



THE REVIEW OF THE PUBLIC CAPITAL PROGRAMME 2012-2016

SUBMISSION TO THE DEPARTMENT OF PUBLIC EXPENDITURE & REFORM

JULY 2011





Contents

Introduction & Key Recommendations.....	3
Section One: Physical Capital.....	5
Rationale for continued infrastructure investment.....	5
Principles for project selection	6
Funding & delivery mechanisms.....	9
Institutional issues	12
Section Two: Intellectual Capital	13
Rationale for continued investment in science, technology & innovation (STI)	13
Principles for STI investment	14
Institutional issues	16



Introduction & Key Recommendations

Business needs the right conditions to flourish and investment in physical and intellectual capital are key building blocks for sustainable economic growth. The objective of the public capital programme for 2012 to 2016 should be to specify what investment we need, identify barriers to delivery and mobilise investment, both public and private, to make it happen.

For the purposes of this submission, IBEC's response is divided into two sections:

1. Physical capital
2. Intellectual capital

Section One: Physical Capital

Ireland still needs investment in infrastructure. There may be obstacles in place that need to be addressed but there are solutions available. Government must provide a proactive and coordinated response to project selection and how to fund project delivery.

Key recommendations:

- **Rationale for continued infrastructure investment:** Significant infrastructure gaps remain in Ireland and inadequate investment levels will lead to further long-term competitiveness losses. Continued investment stimulates economic activity and benefits immediate job creation. Cost efficiencies can be derived from the availability of considerable expertise built up over the past decade and lower tender costs;
- **Principles for project selection:** Cost-benefit analysis must be carried out on a like-for-like basis for all major infrastructure projects and must be central to the project prioritisation process. Recognising that this is not business as usual, short-term factors underpinning project selection (e.g. job creation) may underpin project selection but the new capital programme must also give consideration to the long-term needs of the economy;
- **Funding and delivery mechanisms:** The five-year public capital programme cannot rely on the Exchequer as the main source of funding for much needed infrastructure. The capital programme must be ambitious in availing of external sources (e.g. public-private partnerships, the European Investment Bank, user charges, pension funds etc) to fund infrastructure delivery;
- **Institutional issues:** In order to protect desired efficiency outcomes and value for money, the infrastructure delivery process should be streamlined. All unnecessary non-construction costs and delays should be rationalised. The planning process should be reformed to take into account economic and strategic considerations.



Section Two: Intellectual Capital

Ireland needs to strive to become an innovation leader in Europe. To achieve this, strategic public investment is needed throughout the innovation system, particularly in the Higher Education Institutions. Such investment can attract and imbed innovative, high-value activity in Ireland which will provide high quality jobs.

Key recommendations:

- **Rationale for continued investment in science, technology & innovation (STI):** Public investment in research, development and innovation can boost national productivity and economic competitiveness. Such funding has already increased the number of Irish-based business carrying out R&D as well as being a significant factor in attracting new investment to the country;
- **Principles for STI investment:** The national research prioritisation exercise will identify the key areas to support over the next five years. Knowledge transfer rather than IP creation should be the priority and STI evaluation metrics should be revised accordingly and standardised across Government;
- **Institutional issues:** The recommendations of the Innovation Taskforce should be implemented immediately. Progress on establishing the single funding stream for STI should be advanced. Greater efficiencies in programme delivery and support must be achieved in order to maximise the funding available to higher education institutions and industry.



Section One: Physical Capital

Rationale for continued infrastructure investment

Despite the urgent need to reduce and rationalise public expenditure, there are some very good reasons why investment in infrastructure should be protected to the greatest extent possible.

Experience of the 1980s should serve as a reminder to the effect of a lack of infrastructural investment in the face of an economic downturn. Cuts in capital expenditure then left Ireland with a large infrastructure deficit. The very significant infrastructure development over the past decade notwithstanding, the gap has been slow to close; even as Ireland invested heavily in infrastructure, so did most other economies.

This deficit is reflected in a poor perception internationally about the overall quality of Irish infrastructure. The World Economic Forum's competitiveness report 2010/11 ranked Ireland 69th in the world and 31st out of the 34 OECD members in terms of quality of infrastructure. A decline in the volume of infrastructure investment would see Ireland slip further in international rankings and could substantially harm Ireland's attractiveness to investors.

Although economic activity has fallen sharply during the recession, the demand for infrastructure remains high. Exports and manufacturing activity have already recovered from the 2009 slump and are growing strongly. Census 2011 outlined that our population grew by 341,000 since 2006, an average annual growth rate of 1.6%. In addition, Ireland has the highest birth rate in the EU at over 17 births per 1000 population. According to recent forecasts by Eurostat (June 2011), Ireland is expected to see the strongest population growth in the EU up to 2060, with the population increasing to over 6.5 million by 2060, or by almost 50%. This is far in excess of the average increase of just 3% projected for the EU-27 as a whole. It is clear that Ireland will require additional infrastructure in coming years to support population expansion, business growth, employment and to meet EU2020 energy and environmental obligations.

Moreover, resulting from the significant investment over the last decade or so, Ireland now has considerable systemic knowledge of infrastructural works in terms of project management, public-private partnerships and building and architectural expertise. A further substantial decline in investment activity risks this institutional knowledge being degraded and lost, causing bottlenecks in future years when investment inevitably picks up in response to demand.



The returns on infrastructure investment in terms of productivity and competitiveness take time to materialise. Aside from the medium-to-long-term considerations outlined above, the prioritisation of infrastructure investment increases economic activity and leads to immediate job creation. The Construction Industry Council estimates that the labour intensity associated with capital projects is approximately eight to twelve jobs for every €1 million invested. Employment in the construction sector has more than halved from the peak and there is currently a large resource of unemployed and underemployed workers available in the Irish economy. Investment in infrastructure will support construction workers who were most affected by the economic crisis.

Although we accept that the monetary value of infrastructure expenditure had to be cut given the constraints on the Exchequer, the substantial falls in construction prices should enable Government to protect the volume of investment. The Society of Chartered Surveyors (SCSI) tender price index shows that at the end of 2010 construction tender prices were close to 1998 levels having fallen by 33% since the 2007 peak. If the Government can leverage resources (we present our suggestions for financing investment later in the document), infrastructure projects represent better value for money at present than in over a decade.

Aside from going ahead with key investments in new projects, maintaining the existing infrastructure stock is also important. Infrastructure stock which is not properly maintained will deteriorate, resulting in unnecessary replacement costs in the future. It is clear that adequate resources need to be invested in maintenance to ensure that the state derives maximum value from previous expenditures. In addition, regular maintenance also helps smooth out the cyclical nature of the construction sector by providing a more regular and dependable revenue stream.

Principles for project selection

As we have demonstrated in the previous section, there is a solid rationale for continuing to invest in public infrastructure, even in the context of a fiscal retrenchment. However, at a time of scarce resources project prioritisation becomes more important than during times when the State is running a fiscal surplus, so one must establish a hierarchy of priorities to aid in project selection.

Currently, cost-benefit analyses are produced on all major infrastructure projects, but these happen very much in isolation from each other and do not necessarily provide like-for-like information to aid in project selection. To assist resource prioritisation, business cases or cost-benefit analyses should be done in a systematic and comparable manner across the entire public capital envelope and, crucially, must be central to the project prioritisation process.



In terms of assessing the value of a particular project, a number of factors should be taken into account. Essentially, these criteria can be divided into short and long-term factors. While, given the current economic situation, weight should be given to short-term benefits of infrastructure investment but the Government's plan must also give consideration to the long-term needs of the economy.

The immediate impact on the economy during the construction phase is among the short-term factors that should be taken into account. The domestic employment impact varies across projects, and given the high level of construction unemployment, projects with a higher domestic employment content per euro invested should be given priority. Construction sector employment will never return to peak levels, but is at present below the equilibrium level. Given the human capital destruction that commonly follows prolonged spells of unemployment, there is cause to the employment impact take into account in project evaluation.

Project deliverability and planning issues will also have a significant impact on the short-to-medium-term economic impact. Given that part of the rationale to continue with public infrastructure investment is to provide a boost for the domestic economy, the timeliness of the project is a crucial factor. Shovel-ready projects that can hit the ground running should be prioritised in budgetary allocations over the relatively short time horizon of the current review.

Moreover, there is also a strong rationale to carry on with the completion of current projects, such as parts of the motorway network, and complete networked infrastructure works. This fairly modest spend will help unlock the full potential of what in many cases has been a substantial investment over the lifetime of the entire project.

In an environment where the fiscal room to manoeuvre is constrained, importance of non-Exchequer sources of financing is highlighted. The availability of non-Exchequer sources of finances, for instance from the European Investment Bank, the project bonds initiative, user charges and public-private partnerships, should form a key selection criterion. Using external funding will enable the State to spread limited resources over a greater number of projects, maximise the stimulus impact by pulling in money from outside Ireland and minimise the risk on the sovereign. Finally, in some cases the private sector will be able to deliver the required infrastructure, but this requires a proactive approach from the State in the form of regulation and licensing. This is, for instance, the case with the utilities sector.

Investment in strategic infrastructure may also be necessary to facilitate Ireland's compliance with binding national, EU and international obligations and targets to 2020. In particular, in the areas of energy, water and waste Ireland faces significant challenges that require existing investment programmes to be maintained and



in some instances expanded. Failure to meet these obligations may have the immediate impact of significant fines for the state, with long-term reputational and possible environmental damage.

Reputational issues are intimately linked with access to external funding. While reputational costs alone should not determine whether a planned project goes ahead, it is important to bear in mind the potential systemic consequences of abandonment. Private sector companies tendering for projects occur substantial outlays and project abandonment at fairly advanced stages could have serious reputational implications.

Recent high profile cancellations, such as Thornton Hall, do not help market confidence in this regard. Infrastructure investment is a global marketplace and our Irish projects compete for interest from contractors/ investors/ funders across the globe. Ireland is a very small market player internationally and companies may become reluctant to bid for Irish projects if the Government is seen to behave in an inconsistent manner. Reputational damage from project abandonment may also have a negative impact of the availability of external finance for infrastructure investment, where interested parties simply move on to the next strong viable opportunity.

The impact on competitiveness and productivity is among the key medium-to-long-term selection criteria. Projects should be prioritised according to the impact they have on either reducing Ireland's cost base (which remains high in many areas) or enhancing the economy's productive capacity by removing bottlenecks. Research typically finds that investment in transport and energy tend to have the greatest benefits for economic growth. Improving the competitiveness and productivity of the entire economy will be crucial for a sustained export-led recovery, so prioritisation of projects to be delivered over the 2012-2016 period must balance between the current short-term constraints and the long-term needs of the economy.

Finally, the review at hand is concerned with the public capital programme during the lifetime of the current Government. However, many substantial capital projects can have a very long planning horizon indeed, where the initial outlays are fairly modest and with more substantial costs only falling due in future years, when the economy will have recovered from the current slump. It is understandable, given the shock the economy has sustained over the course of the recession, that much of the focus is on the here-and-now. However, to ensure sustained and balanced economic growth, Government must begin to identify the long-term infrastructure demands of the economy and plan accordingly.

The table overleaf presents a summary of IBEC's priorities for project selection. In allocating weights for the different criteria, it is important to recognise that we are at present not in a "business as usual" scenario. Therefore, some criteria such as the short-term economic impact of a project and the availability of external



funding should receive a higher weighting than would be otherwise warranted. However, as the economy recovers, we would expect project prioritisation criteria to return to a more standard approach.

Summary table of project selection priorities

Criterion	Key issues
Demand for infrastructure	Population growth Existing bottlenecks Export growth
Short-term economic impact	Labour intensity of project Proportion of employment in Ireland Time to get project on stream Completion of a larger project
Optimising benefit of existing infrastructure	Completion of networks and networked projects Remedying design flaws in existing infrastructure Preventing obsolescence of infrastructure projects already completed
Availability of external finance	Public-private partnerships European Investment Bank funding Reputational cost of project abandonment Capacity of the private sector to deliver the project User charges
Medium-to-long-term needs of the economy	Impact on Ireland’s cost base Improves productive capacity of the economy Investment in areas of strategic economic importance
National, EU & International obligations	EU legal requirements Meeting Ireland’s environmental/energy targets

Funding & delivery mechanisms

As a consequence of Ireland’s fiscal crisis, the economy can no longer look to the Exchequer as the main source of funding for much needed infrastructure. In order for the private sector to fully develop these investment opportunities, Government and the public administration system must embrace the concept of non-Exchequer funding mechanisms and integrate them fully into long-term planning. To date, commitment to funding models such as public-private partnerships (PPP) has been uneven and greater buy-in is needed from all stakeholders in order to substantially increase the level of private sector funding in infrastructure provision.



The prospect for delivering projects via PPP in the current economic context is uncertain. The ability to attract international funding partners has been hampered by Ireland's credit rating. Nevertheless, national efforts to tackle our economic difficulties will bolster confidence in the international marketplace and hence, make PPP a viable model once more. Over the next five years, Government needs to be ambitious in delivering a programme of infrastructural investment and PPP will increasingly offer a cost effective means of spreading public funding over a greater number of projects.

In Ireland, PPP has been used as an active and successful model to date in the transport, education and civic building sectors. All projects procured to date through this model in Ireland have been delivered on or ahead of time and with no cost overrun exposure to the public sector. While not all projects are suitable for delivery through PPP, there are specific projects in the following sectors that could be delivered through this mechanism:

- **Environment:** most of the projects delivered to date in the water, waste and wastewater sectors have not involved the use of private finance, but rather have been long term build and operate contracts with upfront public funding. Yet PPP has been used successfully to date in these sectors internationally. Water services in particular would be ideally suited to the use of a PPP mechanism;
- **Health:** Ireland is notable internationally for its lack of PPP projects in health to date. Projects such as the National Children's Hospital, bundles of Primary Health Care Centres, the new State Pathology Laboratory, the proposed new mental health facility and community based long term care facilities would be ideal for a PPP mechanism; and
- **Housing:** consideration should be given to the use of a long-term PPP model in the provision and long-term management of our social housing needs linked to the opportunity now arising from excess stock in the market and the opportunity presented by NAMA. The projects in this sector to date, that have been mistakenly categorised as PPPs are in effect land swaps which are too property market value dependent and consequently unsuitable for the current environment. True PPP models of social housing have been successfully deployed internationally.

Investment opportunities will increase over the coming years for the right type of projects. In the past, PPP projects tended to be for the development of large infrastructure and facilities. Government should consider the use of PPPs for smaller projects too. Institutional investors are currently attracted to projects requiring expenditure at more moderate levels than was historically the case. Smaller value projects could be bundled together into a single procurement and projects could be bundled across sectors.

The European Investment Bank (EIB) is a potential source of funding for long-term capital investment and options to attracting EIB financial support should be pursued by Government. The EIB is considering alternative approaches to financing investment in infrastructure including looking at a project bond initiative, which would provide a mechanism by which international investors could obtain a level of comfort in investing in Irish infrastructure projects. The Government should examine the alternatives being proposed and other short-term solutions available to secure international finance whilst economic uncertainty prevails.

Besides PPP, other mechanisms for investment that should be considered by Government to support infrastructure delivery over the lifetime of this capital programme include:

- **Direct capital investment:** where total Government-funded projects are the only feasible option, investment in economic infrastructure that supports growth and competitiveness should be prioritised;
- **Co-funding:** use traditional funding for a portion of the scheme, enabling Government to attract private funding for the balance;
- **Pension funds:** explore pension fund investment options to invest in Irish infrastructure projects (€70 billion held in Irish pension funds);
- **User charges:** Projects where user-paid charges contribute a significant percentage of the total cost;
- **New financing structures:** new structures are being considered in the marketplace to address the decline of the monolines. Private sector entities such as Hadrian's Wall Capital and also the EIB are considering offering support to different tranches of debt to de-risk the senior debt element;
- **EU support:** Align infrastructure priorities with the EU2020 strategy and examine possible funding from European Institution sources (e.g. under current financial framework or next Multiannual Financial Framework). EIB investments generally reflect European Commission priorities. EIB provided €2.6 bn for infrastructure projects in Ireland (2006-2010). EIB should be asked to at least temporarily fund greater than 50% of project cost to help address this short-term funding issue;
- **Sale of state assets:** proceeds arising from the sale of state assets should be re-invested in infrastructure and not used for debt restructuring.

The public capital programme for 2012 to 2016 needs to:

- Be prioritised and clearly outline the specific projects that are to form part of the plan;
- All capital projects identified by Government should be mandated to be considered for procurement under a PPP-type structure. The cost of procuring the project traditionally and as a PPP should be compared on a like for like comparison (e.g. the cost of private finance versus the cost of Government borrowing);

- Provide certainty to the market by presenting clear timelines for delivery of capital projects (e.g. procurement procedure, anticipated financial close, commencement of construction etc); This gives contractors notice of when they will be required to mobilise their teams;
- Detail the sources of funding for both new and existing projects;
- Outline the procurement approach, whether traditional or PPP;
- Include projects that are currently being procured through PPP for completeness and monitoring of delivery;
- Present the Government's annual budget allocation to PPP projects. Government should define an annual PPP spend (e.g. a percentage of the total voted spend per annum). Greater clarity is needed on how PPPs are dealt with in budget allocations (capital versus revenue spend).

Institutional issues

The need to address the inefficiencies in infrastructure delivery has never been greater. Of critical importance will be the rationalisation of unnecessary non-construction costs and delays (e.g. procurement process; planning; land acquisition etc). These not only threaten desired efficiency outcomes and value-for-money but the impact of stop-start projects on the market cannot be underestimated. Project delay can also affect market confidence and be interpreted as the Government stalling or withdrawing its support for a particular project or commitment to infrastructure investment in general.

The existing structure of the planning regime in Ireland can have significant financial and resource implications for those charged with delivering essential infrastructure. Unnecessary delays due to the planning process typically add up to a year to the procurement process for a project. Greater certainty to the expected planning process timelines (e.g. set timelines should be adhered to), transparency around the entire planning process and better interaction between the myriad of bodies involved in granting approval to commence construction of strategic infrastructure is needed. Essential reforms include:

- A new National Spatial Strategy is urgently needed and should lead to more effective regional development. The new document needs to take into account the current economic context and prioritise development initiatives for most effective growth;
- The *Planning and Development (Strategic Infrastructure) Act, 2006* should be amended to include priority projects such as schools building programmes, large-scale renewable energy projects etc;
- It is vital that proposals that may bring investment are processed as quickly as possible. The Department of the Environment, Community and Local Government should issue guidance to planning authorities on the significance that should be accorded to economic considerations in the making of planning decisions;
- Greater interaction between planning authorities, the Department and the EPA in terms of IPPC licensing and foreshore licensing.



Section Two: Intellectual Capital

Rationale for continued investment in science, technology & innovation (STI)

Government must continue to invest in research, development and innovation in order to boost national productivity and economic competitiveness. It is vital for a small open knowledge economy that Ireland remains an attractive place to conduct research, development and innovation. Publicly-funded research can generate real economic growth. Government investment can embed innovative, high-value activity in Ireland which will provide high quality jobs. Increased public R&D funding has already begun to stimulate increased business research expenditure and has been a significant factor in attracting high value research based FDI projects. The priorities underpinning such investment are the following:

- **Knowledge creation:** research in areas that can accelerate economic benefits, deliver economic benefits or identify new areas of economic benefit;
- **Knowledge transfer:** commercialising research and creating employment for specialists who can combine discipline-specific technical knowledge with entrepreneurial skills and an ability to think creatively;
- **Industry investment:** In 2006-2008, 45% of all enterprises in Ireland and 86% of large industrial enterprises were engaged in innovative activities. Public R&D funding has increased business research expenditure (BERD) across companies of all sizes and stages and has been a significant factor in attracting high value research based FDI projects. In 2008, 43% of FDI investments won were in R&D, almost a third of which involved collaboration with third level and other research institutes.

Ireland has signed up to meeting the ambitious European target of total R&D expenditure to be 3% of GDP by 2020. To achieve this, R&D activity needs to increase throughout the economy. This target will be achieved by both public and industry direct contributions, it also assumes that industry's total investment will represent approximately two-thirds of total expenditure. For this to happen, public investment in R&D by itself is not enough, Government must also implement policies directed at enterprise, in particular more support is needed for the emergence of technologically-based local firms and encouraging innovative activities in less intensive sectors.

According to the EU's first Innovation Union Competitiveness Report (June 2011), "Ireland is relatively well diversified and its trend towards a more knowledge and innovation-intensive economy is a realistic prospect". Ireland has made progress over the past decade but continued improvement will largely depend on the ability to maintain favourable framework conditions, namely the ability to invest in research, development and innovation.



While it is difficult to quantify outputs in terms of the benefits of STI investment in human capital terms, Ireland must be able to demonstrate to the global economy that our workforce is among the best in the world. Indeed, the current economic crisis has highlighted the nature of the workforce which is required now in Ireland. Business operates in a connected, technology-driven, inter-dependent, fast-changing and extremely complex international environment. The availability of skilled labour is essential to both to Irish-based companies and attracting new industry to locate here. As such, business and higher education have a shared objective of developing adaptable, well-rounded, creative, cultured and ethically minded citizens who have an appetite for learning. Ireland is ranked 4th in the world for the availability of skilled labour (IMD World Competitiveness Yearbook 2010).

Investing in science, technology and innovation is complementary. Success is derived from having a strong research capacity; a diverse industry base (including favourable environment for enterprise creation) and necessary supporting infrastructure. These elements are interlinked, leading to sustainable growth and increased productivity. This would involve activities that cross traditional business boundaries, greater collaboration with HEIs and ensuring the active involvement of citizens and civil society. Human factors such as design, sociology and behavioural psychology are increasingly integral to the innovation process.

Principles for STI investment

Given innovation is fundamental to our future competitiveness, public investment in research and innovation can generate real economic growth. However, a business case for investing in specific areas of science is vital. Public R&D spending is an input, not a measure of efficiency, effectiveness or productivity. R&D productivity - not R&D investment - is the challenge for innovation.

The national research prioritisation exercise will identify up to 20 target areas on which the Government should focus its allocation of public funding for research and development over the next five years. Given the constraints on public expenditure, the objective is to identify areas that can accelerate economic benefits, deliver economic benefits or identify new areas of economic benefit. Areas highlighted should form the basis for public investment in science, technology and innovation. In addition, there must be recognition that new areas for research are constantly evolving and the key element is that the Irish innovation policy remains flexible to incorporate new areas as they emerge and that the supports on offer are revised to include them.

Knowledge transfer should be the priority. We should remember that the innovation value we create is the most significant output. This will allow us to develop real competitive strength in research and development while also creating a dynamic enterprise culture that begins to drive value creation in the economy. This is a far broader concept than being able to convert such public investment into commercialised products and services. It takes into account elements such as industry-academic collaboration, private sector investment and ultimately private sector job creation for skilled graduates. For example, a report by the Advisory Council for Science, Technology and Innovation found that Irish R&D firms employing PhD researchers have rates of patenting 2.5 times greater than similarly active firms which do not employ PhD researchers and have vastly higher collaboration rates with both Higher Education Institutes and other firms. While only 29% of R&D active firms employed PhD researchers in 2007, these companies accounted for 70% of business expenditure on R&D.

Business Expenditure on R&D (BERD) and human capital outputs are key metrics for R&D output evaluation. Metrics for evaluating public investment in R&D should include, but not limited to, the following:

- Technology transfer is embedded in the of the HEI (e.g included in the mission, policy and/or strategy; of the higher education institution; existence of an institutional action plan etc);
- Number of licences, options and assignments to start-ups or spin-offs and existing companies;
- Total budgets coming from revenues from commercialisation of HEI knowledge;
- Number of start-ups and spin-offs established;
- Percentage of HEI budget coming from income of R&D sponsored agreements, contracts and collaborative projects with industry and other non-academic partners;
- Number of consultancy projects;
- Percentage of postgraduate students and postdoctoral researchers directly funded or co-funders by public and industry;
- Number of created (co-funded) or shared laboratories and buildings;
- Number of companies participating in continuous professional developments (CPD) courses;
- Number of HEI employees with temporary positions outside of academia;
- Number of non-academic employees with temporary positions at HEIs;
- Number of joint publications with non-academic authors;
- Number of linkages with external bodies, networks and organisations;
- Number of external stakeholders participating at advisory, steering, validation, governance and/or review boards to HEIs, institutes, centres, specific R&D projects or taught programmes;
- Number of innovation prizes awarded by industry and public sector (both national & international).



Institutional issues

The Innovation Taskforce made a number of recommendations regarding knowledge transfer, incorporating the need to facilitate networking and the need to better communicate supports on offer. These recommendations need to be implemented at the earliest opportunity and include:

- Development of an IP protocol;
- Promote/reward an entrepreneurial culture in Higher Education Institutions;
- Commercialisation metrics should be agreed and standardised across Government;
- A single branded interface for all funding and programme delivery;
- Facilitate access of companies to specialised equipment/laboratory space within HEIs.

Progress on establishing a single-funding stream for science, technology & innovation funding should be stepped up. While existing agencies should retain control of policy, a single branded interface for all funding and programme delivery is needed. It is essential that greater efficiencies are achieved in programme delivery in order to maximise the funding resources available for innovation activities by industry and higher education institutions.

The Forfás review on the supports for the exploitation of IP emanating from publicly-funded research in the higher level sector (May 2010) stressed that while Ireland is making good progress and achieving value for money in terms of IP commercialisation, the country could be doing better.

The potential for centralising and/or outsourcing the back office functions (administration, legal etc), where appropriate, of the TTOs should be explored. This will ensure that technology transfer offices are adequately resourced to effectively carry out their role of capturing research results for economic benefit, as an integral part of the research environment.