



National Development Plan

Mid-Term Review

Submission to Government



Institution of Engineers of Ireland

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INDEX

The Institution of Engineers of Ireland

Review of National Development Plan Implementation

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EXECUTIVE SUMMARY

1.0

Purpose of Report

Ireland's infrastructure comprises more than half the country's total wealth and forms the basis for national competitiveness, economic growth, balanced regional development and improvement in the quality of life for all citizen. It is appropriate therefore that Government continues to see redressing the infrastructure deficit Ireland experiences compared to other EU countries and to our international competitors, as an issue of national priority. The Institution of Engineers of Ireland for this reason very much welcomes Government's mid term review of the NDP and has prepared this report and its recommendations as an input to assist Government in its review. The Institution, with over 21,000 members across the public and private sectors, is Ireland's largest professional body and is well placed to prepare such a report.

Key Conclusions

- The Institution of Engineers of Ireland believes the National Development Plan and the National Spatial Strategy are visionary documents which if implemented in a timely manner will lay the foundations for Ireland's future economic and social success. The Institution commends Government for their foresight in producing such policy documents.
- The vision of the NDP was to ensure that Ireland would remain competitive in the global international marketplace. Based on the National Competitiveness Council report "The National Competitiveness Challenge 2002" and the May 2003 World Competitiveness Yearbook it is clear that, despite the significant investment in the NDP to date, Ireland's competitive position not only has not improved but has deteriorated. The National Competitiveness Council comments that "unless policy reacts quickly...then further weakening of Ireland's competitive position can be expected in the coming years". The Institution is particularly concerned about the continuing deterioration in Irelands competitiveness ranking internationally. It urges Government to incorporate in the mid term review of the NDP measures to redress the infrastructure deficit, one of the main causes of this deterioration.
- The Plan looked for the fruits of economic success to be shared more equally at regional level and throughout society. The Institution believe this objective has not been achieved and recent NESC and CORI reports point to the need for progress in this area.

- Given the physical progress achieved to date and the increase in activity feasible from the end of 2003 the targets set out in the NDP will not be achieved until the end of 2009 at the earliest. Unless funding levels are significantly increased the NDP programme will not be completed until approximately 2013.
- The Institution is very concerned that the vision and enthusiasm which gave rise to the NDP and NSS has waned due to the short-term reduction in economic growth and tighter public finances. Meanwhile the country's infrastructure deficit is contributing to the decline in Ireland's international competitiveness, quality of life and regional balance. The conditions are now right to address this infrastructure deficit - the capacity and productivity of Ireland's construction industry is at an all time high, construction cost inflation has reduced to long term average levels, and the cost of borrowing is at an all time low.

Progress to Date

Based on the information available and despite the absence of clear schedules in many areas, the Institution has made its assessment of progress to date under a number of headings.

- **National Roads** - On average the inter urban routes are at least 12 to 15 months behind programme, and at current spending levels would not be complete until 2013.
- **Public Transport** - Most projects are on target from time and expenditure perspectives, with the exception of the LUAS project. There are however a number of significant public transport projects e.g. Rail Connections to Dublin Airport, New Dublin Metro, which are now in discussion and which were not part of the NDP.
- **Seaports and Regional Airports** - Progress against even the modest scope of seaport projects has been poor. Provision for regional airports was very small and progress has been reasonable.
- **Water and Wastewater** - Many projects are delayed by an average of two years, with the rate of investment well short of the amount needed to complete the programme by 2006.
- **Waste** - Only a small fraction of the money to be invested has been spent to date, and recycling targets are unlikely to be achieved.

- **Energy - Electricity** - The main issue in the electricity area is the delay in constructing sufficient generation capacity.
Gas - The main issue in the gas area has been the delay in bringing the Corrib Gas Field into production.
- **Communications** - Implementation of NDP objectives in the ICT area have been delayed by the lack of affordable broadband access.
- **Housing** - Targets are being achieved but substantial pressure remains on housing lists and the prices of starter houses are outside the reach of many young people.
- **Health** - NDP spending targets are being generally achieved. However to address the historical infrastructure needs and to implement the National Health Strategy the target NDP spend needs to be doubled to 7.7 bn euros phased over a 7-10 year timescale.
- **Research and Development** - Serious progress is being made but it is unlikely that the target national spend on R&D of 3% of GDP will be reached in the current decade.
- **Private Public Partnership** - Progress to date is slow despite significant interest from the private sector.

Key Recommendations

- The Institution welcomes the Review of Property Rights currently being carried out by the All-Party Oireachtas Committee on the Constitution. We believe that one of the major reasons for the poor record of delivery to date of major projects is because sufficient emphasis is not placed on Article 43.2 of the Constitution, which makes reference to "exigencies of the common good" in planning and progressing infrastructural projects. More account should be taken of the constitutional requirement relating to the common good in Government policy, statutory instruments and in planning and judicial decisions relating to infrastructure development.
- Government should introduce measures to protect the common good as enunciated under article 43.2 of the Constitution and minimise any benefits from "holding" land required for infrastructure development. This is particularly important for housing development where there is need for measures to encourage release of development land onto the markets. Zoned and serviced land should not be allowed to remain undeveloped.

- A method of fast-tracking projects of national interest should be established
 - A specialist “one stop shop” planning body should be established either separately or as a division of An Bord Pleanála with responsibility for assessing planning applications for infrastructural projects in the national interest.
 - Mandatory timetables for decisions should be given for all infrastructural projects and these target deadlines should be met.
 - A special division of High Court should be formally established to deal with legal challenges to infrastructural and environmental planning.

- It would be of serious concern if the current favourable construction industry and interest rate conditions were not used to increase the speed at which the country’s acknowledged infrastructure deficit is tackled. The Institution urges Government to ensure the mid term review of the NDP is used to progress implementation of the Plan with greater urgency than heretofore.

- Where public funding is not available consideration should be given to increased borrowing, charges, taxation, development levies and Public Private Partnerships to facilitate the roll out of the plan. If Ireland is to have EU levels of infrastructure and social provision it must borrow or raise funds through other means such as those mentioned above.

- PPP offers significant opportunities for alternative funding where Public funds are not available and its role in delivering NDP projects should be reappraised and the PPP process reinvigorated.

- As the NDP will not be completed on programme by 2006, projects not yet commenced should be analysed on a value engineering basis. Priority projects should be identified and scheduled for completion as originally planned by 2006. The remainder of projects should be scheduled for completion during the period 2007-2009.

- There is a particular need to prioritise projects relating to improving our environment and protecting public health and safety, and where Ireland has obligations under EU and international agreements. This includes redressing the significant delays in completing water and wastewater projects and compliance with the Kyoto Protocol.

- In carrying out the mid term review of the NDP and in preparing a plan for its completion, key infrastructure projects which have emerged since the NDP was prepared should be included as additional items for planning, design and programming e.g. the Dublin Metro system; the provision of park and ride facilities and projects identified under the National Health Strategy, etc.

- One of the key components of the NDP was the development of the National Spatial Strategy (NSS). The Institution agrees the overall thrust of the NSS and recommends it now be taken into account by Government in the mid-term review of the NDP.
- A preliminary project plan with clearly identifiable key infrastructure projects which are necessary to support implementation of the NSS should be drawn up as part of the mid term review of the NDP. Early planning and design of such projects is necessary so that implementation can follow directly on completion of the current NDP.
- It is particularly important that a professional and realistic approach is taken in reviewing the projected cost of projects, in prioritising between projects, in preparing the plan for the future and in its management. Project management techniques should be used to track and report on progress and costs of all NDP projects in an open and publicly transparent manner. The overall Plan itself should be reviewed and updated every two years.
- Three year to five year rolling budgets should be provided to departments with major infrastructure projects.
- Ireland's competitiveness in research and development must be improved as a matter of urgency to sustain economic development. Total national spending on R&D should be increased from the current level of 1.4% of GDP to over 3% by 2009.

In addition to the main conclusions and recommendations highlighted above, the body of this report contains specific conclusions and recommendations relating to each element of the NDP. The Institution of Engineers of Ireland strongly recommends that the analysis, conclusions and recommendations in this report be taken into account by Government in the nationally critical task of reviewing the NDP and planning how the country's infrastructure deficit will be redressed.

INTRODUCTION

2.0

2.1 Purpose of Report

This report is a mid-term review of the National Development Plan (NDP) prepared by the Institution of Engineers of Ireland. The report is intended to assist Government in its review of progress and includes recommendations on the way forward.

2.2 National Development Plan

The NDP was a seven-year Plan 2000-2006 involving an investment of 51.5bn euros in 1999 money terms, of public, EU and private funds. In addition to the NDP two other documents, 'Economic and Social Infrastructure Operational Programme', and 'Guide to Funding under the National Development Plan and Community Support Framework 2000-2006' have been taken into account.

2.3 NDP General Strategy

The general strategy of the National Development Plan was outlined in the forward to the executive summary to the NDP.

"The Plan will lay the foundation for Ireland's continuing economic and social development into the next Millennium. It sets out an ambitious and coherent development strategy supported by a fully quantified multi-annual investment commitment in the key areas of infrastructural development, education and training, the productive sector and the promotion of social inclusion. The Plan also contains a commitment and accompanying framework for the promotion of more balanced regional development.

The vision of the National Development Plan is to ensure that Ireland will remain competitive in the global international marketplace and the fruits of our economic success will be shared more equally at regional level and throughout society. The Government will seek in the implementation of the plan to ensure that this vision is realised"

2.4 Progress in Achievement of the Strategy

Progress has been mixed to date in terms of completion of the NDP. It now appears likely that at the current level of funding and given the physical progress achieved to date that the targets set out will not be achieved until 2013.

The vision of the NDP was to ensure that Ireland would remain competitive in the global international marketplace. Based on the National Competitiveness Council report 'The National Competitiveness Challenge 2002' it appears that Ireland's

competitive position not only has not improved but has deteriorated. The National Competitiveness Council comments that:

“unless policy reacts quickly... then further weakening of Ireland’s competitive position can be expected in the coming years”.

The Institution agrees with this view.

The NDP looked for the fruits of economic success to be shared more equally at regional level and throughout society. It would appear that not only has this objective not been achieved but that the imbalance has been exacerbated.

2.5 The Way Forward

The Institution of Engineers of Ireland believes the way forward is to complete the National Development Plan as quickly as possible in two Phases.

Where finance is not available consideration should be given to increased borrowing, charges, taxation, development levies and public private partnerships, to facilitate the roll out of the plan.

As the NDP will not be completed on programme by 2006, projects not yet commenced should be analysed on a value engineering basis. Priority projects should be identified and scheduled for completion as originally planned by 2006. The remainder of projects should be scheduled for completion during the period 2007-2009.

KEY ISSUES

3.0

In reviewing progress on the NDP, the Institution has identified the following key issues.

3.1 National Competitiveness

Annual Competitiveness Report

The Annual Competitiveness Report (ACR) 2002 published by FORFAS and the National Competitiveness Council considers three areas:

- Business Environment
- Socio-Economic Environment
- Enterprise, Productivity & R&D & Innovation.

The following statistics ranking Ireland's performance internationally, drawn from the ACR 2002 Report, paint a disturbing picture of Ireland's deteriorating performance in areas which involve investment in engineering hard or soft infrastructure.

Education & Skills

Ireland is ranked 8th of 14 countries with expenditure of 5.4% of GDP. Below average.

Information Society

Investment in information society infrastructure is seen as crucial for future economic growth. Service in Ireland lags in this area as follows.

Broadband	15th of 16
Internet users	12th of 16
Technology achiever	9th of 15
Digital subscription	10th of 10

Transport Infrastructure

In overall terms the following performance indicators demonstrate an anti-competitive transport environment. Although Ireland is 6th of 10 in terms of GDP invested in transport, the original base was very low and economic growth has been high. Nationally we have not redressed the balance.

Speed of business deliveries	8th of 8
Road haulage costs	7th of 10
Rail Infrastructure	8th of 10
Length of road network	8th of 16
Length of motorway	13th of 16
Investment in transport infrastructure, % of GDP	6th of 10

Environment and Energy

The competitiveness indicators in this area are related to the three headline indicators.

CO ₂ emissions per unit of GDP	9th of 16
Waste Recycling	last of 16
Pollution Abatement & Control	last of 15

Social Capital

Performance here is poor and in part relates to lack of investment in the physical infrastructure needed to deliver quality services to all.

Increased inequality - Ireland is ranked	13th of 15
Responsiveness of health systems	11th of 16

World Competitiveness Yearbook

The recent May 2003 World Competitiveness Yearbook points to even further deterioration in the country's international competitiveness ranking. This yearbook ranked Ireland 28th out of 29 countries for maintenance and development of infrastructure overall and last in the ranking for distribution infrastructure such as roads, trains, planes etc.

Overall Comment

The vision of the NDP was to ensure that Ireland would remain competitive in the global international market place. Based on the 2002 National Competitiveness Report and the 2003 World Competitiveness Yearbook, it is clear that Ireland's competitive position not only has not improved but has deteriorated.

3.2 National Spatial Strategy (NSS)

The National Spatial Strategy published on 28th November 2002 is stated to be a key input into the 2003 mid term review of the National Development Plan, focusing in particular on the development of the identified gateways. It is also stated to be a key element in the identification of investment priorities in the post NDP period and in the development of any future investment frameworks.

The Strategy has identified a national framework of gateways and hubs, which will provide the necessary scale of infrastructure and services to increase the economic attractiveness of every region in the country. The gateways will be expected to drive development across the urban and rural areas they influence and support more balanced patterns of national level development.

Nine gateways are identified: Dublin, Cork, Limerick, Galway, Waterford, Sligo, Letterkenny, Dundalk, and the Midlands (Athlone, Tullamore and Mullingar). These will be the primary engines of growth. In addition there will be nine hubs, or secondary growth centres comprising Castlebar/Ballina, Tuam, Ennis, Tralee/Killarney, Mallow, Kilkenny, Wexford, Monaghan, and Cavan.

The purpose of the strategy is stated as being designed to achieve a better balance of social, economic, physical development, and population growth between the regions. In future priority will be given to the expansion of these gateways to counterbalance the growth of Dublin.

The identification of four new gateways to complement Dublin, Cork, Limerick, Galway and Waterford is a very welcome development. Sligo, Dundalk, Letterkenny and the Midlands gateway are all strategically located as magnets of growth for the surrounding areas.

Publication of the NSS strategy provides the policy framework for planning. The next step will be to set specific objectives, and to monitor their implementation. It is essential that the indicative population estimates are made more specific, at least for each gateway, and that milestones are set for achievement at say 3 year intervals over the period to 2020. Population targets for each gateway will guide the development of many elements of infrastructure such as housing, hospitals, hotels, transport and environmental infrastructure.

The Institution agrees with the overall thrust of the NSS. The NSS must now be taken on Board in the mid term review of the NDP. A Phase 1 NSS Project Plan with clearly identifiable infrastructure projects which are necessary to support implementation of the NSS should be drawn up as part of the Mid Term Review of the NDP. Early planning and design of such projects is necessary to enable implementation follow directly on completion of the current NDP.

3.3 Funding

While there has been substantial progress in Ireland on a range of fronts, we still lag far behind the EU average in areas of infrastructure such as housing and public transport. The primary reason for this is lack of adequate funding. In this regard the Institution makes the following points.

- Ireland's per capita income is well above the EU average while its infrastructure is well below the EU average.
- A CORI Justice Commission analysis published recently shows that Ireland's total receipts from tax and social insurance (post-Budget 2003) are the lowest in the EU when measured either in GDP or GNP terms.

- If Ireland is ever to have EU levels of infrastructure and social provision, it must borrow or raise funds through other means such as charges, taxation, development levies and public private partnership.
- Greater use should be made of development levies linked to particular infrastructural projects as outlined in the Section 49 of the Planning and Development Act 2000 and recommended by NESC.
- A major question for society at this time concerns whether or not Irish people want an EU average level of infrastructure and social provision. The Institution believes the answer to this question is they do. Most political parties and social partners also agree.
- Additional investment is needed to bring both infrastructure and social provision up to EU levels. The Institution welcomes the establishment of the National Development Finance Agency which can play a significant role in sourcing required funding and in advising Government on appropriate policies in this area. While Public Private Partnership and private funding can provide part of the solution, the Institution believes the allocation of increased public investment is the primary means whereby improvement in Ireland's infrastructure and social provision will be delivered. This can only be achieved by borrowing, charges, increased taxation, development levies etc.

3.4 Project Management

It has been difficult to monitor progress on major projects during the first half of the NDP. This was because, in many cases, a clear schedule had not been published on start and completion dates. There should be a clear project plan published for each major project and regular update progress reports. To date the regular reporting of the National Roads Authority on all major projects has been a notable exception. It is recognised that while individual projects may fall behind schedule due to unforeseen circumstances, others may progress faster than expected; and the overall momentum of the Programme can be maintained.

Furthermore review of progress has been complicated by lack of clarity on money values and inflation figures used in compiling cost estimates for various elements of the NDP. The Institution believes varying approaches may have been used in relation to different areas of infrastructure.

The Institution recommends that a clear project plan with defined milestones and clarity and consistency in relation to the financial estimates, should be included in the revised Plan, for each major project exceeding say 50 m euros, and that reports on physical and financial progress should be published on the NDP website each quarter.

3.5 Planning Process

All major projects in the NDP are subjected to a significant planning approval process and most require an Environmental Impact Assessment in accordance with EU Directives. The planning process can be a major constraint to timely implementation of infrastructure development and the Institution believe the following key areas in particular require urgent action.

Time to obtain approval

There is a real concern that for many major projects we have excessively long lead-in times before construction is allowed to commence. If the targets set out in the Plan are to be achieved it is essential to have an effective, efficient, reliable and transparent regulatory regime in place.

Urgent consideration should be given to streamlining the oral hearing process for major infrastructural projects. There is a necessity for much stricter adherence to the subject matter of the hearing. DOELG should be requested to prepare guidelines for oral hearings which would be used to inform all parties involved in a hearing. As part of the training of Inspectors it is essential to ensure that they apply these guidelines in a consistent manner.

The recent improvement in turnaround of appeal cases by An Bord Pleanala is most welcome. However for foreign direct investment projects it is essential that the standard timescales outlined for planning approval are maintained, including the 18 week statutory objective period for appeals to the Board. Without such certainty it will be increasingly difficult for Ireland to be a competitive location.

Duplication of Authority

The current legislation requires the consideration of certain projects by a number of different authorities. This applies particularly where a project may require approval by a Planning Authority, An Bord Pleanala, EPA and the Department of Communications, Marine and Natural Resources. This leads to overlap and potential for confusion which may in turn invite legal challenge. While recognising the absolute right of individuals and organisations to object to proposed projects, the Institution believes the current planning process itself contributes to attracting unwarranted objections to infrastructure projects, inordinate delays and significant increase in cost. Recent examples include the Corrib Gas Terminal, the M50 Carrickmines Interchange, the Glen of the Downs Road Project, the Kildare Bye Pass and the Cork Electricity Transmission Grid Project.

The Institution recommends that a specialist “one stop shop” planning body for infrastructure projects should be established either separately or as a division of An Bord Pleanála with mandatory timetables for decisions.

A specialist division of the High Court should also be established to deal with legal challenges to infrastructure planning

Level of Decision Making

The National Spatial Strategy (para. 3.7) states that “Efficient, effective and cost competitive waste management facilities are essential if industrial and enterprise activity is to thrive and develop in a balanced way across Ireland”.

The whole process of waste management, in particular but not exclusively landfill and thermal treatment, has become long drawn out and fractious. Despite being a function of regional bodies and being of strategic national importance, the planning decision in respect of such facilities is a local one in the first instance. To provide a proper balance between the common good and local interests, proposals for major waste management facilities should be decided by, and only by, a national body such as An Bord Pleanála, with an appropriate input from the relevant local authority.

Use of Strategic Development Zones

The Institution recommends that greater use is made of the Strategic Development Zones provision contained in the Planning and the Development Act 2000 to ensure that that major projects of national and regional importance are not prevented from going ahead.

Works for the Public Good

Ireland’s Constitution recognises the need to balance two very important concepts:

Article 43.1 acknowledges the natural right to private ownership of external goods

Article 43.2 recognises that the exercise of the right to private ownership ought to be regulated by the principles of social justice and goes on to state “The State, accordingly, may as occasion requires delimit by law the exercise of the said rights with a view to reconciling their exercise with the exigencies of the common good”.

The Institution of Engineers of Ireland believes that one of the major reasons for the poor record of delivery to date of major projects is because sufficient emphasis is not placed on Article 43.2 which makes reference to “the exigencies of the common good”.

Public infrastructure delivers a benefit to every citizen, to industry, to the economy and to society as a whole. The Institution believes this fact must be taken more into account and the constitutional requirement relating to “exigencies of the common good” recognised in government policy, in statutory instruments and in planning and judicial decisions.

The Institution welcomes the review of property rights currently being carried out by the All-Party Oireachtas Committee on the Constitution and will make a separate submission on this matter to the Committee.

REVIEW OF PROGRESS

4.0

Background

The NDP was planned to involve an investment of £40.6bn (51.6bn euros) at 1999 prices over the period 2000-2006 of Public, EU, and Private funds. The private funding element was planned to be £6.4bn (8.1bn euros).

The structure of investment was planned to be:

Economic and Social Infrastructure	26.54 bn euros	(£20.9 bn)
Employment and Human Resources	13.97 bn euros	(£11.0 bn)
Productive Sector	10.92 bn euros	(£ 8.6 bn)
Peace Programme	0.18 bn euros	(£0.1 bn)
Total	51.61 bn euros	(£40.6 bn)

Region allocations were:

S&E Region	34.29 bn euros	(£27.0 bn)
BMW Region	17.27 bn euros	(£13.6 bn)
Total	51.56 bn euros	(£ 40.6 bn)

The first three years of the NDP ending in 2002 were scheduled to have expended:

Economic and Social Infrastructure	9.0 bn euros
Employment and Human Resources	5.6 bn euros
Productive Sector	2.1 bn euros
BMW Regional Op Prog	1.1 bn euros
S&E Regional Op Prog.	1.5 bn euros
Peace Prog.	0.1 bn euros
CAP Rural Dev. Prog.	1.8 bn euros
Total	21.2 bn euros

Appropriate inflation indices, i.e. capital goods and construction, or a mix of both should be applied to the above figures to assess progress in real or volume terms.

NATIONAL ROADS

4.1



4.1 National Roads

NDP Programme and Targets

The National Roads section of the National Development Plan (NDP) envisaged major inter-urban routes between:

- M50 and the Border
- Galway and Dublin
- Limerick and Dublin
- Cork and Dublin
- Waterford and Dublin

It also included 5 key projects in the Dublin area and other major improvements on other national primary routes within the State.

The National Development Plan envisaged that all these projects would be completed by the end of 2006. The NDP included a budget of 5.6 bn euros in 1999 prices for the National Roads improvement programme.

The NRA prepared a document, the National Roads Programme 2000-2006, for major inter-urban routes. The programme identified dates for public inquiries, invitations to tender and construction periods. The programme also gave project cost estimates in Euro in 1999 prices.

Progress against Programme and Targets

In the Institution's view, 3 years into the NDP (Jan 1st 2003) the inter-urban route projects are at least 12 to 15 months on average behind programme.

Commentary on Progress

NDP called for 2.0 bn euros value of works to be completed by year-end 2002 in 1999 prices. This is 37% of 5.6 bn euros total NDP cost estimate. (1999 prices)

The current cost estimate of the National Roads element of the NDP is in excess of 16 bn euros (2002 prices) including 4 bn euros spent or allocated to end of 2003. Allowing for say further inflation of 2 bn euros this would require a spend of 14 bn euros in the 3 years 2004 to 2006 inclusive if the National Roads Programme were to be finished in 2006.

The table below clarifies the point.

Investment in National Roads (2000-06) if NDP is to be completed by 2006			
Year	Original NDP/ OP Programme m euro (in 1999 prices)	IEI Estimate m euro	Comment
2000	495	622	Spent
2001	722	908	Spent
2002	852	1,083	Allocated
2003	850	1,209	Projected
2004	850	4,000	Projected
2005	888	4,000	Projected
2006	927	6,000	Projected
	5,584	17,822	

Current funding for 2003 has been budgeted at 1.2 bn euros. At this level of spending the NDP roads programme would not be completed for 10 years i.e. not before 2013. The Institution believes such late delivery of essential roads infrastructure is unacceptable and would adversely effect Ireland's already poor competitive position.

If a new source of funds could be found, fuel levies, shadow tolls, tax-free bonds borrowing or increased taxation or a combination of these, then it would be possible to complete the programme earlier.

However, it should be noted that back ending all road construction would cause significant resource difficulties for contractors, sub-contractors and consultants. In our view spends of 4bn euros per annum over 3 years cannot be achieved. Any attempt to increase the rate of construction by 100% - 200% will lead to significant price inflation in the construction industry.

In simple terms roads construction is approximately 1.2 bn euros per annum at present. The CIF suggests a 4/5 year period to double production. If we were to assume varying increases in volume of construction the following patterns might emerge

Volume Growth Per Annum			
Year	10%	20%	30%
2003 allocated	1.209	1.209	1.209
2004	1.329	1.450	1.571
2005	1.462	1.740	2.043
2006	1.609	2.089	2.656
2004-06 Total	4.400	5.279	6.270
Deficit end '06	9.600	8.721	7.730

(i) All figures in millions of euros

In our view, it is unrealistic to think that all the inter-urban routes will be financed, constructed and in use before 2010.

Items not included in the NDP

The programme is over stretched at present and it is suggested that no further roads are added to the plan at this time. However, preliminary planning and design of road infrastructure to support implementation of the NSS should commence without delay to ensure construction can commence immediately following completion of the NDP.

Recommendations

- The national roads programme should be adequately funded as a matter of priority. The NRA should be given a 5-year rolling significantly increasing budget (a 3-year rolling budget was included in the recent Budget).
- There should be a clear prioritisation of the critical elements of inter urban road network projects taking account of those which have greatest impact on competitiveness, support the National Spatial Strategy and which provide best value for money.
- The momentum and design and construction capacity built up by consultants and contractors should be maintained and availed of otherwise it will be extremely difficult to regenerate at a later stage.

- A transparent, effective project tracking system should be introduced, updated quarterly and posted on the NDP website. The tracking system should show key milestone dates, slippages and budget versus completion forecasts for each listed project.
- A project plan for road infrastructure to support implementation of the NSS should be completed as part of the mid term review of the NDP, and preliminary planning and design should be commenced.

PUBLIC TRANSPORT

4.2



4.2 Public Transport

NDP Programme and Targets

The NDP plans for an investment of 3 bn euros under the Economic and Social Infrastructure Operational Programme for public transport as follows:

Dublin Public Transport

- LUAS light rail (546 m euros)
- Light Rail contingency for possible tunnel extension (635 m euros)
- Investment in Suburban Rail (235 m euros)
- Enhancement and expansion of bus service (300 m euros)
- Public Transport Integration (62 m euros)
- Traffic Management (306 m euros)

National Public Transport

Railway Safety Programme & Track Renewal (705 m indicative):

- Renewal of 490 kms of jointed track
- Renewal of signalling and trackwork at Heuston Station and Limerick
- Provision of 20 new mainline carriages. (67 ordered in Nov 2002)
- Significant Investment in mainline rail renewal

Other Public Transport Projects (273 m euros)

Public Transport developments in Greater Cork Area, Limerick, Galway and Waterford and Regional Bus Improvements

Progress against Programme and Targets

It is the Institution's view that most projects are on target both from a time and expenditure point of view. However the LUAS project, is behind schedule and will not now be operational until 2004.

Approx. 1.2 bn euros will be spent by the mid term of the programme and this equates to about 40% of the investment allocated. While some overruns on the 1999 prices are inevitable it is concluded that the progress to date is satisfactory.

Commentary on Progress

Luas

The overall budget currently stands at 675 m euros with a provision of 546 m euros provided in the NDP. Bearing in mind that the original provision is based on 1999 prices - this represents an inflation rate of 10% per annum.

Suburban Rail

Progress in this area is satisfactory. This project is on budget and, is expected to be completed on budget and within the time frame planned in the NDP.

Dublin Bus

The introduction of additional buses and new QBC's resulted in some important gains in transfers from private to public transport with peak hour patronages increasing as follows Stillorgan 240% (43 additional buses), Lucan 37% (22 additional buses), Malahide 44% (17 additional buses) and Blanchardstown 27% (35 additional buses). It should be noted that the additional services come at an increased operating cost as the additional revenue fails to cover all additional costs. In addition to the above Dublin Bus expenditure Bus Eireann replaced 14 buses and increased the fleet by 59 buses in the Dublin area

National Public Transport

The Progress in this area has been on target and reflects Iarnrod Eireann and Dept of Transport commitment to the Safety Programme. The programme was devised as an 8-year programme in 1999 with a review after 4 years. The purchase of additional rolling stock over and above that provided in the plan will add to the cost and it is not clear whether some of this cost will be dealt with out of the company's own resources.

Iarnrod Eireann estimate that taking all projects together that they are on budget as approved (based on a survey of projects having a total value of 1 bn euros). Inflation for infrastructure works was 10% to 12% p.a. during the period while rolling stock costs have not shown any major increase over the period.

In the area, of provincial city transport substantial investment has been made in the bus fleet but this has not been matched in the implementation of traffic management programmes to allow for the maximisation of the investment to-date and there is little doubt that that some of the public transport investment has been negated by congestion. Limerick City is a case in point.

Linkage between Transport Modes

There is need to place greater emphasis on making it easier for the public to avail of public transport and to transfer from one transport mode to another. The lack of investment in park and ride facilities is in need of particular attention

Items not included in NDP

Since the NDP was published a range of further required infrastructure projects have been identified, as was to be expected. These include, but are not limited to, the following:

New Metro for Dublin

The Government on the 31 July 2000 announced that it had approved in principle the development of a metro system for Dublin. The Minister for Transport has in March 2003 expressed doubts that the project will go ahead in the absence of greater flexibility being provided to Government on borrowing options under the EU Growth and Stability Pact.

Rail Connection to Dublin Airport

A number of proposals exist for a rail connection to Dublin airport. These include a metro, light rail and 2 heavy rail proposals. The Institution recommends that all proposals be included in the evaluation process.

Railway cuttings, embankments, and coast defence

Since the NDP was approved it has become apparent that an area of cuttings and coast defence requires investment and work is proceeding particularly on coast defence works on the Dublin South Eastern Line between Dalkey and Wicklow. It is estimated that this will require an investment of 45 m euros.

DASH programme

This is a programme to increase the signalling capability and a range of other works to allow more trains to operate through the city centre area particularly Connolly to Barrow Street.

Strategic Rail Review

The Dept of Transport has undertaken a strategic rail review which has recently been published. The recommendations of this review will impact on the mid term review of the National Development Plan.

Recommendations

- The programme as indicated in the NDP should be fully implemented.
- The rail connection to Dublin airport together with the metro connection should be evaluated and a decision made to proceed with planning and design and on a timetable for construction.
- The provision of park and ride facilities should be expedited as a matter of urgency. Consideration should be given to a tax effective instrument that could assist the funding of such proposals.
- Consideration should be given to making the metro track gauge the same as Iarnród Éireannís Mainline Rail gauge with a view to future inter-operability.
- Traffic congestion in the provincial cities should be examined and appropriate measures taken to alleviate the situation for bus services.

SEAPORTS AND REGIONAL AIRPORTS

4.3



4.3 Seaports and Regional Airports

NDP Programme and Targets

A total of 74.7 m euros exchequer funding was provided through the BMW Regional Operational Programme and the Southern and Eastern Regional Operational Programme for the Seaports and Regional Airports. 58.4 m euros is provided for seaports and 16.3 m euros for airports. The development of the international airports of Dublin, Shannon and Cork are not dealt with under the NDP.

4.3.1 Seaports

Progress against Programme and Targets

Progress against even the modest scope of projects (58.4m euros) included in the Plan for Seaports is poor. The full range of projects that will receive assistance have not been made known even at this late stage.

The first announcement regarding allocations under the NDP was made by the Minister for Communications, Marine & Natural Resources on 10th January 2003. Modest progress can now be reported in relation to NDP allocations with a total of approx. 14.8 m euros allocated as follows for the years 2000-2002.

2000 - Shannon Foynes	3.8 m euros
2001 - Drogheda Port	1.6 m euros
2001 - Waterford Port	3.4 m euros
2002 - Cork Port	1.0 m euros
2002 - Dublin Port	4.6 m euros
2002 - Galway Port	0.1 m euros
2002 - Dundalk Port	0.06 m euros

Items not included in the Plan

Further development of the ports of Dublin, Cork and Waterford as listed in the recommendations below.

Requirements 2007-2009

An independent evaluation prepared for the Department of Communications, Marine & Natural Resources recommended that a total of 35 projects valued at 180 m euros should be approved by Government. The balance of these projects not progressed to date should be addressed in the NDP Mid Term Review.

Recommendations

- The growth of the economy in the 1990s was largely facilitated by the fact that crucial infrastructure was already in place in the ports to cater for the increased demand (both imports and exports). The lead-in time for port development tends to be longer than for other infrastructure and it is vitally important that projects such as land reclamation and berth construction are proceeded with during the currency of the NDP 2000-2006.
- The government should roll out the full Port programme immediately for completion by end 2009 to meet the Port infrastructure deficits identified by the Government's independent consultants. The consultants warned that if the deficit is not dealt with now major problems will develop in the ports by 2007. The commercial ports are crucial to the trade of the Irish economy, and are a critical element in the logistical chain that services 99.5% by volume of the State's trade.
- Dublin Port - A Harbour Works order application has been under review by Government Departments/Agencies for many years. The application is for the reclamation of 21 hectares of foreshore (the Port has had legal ownership of the foreshore since the 19th century). Although not in the NDP, because of the importance of Dublin Port facilities and given the construction of the Dublin Port Tunnel, the required additional berth construction and associated foreshore reclamation in Dublin Port should proceed as a matter of urgency.
- Cork Port - The most urgent project awaiting approval is the expansion of Tivoli Container Terminal with supporting equipment and facilities, road access improvements and also land reclamation for port use at Dunkettle.

- Waterford Port - The Port awaits approval for the provision of approx. 170 m of quay at Belview and other necessary construction including rock berms and navigation channel improvements - all required to enable the transfer of bulk and break bulk trades from the congested city quays to centralised activities at Belview Port. Approval and construction of this project should proceed immediately in support of Waterford’s status as a Gateway city under the NSS.

4.3.2 Regional Airports

The State airports, Dublin, Shannon, Cork, are not included in the NDP Programme. Aer Rianta has a separate programme catering for project developments at these locations.

The NDP allocation totalling 16.3 m euros to the regional airports is envisaged as the provision of grant assistance for incremental infrastructural improvement works and upgrade in facilities to maintain continued safe and viable operation at the following locations:

- Connaught Airport, Knock, Co Mayo
- Carrickfin Airport, Co Donegal
- Corrib Airport, Carnmore, Co Galway
- Sligo Airport, Strandhill, Co Sligo
- Kerry Regional Airport
- Waterford Regional Airport

Progress against Programme and Targets

The following grants totalling 9.1 m euros under the NDP were announced for capital works at the six regional airports:

Knock	2.1 m euros
Donegal	1.0 m euros
Galway	1.7 m euros
Sligo	0.7 m euros
Kerry	1.7 m euros
Waterford	1.9 m euros
<hr/>	
Total	9.1 m euros

Commentary on Progress

Progress has been reasonable in relation to the programme for the regional airports with approx. two-thirds of the NDP financial provision already committed.

A mid term review is being carried out by the Department of Transport. This is not expected to be finished until late in 2003 and any further projects for the Regional Airports will then be considered.

Items not included in NDP

Aer Rianta development plans, and in particular the new runway and terminal for

Dublin Airport are not included in the NDP and it is recommended that these should be included.

Recommendations

- A rolling plan for further up grading of the regional airports should be developed as part of the NDP mid term review and preliminary planning and design commenced. This is particularly important where regional airports are associated with gateway cities identified in the NSS.

WATER AND WASTEWATER

4.4



4.4 Water and Wastewater

NDP Programme and Targets

The National Development Plan contains provision for water supply, main drainage and wastewater treatment amounting to 3.8 bn euros at 1999 prices over the seven years 2000-2006.

The first rolling three-year Water Services Investment Programme for major public schemes, covering the period 2000-2002 was launched in July 2000, when it was signalled that it would be rolled forward on an annual basis up to 2006. There was, however, no roll forward in 2001 but the Programme was renewed in April 2002. The new Programme covers the period 2002-2004 and identifies, for each county, the schemes for construction and those to be progressed through planning during that period.

The Water Services Investment Programme is funded on an annual basis and there is no stated allocation for each of the seven years of the National Development Programme. The 2002 allocation was 487 m euros. However, the 3.8 bn euros (1999 prices) total investment proposed in the Water Services Investment Programme implies an average annual spend of some 630 m euros before addition for inflation. The individual year investment figures are as follows:

2000 - 425.3 m euros	(final outturn expenditure)
2001 - 506.6 m euros	(final outturn expenditure)
2002 - 498.0 m euros	(final outturn expenditure)
2003 - 472.0 m euros	

The total capital spend to the end of 2002 was 1.43 bn euros (current money terms) which is only 37% of the original 3.8 bn euros (uninflated 1999 prices) NDP budget.

The provision for 2003 is 472 m euros. This is the second consecutive year that there has been a reduction in the capital allocation while at the same time prices continue to rise.

It is clear that the annual rate of investment falls well short of the amount required to complete the programme by 2006.

Progress Against Programmes and Targets

Comparison of the two published Water Service Investment Programmes shows that for many projects, the projected date of commencement has been delayed on by about two years (see Table on following page).

Commentary on Progress

The deferral of many projects by an average of two years is most disappointing and with current rates of investment the NDP Water and Wastewater Programme will not be completed as planned by 2006. Given the impact on public health and safety and Ireland's non compliance with EU Directives, this level of significant deferral of projects at such an early stage in the NDP is of major concern and is due primarily to insufficient funding. However, some progress has been made in remedying the infrastructural deficit. Major new main drainage and wastewater treatment projects are currently under way in Dublin, Cork, Limerick, Galway, Wexford, Swords and Malahide. Projects in Dundalk, Drogheda, Leixlip and Naas-Newbridge have been completed. However it is disappointing to note that DOELG have not yet issued appropriate Conditions of Contract for DBO Contracts which would help address the slippage in programme.

The major projects in Dublin, Cork etc. are absorbing a high proportion of the finance available at present. As expenditure on these begins to wind down, it should be possible to commence work on a large number of schemes in the smaller towns. This is evidenced in the 2002-2004 Water Services Investment Programme in which a large number of projects of significant size ranging from 5 m-20 m euros and totalling over 200 m euros have progressed through the planning stage and are now scheduled to start in the 2003-2004 period. These are additional to the accumulated backlog.

Items not included in the NDP

The development of the growth centres to be identified in the National Spatial Strategy will probably require infrastructural investment additional to the provision for the NDP.

Should universal water metering become necessary by EU Directive or otherwise, it will require a significant investment, which the supply authorities could not provide from their own resources.

Slippage in Commencement of Major Projects						
* (S) = Sewerage (W) = Water -> = Slippage		Year of Commencement				
County	Project	2000	2001	2002	2003	2004
Cavan	Belturbet (S)			->		
Clare	Newmarket on Fergus (W)		->			
	Doolin (S)			->		
	Quilty (S)			->		
	Shannon Town (S)			->		
Cork	Cobh/Middleton (W)			->		
	Bantry (W)					->
	Lower Harbour (S)			->		
	Kinsale (S)				->	
Donegal	Ballyshannon (S)			->		
	Donegal (S)			->		
	Letterkenny (S)			->		
	Letterkenny (W)			->		
	Burtonport (S)				->	
	Bundoran (S)				->	
	Killybegs (S)				->	
	Gweedore (S)				->	
Dublin City	Bohernabreena (W)			->		
	Covering of Reservoirs				->	
Dunlaoire RD	Dunlaoire (S)			->		
	Shanganagh (S)				->	
	Sandyford HL (W)			->		
Sth Dublin	Lucan (W)			->		
Fingal	Balbriggan Skerries (S)			->		
	Dublin Bay Con 5 (S)				->	
	Baldoyle (S)			->		
	Portrane-Donabate (S)				->	
	Rush-Lusk (S)				->	
Galway	Clifden (S)			->		
Laois	Portlaoise (S)			->		
Leitrim	Carrick on Shannon (S)				->	
Longford	Longford (S)				->	
Mayo	Ballyhaunis (W)			->		
	Ballina (S)				->	
	Knock			->		
Meath	Navan (W)				->	
Offaly	Clara (S)			->		
Tipperary Sth	Tipperary Town (S)				->	
Waterford	Waterford Main Drainage (S)			->		
	Tramore (S)			->		
	Dungarvan (S)			->		
Wexford	Rosslare Harbour (S)			->		
Wicklow	Arklow (W)			->		
	Arklow (S)				->	
	Wicklow (S)				->	

Recommendations

- The current value of the original NDP Programme should be estimated and allowance made for inflation since 1999 in preparing funding plans for the balance of NDP Projects.
- Funding of water and wastewater projects should be increased to ensure delivery of the Water Services Investment Programme not later than end 2009.
- In the light of delays incurred to date, top priority should be given to those projects required to safeguard public health and safety, particularly regarding an ample supply of safe drinking water meeting EU standards, to the whole population.
- A timely programme of renewal of infrastructure should be implemented to maintain quality of service into the future.
- The operation of the Serviced Land Initiative should be examined with the aim of achieving a more dynamic effect on the supply of serviced lands.

WASTE

4.5



4.5 Waste

NDP Programme and Targets

The investment target for waste management infrastructure in the NDP is 825 m euros. It is included in the Regional Operational Programmes as part of the provision for local infrastructure. The targets for the regions are:

Border, Midlands and Western Region:	305 m euros (37%)
Southern and Eastern Region:	520 m euros (63%)

The investment target is broken down, 571 m euros (70%) to be secured through private finance arising from Public Private Partnerships, 127 m euros through local authority own resources, and 127 m euros in the form of grant assistance from Exchequer and ERDF funding. The aspirations for the Irish waste industry set out in the NDP were based on the recycling targets set out in the Changing our Ways (COW) Policy Statement 1998. The main difference between the earlier COW document and the NDP was that the NDP identified PPP as the main method of financing. COW clearly states that the national waste management infrastructure needed to be significantly upgraded to achieve the objectives as set out in the policy document. These objectives were:

- a diversion of 50% of overall household waste away from landfill
- a minimum of 65% reduction in biodegradable waste consigned to landfill
- recycling of 35% of municipal waste
- rationalisation of municipal waste landfills
- 20 state of the art landfill facilities
- recycling at least 50% of C&D waste within a 5 year time period

These objectives were to be achieved within a fifteen-year time frame (2013).

Progress against Programme and Targets

All Local Authorities have completed their Waste Management Plans. Most of the plans were prepared on a regional basis and all of them focus on the reduction of waste going to landfill and on maximising re-use, recycling and energy recovery. The range of infrastructure identified in the plans is similar across all regions. The major infrastructural requirements identified in the plans are:

- 12 biological treatment plants;
- 17 materials recovery facilities for dry recyclable materials;
- construction / demolition waste recycling facilities in each region;
- civic amenity / recycling centres in all regions / counties;
- 7 thermal treatment plants;
- 10 new landfills.

The cost of providing the range of infrastructural requirements identified in the Waste Management Plans is estimated to be 1.25 bn euros (2002 prices).

There have been very significant changes in the management of waste in Ireland over the past 10 years including legislation requiring waste management planning and landfill licensing, a wide range of recycling initiatives and a growing awareness of the polluter pays principle as the cornerstone of further progress.

Notwithstanding this progress, and the unavailability of data on actual expenditure since 2000, it is clear that only a fraction of the 1.25 bn euros identified in the Waste Management Plans, and certainly not more than 100 m euros, has been expended to date.

The target date for achieving 50% recycling of C&D Waste is end 2003. The EPA National Waste Database Report 1998 estimated C&D Waste to be 2.7 million tonnes in 1998, 43.3% of which was recovered. Recovery includes C&D material used in land reclamation, the restoration of land to agricultural use or the infilling of large excavations such as quarries. Recycling refers primarily to materials being processed and reused in the construction industry, the best example being the reuse of crushed aggregates. The direct reprocessing of C&D Waste to date represents a very small percentage of total waste and an integrated network of C&D reprocessing facilities is required nationally.

As regards the rationalisation of the number of landfills in Ireland, 154 landfills between 1995 and 1998, have been rationalised to c.50 by 2002. However, not all of these 50 landfills are "State of the Art". The Institution estimates that only 10 are properly engineered landfills. The recent ring fencing of waste generated in a particular waste region for disposal in that region by An Bord Pleanála could impede

the development of large scale cost efficient engineered landfills in Ireland and runs counter to the proximity principle as laid out in the EU landfill directives.

Ireland looks set to fail miserably as regards the recycling targets set out in COW. The Institution estimates that at best Ireland is recycling and therefore diverting only 10% of household waste away from landfill. This is well below the 50% target set for 2013. What is even more worrying is that this 10% rate has remained constant since 1998 and the trend remains flat.

The source of funding to drive the infrastructure development so that Ireland can achieve these recycling targets have been identified as PPP type funding by the NDP. However, to date the Institution is unaware of any significant PPP funding for waste disposal or waste recycling projects and remain sceptical about the target of 825 m euros in PPP funding being achieved unless a large incineration programme is undertaken.

Commentary on Progress

The primary reasons for the lack of expenditure on Waste Management facilities are:

- Delays in adopting the Waste Management Plans by several Local Authorities. This was overcome by the Waste Management (Amendment) Act 2001 which obliged County Managers to adopt plans where elected members failed to do so.
- Legal challenges to the provision of infrastructure, particularly landfills and thermal treatment plants and significant delays by the legal system in processing these cases.
- Considerable lead-time to bring major infrastructural projects to conclusion will mean that some facilities even now at planning stage will not be delivered before 2006.
- There is a reluctance both by local authorities and the private sector, to invest in recycling infrastructure at the scale required to deliver the commitments of the Waste Management Plans or to meet government targets for recycling. This reluctance is due to uncertainty relating to the funding both of the capital costs of the infrastructure and the ongoing operational costs of recycling schemes. It is particularly acute for those local authorities who do not have existing revenue sources from waste management either from operating a landfill or charging directly for refuse collection.
- The Institution welcomes the announcement in April 2003 of a 55 m euros expenditure programme for investment by Local Authorities in recycling facilities and environmental measures during 2003.

Items not included in NDP

The mid term review of the NDP should be based on the local authority Waste Management Plans which were in the course of preparation in 2000 and have now all been completed. The Review should take account of the potential impact of the NSS on plans already completed.

Requirements 2007-2009

The outstanding expenditure, arising from the Waste Management Plans, is 1.15 bn euros at 2002 prices, and could be 1.4 bn euros, with inflation, by 2006. To complete the programme by 2006 would require an average expenditure of 350 m euros per annum, which is not realisable considering the low level of investment to date. The completion of the investment programme by 2009 would require an average expenditure of 200 m euros per year. This level of investment is more likely to be achieved but will still require a major impetus.

Recommendations

- The level of public sector funding should be significantly increased.
- The Mid Term Review of the NDP should address in tangible terms how a national approach which engages the public and private sectors in delivery of required waste management infrastructure can be progressed.
- 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 with terms of reference as outlined in the Institution's submission of 3rd April 2002 to the Minister for Environment & Local Government.
- Waste management infrastructural facilities should have regard to the proximity principle and not be confined to regional planning boundaries.
- The polluter pays principle should be used more extensively as the fundamental approach to achieving the cultural change that is required in Ireland.
- A tax incentive or green credit system should be considered to encourage the construction industry to use recycled materials.

ENERGY - ELECTRICITY AND GAS

4.6



4.6 Energy - Electricity and Gas

NDP Programme and Targets

The NDP states in relation to energy that "... the vast amount of capital investment... will take place outside the provisions...this plan". The energy sector both electricity and gas were mainly excluded from the NDP as infrastructure in this sector is generally delivered on a commercial basis without state financial support. The Plan did however set out key objectives and strategies as follows in the energy area.

Key objectives

- Ensure environmentally sustainable energy production and consumption
- Develop a competitive energy supply industry
- Ensure security and reliability of energy supply
- Maximise energy efficiency

Key strategies

- The liberalisation of the electricity and gas markets
- The establishment of a Commission for Electricity Regulation
- The diversification of fuel sources in electricity generation
- The maximisation of energy efficiency through the Irish Energy Centre (now Sustainable Energy Ireland) programmes
- The promotion of renewable energy

The NDP also included a small number of sectoral targets i.e.

- Alternative and renewable energy: 500MW extra by 2005

- A budget of 223 m euros for Sustainable Energy Ireland (set up under the Sustainable Energy Act 2002)
- Full (100%) customer supply competition by 2005

Thus, while the energy sector infrastructure development is mainly excluded from the NDP, the Institution nevertheless reviewed developments because of the importance of energy price and security to national competitiveness and the Economy.

4.6.1 The Electricity Sector

Progress against NDP Provisions:

The main areas of progress against NDP provisions are as follows:

- A Commission for Electricity Regulation (CER) has been established. Customer supply competition opened on schedule for large customers and is to include all customers by 2005.
- An independent Transmission System Operator (TSO), Eirgrid has been licensed.
- Major investment in transmission and distribution networks has been initiated to meet national and regional development requirements. Over the period 2000 to 2005, the total investment planned by ESB is expected to exceed 2.5 bn euros.
- Priority has been given to developing AER (alternative and renewable energy) projects, especially wind.
- ESB's stated objective is to reduce its market share of generation capacity to 60% by 2005.

Commentary on Progress:

Market Liberalisation

While much has been achieved since 1999, opening up the electricity market to competition has not yet delivered hoped for benefits in lower prices. In the past two years, prices in Ireland have risen at a time when they are reducing elsewhere. While domestic tariffs are still competitive, industrial electricity price is now high by European standards. Furthermore, the Irish electricity sector is facing major environmental costs to comply with Kyoto within the next few years.

A "Generation Adequacy Report" was published in Nov. last by the TSO. Based on annual growth of 3.5% in electricity demand (versus 5% over the past 10 years), 150MW of new capacity is needed every year. It has, however, proved very difficult to encourage more Independent Power Producers (IPPs) to build large centrally dispatched plants, to meet growth in demand, due to:

- Uncertainty over future trading arrangements in the Irish market, compounded by regulatory changes in the UK.
- Small market size; a new more efficient generator can supply up to 10% of the total system demand, thereby displacing existing generators and risking their investment.
- Long term (e.g. 15 yrs) investment payback versus short-term customer supply contracts (e.g. 1 to 3 yrs)

The Institution welcomes the announcement by the CER on April 8th 2003 of guidelines for a competition to bring new generating plant into commercial operation in 2005.

The ROI-NI electricity interconnection at Louth has been upgraded to 1200MW. There are however severe constraints on using this for energy trading, both because of inadequate transmission line capacity and tightness in generation capacity, both in the North and South.

The CER/ROI and OFREG/NI August 2001 joint North-South Energy Studies found:

- That “support for an all-island market has been almost unanimous” and that such a market “should be large enough to support wholesale and retail competition in electricity”. This would require harmonising trading arrangements, north and south, which will require strong bi-partisan political support.
- That “there is nobody with specific responsibility to promote interconnector availability” in the new industry structures, with adverse implications for north-south trading.

The feasibility of an east-west undersea link, for energy trading between Ireland and Wales, was also jointly reviewed in 2001 by TSO/ROI and NGC/UK. It concluded that there is limited scope for competition across a link at this stage of development of the Irish market. The Institution welcomes the further preliminary economic feasibility study for an East West interconnector currently being undertaken by DKM Consultants on behalf of the CER.

Alternative and Renewable Energy

Major increase in wind generation is being promoted both by Government and EU. The EU target for Ireland is that 13.2% of electricity consumption will be supplied by wind generation by 2010. The Minister for Communications, Marine & Natural Resources announced on April 10th 2003 the new alternative energy AER6 competition aimed at providing 500MW from onshore wind energy and a further 78MW from offshore wind energy and biomass by 2005. This would bring total energy from renewable resources from 157MW at end 2002 to 735MW in 2005.

A significant “Study into the impacts of increased levels of wind penetration on the Irish electricity systems” (2002) was procured by CER/ROI and OFREG/NI on an all-Ireland basis. This highlighted that major planning, operational and cost implications have to be urgently resolved to accommodate growth in wind energy.

Network Investment

Ageing and overstressed networks are constraining connection of new generation, both at transmission voltage level for large generation, and distribution for smaller AER projects. Capital expenditure in million euros/2000 as follows has been undertaken in support of the NDP.

Network	2001	2002	2003	2004	2005	Total
Transmission	88	131	131	131	131	612
Distribution	325	343	363	378	375	1761

Progress is ahead of schedule and on budget.

The major constraint in meeting transmission targets is the lead-time of 7 years on new projects i.e. 5 years planning process and 2 years construction time. Refusal of permission can restart the whole cycle. Obviously this is seriously out of phase with shorter lead times for new power plants or large industrial loads and planning constraints must be addressed. Further network investment will continue to be required beyond 2005.

Meeting Kyoto Targets/Primary Energy Policy

While the NDP states that a “key element of Irish energy policy...is the need to ensure security of energy supply”, the new regulatory framework is not clear about who should look after this.

Ireland faces particular challenges in meeting the requirements of the Kyoto Protocol, not least because of the exceptional growth in the economy and energy demand in recent years. Kyoto pressure for the electricity sector to reduce greenhouse gasses by closing Moneypoint coal fired power station (900MW) would result in over 80% dependence on a single fuel to produce electricity i.e. mainly imported natural gas. Further, while Moneypoint has a reserve of 3 months coal stocks to ride out an emergency, gas plants have virtually no fall back in case of gas interruption. This is not to argue that Moneypoint should not be closed. The Institution is aware that plans are in place to install scrubbers on the Moneypoint plant which will contribute to reducing emissions of SO₂.

Given the potential implications for the national economy however, it would seem very irresponsible not to do any risk or contingency analysis now but to merely wait for events to unfold. There is need to seriously address the issue of fuel security for electricity generation and the implications vis-a-vis Kyoto targets.

Requirements for 2007-2009

Looking to beyond the current NDP, the Institution sees the main requirements being:

- Reducing the price of electricity through greater competition, including an all-Ireland electricity market
- Ensuring security of electricity supply
- Increasing usage of wind energy, based on realistic financial and technical considerations and provisions
- Continuing the investment in networks

Recommendations:

- Implement an all-Ireland market and trading arrangements for electricity and gas.
- Review fuel security for electricity generation and plan for security of electricity supply while addressing Kyoto targets.
- Construct sufficient generation capacity to meet demand.
- Continue the investment in networks including any additional requirements to support the NSS.
- Dramatically shorten the lead time required to progress network and generation infrastructure projects through the Planning System through change in legislation.
- Ensure that the target outlined in AER6 for the generation of electricity from wind and other renewable resources is achieved on time.

4.6.2 Gas Sector

Progress against NDP Provisions

Significant progress has been made in the Gas Sector in addressing the key energy objectives and strategies set out in the NDP.

- The Bord Gais/Department of Public Enterprise “Gas 2025” study to identify gas transmission pipeline capacity needs to the year 2025 identified two main projects:
 - A second gas interconnector to Scotland which was completed in 2002.
 - A gas pipeline to the West connecting the BGE network in North Dublin extending through the midlands and West and tying into the BGE network in Co Limerick has been largely completed.
- Marathon has developed a gas reprofiling facility in the Kinsale Head gasfield which provides for storage of gas at off peak times, with additional production capability at peak demand times.

- The Corrib Partners (Enterprise Energy Ireland (a Shell subsidiary), Statoil and Marathon), have actively advanced the commercial development of the Corrib gasfield off Co Mayo which will provide significant gas supplies for the Irish market in future years. The field will be connected to the Irish grid through a Mayo - Galway pipeline, connecting to the grid at Craughwell in Co Galway.
- In addition, Ramco are advancing plans for the development of the Seven Heads field as a satellite development to the Kinsale Head facilities.

Commentary on Progress

The success of the energy liberalisation measures introduced by the Government and the CER, in conjunction with BGE, has seen the level of customer switching to new suppliers at among the highest in the EU.

The completion of the major projects on target greatly improves availability and security of natural gas to the marketplace. The one significant delay is the development of the Corrib gasfield. The refusal in May 2003 by an Bord Pleanála to grant planning permission for the Corrib Gas Terminal is regrettable and will, at minimum, further delay the project. The Institution believes the decision was inappropriate.

Expenditure on Gas Infrastructure 2000 - 2002	Million euro
BGE Network	1,100
Offshore - Kinsale & Seven Heads Area Facilities	150
Offshore - Corrib Area Facilities	200

Requirements for 2007-2009

Looking beyond the current NDP the main requirements in the gas sector will be

- Ongoing development of the Corrib and Seven Heads gasfields.
- Connection of more towns and industries to the main gas transmission network with particular emphasis on supporting implementation of the NSS.
- The potential for CCGT power stations to be built along the route of gas transmission pipelines and for existing power stations to be converted to gas within whatever security of electricity generation constraints which may be decided under the review proposed in 4.6.1 above.
- The development of an all-Ireland energy market.

Recommendations

- Implement an all-Ireland market for gas and electricity.

- Review and decide the role gas should play in power generation taking account of the potentially conflicting needs of providing electricity generation security and meeting the Kyoto protocol requirements.
- As part of the mid term review of the NDP, review gas connection requirements to gateway cities and hubs to support implementation of the NSS.
- Dramatically shorten the lead-time to progress gas and associated onshore and offshore infrastructure through the planning system through change in legislation.

COMMUNICATIONS AND ELECTRONIC COMMERCE

4.7



4.7 Communications and Electronic Commerce

The NDP was conceived in late 1999, during the height of the information technology driven economic boom. Healthy competition was developing in the telecommunications sector and many companies had plans to roll out broadband infrastructure. There was, however, a perception that delivering service to some of the regions may not be commercially attractive and need the addition of state funds to ensure they were catered for. Consequently, the following regional allocations were made in the NDP for E-Commerce Infrastructure to “promote investment in advanced telecommunications in areas where it is clear that the market will not deliver sufficient investment”.

Border, Midlands and West (BMW)	106.7 m euros
South & East	45.7 m euros
Total	152 m euros

This represented approximately 0.4% of the overall NDP budget.

Progress against Programme and Targets

There have been three major initiatives so far:

- 8 Projects were launched in January 2001 geared at providing broadband infrastructure to the regions. Most of these projects were aimed at providing core-network infrastructure in peripheral areas. At launch time, the state contribution to these projects was given as 75 m euros. The projects are at various stages of completion, but any projects that targeted the access network were either delayed or abandoned. It seems unlikely that more than 50 m euros of the 75 m euros allocated has been spent.

- A call for proposals was issued in March 2002 for Local Authorities to build metro fibre networks. 65 m euros was allocated to phase 1, which covers 19 towns mostly in the BMW region. It is planned to roll out these networks over the remainder of 2003. All projects are expected to be completed by the end of 2004.
- A call for proposals to use Wireless LAN technology as an alternative access mechanism led to 5 projects being funded to deploy wireless hotspots around the country. Expenditure on this programme was small with a total of just 260,000 euros being awarded.

Commentary on Progress

The hoped-for rapid rollout of broadband did not occur. A sharp downturn in the Internet and Telecommunications sectors caused a number of company closures and investment cutbacks. Virtually all suppliers except Eircom abandoned their plans to provide broadband access. Eircom had been locked in a legal battle with the communications regulator over the price at which it must sell local loop access to its competitors. This deadlock was resolved only in April 2002, with Eircom offering a service to the general public for 89 euros + VAT per month. This was one of the highest tariffs in Europe for entry-level ADSL service.

In October 2002, Esat launched an entry-level service at 50 euros + VAT per month. In late January 2003, Eircom followed this by stating their intention to launch a product at 45 euros + VAT which, barring any regulatory hurdles, would be available to the public in March 2003. The promised ESAT service could be ordered from mid-April for 190 euros installation fee and a monthly rental of 49.49 euros.

Broadband rollout in other countries is proceeding apace with South Korea taking the lead with ADSL installed in 67% of households in October 2002. Germany is the European leader with 1.2 million lines installed and British Telecom, after a slow start has over a million lines increasing at the rate of 30,000 per week. Entry level pricing for this service in the UK is Stg£29.99 per month.

At the end of October 2002, the number of installed ADSL lines operational in Ireland was quoted as being around 2,000 (200 from Esat, under 2,000 from Eircom). The majority of these were converted trial users who had had their lines installed over the previous two years.

The lack of affordable broadband access in Ireland has now reached crisis level and if this problem is not addressed, the country's competitiveness will be seriously impacted.

The broadband problem is about pricing. The equipment has already been installed to provide 0.5 million ADSL lines - which represents one third of the total telephone lines in the country. There is no shortage of bulk bandwidth to the major towns and cities

across the country and the availability of Dense Wavelength Division Multiplexing (DWDM) technology means that existing fibre infrastructure can be extended as needed to meet demand.

The NDP measures outlined above have, in the main, not addressed the access problem and thus will only yield value in peripheral regions when the access bottleneck has been broken.

Items not included in the NDP

The NDP programme is over-stretched at present and it will take a major effort to complete the present programme.

Requirements 2006-2009

Assuming the immediate problem of unblocking the access network can be solved in the lifetime of the current NDP, future actions should focus on extending the access to peripheral regions, upgrading existing connections to newer technology involving ADSL-2 and ADSL 2+ as well as upgrading the core network to cope with the increase in usage.

Government should also seek to lead the development of the connected society by becoming a major user of the broadband network. Initiatives such as connected schools and regional e-health programmes should be considered along with initiatives in multi-media content production and distribution. Future plans should also recognise the increasing contribution of ICT to our economy and should substantially increase the proportion of the overall infrastructure spend devoted to ICT.

Recommendations

- In order to achieve an installation rate of at least 3,000 per week so as to catch up with European best practice, the Institution recommends that the NDP ICT programme be urgently refocused on unblocking the broadband local access problem for major centres of population as well as for the less developed regions. This should be achieved by a market intervention to subsidise the installation of new broadband (>128Kbps) connections installed by approved network operators with a specified grant per installation. This money would be payable to the operator upon customer certification that the broadband connection was installed and operational. The operator could apply 50% of these funds to defray installation and equipment expenses and the remaining amount would be used to reduce the monthly rental cost to a target figure of 30 euros (including VAT) per month for an initial period.

- This initiative can be capped both in time and on the number of lines installed to limit the total expenditure. The terms can also be made more favourable for less-developed regions. We recommend that the initiative be made available immediately for the major hubs and gateways identified in the National Spatial Strategy. The key objective should be to catch up rapidly with European best practice.

It can be expected that if the price is right Ireland will follow the UK trend and achieve installation rates running in the low thousands of lines per week. In urban areas and the main business centres, we expect that this initiative will cause this to occur through a mix of technologies such as DSL, Fixed Wireless and Cable and satellite technologies.

HOUSING

4.8



4.8 Housing

NDP Programme and Targets

It is reasonable to state that the Government's inclusion of housing in the NDP for the first time is a measure of the Government's commitment to address the deficit in the National Housing Stock.

The NDP outlines its priorities for investment in the housing area as follows:

- To provide the necessary infrastructural investment to facilitate the overall level of housing output required to meet the current and anticipated levels of demand in a planned coherent fashion.
- To increase social housing output to meet rising needs.
- To continue the drive to improve the physical condition of our social housing stock.

The NDP estimated housing requirement for the seven years of the Plan at 350,000 units. It was estimated that 85% of the required output would be provided by the private sector.

The Plan envisaged an investment of 9.10 bn euros, with the express aims of:

- Increasing output from Local Authority Housing Programmes.
- Expanding the Voluntary Housing activity.
- Increasing funding to Local Authorities for Affordable Housing.
- Continuing funding support for the Shared Ownership Scheme.

The proposed investment is broken down as follows:

Local Authority Housing	4,152 m euros
Voluntary Housing	1,860 m euros
Affordable Housing	1,613 m euros
Improvements to Existing	1,124 m euros
Accommodation/Groups	
With Special Needs	359 m euros

Progress Against Programme and Targets

The Plan envisaged the provision of 50,000 additional new dwellings per year during the period. Progress to date on this key measure is satisfactory, output in 2000, 2001 and expected output for 2002 will meet the predicted 50,000/year target. The Public Sector provision of Social Housing (new build and acquisition), Voluntary Housing and Affordable/Shared Housing is considered to be satisfactory. However, it must also be acknowledged that there is still very substantial pressure on housing lists and the price of starter houses is outside the reach of very many young people.

Very significant investments are also being made under Measure 4 (Improvements to existing housing stock) and Measure 5 (Accommodation for groups with special needs).

Commentary on Progress

Output in terms of additional new dwellings units has increased very significantly over the last ten years. Output in 2001 of 52,600 compares very favourably with 21,000 completions in 1993. It is expected that new house completions for 2002 will exceed 56,000.

At a strategic level, the new Planning Act will, in the opinion of the Institution, help to streamline the planning process and reduce overall planning decision timelines. It is acknowledged that changes to zoning provisions introduced in this Act, which give no guarantee of similar land(s) zoning at Development Plan review stage may encourage their development and thereby positively affect the supply side of the housing market. The implementation of the new Planning & Development (Amendment) Act 2002 will significantly increase housing supply in the short-term, by deleting the withering provision and introducing a greater degree of flexibility to the Part V provision. Planned housing provision under the NDP and Economic and Social Infrastructural Operational Programme (ESIOP), and actual outcome for the years 2000-2002 are as follows: (see Tables on following page)

Social Housing - Housing Units/Plan Year								
	2000	2001	2002	2003	2004	2005	2006	Total
NDP (p.70)	5,500	5,500	5,500	5,500	4,500	4,500	4,500	35,500
ESIOP (p.85)	4,000	5,000	5,200	5,900	5,600	4,900	4,500	35,100
Actual	3,207	5,022	5,074					

(i) All figures in millions of euros

Voluntary Housing :								
	2000	2001	2002	2003	2004	2005	2006	Total
NDP (p.70)	4,000	4,000	4,000	4,000	4,000	4,000	4,000	
ESIOP (p.86)	1,000	1,250	1,500	1,750	2,750	3,250	4,000	
Actual	951	1,253	1,360					

Affordable/Shared Housing :								
	2000	2001	2002	2003	2004	2005	2006	Total
NDP (p.70)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	
ESIOP (p.85)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	
Actual	1,276	1,700	2,568					

Private Housing :								
	2000	2001	2002	2003	2004	2005	2006	Total
	46,570	47,727	51,932					

Summary - Total Housing Outputs 2000, 2001 & 2002 (New Build).								
	2000	2001	2002					
Social	2,204	3,622	4,403					
Voluntary	951	1,253	1,360					
Private*	46,657	47,727	51,932					
Total	49,812	52,602	57,695					

* Affordable and Shared included with private output.

Items not included in NDP

There is a comprehensive range of schemes and initiatives currently being supported by the NDP. It is not recommended that further schemes be added. Consideration should be given to the introduction of a comprehensive scheme of incentives to encourage energy efficient designs and construction including adaptations of existing stock.

Requirements 2007-2009

It is evident from housing output (private and public), that NDP construction targets have been substantially met for the first three years of the Plan. However, over the same period, the number of people on Local Authority waiting lists has increased by 23% (from 39,000 in 1999 to 48,000 in 2002). In addition the price of houses has risen at a rate for exceeding inflation to a level where many young people can no longer afford to enter the market.

It is most important that the reasons for this very significant increase in the social housing lists are identified. Increased house prices, and high private sector rental charges are symptoms of supply side difficulty in the housing market. The supply side constraints must be removed.

Increased support for Affordable/Shared Ownership and Voluntary Housing Measures would have a significant payback in new house completions.

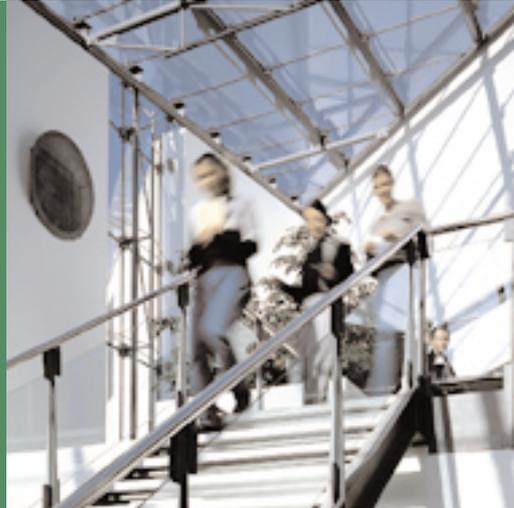
Recommendations

- The supply of serviced land is a key supply side driver. It is recommended that Government introduce economic instruments, with the aim of minimising any benefits from "holding" developed lands, and to encourage landowners to release these lands onto the market for development. Zoned and serviced lands should not be allowed to remain undeveloped while the landowners hold the property, as it's value rises in an imbalanced supply/demand market environment.
- The Institution favours a reduced emphasis on outdated single use land zonings in order to allow development to occur in an integrated manner. Housing provisions should increasingly become more an element of mixed used development, rather than as a separated land use, in the interests of securing more sustainable patterns of development.
- Following on the success of previous urban renewal strategies, further schemes to encourage the re-development of substantial numbers of brown field sites and still under-utilised urban properties, should be introduced. The densification and regeneration of the existing urban fabric of the country's towns and cities should go some way to ease supply side pressures.

- The operation of the Serviced Land Initiative, under which DOELG grant aid Local Authorities for the provision of sanitary services for development land, should be examined with the aim of achieving a more dynamic effect on the supply of serviced lands.
- The Institution would favour a more realistic approach to achieving reasonable rent return from the existing Social Housing Stock. Also, revenue from sales of social houses under the Tenant Purchase Scheme should be maximised and re-invested in housing stock.
- The benefits of using Strategic Development Zones (as recommended by Bacon II) as effective instruments to improve housing supply are acknowledged and the use of such zones should be progressed.

HEALTH

4.9



4.9 Health

NDP Programme and Targets

The priorities for investment in Health Capital (3.0 billion euros) under the NDP are identified as:

Acute Care

Provision of a comprehensive, quality and accessible acute hospital infrastructure include the following major acute hospitals projects including: Joint Mater/Temple Street development, Dublin St Vincent's, Elm Park, Dublin, St James's Hospital, Dublin, Cork University Hospital, Tullamore General Hospital, University College Hospital, Galway.

Non Acute/Continuing Care

- To provide facilities for persons with an intellectual disability.
- To develop a range of facilities for the elderly.
- To address major needs in the provision of modern accommodation for the mentally ill and the physically disabled.
- To address child care needs.

Intellectual Disability and Physical and Sensory Disability Services

- Provision of a broad range of new facilities and refurbishment of existing facilities, to support development of the services provided for persons with intellectual, physical or sensory disability.

Facilities for Older People

- 33 new Community Nursing Units (CNUs) and extension to a number of Community Hospitals, 21 new Day Care Centres and 12 new social centres.
- Refurbishment/upgrading of existing building stock.

Facilities for Persons with Mental Illness

- Acute Psychiatric Units in General Hospitals Child and Adolescent Psychiatric Services (Limerick, Cork, Galway and Dublin), Community Facilities (Health Centres and Community residences).

Childcare

- Provision of high quality support units for out-of control non-offending children.
- Upgrading of residential units for homeless or disadvantaged children.
- Information technology infrastructure for a childcare database.

Community Health

- Approximately 360 projects of new or replacement health centres and community care headquarters and extensions to or refurbishment of health centres.
- Dental Capital investment to improve dental services.

ICT

To maximise the potential of information and communication technology (ICT) in the health care

ICT/Research

Development of financial personnel and materials management systems, telemedicine, and biomedical research.

Measure	Total NDP (m euros)	BMW	S&E
Acute Hospitals	1,529	472	1,057
Non-Acute/Continuing Care	1,296	397	899
ICT/Research	211	47	164
Total	3,036	916	2,120

Progress against Programme and Targets

Almost 500 individual projects throughout the health services have been initiated ranging from major acute hospitals to minor works at health facilities. The projected and actual expenditure since 2000 on NDP projects are as follows

Year	Total NDP (m euros) (at '99 Prices)	Actual (m) (current Prices)
2000	310	293
2001	383	374
2002	434	507
2003	451	514 (DOF Est)

Commentary on progress

Despite the progress on a large number of projects across a wide range of healthcare programmes in the three measures under the Health priority, major pressures exist on the program including:

- Historical infrastructural deficiencies across the health service.
- Need for additional investment in replacement equipment/refurbishment and other minor capital works.
- The prices in the NDP are at 1999 prices. As a result of subsequent inflation the infrastructure that could be delivered was less than that provided in the Plan.
- Funding adjustments due to national pressures had a major impact on the overall funding available for health in the original NDP.
- Regional and local expectations for new health projects affected availability of funds for refurbishment and re-equipment projects.

Items not included in NDP

A programme for the re-equipping of facilities to allow the continued delivery of clinical services and the refurbishment of the existing estate to provide the proper accommodation for the delivery of same. Measures addressing Health & Safety and backlog of maintenance. The National Health Strategy requires a capital expenditure of 7.7 bn euros (at 2001 prices) over a period of 7-10 years to put a modern and quality healthcare infrastructure in place.

Requirements 2007-2009

Review of the programme to allow for the new policy developments in healthcare e.g. Health Strategy, National health information strategy, etc.

Recommendations

- Delivery of the National Health Strategy requires significantly greater funding of capital projects and equipment than was included in the original NDP. The mid term review of the NDP should include considerable ramping up of annual expenditure to ensure that a significant proportion of these projects can be completed by end 2009. This should include clarity on which will be delivered during the term of the current Plan i.e. by 2006, and which will be completed during Phase 2 of the Plan i.e. by end 2009.

- Multi-annual budgeting should be implemented to facilitate certainty in relation to the timeframe for delivery of capital projects and the resulting improvement in service
- Annual Budgetary allowances should be made for maintenance and equipment replacement in new facilities.
- Some flexibility should be allowed in the allocation of NDP funding between care groups to ensure optimum delivery of new infrastructure and improved service.
- Implement an integrated NDP management system for projects taking into account scope, programme, capital costs (i.e. design, construction, equipment, statutory and management costs) and inflation effects and which will allow for tracking of projects.

RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION

4.10



4.10 Research, Technological Development and Innovation (RTDI)

NDP Programme and Targets

The need to improve our competitiveness ranking was recognised by Government in the National Development Plan 2000-2006 which stated:

”...the rationale for investing in Research, Technological Development and Innovation:

- Develop an intellectual structure to root overseas companies here through more extensive use of research based in Ireland
- Persuade and encourage companies to develop their own research activities
- Develop a world class research environment in our higher education institutions and State research institutions and
- Ensure a virulent and dynamic pool of high quality, technically literate graduates from the graduate to postdoctoral levels to service the needs of these companies and to start their own companies”

The indicative allocations within the NDP is 2,471 m euros. 1,506 m euros of this is allocated to industry while 698 euros is allocated to education and science.

To place these allocations in perspective it is necessary to consider three key elements of the programme:

Science Foundation Ireland (SFI)

The establishment of Science Foundation Ireland by Forfas at the request of the Irish Government in 2000 to invest 635 m euros in basic research by the year 2006 in fields

underpinning Biotechnology and Information and Communication Technology is an important step in the development of the research infrastructure in Ireland.

SFI pursues three main goals:

- To assist third level institutions to develop significant research programmes in key areas.
- Foster research programmes at all levels of education.
- To bolster, and promote Ireland's scientific, engineering and entrepreneurial cultures world-wide.

Programme for Research in Third level Institutions [PRTLII]

This programme was established in 1999 to support basic research in the third level sector in Ireland. PRTLII has played a very positive role in encouraging closer collaboration among Irish higher education institutions in the area of joint research work.

Irish Research Council for Science Engineering and Technology (IRCSET)

IRCSET was established in 2001 to support research activities in the higher education sector. The Council is supporting as its primary function, excellence in a broad range of basic research in Science, Engineering and Technology.

The Council supports:

- Research scholarships
- Post Doctoral Research
- Basic Research Projects

Progress against Programme and Targets

Science Foundation Ireland (SFI) 711 m euros

Funding to the amount of 32 m euros was available in 2002. The second round of funding is now underway with centres of excellence being funded. Cumulative funding to date is well below half the NDP target.

Programme for Research in Third Level Institutions (PRTLII) 698 m euros

This programme is operated through the HEA on behalf of the Department of Education and Science.

Cycles 1 and 2 of the programme are now completed. In Cycle 1, 12.56 m euros was allocated to engineering out of a total of 206 m euros. In Cycle 2, 15.24 m euros allocated to engineering out of a total of 320 m euros. Other thematic areas funded include the following: biological science (294.8 m euros), chemical and physical sciences (59.55 m euros), marine and environment (62.32 m euros), humanities

(16.27 m euros), ICT (59.29 m euros), Social Science (29.98 m euros), Libraries (54.47m euros) [the figures in brackets represent amounts allocated for Cycles 1 and 2 combined].

While satisfactory progress has been made in the first two cycles, capital expenditure under Cycle 3 has been stalled in 2003.

Cycle 4 of the PRTL I has not yet been launched nor has any launch date been announced.

Irish Research Council for Science Engineering and Technology (IRCSET) 95m euros
IRCSET is fully up to date on spending. Support is available for basic research, for PhD students and for postdoctoral students (including in Engineering). In 2002 180 PhD or Masters students were funded. Of these almost half were in Engineering or Computer Science. The establishment of a separate Engineering Review Panel is an important development which is welcomed by the Institution.

Commentary on Progress

For the first time serious levels of support for research in Ireland have been made available and the Institution fully endorses this policy. However:

- Ireland's competitiveness in Research and Development must be improved as a matter of urgency. Total national spending on R&D must be increased from the current level of 1.4% of GDP to over 3% by 2009.
- The build up of expenditure in the SFI Programme was slower than required.
- Capital expenditure under the PRTL I Programme stalled during 2003.
- For financial reasons it was not possible to sustain the strong rate of development of the IRCSET programme in 2003.

There are causes for concern, which suggest that the NDP targets (adjusted for inflation) may not be achieved.

The Irish Council for Science, Technology, and Innovation (ICSTI) has established a Commission for Research funding in Ireland in the last year. The Institution welcomes the proposal that there will be a high level strategic co-ordination of research at governmental level.

Items not included in NDP

Allowance for inflation was not adequately dealt with in the NDP.

Over-head costs need to be covered for all research projects.

A national strategy for the treatment of intellectual property needs to be further developed.

Recommendations

- The funding for RTDI across all R&D streams should at minimum continue as set out in the NDP (2000 - 2006) with appropriate adjustment for inflation.
- Measures should be implemented to achieve the 3% of GDP national target for R&D spending by no later than 2009.
- Fundamental to the success of any research programme is the availability of high quality researchers. This requires that the promotion of science and engineering as a career be addressed and that funding be made available to promote these professions.

PUBLIC PRIVATE PARTNERSHIP

4.11



4.11 Public Private Partnership

NDP Programme and Targets

The NDP funding PPP investment refers to investment in public capital projects which are privately financed. The scale of PPP investment in Economic Social Infrastructure is summarised below. In addition, the provision of 2.21bn euros (£1.67bn) for investment in education and training infrastructure in the Human Resources sector is to include an element of PPP funding.

PPP Investment in Economic and Social Infrastructure		
Priority	NDP Measures	Plan Allocation PPP investment m euros
Economic Infrastructure	National Roads	1.270
	Water Supply	127
	Public Transport - Luas/ Long term Suburban Rail	381
Regional Programmes	Waste Management	571

The Government has decided to adopt a Public Private Partnership approach, on a pilot basis, to public capital projects, with an additional concentration on economic infrastructure projects. The initial priority for the pilot projects was the national roads programme.

Pilot projects were selected with a view to the wider adoption of the PPP approach in the context of the National Development Plan. The rolling out of PPP was not

intended to await the final completion of the pilots. The experience gained at each stage of developing the pilots was to be used for additional projects, whether in the pilot sectors or others, at the same time as the pilots were being implemented. It should be noted also that the pilot projects will largely come on stream in the period covered by the Plan.

Within the measures identified as availing of PPP funding, the broad classes of projects for which PPP may be appropriate were indicated. In the first instance, the pilot projects announced by the Minister for Finance in June 1999 were to be developed within the NDP period of 2000-2006. These include, subject to statutory procedures and negotiations where appropriate:

- a new Western River Crossing in Limerick on the N7
- the Waterford By-Pass including a new bridge over the Suir on the N25
- the second West-Link Bridge on the M50
- key elements of the operations of the Dublin Light Rail (LUAS) project

In addition, the potential for a PPP to develop the Kilcock-Kinnegad section of the N7 was to be actively explored.

Projects in education, solid waste management, and water supply were to be named following further consultations.

Indications were that some of the pilot projects would go to tender within the first year of the NDP period and that the rest should go to tender within the first two years of the NDP period, subject to satisfactory and speedy completion of the necessary statutory procedures and any negotiations.

Progress Against Programme and Targets

While enabling legislation to facilitate PPP's has been put in place the Institution believes that the Roads PPP programme - the largest PPP element of the NDP, is a minimum of 18 months on average behind schedule at present. Progress in other areas is also slow and behind schedule.

Comments on Progress

The PPP programme is being rolled out with nearly 50 potential projects identified in roads, education, environment and health. It is worth noting that under the NDP some projects that are termed PPP's are DBO (Design Build Operative) with no finance element.

The NRA initiated considerable overseas interest in, and a large number of contractors formed into consortia to bid for, the first PPP Roads projects. Notwithstanding the high level of interest by both the public and private sector, the roll out of projects is slow.

The only PPP roads projects under construction are the second Bridge at Dublin's West-Link and the Kilcock-Kinnegad project which was signed on March 24th 2003 with construction planned to commence in April.

The only other PPP project under construction is the five grouped schools. Both the Cork School of Music and National Maritime College are said to be imminent.

In simple terms progress is slow and it appears that the enthusiasm for the PPP process by the private sector and the PPP units in the public sector is not shared at central Government level. It is also clear that the roads projects identified as PPP projects require considerably greater grants than originally budgeted.

Items not included in NDP

PPP offers significant opportunities for alternative funding when public funds are not available. Methods must be found to roll projects out from inception to finalisation quickly and efficiently.

Recommendations

- The Mid Term Review of the NDP should address in a comprehensive manner the financing of the balance of the NDP Projects and potential future NSS projects and the role PPP's will play in delivering such projects. This review should include
 - Identification of ways to reduce the time spent on policy and process at the expense of progressing PPP projects i.e. reducing bureaucracy.
 - Establishment of fair and practical value for money criteria and risk allocation.
 - Review and amendment if necessary of the role, responsibilities and authority of the National Development Finance Agency to ensure it plays an innovative and pro-active role in bringing Ireland's infrastructure up to European standards in the shortest practical timescale.

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