

# BUDGET 2018

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## SUBMISSION



# Engineers Ireland's Budget 2018 Priorities

## **1. Steady and sustainable increases in capital investment**

- Implement the promised €1.5 billion increase in capital investment for 2019-21
- Target 4% GDP for capital investment by 2027 as part of the 10 year Capital Plan
- Ensure capital investment decisions are tied to the National Planning Framework
- Explore alternative infrastructure funding and financing mechanisms

## **2. Infrastructure policy, planning and delivery reform**

- Convene a taskforce on infrastructure policy, planning and delivery reform
- Engage the UK National Infrastructure Commission and bodies in other jurisdictions
- Fund the establishment of a single infrastructure unit to develop a long-term vision and strategy, identify priority projects and explore innovative funding

## **3. Integrated implementation of existing plans**

- Advance the National Broadband Plan without delay, ensuring future-proofing
- Achieve the Rebuilding Ireland targets, emphasising new builds and renovations
- Ensure adequate funding to achieve the Irish Water Business Plan objectives
- Implement the National Mitigation Plan as one step to a low-carbon society

## **4. All-island connectivity and regional development**

- Promote cross-border transport projects, including the A5 Aughnacloy-Derry
- Invest in large-scale public transport to reduce car dependency and congestion
- Progress the M20 Cork-Limerick as part of an Atlantic Cities development strategy
- Maintain and improve secure digital connectivity nationally and internationally

## **5. Access to world-class education and training for all**

- Expand funding for coordinated national outreach on STEM education
- Establish more initiatives to encourage and support women in STEM
- Increase funding to higher education and further education, especially in facilities
- Increase the number and variety of apprenticeships on offer

## **Introduction: Supporting sustainable growth with well-planned infrastructure**

Engineers Ireland is the voice of the engineering profession, representing over 23,000 members from every discipline of engineering. This submission to Budget 2018 is underpinned by our core policy values:

- Advancing the safety, health and well-being of the public
- Promoting the principles and practices of sustainable development and the needs of present and future generations
- Leading rapid and transformational developments in digital and other technologies for the benefit of all
- Promoting knowledge and skills, professional standards, diversity, and public confidence in the engineering profession
- Acting with integrity, objectivity, evidence, authority, and transparency as an organisation

The welcome economic recovery is placing major demands on our infrastructure and services; bottlenecks are emerging in many sectors. We are also heading into a ‘perfect storm’ of demographic pressures: the need for climate action, rapid technological change, and political uncertainty. Future investment decisions must be driven by evidenced-based solutions to these challenges.

Our Budget 2018 recommendations are informed by consultations with expert members and partners from across Ireland. The recommendations draw on, for example, our recently-published ‘The State of Ireland 2017’ report: an annual independent assessment of our infrastructural needs in transport, communications, energy, water supply and wastewater, flood management and water quality, and waste (see Appendix). We find that there needs to be a substantial increase in the allocation of capital investment in various forms of infrastructure to underpin economic growth, raise living standards more equitably and build a sustainable environment.

Government has made substantial progress in identifying solutions to some very complex problems, such as in broadband, housing, water and climate. On the basis of increased capital investment, the implementation of these plans must be accelerated. To achieve value for money, these and other projects should be addressed with an integrated and long-term vision which identifies priority projects, explores innovative funding and financing mechanisms, and streamlines project delivery. This will require a fundamental change in the way we think about infrastructure and, to this end, we recommend the establishment of a single infrastructure unit tasked with coordinating infrastructure policy.



# 1. Steady and sustainable increases in capital investment

## Recommendations

- Implement the promised €1.5 billion increase in capital investment for 2019-21
- Target 4% GDP for capital investment in 2027 as part of the 10 year Capital Plan
- Ensure capital investment decisions are tied to the National Planning Framework
- Explore alternative infrastructure funding and financing mechanisms

Capital investment fell dramatically during the recession and there are now serious infrastructural deficits in many sectors. For example, the 2016 Global Competitiveness Report ranked “Inadequate supply of infrastructure” as the most problematic factor for doing business in Ireland. The National Competitiveness Council’s Competitiveness Scorecard also pinpointed the critical importance of developing our infrastructure base as key to enhancing competitiveness. Moreover, the National Mitigation Plan highlighted the need for expanded funding in infrastructure to enable the transition to a low-carbon society.

Engineers Ireland strongly supports increased capital investment as part of a sustainable approach to enhance the recent economic recovery and meet the needs of a growing society. We welcome the announcement in the ‘Summer Economic Statement 2017’ that an additional €500 million will be investment in infrastructure in each of the years 2019-2021. We agree with Minister Donohoe that such increases in capital expenditure are needed to improve the resilience of the economy, to address emerging capacity constraints, and to better meet the needs of our people as our economy and society grow.

Infrastructure is, in effect, the lifeblood that underpins Ireland’s economic and social wellbeing. As a State, we need both civil infrastructure (transport, energy, water / wastewater, waste, communications) and social infrastructure (education, social housing, health, childcare). In the long-term, we believe that capital investment will need to double, to 4% GDP, to meet our infrastructural needs and support sustainable growth and prosperity. Government should achieve this target by steadily and sustainably increasing capital investment levels to 2027 as part of the forthcoming 10-year Capital Plan.

An integrated and long-term approach is needed in capital investment to ensure value for money and sustainable outcomes and, to this end, reform will be required in infrastructure policy, planning and delivery reform (see next section). It is particularly important that capital investment decisions are tied to the forthcoming National Planning Framework. Alternative mechanisms of funding and financing of infrastructure should be explored and targets should be established for drawdowns from the European Investment Bank and other sources.

## 2. Infrastructure policy, planning and delivery reform

### Recommendations

- Convene a taskforce on infrastructure policy, planning and delivery reform
- Engage the UK National Infrastructure Commission and bodies in other jurisdictions
- Fund the establishment of a single infrastructure unit to develop a long-term vision and strategy, identify priority projects and explore innovative funding

While progress has been made in recent years, there are still some frustrating delays with infrastructure. Planning and delivery of our infrastructure is currently spread across many Government departments and agencies, each competing for limited resources. Due to fiscal constraints, it will be necessary to explore alternative methods of infrastructure funding and financing and to identify priority projects. To achieve integrated policy objectives and the effective use of resources, reform in infrastructure policy is undoubtedly required.

Engineers Ireland recommends that Government reform infrastructure policy to enable an integrated and long-term approach, embracing fresh ideas in collaboration with external experts. We believe that a single infrastructure unit should be established to co-ordinate the institutions and policy instruments which are currently involved in infrastructure planning and delivery.

This unit would work collaboratively with external experts (such as engineers, planners, economists etc.) to develop a long-term vision and strategy, identify priority projects, and explore innovative financing and funding mechanisms. The unit should learn from the experience of the UK and other countries, which have built collaborative relationships with a network of expert stakeholders while placing significant emphasis on its links with political actors, engaging existing policy and building high-level consensus.

The unit would support the determination and implementation of policy on infrastructure in key areas such as transport, education, health, energy and the digital economy. It would seek to build cross-party and cross-sectoral consensus, as well as media and public understanding and support, on infrastructure policy under a range of possible futures. This approach would greatly assist in the development of integrated policies, aligned with strategic planning such as the National Planning Framework and National Mitigation Plan.

A taskforce should be established to explore these and other proposals for infrastructure policy, planning and delivery, and funding for institutional reform should be made available.

### 3. Integrated implementation of existing plans

#### Recommendations

- Advance the National Broadband Plan without delay, ensuring future-proofing
- Achieve the Rebuilding Ireland targets, emphasising new builds and renovations
- Ensure adequate funding to achieve the Irish Water Business Plan objectives
- Implement the National Mitigation Plan as one step to a low-carbon society

Existing bottlenecks across the full spectrum of public infrastructure can only be dealt with if resources are made available, as these bottlenecks are already recognised and defined in strategic plans produced by Government, semi-state and local authority bodies. On the basis of increased capital investment, the implementation of these plans must be accelerated. These plans should be delivered in an integrated approach which achieves effective outcomes and return on investment.

The National Broadband Plan is a pivotal component of Ireland's digital strategy and its delivery is crucial. The Plan aims to address the broadband deficit which is primarily in rural locations and defined as the intervention area. The speedy award of the contract is necessary to ensure Ireland does not fall behind when it comes to competing with other countries when attracting new overseas business and supporting the establishment of domestic enterprise. Moreover, the plan has the potential to create an estimated 2,600 jobs.

Housing and homelessness is one of the greatest challenges faced by our society. However, sustainably increasing housing supply requires an integrated approach to infrastructure planning and delivery across the engineering spectrum. Rebuilding Ireland established ambitious targets for house completions, emphasising social housing provision. It is essential that Government achieve the Rebuilding Ireland targets, emphasising high-quality new builds, renovations and bringing vacant houses back into use.

Now that the future of Irish Water looks secured, Government should ensure that adequate funding is made available to achieve the objectives identified in the organisation's Business Plan to 2021. This will include the elimination of boil water notices, reduction in leakage, and elimination of untreated discharges. Investment in water and wastewater infrastructure must keep pace with housing construction to ensure adequate capacity.

The recently-published National Mitigation Plan outlines 106 policy measures to reduce greenhouse gas emissions and transition to a low-carbon society by 2050. It is critical that the measures identified are implemented as part of wide-ranging and ambitious climate action.

## 4. All-island connectivity and regional development

### Recommendations

- Promote cross-border transport projects, including the A5 Aughnacloy-Derry
- Invest in large-scale public transport to reduce car dependency and congestion
- Progress the M20 Cork-Limerick as part of an Atlantic Cities development strategy
- Maintain and improve secure digital connectivity nationally and internationally

Any barriers to the free movement of people or goods impact on the quality of life of citizens, their health and well-being, and the economy. We, like many others, are extremely concerned about the effect of Brexit on cross-border connectivity, particularly in the case of a ‘hard Brexit’. We remain strongly supportive of an all-island approach to connectivity and growth and would like to see significantly improved connectivity between Galway, Sligo, and Derry and between Dublin, Dundalk and Belfast. This should include investment in the A5 Aughnacloy to Derry and high speed, high frequency rail between Dublin and Belfast.

In the Greater Dublin Area – and to a lesser extent in the other urban centres – the transport system is essentially at gridlock in peak times. Large-scale public transport is needed to reduce car dependency and to accommodate forecasted increases in travel demand. The Capital Plan currently makes provision for Metro North and for the first phase DART Expansion Programme. We would like to see these projects expedited and expanded to include, for example, the DART Underground Project. Dublin also needs investment in its bus system over the next few years to transform it into a highly efficient and reliable system.

The M20 Cork to Limerick is not currently included in the Capital Plan, despite overwhelming support from businesses in the region. The 80 km motorway forms part of the Atlantic Corridor and would cost €850 million. The motorway would dramatically reduce journey times and congestion, and improve road safety and competitiveness. The planning and funding of the M20 should be progressed as part of an Atlantic Cities development strategy, in line with the National Planning Framework, to stimulate more balanced regional development. Other important road projects are the N4, N5, N25/M8, N22 and N28.

Digital connectivity has become an essential service for business and the public and should be supported as such by service level agreements and legislation. The delivery of the National Broadband Plan will help to drive regional and rural development, supporting applications such as the ‘Internet of Farm’ and ‘eHealth’. The implications of Brexit for the sovereignty of data should be clarified and connectivity with the rest of the EU should be improved. The National Cyber Security Centre should also be adequately resourced to prevent cyber-attacks.

## 5. Access to world-class education and training for all

### Recommendations

- Expand funding for coordinated national outreach on STEM education
- Establish more initiatives to encourage and support women in STEM
- Increase funding to higher education and further education, especially in facilities
- Increase the number and variety of apprenticeships on offer

Engineers Ireland supports the Government's commitment to investing in strategic education and training, which will boost competitiveness, create jobs and improve equality of opportunity. Science, Technology, Engineering, and Maths (STEM) are vital to addressing global challenges, such as climate change, and to informing public decision-making in our democracy. Increased STEM graduate numbers are urgently required in the recovering economy. Indeed a shortage of engineers is already undermining our potential to deliver vital infrastructure and services.

Engineers Ireland has been actively promoting STEM education, STEM career pathways and public engagement with engineering for many years through the STEPS programme. We favour the continuation of a well-funded, evidence-based and coordinated national outreach effort, where all parties have clear visibility of all STEM outreach activity and partnerships are encouraged. Particular attention should be paid to encouraging young women to study STEM; women remain an untapped resource within engineering and related professions. More dedicated initiatives and supports should be put in place for women in STEM at all levels.

We note with great concern that core funding per student at higher level has decreased substantially in recent years – this has had a detrimental impact. In some institutions, laboratory equipment and facilities have become almost obsolete. Not being able to expose students to experiments using world-class equipment hampers the ability of our higher education institutions to be considered attractive to students and globally competitive. We believe that investment in facilities, beyond the current Capital Plan provision of €110 million, should be increased as part of a long-term strategy for higher and further education.

The take-up of apprenticeships is currently too low to meet the demands of industry, particularly the construction industry in the current upswing of activity. We also note with alarm that just 33 of the 10,000 State-funded apprentices are women. The number and variety of apprenticeships on offer must be increased to meet current skills shortages and a particular emphasis should be placed on encouraging and supporting female apprentices.



## Appendix: The State of Ireland 2017 Recommendations

### Energy

#### Two year recommended actions:

- Implement the National Mitigation Plan (NMP) as a step towards achieving a low carbon, carbon resilient and sustainable economy.
- Progress the North-South Interconnector to further bolster security of supply and reduce cost to the consumer, as well as exploring other interconnection options with a view to developing them if and when appropriate.
- The Government should lead by example, with ministers encouraged to replace their existing fossil fuel-powered cars with hybrids or electric vehicles (EVs).

#### Five year recommended actions:

- Review and revise energy policy every three to five years and inform the process with reports on progress made, gaps to target and new technological developments.
- Continue to diversify Ireland's electricity fuel generation mix and expand the renewables base.
- Maintain investment in the transmission and distribution networks to meet the needs of a growing economy and the transition from fossil fuels to renewables.
- Explore technology solutions such as energy storage and further interconnection to address variable renewable generation.
- Encourage renewable energy in Ireland and harness Ireland's already identified naturally occurring renewable resources.
- Carry out a deep retrofit of Ireland's domestic dwellings and public buildings to reduce energy demand and increase energy efficiency.
- Convert the 900,000 homes that are not connected to the gas network and which use solid fuel or oil for heat to an appropriate electric heating solution.
- Incentivise the production of biogas from anaerobic digestion plants to enable 20% of natural gas be displaced by biogas from the gas distribution system.
- Encourage industrial locations which are off the natural gas network to implement biomass solutions for their thermal (heating/cooling) requirements.
- Accelerate the purchase of EVs by Irish consumers through further soft incentives such as the use of bus corridors for electric vehicles, revisiting the registration tax and exploring other financial incentives.
- Continue to build out the necessary charging infrastructure to keep pace with EV adoption.
- Ensure public transport is more accountable in delivering the RES-T and carbon emission targets.

# Transport

## Two year recommended actions:

- Increase the allocation of capital investment in transport infrastructure to ensure that there are adequate funds for both the maintenance of existing assets and new build projects.
- Incentivise consumers and private car operators to purchase electric vehicles (EVs).
- Introduce more superfast chargers for electric vehicles on inter urban routes.
- Reuse, recycle and repurpose existing transport assets, such as converting existing roads into specific bus, cycle and car sharing lanes.
- Update Ireland's national aviation policy to optimise the State airports for both passenger and freight purposes.
- Accelerate the development of New Metro North from its current delivery date.
- Introduce variable speed limits and multi-point tolling on the M50 to avoid an impending congestion crisis in the short-term.
- Recommence planning for the M20 Cork to Limerick motorway.
- Bring forward construction on the planned N4, N5, N25/M8, N22 and N28 road projects before the current planned start dates.
- Develop bus priority routes, core bus corridors and bus rapid transit routes for high frequency bus transfers.

## Five year recommended actions:

- Introduce public transport systems that utilise sustainable energy sources, such as hybrid, electric, compressed natural gas (CNG) and liquid natural gas (LNG).
- Introduce bus-focused public transport strategies to each of the five major urban centres.
- Plan for the electrification of the heavy rail network and progress essential works in preparation for the DART Expansion Programme.
- Begin planning for the Eastern Bypass to alleviate congestion on the M50.
- Improve connectivity of the north-west and the Atlantic Corridor to Ireland's seaports.
- Publish the Rosslare Europort Masterplan.
- Introduce an adequately funded proactive planned programme of essential renewals for Ireland's heavy rail network.
- Expand the heavy rail fleet capacity.
- Increase the longevity of route permissions beyond Environment Impact Statements to secure route corridors.
- Incentivise car sharing clubs and educate young people on the advantages of these approaches to discourage multicar households and on-street urban parking.
- Extend the Luas lines to encourage more commuters to leave their cars at home and take public transport to work.
- Build out the CNG network as proposed.

## Communications

### Two year recommended actions:

- New building developments should include provision for infrastructure to support broadband rollout, for example, internal wiring in buildings, homes and industrial parks.
- Award the contract for the National Broadband Plan (NBP) without delay and with expedited timelines for delivery.
- Support the development and deployment of applications for the 'Internet of Farm' to insure the prosperity of the rural agri sector.
- Clarify the security implications for the sovereignty of data within the EU domain, post-Brexit.
- Adequately resource the National Cyber Security Centre to stay ahead of developments in cyber-attacks.
- Continue to reduce service costs when rates and speeds are not equal in rural / urban areas.

### Five year recommended actions:

- Broadband services need to be delivered and supported as an essential service similar to electricity.
- Introduce a common approach and set of guidelines for acquiring wayleaves and re-instatement of public pavements.
- Continue to research and develop the network in anticipation of 5G services.
- Future proof the network to ensure it is scalable and complies with any revisions to the EU broadband speed targets.

## Water supply and wastewater

### Two year recommended actions:

- Conclude the political deliberations around Irish Water to ensure the utility can progress with the objectives identified in the 2015 Business Plan.
- Ensure investment in water and wastewater infrastructure keeps pace with housing construction to ensure adequate capacity.

### Five year recommended actions:

- Place an immediate focus on eliminating current boil water notices and ensure that the risk of further notices is addressed.
- Progress construction of required wastewater infrastructure to achieve compliance with the Urban Waste Water Treatment Directive and eliminate the 44 untreated discharges, identified in the EPA Urban Waste Water Treatment Report for 2013.

## Flood management and water quality

### Two year recommended actions:

- Publish the second cycle river basin management plans by end of December 2017.
- Continue the construction programme for the flood relief schemes.
- Complete the flood risk management plans, setting out the long-term strategy for flood risk management.

### Five year recommended actions:

- Develop a national future flood forecasting service.
- Implement in a timely way the measures and the actions set out in the Flood Risk Management Plans, led by the OPW.
- Provide annual updates on the progress of the implementation of the Water Framework Directive.

## Waste

### Two year recommended actions:

- Continue the roll-out of the organic waste collection system to households and businesses, supporting the national transition to pay-by-weight charging.
- Compile and publish a live register of waste treatment facilities to support the roll-out of future investment.
- Review the regulatory threshold on permitted facilities which is hindering the development of medium scale capacity for the recovery of soil wastes – a fast growing waste stream.

### Five year recommended actions:

- Ensure the necessary policy environment and infrastructure is put in place to deliver the prevention and recycling targets as set out in the regional waste management plans.
- Prioritise the development of indigenous waste treatment facilities including anaerobic digestion and biological treatment capacity, soil recovery capacity, mechanical processing capacity and additional thermal recovery capacity.
- Review the need for contingency landfill capacity to prevent serious waste-related events that threaten the health of citizens and our environment.

With over 23,000 members from every discipline of engineering, Engineers Ireland is the voice of the engineering profession in Ireland. Engineers Ireland was established in 1835 making us one of the oldest and largest professional bodies in the country. Members come from every discipline of engineering, and range from engineering students to fellows of the profession.

### **Our responsibility is to**

- Promote knowledge of engineering
- Establish and maintain standards of professional engineering and engineering education
- Provide opportunities for Continuing Professional Development (CPD)
- Maintain standards of professional ethics and conduct
- Ensure that professional titles are granted to qualified candidates
- Act as the authoritative voice of the engineering profession in Ireland

### **Our Vision**

A community of creative professionals delivering solutions for society.

### **Our Mission**

Engineers Ireland is an organisation that enables the engineering community to progress their professional development, make an impact on society and encourage and educate the future generations of engineers.

