

# UNLOCKING THE **JOB POTENTIAL** OF ZERO CARBON

A summary of the case studies for the United Kingdom, Hungary and the Republic of Ireland.

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# UNLOCKING THE JOB POTENTIAL OF ZERO CARBON

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Meeting the challenge of climate change requires structural changes to the economy so that it is no longer dependent on fossil fuels: we need to reduce overall energy use and ensure that all the energy that we do use is from renewable sources. This will require the creation of a large numbers of new jobs. The Green European Foundation, with the support of Green House Think Tank, has developed a model to estimate the number of jobs that would be created in key sectors of the economy, and to not only demonstrate that a transition is doable but to also show where those jobs will be. To this end, we have applied the model to the United Kingdom and to Ireland (with the support of Green Foundation Ireland) as well as Hungary (with the support of Ökopolisz Alaptívány). This paper summarises the key findings of the research that have been laid out in more detail the final project report “Unlocking the Job Potential of Zero Carbon. Report on the case studies United Kingdom, Hungary and the Republic of Ireland”, which can be downloaded for free on the GEF website, and which also makes recommendations as to the type of transition we need to create the jobs identified.

Our model includes: the installation and maintenance of renewable energy systems; sustainable transport; buildings (energy efficiency and installation of renewables); reuse and recycling of waste, and sustainable agriculture. We considered jobs created during a transition phase (to 2030) and in the longer term, by geographic area. The model combines published data about an area with available information on hours of work and hence numbers of jobs involved in, for example, installing wind turbines, driving buses, insulating homes or separating waste for recycling. Where information is available, we have then subtracted the jobs that will be lost in current fossil fuel-dependent activities, such as coal power stations and car maintenance. Many people will need training or support of some kind to take up the new jobs, so we have included an estimate for such ‘support jobs’. We first developed the model in 2016 in a study of the potential for creating climate jobs on the Isle of Wight, in the UK. This was followed by estimates for the Sheffield City Region in 2017. In 2018, we developed a model for the whole of the UK and estimated the jobs that could be created in Ireland and Hungary (excluding the agricultural sector).

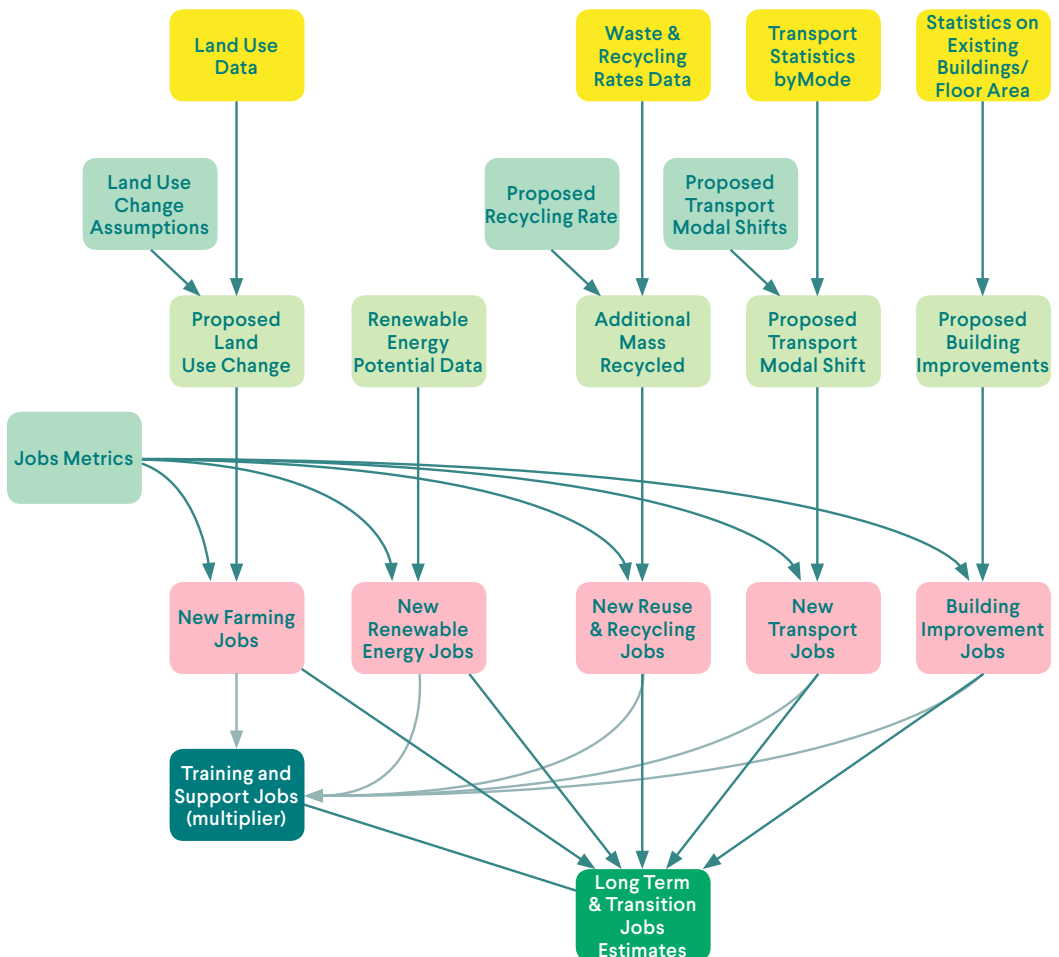
In too many countries the economy is out of balance. Large cities, linked into a global economy, are thriving, whereas many smaller places and rural areas are in decline. Existing patterns of infrastructure spending, which promote long distance transport links between thriving cities,

will only make things worse. But a different path is possible: our work shows that increasing ambition on climate targets and transitioning the economy towards zero-carbon would result in a net increase in jobs all over the three countries looked at, helping to rebalance the economy.

Our job estimates are conservative. Firstly, data on numbers of jobs was not available for some aspects of the transition, so these aspects were not included in the estimates. Secondly, we have not estimated the jobs created in the wider economy by the spending of those in the new jobs. Finally, we have not included jobs in the supply chain, such as making wind turbine blades and generators. These are likely to replace existing manufacturing jobs.

Some of the new jobs are proportional to the population whilst others depend on land availability: producing food and generating renewable energy both require land, which is mostly found in rural areas. The research shows that jobs-intensive investment at the local level can help achieve more ambitious climate targets and shift job creation away from the major cities, reducing regional inequality.

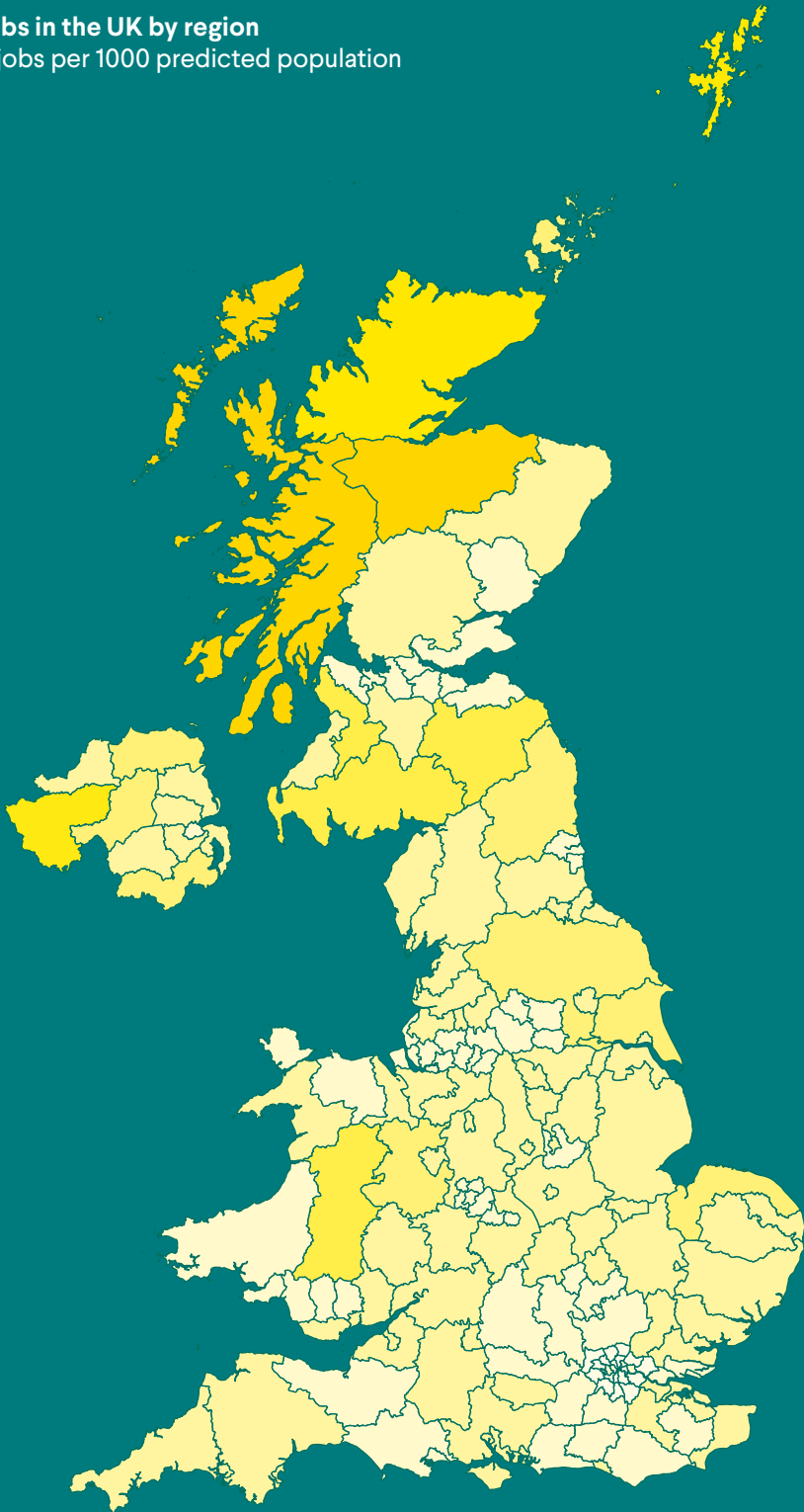
The following section summarises the main outcomes of the research for UK, Hungary and Ireland and gives some indications on the specific sectors that could be key drivers for transition in the respective national contexts. The detailed research report as well as more information about the project can be found here: <https://gef.eu/project/local-climate-jobs>.



# Climate jobs in the UK by region

Transition jobs per 1000 predicted population

- 0-5
- 5-10
- 10-15
- 15-20
- 20-25
- 25-30
- 35-40
- >45



# CLIMATE JOBS IN THE UNITED KINGDOM

▶ 980,000 transition jobs ▶ 710,000 long term jobs

	Transition	Long-term	
Energy	347,600	103,900	Scale up renewables, especially wind and solar: installing and maintaining 274 GW of new capacity.
Transport	181,800	363,500	Rapidly shift to a sustainable mix of public and active transport.
Buildings	306,900	64,100	Massive street-by-street energy efficiency and renewables retrofit to 20 million homes.
Reuse and recycling	41,800	83,600	Double reuse and recycling from 45% to 90%.
Agriculture	19,800	39,500	Shift to locally sustainable, organic agriculture.
Training and support	80,800	58,900	Upskill, retrain and support people to take up new jobs.

**Current Situation:** The UK economy is dominated by London. Some large cities and university towns in other parts of the country attract jobs and investment while in many coastal communities and post-industrial towns and villages there are few job opportunities. Growth of aviation and road transport have slowed reductions in carbon emissions.

**Climate Opportunity:** A transition economy would divert investment from long-distance transport, fracking for shale gas and speculative housing developments into local rail, bus and active transport to localise the economy, alongside massive planned renewables and energy efficient investment, and a new vision for farming and land-use to revitalise rural areas.

## Regions of Hungary

Population (millions)
Unemployed (in 2017)
Transition jobs
As % of unemployed
Long term jobs

WT
1.0
11,676
7,626
65%
4,882

CT
1.1
11,388
7,881
69%
5,171

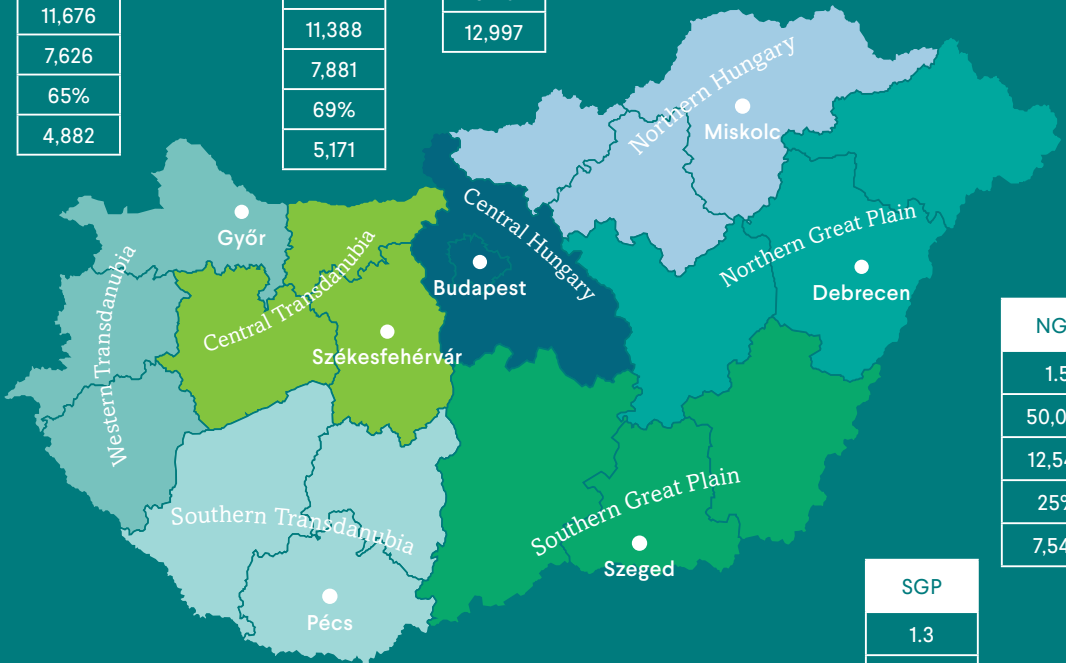
CH
3.0
40,235
12,997
32%
12,997

NH
1.2
29,389
9,564
33%
5,828

NGP
1.5
50,079
12,549
25%
7,540

SGP
1.3
23,936
11,797
49%
6,686

ST
0.9
25,004
8,262
33%
4,751



# CLIMATE JOBS IN HUNGARY

► 70,000 transition jobs    ► 47,000 long term jobs

	Transition	Long-term	
Energy	20,300	5,000	Restart wind (15 GW) and scale up solar photovoltaic (10 GW) and other renewables.
Transport	11,900	23,800	Rapid transition to sustainable transport for all.
Buildings	28,200	5,900	Retrofit of energy efficiency and/or renewable energy systems to around 2 million homes.
Reuse and recycling	4,400	8,900	Nearly triple reuse and recycling levels to 90%.
Training and support	6,000	4,000	Upskill, retrain and support people to take up new jobs.

**Current Situation:** Hungary has a low population density with half the land used for arable agriculture (typically large-scale and industrialised) and a quarter forested. 30% of the population of just under 10 million live in the Central Hungary Region. The economy is increasingly centralised, dominated by the capital, Budapest. No wind turbines have been installed since 2010.

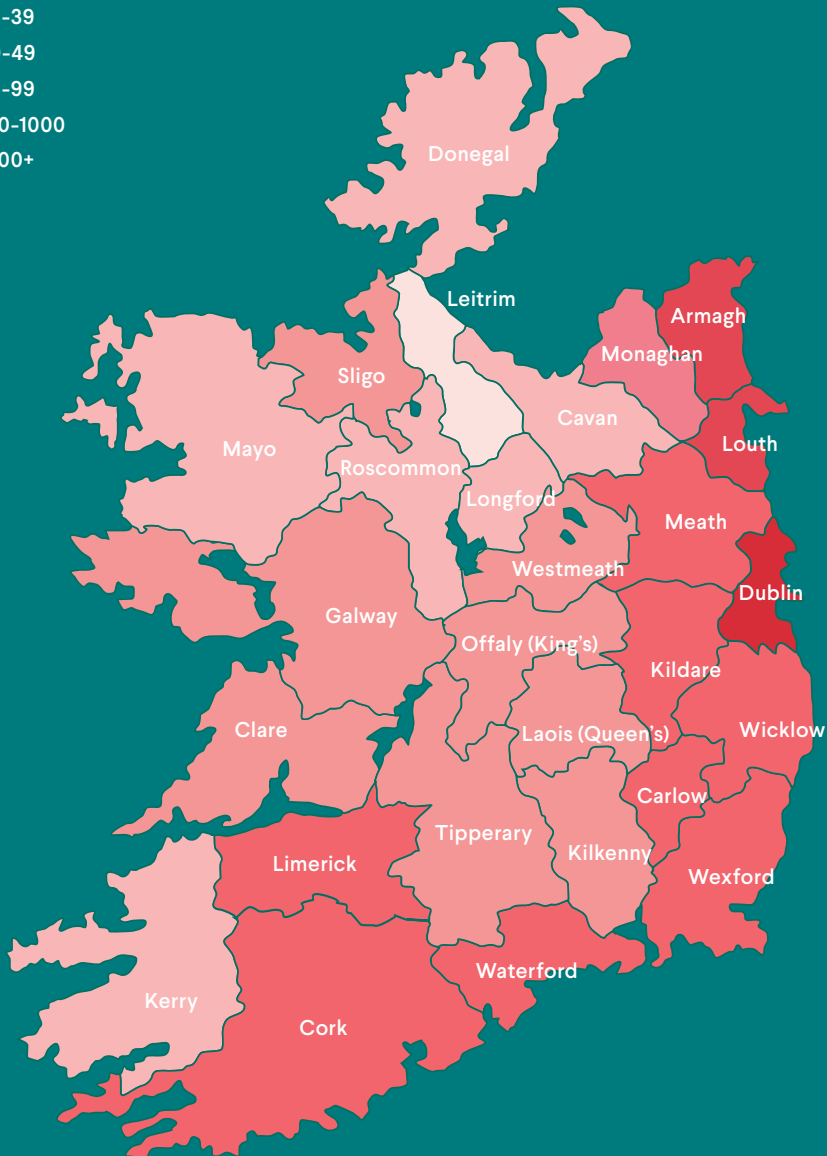
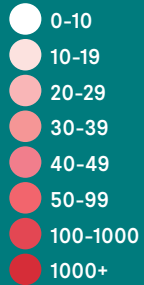
**Climate Opportunity:** The shift to a sustainable energy economy requires massive investment in renewables and rethinking of transport. The jobs created by a transition to a zero-carbon economy would help rebalance the economy across Hungary and could provide employment for between a quarter and two thirds of those currently unemployed, depending on the region.



# Population density of Ireland map

Based upon Republic of Ireland - 2002 Census results

People per km<sup>2</sup>



# CLIMATE JOBS IN IRELAND

- ▶ 53,000 transition jobs
- ▶ 38,000 long term jobs

	Transition	Long-term	
Energy	17,700	7,200	Strategic investment to install and sustain 18 GW of wind, solar and other renewables.
Transport	6,300	17,500	Shift to electric-powered, sustainable transport.
Buildings	19,000	4,600	Retrofit of energy efficiency and/or renewable energy systems to around 1.2 million homes.
Reuse and recycling	2,900	5,700	More than double reuse and recycling to 90%.
Training and support	1,500	3,100	Upskilling and support so all can access these jobs.

**Current Situation:** Ireland has a population of just over 4.8 million, of which 1.8 million live in the Dublin area. 120,000 people were unemployed in June 2018. A particular challenge to the transition in Ireland is the extraction and burning of peat in the Midlands to produce electricity, carried out by the semi-state company, Bord na Móna. Since its creation in 1946, this company has provided good jobs and relative prosperity to a previously impoverished region.

**Climate Opportunity:** The transition could create far more employment than that lost as peat extraction for power generation is phased out. This provides an opportunity for wider rethinking of what sustainable communities might look like across the country, including a chance to rethink the way Ireland uses its fertile countryside to produce cattle, beef and dairy products for export.