

STUC Analysis of ONS Low Carbon and Renewable Energy Economy data for 2021

May 2023

Introduction

This report reviews the latest data from the Office for National Statistics on the Low Carbon and Renewable Economy in Scotland in 2021. The analysis builds upon previous STUC (Scottish Trades Union Congress) reports into the Low Carbon and Renewable Energy Economy, *Broken Promises and Offshored Jobs*¹ and *Scotland's Renewable Jobs Crisis & Covid 19*.²

Starting in 2015 (for reporting year 2014) the Office for National Statistics (ONS) 'Low Carbon and Renewable Energy Survey', is the primary source of official information on the LCRE (Low Carbon and Renewable Energy) economy. This report provides analysis on the latest figures released in February 2023.

The data for 2021 reveals a changing context from previous years with a significant increase in jobs following several years of stagnation. However, alongside these rises in employment is a substantially higher increase in company turnover. Without rapid intervention to secure work in the renewables supply chain, as well as more credible planning in wider LCRE sectors, the gap between jobs and turnover will continue to widen and the opportunity of a just transition will be lost.

For workers in high-carbon industries, as well as those seeking decent work across the economy, effectively managing new opportunities in the LCRE economy is vital. Without adequate planning for how climate policy will be delivered, there can be no concurrent analysis of the number of workers required, the skills needed and how to fill that pipeline where skills do not exist through transition support or workers joining the sector. The lack of credible planning for delivering climate policy is a fatal limitation to securing a just transition for the workforce in Scotland.

Research commissioned by the STUC estimates that with the right policy and funding, Scotland could see job creation up to 367,000. However, these jobs are not guaranteed as past broken promises have shown. The approach to date of prioritising inward investment over public control and leaving transition to the market has failed. The latest set of figures from the ONS demonstrate once more that an industrial strategy is urgently needed to prevent further extraction of wealth at the expense of workers and the climate.

Methodology and limitations

It is important to note that there has been significant volatility in the energy market in between 2020 and 2021, from the Covid-19 pandemic, gas storage shortages in Europe and the Russian invasion of Ukraine. However, the ONS LCRE data continues to provide the most comprehensive overview of the state of the sector in relation to employment, company turnover and wider business activity.

1

https://stuc.org.uk/files/Policy/Research_Briefings/Broken%20promises%20and%20offshored%20jobs%20report.pdf

² https://stuc.org.uk/files/Policy/Research-papers/Renewable_Jobs_Crisis_Covid-19.pdf

The ONS survey estimates direct and indirect employment for the UK, measured as full-time equivalent (FTE). In previous years, the ONS included indirect estimates for Scotland, but the methodology for estimating indirect employment in Scotland is being reviewed so indirect estimates are not included.

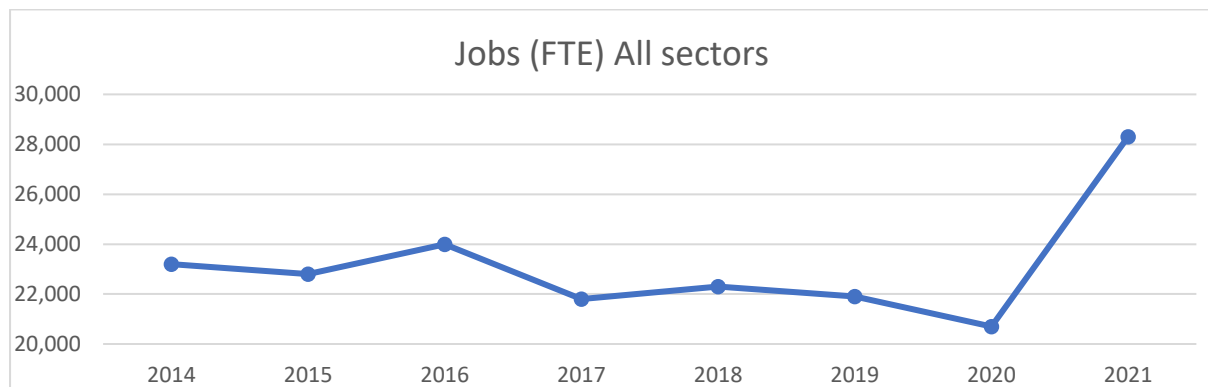
There are limitations to the data, with coefficients of variation (CVs) for all figures presented by the ONS. In certain years and sectors, figures are not provided either due to confidentiality or because they are below a minimum level of employment or turnover.

Key data from 2021

LCRE Overview – Employment and turnover

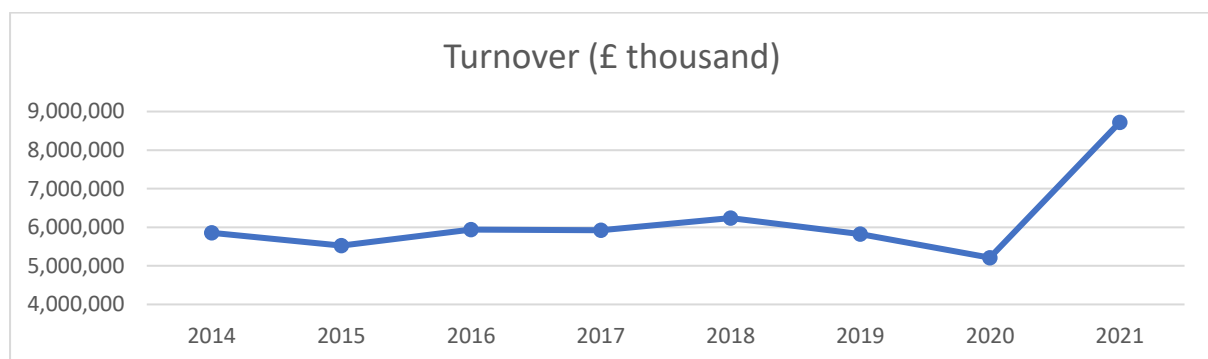
The most recent employment figures show that between 2020 and 2021 there was a rise in employment in Scotland’s Low Carbon and Renewable Energy economy of 36%, from 20,700 to 28,300.

Figure 1



By comparison, there have been substantially higher increases in turnover, the total income made by businesses in the sector, of 67%.

Figure 2



Following several years of stagnation in terms of employment and turnover, the latest figures suggest that the LCRE economy is beginning to grow overall. However, turnover has increased by 67%, compared to the increase in employment of 36%.

Sectoral view

Within the figures for the LCRE economy overall, there are crucial differences within specific sectors which more clearly demonstrate the concerning trends emerging.

The total increase in employment between 2020 and 2021 is largely drawn from increases within the six sectors highlighted in the table below.

Table 1

Direct employment (FTE)				
Sector	2020	2021	Increase	% increase
Offshore wind	2,200	3,100	900	41%
Onshore wind	2,600	3,300	700	27%
Renewable heat	1,100	3,500	2,400	218%
Hydropower	800	2,000	1,200	150%
Energy efficient lighting	700	1,300	600	86%
LEVs and infrastructure	200	2,000	1,800	900%

There have been minor increases in employment within sectors such as bioenergy and energy monitoring, savings, and control systems as well as a decline in employment in sectors including solar and nuclear.

The total increase in turnover of around £3.5bn has followed turnover in the wind sector of £2.8bn detailed in the table below.

Table 2

Turnover (£m)				
Sector	2020	2021	Increase	% increase
Offshore wind	600	2,594	1,994	332%
Onshore wind	1,098	1,983	885	81%
Total			2,879	

These figures show that increases in employment and turnover within the LCRE economy are not equally shared between sectors. In FTE terms, overall job rises have largely been drawn from across six sectors. However, the rise in turnover is disproportionately drawn from offshore and onshore wind only. Of the approximately £3.5bn increase in turnover in the LCRE economy between 2020 and 2021, around 80% is from offshore and onshore wind.

We are beginning to see a rapid rise in turnover, particularly within offshore and onshore wind, that is not matched with proportionate increases in jobs. Offshore and onshore wind now account for 53% of turnover in the LCRE economy, but only 23% of total jobs. After years of warnings by workers and trade unions across the energy sector, the consequences of having no industrial strategy at a UK or Scottish level are increasingly clear. Offshored manufacturing, huge profits for multi-national energy companies and the crumbs of employment where the whole cake was promised.

Beyond the wind sectors, notable growth in jobs has been seen in other key areas for the energy transition including Renewable Heat, Electric Vehicles and Infrastructure, Hydropower and Energy Efficient Lighting. These sectors cover key areas for building a net zero economy including how we travel, how we heat our homes and how we build energy storage for intermittent renewable power. However, the Scottish Government has come in for scathing criticism for a lack of policy to deliver on their climate targets. The

UK Committee on Climate Change and the Just Transition Commission have demanded credible delivery and investment plans to turn rhetoric around climate and just transition into meaningful change.³ These sectors present an opportunity to grow decent work outwith new renewable generation projects.

Broken promises and opportunity lost

Broken Promises

Through numerous strategies, the Scottish Government has made promises for significant numbers of jobs in the LCRE economy. 2020 was repeatedly a key target date for these promises, which have all been emphatically missed.

- *Harnessing Scotland's Marine Energy Potential* (2004) – stated the potential for 7,000 direct jobs in the marine industry by 2020.

This strategy paper considered the job creation potential in the wave and tidal energy sectors exclusively. There is no specific wind or tidal sector within the ONS categories, however **the latest figures for "Other renewable electricity" where wind and tidal would most likely fit based on current categories, are less than 100 jobs.**

- *Low Carbon Economic Strategy* (2010) – stated that jobs in the low carbon economy in Scotland could grow by 4% a year to 130,000 jobs in 2020.

This strategy provided a more comprehensive overview of the Scottish Government's ambition for the low carbon economy. While the categories within the low carbon economy in this strategy are not clear, **this projection is substantially lower than the ONS LCRE total for 2021 of 28,300.**

- *2020 Routemap for Renewable Energy in Scotland* (2011) – stated that there could be up to 40,000 jobs in renewable energy, including 28,000 jobs in offshore wind.

This Routemap set out job potential in renewable energy generation sectors which largely correlate to sectors included within the ONS LCRE data such as renewable heat, offshore wind, and bioenergy for example. **The latest figures for 2021 show the total employment in these sectors is just 13,500, with only 3,100 from offshore wind.**

Opportunity Lost

Job promises have been made speculatively and without sufficient intervention to secure the potential opportunity from increased activity in the LCRE economy. The widening gap between turnover and jobs within offshore wind demonstrates the root of the issue. For example, despite the 332% increase in turnover for offshore wind companies between 2020 and 2021, jobs have only risen by 41%.

³ <https://www.theccc.org.uk/2022/12/07/scotlands-climate-targets-are-in-danger-of-becoming-meaningless/> and <https://www.gov.scot/publications/just-transition-commission-letter-to-minister-for-just-transition-employment-and-fair-work-december-2022/>

In fact, across the entire LCRE economy over the ONS recording period, the proportion of jobs relative to turnover is falling. In offshore wind, there has been a total collapse in jobs created in relation to turnover.

Table 3

Jobs created per £million turnover								
	2014	2015	2016	2017	2018	2019	2020	2021
All sectors	3.96	4.13	4.04	3.68	3.58	3.76	3.97	3.25
Offshore wind	7.37	-	-	-	6.10	2.92	3.66	1.20

The data shows that Scotland is increasingly seeing fewer jobs per million pounds of turnover in the LCRE economy than at any other time on record. In offshore wind, this has plummeted from more than seven jobs per million pounds of turnover, to just over one.

If the 2014 level of 7.37 jobs for every million pounds of turnover, then there would have been 19,118 jobs in 2021 in offshore wind alone, compared to the actual figure of just 3,100. The collapse in jobs numbers in relation to turnover has led to the lost potential of over 16,000 jobs in offshore wind in 2021.

Previous STUC analysis of the LCRE economy has highlighted the importance of building an industrial base to ensure the greatest possible employment and economic benefit domestically from increases in renewable energy generation, particularly offshore wind. The trajectory of employment in relation to turnover seen in offshore wind is the consequence of years of inadequate planning and investment into manufacturing and fabrication capacity across Scotland.

Furthermore, the STUC has previously highlighted the domination of sectors such as offshore wind by large multinational companies. With turnover increasing dramatically in comparison to employment, we are witnessing the extraction of huge amounts of wealth from Scotland's natural resources without a comparative return. The absence of a publicly owned company in this sector will result in the continued extraction of vast wealth for companies but broken promises and opportunity lost for workers.

Recommendations

Despite a growth in employment and turnover between 2020 and 2021, predictions of employment in the LCRE economy have not been realised. Instead, the LCRE economy is characterised by overseas financial interests, a limited industrial base and precarious work.

This is a failure of industrial policy that means workers and communities in Scotland do not benefit from Scotland's natural resources. It has serious implications not only in terms of jobs but also in terms of tax revenues, transparency, and economic democracy.

The Scottish Government has a target to increase renewable generation capacity by 20GW by 2030 from the current 12GW. Beyond the growth necessary in renewable energy generation, tackling the climate crisis relies on expansion of energy efficiency, low carbon heating systems and public and active travel.

These objectives are an opportunity to significantly increase jobs in the Low Carbon and Renewable Energy economy. However, the increasing gap between jobs and turnover shows the structural weaknesses of this sector for workers across Scotland. Offshore

wind is a sector opened up to private profit and is seeing a consequent decline in return in relation to employment at the same time as turnover rockets.

Furthermore, the Scottish Government has failed to meet 5 of the last 7 annual climate emission reduction targets. The opportunities to capture job potential from the wider low carbon economy beyond renewable generation relies upon credible planning, backed up concrete policy and investment. Inadequate plans and policy to deliver on climate targets will not a foundation from which to ensure a just transition for workers.

Scotland can do better. A proper industrial policy considering procurement, planning, licencing powers, public ownership, and investment must be pursued if we are not to entrench these failures further.

To reverse the trends demonstrated in this report, and to ensure the maximum potential employment and benefit can be captured for workers across Scotland, the Scottish Government should:

1. Establish a Publicly Owned Energy Company with a remit including leading onshore renewable energy generation projects as well as taking equity stakes in larger offshore projects.
2. Direct investment into the renewables supply chain, particularly towards ports and infrastructure necessary for wind projects, through the Scottish National Investment Bank
3. Create credible delivery plans including the involvement of local authorities, for a rapid roll-out of energy efficiency, low carbon heating systems and an expansion of low carbon transport solutions.