

Understanding the Green Transition

Supply and Demand Dynamics

Key Takeaways

- The global demand for green talent has surged, with a 5.9% average annual increase between 2021 and 2024. Notably, United Kingdom (13%), Ireland (12.4%), Saudi Arabia (11.7%), Norway (11.6%), and Switzerland (11.5%) lead with the highest demand for green talent. Portugal (+71.3%), the United Kingdom (+46%), Costa Rica (+40%), Singapore (+27.1%), and Luxembourg (+27%) have shown the most robust growth rates from 2023 to 2024.
- Demand growth is not uniform globally. Finland (-43.8%), Peru (-21.2%), the Netherlands (-20.1%), Belgium (-18.6%) and Greece (-17.7%) have experienced declines in demand for green talent between 2023 and 2024. Conversely, countries like Colombia (+34.6% CAGR), Portugal (+26.4% CAGR), the United Kingdom (+19.6% CAGR) have seen the most substantial increases over the 2021-2024 period.
- While the supply of green talent has also grown, it lags demand. The global supply saw a 5.6% increase from 2023 to 2024 and a 3.2% annual growth from 2021 to 2024. Countries with the highest green talent concentrations include Switzerland (21.8%), Austria (21.4%), Finland (20.7%), Germany (20.7%), and Luxembourg (19.7%). However, countries like Portugal, the UK, Costa Rica, Luxembourg, and Singapore face significant gaps in demand versus supply growth.
- There is a growing gap between green talent demand and supply, projected to reach 18.7% by 2030 and 101.5% by 2050 if current trends continue, respectively. To close this gap, we must at least double the current projected green talent supply by 2050, necessitating global investment in green skills and education.

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Preliminaries

For the last two years, we have been publishing the Global Green Skills Report¹ to provide insight into the trends shaping the green transition based on the activity of over a billion members in 200 countries and regions around the world. When we started in 2022, our taxonomist [Janice Tsai](#) had curated just over 600 green skills across 12 categories of economic activities contributing to the green transition ranging from Pollution Prevention to Environmental Finance. Using these skills, the skills genome² of various occupations, and human curation, we classified occupations into 3 groups in relation to the green transition:

Occupation Category	What does it mean?
Green	An occupation that cannot be performed without extensive knowledge of green skills. Skills are used as a signal for whether the greening of the economy is the main/primary focus of the occupation, in any sector where the occupation may exist. Based on our skills genome data, 'Green' jobs have the highest green skills intensity i.e. green skills form the highest share of the skills genome of these occupations compared to the rest. The high green skills intensity captures the fact that green knowledge needs to be extensive.
Greening	The main distinction between 'greening' and 'greening potential' comes from the level of green skills intensity typically encountered in the occupation representative, with greening occupation representatives typically having a higher green skills intensity than greening potential ones.
Non-green	These occupations do not have any green skills appearing in their skills genome.

These occupations, together with the list of skills help us identify members who we consider green talent; job postings that are signaling demand for green talent; fast growing green jobs based on supply and demand trends, and much more.

¹ [LinkedIn Global Green Skills Report 2023](#)

² [How we mapped the "skills genome" of emerging jobs, LinkedIn 2019](#)

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Term	Definition
Green Talent	A member with a green skill or with a green/greening occupation ³ in their current position.
Green Job	A job posting requiring a green skill or for a green/greening occupation.

As we prepare to report on the latest trends in the green transition in 2024, we are now using nearly 1200 green skills, and our list of green occupations, to measure the demand and supply for green talent. The list of skills, like the green transition, is dynamic being continually updated to reflect the latest in sustainability promoting activities. Therefore, these measurements are best thought of as floor or conservative estimates of trends in the green transition. With all this in mind, let us look at how the supply and demand for green talent has been evolving starting in 2021 through 2024.

Green Talent Demand is on the rise

Around the world, the demand for green talent has been growing rapidly. Job postings data from the Economic Graph shows that there has been a 5.9% average annual increase⁴ in the demand for green talent⁵ between 2021 and 2024.⁶ In 2021, 6.8% of job postings on LinkedIn were for a green job or required green skills. The share of these jobs has increased to 7.5% in 2024. Just in the last year alone there was an 11.6% increase in the demand for green talent.

The demand for green talent is fierce across most countries. As of July 2024, the demand for green talent highest in United Kingdom (13%), Ireland (12.4%), Saudi Arabia (11.7%), Norway (11.6%), and Switzerland (11.5%). Comparing 2023 and 2024, demand has grown fastest in Portugal (+71.3%), the United Kingdom (+46%), Costa Rica (+40%), Singapore (+27.1%), and Luxembourg (+27%).

³ Note that we use the term occupation and job title interchangeably.

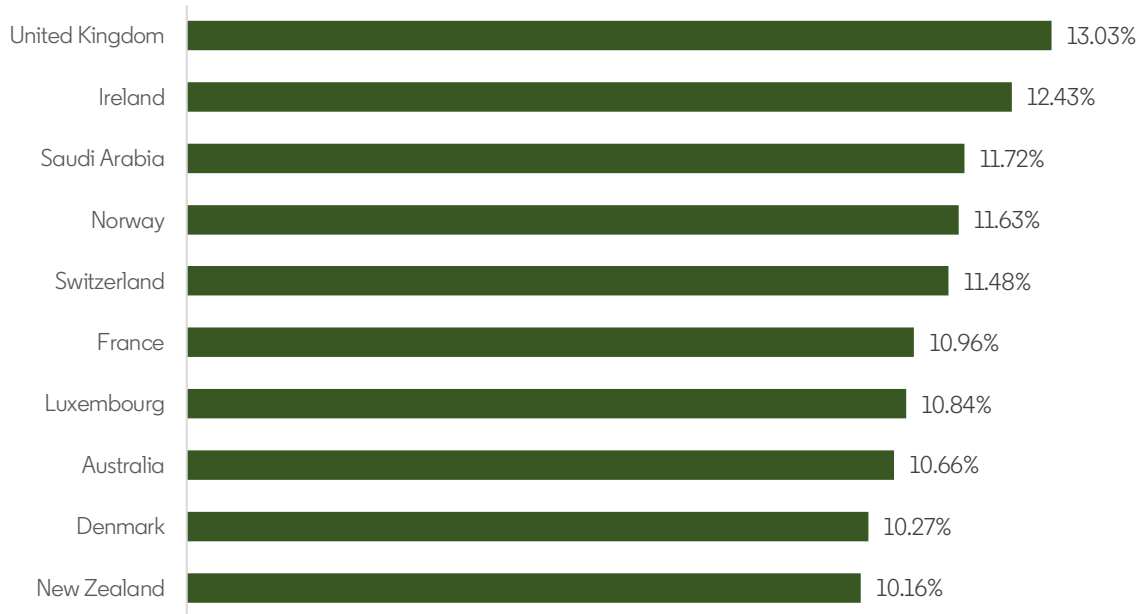
⁴ The average annual increase is measured using the Compounded Annual Growth Rate (CAGR) between 2021 and 2024.

⁵ The demand for green talent is measured by the share of job postings for a Green/Greening title or requiring one or more green skills.

⁶ Global metrics are based on the median value for the 43 countries included in our research. Please refer to the methodology section for the complete list of countries.

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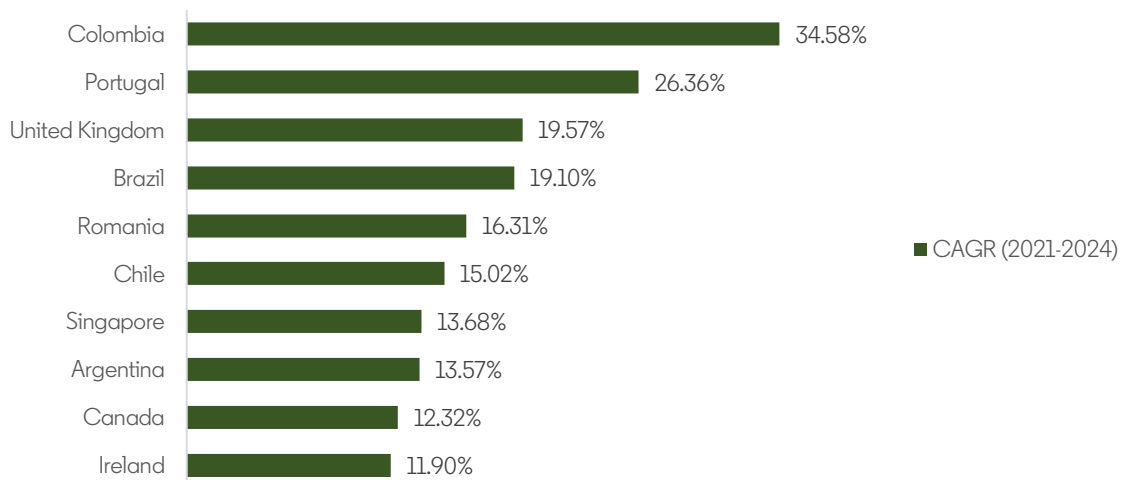
Demand for Green Talent (top 10 countries by % of job postings, 2024)



Source: LinkedIn Economic Graph

Between 2021 and 2024, the demand for green talent has increased the most in Colombia (+34.6% CAGR), Portugal (+26.4% CAGR), the United Kingdom (+19.6% CAGR), Brazil (+19.1% CAGR) and Romania (16.3%).

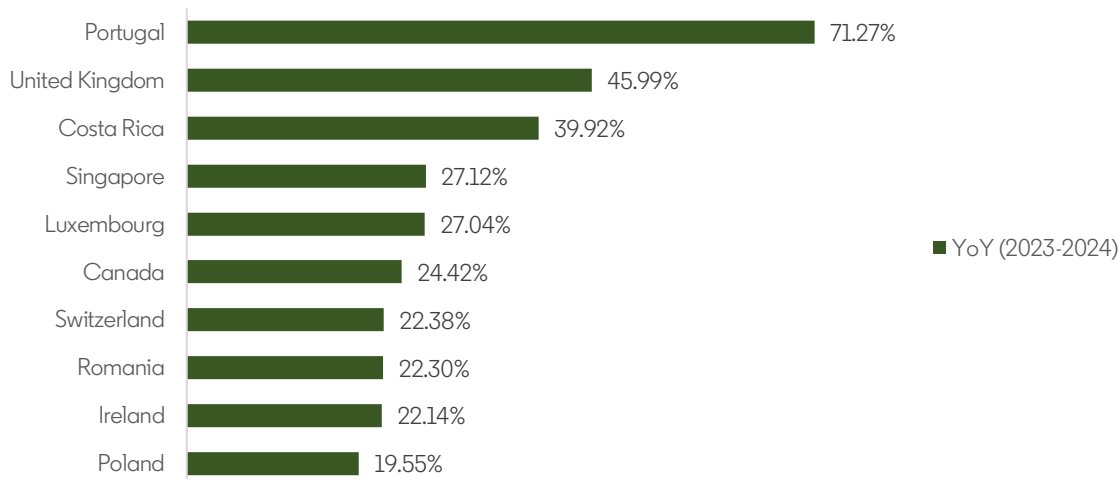
Growth in Demand for Green Talent (top 10 countries by change in % of job postings, 2021-2024)



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Source: LinkedIn Economic Graph

Growth in Demand for Green Talent (top 10 countries by change in % of job postings, 2023-2024)

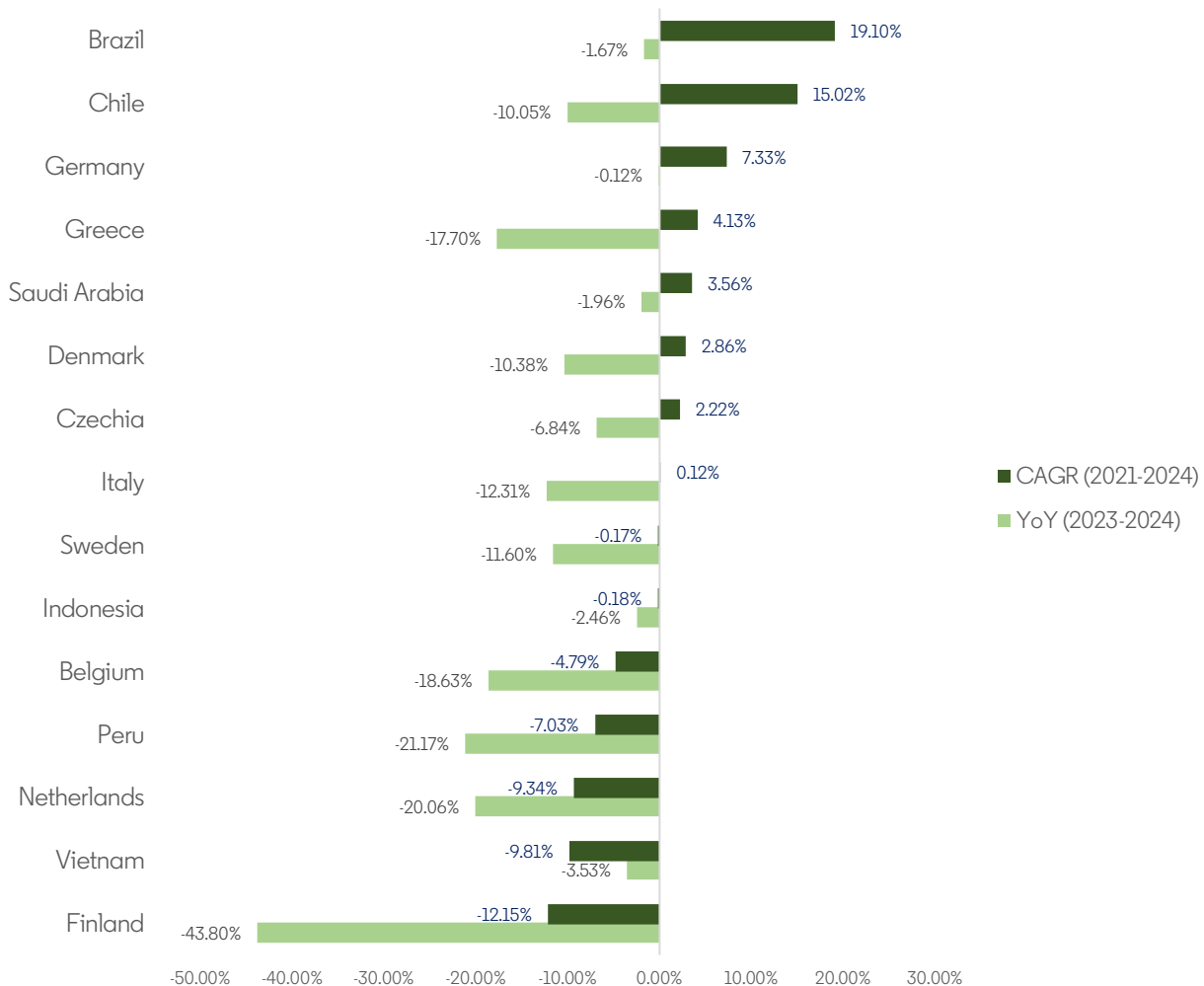


Source: LinkedIn Economic Graph

However, the picture is not uniformly bright when it comes to demand with Finland (-43.8%), Peru (-21.2%), the Netherlands (-20.1%), Belgium (-18.6%) and Greece (-17.7%) all experiencing year over year declines in the share of job postings for green talent. In fact, there were year over year declines in the demand for green talent in 15 of 43 countries that we studied. However, we expect these to be temporary headwinds since, for most of these countries, there has been an increase in demand compared to 2021.

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Countries with Year over Year decreases in Green Talent Demand



Source: LinkedIn Economic Graph

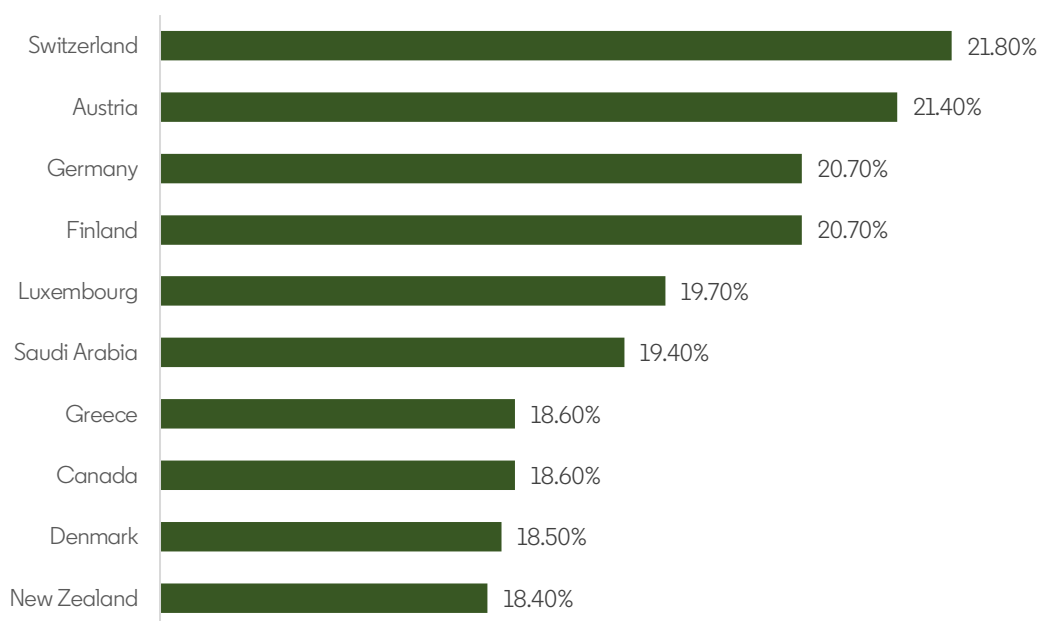
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Comparatively modest gains in Green Talent Supply

The supply of green talent, as measured by the share of members with at least one green skill or a green/greening occupation, has increased as well. Globally, there has been a 5.6% increase in the supply of green talent from 2023 to 2024; and an average annual increase of 3.2% from 2021 to 2024.

Switzerland (21.8%), Austria (21.4%), Finland (20.7%), Germany (20.7%), and Luxembourg (19.7%) have the highest concentration of green talent.

Green Talent Supply (top 10 countries by % of green talent, 2024)

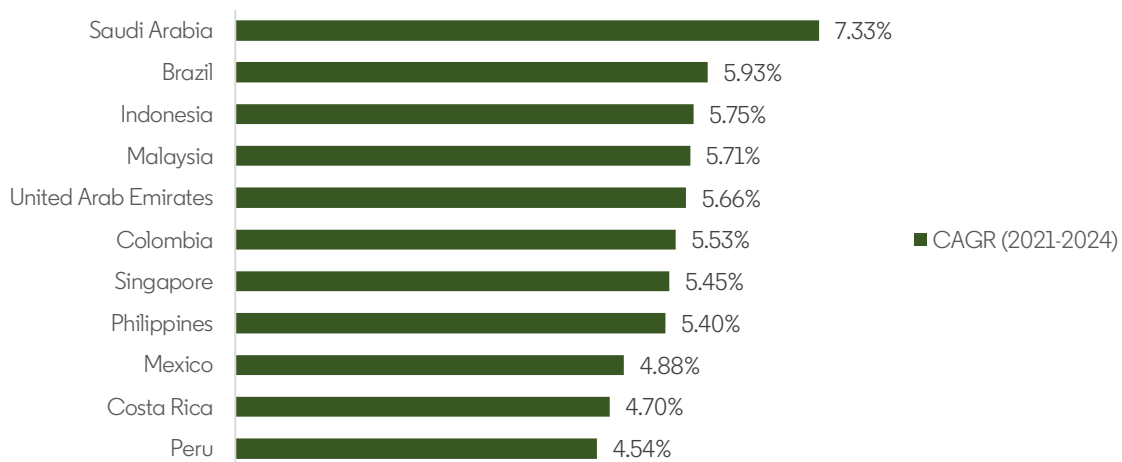


Source: LinkedIn Economic Graph

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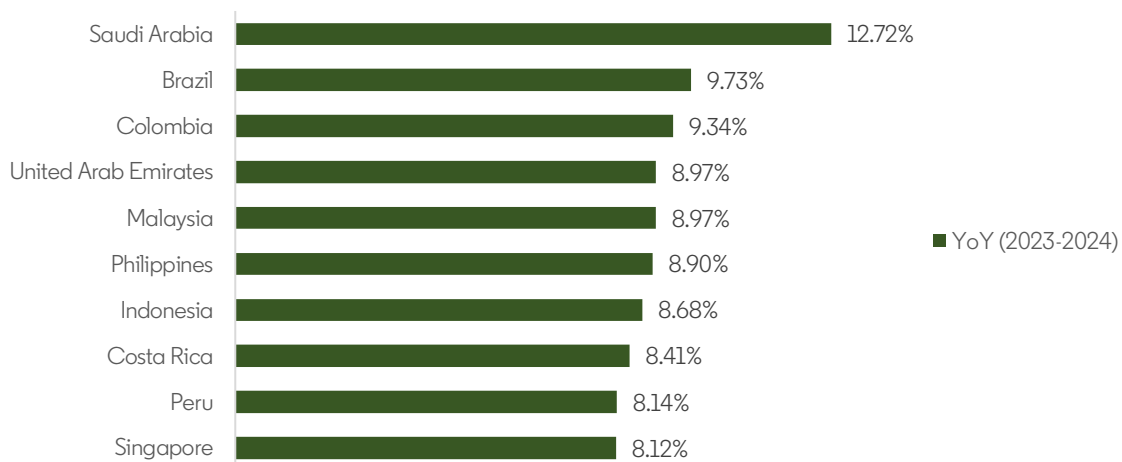
Between 2023 and 2024, the share of green talent has increased the fastest in Saudi Arabia (+12.7%), Brazil (9.7%), Colombia (+9.3%), the United Arab Emirates (+8.9%), and Malaysia (8.9%). Looking at the period from 2021 to 2024, Saudi Arabia (+7.3%), Brazil (5.9%), Indonesia (5.7%), Malaysia and the United Arab Emirates have accrued the highest gains in green talent supply.

Growth in Green Talent Concentration (top 10 countries by change in % of green talent, 2021-2024)



Source: LinkedIn Economic Graph

Growth in Green Talent Concentration (top 10 countries by change in % of green talent, 2023-2024)



Source: LinkedIn Economic Graph

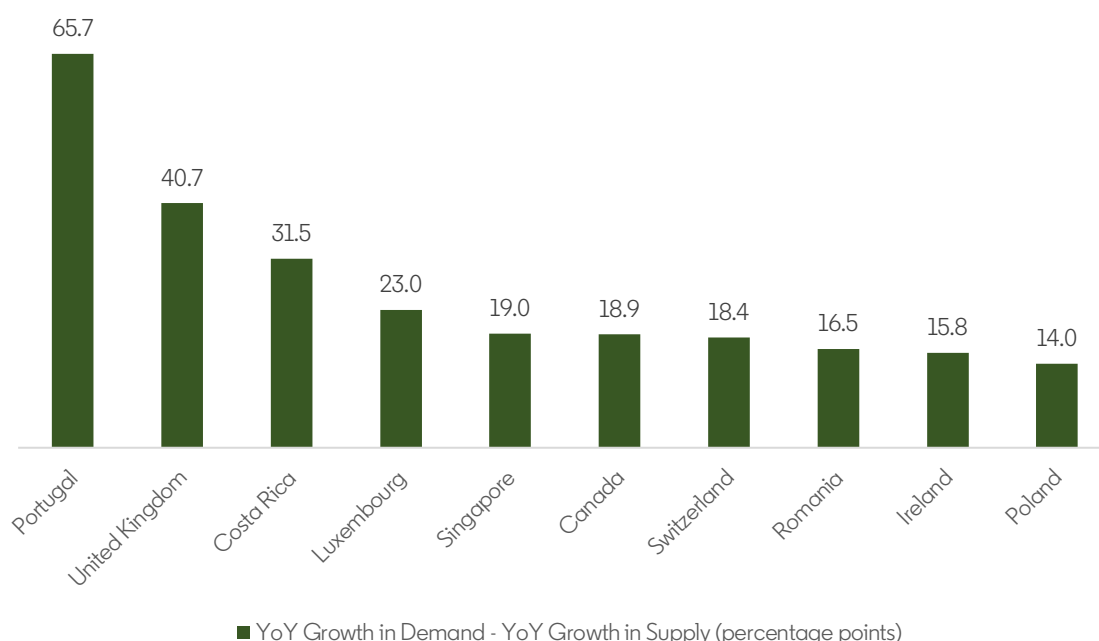
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Can Green Talent Supply keep pace?

While green talent supply has been increasing in all 43 countries, it remains to be seen whether the growth in supply can match that in demand. As of 2024, the median growth in demand for green talent (+11.6%) is twice the growth in supply (+5.6%) in year over year terms. Comparing annualized growth in demand and supply over the 2021-2024 period shows us a less stark gap with demand having increased by 5.9% compared to a 3.2% increase in the supply of green talent.

A look at the country level data from the Economic Graph shows us where the gaps in demand and supply growth are the largest. Comparing year over year growth, the gap between the growth in demand and supply is largest in in Portugal, the United Kingdom, Costa Rica, Luxembourg, and Singapore. In each of these countries, demand is growing much faster than supply which could be a concern for the pace of the green transition.

Top 10 countries with the biggest gap in Green Talent Demand vs. Supply growth from 2023 to 2024



Source: LinkedIn Economic Graph

This is not a concern unique to these countries alone. In fact, the growth in demand from 2023 to 2024 is higher than the growth in supply over the same period in 25 of the 43 countries included in our research. If we broaden our scope to consider growth for both supply and demand from 2021 to 2024, we see that there is a gap for 28 of the 43 countries. As we make investments in the green transition around the world, it is critical that we offer an increasing number of pathways into the green economy to address any talent shortage concerns.

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Looking at our Green Talent Needs for the Future

Since our supply (member profiles) and demand (job postings) data come from different sources, comparing exact levels i.e. the share of members that are green talent vs. the share of job postings for green talent, to understand our current and future needs is not advisable. However, as we have done in the prior section, comparing the growth trajectories of the share of job postings for green talent and the supply of such members on our platform can help us understand the scope of the task that lies ahead. Further, as we covered in the preliminaries, our measurements are best conceived of as a conservative look at both the demand and supply of green talent. With these considerations in mind, we have compared the trajectories of green talent demand and supply on a global level (using median values) starting in 2021 where we set the indices for both these series to 1 to facilitate the comparison which assumes that these were in equilibrium at that time.

Based on the insights from the prior sections, we know that the share of green talent has increased by an annualized average of 3.2% whereas the demand for this talent has increased by 5.9%. Based on the growth over this time, the demand index is already 1.2% higher than the supply index as of 2024.

Comparing the Green Talent Supply and Demand Indices (2021-2024)

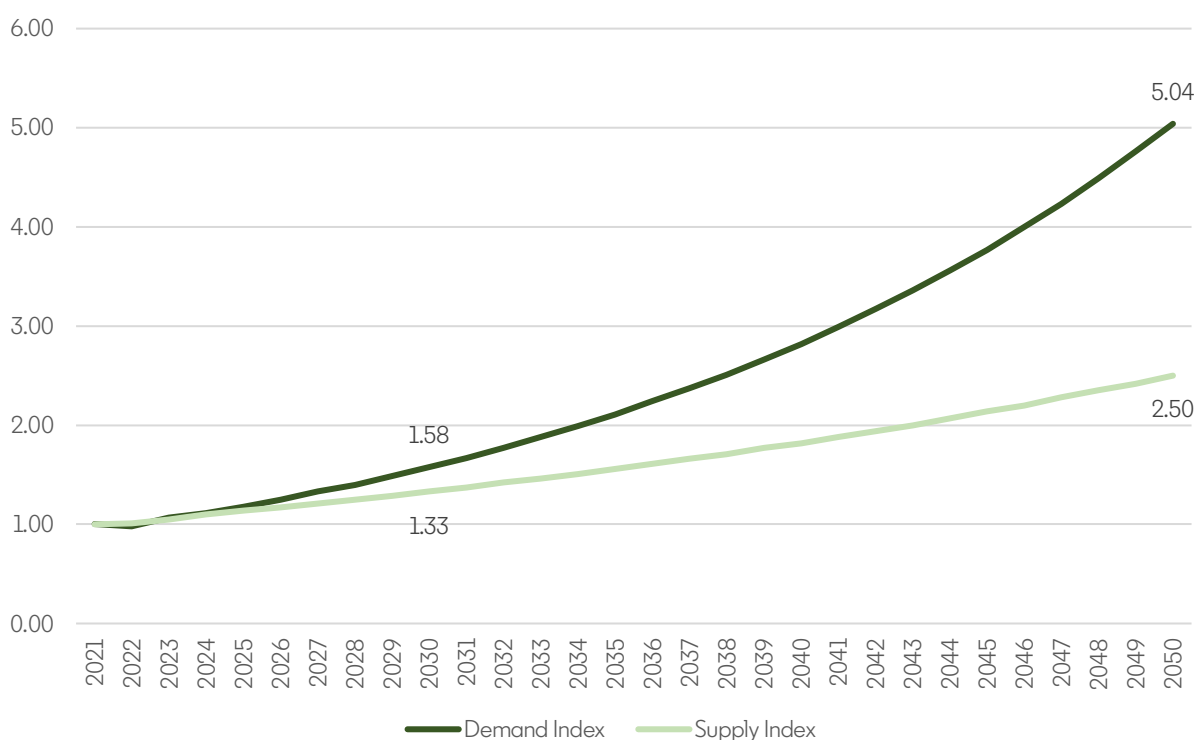


Source: LinkedIn Economic Graph

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Looking towards the future, in 2030, this gap will be 18.7%. By 2050, this gap will have ballooned to 101.5%, with the assumption that the current growth rate will hold constant. To close any such gap, we will need to at least double our green talent supply by 2050.

Comparing the Green Talent Supply and Demand Indices (2021-2050; projected values for 2025-2050)



Source: LinkedIn Economic Graph

Once again, it must be reiterated that since these are conservative estimates which will evolve as our taxonomy for green skills becomes more comprehensive. Further, as we move along in our green transition, we are sure to see an increase in demand either through existing jobs becoming greener or new green jobs emerging on the scene. To ensure we are prepared for the transition, and on track to limit global warming in line with the targets set via the Paris Agreement⁷, we should set our sights higher than our projected needs. Understanding the green transition, and our associated workforce and skill needs remains a top priority for us at the Economic Graph Research Institute. In the next editions of Understanding the Green Transition, we will look at the specific industries where green talent demand is rising or falling, as well as jobs where we may already have talent shortages. In the meantime, keep up to date with our green workforce publications [here](#).

⁷ [What is the Paris Agreement? UNFCCC](#)

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Methodology

- Our work represents the world seen through LinkedIn data, drawn from the anonymized and aggregated profile information of LinkedIn's 1 billion members around the world. As such, it is influenced by how members choose to use the platform, which can vary based on professional, social, and regional culture, as well as overall site availability and accessibility. In publishing these insights from LinkedIn's Economic Graph, we want to provide accurate statistics while ensuring our members' privacy. As a result, all data show aggregated information for the corresponding period following strict data quality thresholds that prevent disclosing any information about specific individuals.
- Skills are the main building blocks of the insights in this report. They are sourced from LinkedIn members (skills explicitly listed on member profiles, or inferred from other aspects of members' profiles, such as job titles, fields of study, etc.) or from job postings. Skill names are standardized by expert taxonomists into approximately 38,000 skills, categorized into 249 skill groups.
- Data in this report focuses on the following list of countries:

Argentina	Australia
Austria	Belgium
Brazil	Canada
Chile	Colombia
Costa Rica	Czechia
Denmark	Egypt
Finland	France
Germany	Greece
India	Indonesia
Ireland	Italy
Luxembourg	Malaysia
Mexico	Netherlands
New Zealand	Norway
Pakistan	Peru
Philippines	Poland
Portugal	Romania
Saudi Arabia	Singapore
South Africa	Spain
Sweden	Switzerland
Thailand	United Arab Emirates
United Kingdom	United States
Vietnam	

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- We use a curated list of ‘green’ skills throughout this work. This list is curated by our Green Taxonomist [Janice Tsai](#). The 12 main categories of skills used are as follows:
 - Pollution Prevention
 - Waste Prevention
 - Energy Management
 - Renewable Energy Generation
 - Environmental Remediation (incl. Waste Management, Water Quality Management, Environmental Restoration, Habitat Restoration, Urban Redevelopment)
 - Ecosystem Management (incl. Natural Resource Management, Erosion Control, Biodiversity Conservation, Water Resource Management, Climate Change Mitigation, Climate Change Adaptation)
 - Sustainability Education
 - Sustainability Research
 - Environmental Auditing (incl. Environmental Impact Assessment, Carbon Accounting)
 - Environmental Policy (incl. Energy Law, Environmental Law)
 - Sustainable Procurement
 - Environmental Finance
- Note that as the skills list evolves, we backfill our metrics for prior periods as well. This can result in changes in levels and growth estimates compared to previously released work. However, we will update the entire time series from 2021 onwards in every successive release to ensure continuity in reporting.
- Data from January to July for 2021, 2022, 2023, and 2024 are included in this work.