



NATIONAL DEVELOPMENT PLAN 2007-2013

SUBMISSION TO

DEPARTMENT OF FINANCE

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INTRODUCTION:

Engineers Ireland welcomes the development of the new National Development Plan (NDP) 2007 – 2013, and appreciates the opportunity of making this submission. We hope the comments we have made are of assistance, and would welcome the opportunity of meeting with you to discuss the points raised in greater detail.

The previous National Development Plan 2000-2006 was a visionary document that aimed to lay the foundations for Ireland's future economic and social success. However, progress under this plan was mixed. Poor initial project budgeting coupled with problems in our planning system meant that many of the projects identified could not be delivered within the time and cost envelopes identified. Together with the higher than anticipated economic and population growths, the plan became outdated in many areas. Engineers Ireland made a comprehensive submission to Government in January 2005 "Infrastructure Development and the National Development Plan" highlighting our estimation of progress to date and identifying particular areas for concern. We enclose a copy of that submission for your attention.

Maintaining and improving the competitiveness of the Irish economy must be the key driver of this next phase of the National Development Plan. It is clear that Ireland still has a significant infrastructure deficit, as evidenced by recent World Competitiveness Reports. This deficit is contributing to the decline in Ireland's international competitiveness, impeding regional balance in the country, and impacting negatively on the quality of life for Ireland's citizens.

However, the opportunity to address the infrastructure deficit in the new NDP is clear - the capacity and productivity of the construction industry is at an all time high, construction cost inflation has reduced to long-term average levels, the cost of borrowing remains relatively low, and the outlook for the public finances remains good.

Our recommendations are contained in two sections. The first section, General Recommendations, lists recommendations that have applicability across multiple parts of the NDP. The second section, Sectoral Issues, summarises our recommendations for specific sectors of the NDP, e.g. transport, energy and communications.

SECTION 1: GENERAL RECOMMENDATIONS:

MULTI-ANNUAL FUNDING:

It is vital that a multi-annual funding framework is in place to ensure certainty of funding and delivery, independent of any temporary setbacks in the country's economic cycle.

JOINED-UP GOVERNMENT:

The NDP must be coherent and consistent in relation to its own content and with existing Government Policy or Programmes (e.g. Enterprise Strategy Group Report, National Spatial Strategy, Transport 21). Scenarios such as having the decentralisation programme decoupled from the National Spatial Strategy must be avoided. The early establishment of a properly structured and funded Dublin Transport Authority to deliver a coordinated, integrated transport solution for the Greater Dublin Area will be a litmus test in this respect.

MANAGEMENT OF THE NDP:

Experience of NDP 2000-2006 suggests that there is a shortage of expertise to deal with major capital projects within the public sector - work that cannot and should not be outsourced. It is recommended to develop a specialist unit expertly staffed with economists, accountants, lawyers and engineers who would be able to undertake cost-benefit analyses before a major project is undertaken; to ensure that the project is properly scoped and costed; and then to oversee its execution, on behalf of other state bodies and Departments, to completion. This unit should be outside of the control of the Department of Finance, with autonomy similar to the Revenue or Auditor General's office, and must be able to withstand undue political influence while remaining accountable to the public at large. It is vital to ensure that medium and long-term capacity and service standard requirements are taken into account in the initial planning and design of infrastructure projects. Our submission to Government in 2003 entitled "Project Cost Estimation & Control" refers, copy enclosed.

PROVISION OF A PROJECT PIPELINE:

During NDP 2000-2006, the inability of the public sector to spend the voted public capital every year was an inhibitor to delivery of the overall plan – rather than been seen as a worrying under-investment in badly-needed infrastructure, this was often portrayed as prudent management of the Government finances. To ensure timely and cost

effective implementation of the new NDP, we recommend that planning, investigative and archaeological surveys and design of projects are carried out as early as possible. An adequate project pipeline must be provided, with flexibility to bring forward projects to replace others that cannot be commenced on schedule or face difficulties, to guarantee ultimate delivery of the overall plan on schedule.

PUBLIC PRIVATE PARTNERSHIPS (PPP's):

PPP's offer significant opportunities for alternative funding where public funds are not available. One of the principle advantages of PPP's is the potential for innovative and cost effective design. A successful PPP is dependent on this benefit along with efficient management of the infrastructure, outweighing the additional cost of private finance. The current approach to PPP's should be reviewed to ensure that risk is appropriately allocated between parties to a contract, and that the cost of bidding is significantly reduced

STRATEGIC INFRASTRUCTURE BILL:

Many of the projects that will need to be delivered during the course of the plan will be of strategic national importance. The current planning and regulatory process is a major constraint to timely implementation of such projects, and can add significantly to cost. In reforming this process, it is essential to give due consideration to the common good while still respecting the rights of the individual. The publication in February 2006 of the Strategic Infrastructure Bill is welcomed, although the necessary complementary changes in the judicial system are uncertain at this stage. A special Infrastructure Court, along the lines of the Commercial Court, should be established to deal with legal challenges to key infrastructure projects, with strengthened procedures and mandatory timescales for decisions. This Infrastructure Court must be well resourced, both legally and technically, to ensure that essential development is not unduly obstructed through the courts. Applications for judicial review should in no circumstances be allowed if received after the specified time limit. The Strategic Infrastructure Bill should be enacted as soon as possible

NEW FORMS OF CONSTRUCTION CONTRACTS:

As already signalled during discussions with the Department of Finance, Engineers Ireland cautions that the proposed new forms of contract for engagement of consultants and procurement of construction projects may delay delivery of the NDP. The new system requires every detail of a contract to be finalised in advance in order to achieve improved project predictability. However, this will inevitably delay procurement

and will not realise value for money. The new forms of contract are untried and untested in Ireland. They are likely to be the subject of many legal challenges, as aspects of the contract are potentially open to inequitable and unbalanced administration.

TRANSPARENT REPORTING:

It is essential that there be ongoing publicly accessible reporting against progress of the NDP.

HUMAN CAPITAL:

In addition to the successful delivery of "hard" infrastructure (roads, water treatment facilities etc.), a key enabler of our future economic progress will be the development of our "soft" infrastructure, Ireland's human capital. In our 2005 report, "Engineering a Knowledge Island 2020" (copy enclosed), Engineers Ireland outlined the essential role that engineering & IT resources have played in our recent economic development. The report outlines a vision for the island of Ireland to become a top-five world economy in terms of income per capita by continuing the investment in science, engineering & technology (SET). Against a backdrop of falling interest in SET courses, the report recommends a robust increase in the supply of qualified engineers (7% p.a.), IT staff (6% p.a.) and PhD's (13% p.a.) up to 2020. Engineers Ireland believes that the recommendations of this report should be taken on board in the preparation of the NDP. In addition, the NDP should provide for full implementation of the recommendations of the 2002 report to the Minister for Education & Science by the Task Force on the Physical Sciences, to help achieve the required growth in SET resources.

ENGINEERING RESEARCH:

Despite the significant increase in Government spending on research in recent years, very little of this has been devoted to infrastructure, with much focused on ICT (Information Communications Technology) and biotechnology. As with many countries, Ireland faces particular challenges in energy and transport currently. In addition to identifying best international practice, there is an opportunity for Ireland to solve its own transport and energy problems through focused research, thereby becoming an exporter of best practice and technology in these areas. Overall, Ireland should continue to strive to reach the Lisbon agenda target of gross R&D expenditure of 3% by 2010.

SUSTAINABLE DEVELOPMENT:

While it is vital that infrastructure projects are delivered on time and within budget, it is also important to consider issues related to sustainability, environmental impact, health & safety and social inclusion. Engineers Ireland recommends the use of sustainability criteria in evaluating public sector projects.

HEALTH & SAFETY:

In the ten-year timeframe planned for Transport 21, without a step change in our road-safety culture, we may expect 5,000 people to be killed in road accidents, 50,000 people to be seriously injured and €10bn worth of material damage. The current national objective of reducing road deaths by 20% over ten years should only be seen as a starting point. Our submission to Government in December 2002 on road safety ("Stop Road Carnage Now", copy enclosed) recommended adopting a target of a 50% reduction in deaths and serious injury over a five-year period. We should ultimately consider accepting Scandinavia as a model proclaiming the "zero option" as our goal, i.e. a continuous reduction in crashes, personal injuries and damage to property, until they reach zero, not dissimilar to the zero tolerance approach for smoking in the workplace. Road safety is a socio-technical problem that requires the systems approach of safety engineering. Dangerous systems in other industries, which have achieved the "zero option", rely heavily on frequent and intensive training programmes, safety reviews and systems re-design. Such programmes, designed and executed to an engineering standard, have the potential to make a major impact on Ireland's transportation sector.

DIGITAL SPATIAL DATA:

Over the last 10 years there has been an explosive growth worldwide of geographical information available in digital formats – it has been estimated that only 1% of data is now in hard copy format. This digital revolution has the potential for a massive increase in productivity in a huge range of areas. Information for regional plans, service location maps, emergency services and archaeologically significant areas will be available on-line, easily updated and integrated into computer models – e.g., the likely dispersal of a pollutant through groundwater and hence contamination of drinking water supplies. There will also be new industries built around smart maps, hand-held and car navigation systems, etc. Ireland has the potential to develop a competitive advantage in this field relative to other countries. However, the core of any system is the underlying Ordnance Survey map and access is restricted in Ireland for commercial reasons. To release the potential for development, the income generating system used by the National Ordnance Survey should be reviewed, with consideration given to a change from a pay-per-use to a flat fee approach.

STRATEGIC ENVIRONMENT ASSESSMENT (SEA):

The recent introduction of the requirement to carry out a Strategic Environmental Assessment (SEA) for certain infrastructure plans and programmes should be reviewed in the light of initial experience. In particular the interaction of the SEA regulations and the EIA (Environmental Impact Assessment) regulations, which deal with individual projects, needs to be examined and streamlined. The EIA regulations have not been amended to take SEA regulations into account. Issues that have been settled at the SEA stage are not excluded from examination at the EIA stage, particularly with regard to examination of alternatives. In assessing the environmental impact at a strategic level, more detailed guidance needs to be issued with regard to the methods and level of detail required for the assessment. The danger with the current vacuum is that SEA's will be either facile in that they have no substance other than assertions that plans are "sustainable" etc, or they will be a very detailed assessment similar to the EIA at a project level.

SECTION 2: SECTORAL ISSUES:

TRANSPORT:

To a large extent, Transport 21 has identified the main suite of projects to be delivered under the NDP. The roads programme in Transport 21 is focused on upgrading of our national routes. It is essential to provide a quality national road network, as virtually all of our goods are for export, with a high proportion distributed by road. Ireland has a high car dependency for personal travel. There are many reasons to lower our dependence on private car travel, from lowering the general costs of travel, to lowering the incidence of congestion and carbon emissions. However, projected growth in population and car ownership will require continued investment in the road network to support economic performance.

In planning public transport, it is essential that a customer-centric approach be adopted with connectivity a key aspect. Frequent, fast service with predictable journey time at an affordable cost is critical on all services if commuters are to be persuaded to switch from private to public transport. Rail provides the best opportunity for high capacity mass transit. A national high-speed rail network is essential to support the predicted growth in population and economic activity in the short-term. The enhancement of the journey times for the Inter City routes need to be improved to provide true time savings for passengers. Integrated ticketing within the Greater Dublin Area is vital, and should also accommodate long-distance commuters travelling from outside the area, transferring to other modes. The provision of affordable Park & Ride is also necessary to encourage modal switch from road to public transport.

A clear opportunity exists to move more freight by rail. This will require an upgrading of services within the ports to deal with rail freight.

Recommendations:

- Delivery of Projects identified in Transport 21.
- Establishment of the Dublin Transport Authority, with its independence and accountability enshrined in legislation (Engineers Ireland has made a separate submission to the Department of Transport on the establishment of the Authority, copy enclosed).
- Integration of transport policy and land use planning.
- Development of outer orbital route and Eastern By-pass around Dublin.
- Significant upgrade of the current traffic management systems and ITS (Intelligent Traffic Systems) to embrace newer, advanced technologies to maximise / coordinate traffic flows within the

constraints of the current road infrastructure as well as taking full advantage of new infrastructure.

- Ireland still faces many particular challenges in providing transport infrastructure, from road safety to tolling to integrated ticketing. In addition to examining best international practice, support should be provided for Irish research in these areas, to support the development of our own best practice and technology.

AIRPORTS:

As an island economy, we depend heavily on the capacity and quality of our aviation links to support continued economic growth. The perceived quality of Ireland's air transportation infrastructure was the third lowest of the 16 countries surveyed by IMD and published in their World Competitiveness Yearbook in 2005. Dublin airport served more than 18 million passengers in 2005. Traffic is expected to increase to 30 million per annum by 2015.

Recommendations:

- An integrated and co-ordinated approach to planning and traffic management should be implemented on both the air and ground-side of Dublin airport. This is vital to ensure the airport becomes an efficient gateway for air travel into and out of Ireland
- A rolling plan for further upgrading of the regional airports should be developed, particularly where regional airports are associated with gateways identified in the National Spatial Strategy.

PORTS:

Ireland's ports are significant gateways for freight and passenger traffic and their development potential needs to be exploited. Each port also presents major challenges in traffic management. Access to the ports is a particular concern and any future developments must include plans to develop the surrounding infrastructure. Dublin Port is facing a capacity deficit within 2 years in lift-on-lift-off containers and bulk liquid handling. The Dublin Port Authority has proposed reclaiming and developing a 21 hectare site. A discussion document outlining an alternative of moving the industrial activities of the port to Bremore at Drogheda has been floated by the Progressive Democrats. These and other proposals should be evaluated by Government and a decision made without undue delay.

ENERGY:

Ireland has a high dependence on imported energy, and has exposure from being at the end of a very long energy supply chain. In examining Ireland's energy situation, three areas should be considered: -

- Security and stability of supply
- Economics
- Sustainability / environmental considerations

ELECTRICITY:

The cost of electricity has risen significantly in recent years, mainly as a result of Ireland's high dependency on imported fossil fuels and the very necessary investment made in renewing and extending the electrical transmission and distribution systems. This significant capital investment follows a period of under-investment in the electricity network in the 1980's and 1990's, coupled with uniquely high growth in electricity demand. This investment has been essential in ensuring a secure and stable supply and in facilitating economic growth. Similarly, further substantial investment in the network will be required to accommodate the ongoing construction boom and predicted economic growth.

GAS:

Ireland's dependence on imported gas is a concern from both a security and cost viewpoint, and existing gas storage capacity is extremely modest by European or North American standards.

Recommendations:

- Establish an All-Island EU Energy Region with a single energy market and regulator. The regulator should seek to develop a long-term plan for the security and sustainability of energy supply on the island at minimum cost, to maximise the use of alternative energies on the island and to minimise the production of greenhouse gasses produced in the energy cycle.
- Improve security of supply by increasing our onshore oil storage from 45 days to 90 days, in line with our international obligations. Investigate a means to increase our gas storage capacity from its current 15 days supply.
- Ireland has excellent renewable resource potential, including in the area of biofuels. With the significant changes in agricultural policy, a clear opportunity exists for Ireland to research and support this potential to provide greater security of supply through development of new indigenous resources.
- Additional high voltage transmission line development will be required to deal with the increase in wind power contribution.
- A detailed assessment of Ireland's Kyoto commitment and the role of renewables in reaching this commitment needs to be more clearly articulated, with particular reference to the security of supply and cost competitiveness issues.

WASTE:

Progress in delivering the NDP 2000-2006 waste strategy has been very disappointing, with only a small fraction of the money earmarked for investment being spent. Despite its importance, waste management is the area in the NDP 2000- 2006 where least progress has been made. With the imminent closure of several landfills and no thermal treatment plants yet in operation, Ireland is facing a waste management crisis.

Recommendations:

- A National Waste Management Agency, properly resourced and which would provide a single focus for all non-regulatory aspects of waste management, should be established.
- Regional Waste Management Plans should be coordinated into a single overall national plan to ensure practicality and value for money.

WATER SERVICES:

In the area of water services, the investment targets of the last NDP have not been met and need to be addressed. The continuing growth of Ireland's industry and population is putting further stress on the water services infrastructure with the east of the country being particularly badly effected. This is exacerbated by increased environmental pressures. Water quality standards need to be addressed to meet the requirements of the Water Framework Directive, the Urban Wastewater Treatment Regulations and the new Bathing Water Directive. The recently completed Greater Dublin Strategic Drainage Study has highlighted the need for expenditure of €2.6bn in the Dublin area alone with over €1.4bn being needed in the lifetime of the New Development Plan. This is in addition to required expenditure in the rest of the country and in the provision of drinking water. The water quality requirements of the Water Framework Directive will not be met without parallel implementation of other measures including Sustainable Drainage Systems and control of agricultural pollution.

Recommendations:

- The Water Services Bill should be passed into law as soon as possible.
- Water charges for all water users, including domestic consumers, should be introduced on a phased basis and should be sufficient to ensure full cost recovery for water supply and wastewater.
- The lack of control of new infrastructure in private developments is creating new problems viz. leakage, infiltration etc. This is significantly reducing existing levels of service. Any attempts to address this problem should be supported by central government as a cost effective alternative to upgrading/ replacing existing infrastructure.
- Schemes for future DBFO (Design, Build, Finance, Operate) infrastructure to fully specify environmental outputs required including visual, odours etc. Government must be prepared to accept the possible cost increases this might impose.
- Climate change to be specifically factored into new schemes in the water services area.

COMMUNICATIONS:

A number of initiatives have been undertaken to deliver Metropolitan fibre networks in regional towns. A management company (e-net) is now actively selling capacity and developing products using the infrastructure. While there are over 20 such metropolitan area networks (MANs) in place, they are essentially digital islands and the true economic impact of the investment has yet to materialise.

A great deal of progress has been made in the last 2 years with over 250,000 broadband customers connected using DSL, radio, satellite and cable technologies. Some 'Triple Play' products are starting to appear in the marketplace and some companies are offering 50 Mbit/s to homes in certain areas. Despite this activity however, Ireland remains at the lower end of any league table in broadband connectivity. This situation creates a negative impression of Ireland for high tech Foreign Direct Investment and is an obstacle to the development of the Knowledge Economy.

The price of energy, in particular oil, will continue to rise in the coming years as global reserves are used. While this will have serious implications for Irish industry, some of the impact may be offset by increased use of teleworking and telecottages. For this to be successful requires investment now in bringing high levels of broadband to all areas of the country (especially rural areas which will be more negatively impacted by fuel costs).

The pricing of broadband services remains higher than in other markets and, though Local Loop Unbundling is available in the Irish marketplace, it is not commercially attractive to many carriers. These issues need to be addressed by Government in the short term to stimulate market development.

Ireland has done well in attracting many knowledge intensive companies to locate here. In the early part of the decade a number of data centres were built to cater for demand from dot-com companies that never materialised. At this time, this excess capacity is almost used up and there is little evidence of new facilities being built. With a lead-time to build of up to two years, this area needs to be addressed. Worryingly, all but one of the data centres are located in Dublin.

Recommendations:

- Optimum use of broadband infrastructure should be encouraged. Government should lead by example by making more public services available on line and by increasing the use of web enabled IT throughout the public service e.g. Motor Tax online has been very successful. The initiative to roll out broadband to all national and secondary schools is underway but almost a year behind schedule, and should be completed as soon as possible.
- Towns that now have broadband metropolitan area networks should be interconnected. Other spending by Government on infrastructure via its agencies (RTÉ, Bord Gais, ESB) should be coordinated with the MANs to ensure value to the taxpayer and effective service delivery to benefit consumers. Government funding of metropolitan area networks should be reviewed in the light of existing infrastructure in proposed locations to reduce duplication of other private and State funded initiatives.
- Critical infrastructure requirements such as datacentres should be identified early so that they do not become bottlenecks in economic development.
- There are twice as many mobile phones in the country as fixed line telephones. Despite these economies of scale, mobile charges can be a magnitude greater in cost than the equivalent fixed line cost. This is a serious impediment to small and medium businesses in a mobile, knowledge-based economy. Government needs to ensure that the mobile market is competitive so that call charges can reduce in a similar manner experienced since the opening up of the fixed line market in 1999.