

Supporting People and Place: Planning a Just Transition for Northern Ireland

27th January 2021

Aoife Ní Lochlainn

WEBSITE: www.nerinstitute.net

Agenda

- Introduction
- Just Transition Principles
- Climate Challenge for Northern Ireland
- Methodology
- Geographic Evaluation of Risk
- Green jobs
- Skills for Green Jobs
- Framework

Introduction



Working Paper Series

Matching skills needs with skills reserves: *Protecting workers & communities for a just transition*

Paul Goldrick-Kelly & Ciarán Nugent

NERI Working Paper Series No. 65
November 2019

For more information on the
NERI working paper series see:
www.NERIinstitute.net

NERI NLR 1

January 2020

Ciarán Nugent & Paul Goldrick-Kelly

Investing in a Just Transition.

Realising the potential of a low-carbon economy.

A *Just Transition* to an ecologically sustainable economy incorporates social justice for workers and for the communities most affected (as we discuss in our recent [working paper](#)). The Midlands, a region traditionally reliant on peat extraction and burning for electricity production and still reeling from the worst effects of the financial crisis, is a test case for policymakers. The loss of employment underway at Bord na Móna and the ESB as the region moves away from peat presents a significant challenge.

Recently at an Oireachtas Climate Action Committee the old adage 'you can't make an omelette without breaking eggs' was evoked in the context of the current situation facing Bord na Móna workers in the Midlands. Of course, in addition to simply breaking eggs, any half-decent omelette involves several ingredients. Sadly, the ingredients for any convincing plan for a post-peat Midlands or for the wider effort to decarbonise the Irish economy seem to be missing from the current recipe. Instead, the eggs have been broken and it looks like they will be left on the pan to burn.

The dismantling of traditionally publicly provided energy that has supported decent, unionised employment is a serious threat to the communities that have relied on them for generations. With no viable employment plan, the Midlands could go the way of former coal regions in the south of Wales and the Appalachian region of the US - high unemployment, precarious work, low wages and communities in decline.

Recently, [163 economists penned a letter to the Financial Times](#) to argue for a 'serious injection of public investment' to bolster demand in the UK economy

Page 1 of 20

New Decade, New Approach



What is a Just Transition?

Belfast Telegraph

News Opinion **Business** Sport Life Entertainment Travel Sunday Life ≡ Sections

• Commercial Property

Hundreds of Northern Ireland jobs at risk amid plans to close Kilroot power station



Kilroot power station

By John Mulgrew

January 26 2018 12:01 AM



Around 400 jobs are at risk as it's been revealed one of Northern Ireland's main power plants and part of a second are set to close this year.

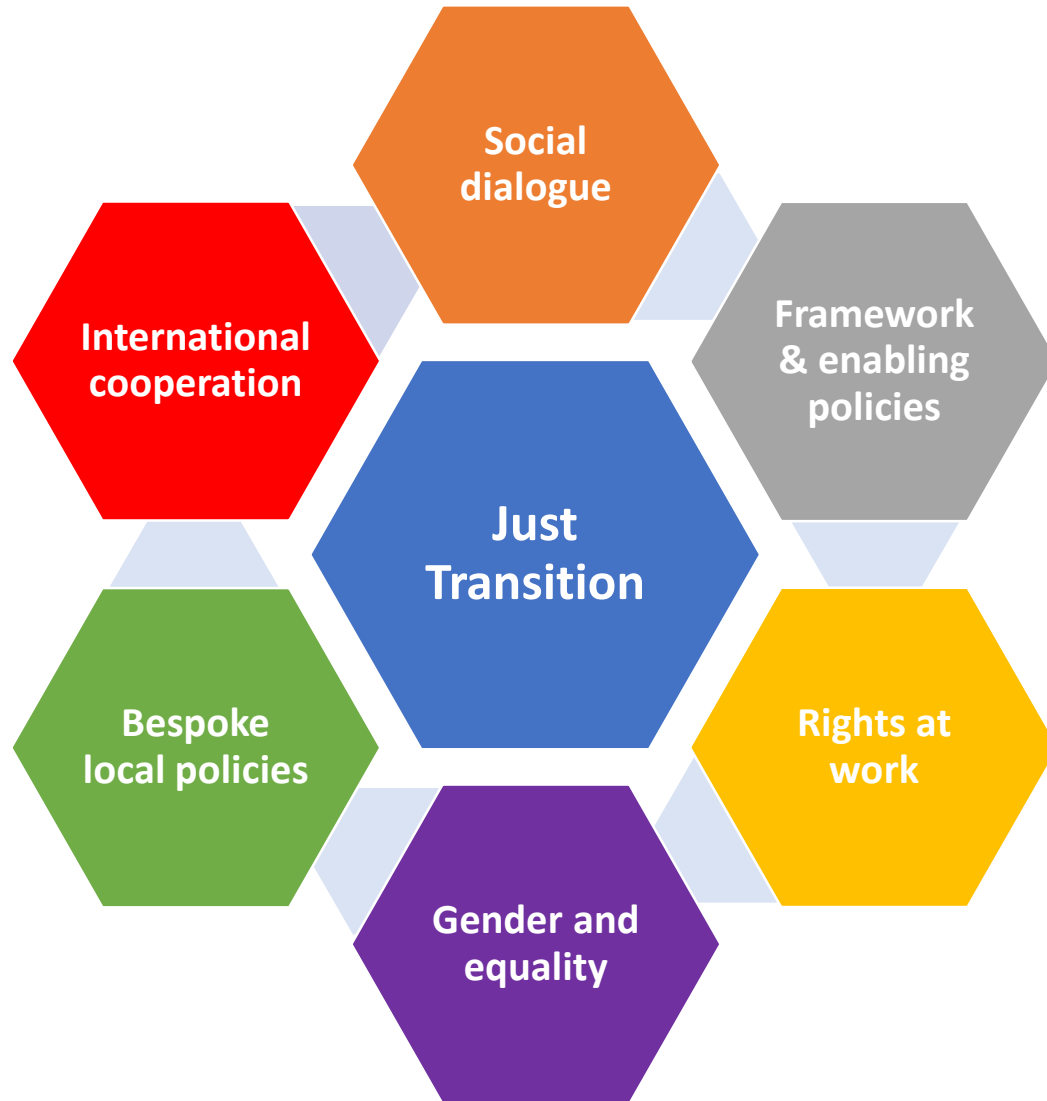
Kilroot, owned and run by AES, will shut later this year, after it was not selected by the System Operator for Northern Ireland (SONI) for major electricity contracts here.

Many descriptions

- Paris Agreement: 'taking into account the imperatives of a just transition of a the workforce and the creation of decent work and quality jobs'.
- ITUC: 'A just transition secures the future and livelihoods of workers and their communities in the transition to a low-carbon economy'.

But common principles ...

Common Principles



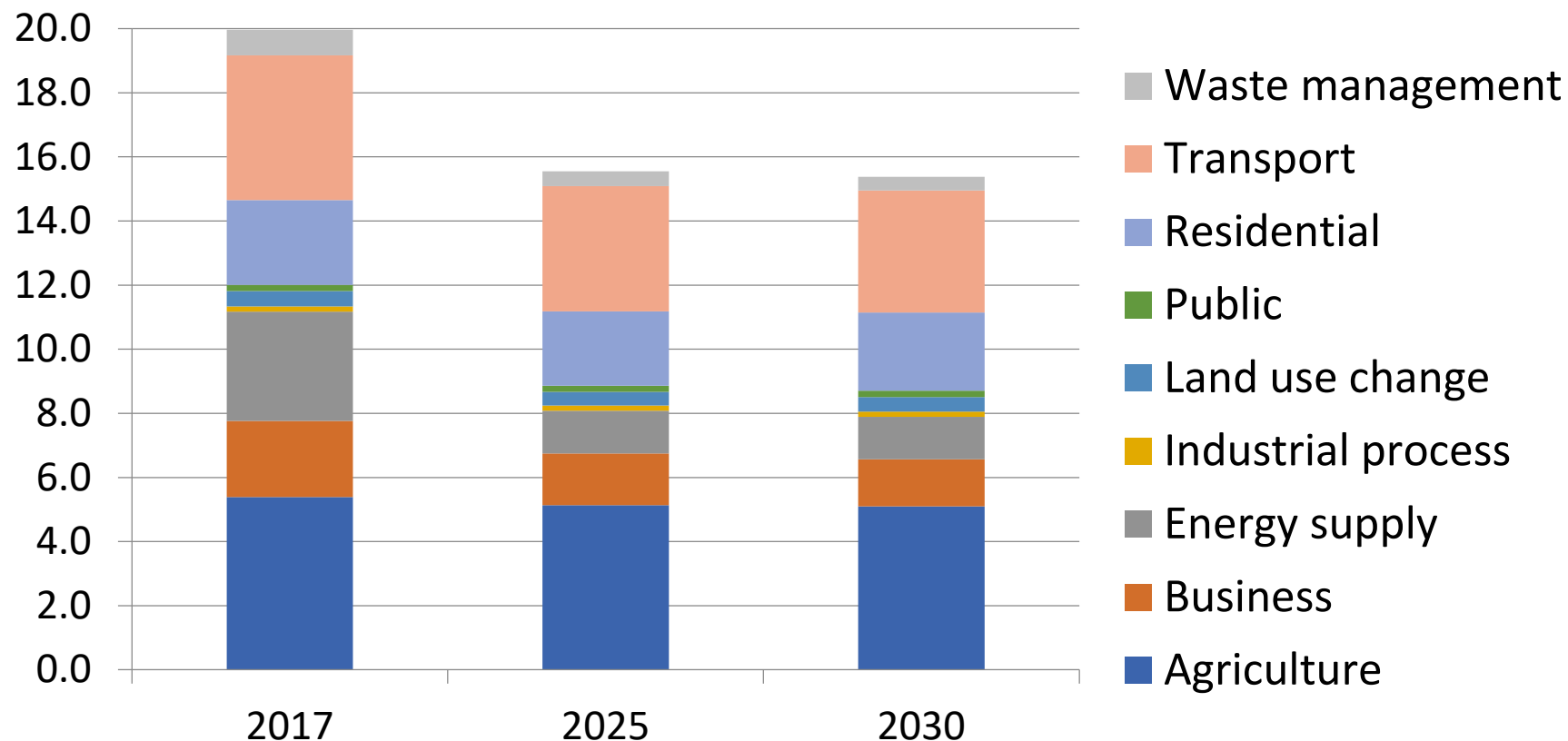
Process

AND

Outcome

Climate Challenge for Northern Ireland -

Northern Ireland emissions 2017 and projected emissions 2030



Source: DAERA (2020) Northern Ireland Greenhouse Gas Projections based on 2017 GHG inventory

Climate Challenge for Northern Ireland -

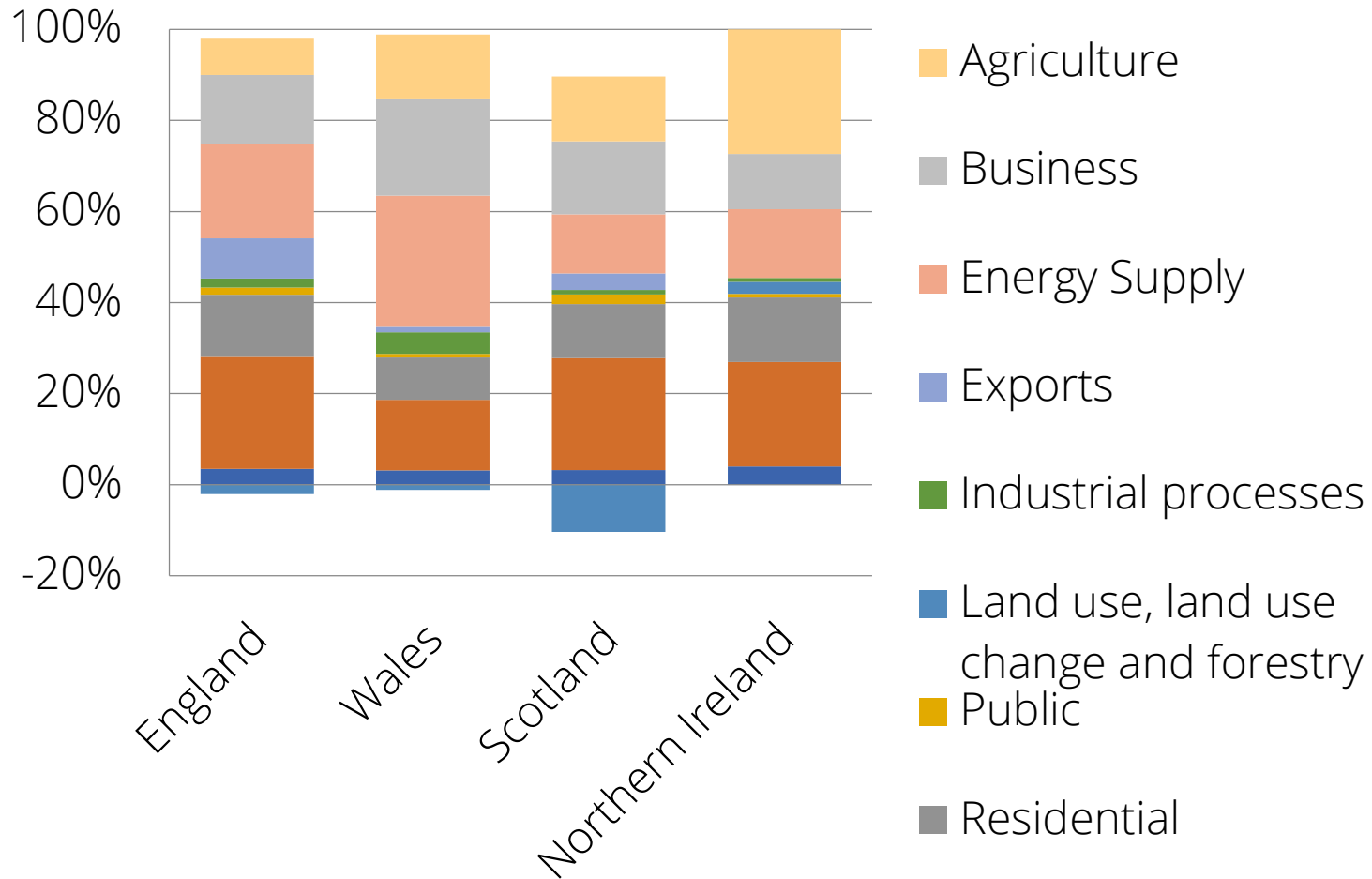
Table 1: Percentage change in Northern Ireland emissions 2017 and projected emissions 2025 and 2030

	% change 1990 to 2030	% change 2017 to 2025	% change 2025 to 2030
Agriculture	-3.4	-4.7	-0.6
Business	-52.2	-31.9	-9.4
Energy supply	-75.1	-61.0	-0.6
Industrial process	-78.4	0.2	0.0
Land use change	15.7	-11.6	6.4
Public	-59.4	-0.6	5.3
Residential	-33.5	-12.0	4.9
Transport	9.7	-13.5	-2.6
Waste management	-76.8	-42.8	-6.3
Total	-36.7	-22.1	-1.1

Source: DAERA (2020) Northern Ireland Greenhouse Gas Projections based on 2017 GHG inventory

Northern Ireland - GHG Emissions Profile

Northern Ireland and UK GHG emissions profiles - 2018



Source: NAEI (2020) Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland 2018

Northern Ireland emissions profile more similar to Republic of Ireland than UK:

Northern Ireland:

- Agriculture – 27.4%
- Transport - 22.9%
- Energy - 15.1%
- Residential – 14.1%
- Business – 12.1%
- Industrial Processes - 0.9%

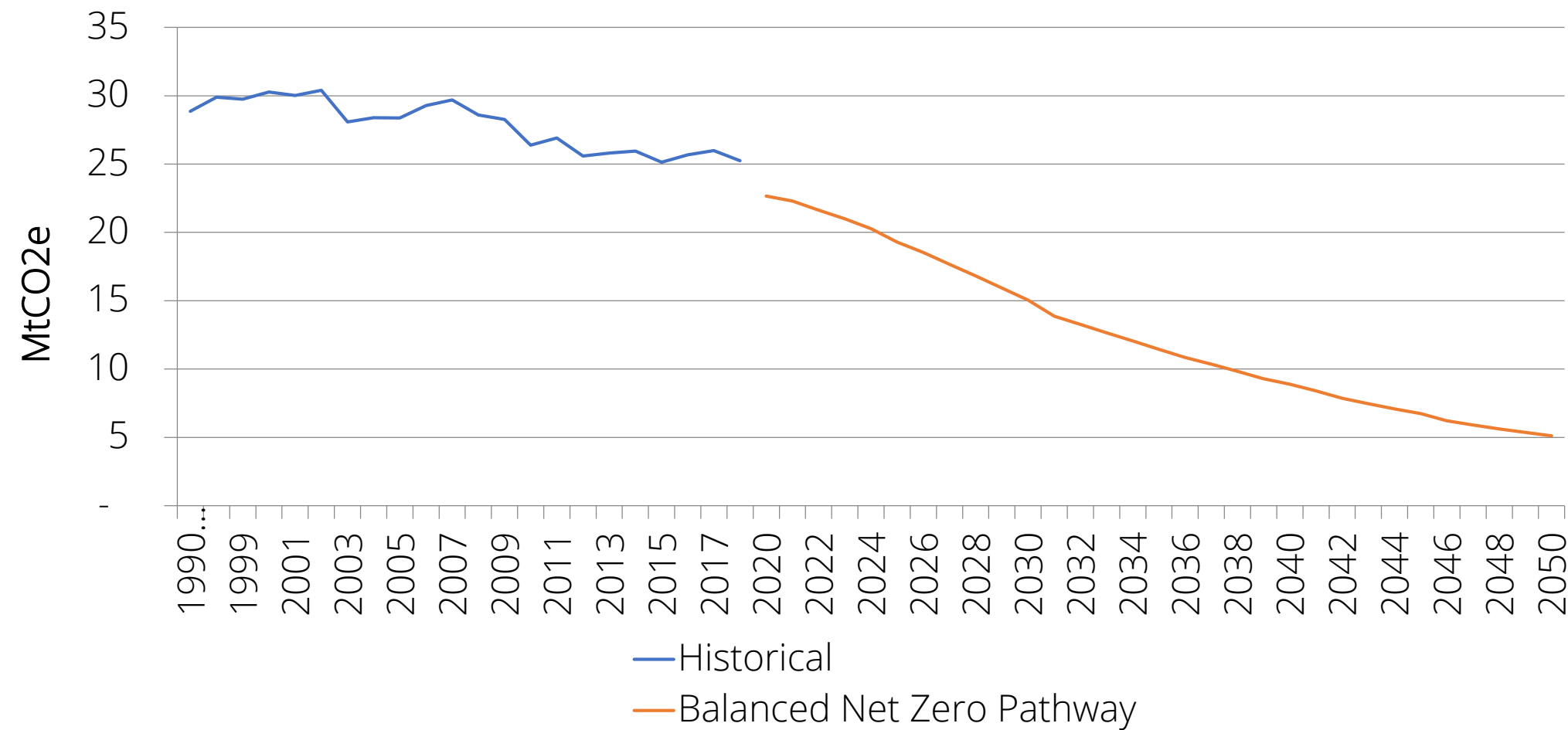
Republic of Ireland:

- Agriculture – 33.9%
- Transport – 20.1%
- Energy – 17.5%
- Residential – 10.2%
- Business – 7.8%
- Industrial Processes - 3.8%

Source: EPA (2020)

Climate Challenge for Northern Ireland

Northern Ireland historical emissions and projections 1990-2050



Future employment in the low carbon economy

- Are specific jobs or sectors vulnerable to loss or displacement?
- Which industries have high emissions?
- Which jobs are at risk in Northern Ireland?
- Are there geographic/community implications?

Other Studies

- NERI (2019)
 - Air emissions accounts by NACE Rev. 2 (Eurostat); National accounts employment data by industry (Eurostat)
 - 3 broad NACE sectors, agriculture, forestry and fishing, transportation and storage and industry. 6 subsectors
- NESC (2020)
 - Twin challenges of digital and low-carbon transitions

Industry Section	% of total GHG emissions
Transportation and storage	21.8
Manufacturing	19.6
Electricity, gas, steam and air conditioning supply	19.6
Agriculture, forestry and fishing	12.3
Mining and quarrying	5.9
Water supply; sewerage, waste management and remediation activities	5.9
Wholesale and retail trade; repair of motor vehicles and motorcycles	4.3
Construction	3.3
Human health and social work activities	1.6
Public administration and defence; compulsory social security	1.3
Accommodation and food service activities	0.9
Administrative and support service activities	0.9
Education	0.7
Professional, scientific and technical activities	0.6
Information and communication	0.4
Arts, entertainment and recreation	0.4
Other service activities	0.4
Real estate activities	0.2
Financial and insurance activities	0.0
Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	0.0

UK Emissions by sector (NACE) 2018

(source: Eurostat, 2020)

Methodology

Geographic Approach

Evaluate Risk by District Council

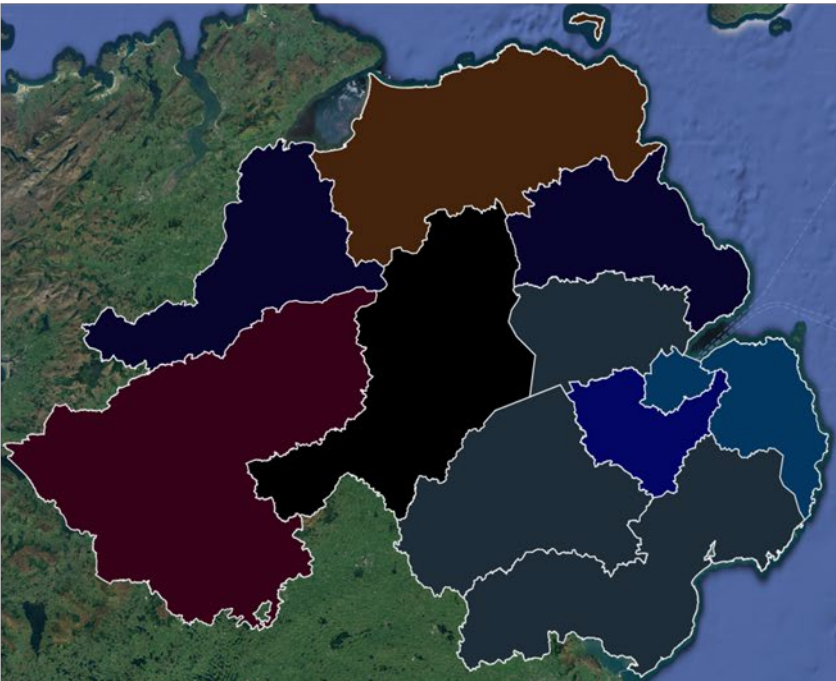
Data Sources

- BEIS (2020) Local Authority territorial CO₂ emissions estimates 2005-2018
- NAEI (2020) Interactive Map
- EU-ETS Registry (2020) Verified Emissions
- BRES (2019) Business Register and Employment Survey

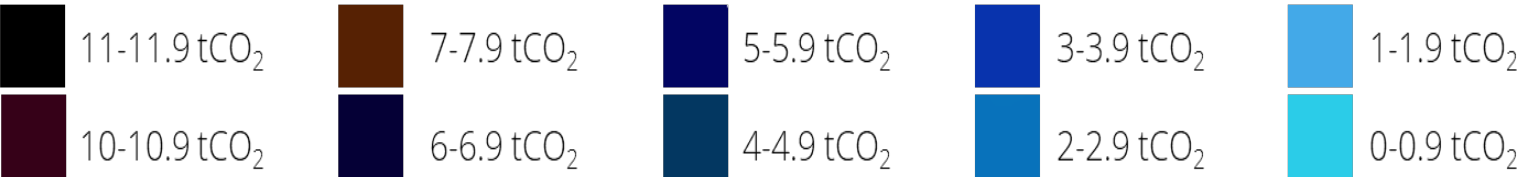
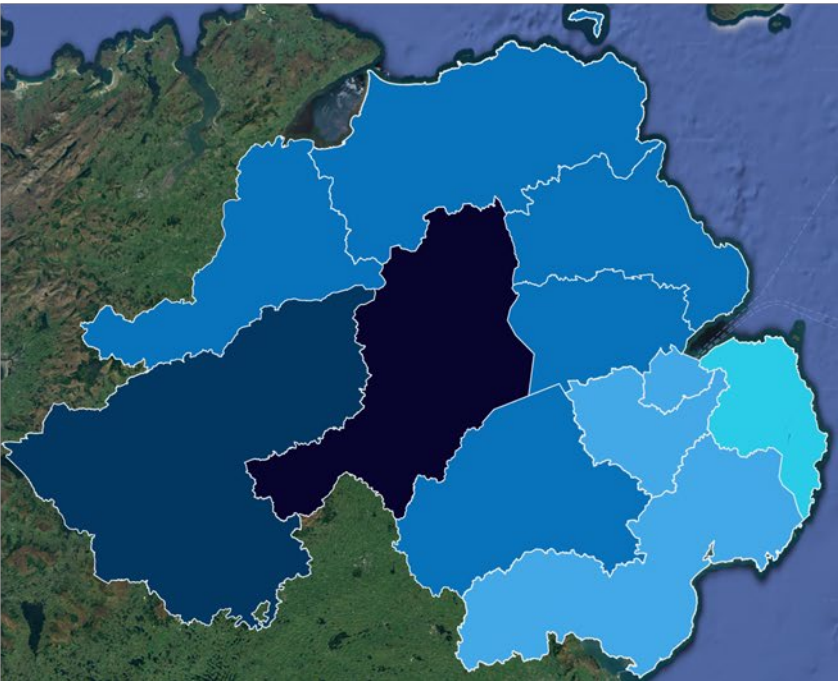
Geographic evaluation of risk

Northern Ireland CO₂ emissions per person by District Council 2018

Total* CO₂ emissions per person



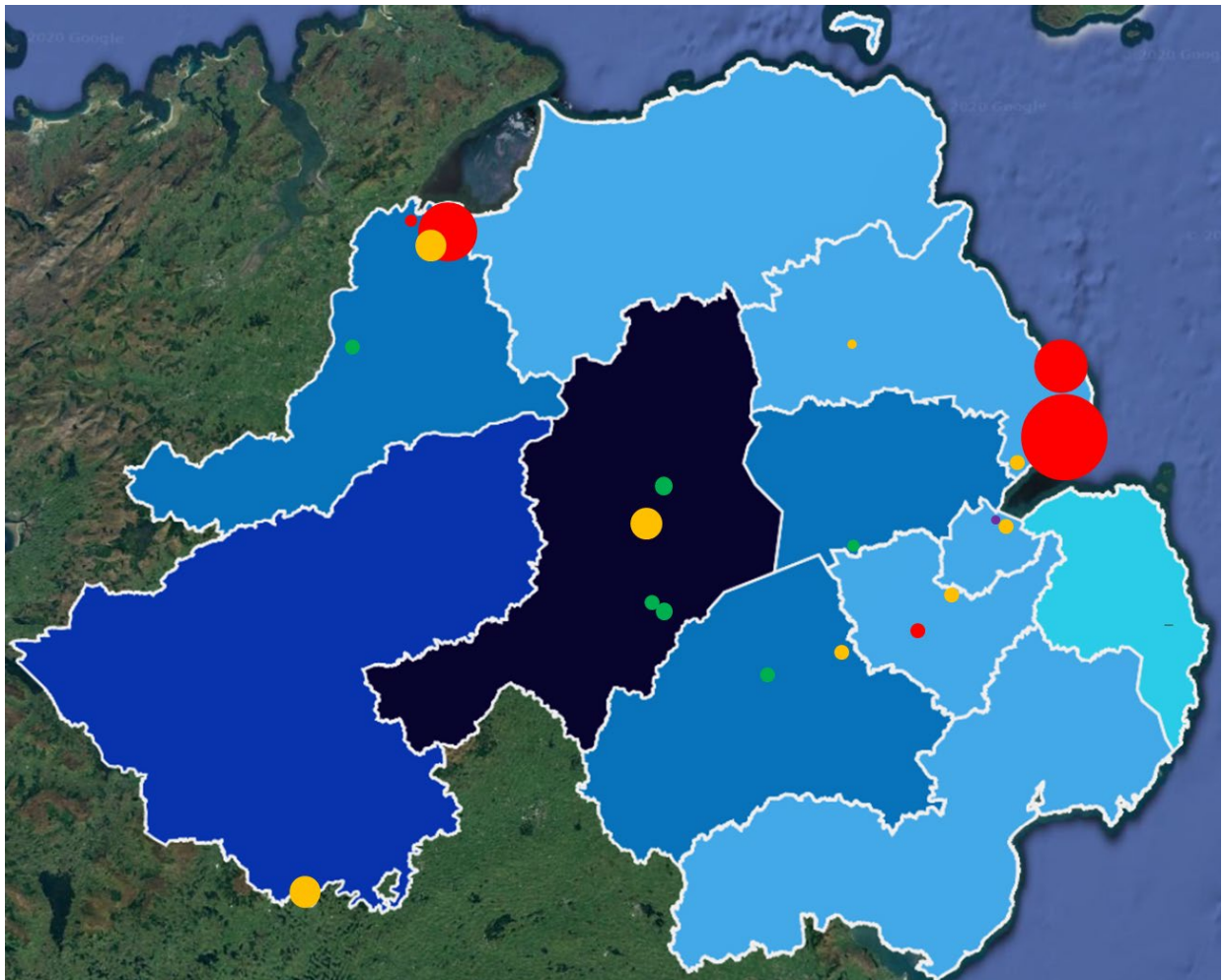
Industrial and Commercial and Agricultural CO₂ emissions per person



Source: BEIS (2020) Local Authority territorial CO₂ emissions estimates 2005-2018

Geographic evaluation of risk

Northern Ireland high emissions installations (2019) and industrial and commercial emissions by District Council (2018)



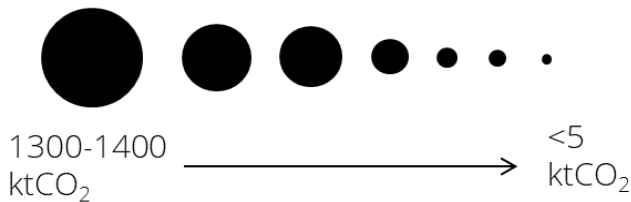
Source: EU-ETS Registry (2020) Verified Emissions and BEIS (2020) Local Authority territorial CO₂ emissions estimates 2005-2018 (ktCO₂); NAEI (2020) Interactive Map

Industrial and Commercial emissions (not including Agriculture) CO₂ per person

- 6-7 tCO₂ per person
- 3-3.9 tCO₂ per person
- 2-2.9 tCO₂ per person
- 1-1.9 tCO₂ per person
- 0-0.9 tCO₂ per person

High emissions installations

- Manufacturing Plant
- Manufacturing Plant – Agrifood
- Power Station
- Waste/ Waste to Energy Facility



Geographic evaluation of risk

NI Emissions by sector and district council 2018

Name	Total kt CO ₂	Total Per Capita Emissions tCO ₂
Mid Ulster	1,756.8	11.9
Fermanagh and Omagh	1,233.1	10.6
Derry City and Strabane	1,026.6	6.8
Antrim and Newtownabbey	1,027.1	7.2
Armagh City, Banbridge and Craigavon	1,541.5	7.2
Newry, Mourne and Down	1,261.1	7.0
Mid and East Antrim	901.6	6.5
Causeway Coast and Glens	1,020.7	7.1
Lisburn and Castlereagh	811.0	5.6
Belfast	1,418.5	4.1
Ards and North Down	665.3	4.1

Source: BEIS (2020) Local Authority territorial CO2 emissions estimates 2005-2018 (kt CO2)

Geographic Impact

Mid Ulster District Council

EU-ETS Installations	No.
Manufacturing plant (agri-food)	3
Manufacturing plant (Cement)	1

Emissions	
A. Industry and Commercial Electricity	112.7 KtCO ₂
B. Industry and Commercial Gas	0.1 KtCO ₂
C. Large Industrial Installations	381.1 KtCO ₂
D. Industrial and Commercial Other Fuels	410.7 KtCO ₂
E. Agriculture	91.5 KtCO ₂
Domestic Total	242.1 KtCO ₂
Transport Total	415.1 KtCO ₂
LULUCF Net Emissions	103.6 KtCO ₂
Per Capita Emissions (t)	11.9 tCO ₂

Industry	% Total FTE	Total FTE	% Total PTE
Agriculture, forestry and fishing	0.1	54	0.2
Mining and quarrying	1.4	583.0	0.2
Manufacturing	39.9	16662.0	5.2
Electricity, gas, steam and air conditioning supply	0.1	44.0	0.1
Water supply, sewerage, waste management and remediation activities	0.7	307.0	0.1
Construction	11.3	4720.0	1.6
Wholesale and retail trade; repair of motor vehicles and motor cycles	15.8	6605.0	26.7
Transport and storage	3.5	1,480	1.0

Agriculture: 7809
(total labour force - taken from farming census)

Average Agriculture, Industry and Commercial per capita in NI – 3 tCO₂

Sources: Union Registry of ETS Accounts (2020);
BEIS (2020) Local Authority territorial CO₂ emissions estimates 2005-2018 (kt CO₂);
BRES (2019) Business Register and Employment Survey

Geographic Impact

Fermanagh & Omagh

EU-ETS Installations	No.
Manufacturing plant (Glass??)	1

Emissions	
A. Industry and Commercial Electricity	87.1 KtCO ₂
B. Industry and Commercial Gas	0.0 KtCO ₂
C. Large Industrial Installations	132.2KtCO ₂
D. Industrial and Commercial Other Fuels	189.5 KtCO ₂
E. Agriculture	112.0 KtCO ₂
Domestic Total	207.8 KtCO ₂
Transport Total	398.6 KtCO ₂
LULUCF Net Emissions	106.1 KtCO ₂
Per Capita Emissions (t)	10.6 tCO ₂

Industry	% Total FTE	Total FTE	% Total PTE
Agriculture, forestry and fishing	*	*	*
Mining and quarrying	1.0	260.0	0.2
Manufacturing	20.3	5463.0	2.3
Electricity, gas, steam and air conditioning supply	*	*	*
Water supply, sewerage, waste management and remediation activities	1.8	494.0	0.3
Construction	9.8	2645.0	2.6
Wholesale and retail trade; repair of motor vehicles and motor cycles	13.6	3669.0	27.8
Transport and storage	4.2	1,141	2.9

Agriculture:
(total labour force - taken from farming census)

Average Agriculture, Industry and Commercial per capita in NI – 3 tCO₂

Sources: Union Registry of ETS Accounts (2020);
BEIS (2020) Local Authority territorial CO₂ emissions estimates 2005-2018 (kt CO₂);
BRES (2019) Business Register and Employment Survey

Geographic Impact

Mid East Antrim District Council

EU-ETS Installations	No.
Power plant	2
Manufacturing plant	1
Non EU-ETS Installations	No.
Manufacturing plant	1

Emissions	
A. Industry and Commercial Electricity	72.2
B. Industry and Commercial Gas	47.6
C. Large Industrial Installations	11.9
D. Industrial and Commercial Other Fuels	137.6
E. Agriculture	45.4
Domestic Total	272.2
Transport Total	291.0
LULUCF Net Emissions	23.6
Per Capita Emissions (t)	6.5

Industry	% Total FTE	Total FTE	% Total PTE
Agriculture, forestry and fishing	*	*	*
Mining and quarrying	*	*	*
Manufacturing	25.4	6,940	2.6
Electricity, gas, steam and air conditioning supply	*	*	*
Water supply, sewerage, waste management and remediation activities	1.4	374	0.2
Construction	6.7	1,819	1.6
Wholesale and retail trade; repair of motor vehicles and motor cycles	15.0	4,094	27.9
Transport and storage	6.4	1,738	2.9

Agriculture: 1592
(total labour force - taken from farming census)

Average Agriculture, Industry and Commercial per capita in NI – 3 tCO₂

Sources: Union Registry of ETS Accounts (2020);
BEIS (2020) Local Authority territorial CO₂ emissions estimates 2005-2018 (kt CO₂);
BRES (2019) Business Register and Employment Survey

Agri-food

70,000 full time jobs

Farm-based

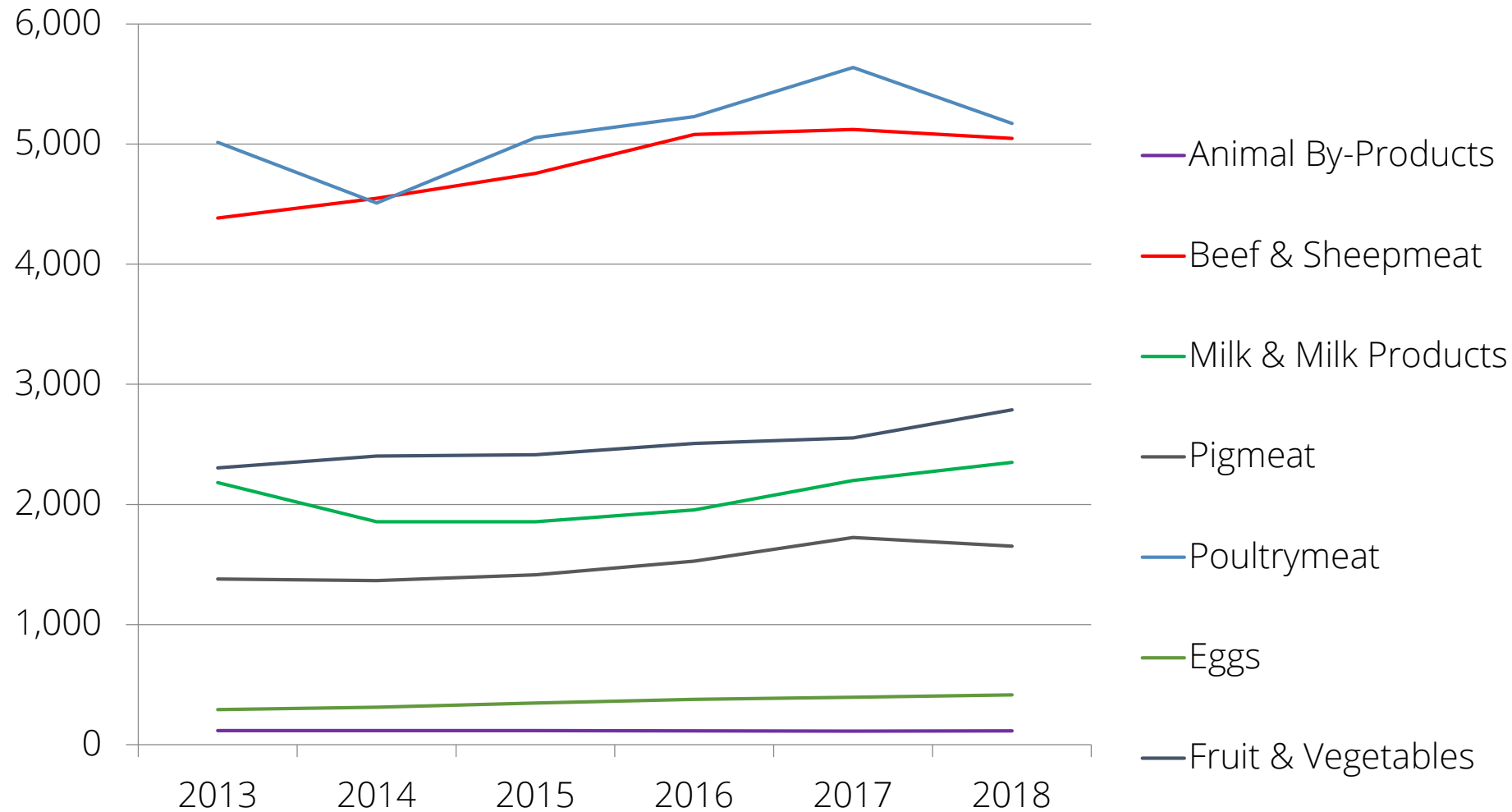
- Over 49,000 are farm workers
- 62% are farmers,
- 16% are spouses
- 24% are all other workers.

Processing:

- Approximately 21,000 full time direct employees.
- Agency employment estimated at 10% in 2018, rising from 7% in 2014

Agri-food

Number of direct full time employee equivalent in the agri-food processing industry 2013-2018



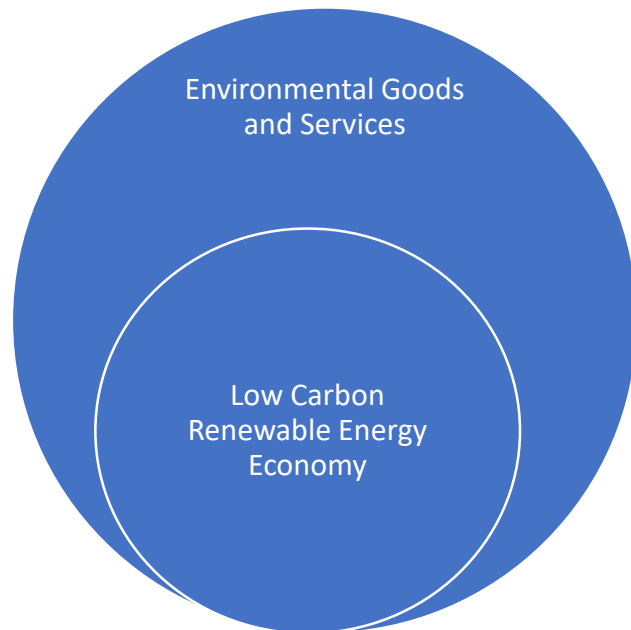
Agri-food

Vulnerable Workforce

- Farming and processing, is heavily reliant on migrant labour, mostly from non-UK EEA nationals
- 48% of workers in the sector are migrants; this rises to 91% of the seasonal workforce (Northern Ireland Food and Drink Association 2016)
- Processing sector employs approximately 40% non-UK EEA workers - 60-70% in beef and lamb processing sector (House of Commons, 2018;)
- Migrants in non-metropolitan areas:
 - lower pay, fewer opportunities for career progression or training opportunities.
 - employment conditions are often precarious with limited employee protection,
 - especially in the agricultural, horticultural, food processing and construction industries
- Majority of workers in the food processing sector in 2017 were process, plant and machine operatives (67%),
 - 53% were from EU countries.
 - Migrants from non-EU countries more concentrated in the machine operatives occupation (87%) (DAERA, 2018).
- Difficulty in finding alternative employment, accessing training

Green jobs

"Green jobs are decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency." ILO



£600m energy park proposed for Co Antrim

Move by Kilroot Power Station owners would be largest single investment in NI energy generation

© Thu, Jul 9, 2020, 12:00 Updated: Thu, Jul 9, 2020, 12:10

Ciara O'Brien

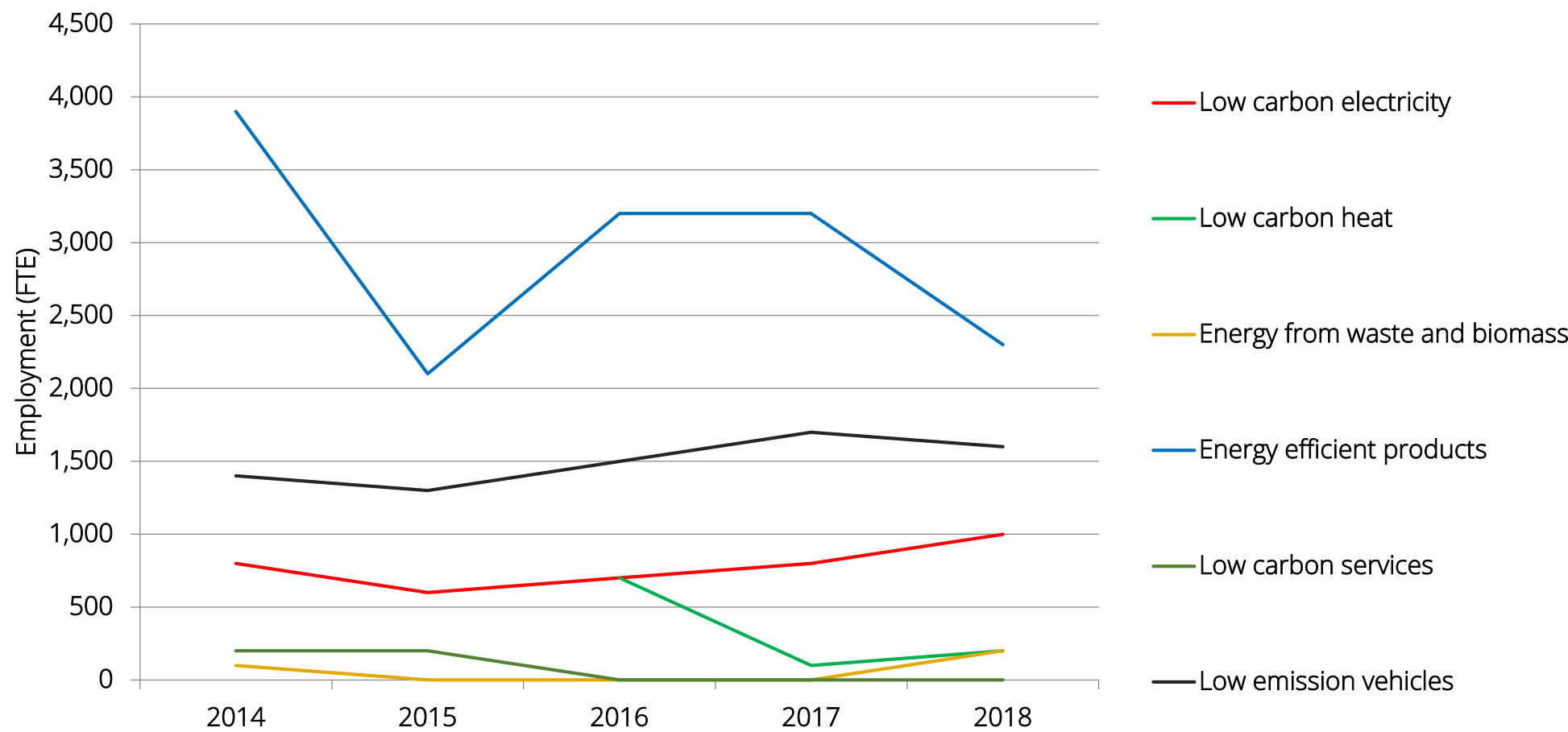


Photograph: iStock

*** A new £600 million energy park could be in the works for Co Antrim, with the new owner of the Kilroot Power Station seeking to make the largest ever single investment in electricity generation in Northern Ireland.

Low-carbon & renewable energy jobs in Northern Ireland

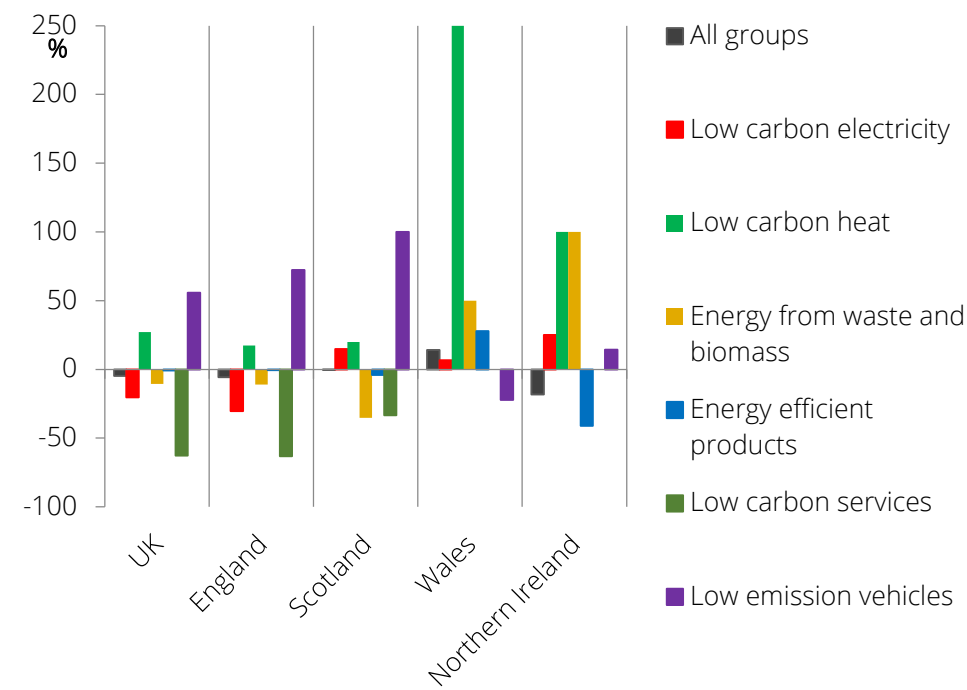
LCREE employment in Northern Ireland by group, 2014 to 2018



Source: ONS (2020) Statistical bulletin: Low carbon and renewable energy economy, UK: 2018

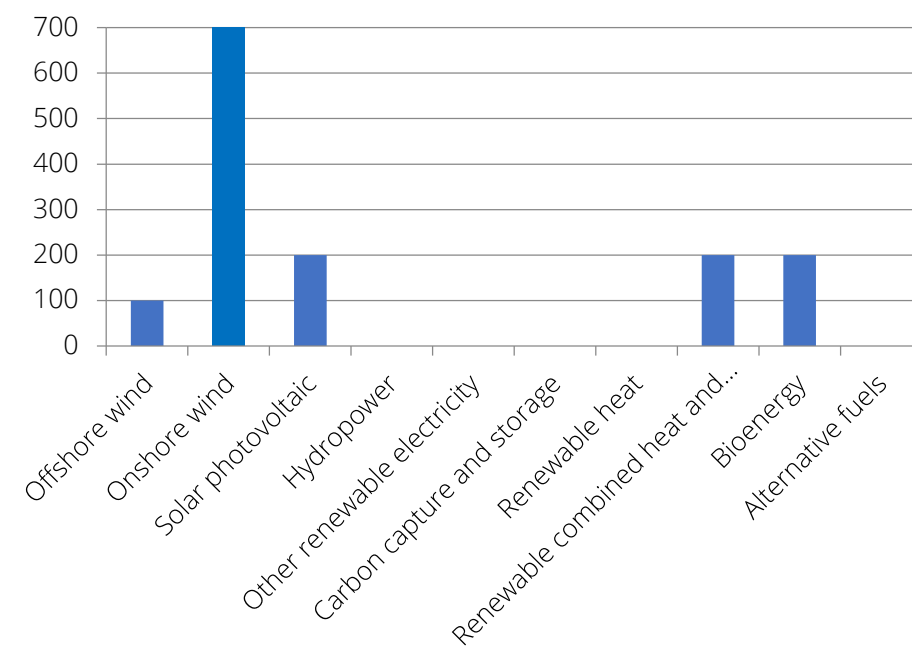
Low carbon economy in Northern Ireland

% Change in LCREE employment in UK countries by sector, from 2014 to 2018



Source: ONS (2020) Statistical bulletin: Low carbon and renewable energy economy, UK: 2018

LCREE employment in Northern Ireland by renewable energy type - 2018

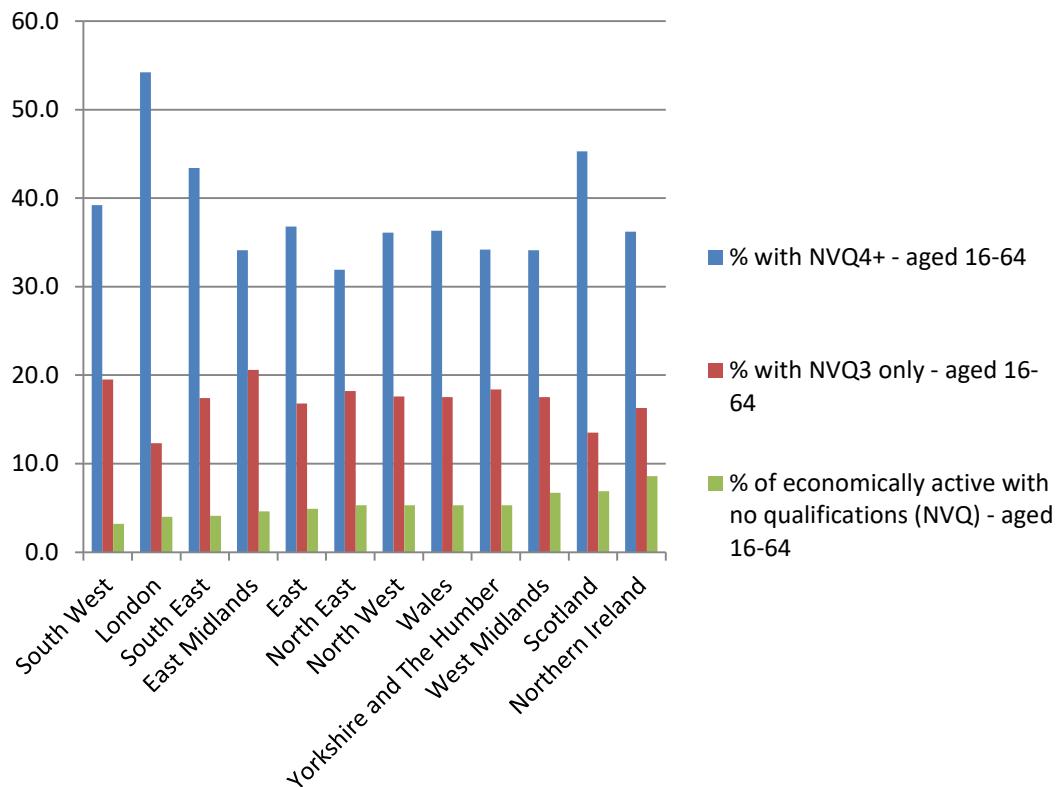


Source: ONS (2020) Statistical bulletin: Low carbon and renewable energy economy, UK: 2018

Skills for a low carbon economy

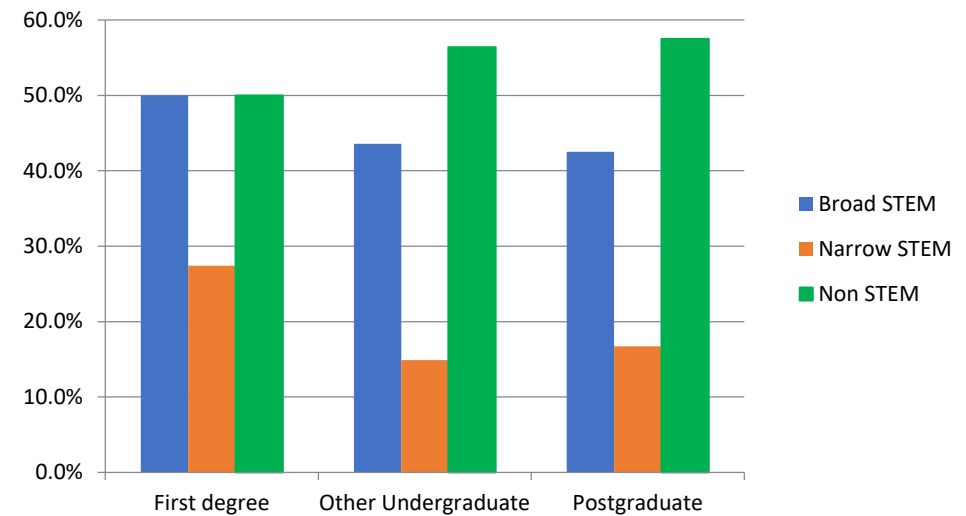
“Skills needs in the low-carbon energy sector require long periods of study”

Percentage of workers with NVQ3+ levels by UK region 2019



Source: ONS Annual Population Survey

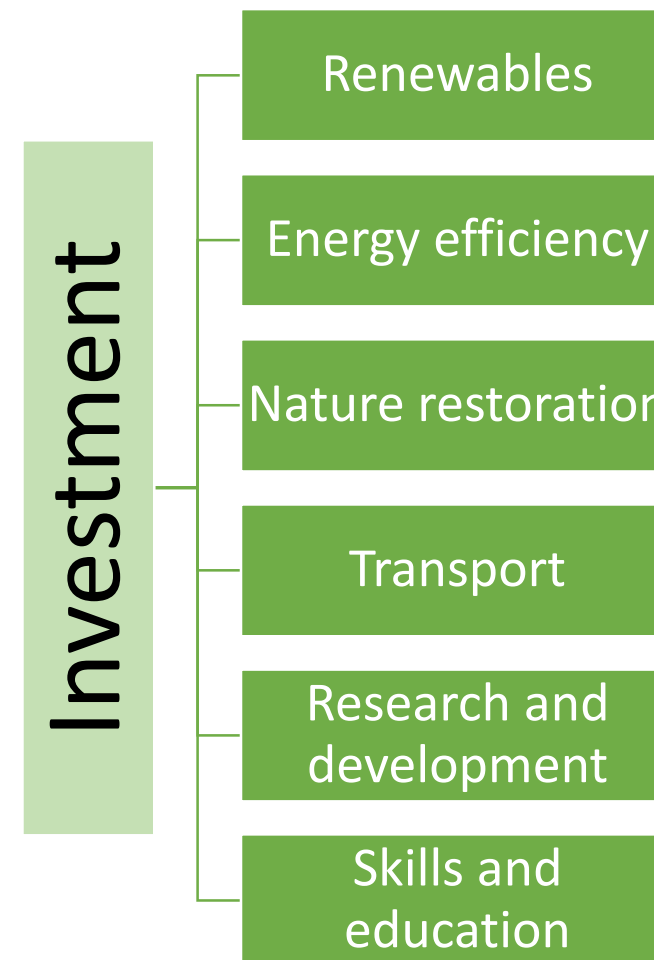
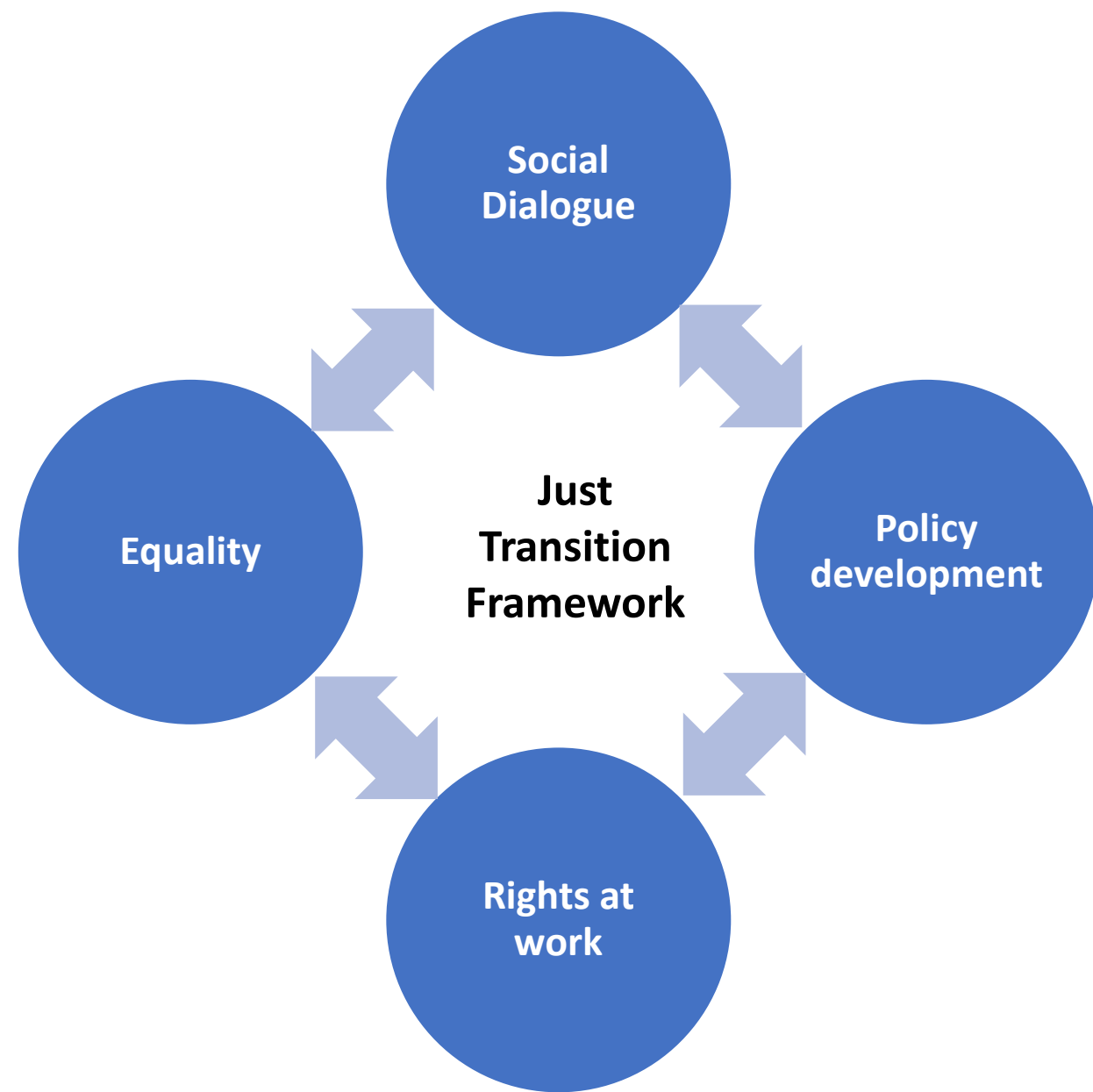
Table 8b: Proportion of students gaining qualifications at NI HEIs in Broad and Narrow STEM subjects by level of qualification - 2018/19



Source: Department for the Economy (2020), Statistical Bulletin, Student enrolments on higher education courses

Broad STEM - Medicine and Dentistry; Subjects allied to Medicine; Biological Sciences; Veterinary Sciences; Agriculture and related subjects; Physical Sciences; Mathematical Sciences; Computer Science; Engineering and Technology; and Architecture, Building and Planning.

Narrow STEM - subset of Broad STEM and includes the following subject areas: Biological Sciences; Physical Sciences; Mathematical Sciences; Computer Science; and Engineering and Technology.



Supporting People and Place: Planning a Just Transition for Northern Ireland

27th January 2021

Aoife Ní Lochlainn

WEBSITE: www.nerinstitute.net