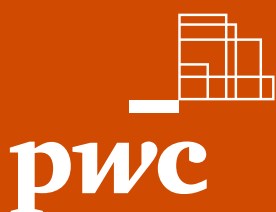




Green Jobs Barometer for the Channel Islands

Tracking the transition to a green economy

July 2022



About the Green Jobs Barometer

We hear more and more about the transition to a green economy. But is it really happening in the Channel Islands? If so, how fast compared to London and other parts of the UK? What does the transition mean in practice for employers and employees in the Channel Islands?

The PwC Green Jobs Barometer for the Channel Islands aims to answer these questions. The report tracks the impact of the green transition on job creation, the wider employment benefits, potential job losses and the carbon intensity of work. Drawing on a survey of a thousand Channel Islanders, the research also gauges workers' perceptions of how the transition will affect their job prospects and working lives.

The results provide valuable insights into the Channel Islands' preparedness for the transition, how this compares to regions of the UK and how businesses and governments can capitalise on the opportunities to create quality jobs and deliver a fair transition.



Pillar 1

Green job creation

The proportion of job advertisements that are green.

Pillar 2

Wider benefits from green jobs

The multiplier effect of new green jobs in creating additional employment.

Pillar 3

Sunset jobs to disappear

The distribution of jobs lost as a result of the green transition.

Pillar 4

Carbon intensity of employment

Carbon dioxide emissions per employee.

Pillar 5

Green workplaces

Workers' views on how well their employers are helping their role and workplace to become green.

How do the Channel Islands compare to UK regions?

Min score = 0 , Max score = 100

| | | |
|---|------------------------|----|
| 1 | Scotland | 62 |
| 2 | London | 60 |
| 3 | South West | 56 |
| 4 | Jersey | 45 |
| 5 | United Kingdom average | 43 |
| 6 | Guernsey | 39 |
| 7 | South East | 38 |
| 8 | Wales | 31 |

Source: PwC UK Green Jobs Barometer 2021 and PwC Channel Islands 2022

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Introduction

Welcome to the PwC Green Jobs Barometer for the Channel Islands: Tracking the transition to a green economy.

The impact of the green transition on jobs and the economy could be as significant as the digital transformation we've seen over the past 20 years, and which continues apace. What's clear from our research is that the transition is well underway in the Channel Islands and already beginning to reshape our economy. Are the Channel Islands ready to take advantage of the opportunities and manage the risks? How can we make sure the benefits are shared fairly?

Earlier this year, the Paris Climate Agreement on Climate Change was formally extended to the Channel Islands. This gives further weight to the commitments our governments have made to net zero greenhouse gas emissions by 2050.

2050 may sound a long way off. Science requires hard and fast reductions this decade to be in with a chance of keeping the worst of climate breakdown at bay. Guernsey has therefore set an interim 57% reduction target by 2030, while Jersey has now adopted a Carbon Neutral Roadmap to 2030. Even more pressingly, mounting calls from employees, consumers and investors are spurring many businesses to move faster on the green transition.

The urgency is clear from a global environmental, societal and economic perspective. Equally compelling is the business case for change at a local level. Like others worldwide, Channel Islanders want to live on green islands that play their part in the global transition, and which are prepared for the impacts of climate change. They want to buy from, work for and invest in environmentally friendly companies that align with their own values. The strategic impact is not only evident in direct steps towards decarbonisation, but also a host of new business models that are springing up in its wake, from electric vehicles to sustainable investments.

At the time of writing this report, energy prices and the rising cost of living are key concerns within the Channel Islands, as elsewhere. This should provide further impetus for the transition away from fossil fuels. It should also sharpen the focus on how to make sure this is achieved in a way that minimises any additional costs to consumers, especially those least able to afford them. Making sure that everyone has access to the skills and job opportunities arising from the green economy is a central tenet of this 'just transition'.



Taste of what's to come

Digital transformation offers a foretaste of how the move to a greener economy could affect employment.

Career paths that didn't exist 20 years ago have become commonplace, from a robotics engineer to a social media manager. Yet some businesses and workers have lost out – the closure of shops as ever more retail business moves online is a case in point.

Even in the jobs that have endured, there have been shifts in how employees engage, communicate and make decisions. These changes have had a profound impact on how people work and the skills they require.

Ready to respond

As we gear up for a comparable green transition, businesses and policymakers across our islands need a clear understanding of its implications and how to be on the front foot in response.

In this report, we've taken PwC's Green Jobs Barometer for the UK as the starting point for a Channel Islands-focused version. The report defines what green jobs look like in the Channel Islands, before going on to gauge the potential for green job creation, both directly and as part of a 'multiplier' effect on employment across the supply chain. We've also estimated the potential scale of 'sunset' jobs at risk of being lost. The spotlight on jobs at risk will help businesses and governments move early to reskill affected workers and open up alternative career paths. Drawing on a survey of a thousand Channel Islanders, the research goes on to analyse workers' perceptions of how the transition will affect their job prospects and working lives.

The Barometer pulls these insights into a composite index score out of 100, comprising five pillars of the green economy. By weighing up the gains and losses, the Barometer not only aims to strengthen readiness, but also

to make sure that the impact of the transition is balanced and fair.

Untapped potential

So, what do the results tell us? Overall, the Green Jobs Barometer scores for Jersey (45/100) and Guernsey (39/100) are broadly in line with the UK average (43/100). It's therefore clear that the green transition is already gathering pace in both the Guernsey and Jersey economies.

However, when we consider that London, which is another knowledge-based financial services hub, has a score of 60/100, it is clear there is further progress that could be made in the islands.

Exhibit 1 | How do the Channel Islands compare to UK regions?

Min score = 0 , Max score = 100



Source: PwC UK Green Jobs Barometer: 2021 and PwC Channel Islands 2022

Our report looks at each of the 5 pillars of the Barometer in turn and explores the reasons behind the scoring for Jersey and Guernsey.

Turning ambition into action

So where do we go from here? If your business hasn't yet thought about how the green transition will affect your products and services, the way you work, and employee expectations, now is the time to do so if you want to stay ahead of stakeholder and regulatory demands.

Many businesses on the islands already have strong green strategies and objectives, but there is more to do to translate these into action and integrate this into job roles in practice. Workers are looking to their employers to shift their business models, help them transfer existing skills and develop the skills they need to adapt. Failure to do so could impact competitiveness, and make it harder to recruit and retain talent. We therefore conclude this report by looking at how governments, employers and industry bodies can make a difference.

I would like to thank all those who've shared data and insights, the survey respondents, and colleagues within

PwC who've contributed to this work. Special thanks goes to Cortex for contributing Guernsey specific vacancy data and to Geek Talent for the collection and analysis of vacancy data. The results show both what's possible and how much more we need to do to prepare and capitalise. I hope they help to inspire action.

No one business or government department can drive the green transition on their own. There are already emerging green economy industry clusters on both islands. Collaboration is key to continue to harness the opportunities. Here at PwC we are excited to play our part in the islands' journeys, alongside our own corporate net zero by 2030 commitment and building the implications of the green transition into all our client work. We look forward to continuing our work with you all as we tackle the practical challenges of the green transition together.

Ali Cambray
ESG and Net Zero Director
PwC Channel Islands



What is a green job?

We've defined three main types of green jobs that are relevant for the Channel Islands economy:

| Producing & providing | Adapting | Supporting |
|---|--|--|
| Producing and providing environmentally friendly products or services that have a directly positive impact on the environment. | Adapting work processes to make them more environmentally friendly. | Supporting the green economy indirectly by providing goods or services that enable the green transition. |
| <p>Green Job examples in the Channel Islands to date:</p> <ul style="list-style-type: none"> • Waste manager in recycling and reuse centres • Solar panel installer • Metering technician • Product developer for green energy solutions | <p>Green Job examples in the Channel Islands to date:</p> <ul style="list-style-type: none"> • Sustainable investment manager • Corporate ESG manager • Travel agent for eco-retreats • Environmental policy officer • Sustainable transport officer | <p>Green Job examples in the Channel Islands to date:</p> <ul style="list-style-type: none"> • Corporate sustainability consultant • Education officer for environmental programmes |

Source: PwC Green Jobs Barometer Research UK 2022

Exhibit 2 | How the Green Jobs Barometer is calculated

The Barometer is structured through five Pillars:

| | | | | |
|--|--|--|--|--|
| 1 | 2 | 3 | 4 | 5 |
| Green job creation | Wider benefits from green jobs | Sunset jobs to disappear and jobs created | Carbon intensity of jobs | Green workplaces |
| The proportion of job advertisements that are green. | The multiplier effect of new green jobs in creating additional employment. | The distribution of jobs lost as a result of the green transition. | Carbon dioxide emissions per employee. | Workers' views on how well their employers are helping their role and workplace to become green. |

Source: PwC Green Jobs Barometer Research UK 2022

Key findings

The PwC Green Jobs Barometer for the Channel Islands offers valuable insights into the impact of the green economy and how businesses and policymakers can realise the opportunities.

The green transition is already underway in the Channel Islands

Our evidence suggests the transition to a green economy is already well underway in the Channel Islands. Progress is on a par with the average pace of change in the UK.

The islands' economies benefit from relatively low carbon electricity

A key goal for the green transition is to decouple employment and economic prosperity from carbon emissions.

The Channel Islands are already in a good position due to imports of low carbon electricity from France. Guernsey generates 4.1 tonnes of carbon dioxide emissions per employee per year and Jersey 4.5 tonnes, compared to 9.1 tonnes in the UK¹.

As islanders, we can use this head start to our advantage. However, further decarbonisation of heating, transport and supply chains will be needed to keep pace with the move to net zero.

Significant potential for green job creation and growth of green industry clusters

Our islands can capitalise on the potential for job creation. The job types can be divided into three areas, producing/providing; adapting; and supporting the green economy. We're already seeing jobs created and adapted in growth areas of the economy ranging from green finance to the construction of sustainable infrastructure. We're also seeing growth of new industry clusters on the islands, such as environmental, social and governance (ESG) orientated fintech and consultancy. Further opportunities include the development of low emission and low waste local sourcing, production and supply as part of the 'circular economy'.

Looking specifically at jobs for people producing green products and environmentally friendly goods and services, the Barometer estimates that at least 335 green jobs will be created in Jersey and 180 in Guernsey between now and 2030. Beyond this, much will depend on realising the islands' ambitions to become a leading green hubs. Given the islands' knowledge-based and finance-led economies, we think that demand for and jobs created in services that adapt processes and support the green transition will be significant.

These will comprise both new jobs (e.g. chief sustainability officer) and adaptation of many existing roles (e.g. providing legal or consulting advice on sustainable finance regulations to the funds industry). We liken this embedding of green skills to the digital upskilling of workers across all sectors that has happened in recent years. If we look at demand for skills, green skills now account for 1% of all skills advertised. Over the coming decade this figure could grow to 15% if this trend continues.

But we could and should do better

Jersey is on a par with the UK on current green job openings (1.1% of advertised vacancies are green jobs). But Guernsey is some way down (0.3% of advertised vacancies are green jobs). We think this difference can in part be explained by different recruitment practices between Jersey and Guernsey. Specifically, it is possible that employers in Guernsey have responded to the relatively tighter labour market and less mobile workforce by having a greater emphasis on recruitment by word of mouth and in-house reskilling instead of advertising for new jobs.

The advertised green job vacancy rates sound low, but may not reflect the actual number of new job openings. Our analysis suggests that many positions go to internal candidates, often quite junior ones, without being publicly advertised. As the green economy develops and businesses look to turn green commitments into concrete actions, the number of public vacancies will grow. More positions will also open up for experienced and senior candidates.

More broadly, the Channel Islands both trail the UK on the 'multiplier effect' – the additional jobs that could be created by growth in green employment. In the UK, every new green job would create a further 1.4 posts in supply chains, support operations and wider services. In Guernsey it's 0.5 posts and in Jersey 0.6. The main reason why the Channel Islands are unlikely to generate as many multiplier jobs as the UK is structural. In particular, our relatively small economies can't support a supply chain and the jobs within it on the scale of the UK and are therefore dependent on imports for much of our food and goods. However, the multiplier effect would be boosted by growth in a locally-focused circular economy. Further boosts would come from increased demand for services from people working in high paid green employment.

¹ Carbon dioxide emissions per employee excludes household emissions.

However, the multiplier effect would be boosted by growth in a locally-focused circular economy. Further boosts would come from increased demand for services from people working in high paid green employment.

We need action now to avert the risks of job losses and ensure workers have the skills to participate in the green transition

Our analysis estimates that 115 existing posts in Jersey could disappear as a result of the green transition and 70 in Guernsey. The most affected sectors are transport and storage, and wholesale and retail. Further losses could come in electricity and gas, financial and insurance activities and professional, scientific and technical activities.

While the potential for job creation from the green transition in the Channel Islands is greater than the posts that could be lost, we need to move early to support workers whose jobs are at risk as part of a ‘fair transition’.

More broadly, our survey of Channel Islands workers found that less than half (47%) are confident their current job roles will still exist following the transition. We think this is because workers understand how job roles in all sectors will need to

adapt but are uncertain how this applies to them. Our survey shows they are willing to upskill and explore new career paths as they look to adapt to new demands and strengthen their employment prospects.

Employees want more action from employers now

Employees don’t think their employers are doing enough to prepare for the green transition.

Overall, workers only rated their employers 5.6/10 for adopting and promoting green policies and practices, suggesting employees feel there is significant scope for improvement.

When we asked workers in our survey whether their work processes will need to adapt to make them more environmentally friendly over the next 1-2 years, 69% said yes. When we asked them whether their work objectives will include supporting the green economy indirectly, 66% said yes. But only 42% report having received training, education, and/or communication in relation to green practices.

Exhibit 3 | How the Channel Islands compare across the five Green Jobs Barometer pillars

| | Index score | Pillar 1 Green jobs | Pillar 2 Wider benefits | Pillar 3 Sunset jobs : jobs created | Pillar 4 Carbon intensity | Pillar 5 Green workplaces |
|------------|-------------|------------------------|----------------------------|--|------------------------------|------------------------------|
| Jersey | 45/100 | 1.1% | x1.6 | 1:3 | 4.5 tCO2 /employee | 6.0/10 |
| Guernsey | 39/100 | 0.3% | x1.5 | 1:2.5 | 4.1 tCO2 /employee | 6.1/10 |
| UK average | 43/100 | 1.1% | x2.4 | 1:5 | 9.1 tCO2 /employee | 6.5/10 |

Source: Source: PwC Green Jobs Barometer Research UK 2021 and PwC Channel Islands Green Jobs Barometer 2022

In the coming sections, we look more closely at these developments, their implications and the actions needed to respond.

Pillar 1: Green jobs creation

Pillar one of the Green Jobs Barometer gauges how many green jobs are being created and in what parts of our economy. This helps to identify both areas of strength and where government and business intervention may be needed to speed up progress.

In the absence of official employment data, we used data from LinkedIn as a proxy for estimating the proportion of current jobs in the Channel Islands that can be defined as green. The results show that about 1% of existing employment is green, with around two-thirds of green jobs in Jersey and the remainder in Guernsey.

How many more green posts are coming on stream? Our analysis of job adverts over the past two years identified 207 unique green jobs out of around 18,000 deduplicated job vacancies in Jersey (1.1% of vacancies) and 67 green jobs out of 21,000 vacancies in Guernsey (0.3% of vacancies).

This shows that only a small proportion of new Channel Islands jobs can be defined as green (0.7% overall), though this is increasing in line with the comparable early years of digitisation within businesses and public services. It's also important to note that many vacancies are filled through informal word of mouth, internal upskilling and redeployment, or by people sending in speculative CVs.

For now, most of the green jobs vacancies we captured are clustered in the sectors at the sharp end of the green transition such as energy supply and waste management – we define these as 'producing and providing' jobs. The remainder are in roles that

will enable the transition into a greener economy by adapting existing business or by providing support services to enable transformation. Our analysis indicates that these enabling jobs will see the biggest impact and will require the most significant adjustment in areas such as training and career development. More than a third of the workers in our survey (34%) expect that their current job role will adapt or change as a result of the transition to net zero.

How do we compare with other regions?

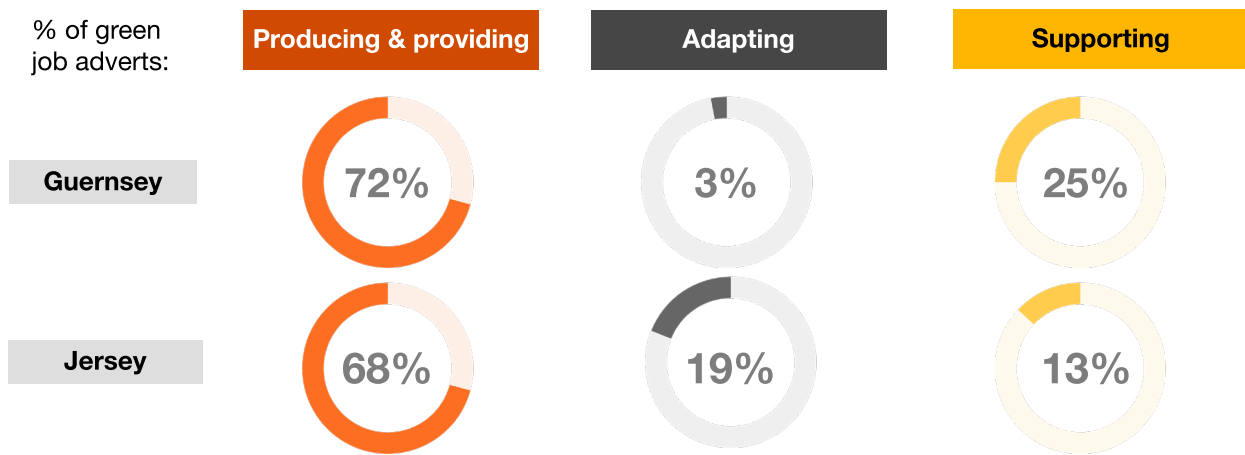
Encouragingly, Jersey's green job vacancy rate is ahead of London (0.9%) and in line with the UK as a whole (1.1%). But Guernsey is some way down. Guernsey trails Jersey in the number of green vacancies in areas such as policy development, waste management and the development of sustainable infrastructure. But it's also notable that there are fewer green jobs being advertised within financial and professional services, which could be a focus of significant job creation across 'adapting' and 'supporting' roles.

However, it's important to note that job vacancies and advertising may not offer a complete picture. Our analysis suggests that quite a few new jobs are going to internal candidates, often quite junior ones, rather than being opened up to external applicants. A more open application process would help to publicise the interesting opportunities on offer as the economy transitions. It could also help to attract more experienced and senior candidates.

"This is a vision for Jersey to be a consistently high-performing, environmentally sustainable and technologically advanced small island economy by 2040." – **Outline Economic Strategy for Jersey: A vision for 2040, Government of Jersey (2022)**

"We will put the development of on-island skills at the heart of future economic and skills strategy. Government will also support the development of low-carbon and sustainable supply chains." – **Policy EN3, Carbon Neutral Roadmap, Government of Jersey (2022)**

Exhibit 4 | Types of green jobs advertised so far (2019-2021)



Source: Source: PwC Green Jobs Barometer Research UK 2021 and PwC Channel Islands Green Jobs Barometer 2022

Sector spotlight: Energy

At the sharp end of the green transition

Energy generation and supply is one of the sectors that is set to be most directly affected by the green transition.

Technologies driving the energy revolution are at very different stages of deployment. For example, offshore wind and solar energy are generally considered to be well developed, while tidal and wave are some way off commercial adoption on a significant scale.

Moreover, this isn't just about renewable energy generation and distribution, but also the installation of infrastructure, ranging from solar panels to battery charging points for electric vehicles. The impact is reflected in the fact that the energy sector currently accounts for the most newly advertised green jobs in the Channel Islands.

The Channel Islands have a head start in the transition thanks to the supply of low carbon electricity from France (see Pillar 4 – carbon intensity of employment). But we still need to move further to reach our islands' net zero targets.

In principle, the islands' are well placed to generate clean renewable energy from tidal, wave, wind and solar. It could be possible to power the islands and sell the excess to the UK or France. However, the implications for capital investment, the necessary energy market structures and the costs for consumers need careful consideration prior to moving ahead.

The main economic benefits of renewable energy are energy security, export earnings and possible spin-off opportunities in research and testing. A renewable energy sector would also create some permanent jobs in operations, maintenance and monitoring.

Further opportunities include the decarbonisation of the transport sector, installation of energy efficiency measures and investment in grid and interconnector infrastructure.

Pillar 2: Wider benefits from green job creation

New green jobs can create employment opportunities down the line in supply chains and support other parts of the economy, such as IT. An increase in high paid jobs can in turn increase demand in the wider economy, from new homes to hospitality, travel and retail. Pillar two of the Green Jobs Barometer gauges this 'multiplier' effect.

In Jersey the multiplier is 1.6 and in Guernsey 1.5. This means that for every green job created, there are another 0.6 jobs in Jersey and 0.5 jobs in Guernsey which can be attributed to that green job.

Much of the job creation comes in adjacent sectors. Examples range from the construction of renewable energy infrastructure to maintenance and repair of solar panels and electric vehicle fleets.

How do we compare with other regions?

The multiplier effect for the Channel Islands is not as high as London and the UK as a whole. The gap largely stems from the fact that the scale of the supply chain in small economies like ours will never be as large and far-reaching as London or other major regions within the UK.

We could boost the multiplier effect by moving to a circular economy in which the supply chains are more localised. This might be producing and consuming more local food closing the loop on waste products. The multiplier potential can also be seen in specific sectors such as financial services. For example, the growth in ESG investing offers opportunities to create a cluster of expertise that connects advisors, investment managers, administrators, auditors and the tech developers and engineers needed to support this.

Crucially, growth in highly paid clusters such as ESG finance would create demand across the economy, from hair salons to construction. Comparisons with London are once again informative. Along with the scale of its supply and service chain, one of the reasons why London has a high multiplier effect is its concentrations of both wealth and specialist economic clusters. If the Channel Islands' multiplier effect could be raised to that of London (3), this would create more than a thousand new jobs over and above the 515 in our current forecast.

“The policy priorities to mitigate climate change are in the areas of energy, sustainable transport, waste management and minimisation, and the protection and enhancement of our natural ecosystems. As well as addressing environmental issues, social and economic factors will be integral to [progress, including] local policies to stimulate the 'green' and 'blue' economy and promote environmentally sustainable economic development.... and international action through our role as a green and sustainable finance centre.” - **Extracts from States of Guernsey Climate Change Policy and Action Plan (2020).**

An **employment multiplier** is one of the measures used to determine the impact a particular industry will have upon an area. In its simplest form, the employment multiplier measures the amount of direct, indirect and induced jobs created (or lost) in the area.



Source: Source: PwC Green Jobs Barometer Research UK 2021 and PwC Channel Islands Green Jobs Barometer 2022

Sector spotlight: Construction

Building the future

In the UK as a whole, PwC estimates that an additional **£40 billion a year in infrastructure investment** will be needed over the next decade to deliver a net zero economy, doubling current levels.

As our Green Jobs Barometer highlights, the demand for new infrastructure could be a boon for construction companies in the Channel Islands. But to meet rising demand in a sector already suffering chronic skills shortages calls for a big step-up in investment in apprenticeships and skills development. It's also going to require broader approaches to recruitment and retention. This could include attracting more women into construction and providing incentives to encourage skilled trades people to work longer before retirement.

The other big priority is the greening of construction itself. The sector is being reshaped by changes in building regulations and energy performance certificates. Developers also need

to meet more exacting demands on sustainability from commercial tenants and real estate investors. The resulting priorities include making sure that the design and construction of buildings and infrastructure minimise the impact on the environment in areas such as the responsible sourcing of materials. It also means considering the lifecycle impact of the construction including factors such as energy efficiency and end-of-life reuse of materials.

An important step forward is the industry push for the application of **building information management** locally. The modelling makes it easier for architects and builders to assess and reduce the energy usage and waste from a building while it's being designed.

It is essential that major construction and infrastructure projects in the Channel Islands are as green as possible.

Pillar 3: Sunset jobs to disappear and jobs created

While some jobs will be created by the move to a green economy, others will become redundant. These losses – sunset jobs – are a significant concern for many people in the Channel Islands – only 47% of workers are confident their current job roles will still exist following the transition.

But with a combination of effective training, career guidance and policy focus on balancing the gains and losses of the green transition, many workers from sunset jobs will be able to find new employment in either the same sector or different sectors.

Pillar 3 of the Green Jobs Barometer recognises this need for balance by exploring the distribution of job losses by sector and how this compares to gains.

The results can help to identify the sectors and roles within them in most urgent need of support.

Threat and opportunity

Our Pillar 3 analysis confirms that the impact of transition won't be evenly felt across sectors.

The highest proportion of sunset jobs is concentrated in the transportation and storage sector. When considering workforce size, the largest relative impact is felt in the electricity and gas sector.

The big winners are sectors at the forefront of greening our economy, notably construction. In turn, energy shows that as one door closes, another opens as experienced technicians reskill and upskill for renewable generation and supply.

“It's great to be part of a growing sustainable finance industry network on the island that is working collaboratively on innovative solutions to increase flows of capital for environmentally and socially sustainable investments and to measure progress robustly.”
– **Michelle Ryan, Commercial Director, True Limited, Jersey**

Exhibit 6 | Green jobs in “producing and providing” could be impacted most in which sectors?

| Sunset jobs | | Jobs created | |
|--|----------------------------------|---|---|
| Guernsey | Jersey | Jersey | Guernsey |
| 17% in transport & storage | 8% in electricity & gas | Highest proportion is in construction | +25% in construction |
| 14% in wholesale & retail | 7% in wholesale & retail | +65% of new green Channel Islands jobs | +35% of new green Channel Islands jobs |
| 6% in electricity & agriculture | 7% in transport & storage | | |

% are as per the distribution of sunset jobs to disappear in the Channel Islands' sectors and regions and are therefore relative

Source: Source: PwC Green Jobs Barometer Research UK 2021 and PwC Channel Islands Green Jobs Barometer 2022

Further opportunities stem from moves to adapt and augment existing roles in much the same way as digitisation has both created new posts and changed how people work and engage.

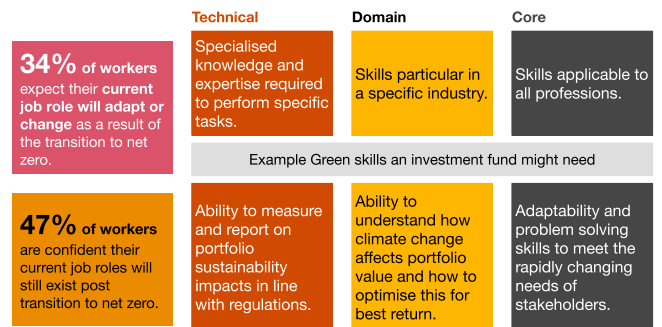
Further job creation will come from supporting the green transition. Financial services is a case in point. Having carved out a world-leading niche in alternative investment management, for example, we are well placed. This includes channelling investment to help businesses decarbonise their production. Investment could also help to bridge the funding gap for small and innovative growth businesses and boost infrastructure investment in areas such as digital communications and electric vehicle charging.

Partnerships are a crucial element of developing green growth clusters. We can already see this in the collaboration between local food producers, transporters and retail businesses. These exemplify the circular economy in areas ranging from locally grown and sold foods to collaborative recycling and reuse centres. Realising the potential within support areas such as green finance would require a similar level of partnership. As outlined earlier, this ranges from legal services to fintech technology and assurance over ESG governance and disclosure. The starting point is ambition and commitment. The City of London is aiming to be a [net zero financial centre](#). How can we emulate that level of ambition and turn it into action?

Right now, however, the Green Jobs Barometer points to a shortfall in people with the necessary specialist expertise and advisory experience to support the transition and realise the opportunities this offers. If we're to successfully steer through the green transition, this is a skills and talent gap that needs bridging. In the future “green literacy” will be

domain knowledge needed by employees and employers no no matter what their role.

Exhibit 7 | What skill demands changes do we expect?



Positive impact overall

If we compare the losses to the gains, the overall impact is positive. In Jersey, for every job lost, our analysis indicates that three will be created. In Guernsey, this figure is slightly lower with 2.5 jobs being created for every job lost.

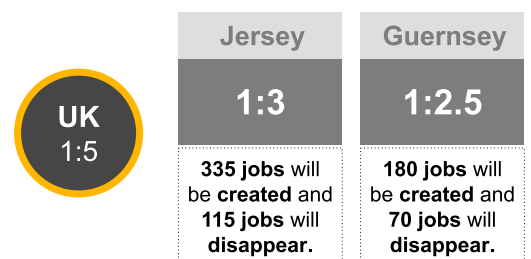


Exhibit 8 | What is the ratio of jobs disappearing to jobs created by 2030?

However, this ratio excludes all those jobs that will need to *adapt* to support the green economy, which we believe will be significant on the islands....

Source: PwC UK Green Jobs Barometer Research UK 2021

If we include the spending power of the high skilled jobs being created, we're looking at a net increase of over 500 jobs between now and 2030. However, it should be noted that jobs can be lost quite quickly – the closure of a gas storage facility, for example. But the compensating creation may take longer – rolling out new green infrastructure is a long-term project, for example.

These numbers may appear on the low side – in the UK as a whole, five jobs are expected to be created for every sunset job lost. But both Jersey and Guernsey's labour markets are

at near full employment and have longstanding restrictions on migration. This is compounded by ageing populations and in some cases shrinking workforces. This means that there may not be enough available workers to take advantage of the jobs being created.

The big priority is identifying the jobs most at risk early and moving quickly to put in place the necessary upskilling, reskilling and career guidance to help people move into new work. Without this proactive action, we risk a rise in unemployment and inequality.

Sector spotlight: Financial services sector

Jobs multiplier

The financial services sector is a major local employer in both Guernsey and Jersey. The industry also has a sizable impact on employment in other sectors of the economy, through the demand it creates for services ranging from IT to hospitality and retail.

As leading international financial centres, both Jersey and Guernsey have key roles to play in directing capital flows to fund the green transition globally. Both islands have therefore set out ambitious sustainable finance industry strategies and are members of the UN Financial Centres for Sustainability network. The majority of assets are managed, administered or sponsored by signatories to the [Principles of Responsible Investment](#).

The green transition is set to have a major impact on the financial services industry in the Channel Islands. Key developments include:

- Investor and asset owner pressure is increasingly driving action on net zero portfolio transition and other ESG factors through the supply chain
- Changing regulatory expectations, both locally and in other jurisdictions such as the EU and UK, are driving increased disclosure requirements for climate risk management and wider environmental and social impacts arising from investment portfolios

- The ability to attract assets to the islands and compete for service provider contracts increasingly requires local entities to have a clear ESG strategy
- For the front-runners in the industry there are opportunities to secure new mandates, and develop new ESG-orientated products and services
- There is a clear intersection with digital transformation, with several companies building and offering new ESG technology solutions for the industry, and growing sustainable finance innovation clusters on the islands.

From an employment perspective, we're already seeing increased demand for new roles both as corporate sustainability managers and for specialist ESG strategy, investment, data integration, measurement and assurance expertise. But the far greater impact will be how the green transition reshapes the priorities, performance criteria and ways of working within the wider existing workforce. We expect to see significant greening of job roles throughout the sector, hand in hand with the shift in jobs roles we're already seeing as a result of technology automation. Sustainability considerations will increasingly be built into functions such as client onboarding, governance, risk management, valuations, accounting and reporting throughout the industry.

Pillar 4: Carbon intensity of employment

A key goal for the green transition is decoupling employment and economic prosperity from carbon emissions. Pillar 4 of the Green Jobs Barometer provides key insights into the starting points by comparing carbon dioxide emissions per employee across different sectors.

Emissions matter for employment, irrespective of whether jobs are classified as 'green' or not. In addition, the more carbon intensive a job is, the more it's at risk of being lost as a result of the green transition.

If we want to decarbonise employment, it therefore makes sense to focus on sectors with the highest direct emissions (unsurprisingly energy, transport and construction). It also means all businesses need to play their part in tackling operational emissions from energy use on premises and movement of goods and people.

However, direct emissions are only one part of the story. For example, a fund manager has very limited direct emissions. But it still has significant indirect emissions generated by the companies in its investment portfolio and the companies that supply them (Scope 3 emissions).

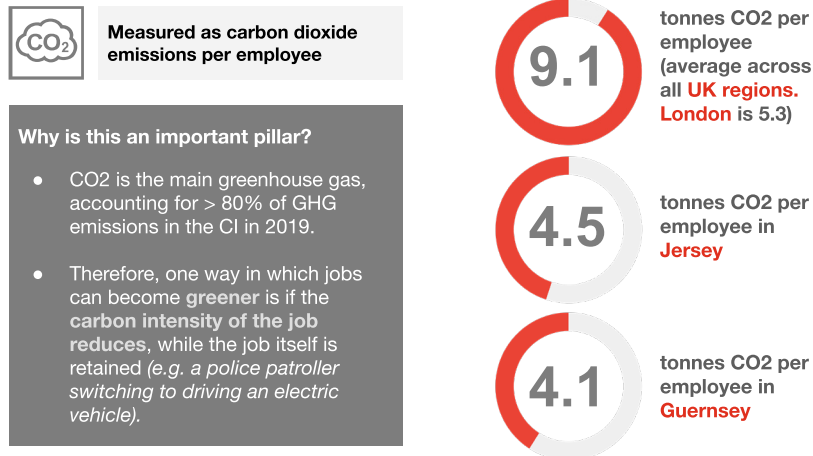
How do we compare with other regions?

The Channel Islands have a head start because of the relatively low carbon emissions energy supplies coming from France. Emissions per employee are therefore less than half of the UK as a whole. But they're only just below London. In this respect, London benefits from high levels of public transport. London's population density also reduces its carbon intensity in areas such as energy efficiency. Nonetheless, the comparison with London is relevant when competing for financial services business and investment following the City of London's pledge to move to net zero.

“Our mission is to provide simple, sustainable and affordable travel for all through our shared mobility platform. We are committed to playing our part in creating a carbon-neutral economy and community on the islands.”

– **Jamie Kelly, CEO, EVie, Jersey**

Exhibit 9 | Carbon intensity of employment



Source: PwC Green Jobs Barometer Research UK 2021 and PwC Channel Islands Green Jobs Barometer 2022

Sectors compared

Along with the average, we looked at the relative carbon intensity of employment in different sectors. However, it's important to look at emissions per employee alongside aggregate emissions within the sector.

Exhibit 10 | Five most carbon intensive sectors per employee in the Channel Islands

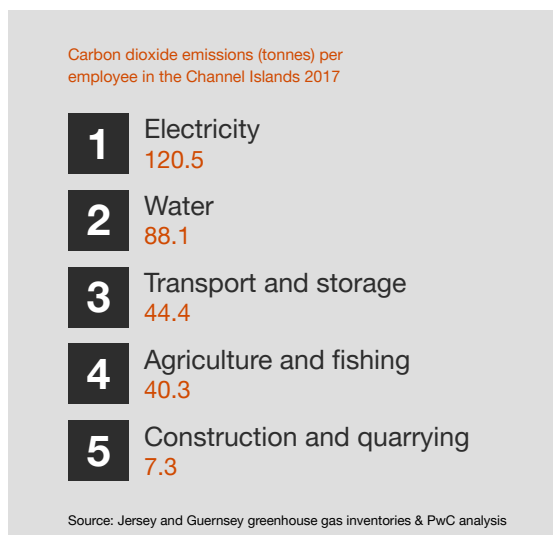
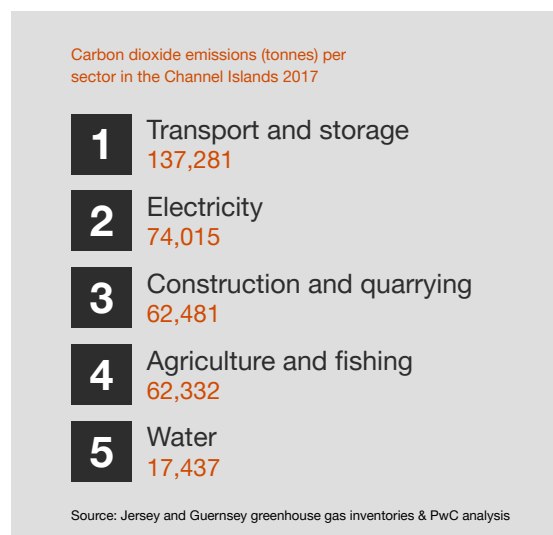


Exhibit 11 | Five most carbon intensive sectors in the Channel Islands



Sector spotlight: Transport
The drive for cleaner air

Freight and passenger transport are the largest source of carbon emissions in the Channel Islands overall.

The carbon intensity of transport stems from the continued dominance of petrol and diesel vehicles. A just transition means that businesses and workers need fair and affordable access to alternatives. But a growing number of fleets are switching to cleaner electric engines. The job switch/job creation opportunities include charging point infrastructure and electric vehicle maintenance and repair.

Opportunities will need to be created in further improving cycle and pedestrian infrastructure, and in the provision of enhanced public transport alternatives for commuters. Further opportunities are opening up in areas ranging from mobility-as-a-service businesses to e-bikes for cargo.

Further emissions cuts could come from more efficient logistics systems – reducing the number of hours travelling with empty loads, for example. This would create opportunities in IT and software development and application.

Pillar 5: Green workplaces

Pillar 5 of the Green Jobs Barometer gauges employee sentiment, based on a survey of workers undertaken by Island Global Research for this study. This includes how well their employers are helping their role and workplace to become green.

Many employees are concerned about the future of their jobs. Less than half believe that their current role will exist following the move to net zero. But they are willing to adapt and upskill to strengthen their employability. This underlines the importance of an early move to boost upskilling, pivot existing jobs and maximise opportunities for job creation.

What also comes through strongly is the extent to which workers believe that their jobs are set to become increasingly 'green', with the resulting

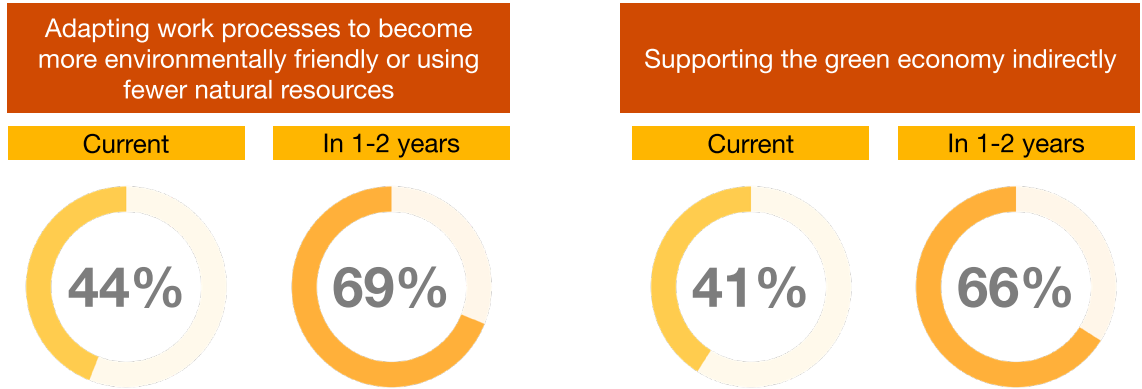
need for adaptation of roles and change within the workplace. For now, only 5% self-identify as having a 'green job' when asked if improving the environment was the main objective of their role. However, when asked about improving the environment as one of a number of objectives of their job, this proportion increases dramatically – to 30%.

This is reinforced by the fact that more than two-thirds of workers in our survey (69%) believe that work processes will need to adapt to make them more environmentally friendly over the next 1-2 years. A similar proportion (66%) believe that their work objectives will include supporting the green economy indirectly.

“Knowledge and skills to prosper in the face of the climate challenge are in short supply. New green jobs alone cannot solve the problem. Just as we all need to understand how to act in the face of cyber threats, so we also all need some understanding of the implications of the transition to a low carbon economy”. – **Marc Laine, Founder, ESI Monitor Limited, Guernsey**

Exhibit 12 | Employee led green transition

Survey respondents indication of the extent to which they think the objective of their job role in the following areas will change over the next 1-2 years.



**Results indicate survey participants' sentiments and are not projections*

Source: PwC Green Jobs Barometer Research UK 2021

Workers want more support from employers

The problem is that most employees don't think that their employers are doing enough to prepare for the green transition. When asked about their workplaces, only 42% of respondents stated that they had received training, education, and/or communication in relation to green practices. The onus is therefore on employers to take more action.

Creating an environmentally friendly workplace

We asked the workers in our survey whether they think their activities are sustainable and how this might change over the next 1-2 years. From the responses, we calculate an environmentally friendly score out of ten. It's noticeable that both Jersey and Guernsey trail London and the UK as a whole. This further underlines the need for employers to move further and faster in promoting and facilitating green practices.

Exhibit 13 | How environmentally friendly do workers in the Channel Islands think their workplaces are



Measured as an index based on survey results from > 1000 Channel Islands workers

| Jersey | Guernsey | UK | London |
|--------|----------|--------|--------|
| 6.0/10 | 6.1/10 | 6.5/10 | 6.7/10 |

Source: PwC Green Jobs Barometer Research UK 2021



Sector spotlight: Professional, scientific and technical

The greenest workplaces

When we asked workers about the environmentally friendliness of their jobs across eight sustainability outcomes (waste, emissions, pollution, biodiversity harm, resource use, water use, recycling and energy consumption), professional, scientific and technical services sectors came out on top.

When asked about communications, education, and training on green practices, professional, scientific and technical services joined the IT, finance, and

insurance and public administration sectors in gaining high scores.

Employees working in professional services are the most likely to say that improving the environment is a primary objective of their job.

In a tight labour market, making the most of this sustainability potential can provide a valuable boost to recruitment and retention.

The way forward

The clear takeaway from the Green Jobs Barometer is that the Channel Islands need to move further and faster to make the most of the opportunities and manage the risks of green transition.

From understanding the impact on organisations to proactively developing the necessary skills and capitalising on the opportunities, now is the time to turn purpose and ambition into action. If we don't, we won't have the time to respond effectively and could therefore lose out to the economies we compete with for business and investment. Taking action now will also enable businesses to stay ahead of the rapidly developing regulatory agenda in this area.

How governments can make a difference

- Lead by example
- Improve labour market insights and monitoring of green jobs
- Factor carbon intensity of employment into decision making about the future economy
- Foster a business environment that supports green sectors and harnesses green job creation
- Create incentives (or regulations) for greener workplaces
- Promote greener ways of working and commuting
- Drive skills initiatives to develop green skills within both the existing and future workforce.

How businesses and industry bodies can make a difference

- Move now to green your business before mandatory requirements come into effect
- Develop a clear green strategy and communicate this to stakeholders and employees
- Accelerate training and incentives for greener ways of working (and travelling)
- Take a strategic view on how different services, jobs and skills will need to pivot in the green economy, and what this means for your operational business model
- Create career pathways towards green jobs and roles
- Deliver training to staff to support business change and adopt new greener ways of working.



Medium to high skilled occupations

Analytics

To interpret change and the measures required

Project management

To coordinate economic, social and ecological objectives

Innovation

To respond to green challenges

Marketing

To promote green products and services

Consulting mindset

To advise on green solutions and green technology

The right incentives

To secure workforce buy-in and drive change

Across all jobs

Environmental awareness

Willingness to learn about sustainable development

Project management

To apply the new technology and processes needed to 'green' their jobs

Innovation

To tackle organisation-wide environmental footprint

Resilience

To promote green products and services

Communication

To advise on green solutions and green technology

Entrepreneurship

To secure workforce buy-in and drive change

Next steps

Thank you for showing an interest in the report and we hope you found the analysis useful. We will be keeping a close watch on developments and updating the findings in a future series of blogs. We will also be focusing closely on our own green transition here at PwC and the implications for job design, skills and organisation.

If you would like to discuss any of the issues in this report or find out how we can help your organisation harness the opportunities and manage the risks associated with the green transition, please get in touch.

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Methodology

Pillar 1 - Current green jobs:

Job advertisement data

One of the challenges for understanding the number of green jobs in the Channel Islands is a lack of data. Many sources cover a relatively narrow range of jobs, often those that are deemed to be low carbon or related to renewable energy. These sources tend not to include broader definitions of 'green' such as recycling and the protection of biodiversity. In order to overcome these limitations, we commissioned Geek Talent to analyse more than 39 000 unique job vacancies advertised for Jersey and Guernsey over 24 months, from June 2019 to July 2021. In Pillar 1, we report the "green intensity" of jobs in each sector as the total number of green job advertisements in the sector, divided by the total number of job advertisements in the sector. Geek Talent source data from job advert aggregators from which we calculate the proportion of jobs advertised that are 'green'. The first step in our analysis was to differentiate between 'Green' and 'Non-Green' jobs. We define green jobs as those in which a substantial share of the activities are performed to intentionally improve environmental outcomes (ie. 'green activities'). This definition serves as a basis for creating a green job typology, which informs the search strategy to identify these jobs. Using our green job typology as a framework for evaluation, we analysed a number of comparable studies and extracted an initial set of keywords/ skills with a high degree of green job association – a requisite for performing subsequent text analysis. The keywords/ skills captured from this stage were validated and refined against a random sample of job advertisements, leveraging our text analysis approach to identify both skill clusters associated with green jobs (which led us to additional inclusion words/word pairs), and words which yielded a high rate of false positives. The resulting output was a list of keywords/ skills which could be used to evaluate the corpus of Channel Islands jobs advertisements and retrieve adverts belonging to green jobs. Employing 'term frequency-inverse document frequency' (TF-IDF) to evaluate our keywords against job descriptions, we were able to statistically measure the relative importance of those words within any given description and rank those descriptions based on their score. The application of this approach was used iteratively. This enhanced the quality of the resulting data and resulted in a set of keywords/skills with an observable association with green jobs as we defined them. An example of such

quality controlling was in the identification of and controlling for words which could be best described as 'greenwashing' jobs that were not otherwise green – 'sustainability' and 'carbon' were two such words.

Pillar 2 - Multiplier:

For the purposes of this study, we evaluated the employment multipliers from the 2019 Jersey supply and use tables (SUT) and applied this proportionally to Guernsey. SUTs are a form of input-output model that gauge how much demand spending in one sector creates along the supply chain. We know from this data that some sectors spend relatively more of their total revenue on local goods and services than others. This means that spending in one sector can create many more jobs in the economy than the same amount of spending in another sector.

Respectively, Guernsey and Jersey proportionally assumed each regions overall multiplier by weighting the Jersey sectoral multipliers based on:

- The number of green jobs per sector in Guernsey as a percentage of total green jobs in Guernsey; and
- The number of green jobs per sector in Jersey as a percentage of total green jobs in Jersey
- To calculate the total number of induced jobs per sector per island, we count the number of green jobs derived per sector in Pillar 1.

Pillar 3 - Sunset jobs:

Our analysis builds on a methodology implemented by PwC UK, which was developed by the International Labour Organisation (ILO). The ILO developed a multi-regional input-output model (EXIOBASE v3) to analyse 163 sectors across 44 countries. Using this model, the ILO quantified the employment impact (job creation and job destruction) of the transition to an 'energy sustainability' scenario (associated with global warming of 2°C) compared to a 'do nothing' scenario (associated with global warming of 6°C). The ILO takes sector-level results and applies the occupational structures for each sector to derive occupational-level results.

Using the ILO sector-level results for job destruction, we conducted a number of steps to generate the number of sunset jobs, which are detailed below:

First, we conducted a mapping of Exiobase to standard industrial classification (SIC) sectors. Since a correspondence table between Exiobase and UK SIC (2007) does not exist, this involves a number of sub-steps:

- Exiobase classifies sectors according to the statistical classification of economic activities in the European Community (NACE Rev. 1.1); and
- Using European Commission correspondence tables, we have mapped NACE Rev. 1.1 to NACE Rev. 2.55. NACE Rev. 2 and UK SIC (2007) are identical to a 4-digit level.

We selected a sample of broadly similar countries/islands. These countries include:

- Malta
- Lithuania
- Luxembourg
- Cyprus

Employment by each sector is calculated as a percentage of total employment for each of these countries respectively, using ILOSTAT data. These shares are averaged across the sample to proxy a 'sample' sector share. The 'sample' sector share calculated in the previous step is then applied to the total number of jobs as of 2017 (the base year used by the ILO) taken from the ILO report. This year gives us the total number of jobs per sector for our sample set of countries. ILO sector-level results for job destruction for the sample is used to get the percentage of jobs destroyed of total, per sector.

Pillar 4 - Carbon emission rating

The data used consisted of:

Carbon dioxide emissions on a sector basis for Jersey (2017),

Total carbon dioxide emissions for Guernsey (2017), and

Employment headcount per region and sector (Dec 2017)

As a result of the Guernsey data limitation, we assumed that sector emissions are apportioned based on the sector share of Jersey carbon dioxide emissions as calculated in the 2019 SUT case study. We've therefore extrapolated the Guernsey total emission data to Jersey sectoral emission data. Having

obtained carbon dioxide emissions on a regional and sectoral basis using this proxy, we divide by December 2017 employment data for each sector and region, giving a final output of carbon intensity of employment for each region, sector, and region-sector pair (Household and mother nature emissions have been excluded from all emission data as per 2019 SUT case study).

Pillar 5 - Green workplaces

In collaboration with Island Global Research, we have designed an online panel survey to gauge utilising employees' insights on their perceptions of their own jobs. We based the survey on a representative sample of 1,314 employees, of which 713 were used in the final analysis. Quotas for each sector and region are set using data from the Office for National Statistics (ONS) and UK Labour Force Survey (August 2021). A variety of screening questions were included to: 1) understand the demographics of the survey population; and 2) ensure that respondents are either employed full-time, part-time, or self-employed and have been in their role for at least 6 months.

We asked respondents the following questions:

1. To what extent do you consider your job 'environmentally friendly' across the following areas?
 - Amount of waste e.g. Use of limited packaging materials as part of my job
 - Amount of carbon emissions e.g. Driving an energy efficient vehicle as part of my job
 - Amount of pollution e.g. Using eco-friendly products as part of my job
 - Amount of biodiversity harm e.g. Using biodegradable bags as part of my job
 - Amount of resource use e.g. Adopting efficient manufacturing processes as part of my job
 - Amount of water usage e.g. Minimising water usage as part of my job
 - Amount of water usage e.g. Minimising water usage as part of my job
 - Amount of recycling e.g. Using recycled inputs into production as part of my job
 - Amount of energy consumption e.g. Considering the supply chain impact as part of my job, or using renewable energy sources as part of my job

- Respondents could choose from the following options:
- Not at all environmentally friendly
- Not particularly environmentally friendly
- Neutral
- Somewhat environmentally friendly
- Very environmentally friendly
- Not applicable
- Don't know

2. Over the next 1-2 years, to what extent do you think the impact of your job on the above environmental areas could change?

- Respondents could choose from the following options:
- Potential significant worsening
- Potential moderate worsening
- No change
- Potential moderate improvement
- Potential significant improvement
- Not applicable
- Don't know

We created a combined 'score' for the above answers according to the responses – whereby a maximum score of 100 indicates that the respondents job is very environmentally friendly, and over the next 1-2 years there will be a significant improvement in environmental friendliness. Similarly a minimum score of 0 indicates that the respondents' job is not at all environmentally friendly, and over the next 1-2 years there will be a significant worsening in environmental friendliness.

The Pillar 5 scoring was supported by the following steps: methodology & data clean up:

Step 1 included the data cleaning of raw respondent data following a similar approach to the UK study whereas survey results were re-coded based on the PwC Research codebook from qualitative to quantitative data. Responses were disqualified if partially completed.

Step 2 calculated an index for green job responses. These questions were split across three elements:

1. Producing and providing environmentally friendly products or services;
2. Adapting work processes to become more

environmentally friendly or using fewer natural resources; and

3. Supporting the green economy indirectly.

For each of these three categories a total score was calculated based on an index-match drawing matrix of responses, which included another re-coding based on the combination of responses between different questions (e.g. to ensure that the current and potential greening responses have been taken into account to measure perspective changes). This score resulted as the overall barometer score which reflects the overall green-ness of jobs in each region. 0 denotes the worst performing region across every individual Pillar, and 100 the best.

Step 3 calculated an index for environmentally friendliness responses. These questions were split across eight variables:

1. Amount of waste
2. Amount of carbon emissions
3. Amount of pollution
4. Amount of biodiversity harm
5. Amount of resource use
6. Amount of water usage
7. Amount of recycling
8. Amount of energy consumption

A similar approach as per step 1 was followed to calculate the overall score for each of these categories as well as the total environmental friendliness score for each region. 0 denotes that respondents' jobs are not at all environmentally friendly currently and/or over the next 1-2 years there will be a significantly worsening in environmental friendliness; 5 has a neutral impact on the environment; and 10 denotes respondents' jobs are very environmentally friendly and/or over the next 1-2 years there will be a significant improvement in environmental friendliness.

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