

Institute for Public Policy Research



# RISK OR REWARD?

SECURING A JUST TRANSITION  
IN THE NORTH OF ENGLAND

INTERIM REPORT

**Josh Emden and  
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October 2018



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# SUMMARY



As the most recent IPCC report on global warming shows, decarbonising the UK's economy is an urgent necessity if we are to tackle the threat of climate change and stand a chance of limiting global warming to 1.5C. Yet the shift to a low-carbon economy carries significant risks to the number and quality of jobs in those areas which are home to carbon-based energy generation. Indeed, decarbonisation could disproportionately impact the north of England, where the majority of coal and gas power stations in England are situated. Illustrative figures from IPPR analysis shows that approximately 28,000 jobs in the coal, oil and gas industries could be lost in the north of England by 2030.

In IPPR's Northern Energy Strategy released in 2017, a key recommendation of the report was that skills in these carbon-based sectors would need to be redeployed into new energy businesses and it called for a Northern Energy Skills Programme. In this way, decarbonisation need not lead to job losses and economic decline. In fact, according to IPPR analysis, up to 46,000 low-carbon power sector jobs could be created by 2030 in the north of England alone<sup>1</sup>, and as many 100,000 by 2050 in the North across the low carbon economy. But while some companies are already retraining workers, the potential opportunities will only be fully realised if the government embeds the idea of a 'just transition' – securing the future and livelihoods of workers and their communities, particularly by helping workers to find new, high quality employment – at the heart of the shift to a low-carbon economy.

This interim report finds that the government's decarbonisation strategy and associated policies are set to realise the risks rather than reap the rewards of the transition to a low-carbon economy in the north of England.

We argue that there is a lack of policy ambition to grasp the potential of the low-carbon energy sector. Fundamentally, there is a failure to incorporate a just transition into industrial strategy and decarbonisation policy more generally; but, even if it were acknowledged, the skills system<sup>2</sup> is ill-equipped to provide support for those that need retraining or for the next generation. Compounded by the uncertainty of Brexit amidst international competition for labour and skills, there is a real risk that the transition to a low carbon economy will not be just.

## KEY FINDINGS

- Decarbonisation is both a unique opportunity and threat to the north of England. The region produced 48 per cent of the UK's renewable electricity between 2005 and 2014 but is also home to the largest number of coal and gas power stations in England.
- According to IPPR analysis, illustrative figures show that approximately 28,000 jobs in the coal, oil and gas industries will be lost in the north of England by 2030.
- By contrast, up to 46,000 jobs could be created in the low-carbon power sector in the north of England by 2030 and many of the skills needed for these jobs could come from carbon-based generation.

<sup>1</sup> Methodology available on request and discussed in full in our upcoming final report

<sup>2</sup> Throughout this report, we refer to the skills system broadly and include both adult and graduate training and also the higher and further education system within our definition.

- However, the government's current strategy for decarbonisation and associated policies does not support a just transition away from carbon-based generation and there is a risk that skilled workers will be forced to accept lower-skilled work and lower wages. On our current path, the north of England is set to realise the risks of the transition to a low-carbon economy rather than the significant opportunities.
- The government's industrial strategy is neither ambitious enough to create the jobs to which workers in carbon-based generation may move, nor does it make any mention of a just transition as a policy goal.
- Currently, the skills system is ill-equipped to either retrain adults who do not have readily transferable skills or provide the right kinds of skills to make graduates employable in the energy sector of the future.
- Other countries are considering how to deal with future skills gaps in the low-carbon energy sector too. Given the multinational nature of renewable projects, a failing skills system and the uncertainty of Brexit, there is a risk that investment in low-carbon energy will start to move abroad.
- Other issues which are identified as fundamental to delivering a successful low-carbon energy sector include the quality and security of employment, the role of unions as social partners involved in collective bargaining and the diversity of the workforce.

# INTRODUCTION

In IPPR's Northern Energy Strategy released in 2017, a key recommendation of the report was that skills in carbon-based sectors would need to be redeployed into new energy businesses and it called for the creation of a Northern Energy Skills Programme. Through quantitative analysis of jobs in the energy sector, in-depth literature reviews and interviews with key stakeholders, this report develops the rationale for such a programme by setting out how jobs will be under threat and new jobs will not be created without one.

## DECARBONISATION IS AN URGENT NECESSITY

Decarbonising the UK's energy system is an urgent necessity. Since 2008, successive governments have committed to reducing the UK's CO2 emissions by 80 per cent by 2050, with a series of interim targets leading up to this date.<sup>3</sup>

According to the latest assessment from the Committee on Climate Change, current government policy will fail to meet the fifth carbon budget target for the period 2028-2032. More ambitious policy is urgently required if the UK is to meet its climate commitments and retain its status as a global leader in tackling climate change.

## BUT IT MUST BE SUPPORTED BY A JUST TRANSITION

Decarbonisation is also disruptive and even at its current pace it will lead to significant jobs losses in the carbon-based energy industry. To minimise this impact, the concept of a 'just transition' – securing the future and livelihoods of workers and their communities, particularly by helping workers to find new, high-quality employment – must be at the heart of decarbonisation policy. Yet it is not mentioned once in either the government's industrial strategy or its clean growth strategy. If the government continues to ignore these workers, there is a real risk that the transition to a low carbon economy will result in jobs losses or the forced acceptance of low-quality jobs, an increase in people on welfare benefits and an increase in local deprivation.

## THE NORTH OF ENGLAND WILL BE PARTICULARLY AFFECTED

The north of England is home to the largest number of coal and gas power stations in England and 28,000 jobs are at risk of being lost by 2030. But disruption is nothing new for the north of England. Since the early 1980s, industrial change has led to job losses in traditional industries such as shipbuilding, textiles and clothing, steel, coal and vehicles manufacture. In most cases there was little in the way of a plan from government to replace these jobs or make the most of possible opportunities that arose from industrial change (Elliott 2016). Where policy initiatives did exist, they were too often focused on job numbers, leading to the creation of low-skilled and low-wage employment (Tingle 2011).

## BUT THERE IS ALSO PROFOUND OPPORTUNITY FOR THE NORTH OF ENGLAND

The risk to jobs in the north of England should not justify a slower pace of decarbonisation – we are already set to fall short of reducing our emissions to a sufficient level to meet our climate change obligations.

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3 Known as carbon budgets.

Moreover, decarbonisation presents a unique opportunity for the north of England. The energy sector was identified by the Northern Independent Economic Review as one of the North's "prime capabilities" (SQW 2016) and the region produced 48 per cent of the UK's renewable electricity between 2005 and 2014 (Baxter and Cox 2017). With many skills in carbon-based generation which are highly relevant and transferrable to the low-carbon energy sector, decarbonisation stands to be a major source of jobs growth in the north of England.

### **PROVIDED THAT THE TRANSITION AWAY FROM CARBON-BASED GENERATION IS WELL MANAGED**

These opportunities will only be realised if the transition from carbon-based generation to low-carbon generation is both well managed and just. Yet as we argue in this interim report, the government's lack of policy ambition, coupled with an ill-equipped skills system risks preventing the north of England from benefiting from the potential jobs dividend that could arise from the growth in the low-carbon sector.

# 1. WHAT'S AT RISK?

Decarbonisation carries significant risk to the number and quality of jobs which are currently available in the north of England in the carbon-based generation sector.

## JOBS AT RISK

Moving to a zero-carbon energy system will mean that, by 2030, there will likely be many fewer jobs in carbon-based energy industries. This will disproportionately impact the north of England, which, along with Nottinghamshire, is home to the majority of coal and gas power stations. This transition could result in a potential 28,000 jobs being lost in the north of England according to IPPR analysis (table 1). These jobs figures not only account for direct work in these industries, but the indirect and wider impact on the regional economies in the north of England.

**TABLE 1**

**Illustrative figures suggesting jobs that could be lost in the north of England by 2030 in carbon-based energy industries if the government ambitiously pursues decarbonisation policy.**

Sector	Approximate job losses in the north of England
Coal	4,347
Upstream oil and gas	17,936
Gas (power)*	2,644
Gas (heat)	3,325

\*With the installation of carbon capture and storage (CCS), these jobs losses would likely be reversed but doing so would require additional government support to incentivise developers to build it.

Source: Blyth et al (2014) and Ofgem (2018) [Adapted by IPPR]

## COAL

The planned phase out of all coal plants by 2025 (Vaughan 2018) means that jobs are already rapidly declining with very few expected to remain after this date, except in plant decommissioning. According to the Coal Authority, in 2017, there were just 620 jobs left in coal mining. According to IPPR analysis there were approximately 4,347 jobs (including indirect and induced jobs<sup>4</sup>) in coal power generation in 2016 which will likely be lost by 2025 (Blyth et al 2014) (Ofgem 2018) (Carragher et al 2013). As of 2018, the vast majority of the remaining coal power stations in the UK were either in the north of England or Nottinghamshire (Evans 2016).

<sup>4</sup> Jobs generated within a local economy as a result of increased activity eg an increase in business for local cafés as a result of new workers in the area working on a project development.

## UPSTREAM OIL AND GAS

The upstream oil and gas industry accounted for 28,300 direct jobs, 141,900 indirect jobs and 132,000 induced jobs in the UK in 2017. This marks a 35 per cent drop in employment from a peak of 463,900 total jobs in 2014 (Oil & Gas UK 2017). However, the reason for this fall in employment is more to do with a drop in the oil price – a high oil price encourages companies to invest in new projects which boosts employment – than decarbonisation policy (ibid).

In the longer term, the government's ambition to phase out sales of petrol and diesel cars by 2040 and increase the number of electric vehicles on the road will affect demand for oil – road transport accounts for circa 41 per cent of final consumption (BEIS 2018). However, some projections suggest that oil demand could peak as early as the 2030s as electric vehicle (EVs) sales ramp up. While EVs, petrol and diesel cars are likely to coexist for a long time after this point (BP Global 2018), future employment in the oil and gas sector is less certain in the long-term. When jobs do start being hit, the north of England will be the second most-affected region,<sup>5</sup> equating to 15 per cent of all jobs in upstream oil and gas (Oil & Gas UK 2017)<sup>6</sup> and 45,330 jobs in total in 2017.

## GAS

The extent to which gas will remain a key part of the UK's power and heating systems largely depends on government ambitions to support alternatives.

In the power sector, gas will continue to play a role in the energy system to provide flexibility for intermittent renewable generation (Energy & Utilities Skills Partnership 2017) (National Grid 2017). However recent Capacity Market auctions, which have been a key source of revenue for developers building new gas power stations, have been highly competitive, resulting in lower than expected payments (Cuff 2018).<sup>7</sup> This in turn will negatively impact jobs growth in this sector. In addition, if the Carbon Price Floor is increased beyond £18.08 per tonne of CO<sub>2</sub>e after 2021 (LSE 2018) this would negatively impact the operations of current power plants without the addition of CCS, which would require additional investment. This would again disproportionately affect the north of England, which accounts for 38 per cent of capacity in gas power stations in the UK, the largest of any region in England, equating to approximately 6,422 jobs (IPPR analysis of (Evans 2016)).

While gas will also continue to be a major source of heating for the UK, by 2050 much of the heating system will need to decarbonise (National Grid FES) which could put more of these jobs at risk. While the number of jobs in the manufacture and distribution of gas through the mains is relatively small in the north of England compared to the rest of the country, this still represented 8,075 jobs as of 2016 (IPPR analysis of (ONS 2018)) which could be at risk in the longer-term.

5 Assuming rates of job growth remain consistent across regions.

6 Though it is worth noting that Scotland will be by far the worst affected, accounting for 38 per cent of all jobs in oil and gas.

7 A government-run auction to pay power stations to be a back-up source of power (capacity).

## QUALITY OF JOBS

Disruption is nothing new for the north of England. Historically, the UK, and particularly the north of England, has experienced the negative impact on employment as a result of economic transition. The decline of manufacturing from the 1970s onwards led to job losses in traditional Northern industries such as shipbuilding, textiles and clothing, steel, coal and vehicles. It has been suggested that an absence of coherent industrial policy not only accelerated this process (Elliott 2016) (Kitson and Michie 2014) but also forced skilled workers in the manufacturing sector to accept lower-paid work or into unemployment.

A particular example pertinent to the energy sector is the decline in coalfield jobs where 250,000 jobs in the coal industry were lost in the 1980s. Along with South Wales, North Derbyshire, Nottinghamshire and North Staffordshire, in the north of England, a combination of ill health from the coal mines and resulting jobs losses forced many workers to claim for welfare benefits with one in seven of all adults of working age in coalfield regions being unemployed. With no policy in place to help these workers find new employment, many of the coalfield regions have fallen into deprivation, with 43 per cent of all coalfield neighbourhoods being included in the 30 per cent most deprived areas in Britain (Foden et al 2014).

Even when transition policy has been put in place, it has tended to focus on job numbers rather than job quality. The Dearne Valley is an example where Enterprise Zones, which were meant to regenerate areas which had suffered from deindustrialisation, in fact created jobs with lower skills and lower wages than had previously been available (Tingle 2011).

There is now a risk that the decarbonisation of the energy sector will lead to the same loss of skilled employment in carbon-based generation. For example, according to a 2014 report by Ernst & Young (EY), two-thirds of workers in the oil and gas sectors work in technical disciplines, included high-level and mid-level skills such as mechanical engineering, production management and maintenance and installation technicians (Lewis et al 2014). Without clear succession planning, workers in these industries risk being forced to accept lower-skilled work, their existing expertise will be wasted, and the mistakes of the past will be repeated.

## 2. THE POTENTIAL REWARD

Decarbonisation need not lead to job losses. In fact, many of the skills which could be lost in carbon-based generation are actively being demanded in the growing low-carbon energy sector. Indeed, decarbonisation is much more of an opportunity than a threat, provided there is proper policy support for a just transition.

### THE LOW-CARBON SECTOR OPPORTUNITY

The growth in the low-carbon industry satisfies two core ‘foundations’ of the government’s industrial strategy: it is a critical part of the **infrastructure** of a future British economy and provides **people** with well paid, high quality jobs.

The sector is also crucial for a third foundation in the industrial strategy: **place**. In 2017, IPPR North published its *Northern Energy Strategy* which demonstrated the potential for the north of England to become the new heartland for a low-carbon energy economy (Baxter and Cox 2017). Already, the energy sector as a whole is one of the North’s “prime capabilities” and is set to be an engine of growth in the future (SQW 2016). IPPR’s Net-Zero North report from 2017 further shows how this could be achieved by utilising the many historic, geographic and geological advantages that exist in the region (Laybourn-Langton et al 2017).

As of 2016, there were approximately 90,500 direct and indirect<sup>8</sup> jobs in the low-carbon energy generation sector, of which the north of England accounts for approximately one-third (32 per cent). According to IPPR analysis, by 2030, up to 46,000 jobs could be created in the low-carbon power sector in the north of England alone, accounting for just under 30 per cent of all potential jobs in the power sector, the second largest of any UK nation or region after Scotland.

### POTENTIAL FOR REGIONAL REGENERATION

If the transition away from carbon-based energy is managed properly, decarbonisation could be a huge opportunity for regional regeneration by providing the kinds of local, high-quality jobs and skills training which previous efforts at regeneration have failed to achieve. This potential is already starting to be realised at new sites like Green Port Hull.

#### GREEN PORT HULL

The regeneration of the now-named Green Port Hull as a central hub for the partial construction, deployment and training for offshore wind projects has led to several local benefits. These include £71.3 million in GVA added to Hull’s economy and 1,690 direct and indirect jobs which have already been created (University of Hull 2018). In total, it is estimated that up to 1,000 direct jobs and 5,000 indirect jobs could be created in future (Siemens 2014).

In addition, there has also been substantial investment in apprenticeships and training in skills that are appropriate to industry demand with £30m being invested as part of the Green Port Growth Programme Skills and Employment strand. Since 2012, 442 people have received upskilling training and 780 apprenticeships have been created, over 95 per cent of which are for Level

<sup>8</sup> Jobs that are generated throughout the supply chain such as the manufacture of steel for wind turbine blades

3 Engineering Manufacturing. One of the key ways of achieving this was by supporting skills training with subsidised wages to reduce the burden on businesses, providing that those businesses could guarantee 12 months of employment beyond training (University of Hull 2018).

### THE OPPORTUNITY OF WELL-PAID, HIGH-SKILLED JOBS

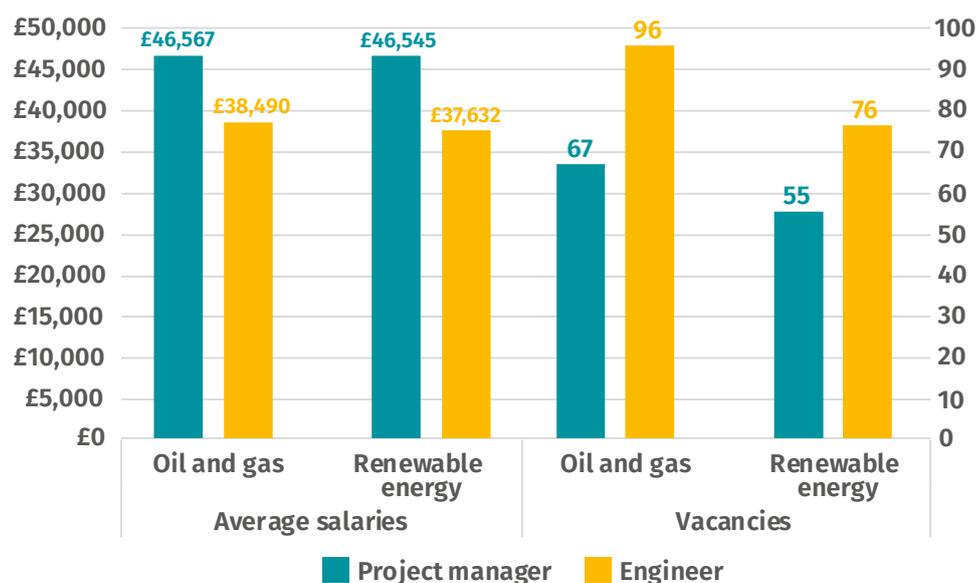
Many of the high-level skills that are in high demand in the low-carbon energy sector are readily available in carbon-based generation and highly transferable. These include engineering, process design, project management, asset management and commercial and business management (Brennan and Limmer 2015) (Roberts et al 2014).

Furthermore, as many of the stakeholders we interviewed pointed out, energy companies have portfolios of both carbon-based and low-carbon generation assets, making mobility between the sectors easier. For example, EDF is already beginning to retrain workers from its coal divisions to work on its nuclear fleet. Of those working on the Greater Gabbard Offshore Wind Farm run by SSE, 40 per cent used to work in the oil and gas sector (Energy & Utilities Skills Partnership 2017).

Comparing two of the most in-demand job types<sup>9</sup> in both sectors also shows that salaries are comparable with only slightly more vacancies in the oil and gas sector than in the low-carbon energy sector (figure 2.1). While these figures are only indicative it does suggest there is a genuine opportunity for transition between sectors if the right kind of policy incentives can be put in place to help fill these vacancies. In addition, project manager and engineer salaries are much higher than the regional median wage of every Northern Local Enterprise Partnership (LEP) area (figure 2.2).

**FIGURE 2.1**

The average salaries for project manager and engineer are comparable in both sectors and there are only slightly more vacancies in the oil and gas sector\*



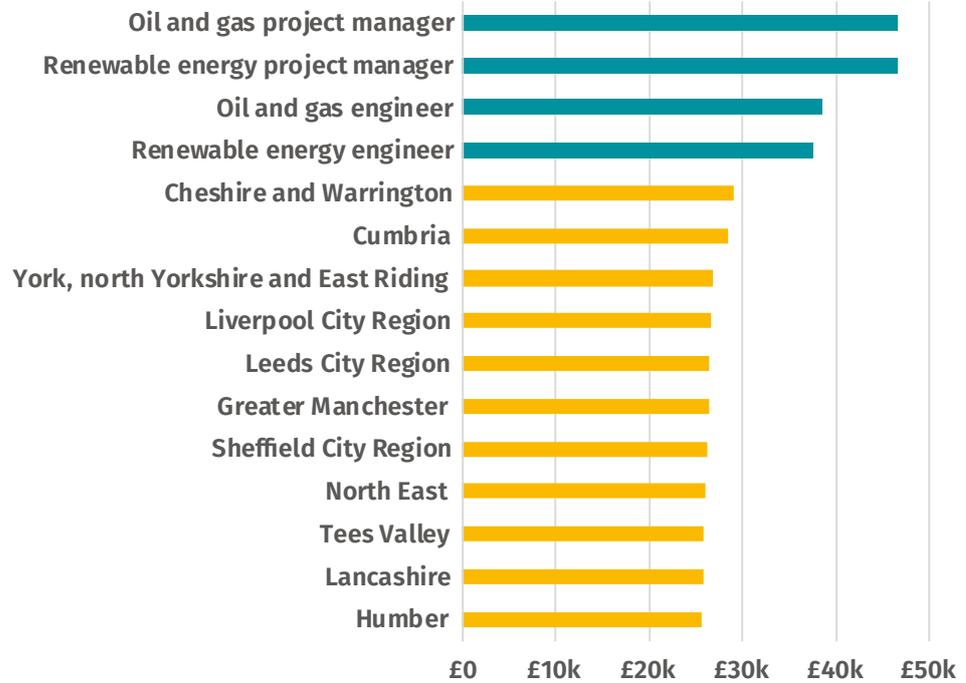
\*As of 27 September 2018

Source: IPPR analysis of Indeed.co.uk (2018a; 2018b; 2018c; 2018d)

9 According to Brennan and Limmer (2015)

**FIGURE 2.2**

The average salary for project managers and engineers in both oil and gas and renewable energy are much higher than the median salary in all Northern LEPs



Source: IPPR analysis of ONS (2018) and Indeed.co.uk (2018a; 2018b; 2018c; 2018d)

### THE OPPORTUNITY FOR WELL-PAID, MID-SKILLED JOBS

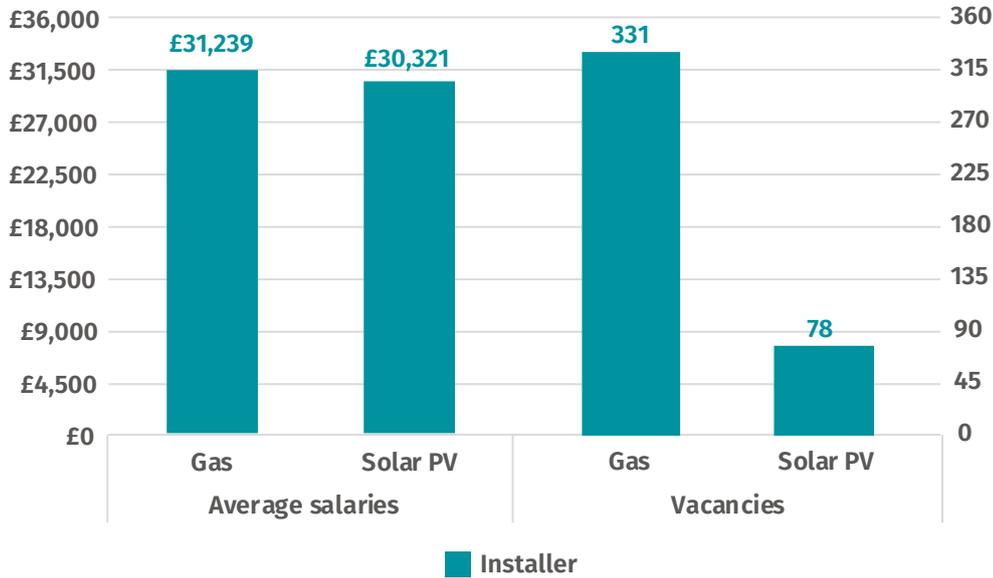
As the low-carbon energy sector grows, many new mid-skill level jobs will also be created by new projects and their supply chains which could present an opportunity for transition among low and mid-skilled workers in carbon-based generation. Some examples of these mid-level skilled jobs include (Cedefop 2018):

- building energy efficiency surveyor
- installer of solar PV, ground and air source heat pumps, biomass heating systems and insulation of all types
- energy efficiency maintenance technician.

Comparing similar installer roles across both sectors, shows that, although there are more vacancies in boiler installation, the salary is comparable with a solar PV installer role (figure 2.3). In addition, both job roles command average salaries that are above the regional median wage in all Northern LEP regions (figure 2.4).

**FIGURE 2.3**

Though there are more vacancies\* for gas boiler installer roles, solar PV installers command similar salaries

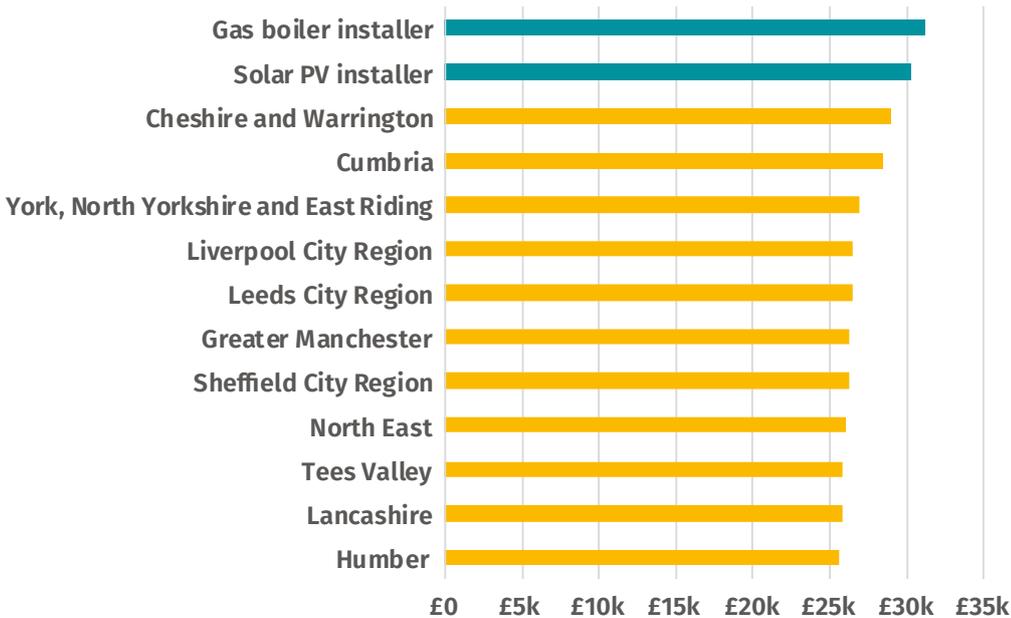


\*As of 27 September 2018

Source: IPPR analysis of Indeed.co.uk (2018e; 2018f)

**FIGURE 2.4**

Mid-skilled installer jobs have average salaries that are higher than the average median salary in all Northern LEP regions



Source: IPPR analysis of ONS (2018) and Indeed.co.uk (2018e; 2018f)

Mid-skilled jobs are also a crucial part of career progression and social mobility as it is easier to progress to higher skilled work from a mid-skills base than from a low-skilled one. For this same reason, mid-skilled employment is also important to the productivity of the whole economy (Jacobs et al 2017). Without mid-skilled work, which is increasingly being eroded in other sectors due to increasing digitisation and automation (Engineering UK 2018), the productivity gains made by high-skilled, high wage jobs are negated by low-skilled, low wage jobs with little opportunity of moving between the two (Thompson et al 2016).

# 3.

## THE CHALLENGES AND BARRIERS TO A JUST TRANSITION

### WHAT IS A JUST TRANSITION?

Over recent years the international trade union movement has developed the idea and practice of a 'just transition' (JTC 2017). The concept of a just transition is an effort to describe the process of securing "the future and livelihoods of workers and their communities in the transition to a low-carbon economy" (ITUC 2018). The Just Transition Centre, established by the International Trade Union Confederation (ITUC) in 2016 describes a plan for a Just Transition as one which "provides and guarantees better and decent jobs, social protection, more training opportunities and greater job security for all workers affected by global warming and climate change policies".

This is particularly important in the North of England because as IPPR's Commission on Economic Justice has found (IPPR 2018), the UK economy is deeply unbalanced, and the areas of the country where the loss of manufacturing capacity has been felt most acutely - including the North of England - are the UK's poorest. If the effects of decarbonisation are not properly managed, history risks repeating itself and the region will experience the decline of another of its "prime capabilities", leading to jobs losses and further exacerbating regional imbalances across the UK economy as a whole.

In Scotland a Just Transition Commission has been established to advise the Scottish Government on how best to maximise the opportunities of decarbonisation, in terms of 'fair work and tackling inequalities, while delivering a sustainable and inclusive labour market' (Scottish Government 2018).

The government's current strategy for decarbonisation and associated policies does not support a just transition away from carbon-based generation. On our current path, the north of England is set to realise the risks of the transition to a low-carbon economy rather than the significant opportunities. We identify four major challenges.

- 1. Lack of policy certainty and ambition:** without long-term certainty for the low-carbon energy industry, growth in this sector will be stunted which will limit the transition opportunities for workers in carbon-based generation.
- 2. Failure to put a 'just transition' at the heart of decarbonisation policy and industrial strategy:** there is no reference to a just transition in either the government's industrial strategy or clean growth strategy.
- 3. An ill-equipped skills system:** skills gaps exist throughout the low-carbon energy sector, but the adult training system and apprenticeship system (including the apprenticeship levy) are not fit for purpose.
- 4. Uncertainty of Brexit in the face of international competition:** restrictions on movement of Labour as a result of Brexit combined with a failing skills system may make investment in future low-carbon projects in the UK less attractive, reducing the potential economic and employment benefits which might accrue from the transition.

Neither the opportunity for a ‘just transition’ away from carbon-based generation, nor the growth in the low-carbon energy sector will be achieved without comprehensive policy action. In our full report out next year, we will examine these challenges in more detail, with a focus on the supply and demand of skills.

### **POLICY CERTAINTY AND AMBITION**

Although costs in many low-carbon energy sectors are falling dramatically, several low-carbon energy technologies remain dependent on government subsidies and targets. Without continuing government support, three of the government’s core foundations in its industrial strategy will not be met. The infrastructure of the future will not be built, an opportunity to create high quality jobs will be missed and efforts to rebalance regional inequalities will not be realised.

The trajectory for the low-carbon energy sector is concerning. The Committee on Climate Change (CCC) estimates that the government is not on track to meet its fifth carbon budget by 2032 (LSE 2018). While the nuclear sector deal and upcoming offshore wind deal provide continuity in these industries (HM Government 2018), there is no solar or onshore wind sector deal, despite both being key parts of CCC 2030 scenarios with many incentives either being watered down or scrapped in recent years.

Lastly, despite recent research and development funding, smart grid technologies like battery storage are less commercially mature than the intermittent renewable technologies they will need to support. At a commercial scale, the incentives for distributed network operators to purchase these technologies are limited due to tight regulation and price reviews.

### **PUTTING JUST TRANSITION AT THE HEART OF DECARBONISATION POLICY**

Policy certainty is also required to ensure that, when skills are demanded by the low-carbon sector, industries look to carbon-based industries first. Due to the transferability of skills between industries, this is already happening organically within some companies. However, there is no consideration by government of workers who do not have readily transferable skills. For example, there has been no reference to just transition in either the industrial strategy or the clean growth strategy.

Yet the concept of just transition is part of the Paris Agreement on climate change to which the whole of the government’s decarbonisation policy is attempting to be aligned. As the agreement mentions, decarbonisation requires:

***“Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities”***

(UN 2015)

By contrast, the Scottish Government has recently launched its Just Transition Commission to do just this (Holder 2018). It has recognised that there needs to be a bridge between jobs and skills at risk, particularly in the upstream oil and gas sectors in Scotland, and the necessity of low-carbon energy generation.

### **A SKILLS SYSTEM WHICH IS NOT YET FIT FOR PURPOSE**

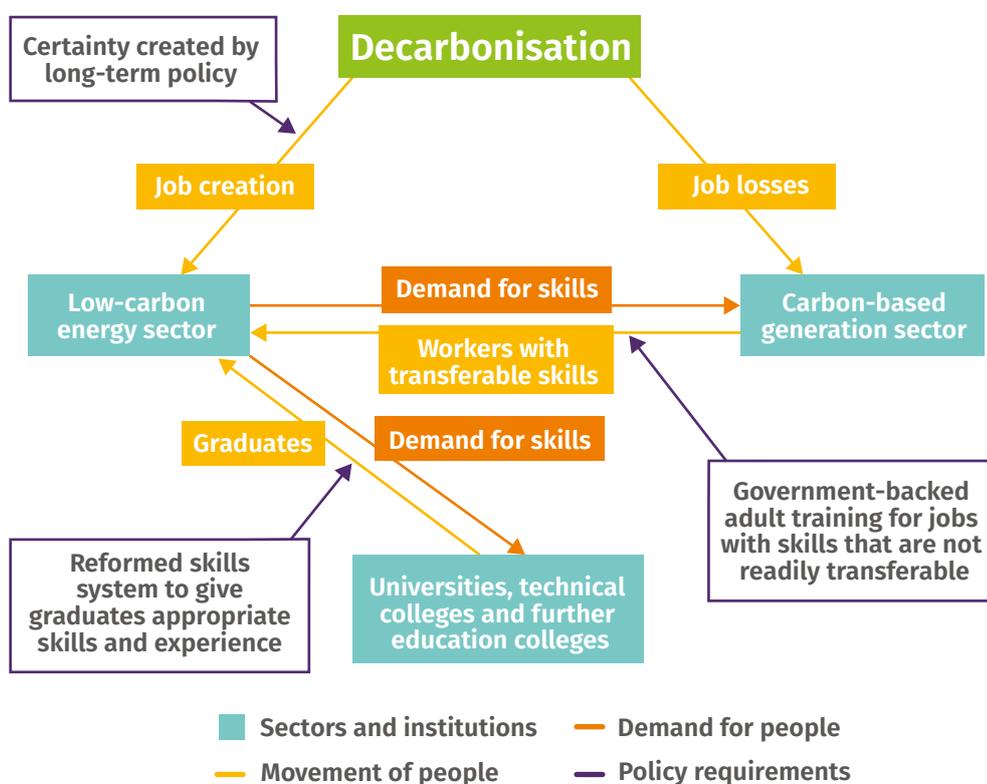
Current skills shortages in the low-carbon energy sector present transition opportunities for those working in the carbon-intensive energy sector. However, not all jobs in carbon-based industries will be easily transferable to the low-carbon sector, nor will the jobs which are transferable fill all the skills gaps which exist in the sector. Many of the jobs that exist in future will be likely to require interdisciplinary skills

such as IT and engineering skills for network operators as they try to accommodate for the intermittency of renewables on their systems (Brennan and Limmer 2015).

Two major actions are therefore required for these distinct challenges. For those jobs which are not easily transferable, new training will need to be provided to give workers every opportunity to find new, high quality employment in the low-carbon sector and beyond. For remaining skills gaps in the low-carbon sector, even after accounting for transferable skills from coal, oil and gas, the industry will need a steady supply of appropriately qualified graduates (figure 3.1).

**FIGURE 3.1**

**Along with policy certainty, appropriately skilled graduates and government-backed adult training are all necessary to fix the UK’s broken skills system and facilitate a just transition**



The current skills system is not prepared for either of these challenges. For those workers who will struggle to move seamlessly from carbon-based industries to the low-carbon energy sector, the provision of adult re-training in the UK is particularly poor. As IPPR’s *Skills 2030* report finds, the UK lags behind other developed economies when it comes to adult skills, with funding for adult skills training on track to be cut in half from 2009/10 to 2020/21 (Dromey and McNeil 2017). From a north of England perspective, while there are examples of high quality skills provision, there is poor alignment between the supply of skills and local socio-economic priorities (Round 2018). Secondly, for those skills which will not be filled by workers transitioning across to the low-carbon power sector, the supply of appropriately qualified graduates is insufficient to match future demand in the north of England in particular.

While discussed in more detail in our upcoming final report, this is caused by a number of factors including:

- a failure to incentivise companies to utilise the Apprenticeship Levy and provide internal training
- an over-reliance on hiring within the energy sector, rather than recruiting and training new graduates
- a lack of work experience after graduating
- the challenge of attracting graduates into the sector
- a brain drain – the challenge of retaining graduates studying in the north of England to work there
- the interdisciplinary nature of future skills demands.

### **INTERNATIONAL DEMAND FOR LABOUR**

Other countries are considering how to deal with future skills gaps in the low-carbon energy sector while the UK skills system is floundering. Combined with potential restrictions on labour movement as a result of Brexit, employers in the energy sector may find it more difficult to hire workers, either in the UK or from the rest of the EU. In the long-term, this could decrease the attractiveness of investing in the UK's low-carbon energy economy and increase competition for investment with other European countries.

### **CHALLENGES FACING JOB QUALITY IN THE LOW-CARBON ENERGY SECTOR**

Securing a just transition not only allows policymaking to facilitate movement between sectors but also to ensure that the low-carbon energy sector itself is a desirable industry in which to work. As we will discuss in more detail in our final report, while low-carbon energy jobs can command good salaries, questions remain over the security of employment, working conditions and lack of workforce diversity.

### **THE ROLE OF UNIONS**

The involvement of trade unions as social partners is crucial to guaranteeing industry commitments to working conditions, safety and decent pay through collective bargaining. The treatment of trade unions as key partners in industrial strategy is already common practice in other countries like Germany and Denmark (TUC 2016). Indeed, the TUC is committed to decarbonising the power system and shares a desire with government to boost productivity as this will involve skills training to give workers the opportunity to find new, high quality employment.

## 4. WHAT NEXT?

Climate change is the biggest threat to the UK's future prosperity and our ability to deliver economic justice for all. The process of decarbonisation is therefore both urgent and necessary.

If it is not properly managed, however, decarbonisation risks creating economic and social disruption which will deliver unequal and unjust outcomes. On the other hand, managed properly, it could see areas like the north of England reap substantial rewards.

This report has found that by failing to embed a just transition within its decarbonisation strategy, the UK is on a path that realises the risks instead of reaping the rewards from the transition to a low-carbon economy in the north of England. Delivering on the opportunities that decarbonisation offers requires a clear strategy and set of policies that will ensure a just transition.

In 2019, IPPR will set out a strategy on how the government can:

- deliver the necessary policy ambition and certainty for the low-carbon sector;
- put the 'just transition' at the heart of decarbonisation and industrial strategy;
- build a skills system capable of supporting existing workers and future generations into well-paid, skilled and secure jobs in the future low-carbon economy;
- insulate the low-carbon sector from the risks of Brexit and international competition.

This strategy will also consider other challenges facing the low-carbon sector both now and in the future, including how to ensure it can deliver good working conditions and a diverse workforce. In addition, it will set out the crucial role of trade unions in delivering well-paid, secure and high skilled jobs, as well as a successful industrial strategy and improving productivity.



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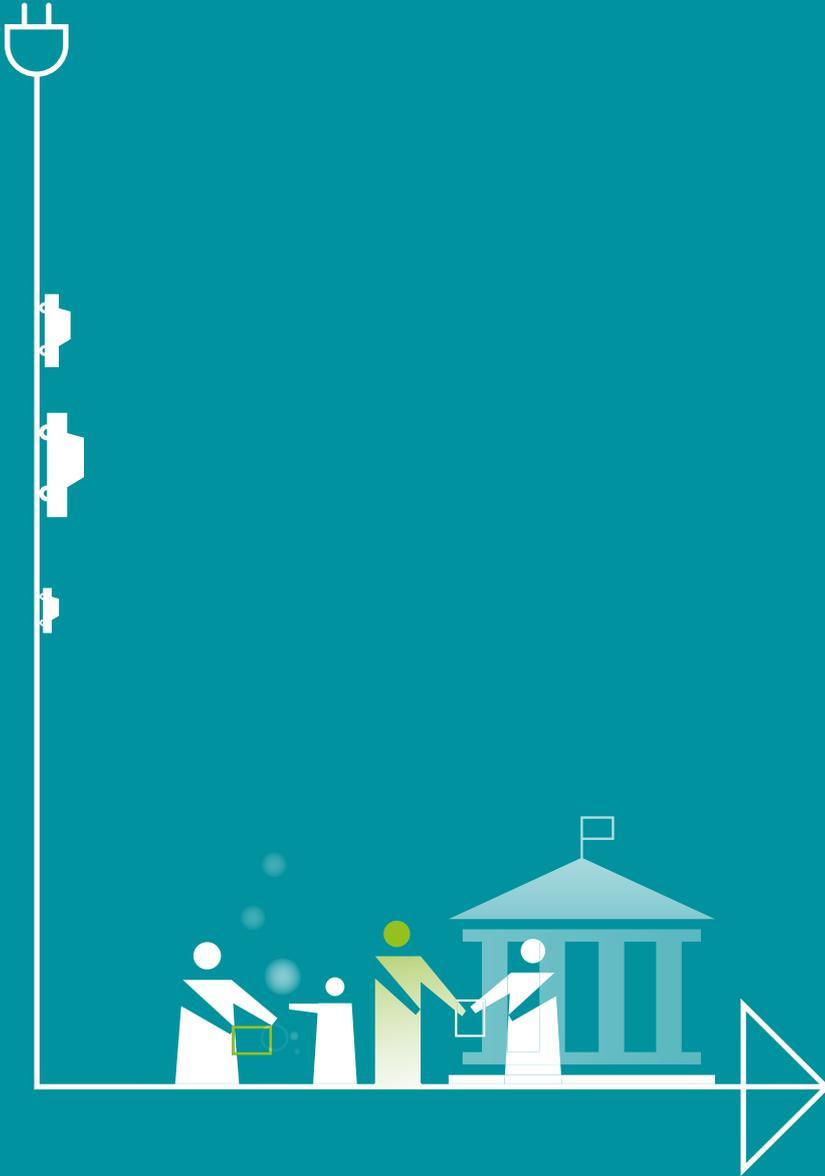
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