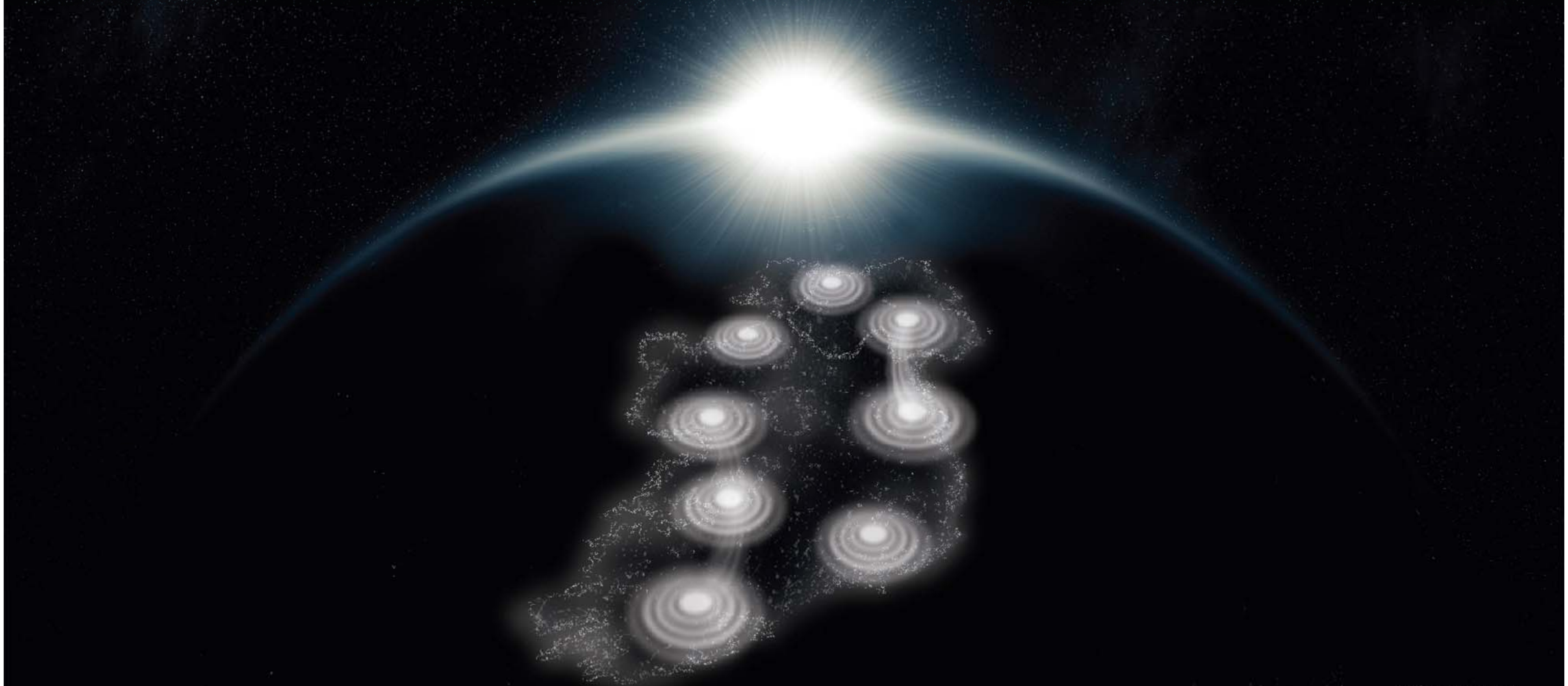
Infrastructure for an island population of 8 million



February 2010

InterTradeIreland

Engineers Ireland

The Irish Academy of Engineering

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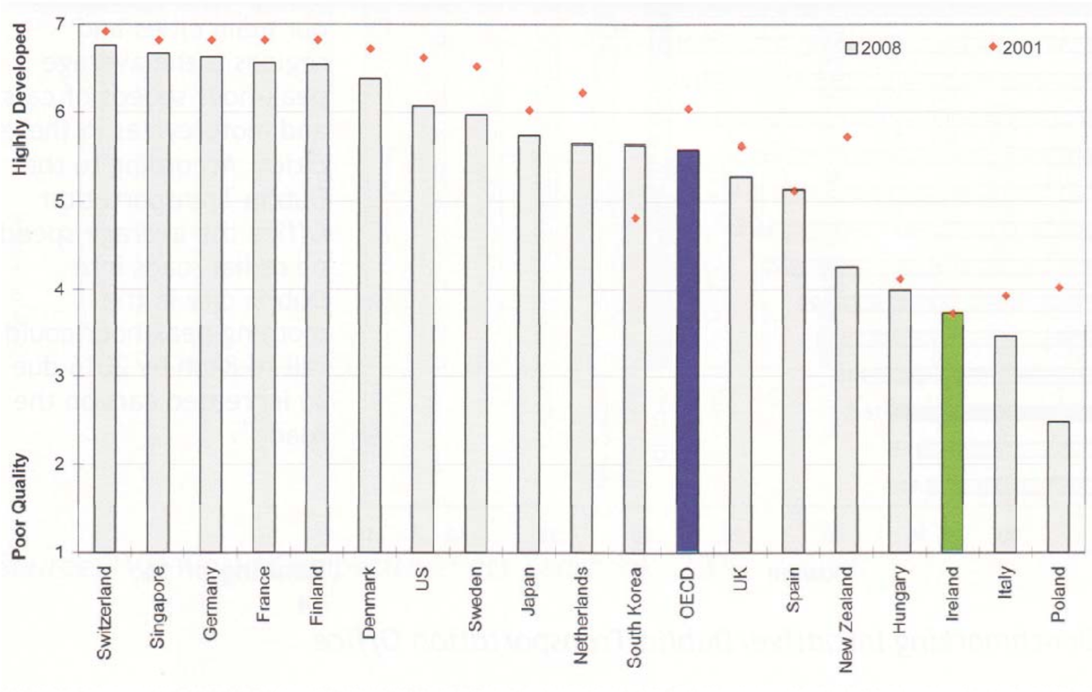
Figure 11.2 Perception of Overall Infrastructure Quality (Scale 1 – 7) 2008



Source: WEF Global Competitiveness Report 2008/09 in Forfás National Competitiveness Council Report 2009

Chapter 1

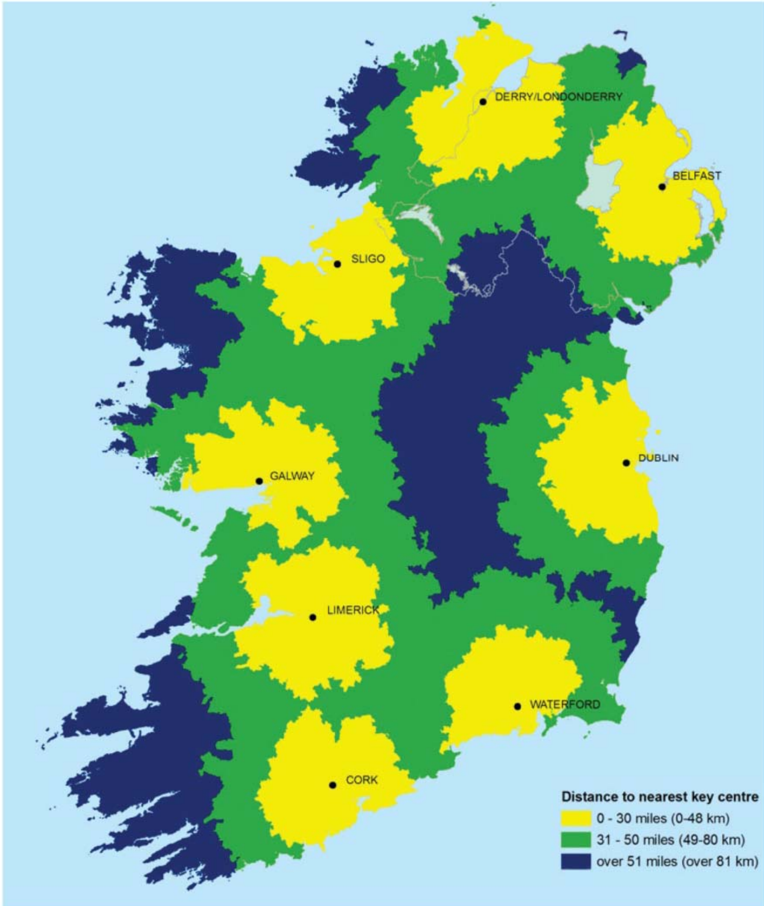
Introduction

Chapter 2

City Regions

Infrastructure for an island population of 8 million

Figure 2.4 Distance by Road to the Largest Settlement in Each of Eight City Regions



Source: Strategic Investment Board NI

Table 2.1 Population Density Comparison with Other European Cities (per sq km)

Barcelona	16,000
Lyons	9,500
Copenhagen	6,000
Dublin City	4,400
Belfast City	3,400

Table 2.2 Irish Cities – Present and Projected Population Densities (per sq km)

	2006	2030
Dublin	4,400	6,000
Belfast	3,400	4,500
Cork	3,200	4,300
Limerick	2,500	3,300
Derry/Londonderry	2,000	2,700
Sligo	1,600	2,100
Galway	1,400	1,900
Waterford	1,100	1,500

Table 2.4 Distribution of a Population of Eight Million (Catchments with a 65km Radius)

Dublin	2.4m
Belfast	1.5m
Cork	0.82m
Limerick	0.72m
Waterford	0.64m
Galway	0.58m
Derry/Londonderry	0.45m
Sligo	0.35m

“Half the population of the island will be located in the Dublin-Belfast Corridor including the Newry-Dundalk gateway, with a population density five times greater than the rest of the island”

Chapter 3

Transport

Infrastructure for an island population of 8 million

Table 3.2 Motorway Standard

4-Lane Motorway	Dublin–Belfast[9]
	Dublin–Cork
	Dublin–Limerick
3-Lane Motorway	Dublin–Galway
	Dublin–Waterford
	Cork –Limerick
	Limerick–Galway
	Galway–Sligo
2-Lane Motorway	Dublin–Derry/Londonderry
	Sligo–Derry/Londonderry
	Belfast–Derry/Londonderry

Table 3.3 Traffic Volumes

	2007	2030
Hillsborough	39,500	52,500
Loughbrickland	19,060	25,000
Newry Bypass	26,190	35,000
Drumleck	28,790	54,000
Dunleer Bypass	31,310	58,000
Balbriggan	51,820	96,000

Infrastructure for an island population of 8 million

Table 3.4 Inter-urban Journeys 1999-2007 – Annual Journeys (000s)

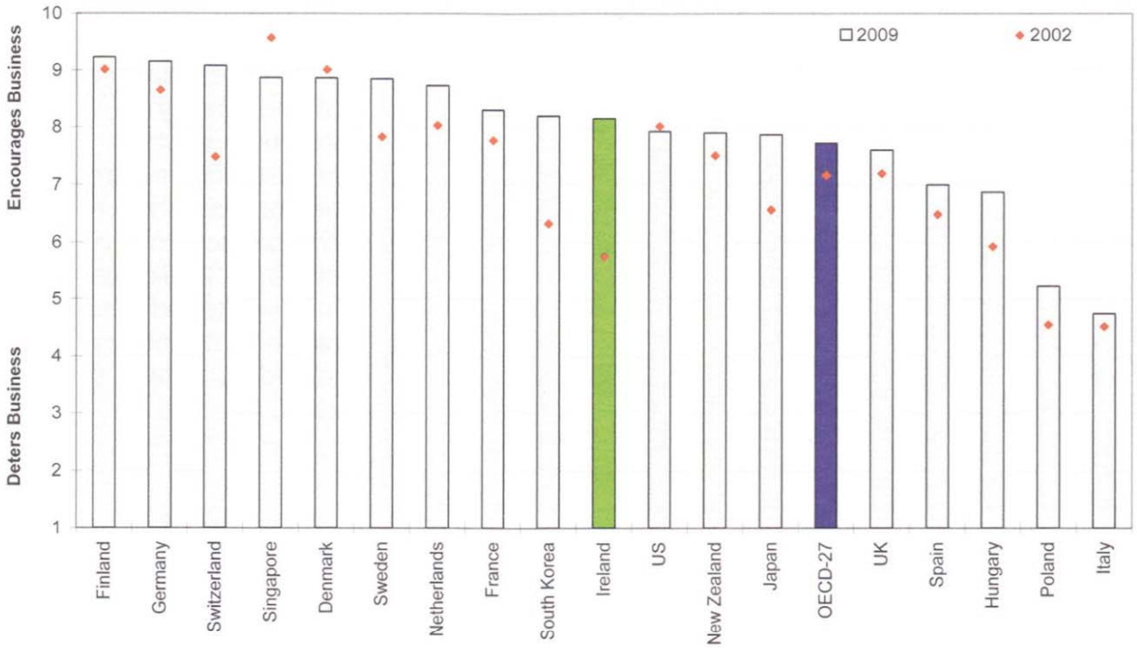
	1999	2007	Ratio
Dublin - Belfast [11]	5628	9736	1.7
Dublin - Cork	3572	5007	1.4
Dublin - Galway	1003	1583	1.6
Dublin - Waterford	899	1374	1.5
Dublin - Sligo	517	1239	2.4
Belfast – Derry/Londonderry	612 (1997)	1117	1.8
Dublin - Limerick	705	738	1.0
Total	**12,936**	**20,794**	**1.6**

Table 3.8 Travel in City Regions

	Bus or Train	Car
Dublin	31%	69%
Cork	8%	92%
Limerick	5%	95%
Galway	6%	94%
Waterford	4%	96%
Sligo	2%	98%

Infrastructure for an island population of 8 million

Figure 3.4 Perceptions of Quality of Air Transportation (Scale 1-10) 2009



This chart measures executives' perceptions of the quality of Ireland's air transportation infrastructure. Ireland's score has improved significantly in recent years. A second terminal at Dublin airport, due to open in 2009, should further improve Ireland's score.

Source: IMD World Competitiveness Yearbook, 2009 in Forfás National Competitiveness Council Annual Report 2009

Table 3.12 Passenger Traffic – 2008

Airport	Passenger No	Air Traffic Market Share
Dublin	22m	62%
Belfast International	5m	14%
Shannon	3m	9%
Cork	3m	9%
Belfast City	2.5m	5%

Chapter 4

Energy

Infrastructure for an island population of 8 million

Figure 4.6 Gas Network

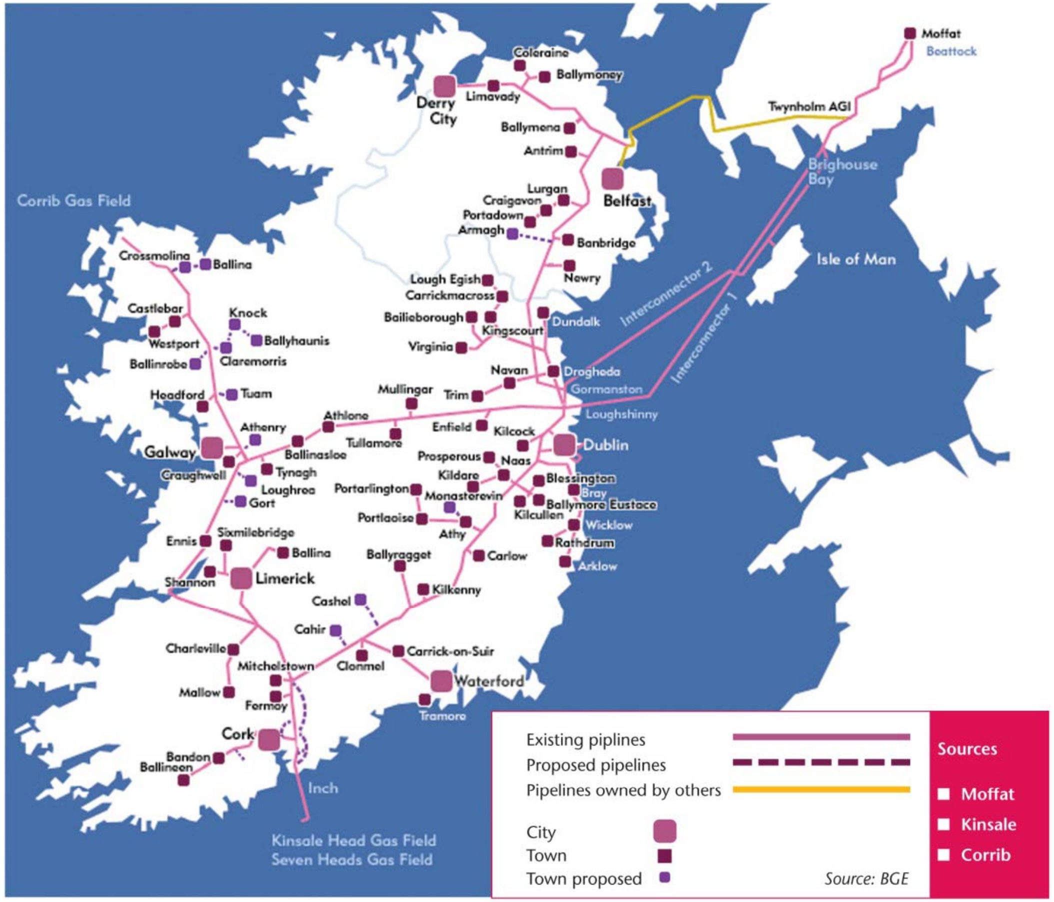
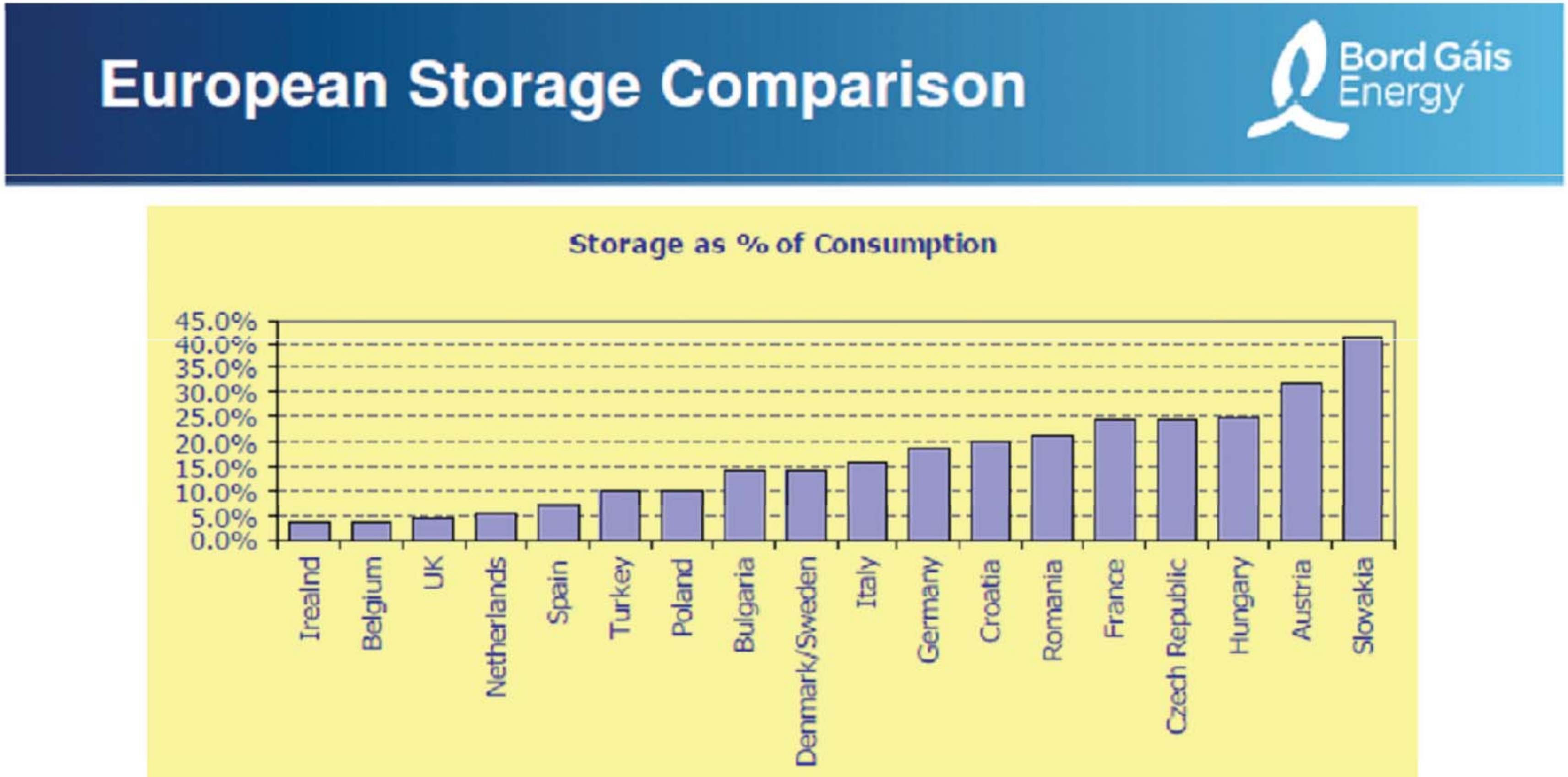
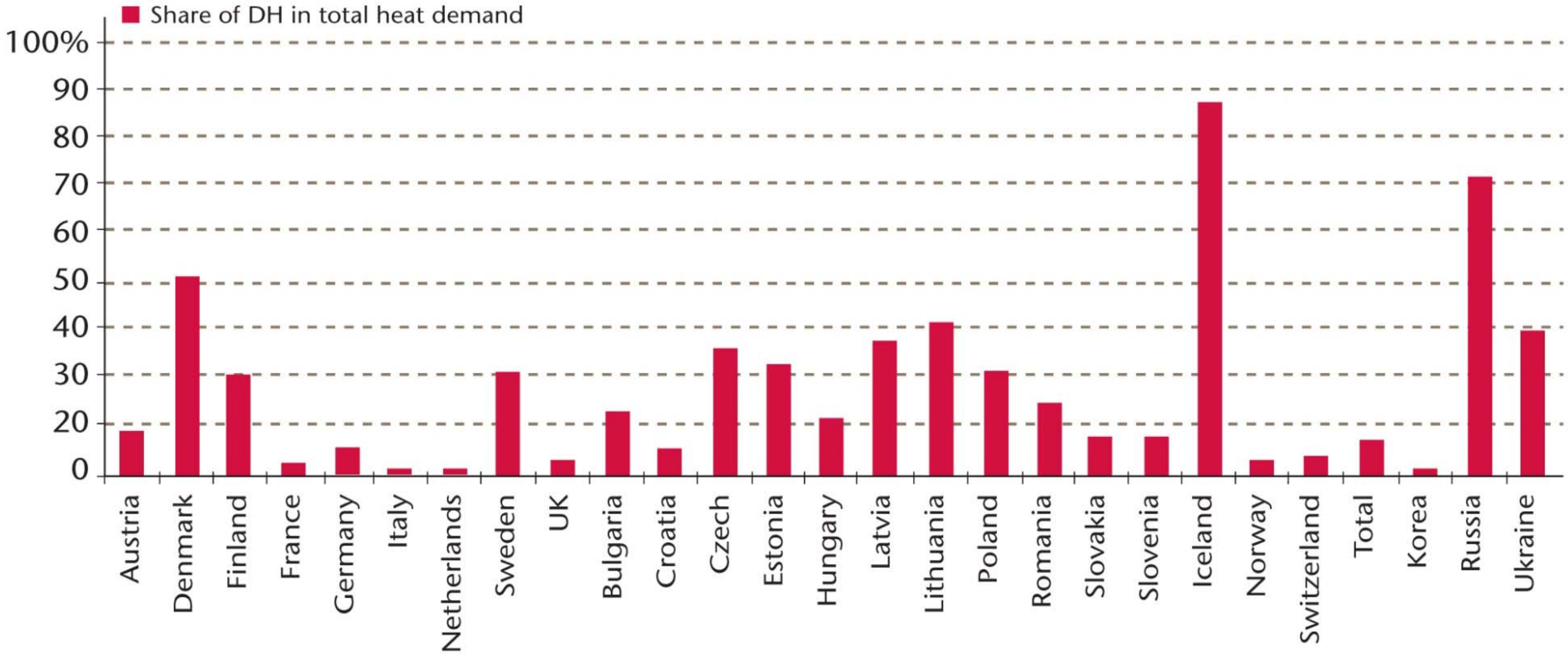


Figure 4.8 European Gas Storage Comparison



Infrastructure for an island population of 8 million

Figure 4.11 Share of District Heating in Total Heat Demand

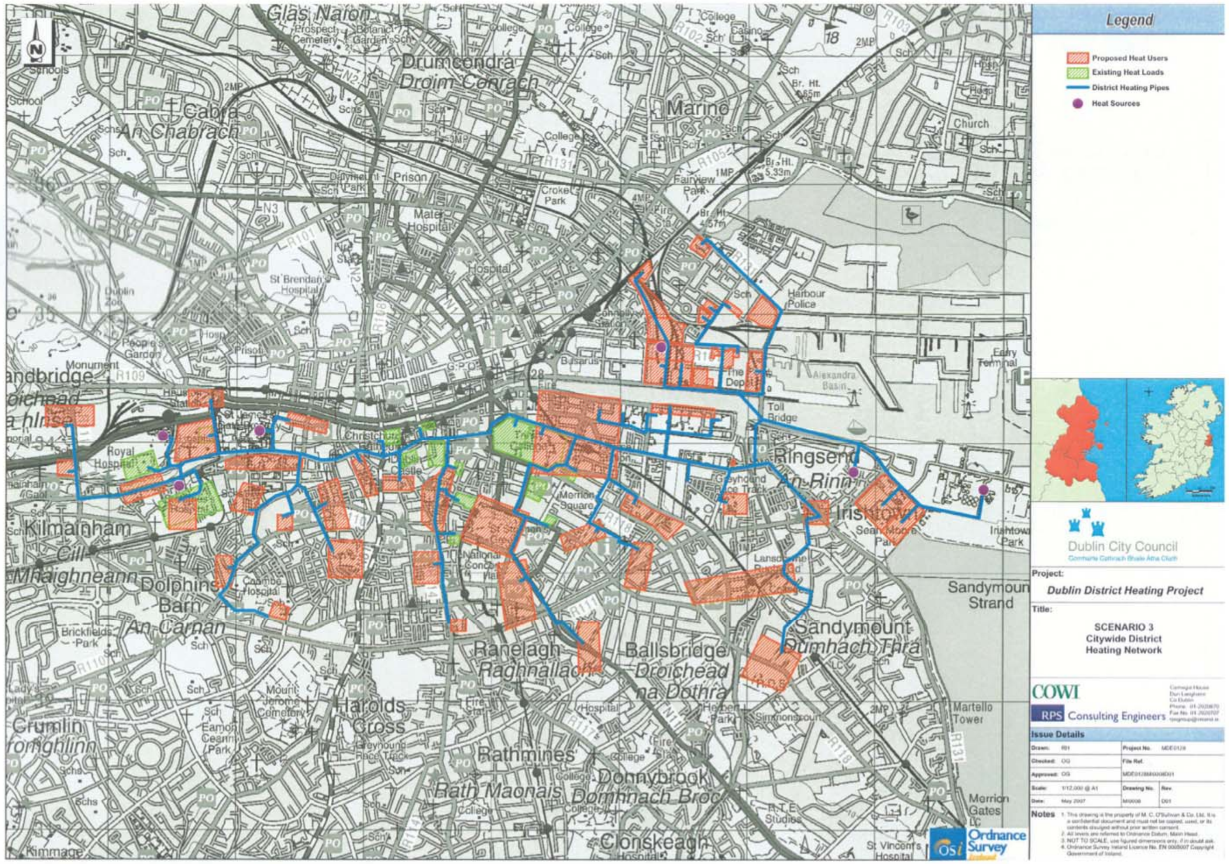


Source: Euroheat & Power, 2007; (*Ireland's share is negligible*)

Infrastructure for an island population of 8 million

Figure 4.12 Proposed District Heating Network for Dublin City

Source: Dublin City Council



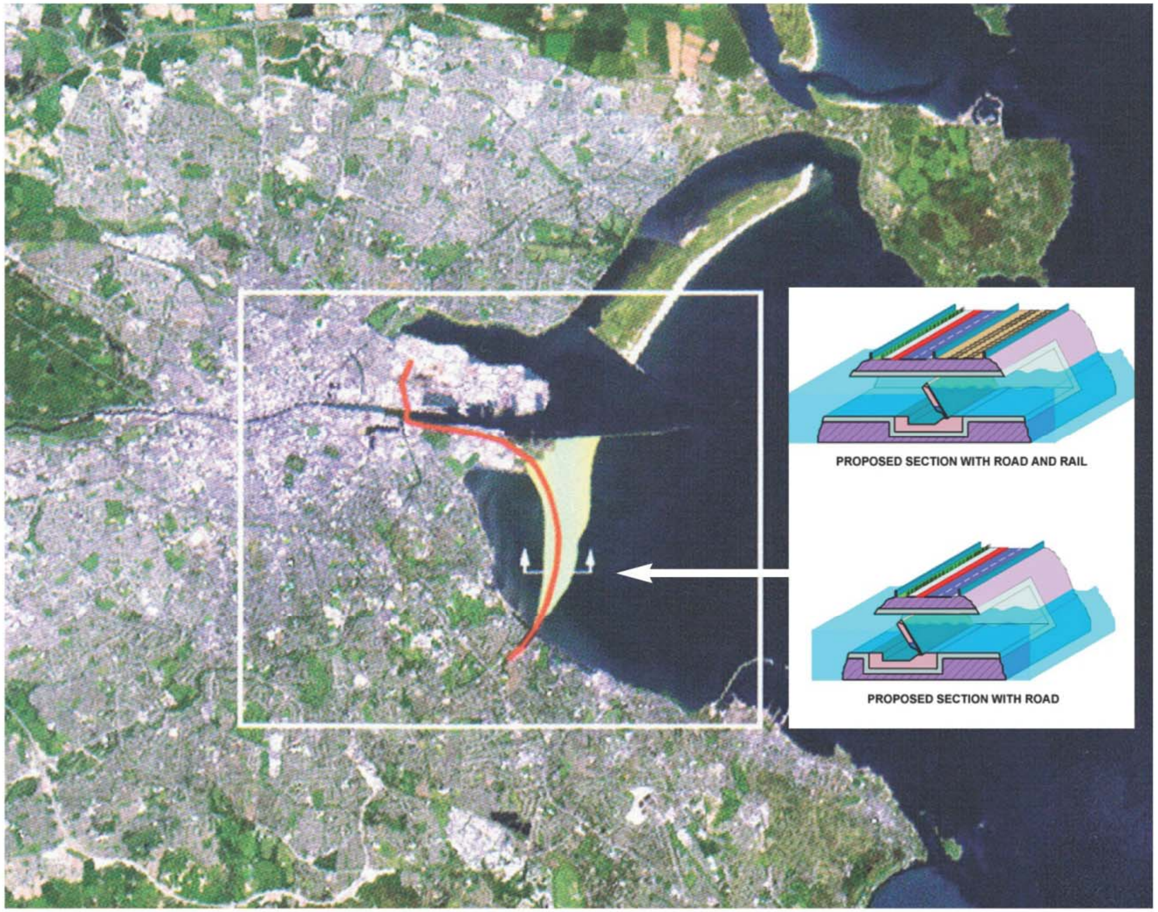
Chapter 5

Environment

Chapter 6

Climate Change

Figure 6.4 Section of Tidal Barrier for Dublin Bay with Eastern Bypass



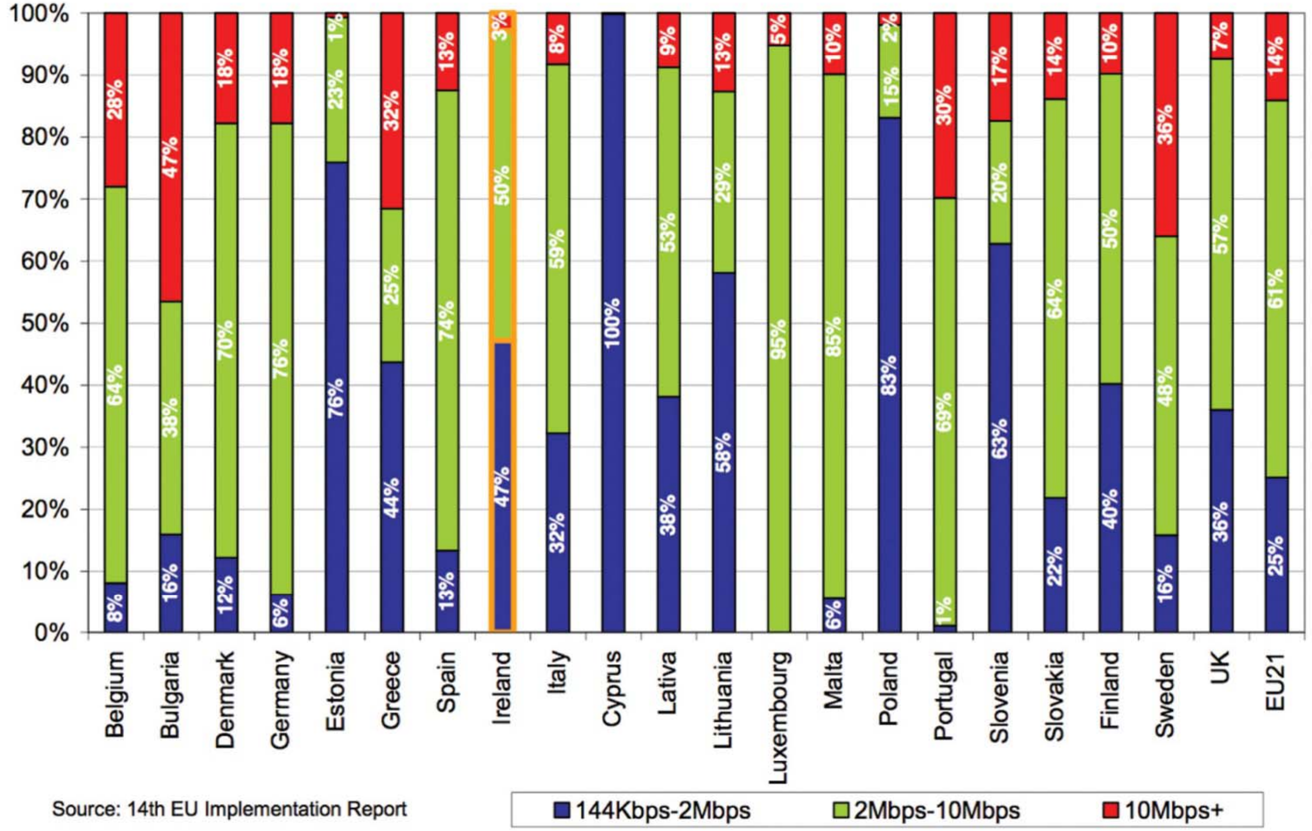
Source: Dublin City Council

Chapter 7

Information and Communications Technology (IET)

Infrastructure for an island population of 8 million

Figure 7.1 Fixed Broadband Lines by Speed, January 2009



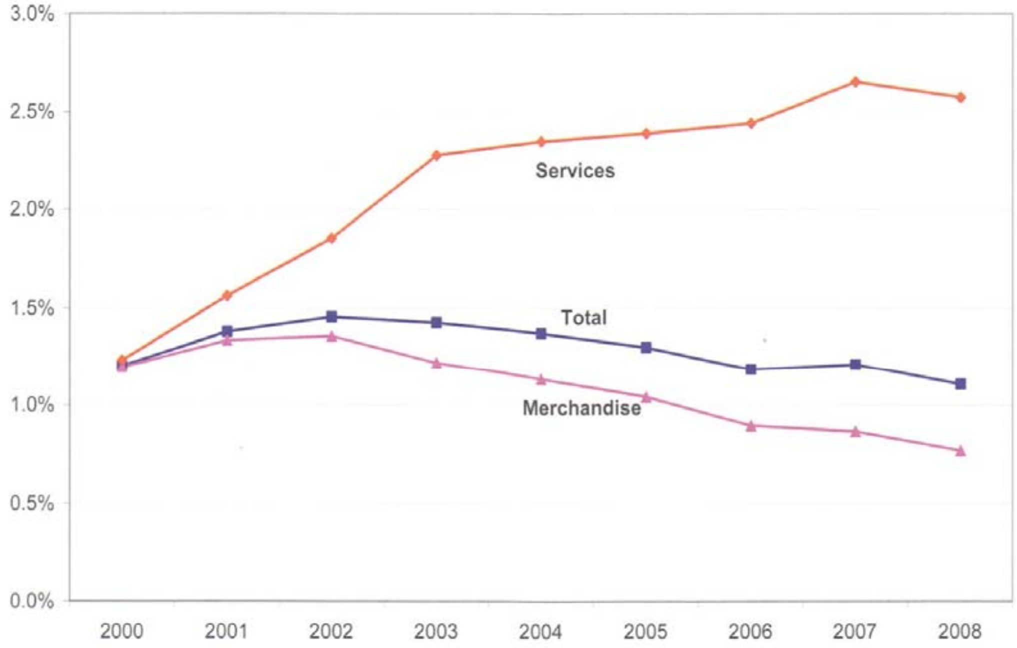
Source: ComReg Key Data Q1 2009

Chapter 8

Enterprise

Infrastructure for an island population of 8 million

Figure 8.1 Ireland's Share of World Trade: Overall, Merchandise and Services (2000-2009)



Ireland's share of merchandise trade has fallen gradually, while our share of services trade (a smaller but growing component of world trade) continues to grow. In 2008 services exports accounted for 45.4% of total Irish exports compared to 21% in 2000.

Source: World Trade Organisation

Source: Forfás National Competitiveness Council Annual Report 2009

Infrastructure for an island population of 8 million

Table 8.3 Sectoral Concentration of New FDI Projects

Business Sector	City
Business services *(including software and financial)*:	Dublin 69%; Cork 58%; Belfast 54%
Pharmaceuticals/medical devices:	Cork 32%; Galway 28%; Limerick 28%
Electronics/engineering:	Belfast 31%; Galway 17%; Dublin 11%

Table 8.7 Location of FDI R&D Projects

Dublin	50%
Cork	16%
Limerick	10%
Galway	10%

Chapter 9

Engineering for Health

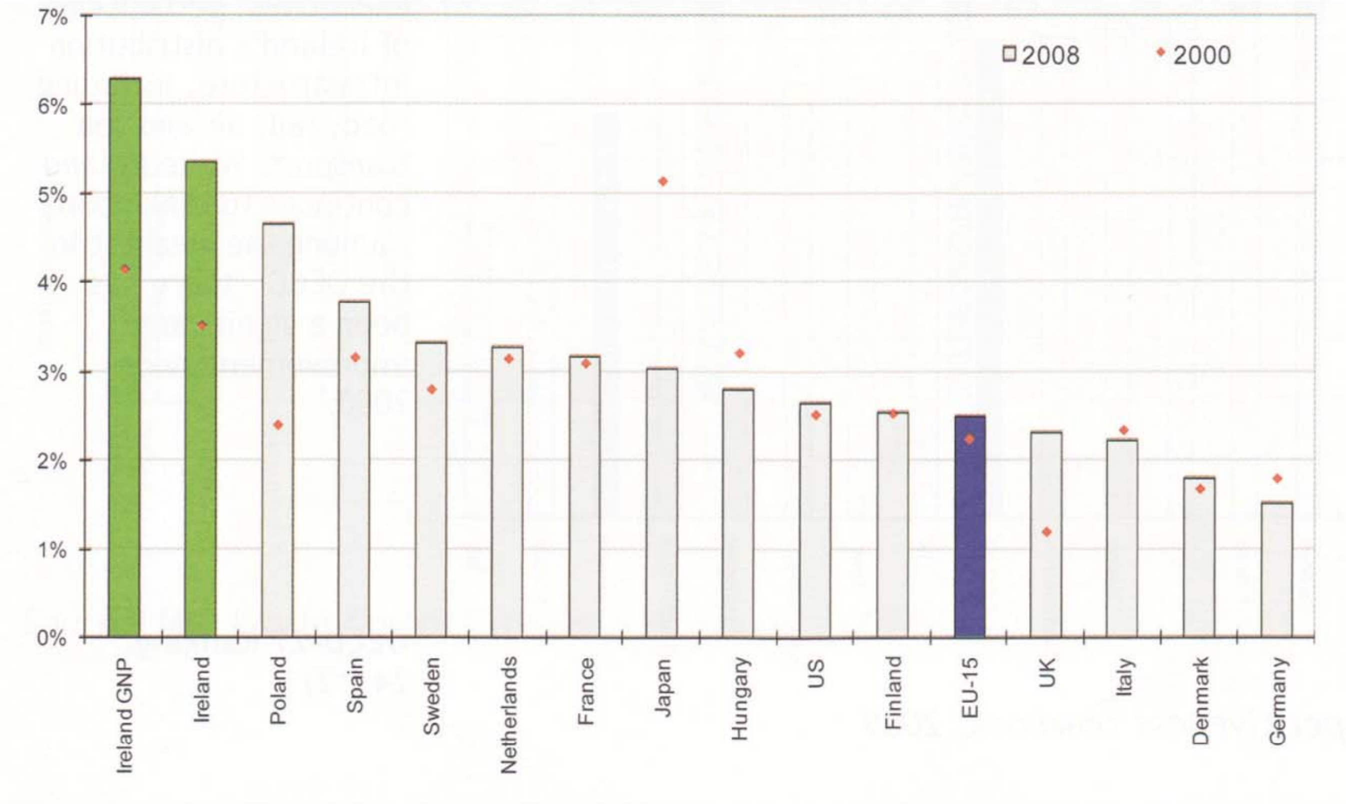
Chapter 10

Infrastructure Integration

Chapter 11

Economic Assessment

Figure 11.1 General Government Gross Fixed Capital Formation as % of GDP, 2008



Source: European Commission, AMECO Database in Forfás National Competitiveness Council Annual Report 2009

ANNEX 1
Indicative Costs of Projects having an Island Emphasis

The following are indicative costs of additional investment projects over the next 20 years recommended in this report.

Project	Cost
Dublin–Belfast High-Speed Rail Track and Trains:	€2.5bn
Motorway Development: 200km fourth lane to motorway and 500km third lane to motorway	€5.0bn
Water Mains Network: Water mains linking Shannon and Lough Neagh to Dublin and Belfast including water treatment plants.	€1.5bn
Information Highway: High-speed large capacity information highway linking the eight City Regions, including fibre to home.	€1.5bn
District Heating Pipe Network in Cities:	€250m

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