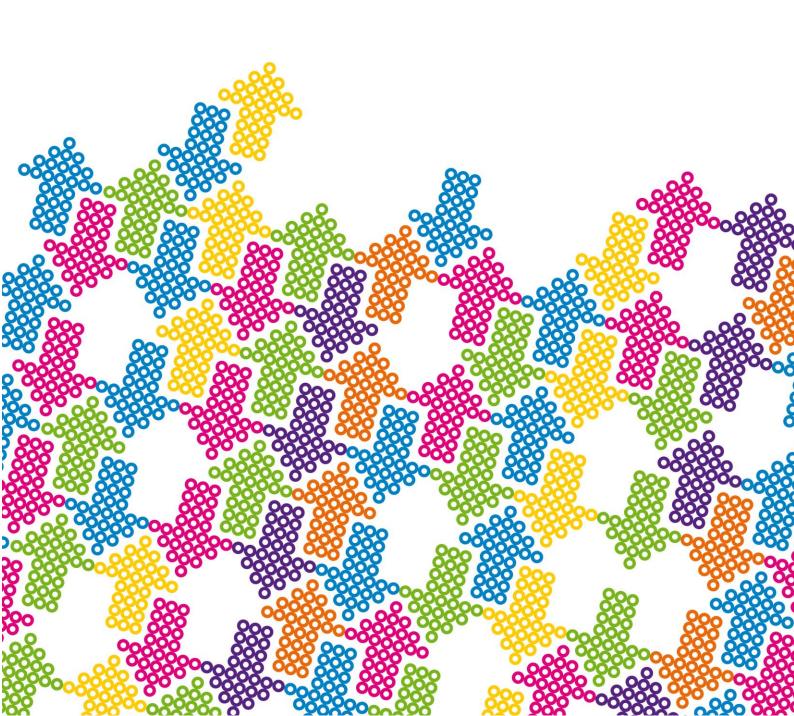


Submission to the Future Jobs Initiative 2019

December 2018



Introduction to the National Competitiveness Council

The National Competitiveness Council (NCC) reports to the Taoiseach and the Government, through the Minister for Business, Enterprise and Innovation on key competitiveness issues facing the Irish economy and offers recommendations on policy actions required to enhance Ireland's competitive position.

In accordance with the European Council recommendation of September 2016 on the establishment of National Productivity Boards by Eurozone countries, in March 2018, the Government mandated the National Competitiveness Council as the body responsible for analysing developments and policies in the field of productivity and competitiveness in Ireland.

Each year the NCC publishes two annual reports:

- Ireland's Competitiveness Scorecard provides a comprehensive statistical assessment of Ireland's competitiveness performance; and
- Ireland's Competitiveness Challenge uses this information along with the latest research to outline the main challenges to Ireland's competitiveness and the policy responses required to meet them.

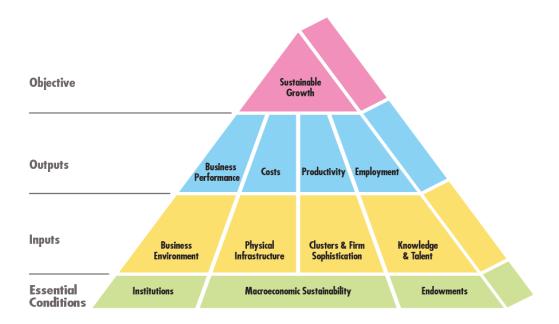
As part of its work, the NCC also:

- Publishes the Costs of Doing Business where key business costs in Ireland are benchmarked against costs in competitor countries; and
- Issues competitiveness bulletins and other papers on specific competitiveness issues.

The work of the National Competitiveness Council is underpinned by research and analysis undertaken by the Strategic Policy Division of the Department of Business, Enterprise and Innovation.

The NCC's Competitiveness Framework

The Council defines national competitiveness as the ability of enterprises to compete successfully in international markets. This is a significant factor influencing economic growth, jobs, wage rates and the quality of public services. National competitiveness is determined by a diverse range of factors. The Council uses an evidence-based "competitiveness pyramid" to illustrate the various factors (essential conditions, policy inputs and outputs), which combine to determine overall competitiveness and sustainable growth. Under this framework, competitiveness is not an end in itself, but a means of achieving sustainable improvements in living standards and quality of life.



National Competitiveness Council Members

Professor Peter Clinch Chair, National Competitiveness Council
Pat Beirne Chief Executive Officer, Mergon Group

Kevin Callinan Deputy General Secretary, IMPACT Trade Union

Micheál Collins Assistant Professor of Social Policy, University College Dublin Isolde Goggin Chair, Competition and Consumer Protection Commission

Cathríona Hallahan CEO/Managing Director (Ireland), Microsoft

David Hegarty Assistant Secretary, Department of Business, Enterprise and Innovation

Jane Magnier Joint Managing Director, Abbey Tours
Fergal O'Brien Director of Policy and Chief Economist, Ibec

Seán O'Driscoll President, Glen Dimplex Group
Margot Slattery Country President, Sodexo Ireland

Martin Shanahan Chief Executive, IDA Ireland

Julie Sinnamon Chief Executive, Enterprise Ireland
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Introduction

The competitiveness of Ireland's economy, and the firms within it, determine export performance, jobs and wage rates, incomes, the quality of public services, and our ability to improve the quality of life of people living in Ireland.

The National Competitiveness Council (NCC) – the Government's independent advisory council which examines Ireland's competitive position – reports to the Taoiseach and the Government, through the Minister for Business, Enterprise and Innovation, on key competitiveness issues facing the Irish economy and offers recommendations on policy actions required to enhance Ireland's competitiveness performance.

Following on from the Five President's report and a subsequent European Council decision, it was recommended that each Euro area country should have a National Productivity Board. A Government decision in March 2018 mandated the NCC as Ireland's National Productivity Board examining Ireland's performance within a European context.

For the past four years, the Council has been advocating for Productivity and Competitiveness to be placed as a central pillar of Ireland's economic policy. Productivity levels are, arguably, the single most important indicator of Ireland's future prosperity. Productivity and labour force participation are the principal determinants of competitiveness and so the Council warmly welcomes the emphasis on these two areas in the Future Jobs Plan.

The NCC has made submissions on competitiveness priorities each year to the Action Plan for Jobs, as was required under the Council's Terms of Reference. The Government agreed in July this year to the development of the Future Jobs initiative aimed at enhancing productivity, sustainable jobs and building an innovative economy. In the context of informing on focused priority actions for Future Jobs 2019, the Council is making a submission to this new whole of Government initiative.

This submission draws on the Council's annual report *Ireland's Competitiveness Challenge 2018*, which focuses on the main competitiveness challenges facing the business sector in Ireland over the medium term, and the policy responses required to address them.

In its report, the Council noted that while the Irish economy has been performing relatively well over the last number of years, the Government, business and the public cannot afford to become complacent, and competitiveness needs to be central to policy-making in Ireland.

The Irish economy continues to record strong growth, but the country has slipped down international competitiveness rankings (6 places in the World Bank Ease of Doing Business rankings). The Council's analysis suggests that, alongside the threats of a challenging global environment, there are vulnerabilities in the fabric of the Irish economy that Government policy needs to address.

First, increasing economic concentration – demonstrated by a small number of companies, operating in a few sectors, accounting for a large proportion of Ireland's productivity growth - means that Irish productivity growth is exposed to shocks in these specific industries, or these specific companies.

Second, **upward pressure on prices** – inevitable in a high growth context – has the potential to undermine Irish competitiveness. The Council notes that the severe shortage of available and affordable accommodation is a substantial threat to Ireland's competitiveness. However, housing is not the only area where costs are increasing, and the Council has pointed out other areas that are a cause for concern, like energy, water, business costs, and regulation costs.

Third, Ireland must find ways to narrow **the productivity gap** that exists between the most productive firms and the 'followers', and make sure that the rising tide of productivity lifts all boats. Economy-wide productivity gains occur only where technological and process innovations pioneered by the most productive firms are adopted across the economy.

The Council sees the Future Jobs initiative as a key mechanism for delivering on the Government's response to the challenges facing the economy. Embedding competitiveness can only be achieved through dialogue between experts and Government and through engagement with firms and workers. Through the Competitiveness Challenge, the Council annually makes recommendations to Government. A more formal system of Government response to these recommendations would enhance this policy dialogue and improve the policy-making process.

The remainder of this paper identifies the most important short to medium term policy actions that the Competitiveness Challenge 2018 highlights, and the NCC recommends the Future Jobs agenda takes forward. These recommendations are arranged under four of the five pillars of the Future Jobs agenda: improving productivity; enhancing skills and developing and attracting talent; increasing participation in the labour force; and, transitioning to a low carbon economy.

The Council's recommendations regarding the final pillar, innovation and technological change, are covered under the Council's recommendations on improving productivity and enhancing skills and developing and attracting talent.

A full list of the NCC recommendations in these areas is included in the Annexes.

1. Improving Productivity, particularly in Irish Small and Medium Sized Enterprises (SMEs)

The National Competitiveness Council's *Productivity Statement 2018* noted that Ireland's productivity has been catching up with other developed countries since the mid-1990. However, this positive fact masks several underlying issues. At a sectoral level, there is considerable heterogeneity with Ireland's productivity performance built upon a narrow base of highly-productive (mainly foreign-dominated) sectors such as pharmaceuticals and ICT that disguises many underperforming firms where productivity growth is stagnant or falling.

This divergence is not uncommon in OECD countries, but it is more severe in Ireland, and evidence suggests that it is widening over time, which indicates the difficulties the majority of firms faces in order to catch up with rapidly-expanding global firms.

The Council recommends that policies should be put in place to narrow the productivity gap between the most productive, and laggard, firms. The key areas that the Council would like to highlight in the Future Jobs agenda are as follows:

- the institutional framework for competitiveness;
- public and private investment in innovation;
- building and sustaining talent for the future (which is covered under the enhancing skills and developing and attracting talent pillar);
- improved management practices; and,
- a well-developed infrastructure to support businesses.

A. Institutional Support for Competitiveness

The Council recognises the fundamental role that institutions have on the prosperity of an economy. Properly functioning institutions create the framework for economic activity to take place and are therefore considered an essential condition for competitiveness by the Council.

The National Competitiveness Council is part of Ireland's institutional framework. The Council identifies the major competitiveness risks facing the Irish economy and recommends actions that the Government can take to address these issues. These recommendations have been the opening statement in a wider policy discourse – the start of an iterative decision-making process – designed to inform the Government on the potential competitiveness risks to the Irish economy, and the policy steps needed to address them. To facilitate these policy discussions, the Future Jobs initiative should build on previous commitments in the Action Plan for Jobs 2016 and Action Plan for Jobs 2017¹ and call for a more formal response process to the Council's recommendations.

In accordance with the European Council recommendation of September 2016 on the establishment of National Productivity Boards by Eurozone countries, in March 2018, the Government mandated the National Competitiveness Council as the body responsible for analysing developments and policies in the field of productivity and competitiveness in Ireland. These productivity boards are coordinated by DG ECFIN of the European Commission. There is now a significant administrative and technical requirement to perform this function effectively and to

¹ The Action Plan for Jobs 2017 (recommendation 104) reads "respond and bring forward appropriate proposals to address priority issues identified by the NCC to enhance competitiveness and productivity."

advocate for Ireland's interests in a European context. It will be critical to ensure that the Council/ National Productivity Board is appropriate structured and resourced to properly carry out its tasks and to support actions in the Future Jobs Plan.

Recommendation: The National Competitiveness Council should be appropriately structured and resourced to deliver on its mandate as the National Productivity Board of Ireland and to advocate for Ireland's interests at European level.

Responsibility: Department of Business Enterprise and Innovation, Department of Finance, Department of the Taoiseach

Recommendation: Develop a formal process for Government Departments to respond to the National Competitiveness Council's priority recommendations and bring forward proposals as appropriate to enhance competitiveness.

Responsibility: Department of the Taoiseach

B. Targeted Investment and Supports

While the EU Innovation Scoreboard shows Ireland as a strong innovator, we are lagging behind the innovation leaders (Sweden, Denmark, the Netherlands, the UK, and Luxembourg). Public investment in innovation is crucial – in, and of, itself and as a catalyst for private investment in innovation. Irish expenditure on R&D relative to GDP (1.18%) was well below the EU average (2.03%), and the UK figure (1.69%). Estimated as a share of Government budget outlays on R&D, expenditure in Ireland (0.97%) was lower than the UK (1.25%) and the EU average (1.37%).

This level of research intensity emphasises the point that if investment in R&D does not keep pace with economic growth, it could pose a threat to future innovations and may not be enough to support continued increases in productivity.

One of the key goals of the Government's Innovation 2020 strategy – Ireland's five-year strategy on research and development, science and technology – is securing €1.25 billion from the EU Research Framework, Horizon 2020. Horizon 2020 supports the enhancement of the R&D system, creating linkages with world leaders in academia and enterprise and facilitating the collaboration between the public and private sector in delivering innovation.

The Government must ensure that State funding in R&D is sufficient to ensure that the drawdown from Horizon 2020 is maximised, and the target is reached.

Recommendation: Ensure State funding is sufficient to facilitate maximising the drawdown of funds from Horizon 2020 and achieving the target of €1.25 billion under the Framework Programme. Following consultations with stakeholders, engage with the European Commission in order to influence the shaping of the successor to Horizon 2020 − Horizon Europe.

Responsibility: Department of Business, Enterprise and Innovation

The Council also recognises that private investment continues to be the main source of investment in R&D, so alongside further public investment in innovation, the Council notes the need for

measures to support private investment. The Council considers that to boost Ireland's overall innovation performance, broadening the base and intensifying R&D activities in Irish-owned SMEs, while maintaining and increasing the level of R&D activities by high productivity enterprises in the FDI sector, is crucial.

To facilitate this, the Council recommends that Government prepare an implementation plan to intensify business R&D activity based on the findings of the Indecon report on the Department of Business, Enterprise and Innovation's full range of programmes to establish where overlaps and complementarities may exist and explore opportunities to streamline, strengthen and introduce new supports.

Recommendation: Prepare an implementation plan to intensify business R&D activity based on the findings of the Indecon review of RD&I supports with particular focus on an audit of SMEs R&D capacity to identify barriers to achieve their potential. Ensure supports are aligned with business needs.

Responsibility: Department of Business, Enterprise & Innovation

C. Improved Management Practices

Good management practices are an important factor for improving productivity performance. Highly proficient leadership, with ambition, vision and strong management teams, are crucial for establishing the environment that facilitates an innovation culture. Management practices incorporate the approaches and techniques used to improve performance, focusing specifically on operations management, performance and target management and human resource deployment and development. International research indicates that there is a strong relationship between management practice and business performance.

There is evidence to suggest that managerial skills are lower in Ireland when compared to other high-income countries such as Germany, Sweden and the UK, but the data is not up-to-date. The CSO should consider extending the scope of their annual publications on productivity to benchmark the prevalence of management practices in Irish-owned and foreign-owned enterprise.

Recommendation: Consider extending the scope of the Central Statistics Office's annual publication on productivity to benchmark the prevalence of management practices in Irish-owned and foreign-owned enterprise.

Responsibility: Central Statistics Office

Another potential vehicle for an uplift in management practices is the Regional Skills Fora, which provide a framework for the education and training providers and enterprise stakeholders, including the Enterprise Agencies, to work together in identifying and addressing the current and future skills needs of each region.

Recommendation: Identify and address the management development needs of each region on an ongoing basis and encourage data-sharing arrangements at regional level.

Responsibility: Department of Education and Skills, Local Enterprise Offices, Skillnet Ireland

D. Infrastructure

The presence of high quality competitively priced infrastructure is key for achieving long term productivity growth, driving the competitiveness of indigenous enterprises and enhancing Ireland's position as an attractive location for talent and inward investment.

World class infrastructure strengthens economic growth as it helps to raise total factor productivity by reducing transaction (and other) costs, allowing more efficient use of inputs.

Notwithstanding increases in investment in infrastructure in recent years, continued economic growth, demographic pressures and an underinvestment in the last decade means that Irish infrastructure continues to lag its main competitors.

Project Ireland 2040 is the overarching policy and planning framework for the social, economic and cultural development of Ireland. The National Development Plan (NDP) 2018-2027, part of Project Ireland 2040, sets out Ireland's public capital infrastructure priorities and commits €115 billion for the delivery of the National Planning Framework (NPF) over the next decade.

The Council considers that the Government faces a critical challenge to deliver effectively-connected infrastructure projects under Project Ireland 2040 that drive future productivity growth, and maximise returns on investment, while at the same time avoid overheating the economy, and ensure value for money in the face of low productivity levels and high-demand in the construction sector.

The most impactful of the Council's specific recommendations are:

- Priority investment in Dublin Airport to develop it as an international hub with greater long haul direct connectivity;
- Conclude the procurement process and expedite the roll out of the National Broadband Plan State Intervention; and,
- Complete the construction of the North-South interconnector to improve security of energy supply.

Recommendation: Prioritise continued investment in Dublin Airport to develop it as an international hub with greater long haul direct connectivity.

Responsibility: Dublin Airport Authority, Department of Transport, Tourism and Sport

Recommendation: Conclude the procurement process and expedite the roll out of the National Broadband Plan State Intervention.

Responsibility: Department of Communications, Climate Actions & Environment, Department of Rural and Community Development, Department of Housing, Planning and Local Government, ComReg

Recommendation: Complete the construction of the North-South interconnector to improve security of energy supply.

Responsibility: Eirgrid

2. Enhancing skills and developing and attracting talent

The National Competitiveness Council has dealt with both the need for enhanced skills, and for developing and attracting talent, in its recently published Ireland's Competitiveness Challenge 2018.

It is clear that a talented and well-educated workforce is key to Ireland's future productivity performance – and the Government should focus on the two main ways to develop this – enhance the skills of Irish people and ensure that Ireland is an attractive destination for mobile international talent that cannot be developed locally. This section focuses first on measures designed to enhance skills, and then on policies that would facilitate attracting talent.

All of the Council's recommendations in this area are included in the Annex – but the most pressing have been highlighted here.

A. Enhancing Skills

The presence of a skilled workforce has been a major contributor to Ireland's ability to attract foreign companies to locate here, and to the successful internationalisation of the exporting cohort of indigenous enterprise. The availability of talent is also important to facilitate the country in benefiting from opportunities for technological development.

Despite our talented workforce, and our high international rankings, the three primary skills challenges we face as a nation are:

- the level of funding in Higher Education;
- lifelong learning; and,
- the need to respond to urgent and evolving skills needs.

Addressing these challenges will contribute to preparing the talent base to take advantage of the new opportunities for improving productivity and economic growth presented by technological development.

Higher Education

As the Higher Education system plays such an important role in developing the skills required for Irish businesses to be globally competitive - continued investment in Ireland's education system is vital. Ireland spends less on higher education than the OECD average, and less than competitors (including the UK, Finland, Sweden, and the Netherlands). Ireland also needs more people in research masters and PhD courses, particularly in areas of strategic importance to enterprise.

Recommendation: Develop and implement a long-term funding model that allows for increased participation and quality in higher education. The funding model should reflect the principles outlined by the Expert Group on Future Funding for Higher Education in relation to certainty and consistency; meeting national ambitions; supporting an increase in quality; enhancing access and participation; and ensuring fairness and balance.

Responsibility: Department of Education and Skills, Higher Education Authority

Recommendation: Implement the recommendations of the Review of the Allocation Model for Funding Higher Education Institutions to improve the transparency and accountability in the higher education sector.

Responsibility: Department of Education and Skills

Recommendation: Increase the number of research masters and PhD enrolments in line with the commitment set out in Innovation 2020, particularly in areas of strategic importance to enterprise. Act to increase the number of trained researchers moving to enterprise.

Responsibility: Science Foundation Ireland, Irish Research Council, Department of Education and Skills, Department of Business, Enterprise and Innovation

Lifelong Learning

The scope for further increasing the proportion of the National Training Fund (NTF) – used to upskill those in employment and to provide training to those who wish to acquire skills for the purposes of taking up employment – to upskill people in employment and to provide targeted lifelong learning initiatives. An independent review of the NTF was carried out in 2018, recommending things like focusing on supporting in-company training, and funding SME upskilling, that the Council believes should be implemented.

Recommendation: Implement the actions in the Implementation Plan which followed the independent review of the National Training Fund. Put in place a structured process to facilitate NTF-focussed inputs from employers, employees and representative bodies prior to annual expenditure decisions.

Continue to evaluate NTF funded programmes and ensure that they meet business needs, particularly those identified by SMEs and microenterprises.

Responsibility: Department of Education and Skills

The need to respond to urgent and emerging skills needs

The World Economic Forum's Report on the Future of Jobs 2018 considers that four specific technological advances – ubiquitous high-speed mobile internet; artificial intelligence; widespread adoption of big data analytics; and, cloud technology – are set to dominate the next 5 years of business growth.

However, reaping the full benefits of digitalisation is contingent on the presence a workforce with certain specialist skills. The Government, businesses and employees themselves need to ensure that they have the skills required to take advantage of these evolving technologies.

The education system needs to be equipped to respond to the skills requirements of the next generation of employees, and should consult with employers across different sectors, which the Government plans on addressing via the ICT Skills Action Plan 2019-2022. The Government should expedite the implementation of this Action Plan and encourage employers' engagement with ICT apprenticeships.

Recommendation: Expedite the implementation of the ICT Skills Action Plan 2019-2022. Encourage employers' engagement with ICT apprenticeships.

Responsibility: Department of Education and Skills

Recommendation: Promote awareness of the increasing importance of ICT skills in the economy, awareness of ICT careers in schools and further and higher education and ICT as a career choice to female students.

Responsibility: Department of Education and Skills, Science Foundation Ireland, Skillnet Ireland

B. Attracting talent

The Council recognises that as we approach full employment, labour needs are beginning to manifest. Apart from tapping into the skills pool of the Single Market by ensuring that Ireland remains an attractive location to work and live in, another source of meeting labour and skills needs in a tightening labour market is skills from outside the European Economic Area.

The relatively high marginal tax rate faced by high income earners is viewed as an impediment to international competitiveness and a disincentive to attract skilled labour from abroad.

The Government should conduct a thorough review of economic migration policy every three years to ensure that it remains supportive of labour market needs and prepare an action plan implementing the recommendations of the Interdepartmental Group on the review of the employment permits regime.

Recommendation: Conduct a thorough review of economic migration policy every three years to ensure it remains supportive of labour market needs. Prepare an action plan implementing the recommendations of the Interdepartmental Group on the review of the employment permits regime. Assess and report on the impact of adjusting the employment permits system.

Responsibility: Department of Business, Enterprise and Innovation

Recommendation: Ensure that the Employment Permits Unit within the Department of Business, Enterprise and Innovation is adequately resourced in order to avoid delays in issuing employment permits.

Responsibility: Department of Business, Enterprise and Innovation

We should also make it easier for Irish emigrants who wish to return home. In August 2018, the CSO reported that net inward migration for Ireland in 2018 was 34,000 – the highest level of net inward migration since 2008. Moreover, Irish nationals experienced net inward migration for the first time since 2009.

Removing the barriers faced by returning emigrants is vital for improving Ireland's ability to attract Irish people to return home will contribute towards increasing labour force levels. The Department of Foreign Affairs and Trade² have published a report on addressing challenges faced by returning

 $^{^{\}mathrm{2}}$ Indecon Economic Report on Addressing Challenges Faced by Returning Irish Emigrants, Feb 2018

emigrants and proposed recommendations to alleviate any unnecessary administrative burden affecting those emigrants who want to return home.

The Council recommends that all Government Departments enhance the attractiveness of Ireland by removing the barriers faced by Irish emigrants who wish to return home, (some of which also apply to non-EEA national looking to relocated to Ireland) – as identified in the above-mentioned report.

Recommendation: Enhance the attractiveness of Ireland by removing the barriers faced by Irish emigrants who wish to return home, as identified in the report on addressing challenges faced by returning emigrants.

Responsibility: All Government Departments

3. Increasing participation in the labour force

In an economy approaching full employment, ensuring sustainable economic growth depends on the availability of sufficient labour. There are a number of areas where the Government can increase the availability of labour in Ireland, including:

- (i) a competitive marginal rate of tax;
- (ii) effective replacement rates (i.e. the comparison between a person's in-work and out-of-work income);
- (iii) realising the potential of the unemployed; and
- (iv) developing opportunities of those excluded from the labour force.

A. Competitive Marginal Rate of Tax

The IMF³ recently warned that Ireland's current tax system is viewed as unable to reward work sufficiently since individuals earning an average wage are charged at the higher tax rate. Moreover, the relatively high marginal tax rate faced by high income earners is viewed as an impediment to international competitiveness and a disincentive to attracting skilled labour from abroad.

In the current climate of a tightening labour market and intensifying competition for talent globally, the Council recommends that the Government increase the entry point to the top marginal rate of income tax and reduce the maximum marginal rates for all employees to attract global talent.

Recommendation: Increase the entry point to the top marginal rate of income tax and reduce the maximum marginal rates for all employees to attract global talent.

Responsibility: Department of Finance

B. Realising the Potential of the Unemployed

Maintaining the economy's growth potential as the labour market tightens will require a continued flow of labour and specific skills requirement, particularly in key sectors of the Irish economy. While the unemployment rate continues to fall – standing under 6 percent in Q_3 2018 – there are still almost 145,000 unemployed people in Ireland, with a further 110,000 people who were part time unemployed.

There are several well-established Government interventions in place to help the unemployed back to work, including:

 JobPath - an employment activation service initiative that works closely with employers to secure vacancies mainly for people who are long-term unemployed to assist them with advice and support to prepare for, secure and sustain full-time paid employment, or selfemployment; and,

³ Ireland: 2018 Article IV Staff Report, IMF

- **JobsPlus** - an incentive for businesses who offer full-time employment to jobseekers on the Live Register. It provides monthly cash payments to businesses to offset their wage costs.

The Government should publish the JobPlus evaluation Report – when it is completed – and consider recommendations on further adjustments to the scheme, alongside evaluating the labour market activation programmes for the long-term unemployed JobPath and JobsPlus to provide a most robust evidence-based approach for improving the effectiveness of these programmes.

Recommendation: Publish the JobPlus evaluation Report, once completed, and consider recommendations on further adjustments to the scheme.

Conduct an evaluation of the labour market activation programmes for the long-term unemployed JobPath and JobsPlus to provide an evidence-based approach for improving the effectiveness of these programmes.

Responsibility: Department of Employment Affairs and Social Protection

Finally, the OECD has noted that within total labour market programmes in Ireland, the share of direct job creation spending is higher compared to most EU countries. However, some spending may be inefficient, as such programmes are usually time limited, and future employment prospects can be modest.

The European Commission (with the ICON Institut) undertook an external assessment of Ireland's Public Employment Services (PES) with a series of key recommendations, which the Council recommends should be implemented.

Recommendation: Implement the recommendations of the External Assessment of Ireland's Public Employment Services.

Responsibility: Department of Employment Affairs and Social Protection

C. Develop opportunities of those excluded from the labour force

CSO data estimates that there were 1.4 million people not in the labour force – and that almost 120,000 of these people were a potential addition. Developing the employment potential of those not in the labour force is not only beneficial for economic growth, but also for inclusivity, and contributes to a more sustainable economic model.

The availability and affordability of childcare services, deficiencies in public transport and road infrastructure and the lack of policies on work place flexibility in many companies are obstacles for harnessing the untapped potential of people outside the labour force.

The Government needs to identify, and address, policy issues for cohorts with low participation rates, and implement the actions outlined in the Action Plan for Jobless Households – which proposed actions to encourage unemployed and inactive people, such as lone parents, adult dependents on jobseeker claimants, carers and people with disabilities, to join the work force - to encourage take-up of employment.

Recommendation: Identify and address policy issues for cohorts with low participation rates.

Responsibility: Department of Business, Enterprise and Innovation, Department of Education and Skills; Department of Employment Affairs and Social Protection, Department of the Taoiseach

Recommendation: Implement the actions outlined in the Action Plan for Jobless Households to encourage take-up of employment. Broaden the regional scope of the family focused employment service and evaluate the service with a view to improving the outcomes of jobless households.

Responsibility: Department of Employment Affairs and Social Protection

4. Transitioning to a low carbon economy

Climate change presents very significant challenges for Ireland, both in terms of mitigating our emissions and achieving national and international binding targets and adapting to the effects of climate change. Meeting climate change targets will be extremely challenging.

The Environmental Protection Agency (EPA) data show that emissions are trending upwards, in line with our economic performance. Emissions are growing in the transport and industrial processes sectors, linked to a growing economy. They have also published their inventory of greenhouse gas emissions to 2016. This report shows that, at best, Ireland's non-ETS emissions are projected to be 1 per cent below 2005 levels in 2020, compared to the target of 20 per cent below 2005 levels by 2020.

Ireland has annual binding emissions limits set each year over the period 2013-2020, and the EPA inventory shows that while Ireland was compliant with its annual emission allocations from 2013-2015, it exceeded its annual binding limit for the first time in 2016. Greenhouse gas emissions increased in all sectors during 2016 and are projected to increase for most sectors in the period to 2020.

The Government, enterprise agencies and business have introduced several measures to improve the carbon footprint of the economy. Industry continues to embrace the principles of the circular economy, and the move towards more sustainable business practices. Companies are changing in response to an increasing consumer demand for more environmentally friendly and sustainable business models, products and services and to reduce costs by improving resource efficiency.

Agencies including IDA Ireland, Enterprise Ireland and the Sustainable Energy Authority of Ireland offer a range of supports to industry to assist them to incorporate sustainable practices and good environment management practices into the day-to-day running of their businesses.

However, more needs to be done. The Council has noted the need to increase the carbon tax on a – phased basis, taking into consideration the direct and indirect impacts on business costs and competitiveness.

Recommendation: Increase the carbon tax on a phased basis taking into consideration the direct and indirect business costs and competitiveness.

Responsibility: Department of Finance

Failure to comply with climate change targets will incur significant costs to the Irish Exchequer. Purchasing compliance with climate change obligations diverts funds from spending on essential social service, or capital expenditure. As such, it is imperative that action is taken to close Ireland's compliance gap as a matter of urgency and in a cost-efficient manner.

Recommendation: Cost-effective options to close Ireland's compliance gap should be identified and prioritised as a matter of urgency. Any initiatives should be targeted to ensure the fair and equitable imposition of obligations.

Responsibility: Department of Communications, Climate Action and Environment, Department of Public Expenditure and Reform, all other relevant Departments

Annex 1. Improving Productivity, particularly in Irish SMEs

Recommendation: Implement the actions on enhancing productivity in Irish-owned enterprises set out in Enterprise 2025 as outlined above. Consider devising and monitoring productivity targets at sectoral level.

Responsibility: Department of Business, Enterprise and Innovation

Recommendation: Develop an ambitious, target led, time bound action plan around the priorities to increase the productivity performance of the indigenous sector set out in the Future Jobs initiative. Ensure that business representatives are consulted in the process of framing the actions.

Responsibility: Department of Business, Enterprise and Innovation, Department of the Taoiseach

Recommendation: Engage with the European Commission, OECD and other international productivity bodies to exchange best practice. Continue to analyse policies and challenges in the area of productivity to reinforce policy dialogue at national level.

Responsibility: National Competitiveness Council

Recommendation: Publish a more disaggregated sectoral productivity data, including at firm level, to assist policymakers in adequately understanding and benchmarking Ireland's productivity performance against international competitors and driving informed policy decisions.

Responsibility: Central Statistics Office

Recommendation: As part of the Mid-term Review of Innovation 2020 identify actions that should be prioritised during the remaining term of Innovation 2020. Supplement the current expenditure target with a measure of R&D intensity relative to GNI*.

Responsibility: Department of Business, Enterprise and Innovation

Recommendation: Ensure State funding is sufficient to facilitate maximising the drawdown of funds from Horizon 2020 and achieving the target of €1.25billion under the Framework Programme. Following consultations with stakeholders, engage with the European Commission in order to influence the shaping of the successor to Horizon 2020 − Horizon Europe.

Responsibility: Department of Business, Enterprise and Innovation

Recommendation: Prepare an implementation plan to intensify business R&D activity based on the findings of the Indecon review of RD&I supports with particular focus on an audit of SMEs R&D capacity to identify barriers to achieve their potential. Ensure supports are aligned with business needs.

Responsibility: Department of Business, Enterprise & Innovation

Recommendation: Prioritise the completion and dissemination of the comprehensive directory on innovation programmes and supports to facilitate companies identify programmes most suited to their needs.

Responsibility: Department of Business, Enterprise & Innovation, Knowledge Transfer Ireland

Recommendation: Ensure the R&D tax credit and Knowledge Development Box incentives provide value for money while remaining internationally competitive, particularly to SMEs needs.

Responsibility: Department of Finance

Recommendation: Conduct regular reviews to identify the obstacles and enablers to increasing investment in knowledge-based capital and innovation activity at firm level.

Responsibility: Department of Business, Enterprise and Innovation, Enterprise Ireland, IDA Ireland

Recommendation: Consider how supports to encourage participation in Knowledge Based Capital programmes should be targeted and communicated to specific groups of firms with similar characteristics.

Responsibility: Enterprise Ireland

Recommendation: Conduct an evaluation of Enterprise Ireland's client engagement model which provides targeted supports based on agreed milestones.

Responsibility: Department of Business, Enterprise and Innovation, Enterprise Ireland

Recommendation: Address, through the education and training system, skills needs identified through programmes like Spotlight on Skills. Develop new programmes to address identified skill needs and update the existing programmes' curriculum to address future needs.

Responsibility: Department of Business, Enterprise and Innovation, Department of Education and Skills, Enterprise Ireland

Recommendation: Examine enterprise RDI support programmes and ensure their comprehensiveness and appropriateness to indigenous enterprises, particularly SMEs. Strengthen the collaboration links between indigenous companies and multinationals with a view to increasing the diffusion of knowledge and technology.

Responsibility: Department of Business, Enterprise and Innovation, Enterprise Ireland, IDA Ireland, Science Foundation Ireland

Recommendation: Ensure that the Research and Technology Organisations have the scale and scope to support market-oriented, industry-led research and that the work of future Research and Technology Centres is aligned to the needs of the enterprise sector.

Responsibility: Department of Business, Enterprise and Innovation, Enterprise Ireland, IDA Ireland

Recommendation: Increase awareness of the various initiatives aimed at improving industry-academia collaboration.

Responsibility: Knowledge Transfer Ireland, Enterprise Ireland, IDA Ireland

Recommendation: Roll out the successor to the Programme for Research in Third Level Institutions to enhance Ireland's research capacity. Consider developing a research infrastructure roadmap to ensure a coordinated approach in delivering Ireland's research infrastructure priorities.

Responsibility: Department of Business, Enterprise and Innovation

Recommendation: Review the effectiveness of the Global Sourcing Initiative and re-adjust the initiative to develop and intensify the trade linkages between indigenous and multinational enterprises. Build the capacity of indigenous companies to achieve sophistication and scale to avail of the Global Sourcing Initiative.

Responsibility: Department of Business, Enterprise and Innovation, Enterprise Ireland, IDA Ireland

Recommendation: Expedite the roll out of the Integrated Licence Application System and extend the system to include as many licensing authorities as possible.

Responsibility: Government Departments, Licencing authorities

Recommendation: Roll out the SMEs test across Government Departments to ensure the impact of any new legislation or regulation does not create a disproportionate burden on SMEs.

Responsibility: Department of Business, Enterprise and Innovation, Government Departments

Recommendation: Implement the recommendations set out in the Focused Policy Assessment of Start Up and Entrepreneurship Expenditure.

Responsibility: Department of Business, Enterprise and Innovation

Recommendation: Consider the recommendations of the report on Supporting Entrepreneurship and Innovation in Higher Education in Ireland in the context of developing a new Entrepreneurship Education Policy Statement. Publish and prioritise the recommendations and actions arising from the Entrepreneurship Education Policy Statement and develop new Entrepreneurship Education Guidelines for schools.

Responsibility: Department of Education and Skills

Recommendation: Consider extending the scope of the Central Statistics Office's annual publication on productivity to benchmark the prevalence of management practices in Irish-owned and foreign-owned enterprise.

Responsibility: Central Statistics Office

Recommendation: Identify and address the management development needs of each region on an ongoing basis and encourage data-sharing arrangements at regional level.

Responsibility: Department of Education and Skills, Local Enterprise Offices, Skillnet Ireland

Recommendation: Develop mechanisms to facilitate the tailoring and extension of relevant management development programme modules to cohorts of firms currently not engaging in such programmes.

Increase the awareness and take up of management development initiatives by enterprise, particularly micro-enterprises and SMEs

Responsibility: Department of Education and Skills, Department of Business, Enterprise and Innovation, Local Enterprise Offices, Skillnet Ireland, Regional Skills Fora

Recommendation: Extend the use of NTF funding via Management Development programmes to provide additional support to management development training and to generate an uplift in enterprise participation.

Responsibility: Department of Education and Skills

Recommendation: Refine and expand the coverage of the Capital Projects Tracker to allow for monitoring as well as the status update of infrastructure projects planned under National Development Plan.

Responsibility: Department of Public Expenditure and Reform

Recommendation: Develop an ambitious transport investment strategy which encourages sustainable transport, is resilient to current and future threats and embraces new technological opportunities. In developing the strategy, ensure a coherent and joined up approach to planning across Government. **Responsibility**: Department of Transport, Tourism and Sport, Transport Infrastructure Ireland

Recommendation: Prioritise continued investment in Dublin Airport to develop it as an international hub with greater long haul direct connectivity.

Responsibility: Dublin Airport Authority, Department of Transport, Tourism and Sport

Recommendation: Monitor the performance of Irish ports in terms of cost competitiveness, quality and capacity in the context of Brexit and meeting the needs of the Irish exporters. Prioritise the recommendations of the UK Landbridge research and publish the findings of Port Capacity study.

Responsibility: Department of Transport, Tourism and Sport, Irish Maritime Development Office

Recommendation: Conclude the procurement process and expedite the roll out of the National Broadband Plan State Intervention.

Responsibility: Department of Communications, Climate Actions & Environment, Department of Rural and Community Development, Department of Housing, Planning and Local Government, ComReg

Recommendation: Ensure that the transition to renewable energy as outlined in the Energy White Paper does not only aim to achieve compliance with externally imposed targets, but also considers the competitiveness of Irish businesses.

Responsibility: Department of Communications, Climate Action and Environment

Recommendation: Complete the construction of the North-South interconnector to improve security of energy supply.

Responsibility: Eirgrid

Recommendation: Publish the cost benefit analysis of the proposed Greenlink and Celtic interconnectors and how they benefit the final customers of electricity, including the impact on both gas and electricity.

Responsibility: Department of Communications, Climate Action and Environment

Recommendation: Progress the studies and engagements to conclude the consultation phase on building the Celtic interconnector. Secure funding for completing the project to ensure diversification of energy supply and improving environmental sustainability targets.

Responsibility: Eirgrid

Recommendation: Assess the feasibility of developing a liquid natural gas import terminal in the context of enhancing Ireland's security of supply of gas.

Responsibility: Department of Communications, Climate Action and Environment

Recommendation: Map the Artificial Intelligence ecosystem in Ireland and devise a collective targeted National Artificial Intelligence strategy.

Responsibility: Government, State Agencies

Recommendation: Expedite the preparation of an ambitious, future-proofed and target-based National Digital Strategy. Prioritise high level actions to address gaps in delivering the benefits of digitalisation.

Responsibility: Department of the Taoiseach, Department of Business, Enterprise and Innovation, Department of Communications, Climate Action and Environment, Office of the Chief Information Officer, Department of Public Expenditure and Reform

Recommendation: Expedite the enactment of the Data Sharing and Governance Bill. Publish a Public Service Data Strategy.

Responsibility: The Office of the Chief Information Officer, Department of Public Expenditure and Reform, Department of Public Expenditure and Reform

Recommendation: Expand the membership of the Interdepartmental Committee on the Digital Single Market to include relevant departments and agencies to ensure a whole-of-Government approach to the agenda. Ensure that DSM initiatives are in line with Ireland's strategic interests and its enterprise community. Intensify engagement with enterprise to better understand the challenges in delivering the DSM.

Progress the delivery of the Digital Single Market Strategy to advance Ireland's position as a leading global digital economy. Ensure that Government Departments are adequately resourced to implement the DSM.

Responsibility: Government, Interdepartmental Committee on Digital Single Market

Annex 2. Enhancing skills and developing and attracting talent

Recommendation: Develop and implement a long-term funding model that allows for increased participation and quality in higher education. The funding model should reflect the principles outlined by the Expert Group on Future Funding for Higher Education in relation to certainty and consistency; meeting national ambitions; supporting an increase in quality; enhancing access and participation; and ensuring fairness and balance.

Responsibility: Department of Education and Skills, Higher Education Authority

Recommendation: Collect data on the costs for specific education fields for the development of more evidence based, outcome-focused indicators, and ensure a clear understanding of the efficient cost of delivering a quality higher education as recommended by the Higher Education Spending Review report.

Responsibility: Department of Education and Skills, Higher Education Authority

Recommendation: Implement the recommendations of the Review of the Allocation Model for Funding Higher Education Institutions to improve the transparency and accountability in the higher education sector.

Responsibility: Department of Education and Skills

Recommendation: Monitor the implementation of the recommendations of the Higher Education System Performance Framework 2018–2020 to maintain Ireland's global position for skill availability. Ensure that the targets associated with apprenticeship registrations, lifelong learning, foreign languages and ICT skills are achieved.

Responsibility: Department of Education and Skills, Higher Education Authority

Recommendation: Increase the number of research masters and PhD enrolments in line with the commitment set out in Innovation 2020, particularly in areas of strategic importance to enterprise. Act to increase the number of trained researchers moving to enterprise.

Responsibility: Science Foundation Ireland, Irish Research Council, Department of Education and Skills, Department of Business, Enterprise and Innovation

Recommendation: Implement the actions in the Implementation Plan which followed the independent review of the National Training Fund. Put in place a structured process to facilitate NTF-focussed inputs from employers, employees and representative bodies prior to annual expenditure decisions.

Continue to evaluate NTF funded programmes and ensure that they meet business needs, particularly those identified by SMEs and microenterprises.

Responsibility: Department of Education and Skills

Recommendation: Ensure that the education system is equipped to respond to the skill requirements of the next generation of employees who will be working in a digitalised environment, by consulting with employers across the different sectors.

Responsibility: Department of Education and Skills, Department of Business, Enterprise and Innovation

Recommendation: Expedite the implementation of the ICT Skills Action Plan 2019-2022. Encourage employers' engagement with ICT apprenticeships.

Responsibility: Department of Education and Skills

Recommendation: Promote awareness of the increasing importance of ICT skills in the economy, awareness of ICT careers in schools and further and higher education and ICT as a career choice to female students.

Responsibility: Department of Education and Skills, Science Foundation Ireland, Skillnet Ireland

Recommendation: Expedite the implementation of the recommendations set out in the study on Addressing the Skills Needs Arising from the Potential Trade Implications of Brexit.

Responsibility: Department of Agriculture, Bord Bia, Department of Business, Enterprise and Innovation, IDA Ireland, Enterprise Ireland, Department of Education and Skills, Department of Foreign Affairs and Trade, Department of Transport, Tourism and Sport, Office of the Revenue Commissioners

Recommendation: Ensure sufficient resourcing for implementing the objectives of the Languages Connect Strategy. Progress the actions in the Language Connect Implementation Plan 2017-2022. Raise awareness of the benefits of employing people with language skills and intensify supports to encourage companies, particularly SMEs, to invest in the development of language skills.

Responsibility: Department of Education and Skills, Enterprise Ireland, IDA Ireland

Recommendation: Benchmark Ireland's relative performance in languages at all levels. Align the assessment of foreign language learning proficiency outcomes, at further and higher education, to the Common European Framework of Reference for languages, to facilitate comparison of linguistic competence with international competitors.

Responsibility: Department of Education and Skills

Recommendation: Set ambitious targets to provide supports for upskilling employees for each Education and Training Board and develop national guidelines on the implementation of the Further Education and Training Policy Framework 2018-2021 to ensure it responds to business needs.

Responsibility: SOLAS, Education Training Boards

Recommendation: Roll out the EXPLORE programme, following the evaluation of the pilot, to provide access for older, low skilled employees, to informal and formal learning opportunities in order to gain new skills, including digital skills.

Responsibility: Department of Education and Skills

Recommendation: Implement the findings of the Review of Career Guidance.

Responsibility: Department of Education and Skills

Recommendation: Streamline the operation of the apprenticeship validation process and improve the communication of requirements to providers and consortia.

Responsibility: Quality and Qualifications Ireland, SOLAS, Department of Education and Skills

Recommendation: Expand apprenticeship programmes to respond to emerging skill needs, following feedback from representatives in various industry sectors. Develop supports for employers to actively engage in the take up of new, non-craft apprenticeships, including through development of training plans and guidelines.

Responsibility: Department of Education and Skills, Enterprise Ireland, SOLAS, Higher Education Authority

Recommendation: Prioritise the recommendations of the Review of pathways to participation in apprenticeship. After completion of the pilot phase, roll out the apprenticeships online portal to provide transparency in opportunities for potential apprentices.

Responsibility: Department of Education and Skills

Recommendation: Consider the demand and feasibility of introducing a shared apprenticeship scheme in the construction sector.

Responsibility: SOLAS

Recommendation: Conduct a thorough review of economic migration policy every three years to ensure it remains supportive of labour market needs. Prepare an action plan implementing the recommendations of the Interdepartmental Group on the review of the employment permits regime. Assess and report on the impact of adjusting the employment permits system.

Responsibility: Department of Business, Enterprise and Innovation

Recommendation: Ensure that the Employment Permits Unit within the Department of Business, Enterprise and Innovation is adequately resourced in order to avoid delays in issuing employment permits.

Responsibility: Department of Business, Enterprise and Innovation

Annex 3. Increasing participation in the labour force

Recommendation: Increase the entry point to the top marginal rate of income tax and reduce the maximum marginal rates for all employees to attract global talent.

Responsibility: Department of Finance

Recommendation: Publish the JobPlus evaluation Report, once completed, and consider recommendations on further adjustments to the scheme.

Conduct an evaluation of the labour market activation programmes for the long-term unemployed JobPath and JobsPlus to provide an evidence-based approach for improving the effectiveness of these programmes.

Responsibility: Department of Employment Affairs and Social Protection

Recommendation: Implement the recommendations of the External Assessment of Ireland's Public Employment Services.

Responsibility: Department of Employment Affairs and Social Protection

Recommendation: Identify and address policy issues for cohorts with low participation rates.

Responsibility: Department of Business, Enterprise and Innovation, Department of Education and Skills; Department of Employment Affairs and Social Protection, Department of the Taoiseach

Recommendation: Implement the actions outlined in the Action Plan for Jobless Households to encourage take-up of employment. Broaden the regional scope of the family focused employment service and evaluate the service with a view to improving the outcomes of jobless households.

Responsibility: Department of Employment Affairs and Social Protection

Recommendation: Enhance the attractiveness of Ireland by removing the barriers faced by Irish emigrants who wish to return home, as identified in the report on addressing challenges faced by returning emigrants.

Responsibility: All Government Departments

Recommendation: Conduct a thorough review of economic migration policy every three years to ensure it remains supportive of labour market needs. Prepare an action plan implementing the recommendations of the Interdepartmental Group on the review of the employment permits regime. Assess and report on the impact of adjusting the employment permits system.

Responsibility: Department of Business, Enterprise and Innovation

Annex 4. Transitioning to a low carbon economy

Recommendation: Increase the carbon tax on a phased basis taking into consideration the direct and indirect business costs and competitiveness.

Responsibility: Department of Finance

Recommendation: Cost-effective options to close Ireland's compliance gap should be identified and prioritised as a matter of urgency. Any initiatives should be targeted to ensure the fair and equitable imposition of obligations.

Responsibility: Department of Communications, Climate Action and Environment, Department of Public Expenditure and Reform, all other relevant Departments

Recommendation: Ensure that the next National Mitigation Plan identifies the most impactful mitigation measures and details the required funding.

Responsibility: Department of Communications, Climate Action and Environment.

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