



Gyrfa Cymru
Careers Wales



Careers Wales LMI Bulletin: November 2021

Feature: Green Economy in Wales



Introduction

What's driving the 'green growth'?

This feature is published at the same time as the United Nations COP26 Climate Change Conference will come to a close on the 12th November. Many people see it as the most significant climate event since the [2015 Paris Agreement](#) – when all the signatories to the United Nations agreed to keep temperatures well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. COP26 is critical because it's the opportunity for countries to set out more ambitious goals for ending their contribution to climate change under the Paris Agreement.



UN CLIMATE CHANGE CONFERENCE UK 2021

[COP26 – the time is now \(senedd.wales\)](https://www.senedd.wales)

A transformation towards a greener economy in the UK will lead to significant changes across sectors and occupations. Jobs may be lost or transformed in the more traditional industrial sector and the 'greening' of the labour market will create new jobs in the green sector that could produce employment gains and prevent net job losses (ILO, 2015). Environmental regulations, coupled with innovation, will lead to a growing eco-industry and, ultimately, to greater employment opportunities. For example, adapting infrastructure, including water conservation and the generation of renewable energy, could lead to employment gains.

It's important to note that clarity and consistency in understanding what we mean by the term 'green jobs/green growth' isn't straightforward in the current statistics available, especially in Wales and regional granularity. Researchers are finding ways to improve ways of identifying green jobs in labour market statistics to decipher what that means in terms of industry type, job type/titles and skills in demand.

Defining the Green Economy

Defining and identifying the 'green economy' from a single source of statistics is difficult and needs to be obtained from different sources to understand the bigger picture. By using ONS and EMSI information we can better understand and contextualise the green economy for customers. This approach gives us both the type of industries and sectors as well as specific job roles and skill demands.

“There is no widely accepted standard definition of green jobs, and it is not clear which industries make up the green sector, which can include different industries in different countries at different times.” [NESTA](#)

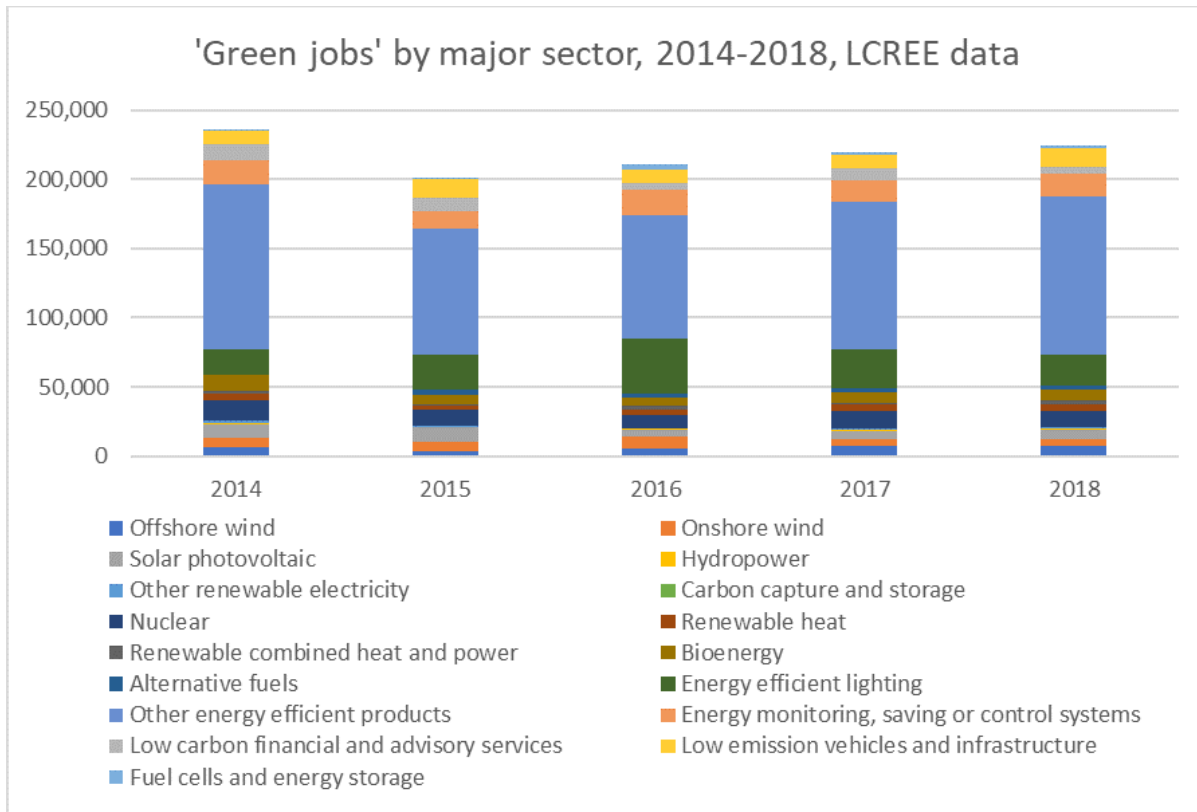


Low Carbon and Renewable Energy Economy (LCREE)

UK official statistics have captured industries that fit into this broad area of 'green jobs' from the Low Carbon and Renewable Energy Economy (LCREE) Survey, last updated in 2019. This report captures economic activities *‘that deliver goods and services that are likely to help the UK generate lower emissions of greenhouse gases, predominantly carbon dioxide.’*



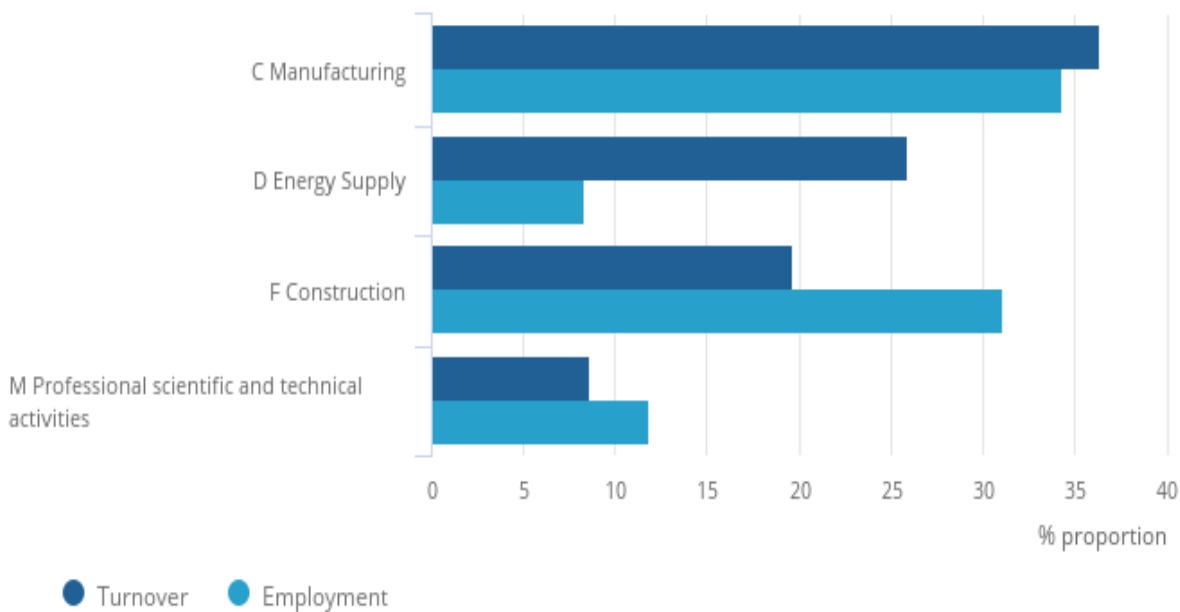
The 17 low carbon industries and proportion of jobs represented in LCREE are as follows:



Source: Office for National Statistics [Low Carbon and Renewable Energy Economy \(LCREE\) Survey QMI - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk/methodology/surveys/lcree)

A detailed description of each of the 17 sectors can be found in the link above

The top four industry sectors that contributed to the UK LCREE, as a proportion of turnover and employment in 2019 in the UK:





It's important to note that the LCREE dataset can be volatile as the number of businesses sampled is still relatively low and it attempts to capture economic activity that may not be the company's primary activity, increasing the risk of measurement error.

Whilst this definition is specific to LCREE by ONS, the bigger picture of the 'green economy' accounts for a much larger workforce than those ring-fenced in official statistics. Green jobs are scattered across many industries and businesses and are growing in necessity as those businesses grapple with the need to comply with environmental impact policies and various statutory obligations relating to social impact, reducing waste and omissions and the race to achieve net zero globally.

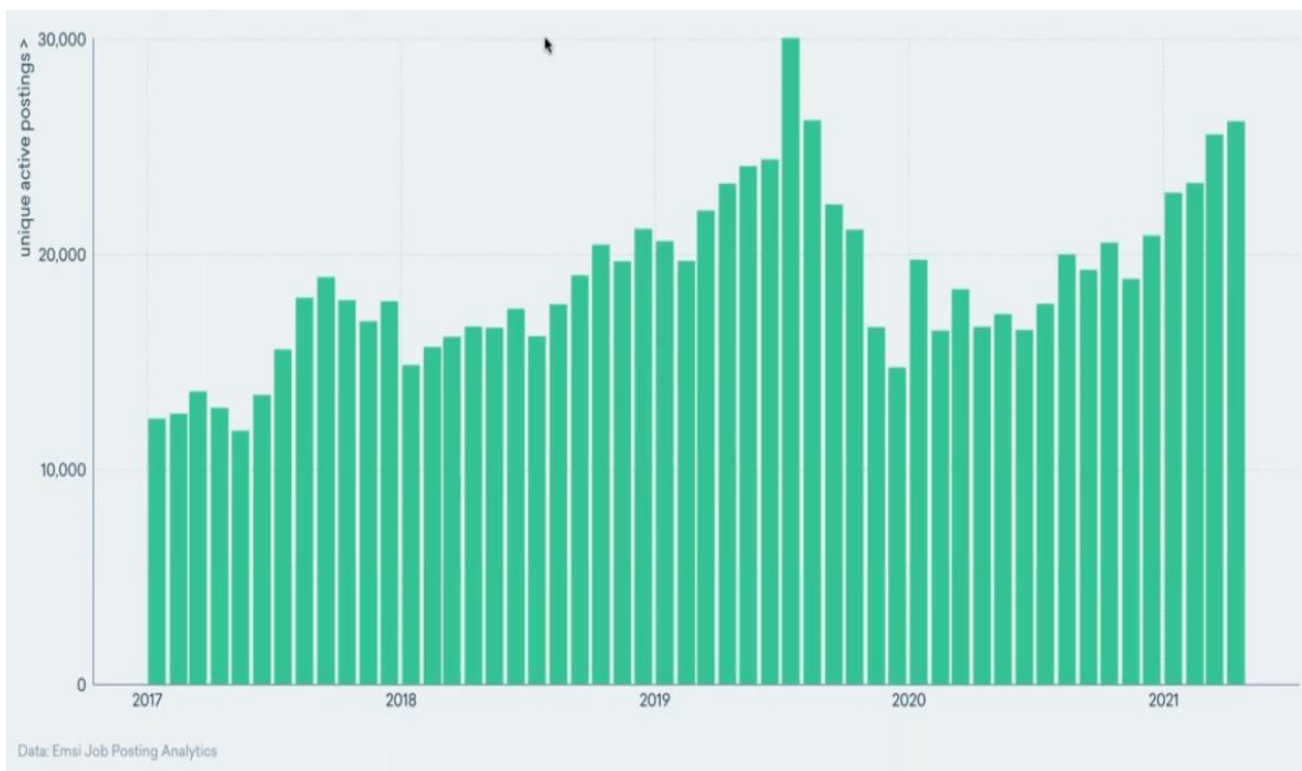
GREEN JOBS

A broader definition of 'green jobs' can fit into these three main categories:

- **New green economic activity:** Uses technologies or practices that previously did not exist.
- **The 'greening' of existing jobs:** Where existing jobs are transformed into green jobs.
- **Green skills:** Where a component of an existing job may require some new 'green' skills or knowledge

366 individual job titles within the green economy have been identified by EMSI/Burning Glass to capture real time trends and demand for skills in this area which shows a clearer pattern of demand when looking at job postings.

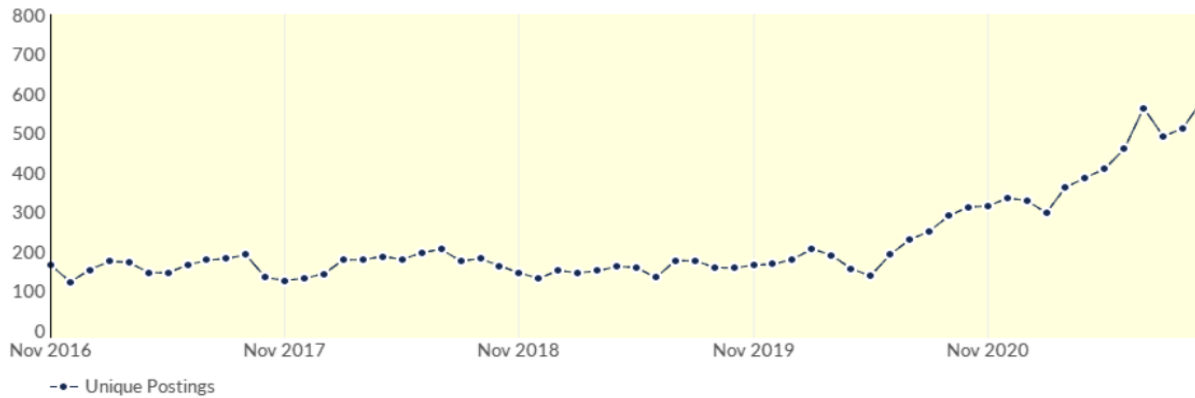
Demand for 'green' jobs across the UK has been rising strongly, Covid aside. This chart illustrates the recruitment demand across the green job titles captured by EMSI/Burning Glass for the UK since 2007.





Similarly, in Wales, over the last 5 years the unique job postings trend is showing an increase in demand across the 366 job titles. At the lower end of the scale in November 2016, there were 166 unique job postings, rising to 584 job postings by October 2021.

Unique Job Postings Trend from October 2016-October 2021



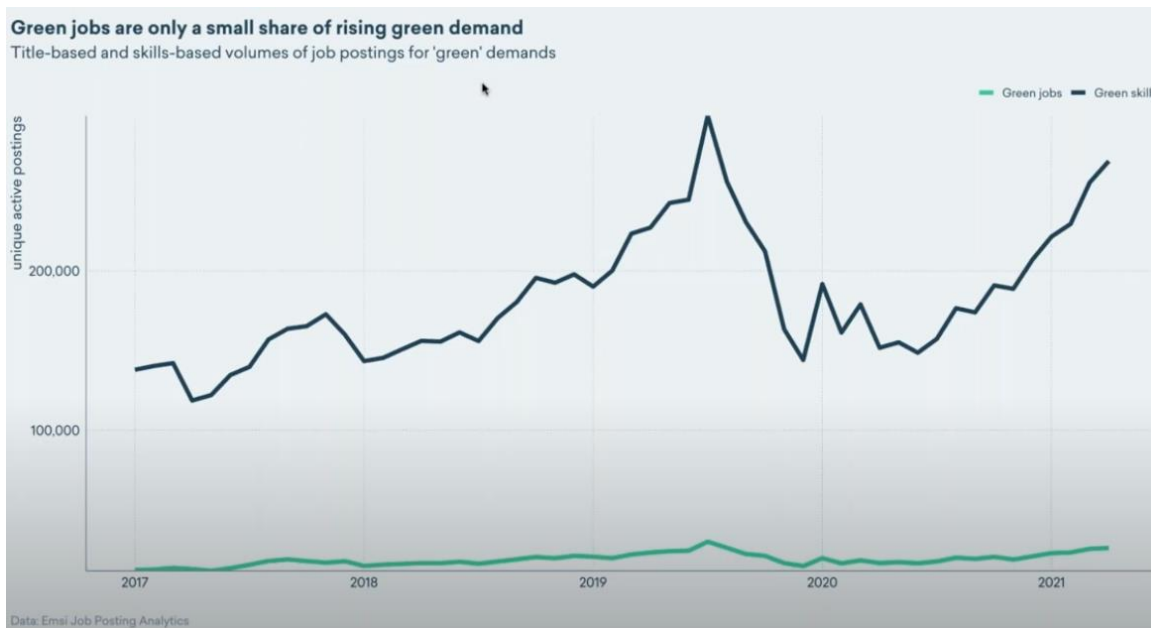
The top 10 job titles posted in this time period were:

1. Recycling Managers
2. Environmental Health and Safety Managers
3. Environmental Consultants
4. Environmental Health and Safety Specialists
5. Environmental Health Officers
6. Environmental Managers
7. Sustainability Consultants
8. Environmental Officers
9. Wind Turbine Technicians
10. Environmental Engineers

GREEN SKILLS

Using EMSI analysis of skills, green skills and specific green credentials are increasing in demand across all jobs. Whilst the increase in demand and growth of specific green jobs are steadily increasing, the green skills across jobs in other sectors are showing a much sharper increase in demand as this graph shows, this graph represents the picture across the UK.

Comparing Green Jobs and Green Skills



Digging deeper into the skill levels in the EMSI information, the greatest number of green jobs tend to be at the higher level end with demand for professional and managerial roles, but this is not across the board. There are clusters of demand and opportunities in skilled technical trades in areas such as energy efficiency, environmental services, renewable energy and waste sectors as well as the lower end of the skills spectrum including process and machine operatives in environmental services and the waste sector of this industry group.

In the Wales, the overview of top hard to find specialised skills in the green job postings during 2019-2021 are:

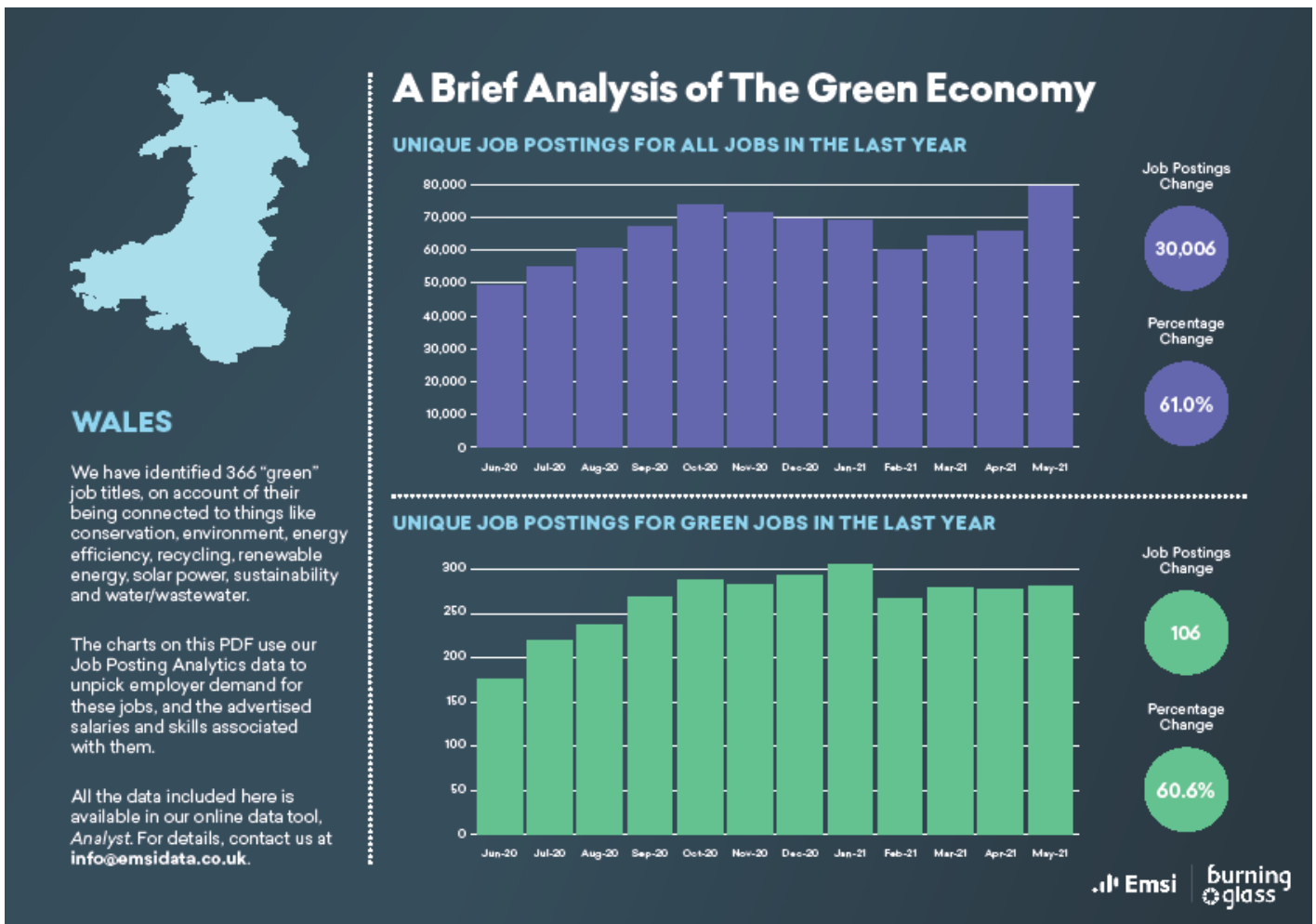
1. **Environmental Health and Safety**
2. **Auditing**
3. **Risk Analysis**
4. **ISO 1400 Series**
5. **Environmental Resource Management**
6. **Waste Management**
7. **Environmental Health**
8. **Environmental Consulting**
9. **Environmental Science**



As well as the specialised job related skills and credentials, there are underpinning generic, or soft, skills in demand in the green job postings, which are not surprisingly different to other sectors and areas of employment:

- | | | | |
|-----------------|--------------------|-----------------|-------------------|
| Communication | Management | Innovation | Enthusiasm |
| Planning | Leadership | Presentations | Customer service |
| Operations | Research | Infrastructure | Detail Orientated |
| Problem solving | Influencing skills | Self-motivation | |

EMSI have provided a detailed analysis of green skills and jobs in Wales to date:

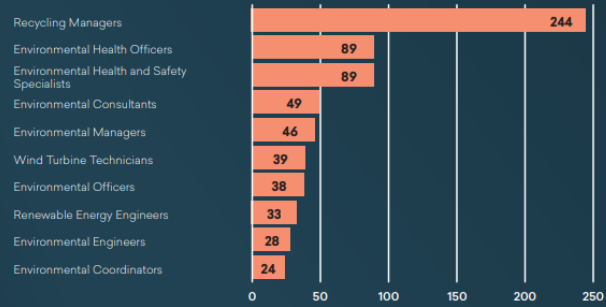




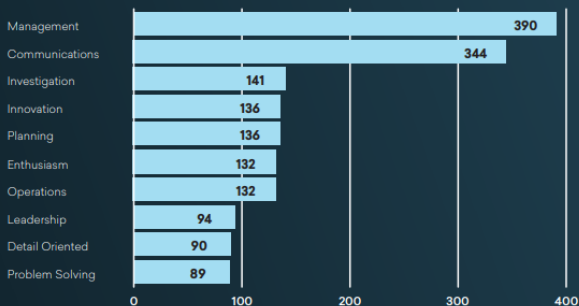
ADVERTISED SALARIES FOR GREEN JOBS AND ALL JOBS OVER THE LAST 5 YEARS



TOP 10 IN-DEMAND GREEN JOBS BY UNIQUE EMPLOYER POSTINGS OVER THE LAST 12 MONTHS



TOP 10 IN-DEMAND COMMON SKILLS IN JOB POSTINGS FOR GREEN JOBS OVER THE LAST 12 MONTHS



TOP 10 IN-DEMAND HARD SKILLS IN JOB POSTINGS FOR GREEN JOBS OVER THE LAST 12 MONTHS



The Future Generations Commissioner’s Report, [Skills through Crisis: Upskilling and \(Re\)Training for a Green Recovery in Wales](#), sums up the opportunities and challenges for Wales’s green growth potential and aspirations as:

- Over 60,000 jobs could be created in the green economy by 2022 with infrastructure investment. See Infographic on page 13.
- However, the current skills pipeline is not prepared for this demand with our analysis suggesting low apprenticeship and training numbers in key sectors compared to potential job growth.
- There is a mismatch between levels of existing employment and potential; the level of job creation is significant compared to existing numbers.
- Funding to deal with this shortfall is insufficient to cope with demand and scale.
- Targeted and sustained action is needed to ensure green growth industries provide entry for Black, Asian and minority ethnic people; women; disabled people and those furthest from the labour market.



SUMMARY AND KEY MESSAGES

- The global and national political agenda towards net-zero greenhouse gas emissions -UK target by 2050, is accelerating the demand for specialists and new 'green' jobs are emerging across all sectors.
- The environmental transformation will change the ways in which production is organised and managed and affect labour markets, expose skills gaps and drive new demands for upskilling and reskilling across industries.
- New infrastructure investments and projects in regional Growth and City Deals across Wales are opening new jobs and opportunities.
- There is no universal definition of jobs and industries for the 'green economy' and 'green jobs', various models exist.
- There has been a surge in research and reports to try to understand and decipher the green sector.
- Statistics are not easily available at Wales, regional and local granularity.
- Despite the varied reports and definitions available, they consistently show increasing growth, especially accelerated in the last two years.
- Green sector skills and jobs are roles and functions which are in demand in other industries such as construction, manufacturing, engineering and science, as well as being a specialist sector.
- Upskilling and reskilling the current workforce across sectors affected by the green agenda is a priority. The construction industry is one example of increased investment required in retrofitting.
- The generic, or 'soft', skills gaps in the green sector are consistent with other jobs and sectors.
- Increasing pressure to align up to date provision in education and training to meet the demand for current and future talent and skills require review and updates of curricula as well as development and introduction of new qualifications.
- Communication of information relating to future growth and opportunities in the sector to young people is key to ensure future demand of skills match the labour market.



FURTHER READING AND RESEARCH

Hot off the press!

https://issuu.com/businessnewswales/docs/green_industries_wales_issue_1

FURTHER READING:

[V2 NEF Skills report cover \(futuregenerations.wales\)](https://futuregenerations.wales)

[Skills – The Future Generations Commissioner for Wales](#)

[Building skills for net_zero_report_wales_v7.pdf \(citb.co.uk\)](#)

ONS Climate change dashboard: <https://climate-change.data.gov.uk>

[A green recovery - Economics Observatory](#)

[REPORT: Clean Energy Jobs Pay 25% More Than National Median \(e2.org\)](#)

[Job Creation in Wales from Infrastructure Investment | TUC](#)

[Going Green-Preparing the UK workforce to the transition to a net zero economy.June.2020.pdf \(nesta.org.uk\)](#)

RECENT PRESS ARTICLES:

[Government backing for job-creating green economy plans | Wales Business News | Insider Media](#)

[Is Wales Ready for a Green Economy? - Business News Wales](#)

[Carbon neutral: What is meant by the green economy? - BBC News](#)

[New college courses for jobs in the green economy | GOV.WALES](#)

[Green Industries Cluster Launched to Connect Energy, Industry & Sustainability in Wales - Business News Wales](#)

[Green Industries Wales – Discover & Connect - Business News Wales](#)

[COP Cymru: How Wales is Leading the Way in Clean Energy Transition - Business News Wales](#)

[Government needs to do more on green industries skills gap, MPs say - Business Live \(business-live.co.uk\)](#)

PRESENTATIONS:

[Every career can be green.pdf](#) - Dr Lyn Barham, Associate Researcher, The CDI, October 2021

[Skills and Workforce implications of a greener energy sector](#) - Rob Murphy, Workforce Planning Consultant, Energy & Utility Skills, October 2021



Cautionary notes on the use of data sources

Job posting figures are one of the first data sets to give an immediate indication of the impact on the labour market but are only an indication given:

They only reflect a proportion of all job vacancies, excluding informal recruitment.

The absolute numbers should be used with caution as they provide only a snapshot of the total recruitment picture, and the method of collection is constantly being improved but the general trends seen can give us an idea of how job opportunities in Wales are being impacted.

Projections of employment which we usually use from our data suppliers such as EMSI are 'estimates of future trends based on past and current trends' so where projections are used, they may be based on pre-crisis trend data, until economic forecasting is available that models forecast scenarios of the impact of current events.

We continue to welcome feedback on the relevance of the data and key messages included in our Bulletins. Please send your feedback to information@careerswales.gov.wales.



Skills and Training for a Green Recovery in Wales



A green recovery is one which delivers good quality livelihoods whilst supporting rapid decarbonisation and improving biodiversity in Wales.

Wales TUC estimate over 60,000 indirect and 45,500 direct jobs for a green recovery over a 2 year period with government investment in key projects.

Having the right skills and training in place will be crucial for ensuring Wales recovers from the impacts of the pandemic and ensures a green future, tackling long-term challenges.

5,870 jobs
Renewable energy and port upgrades



Potential for 1,868 jobs to be created in port upgrades for wind development and 4,200 jobs in facilities for wind and battery manufacture. Taken with the other construction jobs, the level of job creation is significant and **would need new entrants into the sector to fill these vacancies.**

6,560 jobs
off-site housing manufacture



Significant potential for employment in a green recovery, but **currently, a gap in skills pipelines.** There is only 400-600 apprentices in general manufacturing (far fewer are likely to be directly relevant) and the number of entrants in education has **fallen to 2,415 people down from 7,830 people.**

Some groups of society are underrepresented in these industries currently

In electrical installation, 29% of the workforce is female and 6% of non-white ethnicity.

In specialised construction (like railway and bike/pedestrian lanes) 18% female; 5% non-white ethnicity.

In construction of buildings (like social housing construction and all the categories for retrofit above), 27% female; around 6% non-white ethnicity.

In railway and other engineering, between 21-29% female; between 11-15% non-white ethnicity.

In agriculture, forestry and related trades, 25% female; 0.76% non-white ethnicity.

2,730 jobs
in retrofit energy assessors.



around 400-600 apprenticeship starts in currently. These can be trained relatively quickly if a pipeline of jobs is guaranteed.

3,426 jobs
Research & Development



Current capacity is difficult to gauge. **The skills gap is likely to be significant** and time taken to train people presents challenges.

2,725 jobs
bicycle and pedestrian lanes construction



2,940 jobs
Electrical Installations



In jobs relevant to electrical installation (like installing broadband (1,014 jobs), electric vehicle charging (1,077 jobs) and solar panel installation (845 jobs), **but current apprentice starts are between 360-490 per year. This means rapid, significant scaling up is needed as well as investment in infrastructure.**

5,280 jobs
Railway Construction



But filling this level of skills gap is a challenge because of the scale of new jobs required relevant to the **1,000 current jobs in Wales.** In rail engineering, there is a potential for almost **600 jobs** but rail construction and engineering has seen skills shortages in recent years. It takes **at least 3 years to train a railway engineer** via apprenticeship schemes.

4,260 jobs
retrofit insulation of housing



And 1,719 in retrofit of windows/doors – current apprenticeship numbers are between 20-40 in this category, **meaning a skills shortage.** An increase in skills could be done quickly, as qualifications are not necessarily needed.

3,600 jobs
reforestation and natural flood defence



Apprentice levels are very low at 50-120 per year. The number of people enrolled in relevant education courses has also almost halved in the last 6 years (**4,500 compared to 8,065 previously**).

2,810 jobs
social housing construction



An increase in workforce of 22% is required.

Figures are approximate - see full report for more detail, Jan 2021