tax credits. Or the [RSA](#) suggests a 'Just transition Fund' to support local authorities which have the highest share of employment in industries most likely to be impacted by decarbonisation, in order to help reskill the workforce.