NESC
An Chomhairle Náisiúnta Eacnamaíoch agus Shóisialta
National Economic & Social Council

Addressing Employment Vulnerability as Part of a Just Transition in Ireland

No.149 March 2020

An Oifig Náisiúnta um Fhorbairt Eacnamaíoch agus Shóisialta
National Economic & Social Development Office NESDO

National Economic and Social Council

Constitution and Terms of Reference

1. The main tasks of the National Economic and Social Council shall be to analyse and report on strategic issues relating to the efficient development of the economy and the achievement of social justice.

2. The Council may consider such matters either on its own initiative or at the request of the Government.

3. Any reports which the Council may produce shall be submitted to the Government, and shall be laid before each House of the Oireachtas and published.

4. The membership of the Council shall comprise a Chairperson appointed by the Government in consultation with the interests represented on the Council, and

   - Three persons nominated by agricultural and farming organisations;
   - Three persons nominated by business and employers organisations;
   - Three persons nominated by the Irish Congress of Trade Unions;
   - Three persons nominated by community and voluntary organisations;
   - Three persons nominated by environment organisations;
   - Five other persons nominated by the Government, including the Secretaries General of the Department of Finance, the Department of Business, Enterprise and Innovation, the Department of Housing, Planning, Community and Local Government, the Department of Public Expenditure and Reform.

5. Any other Government Department shall have the right of audience at Council meetings if warranted by the Council's agenda, subject to the right of the Chairperson to regulate the numbers attending.

6. The term of office of members shall be for three years. Casual vacancies shall be filled by the Government or by the nominating body as appropriate. Members filling casual vacancies may hold office until the expiry of the other members' current term of office.

7. The numbers, remuneration and conditions of service of staff are subject to the approval of the Taoiseach.

8. The Council shall regulate its own procedure.

An Chomhairle Náisiúnta Eacnamaíoch agus Shóisialta
National Economic & Social Council

Addressing Employment Vulnerability as Part of a Just Transition in Ireland

No.149 March 2020

Membership of the National Economic and Social Council

Chairperson

Mr Martin Fraser,
Secretary General, Department of An Taoiseach and Secretary to the Government

Deputy Chairperson

Ms Elizabeth Canavan,
Assistant Secretary, Department of An Taoiseach

Business and Employers

Ms Maeve McElwee
Ibec

Mr Tom Parlon,
Construction Industry Federation

Mr Ian Talbot,
Chambers Ireland

Trade Unions

Ms Patricia King,
ICTU

Mr Joe Cunningham,
SIPTU

Mr Kevin Callinan,
Fórsa

Farming and Agricultural

Mr Damian McDonald,
IFA

Mr John Enright,
ICMSA

Mr Denis Duggan,
Macra

Community and Voluntary

Fr Seán Healy,
Social Justice Ireland

Ms Brid O'Brien,
Irish National Organisation of the Unemployed

Mr James Doorley,
National Youth Council

Environmental

Ms Karen Ciesielski,
Environmental Pillar

Ms Kate Ruddock,
Friends of the Earth Ireland

Ms Oonagh Duggan,
Bird Watch Ireland

Public Service

Mr Derek Moran,
Department of Finance

Ms Orlaigh Quinn,
Department of Jobs Enterprise, and Innovation

Mr John McCarthy,
Department of Housing, Planning and Local Government

Mr Robert Watt,
Department of Public Expenditure & Reform

Government Nominees

Mr Philip Hamell

Prof Edgar Morgenroth,
Dublin City University (DCU)

Dr Michelle Norris,
UCD Geary Institute

Prof Eleanor Denny,
Trinity College Dublin

Prof Paul Donnelly,
Technological University Dublin (TU Dublin)

Prof Geraint Ellis,
Queens University, Belfast

Dr Sinead O'Flanagan,
Royal College of Surgeons in Ireland (RCSI)

Secretariat to Project

Dr Larry O'Connell,
Director

Dr Cathal FitzGerald,
Institutional Research Analyst

Dr Jeanne Moore,
Policy Analyst

Dr Damian Thomas,
Senior Policy Analyst

Mr Noel Cahill,
Economist

Ms Edna Jordan,
Policy Analyst

A full list of the NESC Secretariat can be found at www.nesc.ie

Table of Contents

List of Figures

List of Boxes

List of Tables

Abbreviations

AI
Artificial Intelligence

BnM
Bord na Móna

CAP
Climate Action Plan

CCAC
Climate Change Advisory Council

DCCAE
Department of Communications, Climate Action and Environment

DEASP
Department of Employment Affairs and Social Protection

EI
Enterprise Ireland

EIB
European Investment Bank

EGFSN
Expert Group on Future Skills Needs

ESF
Enterprise Stabilisation Fund

ETB
Education and Training Boards

FET
Further Education and Training

FIT
FastTrack to Information Technology

GDA
Grangegorman Development Agency

GDP
Gross Domestic Product

IEA
International Energy Agency

IIEA
Institute of International and European Affairs

ILO
International Labour Organisation

IPCC
Intergovernmental Panel on Climate Change

ITUC
International Trade Union Confederation

JOCCA
Joint Oireachtas Committee on Climate Action

JRP
Joint Research Programme

JTRG
Just Transition Review Group

LDCs
Local Development Companies

LEOs
Local Enterprise Offices

MFI
Microfinance Ireland

NACEC
National Association of Community Enterprise Centres

NFQ
National Framework of Qualifications

PPNs
Public Participatory Networks

R&D
Research & Development

SBCI
Strategic Banking Corporation of Ireland

SDGs
Sustainable Development Goals

SME
Small-to-medium Enterprise

STWSS
Short-Time Work Support Scheme

WEF
World Economic Forum

Acknowledgements

The Council wishes to acknowledge the assistance of many individuals and organisations during the preparation of this report, particularly to the Chair of the Working Group, Dr Sinéad O'Flanagan and all it members who attended and gave valuable information and insights (a full list of working group members can be found in appendix 2 of this report). To Sinéad Mercier, Valerie Whelan, Conall Heussaff, who provided background research and data.

Valuable information was also gained through discussions with several government departments and public agencies and we would like to thank: Dr Kelly de Brun and Dr Mert Ayket of the Economic and Social Research Institute (ESRI); Sarah Morgan and the Midlands Regional Transition Team, Joe Leddin and John Costello of the Regional Skills Forum; Céline McHugh, Phelim Cassidy and Paul McMorrow, of the Department of Business, Enterprise and Innovation (DBEI); Michelle Kearney, Department of Agriculture, Food & the Marine (DAFM); Fionn Rogan, UCC; Tony Donohoe Ibec; Dr John Sweeney, and all those who attended and participated in the NESC Transition Policy Roundtable.

Executive Summary

Countries across the globe are grappling with the shifts and challenges of climate change and environmental degradation and other transformative megatrends, such as urbanisation, population growth and globalisation. This is in the context of ever-increasing sophisticated technological and digitalisation developments. This report addresses two of these interconnected transitions, net zero carbon and digital, which, while challenging, also present economic and societal opportunities.

The Irish Government asked the National Economic and Social Council (NESC) to examine the specific issue of the vulnerability for workers, firms and sectors caused by these two transitions, and to provide recommendations. The Council has done that and sets out its findings and suggestions here, but in doing so has also concluded that addressing vulnerability must be part of a wider vision, a direction of travel for where Ireland wants to get to.

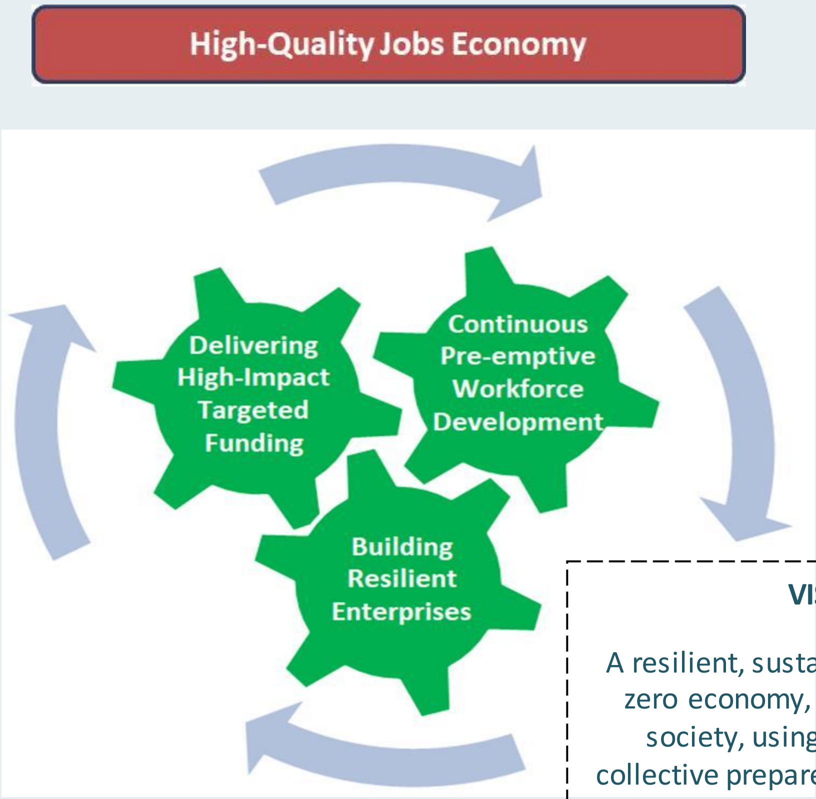
Our vision for Ireland is to become a resilient, sustainable, thriving net zero economy, environment and society, using innovation and collective preparedness to shape the future we want to achieve. It is a vision for an Ireland where the State plays its part in ensuring mission-oriented actions to achieve **a high-quality jobs economy**, and proactively addresses employment vulnerability as part of **a just transition**.

If we accept and adopt this vision, the Council believes there should be three drivers of the Government's response to the employment **vulnerability created by transitions:**

- continuous, pre-emptive workforce development;
- building resilient enterprises; and
- delivering high-impact targeted funding to support transition.

The transition to a low-carbon and digital Ireland must be just: lifelong learning, training and education, effective support for viable but vulnerable companies, and ensuring that funding has the greatest possible local impact must be the priority for government as part of making sure it is.

Even armed with this approach, the Council's research reveals that we can expect the transitions in Ireland to be complex and messy, and to take time. Although we can learn from what has worked well elsewhere, and deploy these three drivers to help vulnerable workers, firms and sectors, when it comes to managing transition for society more broadly, there is no readily available template, recipe or off-the-shelf approach. Every town and region will have its own context and past experiences that will and should shape the response to transition. We know that substantial preparation is required for a just transition, whether it is led by government, regional or local/community-based actors, and that plans must be followed up with government support. The Council's work also shows how social dialogue is an effective mechanism for fostering trust and adopting a problem-solving approach to transition. Finally, an inclusive, place-based approach is necessary, with an overall focus on regional development and investment.



VISION

A resilient, sustainable, thriving net zero economy, environment and society, using innovation and collective preparedness to shape the future we want to achieve.

The transitions to a low-carbon, more technological Ireland are underway. The Government has correctly sought to play its part in mitigating any negative impacts these changes may have on employment. The Council has identified **12 key recommendations to be taken forward by government**. The recommendations outlined by the Council will help to enhance the drive to address the employment vulnerabilities associated with transition.

The Council recommend that the Government, in particular through the Future Jobs Ireland process, should take these recommendations forward. Doing so will help protect vulnerable workers and firms, as one part of a just transition – one that is fair, participative and place-based both in process and in outcome.

The Council also recognises that there is no blueprint or agreed approach to delivering this wider just transition in practice: a bespoke approach is required. The work of the Just Transition Review Group, to be established with NESC working structures, will provide critical guidance in this regard.

Summary of NESC Recommendations

Continuous, pre-emptive workforce development

1. Increase Ireland's ambition for workforce development with higher targets for employee training, appropriate resourcing of key bodies, and incentives for employers to help workers attend programmes.
2. Enhance the skills and training advice available by providing it to workers before they may become unemployed, delivering more quality one-to-one coaching, counselling and mentoring, and making potential 'destination' a key consideration in the design of worker training programmes.
3. Improve the information available on skills and training by making greater use of skills audits, better recognition of people's informal skills, and with more information-sharing between the State, firms and workers.
4. Increase the momentum behind efforts to increase participation in lifelong learning, especially by those who are under-represented in this activity.

Building resilient enterprises

5. Extend appropriate enterprise supports to viable but vulnerable firms, convene inter-agency events and scenario planning, and consider supports for early-mover firms.
6. Increase support to SMEs to allow them undertake development projects in areas that can build resilience, including support for local enterprise-led networks and a new Transition Voucher.

Delivering high-impact targeted funding to support transition

7. Develop specific means of targeting financial support towards those most affected by the transition, to include social clauses and new firm- and community-based self-identification mechanisms.
8. Improve supports for fund-application and local programme development via seed-funding and more place-based investment funds.
9. Enhance engagement between government departments and agencies, and State and EU finance institutions such as the Strategic Banking Corporation of Ireland (SBCI), Microfinance Ireland (MFI) and the European Investment Bank (EIB) to assist firms.

Making it happen

10. Government, through the inter-departmental Future Jobs Ireland process (or similar), should take forward the recommendations of this report to provide more proactive supports for workers, improve enterprise resilience and help target finance to support transition.
11. Enhance communications efforts related to the transitions with a new group with appropriate funding, and roll out a programme to concretise 'the transition' for firms.
12. Establish a social dialogue and deliberative process, called the Just Transition Review Group, to develop a shared vision and associated mission-oriented actions for an Irish just transition.

Part 1:

Introduction

1.1 Introduction

In 2019, the Irish Government made a specific request to NESC in *Future Jobs Ireland 2019* and the *Climate Action Plan:* to identify steps that could be taken to address the vulnerability arising for workers, firms and sectors in relation to the transition to a low-carbon and more digital and automated future. The Climate Action Plan also asked NESC to establish a Just Transition Review Group under its working group structures to advise the Climate Action Delivery Board.

These are deeply connected policy questions. The question of how to protect vulnerable workers, enterprises and communities requires immediate answers, particularly in regions that depend heavily on activities linked to fossil fuels. The Council, in Part 2 of this report, describes a more proactive capacity to manage transition based on enhanced support in three key areas: worker development, enterprise resilience, and funding.

This report highlights ways in which the work of the State, its key government departments and agencies in collaboration with firms can support workers earlier and with more impact on preparing them for change. The report also focuses on the supports provided to enterprises and how these could be orientated to take greater account of firms that, while viable, could be vulnerable during the transition to lower carbon and more digitalisation. In addition, the report considers the role that investment can have in supporting workers and enterprises, noting in particular the need to put policy instruments in place alongside funding to make sure it has the highest, most localised impact. Part 2 of the report also notes the critical importance of the wider enterprise, innovation and regional development policy, particularly in supporting the creation of quality jobs and employment.

However, the clear challenge for the Government, which is reflected in its second ask of NESC, is to move to a more systematic means of identifying, examining and responding to the opportunities and challenges associated with transition. A just transition approach means embracing change, and it embodies a commitment to a participative process of in-depth exploration with stakeholders and those experiencing the transition and change first-hand, particularly in relation to climate. The product of this engagement can be enhanced insight into the transition as it is taking place, and this then will provide an opportunity to develop strategies and plans that will help government to manage the transition.

Part 3 of the report provides a summary of the just transition approach in international, EU and Irish policy. It considers how such an approach might be applied in Ireland. It provides evidence and support for the call by Government to establish a Just Transition Review Group within NESC.

At the same time, it is essential to note that the Council's work in this area reaffirms the importance of an overarching vision, as follows:

Our vision for Ireland is to become a resilient, sustainable, thriving net zero economy, environment and society, using innovation and collective preparedness to shape the future we want to achieve.

This vision helps position action to address vulnerability within a clear direction of travel. A vision and mission-oriented action, reflecting the need for ambitious policy and practice, is needed to help maintain consensus, urgency and buy-in for implementation of policy action that is needed to minimise and respond to any negative impacts arising from transition. Conversely, the absence of a vision can make it more difficult to bring everyone along, increase resistance to necessary change, and diminish trust.

In addition, the work by the Council in this area challenges any assumption that implies that successful change will occur through market measures alone and that policy should be aimed simply at preparing for any attendant negative impacts such as job losses when they arise. There are considerable public governance challenges in any transition, particularly with the complexity of climate change, combined with the scale and speed of the changes required at multiple levels of the economy and society (OECD/IEA/NEA/ITF, 2015).

Thus, this vision involves accepting the anticipatory and developmental role of the State, working collaboratively across multiple levels, and understanding that social and spatial context matters. While a focus of this report is on state action, firms also have responsibilities in the just transition process. Working towards this vision can drive technological progress and innovation for societal benefit and help achieve a low-carbon transition, rather than opportunities being limited by technological developments. Such a vision for Ireland's low-carbon and digital future centres public policy in fairness and justice, and can help place the focus on new, high-quality jobs and opportunities, not just mitigate the impact on existing ones.

The vision outlined here is underpinned by the UN's Sustainable Development Goals (SDGs), two of which directly relate to climate action (SDG 13) and decent work and economic growth (SDG 8) (UN, 2015). It involves maximising opportunity while minimising negative impacts, so as to deliver a transition that is just and arrives at an inclusive society where everyone has access to stable, good-quality and rewarding employment. This vision provides a direction of travel for action to address employment vulnerability, and at the same time is aligned to other goals, for example those on poverty and other relevant SDGs, as well as national legal obligations on biodiversity and water, as part of a thriving society.

To support its work in this area, the Council established a Working Group that undertook in-depth research to examine these complex issues and inform the recommendations that follow in this report (see Box 1.1).

Box 1.1: The Research Approach

The Council established a Working Group in April 2019, chaired by Professor Sinéad O'Flanagan. The Appendix provides a full list of members. The group supported the in-depth research by the Secretariat into approaches to transition policy around the world, into how vulnerability is assessed internationally and what that tells us, performed an examination of how transition will affect certain sectors, and reviewed the existing relevant training/reskilling, enterprise, and funding supports.

In addition to the desk-based research, members of the Secretariat and the Working Group chair held early meetings with key stakeholders in the Midlands Region (e.g. Bord na Móna Senior Management Team, representatives of the Bord na Móna Group of Unions, and the Midlands Regional Transition Team). They also participated in follow-up meetings with Midlands stakeholders, including the Midlands Regional Enterprise Plan Committee.[1] The engagement with key stakeholders informed many subsequent aspects of the work as well as the Council's advice and recommendations. The lessons learned – and still emerging from the Midlands experiences – helped to shape the Council's advice on worker and enterprise development, along with recommendations on the operation of any new regional transition teams.

The evidence drawn from the field research helped to illustrate and bring to life the impact of policy recommendations on individuals and communities. This work in turn ensures that stakeholders feel engaged in policy development, which is an essential step in creating buy-in and overcoming apprehension about these significant transitions. The approach to the development of an overall framework of action and the specific recommendations was to a large extent coproduced with key groups, experts and stakeholders. The approach and the recommendations were discussed in detail at a number of Working Group meetings, bilaterals with relevant government departments and agencies, a Departmental/Agency Roundtable, and through meetings with regional bodies, including the Midlands Regional Transition Team and a number of the Regional Enterprise Plan Committees.

1 It is important to note that, while the experiences to date of transition in the Midlands were examined as part of this research to inform the formulation of policy advice (see Box 2.1), these experiences were not the focus of this research. This work examines transition at a national level, and in terms of the broader transition to a low-carbon economy (not just the end of peat harvesting) as well as the ever-increasing use of technology.

Part 2:

Supporting Vulnerable Workers and Firms

2.1 Introduction

Part 2 of this report focuses on the Government request to NESC in *Future Jobs Ireland 2019* to identify 'what steps can be taken to address the vulnerability arising for workers, firms, and sectors from these unprecedented transitions'.[2]

It is structured as follows. Section 2.2 provides an overview of the low-carbon and digital transition. Section 2.3 examines the national and international research and modelling work in relation to which workers, firms, sectors or places can be identified as most vulnerable.

Section 2.4 focuses on the importance of quality jobs to the vision outlined by the Council and identifies three drivers that will help deliver quality jobs and smooth the transition to low carbon and digital. This section also outlines the Council's recommendations in relation to each of these levers. Section 2.5 highlights the important role that wider supporting policy, in particular enterprise and regional development policy, play in driving the transition.

Section 2.6 outlines the Council's views about how to ensure that these recommendations are taken forward within the policy system.

2.2 Two Transitions: Low Carbon and Digital

There is increasing pressure on world leaders to deliver urgent and ambitious action if we are to stay within the temperature limits of 1.5 or 2.0 degrees as informed by the work of the Intergovernmental Panel on Climate Change (IPCC).

To achieve this requires an urgent transition away from fossil fuels and implementation of the Paris Agreement, which in practice means a deep decarbonisation of all sectors, leading to disruptive effects on high-carbon regions and sectors (Popp *et al.*, 2018).

---

[2] This report deals with the identification and response to the vulnerability posed to employment by transition, not with how Ireland should transition to a low-carbon, more digital future. There are a number of national strategies that address this broader challenge (e.g. *Climate Action Plan 2019*, *Future Jobs Ireland 2019*) and the Council has published a series of relevant research reports in this area, most recently *Climate-Change Policy: Getting the Process Right*.

The OECD argues that the urgency, scale and speed of the required economic transformation are unparalleled, and infrastructure choices made over the next few years will be crucial (OECD, 2017). While the decarbonisation of the global economy will bring immense benefits in the aggregate and to many individuals, it will also be disruptive and costly for certain cohorts, at least in the short term (Green & Gambhir, 2019).

Ireland must rapidly decarbonise our economy and society in a short period of time. There is an unquestionable need to decarbonise our economies, businesses and lifestyles at a pace and scale that will and must profoundly transform how we produce energy, the homes we live in, the food we eat and how people and goods move. Our future energy system is not only going to be fuelled differently but must be more efficient, with firms and homes seeking to minimise energy use. Investment, skills development and job creation in energy efficiency and smart energy management services will be an essential feature of the transition from fossil fuels to sustainable energy.

In parallel, extraordinary structural changes are being driven by far-reaching technological breakthroughs (e.g. digital technologies, artificial intelligence, automation, 3D printing, bio-based production and nanomaterials). These technological changes are transforming the production and distribution of goods and services, creating new businesses and business models and delivering private and public services in new ways (OECD, 2018b; World Bank, 2019). Such interconnected transitions – to a low-carbon economy, and to the ever-increasing use of technology – will be disruptive and costly for some vulnerable workers, firms and sectors, at least in the short term.

The technological changes that are under way at present can be viewed as a fourth industrial revolution. The industrial revolution began in Britain in the 18th century; steam power was the central technology in an era of increased mechanisation and larger-scale production. A second industrial revolution, building on the first and exploiting new energy sources (electricity, gas and oil) and improved communication methods and connectivity, started in the late 19th century. A third industrial revolution is seen as starting around 1970, centred on information and communications technology, while this fourth industrial revolution is based on a new phase of digital technology combined with other technological innovations. For the digital transition, the emergence and interlinkages between technological breakthroughs will transform the production and distribution of goods and services over the next 10 to 15 years (OECD, 2018b).

A key focus of government policy, such as *Future Jobs Ireland* and the *Climate Action Plan*, is identifying and supporting the emergence of the associated opportunities, while disruptive, technological developments can provide opportunities to create new jobs, increase productivity, and deliver effective public services.

Through innovation, technology generates new sectors and new tasks (World Bank, 2019: 2). The digital transformation is already having a wide-ranging impact on the business environment, creating both opportunities and challenges (OECD, 2018a).

The speed of adoption of technological advances is spurring the emergence of new global business models, products, markets, sectors and activities, as well as disrupting ways of working and affecting skills needs. Ireland's current enterprise policy, *Enterprise 2025 Renewed*, notes that:

> … the world of work is changing – the world of business investment is changing – the way of doing business globally is changing. Today's jobs are evolving as technologies in the work place are adopted – some of today's jobs will be replaced by new ones while others will be redefined (Government of Ireland, 2018: vii).

A report published by Accenture (Purdy & Daughery, 2017) interpreted artificial intelligence (AI) as a new factor of production with huge potential to boost productivity growth. Based on modelling across 12 developed economies, it estimated that the application of AI could double economic growth by 2035.

However, while different, the digital and low-carbon energy transitions share common elements as they require preparation and planning in order to maximise opportunities and minimise risks and impacts. It is difficult to separate them in practice. For example, future technological advances may drive efficiencies to help reduce energy demand, while the search for low-carbon solutions may spur on digital innovation.

Further, it is important to note that these complex transitions are not occurring in isolation from other global trends and potential transformations, e.g. megatrends such as urbanisation, population growth and globalisation, as well as the move towards a circular economy, and increased protection of biodiversity, habitats and ecosystems, etc. Societies and economies are becoming increasingly service-oriented and urbanised.

The transitions to low-carbon and more technology use are also happening at a time of considerable economic risk. At the recent launch of the process to devise the next iteration of the national employment and economic strategy (*Future Jobs Ireland*), a central guiding principle was that there is zero tolerance for complacency at any level of government about the health of Ireland's economy.

This is in a context where total employment now stands at over 2.3 million, up more than 53,000 in the last year. The lessons from the economic crisis post-2008, the resulting infrastructure and service deficits, and the potential for Brexit to negatively affect our economy, all reinforce the need for vigilance and action.

Thus, despite Ireland's strong performance, the Council sees good reason for caution, but not inaction. The interconnected transitions to a low-carbon and digital economy and society can increase the vulnerability of some workers, firms and sectors, making a proactive response essential.

In summary, these two profound and interconnected transitions have the potential to reshape the nature of work in Ireland. The opportunities that arise on foot of environmental and technological developments, and how to manage the challenges these changes will inevitably cause for some workers, firms and sectors, is a key focus of this work by the Council.

2.3 Which Workers, Firms, Sectors and Places Are Most Vulnerable in Transition?

Policy-makers around the world seek the greatest possible certainty about which sectors of their economies are most at risk of disruption from transitions in the coming decades. They want to know how vulnerable workers can be identified and supported to ensure they can reskill or retrain as occupations and industries change.

In this section, the Council summarises international and national efforts in this area, outlines what such efforts tell us, and concludes that certainty to underpin transition policy is difficult to attain and that this will likely remain the case in the near term. This fact underpins the Council's overall advice to government that a proactive and anticipatory approach is crucial. Recommendations in this regard are set out in subsequent sections.

2.3.1 Insights from Modelling

Analytical modelling and research provides some signals about possible areas of impact and potentially vulnerable workers, i.e. workers in declining sectors or potentially obsolete or transforming job roles. Although both transitions are interconnected, they are different and will affect different regions and sectors differently. Thus the Council reports on impact assessments of the two transitions separately.

Overview of the two transitions

Based on the latest available international and national research, the sectors most vulnerable in the transition to low carbon are those employed in the supply of fossil fuels and generation of electricity from peat and coal, transport, parts of manufacturing and agriculture. The agri-food sector is a major sector in terms of employment that will be affected by the move to a low-carbon economy. Particular occupations that will be affected by pursuit of the goals in the Climate Action Plan are those engaged in boiler maintenance and car mechanics.

Turning to the digital transition, the international evidence points to employment being at some risk in a wide range of industries and occupations, although there is no consensus as to which jobs are at greatest risk. There is evidence for Ireland suggesting that there is potential for technology to either replace or substantially change the nature of work for a substantial share of employment (at least 40 per cent) in the following sectors: agriculture; industry; construction; retail; transport and storage; accommodation and food service, and administrative and support services. Thus there are risks to some employment from both transitions in agriculture and associated food processing, transport and parts of industry.[3]

---

[3] The research on the digital transition identifies the broad sector of industry as one in which over 40 per cent of employment is at risk of either automation or substantial change. Research on the carbon tax identifies sectors

Modelling the low-carbon transition

International research has found that the effect on employment of the transition to a low-carbon economy is likely to be modest in terms of numbers. An OECD analysis found that the adoption of a global carbon tax of $50/tonne would lead to job reallocation (i.e. the total of job losses and job gains) for the OECD of 0.3 per cent of total employment (Chatea *et al.*, 2018). This is relatively low compared to ongoing job displacement due to economic factors such as economic downturns or structural change, which has been estimated to affect around 2 to 7 per cent of employees every year in the countries for which data are available (OECD, 2013; Botta, 2018).

While the evidence points to the limited effect of low-carbon policies on aggregate employment (at least up to 2035), these policies can still profoundly affect the lives of specific communities (Botta, 2018).

The ILO (2018) has projected a potential net gain in employment. A carbon tax of $50/tonne is projected by the model used to reduce emissions by 2035 sufficient to be consistent with at least a 50 per cent chance of limiting global warming to two degrees.

These modelling results are subject to three qualifications. First, further cuts would be required beyond 2035, while deeper reductions would be needed to achieve the more ambitious target in the Paris Agreement. Second, the carbon tax does not apply to emissions arising from land use, land-use change and forestry (including agriculture). Third, the analysis is based on combining cuts in greenhouse-gas emissions (GGEs) with continuing economic growth. Some have questioned the feasibility of achieving this (Parrique *et al.*, 2019).

Ireland's GGEs are concentrated in a limited number of sectors, as is the case elsewhere. A recent working paper by the Nevin Economic Research Institute identified six sectors that account for 90 per cent of emissions but less than 9 per cent of total employment. The six sectors are: crop and animal production, and hunting and related service activities; air transport; electricity, gas, steam and air conditioning supply; manufacture of other non-metallic mineral products; land transport; and manufacture of basic metals (Goldrick-Kelly & Nugent, 2019). The non-metallic minerals sector includes cement. This is an industry that is a source of around 8 per cent of global emissions. It is reasonable to infer that it is employment in the six sectors mentioned above that is most at risk from the transition to the low-carbon economy.

The evidence suggests that the impact on employment in Ireland from the transition to a low-carbon economy over the next decade will also be modest. Modelling results from the effect on employment of an increase in the Irish carbon tax to €80 per tonne by 2030 were made available by the ESRI to the NESC Secretariat (see Appendix 1). This forms part of wider analysis which was published alongside Budget 2020 and was both commissioned and funded by the Department

at risk of a fall in employment within the broad industrial category including peat, natural gas supply, petroleum processing and basic metal manufacturing.

of Finance as part of a Joint Research Programme (JRP) with the ESRI (de Bruin *et al.*, 2019). With no recycling of revenue, the projected gross loss of employment by 2030 is 7,275. This represents 0.3 per cent of total employment. Where revenue is recycled, the loss of employment is smaller.

In the 'no revenue recycling scenario', the largest reductions in employment in percentage terms arising from a higher carbon tax are in the following sectors: peat (-12.4 %), natural gas supply (-11.8%), petroleum (-11.2%) and transport (-4.8%), while there are smaller reductions in some manufacturing sectors.

In measuring the impact of the carbon tax on employment, it is important to note that the data presented compares the projected level of employment in 2030 *with* the carbon tax to what the level of employment would be *without* the carbon tax. If there is an underlying trend of growth in employment, there may not be any absolute decline in the level of employment.

The increase in the carbon tax to €80/tonne leads to an increase in energy prices of 10 per cent, while the overall increase in the consumer price level is an average of 2 per cent across scenarios. There is an average estimated reduction in real household income of 0.3 per cent in the period to 2030 where there is no recycling of revenue to households.[4] Poorer rural households face the largest loss in percentage terms from a carbon tax, while for urban households the biggest effect is on middle-income households that have high expenditure on transport. However, if the revenue is used to increase transfers to households, then most households experience an increase in real disposable income; the biggest percentage increases are for the lowest-income households. The Council believes that it is important to ensure that those on lower incomes are compensated for the effects of the increase in the carbon tax.

Regional effects of the low-carbon transition

The most immediate and geographically concentrated effects from the transition to a low-carbon economy arise from phasing out peat-generated electricity and the ending by Bord na Móna of peat harvesting for energy purposes. With the announcements to close two peat-fired generation stations by the end of 2020, this transition is now taking place at a much faster pace than originally planned. Bord na Móna and the ESB have long played major roles in the economy and communities of the Midlands, and the accelerated phasing-out of peat has significant adverse economic and social effects. The Moneypoint power station, in which there are close to 100 employed at present, is also due to close no later than 2025.

The regional impact of climate policies in Ireland was formally examined for the first time in recent ESRI research (de Bruin *et al.*, 2019). This research investigated the impact on employment at county level by 2030 of the combined effects of two policies: (i) the increase in the carbon tax from €20 per tonne to €80 per tonne, and

---

4 The average fall in real household income arising from the increase in carbon tax with no revenue recycling is less than the projected increase in prices. Projected increases in nominal incomes are partly offsetting the increase in prices. Households that do not experience an increase in nominal income would face a larger reduction in real income.

(ii) the removal of peat and coal from electricity generation. As with the previous analysis above, employment in 2030 under these policies is compared to the projected level of employment under current policy or business as usual. Employment is determined by the supply of labour. If employment declines in one sector, those displaced are employed in an expanding sector; the model used does not as yet allow for unemployment.

It was estimated that the combined effect of these policies would be a modest increase in GDP of 0.65 per cent by 2030. The positive effect on GDP arises from phasing out coal-fired electricity generation. All coal is imported. As yet the model used does not incorporate renewable energy, so it is assumed that coal is replaced by natural gas. Some natural gas is domestically produced (65%) and its international price is lower than coal. Both of these mean that the elimination of coal has a positive effect on GDP. This is turn leads to increased government spending and employment.

The estimated regional effects of the low-carbon policies examined are modest. In the vast majority of counties there is a small net gain in employment. The sectors in which employment is most affected are mining (a decline of almost 8% by 2030) and transport (5% decline).

The fall in employment in mining is due to peat for which employment in 2030 is projected to be 30 per cent lower than it would otherwise be. The counties with the highest share of employment in mining are Roscommon and Carlow. Even in these counties, however, this is only around 1 per cent of total employment. Despite its high share of mining employment, Roscommon is among the counties with the largest net increases in employment, along with Tipperary and Galway. The reason for this is that these counties have a relatively high share of employment in health, education and government administration, sectors that experience an increase in employment. In the case of transport, the counties with the highest share of employment are Dublin and Monaghan, with transport representing around 6 per cent of employment in each of these counties.

Only a handful of counties experience a net fall in employment. The largest estimated falls in employment by 2030 are Dublin (-0.1%) and Westmeath (-0.06%). In the case of Dublin, this arises from the concentration of transport employment in that county. In the case of Westmeath, it reflects that county's below-average share of health employment (health is the sector most positively affected in terms of employment).

These results on the regional effects may seem surprising in the light of the concern regarding the impact on employment in the Midlands arising from Bord na Móna's withdrawal from peat production for energy purposes (see Box 2.1 for more on lessons from the Council's examination of the Midlands). The inclusion of indirect employment gains reduces somewhat the regional effects of falling employment.

The major reason for the modest effects examined here is that the employment in question is a small share of employment at county level. The effects are larger for smaller areas and the communities affected.

Box 2.1: Lessons to Date from the Midlands Experience

As part of this research, the Council has looked at the experience of the transition in the Midlands to date. Following engagement with key stakeholders in the region, the following high-level lessons emerged and have informed the Council's recommendations throughout this report:

- Support better employee engagement arrangements that facilitate collaboration, joint problem-solving and conflict avoidance/resolution to identify strategies in response to the transition challenge and to resolve issues between employers and employees at local level.
- Develop arrangements that encourage and facilitate interaction at local level between companies, agencies and other stakeholders, overseen and mandated if necessary by a nominated member of the Transition Team.
- View skills audits as a vital tool and data source for individuals, companies, agencies, communities and regions regardless of whether or not they are vulnerable. Must recognise tacit knowledge/prior learning, and skills beyond 'job titles'.
- Facilitate the sharing of skills demand/availability information in a timely fashion between employers and employees, companies and agencies so that people can make the right choices for themselves and receive the supports that they need.
- Incentivise employers to facilitate vulnerable employees to avail of and attend training, upskilling and development opportunities that may or may not be relevant to their current work with the company.
- Provide 'seed funding' designed to support small companies/groups of workers who wish to avail of the funding that is being made available by government and the EU (e.g. the Climate Action Fund) and who do not necessarily have the time, resources and expertise required for a successful application.
- Fund the preparation of 'non-commercial' proposals and plans by and for vulnerable communities.
- Reward companies that undertake transition strategies early/on a voluntary basis.
- Ensure maximum, targeted impact of transition funding (e.g. social clauses).
- Avoid a one-size-fits-all approach in the design of responses and supports at local level. There will always be local issues to be resolved which will require direct customised responses and supports tailored to meet the needs of individuals, companies, communities and regions.

Modelling the digital transition

There is broad consensus that the evolving and dynamic digital transformation process presents both opportunities and challenges for governments, businesses, communities and individuals. There is uncertainty concerning the impact of the digital transition on employment but a number of studies have suggested very large potential effects.

Research on the composition of work has distinguished routine and non-routine tasks. Routine tasks are those based on explicit rules that lend themselves to replacement by machines. However, in recent years computerisation is increasingly being applied to non-routine tasks. Examples of non-routine tasks to which automation is now being applied include legal writing, medical diagnostics and driving of vehicles (Frey & Osborne, 2013).

Baldwin draws on the distinction between 'thinking slow' and 'thinking fast' as set out by Daniel Kahneman (2011) to explain some of the advances in computing. 'Thinking slow' is the logical conscious way of solving a problem; for example, doing a complicated calculation. 'Thinking fast' involves instinctive thinking where we are not conscious of how we are doing it; for example, the ability to regain one's balance when one stumbles or to recognise a cat. Computers are much faster than humans at doing some 'thinking slow' tasks such as computation using step-by-step instructions. In recent years computers have also acquired competencies to address some 'thinking fast' problems.

Baldwin identifies 'machine learning', a form of artificial intelligence (AI), as the key technology that has given computers new abilities. Machine learning involves a computer (the machine) using data to work out how to guess the solution to a problem (learning) rather than using step-by-step instructions.

Machine learning is not new. However, advances in computer power and access to huge volumes of data ('big data') have meant that computers are now able to undertake certain tasks with human-level performance. By learning to recognise patterns using enormous datasets, computers have acquired new abilities. Computers have become competent in reading, writing, understanding spoken language and recognising subtle patterns. AI and machine learning are general-purpose technologies that can be deployed across different sectors of the economy.

In addition to the impact of digital technology on employment, Baldwin points to a further potential threat to employment in developed countries from what he terms 'telemigration'. This involves living in one country while working remotely in an office in another country on a freelance basis; it is the 'gig economy' on a global scale. Technological advances are making it possible for educated people in less developed economies to compete with well-paid employees in high-income countries by providing services through online freelance IT platforms.

In recent years several research studies have sought to quantify the potential impact of developments in technology to undertake work currently done by people. The first of these studies found that 47 per cent of employment in the US is at high risk of computerisation (Frey & Osborne, 2013: 44).

One limitation of this study is that it does not take account of variation in the tasks performed by different individuals in the same occupation. This feature was addressed in a number of subsequent studies, including Nedelkoska and Quintini (2018). They estimated that 14 per cent of jobs were at high risk of automation (a probability higher than 70 per cent) across the OECD.

In addition to the jobs at high risk of automation, they found that, across the OECD, 32 per cent of jobs are likely to change radically as individual tasks are automated. These were jobs for which the estimated probability of automation was in the range to 50 to 70 per cent. This suggests that the digital transition will have a direct and substantial impact on approximately 46 per cent of those employed across the OECD.[5]

The studies referred to above are about the potential impact of new technology, which is not the same as predictions of what will happen to employment over a defined time horizon. The authors of these studies point out that the actual adoption will be influenced by economic, social and regulatory factors. Other studies have developed predictions of the impact of technological developments on employment.

One study by the McKinsey Institute estimated that the displacement of employment by 2030 ranged from 15 to 30 per cent of global employment, although it expected that continuing economic growth would still mean that total employment would increase (McKinsey Global Institute, 2017).

A study by the World Economic Forum (WEF) of the likely trend in employment in large companies over the shorter period 2018 to 2022 predicted that 133 million new jobs would be created and 75 million jobs lost from the changing division of labour between people and machines. This study was based on a comprehensive survey of senior HR managers (World Economic Forum, 2018a).

In terms of roles, the WEF has identified the following top five roles as most at risk in the years to 2022: data-entry clerks; accounting, bookkeeping and payroll clerks; administrative and executive secretaries; assembly and factory workers; client information and customer service workers. Since most of these roles are not sector-specific, those employed in them (e.g. accounting clerks) are vulnerable regardless of the sector involved.

The top five likely to see increased demand in the short term are: data analysts and scientists; AI and machine-learning specialists; general and operations managers; software and applications developers and analysts; and sales and marketing professionals.[6]

---

5 This was an OECD research paper and their forecasts for the impact of digitisation on employment are now used by the OECD in their official publications. See OECD Employment Outlook 2019.

6 Sales occupations have also been identified in the literature as at high risk of automation. In some cases, short-term demand may differ from longer-run technological possibilities.

Baldwin surveyed a number of studies on the future impact of automation. He considered the studies he examined to be essential reading but far from infallible:

> They are, after all, talking about the future, which means they are making it up – making it up using sophisticated methods and the best available data, but still, they are guessing (Baldwin, 2019: 160).

Baldwin's judgement is that in the long run job creation will offset job losses but possibly not in the short term.

An Irish research paper (Doyle & Jacobs, 2018) applied two methodologies from the international literature to estimate the exposure of Irish employment to automation in the long term. With both methodologies, it was estimated that two out five of those employed in Ireland faced either a high risk (probability of more than 70 per cent) or a significant risk (probability of 50 to 70 per cent) of automation. Both methodologies found six sectors in which at least 40 per cent of employment is at either high or significant risk: agriculture; industry; construction; wholesale and retail trade; transport and storage; and accommodation and food service activities. Apart from agriculture, where employment has long been subject to decline, the sector in which pressure on employment is most evident in recent years is retail and wholesale. Employment has hardly increased in the past three years despite the strong growth in the economy.

The Expert Group on Future Skills Needs estimated that digitalisation would result in employment in 2023 being 1.8 per cent lower than it would otherwise be, although they projected that there would still be substantial growth of total employment in this period (an increase of 12.6% between 2017 and 2023). The stakeholders interviewed for the Expert Group report expected a larger impact on employment in the subsequent period of 2023 to 2030.

Most recently, a new report by DCU Business School and Maynooth University found that AI research can have a significant economic impact.[7] The report highlights that 593 full-time jobs were created in Ireland last year alone as a result of research produced by ADAPT, Science Foundation Ireland's (SFI) Research Centre for Digital Media Technology. According to the study, for every €1 invested by the State, the ADAPT SFI Research Centre generated €5.30 for the Irish economy, equating to more than €300m in just three years.

The potential large-scale displacement of employment from the digital transition raises the possibility of significant adverse social effects. This could arise if there is a period during which digital transition, or indeed low-carbon transition, leads to job destruction at a faster rate than new employment is created. As noted by the Council, successful digital and low-carbon transition that avoids social disruption requires a proactive approach to governance structures and policies. Policies required to successfully adopt to the digital transition include skills/upskilling/reskilling; infrastructure; encouraging innovation; and entrepreneurship that generates new employment.

---

7 https://dbei.gov.ie/en/News-And-Events/Department-News/2019/September/24092019.html

Regional effects of the digital transition

The potential impact of automation on employment in regions in Ireland was examined by Doyle and Jacobs (2018), using the methods of Frey and Osbourne (2013) and Nedelkoska and Quintini (2018) that have been discussed above. This involved applying the estimated risks of automation of different occupations to the occupational profile of each region. With the Frey and Osborne method, the regions with the highest proportion of employment in the high-risk category were the Border (33.4%) and the South-East (33.4%), while the estimated share of employment at high risk was lowest for Dublin (28.4%). For the other regions, the estimated shares in the high-risk category were clustered around 32 per cent. With the Nedelkoska and Quintini (*ibid.*) method, there was somewhat less regional variation in the risks of automation but again the two regions with the highest shares of employment at risk were the South-East and the Border, while the lowest share of employment at high risk was in Dublin.

The impact of automation on employment in 200 towns across Ireland was estimated by Crowley and Jordan (2019) using the Frey and Osborne methodology. They found that the average percentage of jobs at high risk of automation was 44.2 per cent, with large variation across different towns. The share of employment at high risk of automation ranged from a low of 26.1 per cent (Bearna) to 57.8 per cent (Edgeworthstown).

The five towns with the lowest share of workers at high risk were: Bearna (26.1%), Strandhill (28.6%), Malahide (28.7%), Annacotty (30.8%) and Greystones (31. 4%), while the five towns with highest share of employment were Edgeworthstown (57.8%), Ballyjamesduff (57.7%), Carrick-on-Suir (55.7 %), Portlaw (55.1 %) and Clones (54.3 %).

This study examined the factors behind the differences in the risk of automation. It was found that the automation risk of towns is mainly explained by population differences, education levels, age demographics, the proportion of creative occupations in the town, town size, and differences in the types of industries across towns. In addition, the authors also looked at the patterns among nearby towns to see whether high-risk or low-risk towns are surrounded by towns at similar risk. In this regard they found a complex pattern: many towns at high risk had nearby towns at low risk and conversely many low-risk towns had high-risk neighbours. They also found concentrations of towns at lower risk and, separately, towns at higher risk.

The policy conclusion drawn by the authors and supported by the Council is that the variation in automation risk across areas suggests that a localised, place-based, bottom-up approach to policy intervention is required.

2.3.2 Conclusions

The evidence points to the low-carbon transition having a modest effect on total employment. However, digital technology can be deployed across the economy, with estimates suggesting the potential to have some effect on 40 per cent of total employment.

There are risks to some employment from both transitions in agriculture and food, transport, and parts of industry. The complexity and uncertainty surrounding the precise impacts (positive and negative) of the transitions to a low-carbon but more digitised economy and society is widely accepted. Internationally, governments have undertaken and relied to a substantial extent on economic modelling to inform their policy response. There is also a lack of economic modelling data and research on the interaction of transitions with one another.

Therefore, the Council recommends that government take steps to improve the evidence-base for policy-makers as one of a number of cross-cutting actions, the details of which are set out in section 2.6.3. The Council suggests that future efforts to gather evidence to inform policy-making for transition involve a combination of quantitative and qualitative techniques, which allow objective data-driven findings to be augmented by first-hand expertise from various sectors and communities.

2.4 Vision, Quality Jobs and Three Drivers

The Council's vision is for Ireland to become a resilient, sustainable, thriving net zero economy, environment and society, using innovation and collective preparedness to shape the future we want to achieve.

Central to this vision are quality jobs or 'good' jobs. The development economists Rodrik and Sabel argue that prioritising good jobs is a means of tackling the root cause of the inequalities and exclusionary tendency evident in dominant economic development models (Rodrik & Sabel, 2019). They propose a strategy of building a good jobs economy, which they argue can help address the underlying causes of inequalities, rather than over-reliance on the correction of inequalities based on redistribution through taxes and transfers.

Research in Ireland has argued, similarly, that good quality jobs are key to tackling low wages and in-work poverty, unlocking individual potential, building healthy and thriving communities, and ensuring that paid work contributes to a better quality of life (Irvine, 2019).

The Council supports the focus on quality work and good jobs,[8] and in particular views this as critical in tackling vulnerability in transitions. The Council suggests that

---

[8] Recent research notes the importance of exploring what precisely is understood by 'quality jobs' (Goverment of Ireland, 2019). The quality of work can be assessed with reference to the nature and resilience of the employment; in terms of the job's productivity, competitiveness and output, or in terms of working conditions and income, etc. TASC (Think Tank for Action on Social Change) points out that a good job offers a decent wage for the cost of living, protects individual dignity, allows the worker to plan for the future, and treats fairly particular categories of workers, such as migrants and disabled people. TASC argues that policy has to consider

government take the broadest possible approach, looking at the quality of work from the perspective of the performance of the economy, from the perspective of enterprise policy, and from the perspective of the worker. The breadth of perspective should not be limited by the availability of data, and where data availability is an issue, government should take steps to remedy this; for example, by examining the methodology and sampling in the CSO's *Labour Force Survey* to help reveal the prevalence of second jobs, and in which sectors, and to better understand the extent of platform or precarious working.

The Council presents a framework for action to assist the State to manage transitions more effectively and fairly, one that is not a business-as-usual approach but that recognises, anticipates, and proactively plans for transition. There are three drivers, as summarised in Figure 2.1.

Figure 2.1: Three Drivers of a Proactive, Place-based Response to Vulnerability.

what makes for a good job, rather than just the job itself: 'Today in Ireland we need policy to go beyond the narrow, if important matrix of skills and job supply to seek to promote jobs that contribute to public optimism and perceptions of a flourishing society' (Cohen, 2019: 5).

The first driver reflects a consensus in the literature (Pochet, 2017; World Economic Forum, 2018b; OECD, 2019b) that lifelong learning, training and education represent the best way to prepare for and address the complex and uncertain changes associated with climate action and digitisation. Thus, the continuous development of the workforce is the primary, key driver of jobs resilience and inclusive transformation.

The second driver of sustainable jobs in transition must be a resilient enterprise base. The concept of resilience has been central to national enterprise policy since 2018. Ireland has a well-established architecture for supporting enterprise and attracting global investment, including support for research, innovation and adoption of new technology. These enterprise supports are, with good reason, focused on growth potential and job creation, and this has delivered considerable benefits for the State and its citizens. The challenge in the context of the transition to a low-carbon digital future is how to provide effective support for viable but vulnerable enterprises; for example, how to support vulnerable firms to maintain employment in a context where job roles and associated task content are changing.

Thirdly, the State has allocated substantial investment that can support the transition to a low-carbon economy and the digital/technological transition across a range of dedicated funds such as the Climate Action Fund and, most recently, the Just Transition Fund. The Council believes that a key driver of sustainable jobs must be ensuring that funding to support transition has the greatest possible local impact. The framework for action below includes recommendations to make this happen.

The Council views these as drivers – not objectives, ambitions or outcomes: they are to impel necessary action by policy-makers. The Council believes that, taken together and properly supported, these drivers constitute a virtuous circle at the heart of the Council's suggested approach to vulnerability and to help deliver a high-quality jobs economy. Continuous, pre-emptive workforce development can help foster and sustain resilient enterprises, which can then help generate and leverage high-impact funds that can be targeted to support transition. The ongoing development of the workforce in increasingly resilient enterprises, in a context of high-impact investment, helps deliver a high-quality jobs economy, 'restarting' the cycle.

A commitment to pro-actively consider changes and to search for opportunities is a critical aspect of how Ireland can manage the transition to a low-carbon and digital future. While these three drivers are essential to managing vulnerability in transition, they alone will not guarantee a high-quality jobs economy.

The Council believes that an inclusive transformation in Ireland must also include overarching, relentless action by policy-makers to maximise high-quality alternatives and opportunities for those workers, firms and sectors that become vulnerable in the transitions (see section 2.5 below). The transition to low carbon will create new economic and social enterprise opportunities in areas including renewables, the marine, and the growth of circular and bio-economy activity. Employment opportunities and health benefits will also arise from residential retrofitting activity (IEA, 2015). It is important that the identification, fostering and taking of opportunities are consistent within our broader goals, to protect against the establishment of short-term jobs and short-term industries that are not compatible with the vision set out by the Council above.

At the same time, societal priorities are reshaping how technologies are used. Preparing for and managing successful transitions must continue to be a central theme in our national economic development agenda, and emerging policy must assist workers, firms and sectors to prepare for challenges and take advantage of the opportunities. This must continue to be the overall context if the framework for action outlined by the Council is to be successful in responding to vulnerability.

2.4.1 Continuous Pre-emptive Workforce Development

Continuous development of the workforce is the primary driver of jobs resilience and inclusive transformation. Our recent engagement with skills policy experts reveals that the transitions give rise to a spectrum of skills activity: from upskilling, to delivering new skills and role training, to developing metaskills (self-management, self-management, social intelligence, innovation and imagination). While not an exhaustive list, the following provides some examples of this skills activity.

(i) Upskilling

Upskilling activity will be needed in our enterprise base, improving capabilities in project management, lean practices and processes, digitalisation, and leadership and performance management. The increased demand for specific building and retrofit skills will mean improving the knowledge of building and industry standards, and technology-specific training opportunities. This is especially true for the most complex retrofit measures (heat pumps, solar thermal and PV systems, and for pre-1940s buildings).

There will be a demand for upskilling for ICT application in construction, including Building Information Modelling. The transition to low carbon will reshape some practices in land-use/development and the agriculture sector, with, for example, increased demand for knowledge in precision-based agriculture, peatland restoration and rewetting, upskilling in diversifying production bases, water-catchment scientists, and water-resource planning. Habitat preservation and biodiversity capability will need to feature in education and training initiatives for the land-use planning and transport planning sectors. The low-carbon transition may lead to upskilling requirements for the transport sector in, for example, auto mechanics, vehicle testers and trainers, and HGV/bus drivers. There will be a need to better understand climate impacts leading to upskilling opportunities for those working in economic appraisal, insurance and engineering. Those working in community and NGO sectors will need to enhance their skills to quickly and effectively engage on what they can realistically do to support climate action and building climate resilience.

Finally, the redeployment of workers from vulnerable sectors will require upskilling so that they can avail of opportunities: for example, from working on oil rigs to working with wind turbines, from working as a bog-operative to working as an ICT process technician, from working on bog-drainage to working on the proposed Shannon-Dublin water supply project for the Eastern and Midlands region.

(ii) New Skills

The delivery of new skills and role training represents another part of the spectrum. For example, new skills in marketing, engineering, mechanic and waste activity will be needed in the transport/EV sector. New technical skills will be needed for the installation and maintenance of vehicle refuelling infrastructure. In the bio-economy sector, skills will need to be developed for resource production and management, and, in science, engineering, technology and legal/regulatory roles.

For the energy sector in general, increased skills demand can be expected (e.g. in grid management; installing solar PV, heat pumps). To meet demands from the offshore energy sector, new skills training must be delivered in marine construction, assembly, installation, operation, maintenance and administration. Changes in building methods can be expected to spur skills demand in the offsite manufacturing of dwellings or other approaches to modern construction.

Finally, meeting the climate challenge will likely drive up demand for skilled workers in the areas of research, data analytics, meteorological science, and forecasting and monitoring.

The availability of skills across a number of areas affected by climate change such as flooding, spread of pathogens, increased pollution, and water treatment will also be important. The transitions to low carbon and more digital may also see local-authority and public-sector planning bodies seeking new skills to develop and apply new and wider policy perspectives at the intermediate ‘policy translation into action’ stage.

(The need to improve the delivery of metaskills is discussed later in this section.)

Increased ambition for workforce development

The Government’s policy framework for workforce development, *Skills to Advance*, anticipates increasing the number of learners by 25,500 and the number of employers supported to upskill their workforce by approximately 4,000 over a four-year period. In order to drive ambition in this critical area, the Council recommends that, given the critical nature of these interventions, the Government – subject to available resources – adopt new, higher worker development targets. In parallel, the State must ensure that the ETBs in particular have the appropriate resources and capabilities to provide more courses across a broader range of skill areas.

The Council also recommends the expansion of relevant worker-training programmes. The type of labour-market intelligence generated by the relevant institutions is influencing positively the design and development of appropriate training provision in the *Explore, Springboard+,* and *Skillnet Ireland* programmes. For example, *Springboard+* 2019 and Skillnet Ireland are industry-focused and demand-led programmes. In both, enterprises are directly involved in the design of programmes to address specific labour-market skill gaps. The *Explore* programme, which was designed by the regional skills managers in close collaboration with the ETBs and manufacturing industry representatives, highlights how a flexible, targeted and customised training programme can stimulate engagement by individuals with low levels of formal skills or educational attainment. Upskilling courses are being developed within these programmes to address identified skill needs associated with both digitisation and the low-carbon economy. It will be important to accelerate the development and design of relevant employee training programmes, including those that are industry-led. As with all publicly funded training interventions, these worker-training programmes should undergo regular evaluation for effectiveness and value for money.

The *Explore* programme reveals how such initiatives can serve as a bridge to participation in further training by individuals with low levels of formal skills or educational attainment. The programme has been successful in encouraging participation in training by manufacturing workers with limited digital skills and a low level of formal educational attainment, and feedback from employers is that their businesses are also benefiting from this investment. Therefore, the Council recommends that the *Explore* scheme be adapted for other sectors.

Further, the Council believes that an important consideration in relation to resilience, workforce development and lifelong learning is the role of a 'shared response'. This is an interesting characteristic of the Swedish Job Security Councils, which have a long-standing focus on smoothing economic restructuring. The approach provides supports and advice to all the stakeholders in a redundancy situation: the employees, the employers, and the trade unions. The prospect of redundancies is viewed as a shared problem that requires a 'shared response' based on openness, transparency and a willingness to work together. Although much of the attention tends to focus on the capacity of Job Security Councils to secure alternative employment for workers, the continued involvement of employers in this process indicates that they too find it beneficial. That said, the need to incentivise employers to facilitate vulnerable employees to avail of and attend training, upskilling and development opportunities emerged as a lesson from the Council's examination of the Midlands.

Recommendation 1: The Council recommends that government increase Ireland's ambition for workforce development with higher targets for employee training, appropriate resourcing of key bodies, and incentives for employers to help workers attend programmes.

- Adopt new, higher worker development targets subject to resources – to increase the number of employees engaging in training/learning by 30,000 (rather than the planned 25,500) over a four-year period, and the number of employers supported to upskill their workforce by approx. 5,000 (rather than the planned 4,000).
- Ensure that the ETBs in particular have the appropriate resources and capabilities to provide more courses across a broader range of skill areas in line with the objectives and targets set out in *Skills to Advance*.
- Expand relevant worker-trainer programmes such as *Explore*, *Springboard+*, and *Skillnet Ireland*.
- Adapt the *Explore* scheme for other sectors, e.g. agriculture/agri-food.
- Incentivise firms to facilitate participation by employees, especially those who are vulnerable, in training that may or may not be relevant to their current work with the company, mindful of administrative and other costs to business.

Enhanced support before workers become unemployed

Support for vulnerable workers appears to work best when it combines early intervention and access to one-to-one quality and tailored counselling. This is at the centre of the approach of the Swedish Job Security Councils in dealing with economic restructuring. The provision of individual guidance and advice is an integral part of the activation supports that Intreo offices provide to unemployed jobseekers. Unemployed jobseekers may also avail of advice, support and guidance from other organisations, including the Local Employment Service, JobPath, Job Clubs and ETBs.

In addition to continuing to deliver effective labour-market supports, the State should accelerate activity to improve or extend them in light of the ongoing transitions. This should include improving services for those who are currently working but may be vulnerable to unemployment in the near future.

At present, vulnerable employees cannot avail of these types of services until they actually lose their job. This highlights the importance of extending the career advice service provided through the Public Employment Service to those currently in employment who may be vulnerable due to technological and other changes. There is the potential, particularly in the context of near-full employment, to reconfigure the focus of the Public Employment Service by expanding its reach and associated suite of supports so that it can meet the challenges associated with a changing economy and a more dynamic and uncertain labour market.

The increased collaboration with other state agencies, as well as the types of labour-market interventions that the Public Employment Service is undertaking in locations such as the Midlands, indicate the potential benefits that can be gained from investing in, and developing, a robust public employment service that is supportive of the wider workforce and not just those who are registered as unemployed. The provision of the full range of state-supported guidance and advice should be extended to those workers who may be vulnerable, before they may become unemployed. This should form part of an overall effort to help individual workers take ownership of their skills development with support from the State.

Further, the increased complexity and uncertainty in the labour market suggests to the Council that there is merit in exploring how to build up a network of labour-market intermediaries that would provide information and quality guidance. It is interesting to note that both the LEOs and Enterprise Ireland have invested in developing panels of experienced business mentors who can provide one-to-one or group-based advice and expertise to firms at different stages of their life-cycle. The Council believes that similar panels of labour-market/employment mentors should be available to employees vulnerable as a result of the transition to a low-carbon, digital future.

In addition, it is clear that training needs vary according to the previous experience of workers and the sector where they are seeking employment. This difference points to the need to carefully identify potential 'destination' sectors in designing training programmes. Destination zones are important for signposting opportunities to workers, but they may not be suitable for everyone. There is no guarantee that employees who lose employment as a result of transition will necessarily be in a position to immediately avail of new jobs that may be created, and labour-market intermediaries could play a supportive, guiding role here.

Recommendation 2: The Council recommends that Government enhance the skills and training advice available by providing it to workers before they may become unemployed.

- Examine the value of establishing regional networks of labour-market intermediaries who could provide quality one-to-one coaching, counselling and mentoring to vulnerable employees and enterprises.
- Ensure that the identification of potential 'destination' routes is a central part of the design of interventions and training programmes for workers.
- Extend – as soon as possible – the provision of the full range of state-supported guidance and advice to those workers who may be vulnerable to the low-carbon or digital transitions, before they may become unemployed. This should form part of an overall effort to help individual workers take ownership of their skills development, with support from the State.
- Support the development of an expanded Public Employment Service capable of meeting the challenges associated with a changing economy and a more dynamic and uncertain labour market.

Improved information on skills and training

The increasingly dynamic and complex labour market reinforces the importance of gathering robust local labour-market intelligence that can be used to inform the responses of the education and training providers in seeking to address local/regional labour-market needs. The experience of transition to date, for example in the Midlands, reveals how valuable skills audits are in preparing and responding to change. In the Midlands, the ETBs and the Intreo Office have been jointly undertaking on-the-site skills audits in locations where employees are facing transition-related redundancies. FastTrack to Information Technology (FIT), the not-for-profit industry-led organisation, uses in-depth company skills audits to highlight the scale and nature of the demand for different IT skills and also demonstrate how the FET sector, through providing technology courses at levels 5/6 on the National Framework of Qualifications (NFQ), can address these gaps. Quality skills audits or profiles can benefit employees who are vulnerable in the transitions.

The Council therefore recommends that the State sustain its efforts to increase the number of enterprises using audit tools. This activity will also support the collection and analysis of more robust labour-market data to inform the provision of appropriate labour-market interventions in response to transition.

A further lesson from the experience in the Midlands was the need to facilitate the sharing of skills demand/availability information in a timely fashion between employers and employees, companies and agencies so that people can make the right choices for themselves and receive the supports they need.

Importantly, quality skills audits can be used to not only identify formal skills gaps but also to recognise and validate an individual's full range of knowledge, skills and competencies, including those acquired through informal learning and work-based experience. Having in place an effective and agreed system of recognising and certifying prior learning can serve to reinforce the robustness of such employee skills audits. By developing a more comprehensive picture of an individual's skillset, service providers are better placed to identify viable job opportunities and/or propose appropriate upskilling or reskilling interventions. New steps are required to ensure that skills profiles recognise and validate an individual's full range of knowledge, skills and competencies.

Further, the role of education in Ireland's consideration of transition issues to date has centred on retraining, upskilling and provision of career advice, when workers find themselves facing changed roles, tasks and location, or even redundancy. Supports and awareness in this area must continue and be enhanced, but there is also an opportunity to consider how the education system in Ireland more broadly, in conjunction with enterprise, might play a more proactive role in supporting transition in the decades ahead.

International research highlights the need to look beyond upskilling in preparing society for transition, and points to the growing need and demand for 'meta-skills' – self-management, social intelligence, and innovation – in preparing for an increasingly digitised economy, for example. Discussion about the place of these skills in the Irish education and training system has been ongoing.

In this context, the Council recommends that government proactively engage the Irish higher-education institutions (HEIs) and industry in the area of skill-set development for the transition to a low-carbon, digital future. This could include inviting relevant government departments and agencies with responsibilities in the area of skills development to report on developments specifically relating to supporting Ireland's transition to a low-carbon and digital future. It could also involve mapping how these meta-skills have been reflected in and supported by recent developments across the higher-education system. New engagement could also include collecting case studies of evidence of impact, where learners of any age have been taught and been required to demonstrate competence in any of these meta-skills in HEIs.

The Government's forthcoming National Digital Strategy will be important in setting out how Ireland can embrace digital technology advances for the benefit of society and the economy. Although the Government undertook a formal public consultation on the strategy, the range of economic and social issues incorporated in it, allied to the emphasis on ensuring an inclusive transition, suggests to the Council that there is merit in establishing a more structured process of multi-stakeholder deliberation to address specific interrelated issues – i.e. changes in skill needs, technology and the labour market. Denmark, considered a digital frontrunner, has used such processes to inform strategy development and implementation.

Recommendation 3: The Council recommends that government improve the information available on skills and training with greater use of skills audits, better recognition of people's informal skills, and more information-sharing between the State, firms and workers.

- Increase the number of enterprises using audit tools to identify their skills needs and the needs of workers (via the Regional Skills Forum).
- Encourage appropriate information-sharing on vulnerability, and skills needs between workers, firms and relevant state agencies.
- Ensure that skills profiles recognise and validate an individual's full range of knowledge skills and competencies, including those acquired through informal and work-based learning.
- Progress the publication of a national policy on the Recognition of Prior Learning.
- Ensure engagement between government departments/agencies, industry and the Irish higher-education institutions in the area of 'meta' skill-set development for the transition to a low-carbon, digital future.
- Develop a strategy to engage with industry, the trade unions and other stakeholders in identifying and responding to skills needs, labour-market changes and technological developments to inform our national digital transition framework.

Increased momentum for lifelong learning

The pace, scale and nature of changes in the labour market suggest that participating in upskilling and/or reskilling will not simply be a one-off endeavour for a specific cohort of affected workers. Lifelong learning rates are highest for those working in high-skilled occupations or sectors, but lowest among those most at risk to job loss or substantial changes in skills needs as a result of transition.

Therefore, the Council recommends accelerating the momentum in efforts to increase participation in lifelong learning, and exploring ways of increasing participation by those cohorts of workers who are under-represented.

Recommendation 4: The Council recommends that government increase the momentum in efforts to increase participation in lifelong learning activities, in line with the targets set out in the National Skills Strategy.

- Continue to explore ways of increasing participation by those cohorts of workers who are under-represented in such activity.
- Ensure that the lessons from the forthcoming evaluation of the *Explore* initiative are used to support increased participation.

2.4.2 Supporting and Preparing Enterprises

Extending enterprise supports to viable but vulnerable firms

Ireland has a well-established and comprehensive suite of business development supports. It is estimated that there are currently approx. 170 government business and advisory supports available for indigenous enterprises in Ireland (Government of Ireland, 2019). This includes information-sharing and awareness-raising; advisory and mentoring services; financial support; training; research activity, and regional development initiatives. These supports are administered and delivered by a network of 37 state bodies and comprised of enterprise development agencies, government departments, local authorities, sector-specific state/national bodies; local development companies, state-sponsored financial institutions, a cross-border trade agency, business innovation centres and accelerator programmes, etc.

There are a range of 'horizontal' supports for the enterprise sector that are relevant to transitioning businesses (e.g. EI's Lean offerings; innovation and R&D; management development). These activities are strongly focused on companies with growth potential and the capacity to generate additional employment, primarily by building their export capacity, and associated with (potentially) dynamic, competitive and innovative firms.

As a small open economy, it is vital that Ireland continue to develop a robust export-orientated indigenous SME sector as this is a key driver of sustainable economic and employment growth. However, the Council believes that any singular focus solely on high-potential, scaling or exporting firms will probably mean that the State's development agencies will not be best placed to support those firms that are viable but vulnerable to the challenges associated with the low-carbon and digital transitions. This could include firms that operate in the domestic market and are not intending to export and/or enterprises that need support in order to maintain their market presence and employment levels rather than necessarily growing either.

Managing transitions will require the State's network of agencies shifting emphasis slightly to a situation whereby – in the context of any difficult transition to a low-carbon, digital future – they are also able to provide enterprise developmental supports to viable but vulnerable firms across the whole SME sector. The Enterprise Stabilisation Fund and the Short-Time Work Support Scheme offer some guidance in this regard (Box 2.2 provides an overview). Overall, the Council recommends that government extend the range of appropriate enterprise supports beyond high-potential, scaling or exporting firms to viable but vulnerable firms in order to support market and job retention.

The new range of Brexit-related activities and supports demonstrates the capacity of the State's enterprise development architecture to customise and tailor its services in response to a potential external shock. The challenges posed by the digital and low-carbon transitions should not be equated to the challenges posed by Brexit. In the case of Brexit, the challenge is, for example, to encourage a relatively well-defined group of firms to diversify their supply chain and export markets. For the digital and carbon transitions, the 'target group' is potentially far greater and the transitions will be playing out over a much longer timeframe. That said, it is important to acknowledge that there are some lessons we can learn from the Brexit experience.

Box 2.2: Viable but Vulnerable Firms: Historical State Support ….

This box provides details on two schemes used to support viable but vulnerable firms.

- **Enterprise Stabilisation Fund (ESF). This was introduced in 2009 to assist vulnerable but viable internationally trading companies to survive the economic downturn. The overarching objective of the ESF, which was managed by Enterprise Ireland, was to retain jobs and ensure the continued survival and growth of companies. By the time of its closure in 2015, the fund had supported 9,500 jobs. Most of the companies that were assisted are still trading. The establishment of the ESF represented an additional focus for enterprise policy – albeit a temporary one – supporting job growth *and* directly investing in protecting the vulnerable.**

- **Short-Time Work Support Scheme (STWSS). Generally, one of the primary conditions for accessing Jobseeker's Benefit (JB) is that an individual must be unemployed. However, in instances where an employer has temporarily reduced the working hours of an employee who normally works full-time, it may be possible for the employee to access JB under the STWSS provided they meet the other conditions that apply to JB; for example, they cannot work more than three days per week.**

  The STWSS is a temporary support. If the reduction of working hours persists for an extended period, the Department of Employment Affairs and Social Protection (DEASP) will reassess an individual's claim to see if a return to full-time work is likely or if the individual should be reassessed as a part-time worker.

  This scheme was fairly widely used during the deep-seated recession post-2008. With the return to strong economic and employment growth, there has been less recourse to the STWSS. Indeed, it appears that, in general, employers, trade unions and state agencies lack awareness of how the STWSS can be an effective tool for job retention by proving financial support to workers who are facing reduced working arrangements.

For example, drawing on the experience of how they initiated a suite of supports in response to the challenge of Brexit, Enterprise Ireland (EI) can explore how to develop a similar structured and coordinated programme of action for companies preparing for and managing these other different but similar transitions. EI will be developing its new corporate strategy during 2020.

In EI's current strategy, there is recognition of the need, in the context of Brexit, to assist firms to maintain and embed their market position in the UK, and the resulting range of activities demonstrated EI's capacity to customise and tailor its services in response to a potential external shock. The development of the forthcoming EI strategy is an opportunity to attune enterprise development to the impact of transitions to a low-carbon and digital future.

In addition, preparing for the UK's exit from the EU has involved activity by institutions beyond the enterprise development agencies. Building on the ongoing work of the Brexit Liaison Group, a series of Brexit-focused inter-agency collaboration and scenario-planning events were organised by the Department of Employment Affairs and Social Protection (DEASP) with the objective of clarifying the role of each agency in the event of a localised 'employment shock' post-Brexit. These events were attended by relevant government departments, state agencies and enterprise development bodies. On each occasion, an inter-agency meeting was followed by a scenario-planning session in which a number of scenarios were discussed in order to test the response to localised employment shocks of the Public Employment Service, enterprise agencies and associated ETBs. The Government inter-agency collaboration and scenario-planning activity should be extended to help co-ordinate the response to these interconnected transitions.

More broadly, in terms of lessons from Brexit, in response to this challenge the LEOs, EI, InterTrade Ireland and the DEASP all developed a range of supports designed to increase business resilience and to assist them in taking action to more effectively mitigate the risks and avail of the opportunities that Brexit present. Given the nature of the low-carbon and digital transitions and the challenge they present to certain firms and sectors, government could consider if and how the policy architecture, supports and increased inter-agency collaboration can be kept in place.

Finally, as noted in section 2.3, the low-carbon and digital transitions are characterised by considerable complexity and uncertainty. These characteristics serve to compound other constraints that firms face in undertaking developmental projects, and create a context in which it can be very difficult for a business to take anticipatory action. A feature of EI's response to Brexit has been the provision of advice, guidance and financial support that is designed to encourage firms to be proactive in both planning and taking action. The experience of Bord na Móna and the Midlands more broadly points to the challenges faced by a business, its suppliers and other firms dependent on its activities, especially when the firms and region are an early and acute example of vulnerability in transition. The Midlands experience highlights the necessity of taking early action. All of this suggests that similar supports could be provided to firms that are prepared to be 'early movers' in dealing with either the low-carbon or digital transitions.

Recommendation 5: The Council recommends that government extend appropriate enterprise supports to viable but vulnerable firms.

- Ensure Enterprise Ireland explores how to develop structured and coordinated programme of action for companies facing challenges as a result of the low-carbon and digital transitions.
- Ensure Enterprise Ireland's strategic objectives (as set out in its Corporate Strategy 2021-2025) are informed by the challenges for enterprise to transition to a low-carbon and digital future, consistent with the policy priorities identified in Future Jobs Ireland, the OECD SME review and the Climate Action Plan 2019.
- Extend DEASP's Inter-Agency Collaboration events and scenario-planning sessions, established in the context of Brexit.

- Examine if and how, more broadly, the policy architecture, the associated suite of supports, and the increased level of inter-agency collaboration that were established to support firms in dealing with the challenges of Brexit can be kept in place but adapted to assist firms address the challenges and opportunities associated with the low-carbon and digital transitions.
- Consider if and how to provide supports to companies that are early movers in anticipation of transition.

Supporting SMES to undertake development projects to enhance resilience

The Council believes that addressing the challenges of both the low-carbon and digital transitions will require Irish SMEs to increase their level of engagement in innovative activity designed to improve their products, services and/or operational processes.

Compared to large enterprises, SMEs often have limited resources at their disposal for undertaking development projects in areas that can build resilience in transitions and generally improve competitiveness, such as innovation, skills development and internationalisation.

The OECD suggests that there is an opportunity to address these deficits by fostering more local enterprise-led network organisations. There are already a number of relevant supports/schemes, including the Regional Enterprise Development Fund (Clustering stream), the LEO Competitive Fund and the Regional IoT Clustering Fund.

The LEO Competitive Fund has financed collaborative projects related to encouraging the adoption of sustainable business practices and assisting SMEs to deal with the transition to a low-carbon economy. Skillnet is an example of an enterprise-led network approach to policy challenge (employee training). Further, the National Association of Community Enterprise Centres (NACEC) has recently launched a strategic plan for 2019-2021 whereby it will, *inter alia*, improve the environmental performance of its enterprise centres, increase the digital competencies of small firms, and roll out more digital hubs around the country.

In a series of reports since 1996, NESC has expressed the view that a network approach should play a stronger role in enterprise policy (NESC, 1996, 1999, 2002, 2005). Increased collaboration between enterprises and between enterprises and research institutions can be an effective mechanism for overcoming market constraints, and help build firm/job resilience in the transition to the low-carbon and digital future. Engagement in such networks can help build SMEs' resilience to vulnerability by providing an opportunity to participate in developmental projects that they would normally not have undertaken. Enterprise-led networks can also facilitate peer learning, organisational synergies and knowledge exchanges to help manage transition.

Overall, a strong case exists for the need to invest in enterprise-led networks. The OECD's recent review of Irish enterprise and SME policy argues that there is scope to more fully harness the potential of state investments in collaborative innovation (e.g. the establishment of Technology Gateways; the network of industry-led Technology Centres; and SFI's Research Centres). The capacity of these interventions to stimulate increased SME engagement could be improved through incentives directly targeted at financing innovation collaborations between both SMEs and research institutions and also between large firms, SMEs and research institutions. This would expand the State's activity in helping SMEs that want to undertake innovation in preparation for the transitions, and overcome some of the known barriers such as knowledge gaps, availability of specialised staff and access to financial resources.

The recently introduced pilot Productivity Challenge/Productivity Voucher initiative appears to offer a number of learnings for the future development of programmes designed to address the low-carbon and digital transitions:

- It represents a move to extend the eligibility for financial support to domestically focused small businesses.

- Its targeted nature has served to highlight the practical benefits to small businesses of investing in operational improvements.

- Although demand for the vouchers exceeds supply, there is a commitment to engage with all applicants to see what other services or supports can be provided.

- There is a demand for enterprise development supports particularly when they are designed to address a firm's tangible and practical challenges.

- There is scope to examine if the competitive funding model used could be replicated in the future to support SMEs to address other challenges.

Therefore, the Council believes there is an opportunity to consider a new Transition Voucher scheme to fund the provision of expertise to firms that would assist them in responding to the low-carbon and digital transitions.

In addition, building in-house capability and awareness of digital needs and opportunities is critically important to increasing the rate of uptake by enterprises of relevant state-sponsored initiatives. To help support enterprise in preparation for the transitions, NESC suggests that government explore how best to increase the take-up of existing state-sponsored financing programmes to support increased investment in new technology and digital processes, particularly with a view to helping address low skills, and awareness and take-up of key digital technologies.

Recommendation 6: The Council recommends that government increase support to SMEs to allow them undertake development projects in areas that can build resilience in transitions and generally improve competitiveness.

- Provide additional funding for creating and operating local enterprise-led network organisations involving SMEs and related actors, that would focus, in particular, on addressing the challenges and realising the opportunities associated with the low-carbon and digital transitions.
- Draw on the experience of the clustering projects established under the LEO Competitive Fund.
- Capture the lessons from the recent pilot LEO Productivity Voucher scheme to determine if, and how, it can be adapted as a new Transition Voucher scheme.
- Explore how to increase take-up of supports for digitalisation among SMEs.

2.4.3 Delivering High-Impact, Targeted Funding

Using social clauses to target investment

The State has allocated substantial funding that can support the transition to a low-carbon economy and the digital/technological transition. This funding ranges across a range of dedicated funds such as the Climate Action Fund and, most recently, the Just Transition Fund.

The Council believes that ensuring that certain cohorts of employees or particular localities do not suffer a disproportionate share of the burdens associated with the transitions may actually necessitate not only investment, but also additional policy instruments designed to assist the most vulnerable specific groups to capture the benefits of public funds.

Across the EU, member states (in particular Denmark, France, Scotland and Spain) have adopted social clauses in public procurement processes in an attempt to ensure that public funding specifically addresses unemployment for marginalised groups in the labour market. The Council advises government to examine the inclusion of social clauses in relevant state transition funding. The proposed examination should include consideration of EU procurement rules, the concept of social clauses in an Irish context, and lessons from experience here.

The scope would be beyond that of the current cross-departmental Social Considerations Advisory Group and relevant guidance circular put in place to promote and facilitate their incorporation (including environmental considerations) in public procurement projects. These developments indicate to the Council that there is growing recognition within the policy system of the potential to use public procurement to achieve social goals such as the provision of targeted employment and/or training opportunities.

In seeking to harness the maximum potential of ‘social clauses’ or ‘social consideration’ in public investment programmes, it is important to draw on the lessons and experience from not only other jurisdictions but also from Ireland. In this regard, the Grangegorman Development Agency's (GDA) use of a voluntary employment charter demonstrates the potential of such targeted policy instruments.

The Grangegorman project is a nationally significant urban regeneration project that will deliver substantial employment opportunities. The Government should consider establishing a group to manage the use of social clauses in transition funding, learning from the experience of the GDA's Employment and Education Forum and its voluntary employment charter.

Under the charter, the GDA seeks to ensure that 20 per cent of all new jobs created by projects will be on offer to residents of the Grangegorman locality in the first instance and subsequently to the surrounding areas. The implementation of the charter is supported by the local Intreo office who, on being informed of vacancies in GDA-related projects, will seek to match them to suitably qualified job-seekers. Feedback from contractors on the charter has been positive and there is no sense that it is overly burdensome. In 2015, 19 per cent of the employees involved in construction on site were from the local area.

In addition, the Council recommends that government introduce a new firm-level and community-based mechanism for self-identifying and notifying of vulnerability, linked to the availability of additional support. As noted, such a mechanism would not be new to Ireland (see Box 2.2 in Section 2.4.2).

The precise additional supports that a 'qualifying' firm and/or its community could avail of will need to be devised and articulated in advance of opening the mechanism to applications. For example, firms and locations that meet the criteria could receive dedicated one-to-one assistance from the enterprise development agencies (e.g. EI/IDA Ireland/LEOs) and skills and retraining bodies (DES/DEASP/Intreo), and include support ranging from business planning, mentoring and management development supports, to funding to help meet the costs of projects designed to help workers made redundant find another job or set up their own business.

The Transition Voucher proposed above would be an obvious starting point in terms of the initial response. The number of firms applying under such a mechanism, and the level of support/funding associated with it, might be relatively small. The aforementioned Enterprise Stabilisation Fund was established in the teeth of a rapid and intense economic and employment shock, yet it approved and paid out just €80m to 200 companies. That said, the stated objective of the fund was to retain jobs and ensure the continued survival and growth of firms, and in total 9,500 jobs were supported as a result of the fund.

Recommendation 7: The Council recommends that government develop specific means of targeting financial support towards those most affected by the transition.

- Establish a group to manage the use of social clauses, learning from the experience of the GDA's Employment and Education Forum and their voluntary Employment Charter.
- Introduce a new firm-level and community-based mechanism for self-identifying and notifying of vulnerability, linked to the availability of additional support such as a new Transition Voucher.

Improved financial support for fund applications & local development

An issue related to funding is their scale, and accessibility by local, vulnerable groups of workers or firms. For example, the minimum size of the projects under the four relevant NDP funds ranges from €500,000 to €2m, meaning they are relatively significant in terms of scale. These characteristics suggest that it would be very difficult for, say, micro-enterprises, social enterprises, community groups and/or vulnerable firms to be actively engaged and 'winning' funding under these competitive funds.

The Council believes it is important that all affected groups have an equal opportunity to apply for investment – not just from location-specific programmes such as the Just Transition Fund, but also from other relevant national and EU funding programmes. It will be important that any moves to competitive procurement models do not bring unintended consequences in light of the importance of place-based investment and response. There is a concern that community or social enterprise groupings may – as a result of limited access to skilled individuals, specialist knowledge and financial resources – be at a disadvantage in seeking funding, especially in competitive processes.

Local groups in vulnerable areas also require support for 'non-commercial' policy and plan development, as the preparation of such plans is crucial although it is not focused on commercial activity or outcomes. The Council's research highlights the importance and potential of developing place-based responses to the challenges and opportunities associated with transition to a low-carbon, digital future (see Part 3).

One example of a 'regionally' focused state-sponsored investment platform for SMEs is the Western Investment Fund which is operated by the Western Development Commission. Although it is not funding vulnerable firms *per se*, it is providing funding to enterprises and community groups in what is considered a vulnerable region, in terms of economic and social development. The operation of this funding highlights the potential of gathering and using local knowledge and evidence to design appropriate financing platforms that can build on local competitive advantage to create further job opportunities.

Recommendation 8: The Council recommends that government improve supports for fund application and local programme development via seed-funding and more place-based investment funds.

- Consider potential 'seed funding' to support applications for large national/EU funding.
- Support 'non-commercial' policy and plan development in/for vulnerable areas.
- Draw on the experience of the Western Investment Fund, and explore the potential for further place-based investment funds as a vehicle for investing in 'local' enterprises as part of a broader concerted strategy for promoting economic and social development in communities vulnerable in the ongoing transitions.

Enhanced engagement with state and EU finance agencies

There are a number of additional activities in the area of funding in support of transition that the Council believes government should consider. For example, since its establishment, the Strategic Banking Corporation of Ireland (SBCI) has displayed its ability to assist viable but constrained enterprises to access the lower-cost, longer-term finance that they require to continue to grow. As a key institution in the SME finance market, it is evident that the SBCI, working with both national and international institutions, has the capacity to play a role in any future state support for SMEs facing the challenges and opportunities associated with the low-carbon and digital transitions.

Similarly, the Council recommends that Microfinance Ireland and the enterprise development agencies engage in supportive action in the context of the transition to a low-carbon and digital future.

The Council also examined potential EU financing to manage the impact of transitions on employment. This examination found that currently there are no formal EU financial instruments that could be readily used as a mechanism for the direct funding of a programme of action designed to support firms, workers and/or communities that are potentially vulnerable as a result of the transition to a low-carbon, digital economy. However, new mechanisms are planned as part of the European Green Deal. One example of a recent development to be closely followed is the new Sustainable Europe Investment Plan. It includes a complex variety of public and private money streams to create an enabling framework for the transition, with the intention of mobilising at least €1tn in sustainable investments over the next decade (2021-2027). The Just Transition Mechanism (JTM) is part of this plan and may, in time, be a source of funds for affected regions, based on just transition plans provided by member states (EEAC, 2020). Overall, the State should continue to scan developments. Action in this area should include proactively engaging with the EIB regarding the EU bank's future financing activities.

Recommendation 9: The Council recommends that government enhance engagement between government departments and agencies and state and EU finance institutions such as the SBCI and MFI to assist firms.

- Ensure that government departments and agencies engage with the SBCI to explore how the resources and expertise of this public finance institution can be best leveraged to assist firms in the context of the transition to a low-carbon and digital future.
- Examine the scope for the SBCI to strengthen its role in relation to supporting innovation in the SME sector and activities related to climate action, in the context of developing its new strategy.
- Ensure that Microfinance Ireland and the enterprise development agencies engage to determine how MFI's operations can be tailored and/or marketed to assist firms in the context of the transition to a low-carbon and digital future.
- Proactively engage with the EIB with a view to shaping and influencing the policy dialogue around how the EU bank's future financing activities can contribute to the achievement of a just transition.
- Continue to scan international developments in this area for funding opportunities.

2.5 Enabling a Supportive Economic and Enterprise Context

The Council believes that inclusive transformation in Ireland must involve action by policy-makers to maximise alternatives and opportunities for those workers, firms, and sectors that become vulnerable in the transitions. This action must be relentless and any current, successful strategies and activity by government in this area must be continued. Preparing for and managing successful transitions must continue to be a central theme in our national economic development agenda, and emerging policy must assist workers, firms and sectors to prepare for challenges and take advantage of the opportunities.

First and foremost, the Council supports the commitment by government to a *Future Jobs Ireland 2020* strategy. The Council believes it is crucial that government prepare, publish and implement an ambitious *Future Jobs Ireland 2020* strategy to ensure that government continues to play a full and supportive role in identifying opportunities and creating high-quality jobs across sectors and regions, which will help ameliorate some of the most acute impacts of transition on communities. The focus for 2020 is to be on three themes: Transitioning, Clustering, and New Modes of Working. Most relevant to the Council's focus here is the first of these themes, which must include actions to support workers, firms and sectors to successfully adapt where they are affected by a changing world.

In addition, while *Future Jobs Ireland* is the appropriate whole-of-government plan to prepare our firms and workers for the future, the Government must also adopt a strategy to build a high-quality jobs economy that develops mutually reinforcing components, recognising that the future of work will be shaped by social priorities as well as by environmental and technological developments. Thus NESC believes that national strategies on education, the rural economy, labour-market activation and enterprise development should contribute to delivering a high-quality jobs economy, reflect the impact of the ongoing transitions, and contribute to supporting vulnerable workers, firms, sectors and communities.

In addition, government should fully implement the new *National Social Enterprise Strategy* as a mechanism for supporting vulnerable workers and communities. The Council notes that the OECD has recently completed a comprehensive review of SME and entrepreneurship policy in Ireland. The conclusions in that review were generally favourable in terms of recognising the whole-of-government approach to enterprise strategy.

This report set out some recommendations to strengthen the SME and entrepreneurship policy framework. These include a number of recommendations that, with some modification, the Council believes would potentially enhance how enterprise policy supports firms that are vulnerable to the low-carbon or digital transitions. For example, the OECD has recommended the drafting of a unified national SME and entrepreneurial strategy. This strategy should clearly articulate the need to provide appropriate support to enterprises dealing with the challenges of the transitions. The Council believes that these challenges should be reflected in the objectives, activities, targets and budgetary commitments contained in any unified policy document. A strong articulation of the need to support enterprises dealing with the transition to a low-carbon, digital future within the overarching strategy could, in the Council's view, also serve to more effectively embed these issues within the broader range of national strategies and policies that affect the SME sector. Further, it is estimated that there are currently around 170 state business and advisory supports available for indigenous enterprises in Ireland, so the recommended drafting of a unified national SME and entrepreneurial strategy also presents an opportunity to highlight and consider 'in one place' the full range of supports and their objectives.

The OECD's comprehensive policy review was relatively silent on the issue of a low-carbon transition. There are also no specific recommendations in their review or the associated roadmap for policy relating to the issue of SMEs and the potential impact of the transition to a low-carbon economy. Enterprise Ireland has, as part of its 'Green Offer', developed a number of initiatives linked to sustainable business practices and improved environmental performance. It is also possible for client companies to use other Enterprise Ireland supports (e.g. financial support for innovation or the provision of access to external expertise) to support the undertaking of activities related to climate action. These other measures, however, are not overtly marketed as part of the Green Offer.

Linked to this, the Council believes that improving managerial capabilities and skills can potentially play a key role in building SME resilience in the face of the challenges posed by the low-carbon and digital transitions. Despite the long-standing recognition of the importance of improving management development in

SMEs and an increased number of state-subsidised supports, Irish managerial skills remain weak when compared to other high-income countries such as Germany, Sweden and the UK (World Management Survey cited in OECD, 2019a).

The Council notes the importance of embedding a stronger focus on the transition to a low-carbon economy, and in particular on how to assist SMEs to address the challenges associated with this change, within the suite of enterprise development supports – information, advice and mentoring, training and financial support. Thus the Council supports the drafting of a unified national SME and entrepreneurial strategy that recognises the need to provide appropriate support to enterprises dealing with the challenges of the low-carbon and digital transitions, and which highlights 'in one place' the full range of supports and their objectives. Further, the adoption of specific measures to encourage increased SME involvement in innovation and collaborations as preparation for/response to transitions, and a review of the relevant supports in this area could be valuable. Finally, the Government should act quickly on the recommendations emerging from the forthcoming Expert Group on Future Skills Needs (EGFSN) study, *Understanding, Examining and Improving Management Development Standards in SMEs in Ireland*.

Equally, Enterprise Ireland should strive to ensure that, just as there is a package of supports for innovation, management development, productivity, R&D and innovation, there will be a similar suite of services – information, advice and mentoring, training and financial assistance – designed to assist SMEs in dealing with the ongoing challenges associated with transition to a low-carbon, climate resilient economy.

Overall, it appears to the Council that the 'green' or 'low-carbon' offering to SMEs remains somewhat limited and *ad hoc* compared to the supports available for other developmental activities. As outlined above, there is recognition that LEOs will have to develop programmes that will support businesses to become more competitive and productive through the transition to a low-carbon and climate-resilient society.

2.6 Making it Happen: Addressing Employment Vulnerability

2.6.1 Introduction

The Council recommends that the three drivers of resilience should be activated by existing enterprise, skills, training and investment structures.[9] At a national level, there is a need to ensure that the direction and narrative of an inclusive transformation of all policy areas is owned within the policy system. The Council

[9] The Council was asked to consider the concept of new Transition Teams. As part of this work by Council, the form and functions of a new regional team (i.e. in addition to the existing structure in the Midlands) were prepared and considered by stakeholders early in this research. The consensus was that additional regional structures are not necessary as things stand, and thus the Council is not recommending the establishment of any new regional transition team at this time. However, if shown at some point in the future to be required, government should ensure that the operation of that team takes lessons from experiences in the Midlands.

believes that taking forward the recommendations in this report should be the responsibility of an existing structure, within the Future Jobs Ireland process (e.g. the associated Inter-Departmental Group) or similar future process.

In addition, the newly established Just Transition Review Group (discussed in more detail in Part 3) will provide strategic advice to government in relation to the development of the wider just transition.

2.6.2 Worker Development, Enterprise Resilience and Finance: Next Steps

The Council recommends that government set out priority actions, the sequence of interventions, and timeframe for implementation. The Council is aware that taking this framework forward will involve extra resources. It will also be necessary as part of the chosen process to consider what resources need to be (re)allocated to implement this framework for action.

The Council draws particular attention to the role of the Regional Skills Fora. NESC views the network of nine Regional Skill Fora as key institutions in this regard as they provide a structured opportunity for education and training providers and employers to collaborate closely in highlighting skills gaps and developing ways to meet the emerging skills needs in their regions.

Given the increased demand for their services and the growing recognition of the importance of harnessing 'local labour market' intelligence and using it to develop tailored training interventions that address labour-market needs, it will be vital to ensure that labour-market institutions have all necessary resources. If necessary, Government should instigate a review to determine what that entails.

Recommendation 10: The Council recommends that government, through the inter-departmental Future Jobs Ireland process (or similar future process), take forward the recommendations that will provide more proactive supports for workers, improve the resilience of enterprises, and help target finance to support transition.

2.6.3 Enhancing the Evidence Base

The proactive approach to transition with a virtuous circle at its centre must be underpinned by an expanded evidence-base. Steps must be taken to ensure that current national economic modelling and horizon-scanning efforts are enhanced and supplemented, with firm-level and place-based data percolating up to better inform transition policy in three distinctive ways. There is a need to create enhanced mechanisms for horizon-scanning processes, and to develop forward-looking, anticipatory networks and processes at national, regional and local levels. These processes will be necessary to better align new opportunities with workers, firms and sectors that may be vulnerable in transition. The Council recommends that this agenda be supported by the following:

- **New firm-level mechanism for self-identifying and notifying of vulnerability.** This should be modelled on the process used for the previous Enterprise Stabilisation Fund, linked to access to additional support such as a new Transition Voucher scheme. As well as being an example of well-targeted funding, this mechanism will also act as a real-time, place-based source of evidence on which to base policy. As part of work on developing Future Jobs Ireland 2020, this action should be assigned to the appropriate body.

- **Programme to enhance research and the evidence-base activity**. This would focus on early identification of vulnerability – for example, by expanding the modelling of low-carbon transition beyond the impacts of carbon taxation to examine the impact of other policy choices in this area (see Box 2.3). As part of work on developing Future Jobs Ireland 2020, the development of such a programme should be assigned to the appropriate body.

Box 2.3: Potential Elements of a Programme to Enhance the Evidence Base

A new programme to enhance the evidence-base for transition policy aimed at early identification of vulnerability might include:

- **Expanding the research of low-carbon transition beyond the impacts of carbon taxation to examine the impact of other policy choices in this area (e.g. increase use of electronic vehicles).**
- **Ensuring that non-economic factors are comprehended in modelling activity for the transition where practical (e.g. social and community impacts).**
- **Ensuring that quantitative modelling is supplemented by qualitative research, including dialogue with relevant stakeholders and experts.**
- **Exploring novel modelling approaches such as:**
  - **macro-econometric models that incorporate representations of the energy system and environmental emissions**
  - **agent-based models – including in our current models representation of unemployment, heterogeneous households, the renewable energy industry and the financial sector.**

Progressing efforts to soft-link the Irish TIMES model with I3E or another CGE model.

- **Understanding the needs of communities and places**: There is a need to develop innovative approaches to generating and gathering place-based data. Policy in relation to transition needs to be constantly renewed and refined as the transition develops, and needs to emerge in a place-based manner and in a spirit of co-design with each region.

  The Council argues for instigating and resourcing the collection and analysis of granular data to inform transition policy for each region. The Council recommends that the Just Transition Review Group (JTRG) give early consideration to how the collection and analysis of this granular data could be done in a way that informs and guides a just transition (see section 3.5.4 also). This could examine the work of Local Development Companies (LDCs), Public Participatory Networks (PPNs), the National Association of Community Enterprise Centres (NACEC), and research underway by the Western Development Commission.

- **In-depth sectoral work**: The international work on a just transition indicates that sectoral processes are a useful way of looking in a continuous and in-depth manner at carbon neutrality and increased digitalisation, with an emphasis on developing opportunity and resilience as a key method of mitigating vulnerability. Such an approach can also help prompt the development of plans for supporting firms, workers and communities, and help identify hotspots for further intensive work. In addition, a sectoral focus can play an important role in convening key actors and stakeholders, and facilitate discussion on the sector through the specific lens of resilience. It can help bring to the attention of national policy-makers fresh evidence in relation to practical alternatives and new opportunities, and the challenges associated with these.

  The Council recommends that the Just Transition Review Group, discussed in Part 3, would include in its early work consideration of a sectoral approach – for example, in an area such as agriculture/agri-food. There are opportunities in this area to enhance jobs and incomes and contribute to the Council's vision set out in the introduction. Sectoral opportunity and resilience will be maximised where policy in relation to agriculture, renewable energy and activities that contribute to biodiversity, reduce pollution and enhance sustainability all work in unison.

2.6.4 Improved Communications

The Council has also identified a need to enhance communications efforts related to transitions. For example, despite the increased focus on and investment in workforce development, NESC's work suggests there is still a lack of awareness among employers and employees of the level and range of support available from the State. Feedback from key actors is that many SME managers and their workforces have a relatively low level of awareness of the types of training supports that they can access.

A fund to raise awareness of lifelong-learning opportunities was part of the recent Danish Tripartite Agreement on adult and continuing training. In this context, the Council sees value in the Future Jobs Ireland process considering the establishment of a new group to develop ways to improve the communication of the supports that are available. This group would also highlight the potential benefits for both enterprises and individuals from engaging with these supports, given the challenges associated with the transition to a low-carbon, digital future.

The Council also recommend that government accelerate activity to promote and support open engagement around the impact of transition. It has already been highlighted, in section 2.3, that the interconnected transitions to a low-carbon economy and to the ever-increasing use of technology will be challenging for some vulnerable workers, firms and sectors, at least in the short term. The impact can be acute and concentrated among certain communities.

The need for better employee engagement arrangements that facilitate collaboration, joint problem-solving, mediation and conflict avoidance/resolution to identify strategies in response to the transition challenge and to resolve issues between employers and employees at local level, was also a key lesson emerging from the Council's examination of experience in the Midlands. The Future Jobs Ireland process should include consideration of these issues.

A further communications challenge lies in encouraging firms to build their resilience to the low-carbon and digital transitions, as they can be perceived as somewhat abstract, uncertain and distant concepts that are not necessarily associated with their current business operations and challenges. In seeking to encourage enterprises to proactively engage with and plan for Brexit, state agencies had to concretise the potential impact of Brexit into a set of tangible issues that made sense for businesses. This highlights to Council the need to concretise the likely impact of low-carbon and digital transitions in terms of how they will potentially affect a firm's business strategy, business model, trading relationships and operational processes. The Future Jobs Ireland process should examine options to make this happen.

Finally, the Council notes that the enterprise development agencies have used the increased engagement with firms around Brexit to highlight how increasing their export capabilities, including internationalising, is an appropriate and viable response to the challenges posed by this external shock. In a similar manner, the Council sees a strong rationale for investing in building firm capabilities and capacity to export as a pertinent strategy to adopt in the face of the potential future vulnerabilities associated with the low-carbon and digital transitions. Increasing the level of SME involvement in exporting will require not only scaling up existing initiatives but also developing tailored and targeted support for potentially vulnerable firms. A comprehensive communications campaign to highlight the range of exporting supports available, while appropriately extending the 'footprint' of the enterprise development agencies to vulnerable but viable firms, could accompany support designed to build a firm's capabilities and capacity to export as a way of addressing (potential) vulnerabilities in transitions.

Recommendation 11: The Council recommends that government enhance communications efforts related to the transitions with a new group with appropriate funding, and roll out a programme to concretise 'the transition' for firms.

- Establish a group with appropriate funding to develop ways to improve the communication of the range of education, training, upskilling and reskilling opportunities, and the enterprise supports that are available.
- Actively promote and support early intervention and open engagement between employees, firms and communities affected by the transitions..
- Develop and roll out a new programme to concretise 'the transition' for firms, similar to the successful efforts deployed in Brexit preparations.
- Devise a comprehensive communications campaign to highlight the range of exporting supports available and appropriately extending the 'footprint' of the enterprise development agencies.

Part 3:

A Just Transition Approach

3.1 Introduction

A cornerstone of societal transformation is approaching transition in a way that is socially inclusive and just. The Council recognises that achieving a transformation of the scale necessary in a relatively short period of time presents a considerable political challenge, requiring policies that share both the burden and the benefits and opportunities of emerging technologies and low-carbon developments. For all governments, this means that the transition will be not just environmentally effective and economically efficient, but also socially inclusive (Robins *et al.*, 2108).

The just transition perspective – a systemic and whole-of economy and societal approach to sustainability – is one that seeks to take a broader perspective than the income and economic impacts on workers and enterprises. It recognises the need to bring into view the concerns of citizens on a myriad of issues associated with a spectrum of transitions – economic, energy, biodiversity, circular and bio-economy. A key feature of the just transition perspective is the commitment it brings to 'leaving nobody behind'. Critical to achieving this is a people-centred, bottom-up and place-based approach: just transition is not an imposed view but one that is worked out with citizens and stakeholders in the areas affected by specific pressures for change and decarbonisation.

A just transition perspective has become a feature of international, European and Irish policy. In particular, there is growing consensus that a 'just transition' approach has to be built into climate action both out of the need for equitable solutions and to achieve public support. It is also being discussed in the broader context of a Green New Deal in the US, UK and EU.

For some, the just transition concept, by focusing on the justice and equity dimensions of the shift towards a low-carbon world, can inform a new and powerful narrative or story of change, although it may need to be complemented by a substantial mobilisation of resources to affected groups (Patterson *et al.,* 2018). It is seen by others as a narrative of hope, tolerance and justice.

However, no template exists as to how to apply a just transition approach. A bespoke approach is required that requires careful consideration and dialogue, but this brings freedom to innovate and learn by doing.

The Council has reviewed the emerging literature on work applying a just transition in practice, including international case studies. This work, informed by literature that defines the principles of a just transition, provides the basis for guidance on the nature and focus on future work in Ireland on a just transition, in particular the need for a deliberative process of social dialogue. This part of the report is structured as follows:

- Section 3.2: Just Transition and Climate Policy
- Section 3.3: Just Transition Principles
- Section 3.4: Applying Just Transition in Practice
- Section 3.5: Guidance on Developing a Just Transition Approach in Ireland
- Section 3.6: Making it Happen: Just Transition

3.2 Just Transition and Climate Policy

3.2.1 EU and International Policy Developments

As part of the approach to the low-carbon transition, recent policy points to the need to embed social development and social justice within climate action. This features in the Paris Agreement, in national policy frameworks in terms of 'just transition', in principles from the ILO, and in actions (these principles are discussed in section 3.3). Ireland is committed to a just transition approach in the Oireachtas, in climate policy and through its support for international declarations.

The newly announced European Green Deal includes a strong focus on a just transition. The Commission states that, above all, 'the European Green Deal sets a path for a transition that is just and socially fair. It is designed in such a way as to leave no individual or region behind in the great transformation ahead'. It outlines that 'the transition can only succeed if it is conducted in a fair and inclusive way' (European Commission, 2019: 16). The Commission has also committed to developing, as part of its Green Deal Investment Plan, a Just Transition Mechanism that will be targeted to a fair and just green transition (EC, 2020). The Just Transition Mechanism aims to mobilise at least €100bn in investments over the period 2021-2027 to support workers and citizens of the regions most affected by the transition. The Just Transition Mechanism will be structured around three pillars of financing:

- a €7.5bn Just Transition Fund;
- a dedicated Just Transition scheme under InvestEU; and
- a public-sector loan facility with the EIB, backed by the EU budget.

An important mechanism to help achieve this is the 'Platform for Coal and Carbon Intensive Regions in Transition'. This aims to enable multi-stakeholder dialogue on policy frameworks for successful transformation of coal and carbon-intensive regions, and to facilitate the development of strategies and projects in areas such as investment for structural transformation, growth and jobs. This is delivering tailor-made assistance to 14 pilot regions across certain member states (Germany, Poland, Spain, Greece, Slovakia, Ireland and Romania). The Midlands Region has recently been included in this platform.[10] Currently, the platform does not operate as a mechanism for the direct funding of either the development of transition strategies or the implementation of specific transition projects.

Other forthcoming EU developments include an Energy Transition Fund, proposed by the outgoing European Parliament. In its interim report on the Multiannual Financial Framework, the European Parliament outlined that a fund of €4.8bn euros could be made available to provide seed money for stimulating action, or provide transition support in other ways (WWF, 2019).

Just transition is also being discussed in the broader context of a Green New Deal/Green Deal (in the US, UK and EU). Green New Deals incorporate just transition but as part of a larger low-carbon, economic, environmental and social strategy. While the details change, these 'new deals' use as their main strategies green investment programmes, environmental regulation, social protection measures, and policies to increase social justice.

There are also active discussions around what a Green New Deal might look like in Ireland. While first introduced to Ireland by Comhar in 2009 in relation to sustainable development, climate action will now be a dominant theme.[11] Northern Ireland had Green New Deal discussions in 2010 (AgendaNI, 2010). Another civil society and partners-led initiative, Green New Deal for Europe, comprises three components and associated institutions: green public works, regulations to align EU policy, and environmental justice (GNDE, 2019).

3.2.2 Irish Public Policy and Debate

There is considerable support among wider stakeholders for a just transition approach (cf. SIPTU, 2017 and Ibec, 2019). A just transition for Ireland was the focus of early IMPACT (now Fórsa) work with the Institute of International and European Affairs (IIEA) in 2017. This outlined how the transition towards a low-carbon economy must be fair and maximise opportunities for economic prosperity, social justice, rights and social protection for all.

The Government's Climate Action Plan outlines that the Sustainable Development Goals and the Paris Agreement on climate change require a transformational shift of our economies and societies towards climate-resilient and sustainable development (Government of Ireland, 2019: 4). The plan sets out key actions on a just transition for those facing particular challenges in adjusting, through reskilling, energy poverty schemes and community participation (*ibid.*: 9). It argues that 'it is essential that the burdens borne are seen to be fair and that every group is seen to be making an appropriate and fair level of effort. This will be essential to maintaining the high level of political and civic consensus which has been built (*ibid.*: 139)'.

---

10 PQ Minister Bruton May 2019 https://www.oireachtas.ie/en/debates/question/2019-05-14/390/

11 As Lorna Gold outlined in a recent lecture, 'an expansive report on a GND for Ireland was first prepared back in 2009 by Comhar' (Gold, 2019).

Following the recommendations of the Citizens Assembly *How the State can Make Ireland a Leader in Climate Change* (2018), the Joint Committee on Climate Action report 2019 (JOCCA, 2019) also emphasised that climate action had to be fair and that vulnerable citizens, workers and communities be protected. It argued that transitioning to a decarbonised society in Ireland 'must happen in a manner that is just and fair to all sectors of society' (*ibid.*: 15).

The Joint Committee viewed 'just transition' as exploring opportunities to green existing jobs (i.e. make them more environmentally sustainable or friendly), and creating new jobs in areas such as energy retrofitting for buildings, sustainable forestry and peatland restoration. For example, peatland restoration of degraded lands will require skilled ecologists. Just transition is seen by the committee as a means of driving environmental sustainability as well as decent work, social inclusion and poverty eradication when societies are shifting from a carbon-intensive to a low-carbon and circular economy.

The Joint Committee recommends the establishment of a Just Transition Task Force to examine and address the needs of those regions and sectors most likely to be affected by climate action. It also includes measures to support the Midlands, arising from the decision to phase out peat extraction (*ibid.*).

The Joint Committee's report emphasises that 'work on a just transition is most effective when it is planned well in advance of the change occurring'. Also, 'a just transition will not be achieved by a single quick fix. Rather, it requires consideration of the social justice implications of policies and decisions across all sectors' (*ibid.*: 17). It further outlines that:

> With a just transition, climate policies can provide both security and opportunity to citizens, employees and employers alike. A just transition model means new jobs, new industries, new skills, new investment opportunities and a chance to create a more equal and resilient economy. The just transition is part of an overall climate justice approach. Action on climate change cannot be considered independently of other Sustainable Development Goals, as recognised in the recent IPCC SR 1.5. (*ibid.*: 15).

The final National Energy and Climate Plan will likely include increased focus on the social and employment aspects of climate policy. In feedback on Ireland's draft NECP, the European Commission noted that the final version should:

> Integrate just and fair transition aspects better, notably by providing more details on social, employment and skills impacts of planned policies and measures. The final plan should particularly address the impact of the transition on the populations living in carbon-intensive regions (European Commission, 2019).

There are additional challenges for Ireland in adapting to climate change, discussed in the National Adaptation Framework (DCCAE, 2018).[12] The framework considers the significance of the social and economic context for building a climate-resilient Ireland. It outlines that 'Climate change is likely to disproportionally impact on the lowest socioeconomic groups in society, these groups are also the worst positioned to adapt to the changing climate... In enabling a just transition it is therefore important that all adaptation planning takes these considerations into account and factors them into policy making' (*ibid.*: 20).

The Climate Change Advisory Council's (CCAC) Annual Review provides further support for a just transition approach. It argues that a just transition framework is essential and 'can add depth to policy, create coherence and garner public support' (CCAC, 2019). It considers a just transition as comprising climate justice, energy justice and environmental justice (*ibid.*).[13]

As part of a just transition approach, it points out that dialogue that is respectful, deliberate and considerate, and aimed at understanding the barriers and challenges faced by at-risk individuals and communities, is valuable to ensure the effectiveness of climate action (*ibid.*: 50). This involves seeking to 'understand the causes of vulnerability and how responding to climate change is an opportunity to engage in restorative justice and requires actively engaging vulnerable and underrepresented groups in terms of gender, ethnicity and socio-economic status while developing responses to climate change'. It differentiates between achieving a just transition in the domestic sphere and contributing to the just transition internationally. As part of a focus on a just transition domestically, the CCAC refers to need to consider the distribution of the benefits of transition 'so that vulnerable people and communities are part of the transition and experience associated benefits such as energy cost savings, improved air quality, warmer homes, and greater access to services' (*ibid.*: 52).

The Green Party's Just Transition (Worker and Community Environmental Rights) Bill 2018 is at Committee Stage in the Oireachtas. This provides for the establishment of a National Just Transition Commission to oversee the bringing-together of workers, communities, employers and government in social dialogue to drive the plans, policies and investments needed for a fair transformation to a low-carbon economy. It also includes provisions for the preparation, by certain prescribed bodies, of just transition plans.[14]

---

[12] It should be noted that this distinction between mitigation and adaptation will be smaller in future as the climate impacts are increasingly evident, such as the potential risks and impacts of harvest failures, droughts, flood and storm damage.

[13] Other research overviews identify climate justice as broader than a just transition. In a review for the Joseph Rowntree Foundation, it was defined in this way: 'Climate justice is about ensuring, both collectively and individually, that we have the ability to prepare for, respond to and recover from climate change impacts and the policies to mitigate or adapt to them by taking account of existing and projected vulnerabilities, resources and capabilities' (Banks, 2014).

[14] https://www.oireachtas.ie/en/bills/bill/2018/118/

3.3 Principles of A Just Transition

The International Labour Organization (ILO) has developed key principles that have gained international support and are shaping how governments respond to managing these transitions, focusing on social consensus, fairness, justice and equality. Negotiated by over 160 governments, employer organisations and unions, these recognise the importance of decent work and the four pillars of the decent work agenda: employment creation, social protection, rights at work and social dialogue.

The ILO's vision of just transition is a bridge from where we are today to a future where all jobs are green and decent, poverty is eradicated, and communities are thriving and resilient. More precisely, it is a systemic and whole-of-economy approach to sustainability (Smith, 2017).

It argues that a just transition can be 'a strong driver of job creation, job upgrading, social justice and poverty eradication if properly managed with the full engagement of governments, workers and employers' organizations' (UNFCCC, 2016; Gueye *et al.*, 2015; ILO, 2013).

The ILO principles have been endorsed by the Paris Agreement and in the Silesia Declaration, to which Ireland is a signatory. The Silesia Declaration includes commitments to take into account the imperatives of a just transition of the workforce and the creation of decent work. It states that the 'just transition of the workforce and safeguarding and creating sustainable employment and decent work are crucial to ensure public support for long-term emission reductions' (UN, 2018).

The just transition is closely aligned to climate justice at home and internationally. Climate justice links human rights and development to achieve a human-centred approach, safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate action (CCAC, 2019). Further, action on climate change cannot be considered independently of other sustainable development goals, as recognised by the IPCCC (JOCCA, 2019).

There is an implicit understanding within the principles that securing a just transition will also require learning from the past, and a concerted attempt to minimise the negative impacts and maximise the opportunities for workers and local communities that the push towards a low-carbon economy will bring (IPPR, 2019).

Just transition is sometimes used to refer in its broadest sense to the ethical and societal goals of decarbonisation. Outcomes of a just transition vary from those focused specifically on supporting workers in fossil-intensive industry to other more holistic and transformative outcomes in which decarbonisation rebalances social and economic inequalities. However, achieving any of these outcomes would bring social and societal impacts. One way of differentiating between outcomes is to consider to what extent they are more focused on specific groups of workers, or more broadly on societal transformation:

- safeguarding those at risk from job loss and social impacts of transition;

- green and decent jobs, and enterprise opportunities shared across age/gender/locations;
- ensuring that impacts from climate policy on individuals are fair and just;
- embedding social justice and climate justice into climate and economic policy;
- socially inclusive – delivering the SDGs; leaving no-one behind; and
- creating a more equal, healthier, sustainable and resilient economy and society, where all jobs are green and decent.

An economic focus is understandable, as job creation and supporting workers at risk may help deliver strong social and economic performance in the growing low-carbon economy (Robins *et al.*, 2108). However, it is important to understand job losses and impacts as social and personal as well as economic. For example, job loss is more than a loss of income. It has social and psychological aspects and also has wider place and community implications (Green, 2018).

Focusing on outcomes of a just transition approach is only one way to consider these differences. There is further complexity across the multiple approaches; for example, in relation to who pays for the transition. For instance, the International Institute for Sustainable Development refer to 'the costs and benefits of the transition [being] equitably shared' (IISD, 2018). Another facet relates to how closely aligned policy and action is to core government concerns, policy and practice.

More transformative perspectives include a fundamental shift of economic development. The International Trade Union Confederation refers to 'an economy wide process that produces the plans, policies and investments that lead to a future where all jobs are green and decent' (ITUC, 2018).

There are also sector-specific outcomes; for example, in relation to alleviating energy poverty (Society of St Vincent de Paul, 2019), access for all to sustainable and local food, and reducing public transport costs for those in or at risk of poverty.

Just transition principles apply to digital transition but emerged in relation to the low-carbon transition (IISD, 2018), and there are potential inequalities in access and use of digital technologies according to age, gender, education and other socio-economic groups (OECD, 2019d).

The OECD argues, in relation to the digital transition, that a 'policy response to review, update and enact policies that will cushion and facilitate this [digital] transition, especially for those least equipped to navigate the changes, needs to start now' (OECD, 2019e). The OECD's work to date has identified a number of key principles that should be incorporated into the design and delivery of the suite of policy measures that will be required to manage the digital transition. These include:

- adopting a people-centred strategy;

- social dialogue;
- multifaceted policy responses;
- working with uncertainty; and
- recognition that transformative change may be required.

The OECD has also recommended five value-based principles for the responsible stewardship of trustworthy AI. These focus on benefiting people and the planet; respecting the rule of law, human rights, democratic values and diversity, with safeguards in place; and functioning in a robust, secure and safe way, with accountability and transparency.[15]

3.4 Applying Just Transition in Practice

While emerging as a core and powerful way of creating support for transition, the challenge remains to identify and articulate elements of just transition and to operationalise them for delivery in practice. This section looks at some ongoing efforts to apply just transition in practice, including insights form international case studies.

Governments are adopting different approaches. Sheldon *et al.* (2018), in a review of successful and unsuccessful transitions, concluded that:

> Government representatives and agencies need to work closely with affected local communities, particularly through employers, unions and local networks. Most useful is where those networks link different levels of government, public bodies, the plant owner, unions, employers in other industries and civil society organisations.

They argue that there is a need 'for an overarching framework that brings strong, clear, cohesive top-down leadership, coordination and sufficient funding together with encouragement of broad and open local consultation, and bottom-up initiatives, particularly through local networks that can tap into top-down funding and coordination' (Sheldon *et al.*, 2018).

The OECD provides a more concrete set of actions in its overview of just transition strategies and approaches developed to date. They put forward six key 'takeaways':

- A suite of policies is usually introduced in order to smooth impacts of sectoral restructuring on workers.
- The development of long-term strategies with the participation of key stakeholders seems to underpin most successful cases.

---

[15] https://www.oecd.org/going-digital/ai/principles/

- Physical regeneration activities may be necessary, especially for those regions whose environment has been damaged by extractive industries.

- There is a gender dimension to the transition, exemplified by UK experience.

- Web-based information tools can be used to help workers to identify job opportunities.

- Impacts on the value chain of structural changes should be considered (Botta, 2018: 21).

Policy measures for managing the low-carbon transition outlined by the OECD include carbon pricing; setting framework conditions and regulations; developing active labour-market policies; strong coordination among different stakeholders, and focusing on skills policies and distribution impacts (*ibid.*).

Other considerations for policy include the spatial divergence of declining and growing industries; adopting a sectoral focus; social dialogue, and the gender and age dimension (*ibid.:* 35). Further, while the focus of the NESC report is on state action, companies and businesses also have responsibilities in the just transition process.

For the digitalisation transition, a similar theme emerges of co-ordinated policies, dialogue and social protection. The OECD also contends that managing the digital transition in an inclusive manner will require action across five interrelated policy areas, namely:

- preparing workers for new jobs and changes to existing ones;

- empowering people with the mix of skills to succeed in a digital world work;

- addressing the massive training challenge;

- improving social protection to ensure non-standard workers are better covered; and

- addressing concerns regarding the quality and conditions of new forms of work (OECD, 2019c, 2019e).

A UNFCCC COP24 paper on just transition approaches flags future challenges as: the need for tailoring of measures, focused dialogue that co-designs solutions, and bearing the costs and benefits. These will differ in size and focus depending on the local situation. The paper also argues that both top-down and bottom-up approaches and how they connect might be key.

Some analysis of previous transition initiatives points to the pitfalls for governments, including the tendency to ignore the complexity of economic geography and the capacity of some regions to create sustainable new industries. Another tendency is to lock in the incumbent industry to block the arrival of economic diversification (Sartor, 2018: 32).

A series of case studies of just transition initiatives in Australia (Latrobe Valley), Scotland and Germany (Ruhr Valley and Lausitz/Lusatia) were undertaken to support the Council's work in this area.[16]

The case studies and overview of approaches show that governments have used different mechanisms to respond to just transition challenges, including the establishment of commissions (Germany, Scotland, Canada); facilitating a process of structured dialogue (Plan del Carbon, Spain), and creating authorities/agencies to administer regional development funds (Latrobe Valley Authority).

These vary in terms of the time they are given to consult and deliberate, the levels of social dialogue and the timing. In the Australian case, the Latrobe Valley Authority was initiated to creatively administer the funds allocated, and so came late in the just transition process. The Coal Exit Commission in Germany, however, was tasked to design a route through to transitioning away from coal, and so was in place relatively early in the process (although critics would make the point that few if any just transition initiatives are instigated sufficiently early).

It is important to note that there is very little evidence on the costs of just transition measures and supports, but there are examples that point to significant levels of investment (for example, Hazelwood, Australia). The literature on coal transitions suggests that the costs of transition assistance programmes are rarely systematically analysed *ex ante* or evaluated *ex post* (Caldecott *et al.*, 2017). However, the opportunities and jobs created, as well as other positive economic and social impacts of climate action, also need to be considered.

In terms of commissions, the research finds that the Scottish Just Transition Commission is unique in that it is tasked with considering a just transition beyond coal and on a national basis, bringing in all sectors and regions, and encompassing multiple challenges. The commission is supported by Scottish legislation that has enshrined a just transition approach that is broad and includes a focus on dialogue and high-value work, and seeks to help address inequality and poverty (see Box 3.1).

Recognising different places and local attachment and working with local knowledge and solutions are argued to be central to a just transition (Gambhir *et al.*, 2018; Agyeman *et al.*, 2016). Taking a just transition in terms of how it relates to particular localities is a useful lens.

Spatial justice is 'focused on the spatial nature of social interaction and the inequalities that are produced and reproduced through spatial relationships' (Soja, 2010). A number of conclusions arise from the case-study research. These resonate with analysis in the UK by the Institute for Public Policy Research (IPPR), in the research of the EU-supported Coal Exit, and in work by the International Trade Union Confederation (ITUC) and with ICTU. These particularly add value where they draw on different accounts and perspectives, and demonstrate that, where intensive dialogue and negotiations have taken place (in Germany and Australia, for example), the results and views as to their value and effectiveness are often mixed,

[16] The full international case studies will be published in a separate background report.

which is not surprising given the necessary compromises. It is also worth restating that this transitioning is a live, ongoing process in all countries where it has been initiated.

Box 3.1: The Climate Change (Emissions Reduction Targets) (Scotland) Bill

The Climate Change (Emissions Reduction Targets) (Scotland) Bill, legally commits the country to the 2045 net-zero target, and put into statute that the delivery plans must consider the principles of the just transition – in other words, cutting greenhouse-gas emissions in ways that create decent, fair and high-value work, address inequality and poverty, and maintain social consensus. In this Act, the 'just transition principles' are the importance of taking action to reduce net Scottish emissions of greenhouse gases in a way that:

- **supports environmentally and socially sustainable jobs;**
- **supports low-carbon investment and infrastructure;**
- **develops and maintains social consensus through engagement with workers, trade unions, communities, non-governmental organisations, representatives of the interests of business and industry and such other persons as the Scottish ministers consider appropriate;**
- **creates decent, fair and high-value work in a way that does not negatively affect the current workforce and overall economy; and**
- **contributes to resource-efficient and sustainable economic approaches that help address inequality and poverty (Scottish Government, 2018; LSE, 2019).**

The key messages identified in the research carried out are:

- Transitions are complex and messy, and take time.
- While general lessons can be learnt from what has worked well elsewhere, there is no readily available template, recipe or off-the-shelf approach.
- Context and past experiences of transition can shape a region's response and experience of transition.
- Preparation is required for a just transition, whether it is led by government, regional or local/community-based actors, and plans must be followed up with government support.
- Social dialogue is an effective mechanism for fostering trust and adopting a problem-solving approach to transition.

- An inclusive, place-based approach is necessary, with an overall focus on regional development.

- Public-sector investment in supportive alternative infrastructure is an important driver of transition.

- Personnel-restructuring processes can lead to an orderly phase-out for workers.

3.5 Council's Considerations for a Just Transition Approach

The Council adopts a broad definition informed by our review of transition concepts, principles, approaches and advisory reports, as well as case studies on international initiatives:

> A just transition is one which seeks to ensure transition is fair, equitable and inclusive in terms of processes and outcomes.

In this definition, both process and outcomes of a just transition approach are important. The nature and quality of the participative process is considered to be a critical success factor in just transition initiatives. It refers to inclusive participation and collaboration and embedding social dialogue in developing responses. Outcomes of a just transition are multiple and varied. The case-study research provides insights into strategies, policies and practices that have been tried in particular contexts, with some positive but also mixed results to date.

These insights, combined with our overview of other reports and analyses, point to some similar and other distinct conclusions.[17]

The Council believes that, regarding a just approach to transition, Ireland should adopt an approach that:

- is a purposeful, participative, reflexive and multi-faceted approach to governance;

- ensures appropriate social protection for those at risk from transition impacts, as well as adequate services and infrastructure;

- provides supportive arrangements and sectoral measures to enable quality jobs, and training and skill-development for workers;

- develops an inclusive place-based development framework, and invests in low-carbon and digital-ready infrastructures, plus community enterprise and

[17] E.g. UNFCCC, ILO, NEF, NESTA, ICTU, ITUC, Ibec, Grantham Institute, WBGU, IPPR.

household supports, that empower community action and enable sharing of benefits; and

- ensures that just transition policies, institutions and dialogue processes draw on existing and international experience and practices, with clear deliverables, remits and timelines.

Each of these will now be briefly described below.

3.5.1 A purposeful, participative and multi-faceted approach to governance

A common thread in many advisory reports is the need for a just transition to be delivered through government planning and leadership. There is broad consensus that identifying opportunities and mitigating societal risks from transition will help progress, rather than hinder, economic, social and environmentally sustainable development. This would include:

- developing a collaborative vision and associated mission-orientated actions that set out to achieve transition as a means to a better future for all, demonstrate tangible benefits of effective transition and share these and opportunities widely with the public;

- deeper participative and collaborative processes, including facilitating social dialogue in the planning and delivery of measures with key sectors, stakeholders and affected groups and communities;

- ensuring that climate policy is fair and equitable across society by monitoring and protecting against uneven distributional impacts – according to location, gender, age and income levels;[18]

- creating mechanisms for creating and improving horizon-scanning processes – developing forward-looking, anticipatory networks and processes at national, regional and local levels; and

- developing an iterative and constant learning process and reflexive approach to transition, better suited to systemic change.

---

[18] This is also part of the National Energy & Climate Plan and Energy Union Governance where Ireland has to outline the health, environmental, employment and education, skills and social impacts, including just transition aspects (in terms of costs and benefits as well as cost-effectiveness) of the planned policies and measures.

3.5.2 Ensuring appropriate social protection, services and infrastructure for those at risk from transition impacts

Adequate social protection for those affected by job change or job loss in transition, due to climate mitigation measures, is important to protect against poverty and social exclusion.

A just transition requires a social protection system – along with appropriate services and infrastructure – that prevents poverty and social exclusion for those that lose employment or income due to the effects or mitigation of climate change. Social protection can also help people deal with the direct impacts of climate change and adaptation, such as floods and droughts.[19]

3.5.3 Providing supportive arrangements and sectoral measures

The design and development of an appropriate range of upskilling and reskilling programmes is critical to ensuring that the diverse needs of individual workers and employers are being addressed by the training system. This is to enable quality jobs, and training and skills development for workers, as well as creating inroads for them into new jobs or new sectors.

3.5.4 Developing inclusive place-based development and investment

The case-study research on international initiatives demonstrate that a place-based approach that recognises specific contexts and communities has value. It shows that developing inclusive place-based strategies that invest in low-carbon and digital-ready infrastructure and community, enterprise and household supports can stimulate community action and empowerment. Research by the OECD and other international analysis shows that bottom-up local action and networks of practice can complement an overarching national just transition framework, and this is reflected in the arrangement and structures proposed in this report (see section 2.6 also).

In Ireland, understanding the transition in terms of local places and geographies could help examination of issues around the rural and urban experience. Rural communities, while having the potential to make changes if supported, will face challenges that are not necessarily faced to the same extent by those in urban areas (OECD, 2018c).

---

[19] ITUC.

3.6 Making it Happen: A Just Transition

The Council considers that Ireland would benefit from a deliberative and participative process involving community and voluntary and environmental groups, employers, unions and farmers, climate and just transition experts, youth and community representations as well as business and industry.

The Council welcomes and supports the Government's decision to establish a Just Transition Review Group (JTRG) within NESC in 2020. This should be established as part of NESC's structures. The JTRG would feed into the ongoing strategic advice that the Council provides to government. For example, the success of aspects of the entire framework for action to address employment vulnerability, set out in Part 2, could also be reviewed as part of a broader view of transition under the work of the JTRG. As recommended in section 2.6, there would be value in the JTRG giving early consideration to a new sectoral approach to transition (e.g. in an area such as agriculture/agri-food) and to how the collection and analysis of granular data to inform policy can begin. Gathering granular place-based data is particularly relevant in capturing the voice of vulnerable workers, so their perspective on working with uncertainty is captured and recognised.

In addition, it is envisaged that the JTRG would work closely with the Department of Communications, Climate Action and Environment (DCCAE), the Climate Action Delivery Board, key government departments, agencies and groups such as the National Dialogue on Climate Action, Central Statistics Office (CSO), Climate Advisory Council, and Just Transition Commissioner.

Recommendation 12: The Council recommends that a social dialogue and deliberative process, called the Just Transition Review Group, be established to develop a shared vision and associated mission-oriented actions for an Irish just transition.

Part 4:

Conclusions

In a recent communication on its latest work programme, the EU Commission refers to:

> … a unique opportunity to lead the transition to a fair, climate-neutral, digital Europe. This twin ecological and digital transition will affect us all: every country, every region, every person. It will cut across every part of our society and economy. But for it to be successful, it must be just and inclusive for all. The European Union can only fully grasp the opportunities the twin transitions will bring if we draw on all of our strengths and our diversity. In doing so, we must always continue to fight for equality, uphold our values and defend the rule of the law (European Commission, 2020).

In a similar vein and as part of its policy formulation process, the Irish Government asked NESC to provide recommendations on how the State can best respond to vulnerability for workers, firms and sectors in the context of these two ongoing transitions.

As described in Part 2, the transitions to a low-carbon and more digital, automated Ireland are complex and interconnected, and generate uncertainty. This includes a lack of certainty about where and how the greatest vulnerability will fall in terms of the impact on employment. Despite this ambiguity, the Council expressed its view that a proactive response by government is necessary and possible and that it would be remiss to separate that response from Ireland's overall approach to transition.

Addressing vulnerability should be one part of progress towards a vision, so that consensus, urgency and buy-in for action is sustained. A shared vision can help bring everyone along, ameliorate resistance to necessary change, and assist in building trust. It can help address the overall absence of certainty that is a characteristic of transition. Our vision is for Ireland to become a resilient, sustainable, thriving net zero economy, environment and society, using innovation and collective preparedness to shape the society we want to achieve. That is the direction of travel in which we position our recommended action to address employment vulnerability, also detailed in Part 2.

The Council recommends that government adopt an approach to transition with a virtuous circle at its centre as the engine of sustainable opportunity and resilient, high-quality employment. Central to the proposed approach are continuous pre-emptive workforce development, resilient enterprises, and high-impact funding to support transition, in an enterprise policy context that positions the creation of quality jobs as a top objective.

This approach not only generates a framework for action for immediate consideration but can prompt the next agenda for action to be taken forward through enhanced evidence-gathering. It is based on our vision and on using technological progress and innovation to shape what we want from technological progress and achieve a net zero society, rather than our opportunities being limited by it.

This approach has generated a framework for action to be taken forward by government. It is a framework with 12 strategic recommendations – from increasing Ireland's ambition for workforce development, to extending appropriate enterprise supports to viable but vulnerable firms, to examining the inclusion of social clauses in relevant state transition funding – each accompanied by supporting steps. Its success would be reviewed as part of a broader view of transition under the work of the new Just Transition Review Group.

The Council's recommended framework for addressing employment vulnerability is an example of a proactive, strategic approach to transition, one cognisant of attendant complexity, and the need for action to support those most at risk. Working through the framework for action should be a priority for government, and it must form one part of an overall just transition approach.

Looking to the wider transition in Part 3, the Council outlined how and what Ireland can usefully learn from recent international experience. We detailed insights and observations for policy from the case0study research, and our analysis of just transition approaches that will be drawn on in future NESC work and inform a 'learn by doing' approach. The work and learning of the Just Transition Commissioner in the Midlands will also inform future policy development.

A number of key points are worth reiterating here. As there is no blueprint or agreed approach to delivering just transition in practice, a bespoke approach is required. This brings freedom to innovate and enables a learn-by-doing approach to be adopted. Nevertheless, governance arrangements such as commissions and taskforces, established for a just transition focus, benefit from specific tasks and timelines, as well as a clear remit. Overall, our insights bolster the case for Ireland to adopt an approach to just transition with specific characteristics: a purposeful, participative and multi-faceted approach to governance; appropriate social protection for those at risk from transition impacts; supportive arrangements and sectoral measures, and inclusive place-based development and investment.

All this informs NESC's support for the establishment of a social dialogue and deliberative process, with the Just Transition Review Group providing strategic advice to government.

Finally, the Council realises that determined action by the Government will be required to make all of this happen. In 2020, the Government should set out priority actions, the sequence of interventions and timeframe for implementation, and consider what resources are needed. Taking forward the Council's recommendations, and giving consideration to priorities and resourcing, should be the responsibility of an existing structure within the Future Jobs Ireland process or similar future process.

In parallel, the Just Transition Review Group should give early consideration to a sectoral focus – for example, in an area such as agriculture/agri-food – and to how the collection and analysis of granular place-based data could be done in a way that informs and guides a just transition.

By working through these recommendations, the Government will be helping protect vulnerable workers and firms. They will spur continuous, pre-emptive workforce development, help to build resilient enterprises, and deliver high-impact targeted funding support. In conjunction with the wider work of the Just Transition Review Group, these actions will contribute to making Ireland's transition fair, participative and place-based both in process and in outcome – in other words, help deliver a just transition for Ireland.

Appendix

Appendix 1: Change in Employment in 2030 from €80 Carbon Tax (%)

	No Revenue Recycling	Transfer to Households	Corporate Tax Reduction	Wage Tax Reduction	Share of Total Employment, 2019
Sectors Losing Employment (no revenue recycling)					
Peat	-12.4	-11.8	-11.3	-11.2	0.04
Natural Gas Supply	-11.8	-11.5	-11.4	-11.0	0.1
Petroleum	-11.2	-10.9	-10.7	-10.4	0.2
Air Transport	-7.5	-7.3	-7.3	-6.9	0.5
Water Transport	-5.4	-5.2	-5.2	-5.0	0.1
Land Transport	-4.2	-4.2	-4.2	-3.9	2.5
Electricity	-3.0	-2.9	-2.9	-2.7	0.5
Basic Metal Manufacturing	-2.5	-2.5	-2.5	-2.5	0.7
Rubber and Plastics	-2.3	-2.2	-2.1	-2.1	0.2
Wood and Wood Products	-1.1	-1.0	-0.8	-0.9	0.3
Other manufacturing	-0.5	-0.4	-0.4	-0.4	1.0
Construction	-0.3	0.3	1.0	0.4	5.9
Other Non-metallic Products	-0.3	0.0	0.4	0.2	0.3
Other Services	-0.2	-0.1	-0.1	0.0	18.5
Retail and Wholesale	-0.2	-0.1	-0.1	0.0	14.1
Food, Drinks and Tobacco	-0.2	-0.1	0.0	0.0	2.7
Sectors with Stable or Increasing Employment (no revenue recycling)					
Accommodation and Food Services	1.0	1.1	1.1	1.7	7.4
Real Estate Services	1.0	1.1	1.0	1.5	0.4
Health	1.0	0.6	0.4	0.3	12.9
Public Sector	0.8	0.0	-0.5	-1.2	5.1
Water and Sewage	0.7	0.6	0.6	0.6	0.4
Education	0.7	0.4	0.3	0.2	7.9
Telecommunications Services	0.6	0.7	0.8	1.0	0.8
Chemicals	0.5	0.6	0.8	0.7	0.4
Basic Pharmaceutical Products	0.4	0.6	0.9	0.8	1.8
High-Technology Products	0.3	0.3	0.3	0.3	2.8
Financial Services	0.1	0.3	0.3	0.4	5.0
Agriculture	0.0	0.1	0.2	0.3	5.8
Other Industrial Products	0.0	0.1	0.1	0.1	0.9
Textiles	0.0	-0.1	-0.1	-0.1	0.3
Other Mining Products	0.0	0.2	0.5	0.3	0.1
Transport Equipment	-0.1	0.2	0.6	0.3	0.2

Source: NESC Secretariat presentation of data supplied by the ESRI; estimates for 2030 versus business as usual in 2030. This work is part of wider analysis which will be published alongside Budget 2020 and was both commissioned and funded by the Department of Finance as part of a Joint Research Programme (JRP) with the ESRI.

Appendix 2: Membership of the Working Group

Organisation	Member
NESC independent & Royal College of Surgeons in Ireland	Sinéad O'Flanagan (Chair)
ICTU	Macdara Doyle
NESC member & SIPTU	Joe Cunningham
Ibec	Conor Minogue
Ibec	Erik O'Donovan
NESC member & Friends of the Earth	Kate Ruddock
NESC member & National Youth Council of Ireland	James Doorley
IFA	Edel Kelly
NESC independent & QUB	Geraint Ellis
NESC independent & TCD	Eleanor Denny
NESC independent	Philip Hamell
NESC independent & TU Dublin	Paul Donnelly
Maynooth University	Chris Van Egeraat
Dept. of Business, Enterprise & Innovation	Ruth Morrissy
Dept. of Rural & Community Development	Andrew Forde/Aisling Penrose
Dept. of Education and Skills	Kathleen Gavin/Joanne Tobin
Dept. of Employment Affairs & Social Protection	Dermot Coates/Louise Kavanagh
Department of the Taoiseach	Eric Doyle

Bibliography

AgendaNI (2010), Green New Deal. https://www.agendani.com/green-new-deal/, 30/01/20.

Agyeman, J., Schlosberg, D., Craven, L. & Matthews, C. (2016), 'Trends and Directions in Environmental Justice: From Inequity to Everyday Life, Community, and Just Sustainabilities', Annu. Rev. Environ. Resour., 41: 321-40.

Baldwin, R. (2019), The Globotics Upheaval: Globalisation, Robotics and the Future of Work, New York: Oxford University Press.

Banks, N. (2014), Climate change and social justice: an evidence review, York: Joseph Rowntree Foundation.

Botta, E. (2018), A Review of Transition Management Strategies, Issue Paper, Lessons for advancing the green low-carbon transition, Paris: OECD Publishing.

Caldecott, B., Sartor, O. & Spencer, T. (2017), Lessons from previous "Coal Transitions": High-Level Summary for Decision Makers, Paris: IDDRI and Climate Strategies.

CCAC (2019), Annual Report, Climate Change Advisory Council. http://www.climatecouncil.ie/media/Climate%20Change%20Advisory%20Council%20Annual%20Review%202019.pdf, 04/12/19.

Chatea, J., Bibas, R. & Lanzi, E. (2018), Impacts of Green Growth Policies on Labour Markets and Wage Income Distribution: A General Equilibrium Application to Climate and Energy Policies, Environment Working Papers 137, Paris: OECD Publishing.

Citizens' Assembly (2018), How Can the State Make Ireland a Leader in Tackling Climate Change. https://www.citizensassembly.ie/en/How-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/How-the-State-can-make-Ireland-a-leader-in-tackling-climate-change.html, 10/07/18.

Cohen, S. (2019), 'Introduction: About this collection' in Lajoie, A., Irvine, G. & Cohen, S. (Eds.), Ensuring Good Future Jobs, Dublin: TASC. pp. 3-5.

Crowley, F. & Doran, J. (2019), Automation and Irish towns: who's most at risk?, SRERCWP2019-1, Spatial and Regional Economics Research Centre, Department of Economics, Cork: University College Cork.

DCCAE (2019), National Adaptation Framework: Planning for a Climate Resilient Ireland. https://www.dccae.gov.ie/documents/National%20Adaptation%20Framework.pdf, 04/12/19.

De Bruin, K., M., Lawless, Monaghan, E. & Yakut, A.M. (2019), Transitioning to a Low-Carbon Economy: An Analysis of Regional Labour Market Impacts, ESRI Research Series No.100, Dublin: Economic & Social Research Institute.

Doyle, E. & Jacobs, L. (2018), Automation on Occupations: A Comparative Analysis of the Impact of Automation on Occupations in Ireland, Economic Policy Unit in the Department of An Taoiseach, Technical Paper, Dublin: Irish Government Economic and Evaluation Service.

EC (2020), The European Green Deal Investment Plan and Just Transition Mechanism Explained, European Commission. https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_24, 31/01/20.

EEAC (2020), Internal Secretariat Note on the European Green Deal, The Hague: European Network of Advisory Councils on Environment and Sustainable Development

European Commission (2019), Commission Recommendation on the draft integrated National Energy and Climate Plan of Ireland Covering the Period 2021-2030. https://ec.europa.eu/energy/sites/ener/files/documents/ie_rec_en.pdf, 04/12/19.

European Commission (2020), Commission Work Programme 2020: A Union that strives for more, COM(2020) 37 final, Brussels: European Commission.

Frey, C.B. & Osborne, M.A (2013), The Future of Employment: How Susceptible are Jobs to Computerisation? Oxford University.

Gambhir, A., Green, F. & Pearson, P. (2018), Towards a just and equitable low-carbon energy transition, Briefing Paper No. 26, Grantham Institute, London: Imperial College London.

GNDE (2019), Blue Print for Europe's Just Transition, Green New Deal for Europe. https://report.gndforeurope.com/blueprint-for-europes-just-transition/, 04/12/19.

Gold, L. (2019), Many shades of Green New Deal for Ireland are going to be on offer, Nevin Economic Research Institute. https://www.nerinstitute.net/blog/ireland-ready-green-new-deal, 30/01/20.

Goldrick-Kelly, P. & Nugent, C. (2019), Matching skills needs with skills reserves: Protecting workers & communities for a just transition. Working Paper Series No.65, Dublin: Nevin Economic Research Institute.

Government of Ireland (2019), Quality of Employment: Indicators and Trends, Unit, IGEES, Staff Paper, Dublin: Department of Public Expenditure & Reform.

Government of Ireland (2018), Enterprise 2025 Renewed, Department of Business, Enterprise and Innovation. https://dbei.gov.ie/en/Publications/Enterprise-2025-Renewed.html, 21/11/18.

Government of Ireland (2019), Climate Action Plan 2019: To Tackle Climate Breakdown, Department of Communications, Climate Action & Environment. https://www.dccae.gov.ie/documents/Climate%20Action%20Plan%202019.pdf, 04/12/19.

Green, F. (2018), Transition policy for climate change mitigation: Who, what, why and how, CCEP Working Paper 1807, July, Crawford School of Public Policy, Canberra: The Australian National University.

Green, F. & Gambhir, A. (2019), 'Transitional assistance policies for just, equitable and smooth low-carbon transitions: who, what and how?' Climate Policy.

Gueye, M.K., Fyfe, A.M., Olsen, L. & Tsukamoto, M. (2015), Decent Jobs in a Safe Climate: ILO Solutions for Climate Action, Geneva: International Labour Organization.

IEA (2015), Capturing the multiple benefits of Energy Efficiency, Paris: International Energy Agency.

IISD (2018), Real People: Real Change: Strategies for Just Energy Transitions. https://www.iisd.org/sites/default/files/publications/real-people-change-strategies-just-energy-transitions.pdf, 31/01/20.

ILO (2013), 'Sustainable Development, Decent Work and Green Jobs', Presentation to the International Labour Organization, International Labour Conference, 102nd Session, Report V., Geneva.

ILO (2018), World Employment and Social Outlook: Greening with jobs, Geneva: International Labour Office.

IPPR (2019), A Just Transition. Realising the Opportunities of Decarbonisation in the North of England, London: Institute for Public Policy Research.

Irvine, G. (2019), 'Measuring good work and why it matters' in Lajoie, A., Irvine, G. & Cohen, S. (Eds.), Ensuring Good Future Jobs, Dublin: TASC. pp. 69-75.

ITUC (2018), Just Transition: A Business Guide, Just Transition Centre. https://www.ituc-csi.org/IMG/pdf/just_transition_-_a_business_guide.pdf 30/01/20.

JOCCA (2019), Climate Change: A Cross-Party Consensus for Action, Joint Oireachtas Committee on Climate Action, Dublin: Houses of the Oireachtas.

Kahneman, D. (2011), Thinking, Fast and Slow, New York: Allen Lane.

LSE (2019), How Scotland can mobilise finance for a just transition, London School of Economics. http://www.lse.ac.uk/GranthamInstitute/news/how-scotland-can-mobilise-finance-for-a-just-transition, 30/01/20.

McKinsey Global Institute (2017), Jobs Lost, Jobs Gained: Workforce Transition at a Time of Automation, McKinsey Global Institute. https://www.mckinsey.com/~/media/mckinsey/featured%20insights/Future%20of%20Organizations/What%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/MGI-Jobs-Lost-Jobs-Gained-Report-December-6-2017.ashx, 18/11/19.

Nedelkoska, L. & Quintini, G. (2018), Automation, skills use and training, Working Paper No.202, Social, Employment and Migration, Paris: OECD Publishing.

NESC (1996), Strategy into the 21st Century, Dublin: National Economic and Social Council.

NESC (1999), Opportunities, Challenges and Capacities for Choice, Dublin: National Economic and Social Council.

NESC (2002), An Investment in Quality: Services, Inclusion and Enterprise, Dublin: National Economic and Social Council.

NESC (2005), Strategy 2006: People, Productivity and Purpose, Dublin: National Economic and Social Council.

OECD (2013), Back to work: Re-employment, earnings and skill use after job displacement, in: OECD Employment Outlook 2013, pp. 191–233, Paris: OECD Publishing.

OECD (2017), Investing in Climate, Investing in Growth, Paris: OECD Publishing. -

OECD (2018a), Implications of the Digital Transformation for the Business Sector, Conference Summary, Paris: OECD Publishing.

OECD (2018b), Achieving Inclusive Growth in the Face of Digital Transformation and the Future of Work, OECD report to G-20 Finance Ministers, Paris: OECD Publishing.

OECD (2018c), Rural 3.0: A Framework for Rural Development, Paris: OECD Publishing.

OECD (2019a), SME and Entrepreneurship Policy in Ireland, Paris: OECD Publishing.

OECD (2019b), Policy Responses to New Forms of Work, Paris: OECD Publishing.

OECD (2019c), Going Digital: Shaping Policies, Improving Lives, Paris: OECD Publishing.

OECD (2019d), Measuring the Digital Transformation: A Roadmap for the Future, Paris: OECD Publishing.

OECD (2019e), Preparing for the Changing Nature of Work in the Digital Era, Paris: OECD Publishing.

OECD/IEA/NEA/ITF (2015), Aligning Policies for a Low Carbon Economy, Paris: OECD Publishing.

Parrique, T., Barth, J., Briens, F., Kerschner, C., Kraus-Polk, A., Kuokkanen, A. & Spangenberg, J.H. (2019), Decoupling Debunked: evidence and arguments against green growth as the sole strategy for decarbonisation, Brussels: European Environmental Bureau.

Pochet, P. (2017), Two Futures and How to Reconcile Them, Foresight Brief, November, Brussels: ETUI.

Popp, R., de Pous, P. & Gavanta, J. (2018), How to ensure a just and fast transition to a competitive low-carbon economy for the EU? E3G report. Think 2030. , Brussels: Institute for European Environmental Policy (IEEP).

Purdy, M. & Daughery, D. (2017), Why Artificial Intelligence is the Future of Growth, Worldwide: Accenture.

Robins, N., Brunsting, V. & Wood, D. (2108), Investing in a Just Transition: Why investors need to integrate a social dimension into their climate strategies and how they could take action, June, Grantham Research Institute on Climate Change and the Environment, London School of Economics.

Rodrik, D. & Sabel, C.F. (2019), Building a Good Jobs Economy, Harvard: Harvard University.

Sartor, O. (2018), Implementing coal transitions Insights from case studies of major coal-consuming economies, A Summary Report of the Coal Transitions project, Paris: IDDRI and Climate Strategies

Scottish Government (2018), Climate Change (Emissions Reduction Targets) (Scotland) Bill. https://www.parliament.scot/S5_Bills/Climate%20Change%20(Emissions%20Reduction%20Targets)%20(Scotland)%20Bill/SPBill30S052018.pdf, 31/01/20.

Sheldon, P., Junankar, R. & De Rosa Pontello, A. (2018), The Ruhr or Appalachia? Deciding the future of Australia's coal power workers and communities, IRRC Report for CFMMEU Mining and Energy, Brussels: International Trade Union Confederation.

Smith, S. (2017), Just Transition: A Report for the OECD, Just Transition Centre, Paris: OECD.

Society of St Vincent de Paul (2019), Growing Up in the Cold. https://www.svp.ie/getattachment/2cb10388-e3ca-41ef-9911-a17f252ce09c/Growing-up-in-the-Cold.aspx, 30/01/20.

Soja, E.W. (2010), Seeking Spatial Justice, Minnesota: University of Minnesota Press.

UN (2015), Transforming Our World: The 2030 Agenda, United Nations. https://sustainabledevelopment.un.org/post2015/transformingourworld, 30/01/20.

UN (2018), Solidarity and Just Transition: Silesia Declaration, COP24. https://cop24.gov.pl/fileadmin/user_upload/files/Solidarity_and_Just_Transition_Silesia_Declaration.pdf, 25/03/19.

UNFCCC (2016), Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs, Technical Paper, Bonn: United Nations Framework Convention on Climate Change.

World Bank (2019), The Changing Nature of Work. World Development Report, Washington: The World Bank Group..

World Economic Forum (2018a), The Future of Jobs Report, Insight Report, Geneva: World Economic Forum.

World Economic Forum (2018b), Towards a Reskilling Revolution: A Future of Jobs for All, Insight Report, Geneva: World Economic Forum.

WWF (2019), An EU fund for a just transition: what it should be and why it matters, http://awsassets.panda.org/downloads/wwf_aneujustenergytransitionfund_briefinga4_final.pdf, 04/12/19.

National Economic and Social Council Publications

No.	Title	Date
1.	Report on the Economy in 1973 and the Prospects for 1974	1974
2.	Comments on Capital Taxation Proposals	1974
3.	The Economy in 1974 and Outlook for 1975	1974
4.	Regional Policy in Ireland: A Review	1975
5.	Population and Employment Projections: 1971-86	1975
6.	Comments on the OECD Report on Manpower Policy in Ireland	1975
7.	Jobs and Living Standards: Projects and Implications	1975
8.	An Approach to Social Policy	1975
9.	Report on Inflation	1975
10.	Causes and Effects of Inflation in Ireland	1975
11.	Income Distribution: A Preliminary Report	1975
12.	Education Expenditure in Ireland	1976
13.	Economy in 1975 and Prospects for 1976	1975
14.	Population Projects 1971-86: The Implications for Social Planning –Dwelling Needs	1976
15.	The Taxation of Farming Profits	1976
16.	Some Aspects of Finance for Owner-Occupied Housing	1976
17.	Statistics for Social Policy	1976
18.	Population Projections 1973-86: The Implications for Education	1976
19.	Rural Areas: Social Planning Problems	1976
20.	The Future of Public Expenditure	1976
21.	Report on Public Expenditure	1976
22.	Institutional Arrangements for Regional Economic Development	1976
23.	Report on Housing Subsidies	1976
24.	A Comparative Study of Output, Value-Added and Growth in Irish and Dutch Agriculture	1976
25.	Towards a Social Report	1977
26.	Prelude to Planning	1976
27.	New Farms Operators, 1973 to 1975	1977
28.	Service-type Employment and Regional Development	1977
29.	Some Major Issues in Health Policy	1977

30. Personal Incomes by County in 1973 **1977**

31. The Potential for Growth in Irish Tax Revenues **1977**

32. The Work of NESC: 1974-1976 **1977**

33. Comments on Economic and Social Development; 1976-1980 **1977**

34. Alternative Growth Rates in Irish Agriculture **1977**

35. Population and Employment Projections 1986: A Reassessment **1977**

36. University and Selectivity: Strategies in Social Policy **1978**

37. Integrated Approaches to Personal Income Taxes and Transfers **1978**

38. University and Selectivity: Social Services in Ireland **1978**

39. The Work of NESC: 1977 **1978**

40. Policies to Accelerate Agricultural Development **1978**

41. Rural Areas: Change and Development **1978**

42. Report on Policies for Agricultural and Rural Development **1978**

43. Productivity and Management **1978**

44. Comments on Development: Full Employment **1978**

45. Urbanisation and Regional Development in Ireland **1979**

46. Irish Forestry Policy **1979**

47. Alternative Strategies for Family Support Income **1980**

48. Transport Policy **1980**

49. Enterprises in the Public Sector **1980**

50. Major Issues in Planning Services for Mentally and Physically Handicapped Persons **1980**

51. Personal Incomes by Regions: 1977 **1980**

52. Tourism Policy **1980**

53. Economic and Social Policy 1980-83: Aims and Recommendations **1980**

54. The Future of the National Economic and Social Council **1981**

55. Urbanisation: Problems of Growth and Decay in Dublin **1981**

56. Industrial Policy and Development: A Survey of Literature for the Early 1960s to the Present **1981**

57. Industrial Employment and the Regions 1960-82 **1981**

58. The Socio-Economic Position of Ireland within the European Economic Community **1981**

59. The Importance of Infrastructure to Industrial

	Development in Ireland: Roads, Telecommunications and Water Supply	**1981**
60.	Minerals Policy	**1981**
61.	Irish Social Policy: Priorities for Future Development	**1981**
62.	Economic and Social Policy 1981: Aims and Recommendations	**1981**
63.	Population and Labour Force Projections by County and Region, 1979-1991	**1981**
64.	A Review of Industrial Policy	**1982**
65.	Farm Incomes	**1982**
66.	Policies for Industrial Development: Conclusions and Recommendation	**1982**
67.	An Analysis of Job and Losses in Irish Manufacturing Industry	**1982**
68.	Social Planning in Ireland: Its Purposes and Organisational Requirements	**1983**
69.	Housing Requirements and Population Change: 1981-1991	**1983**
70.	Economic and Social Policy 1982: Aims and Recommendations	**1983**
71.	Education: The Implications of Demographic Change	**1984**
72.	Social Welfare: The Implications of Demographic Change	**1984**
73.	Health Services: The Implications of Demographic Change	**1984**
74.	Irish Energy Policy	**1984**
75.	Economic and Social Policy 1983: Aims and Recommendations A Review of the Implications of recent Demographic Changes for Education, Social Welfare and the Health Services	**1984**
76.	The Role of Financing the Traded Sectors	**1984**
77.	The Criminal Justice System: Policy and Performance	**1985**
78.	Information for Policy	**1985**
79.	Economic and Social Policy Assessment	**1985**
80.	The Financing of Local Authorities	**1985**
81.	Designation of Areas for Industrial Assessment	**1985**
82.	Manpower Policy in Ireland	**1986**
83.	A Strategy for Development 1986-1990	**1986**
84.	Community Care Service: An Overview	**1987**
85.	Redistribution Through State Social Expenditure in the Republic of Ireland: 1973-1980	**1988**
86.	The Nature and Functioning of Labour Markets	**1988**

87. A Review of Housing Policy **1989**

88. Ireland in the European Community: Performance, Prospects and Strategy **1989**

89. A Strategy for the Nineties: Economic Stability and Structural Change **1990**

90. The Economic and Social Implications of Emigration **1991**

91. Women's Participation in the Irish Labour Market **1992**

92. The Impact of reform of the Common Agricultural Policy **1992**

93. The Irish Economy in a Comparative Institutional Perspective **1993**

94. The Association between Economic Growth and Employment **1993**

95. Education and Training Policies for Economic and Social Development **1993**

96. A Strategy for Competitiveness, Growth and Employment **1993**

97. New Approaches to Rural Development **1995**

98. Strategy into the 21st Century: Conclusions and Recommendations **1996**

99. Strategy into the Century **1996**

100. Networking for Competitive Advantage **1996**

101. European Union: Integration and Enlargement **1997**

102. Population Distribution and Economic Development: Trends and Policy Implications **1997**

103. Private Sector Investment in Ireland **1998**

104. Opportunities, Challenges and Capacities for Choice, Overview, Conclusions and Recommendations **1999**

105. Opportunities, Challenges and Capacities for Choice **1999**

106. Review of the Poverty Proofing Process **2001**

107. Benchmarking the Programme for Prosperity and Fairness **2002**

108. National Progress Indicators **2002**

109. Achieving Quality Outcomes: The Management of Public Expenditure **2002**

110. An Investment in Quality: Services, Inclusion and Enterprise, Overview, Conclusions and Recommendations **2002**

111. An Investment of Quality: Services, Inclusion and Enterprise **2003**

112. Housing in Ireland: Performance and Policy **2004**

113. The Developmental Welfare State **2005**

114. NESC Strategy 2006: People, Productivity and Purpose **2005**

115. Migration Policy **2006**

116. Managing Migration in Ireland: A Social and Economic Analysis **2006**

117. The Irish Economy in the Early 21st Century **2008**

118. Ireland's Five-Part Crisis: An Integrated National Response **2009**

119. Well-being Matters: A Social Report for Ireland **2009**

120. Next Steps in Addressing Ireland's Five-Part Crisis: Combining Retrenchment with Reform **2009**

121. The Euro: An Irish Perspective **2010**

122. Re-finding Success in Europe: the Challenge for Irish Institutions and Policy **2010**

123. Supports and Services for Unemployed Jobseekers: Challenges and Opportunities in a Time of Recession **2011**

124. Quality and Standards in Human Services in Ireland: Overview of Concepts and Practice **2011**

125. Promoting Economic Recovery and Employment in Ireland **2012**

126. Draft Framework for Sustainable Development for Ireland: NESC Response **2012**

127. Quality and Standards in Human Services in Ireland: Policing and the Search for Continuous Improvement **2012**

128. Quality and Standards in Human Services in Ireland: Residential Care for Older People **2012**

129. Quality and Standards in Human Services in Ireland: The School System **2012**

130. Quality and Standards in Human Services in Ireland: Home Care for Older People **2012**

131. Quality and Standards in Human Services in Ireland: End-of-Life Care in Hospitals **2012**

132. Quality and Standards in Human Services in Ireland: Disability Services **2012**

133. Quality and Standards in Human Services in Ireland: A Synthesis Report **2012**

134. The Social Dimensions of the Crisis: The Evidence and its Implications **2012**

135. Five Part Crisis, Five Years On: Deepening Reform and Institutional Innovation **2013**

136. Ireland's Environmental Data: Inventory, Assessment and Next Steps **2014**

137. Jobless Households: An Exploration of the Issues **2014**

138. Social Housing at the Crossroads: Possibilities for Investment, Provision and Cost Rental **2014**

NESC Research Series

12. Low Work Intensity Households and the Quality of Supportive Services: Detailed Research Report **2018**

13. Advancing the Low-Carbon Transition in Irish Transport **2019**

14. Transport-Orientated Development: Assessing Opportunity for Ireland: Background Case Studies **2019**

NESC Secretariat Papers

1. Ireland's Economic Recovery: An Analysis and Exploration **2011**

2. Understanding PISA and What it Tells us About Educational Standards in Ireland **2012**

3. Towards a New Climate Change Policy **2012**

4. Ireland and the Climate Change Challenge: Connecting 'How Much' with 'How To'. Final Report of the NESC Secretariat **2012**

5. Review of Developments in Banking and Finance **2013**

6. Employment and Enterprise Policy **2013**

7. Greening the Economy: Challenges and Possibilities for Integrating Sustainability into Core Government Policy **2013**

8. Activation Policy **2012**

9. Consumer Prices **2012**

10. Review of Irish Social and Affordable Housing **2014**

11. Financing of Social Housing in Selected European Countries **2014**

12. Reflections on Infrastructure Policy and Institutional Developments in the UK **2017**

13. Land Value Capture and Urban Public Transport **2018**

14. International Approaches to Land Use, Housing and Urban Development **2018**

15. Cost-Benefit Analysis, Environment and Climate Change **2018**

16. Multistakeholder Agreements in Climate Governance and Energy Transition: The Dutch Energy Agreement **2018**

17. The Framing of Climate Action in Ireland: Strategic Considerations **2019**

18. Urban Structure, Spatial Planning and Climate Emissions **2019**