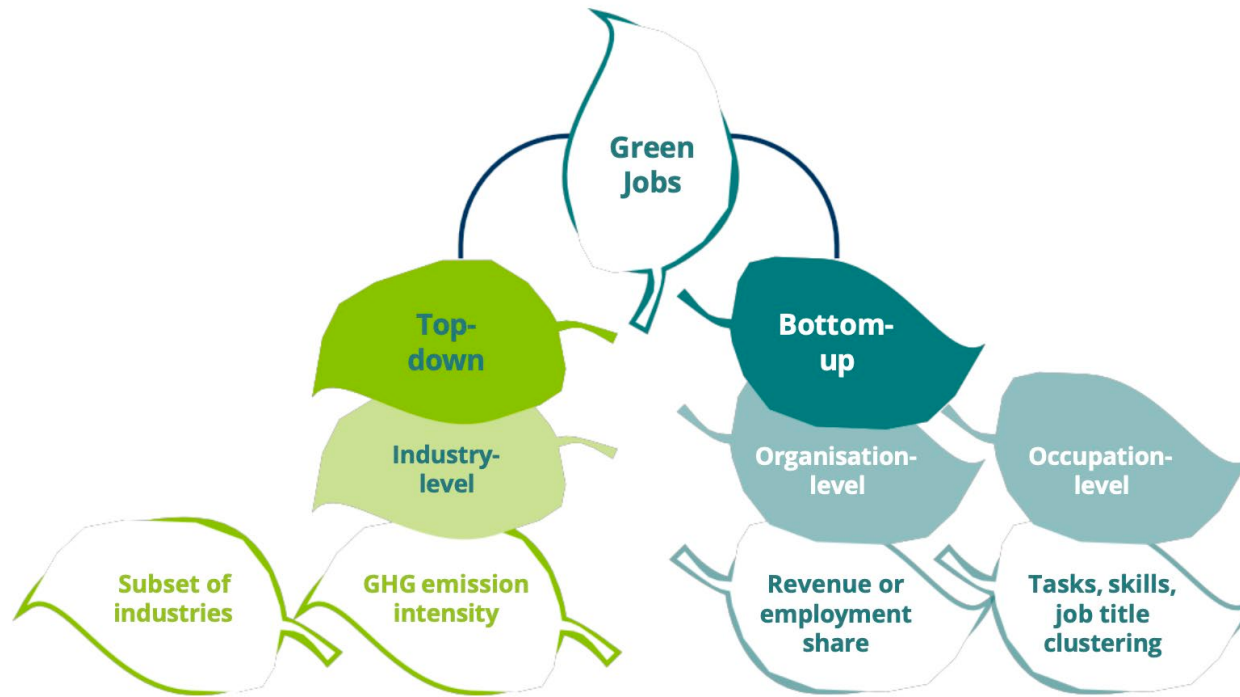


Green Jobs in the Republic of Ireland

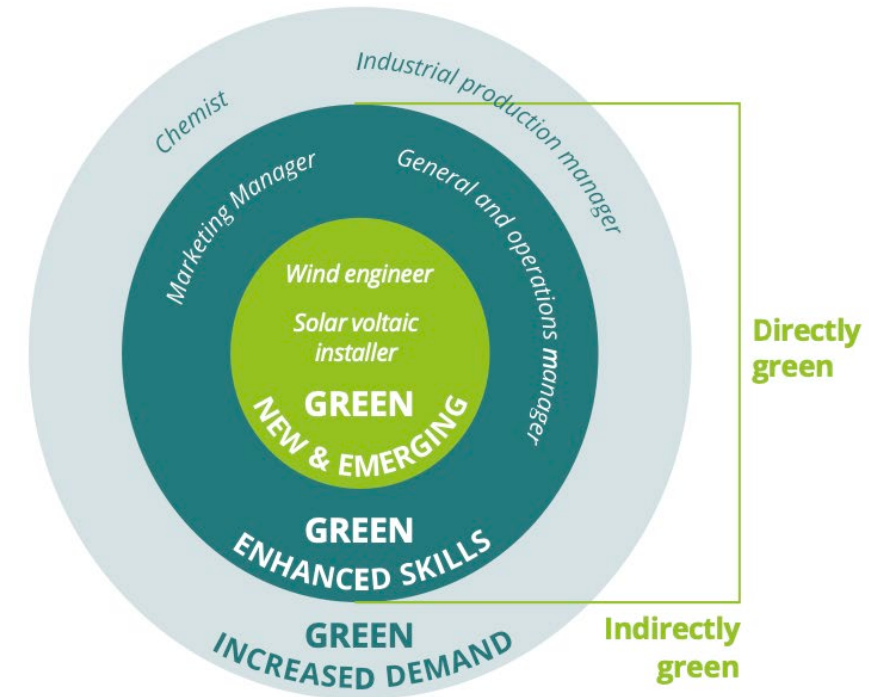
Part 1: Measuring “Green Jobs” in the Republic of Ireland

Niccolò De Vita & Seamus McCaul, NERI/UCD

(Re)Defining Green Work



Source: Valero, et. al., (2021). 'Are "green" jobs Good Jobs'



Source: Valero, et. al., (2021). 'Are "green" jobs Good Jobs':

Key Definitions:

“Green Increased Demand” – These are green jobs that are not subject to any significant change in their work/working environments but are now in increased demand due to the overall greening of the economy. (e.g. Chemical scientists, Electricians, Bus & Train Drivers).

“Green Enhanced Skills” – These are green jobs that *are* subject to work/working environments. This may be due to demand change also. The purpose of the role remains the same, but specific requirements such as skills, knowledge or credentials are altered. (e.g. Farmers, Engineers, and most construction trades).

“Green New and Emerging” – These are occupations that are created due to the fact that the economy as a whole is greening, causing the need for new, unique work/working environments. (E.g. Environmental Consultants, Energy Plant Operatives, Waste Management and Disposal occupations).

Environmental Goods and Services Sectors

Table 1: Percentage of Workers in the EGSS Occupations by Sector, 2020

Total EGSS Jobs	Total Jobs	EGSS Jobs	% of Roles
Agricultural (A)	90,600	3,754	4.14%
Manufacturing & Industry (B-F)	413,475	31,288	7.57%
Services (G-U)	1,529,975	7,279	0.48%
National Total	2,037,825	41,836	2.05%

Source: Eurostat 2022 (env_av_egss1)

- Narrowest definition of 'green jobs'
- Only counts jobs that are directly related with information, technology or materials that preserve or restore environmental quality
- Out of ~ 2 million jobs in Ireland, only slightly under 42,000 would count as 'green'

Emission-Intensity Method

Table 4: The Five Sectors With The Highest GHG Emissions (2021)

NACE Sector	GHG Emissions (Tonnes)	Proportion of Total
Agriculture, forestry and fishing (A)	22,098,251	41.2%
Transportation and storage (H)	9,854,346	18.4%
Electricity, gas, steam and air conditioning supply (D)	9,195,937	17.2%
Manufacturing (C)	7,679,507	14.3%
Water supply; sewerage, waste management and remediation activities (E)	1,762,116	3.3%
All Other	3,029,874	5.7%

Source: Air emissions accounts by NACE Rev. 2 activity (Eurostat, 2021)

Table 6: The Five Sectors With The Highest Emissions Per Job (2021)

NACE Sector	Emissions per Job
Electricity, gas, steam, and air conditioning supply (D)	696.71
Agriculture, forestry, and fishing (A)	206.08
Water supply; sewerage, waste management and remediation activities (F)	147.95
Transportation and storage (H)	96.91
Manufacturing (C)	27.41
Mining and Quarrying (B)	23.6

Source: National accounts employment data by industry (Eurostat, 2021), Air emissions accounts by NACE Rev. 2 activity (Eurostat, 2021)

Emission-Intensity Method

Table 5: The Five Sectors With The Lowest GHG Emissions (2021)

NACE Sector	GHG Emissions (Tonnes)
Real estate activities (L)	21,671
Financial and insurance activities (K)	53,921
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	120,900
Mining and quarrying (B)	121,308
Arts, entertainment and recreation (R)	122,877

Source: Air emissions accounts by NACE Rev. 2 activity (Eurostat, 2021)

Table 7 The Five Sectors With the Lowest Emissions Per Job (2021)

NACE Sector	Emissions per Job
Financial and insurance activities (K)	0.45
Information and communication (J)	0.99
Professional, scientific and technical activities (M)	1.04
Human health and social work activities (Q)	1.25
Education (P)	1.31

Source: National accounts employment data by industry (Eurostat, 2021), Air emissions accounts by NACE Rev. 2 activity (Eurostat, 2021)

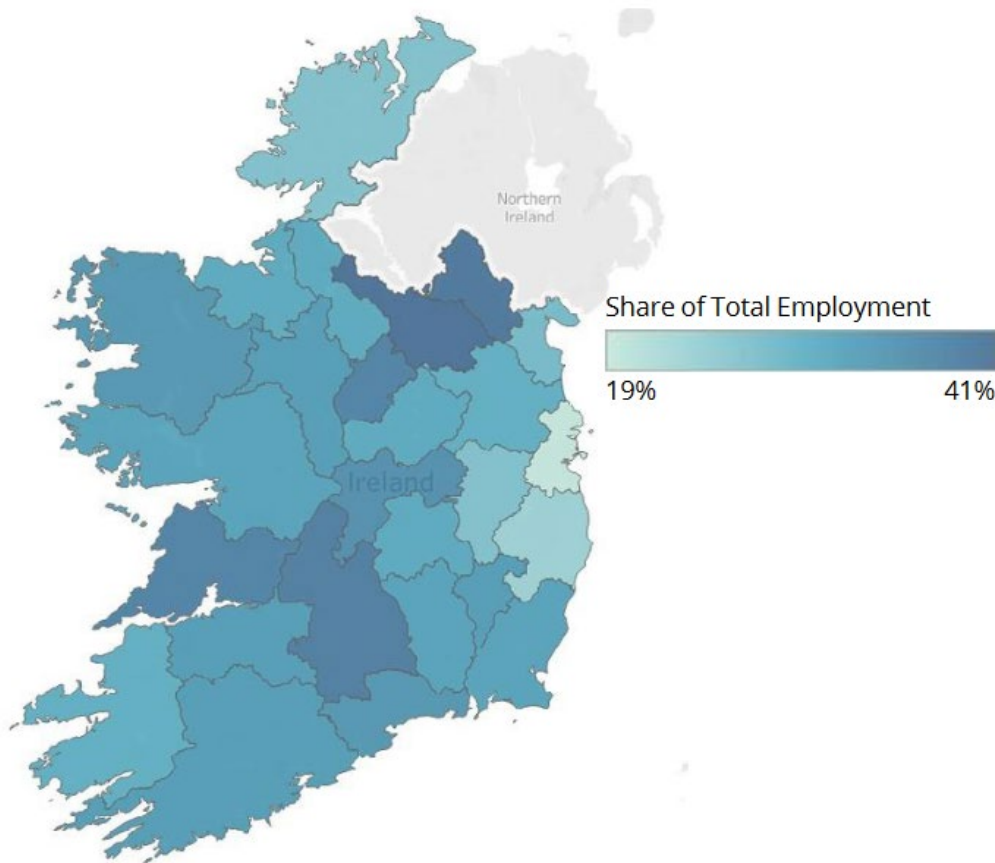
4 Digit O*NET Method

Table 8: Percentage of “green” jobs in the Irish Labour Market (2011-2022)

	2011		2016		2022	
Increased Demand	153590	8.6%	179018	9.0%	222331	9.7%
Enhanced Skills	253660	14.2%	274452	13.8%	304935	13.3%
New & Emerging	<u>60969</u>	3.4%	<u>75292</u>	3.8%	<u>102102</u>	4.4%
Total “green” jobs	468,219	26.1%	528,762	26.6%	629,368	27.4%
Other Job Market	<u>1,322,497</u>	73.9%	<u>1,460,050</u>	73.4%	<u>1,669,187</u>	72.6%
Total Labour Force	1,790,716		1,988,812		2,298,555	

Source: Labour Force Survey, Census (2022)

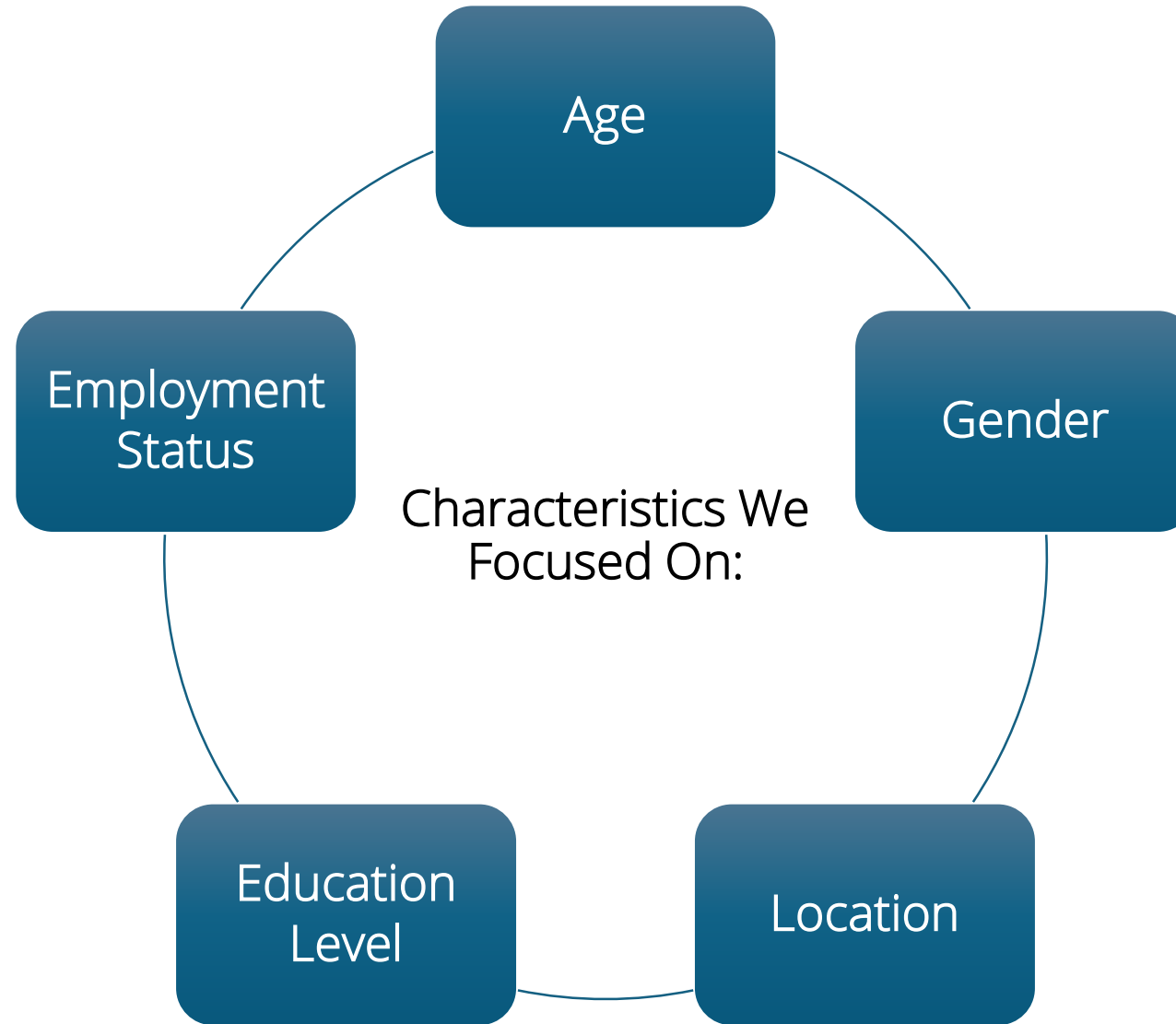
Geographical Spread of Emission Intensive Jobs



- Dublin has the lowest share of 'brown' jobs: 13% of employment is 'brown'
- More rural counties dominate due to high share of agricultural jobs: Cavan leads with 33% of employment being 'brown'
- By excluding agricultural employment, the share of 'brown' employment drops by up to 9%

Part 2: Characteristics of Workers in Green Jobs

NERI Report Series No. 30



Age

- Higher Age Profiles implies more difficulty in transitioning into these “green” occupations
- Farmers increase age of Enhanced Skills category

Table 1: Average, Upper And Lower Ages For Each Green Job Classification (2016)

Green Job Classification	Average	Upper	Lower
GNE	40.9	49.4	35.9
GID	41.1	51.3	34.4
GES	46	54.2	37.6
GES without Farmers	42.9	48.6	37.6

Source: Census 2016 (Central Statistics Office)

Note: Dataset code used: EB068

Gender

Table 4: Fifteen Occupations with the Highest Percentages of Women

Green Code	Occupational Title	Percentage of Women
GID	Biological scientists and biochemists	63.5%
GID	Customer service occupations n.e.c.	63.4%
GES	Public relations professionals	62.0%
GNE	Marketing associate professionals	59.5%
GID	Laboratory technicians	57.4%
GID	Communication operators	56.6%
GES	Vocational and industrial trainers and instructors	56.6%
GNE	Public services associate professionals	56.1%
GNE	Quality assurance and regulatory professionals	55.9%
GES	Buyers and procurement officers	52.9%
GID	Natural and social science professionals n.e.c.	52.5%
GID	Chemical scientists	50.7%
GNE	Conservation professionals	50.7%
GES	Routine inspectors and testers	49.9%
GNE	Research and development managers	48.9%

Source: Census 2016 (Central Statistics Office)

Note: Dataset code used: EB065

Location:

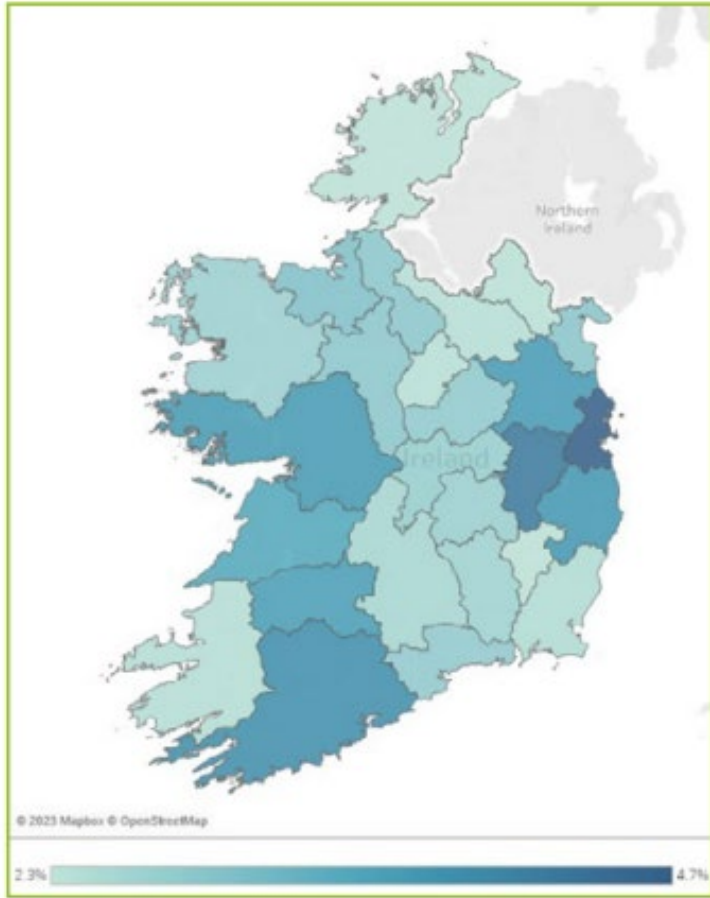


Figure 3.2 GNE occupations as a proportion of the total labour force

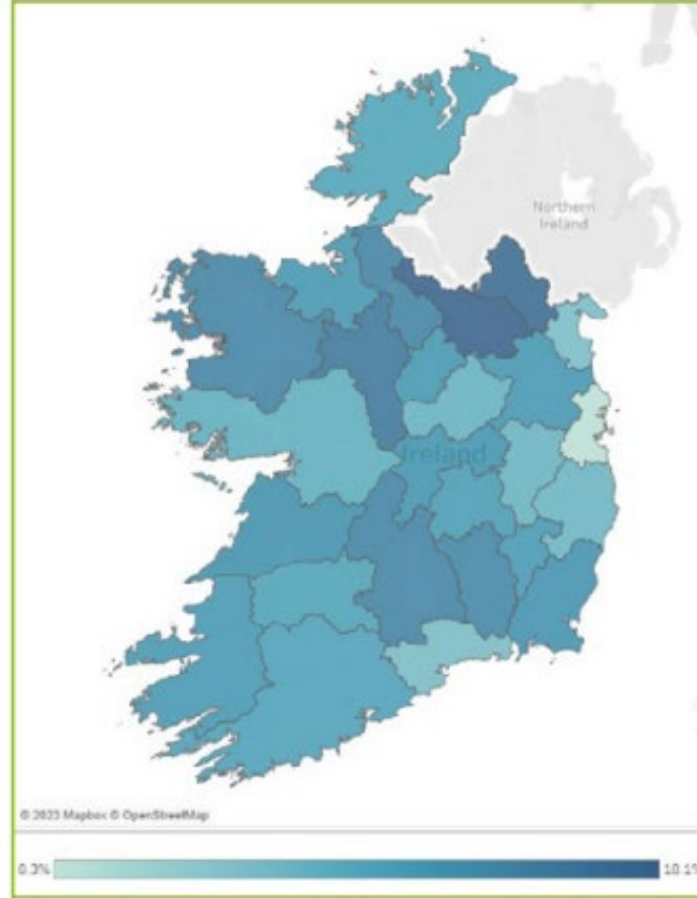


Figure 3.1 GES occupations as a proportion of the total labour force

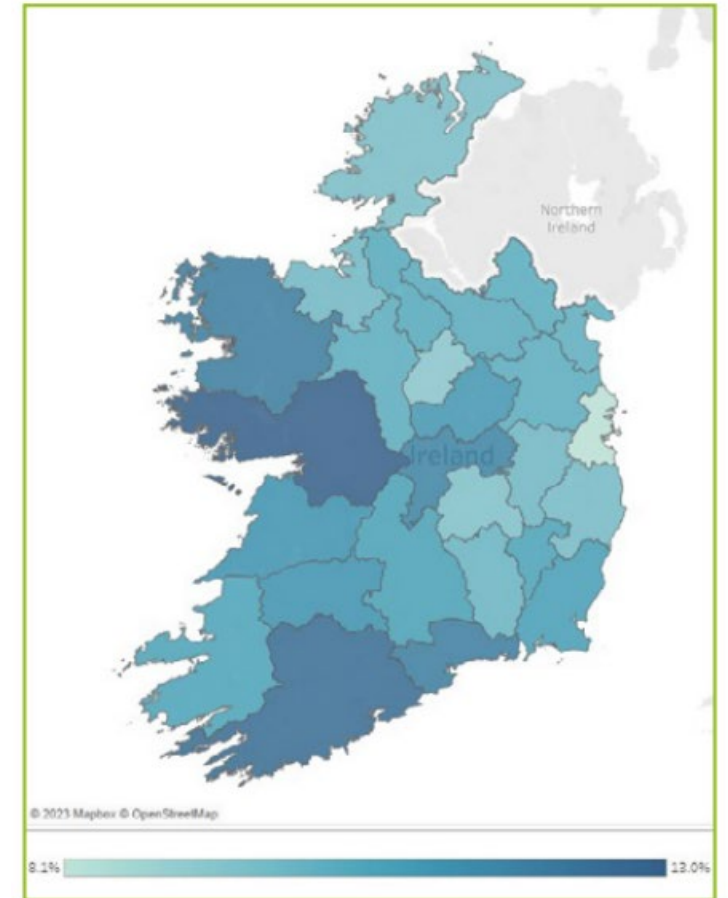
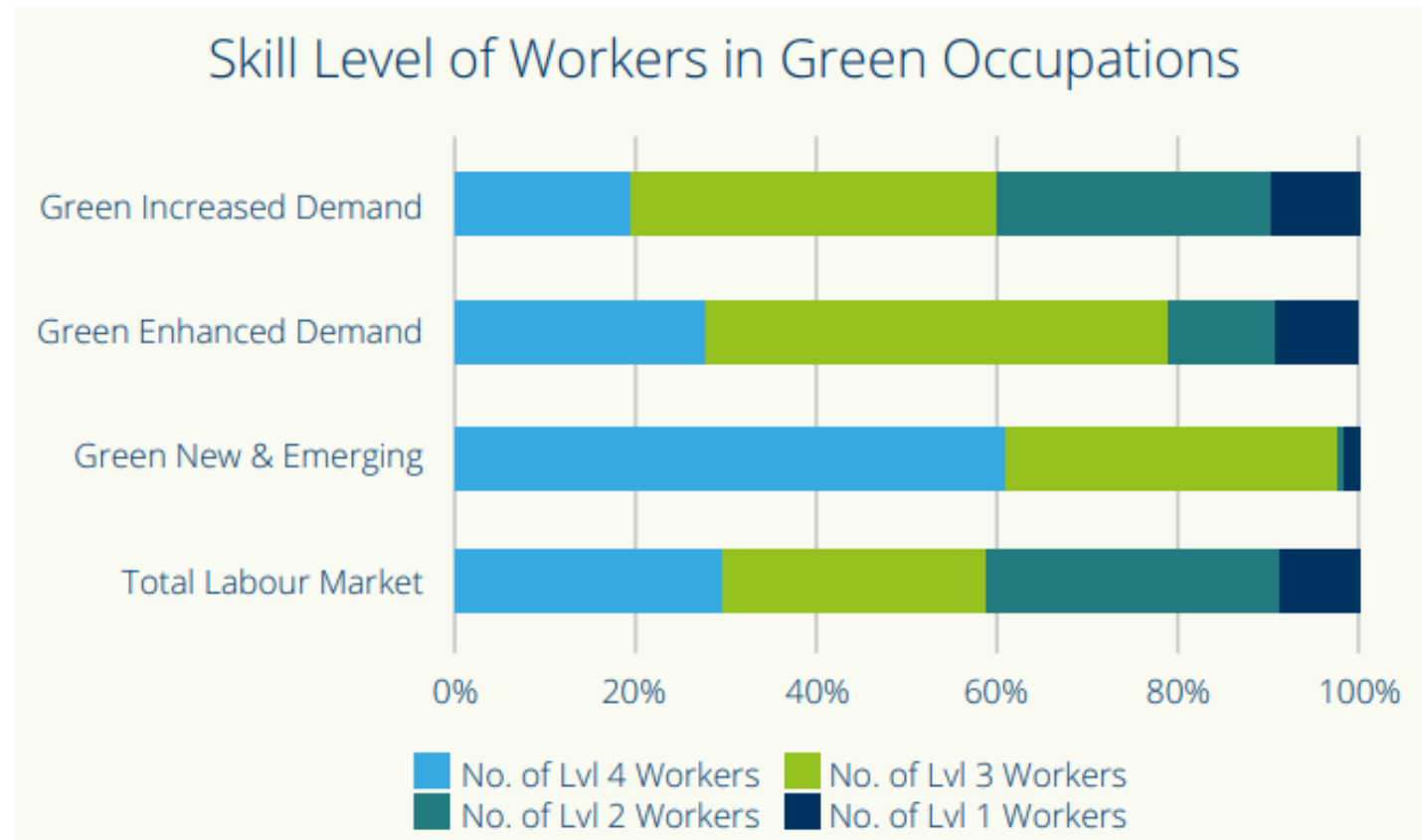


Figure 3.3 GID occupations as a proportion of the total labour force

Education Level

Figure 1: Variations in Required Education levels for each Green Category



Source: Office of National Statistics (ONS) SOC2010 Manual | Census 2022

Note: Dataset used: EB054

Employment Status

Table 8: Change In Proportion Of Employed Persons As Employees In Green Job Classifications (2011-2016)

Year	GNE	GID	GES	Entire Workforce
2011	88.9%	83.6%	76.9%	82.7%
2016	89.1%	85.4%	77.6%	84.1%

Source: *Census 2011 & 2016* (Central Statistics Office)

Note: Dataset code used: EB065