

APPENDIX D GENERATION CAPACITY

D.1 GENERATION CONNECTED TO THE TRANSMISSION SYSTEM

Table D-1 lists the existing and committed future generation units and their rated capacities in MW exported, for three years, 2003, 2006, and 2009. They are grouped in this list by geographical area.

Where generation and transmission station names differ, the generation name is in brackets.

Table D-1 Transmission Connected Generation

AREA	GENERATION STATION	UNIT	EXPORT CAPACITY MW		
			2003	2006	2009
DUBLIN	Huntstown	1	343	343	343
	Irishtown (Dublin Bay Power)	1	392	392	392
	Poolbeg	1	114.5	114.5	114.5
		2	114.5	114.5	114.5
		3	257	257	257
	Shellybanks (Poolbeg)	CC	460	460	460
	Moneypoint	1	285	285	285
		2	285	285	285
	North Wall	CC4	163	163	163
		CT5	109	109	109
	Pollaphuca (Liffey Hydro)	1,2	30	30	30
	Turlough Hill	1-4	292	292	292
CORK	Aghada	1	258	258	258
		CT11	90	90	90
		CT12	90	90	90
		CT14	90	90	90
	Marina	CC	112.3	112.3	112.3
	Inniscarra (Lee Hydro)	1,2	19	19	19
	Carrigadrohid (Lee Hydro)	3	8	8	8
SHANNON ESTUARY	Tarbert	1	57	57	57
		2	57	57	57
		3	240.7	240.7	240.7
		4	240.7	240.7	240.7
	Moneypoint	3	285	285	285
	Ardnacrusa	1-4	89	89	89

Table D-1 Transmission Connected Generation (continued)

AREA	GENERATION STATION	UNIT	EXPORT CAPACITY MW		
			2003	2006	2009
SOUTH-EAST	Great Island	1	57	57	57
		2	57	57	57
		3	112	112	112
NORTH-WEST	Cathaleen's Fall (Erne Hydro)	3,4	45	45	45
	Cliff (Erne Hydro)	1,2	20	20	20
	Lanesboro	2	37		
		3	40.5		
	Lanesboro (Lough Ree Power)			91	91
	Bellacorick	1	18.4		
		2	18.4		
	Golagh Wind	1	15	15	15
Cunghill (Kingsmountain)			23.75	23.75	
MIDLANDS	Shannonbridge	1	37		
		2	37		
		3	40.5		
	Shannonbridge (West Offaly Power)		137	137	137
	Cushaling (Edenderry Peat)	1	118.3	118.3	118.3
NORTH-EAST	Ratrussan			82.5	82.5
TOTAL			5272	5240	5240

D.2 WIND GENERATION CONNECTED TO THE DISTRIBUTION SYSTEM

Table D-2 lists the wind farms currently connected to the distribution system (as of March 2003), their capacities in MW, and the 110kV transmission station that they feed into.

Table D-2 Wind farm Connected Capacity

Wind farm (Distribution Connected)	Capacity (MW)	110kV Station
Black Banks	3.4	Arigna
Corrie Mountain	4.85	Arigna
Kilronan	5	Arigna
Spion Cop	1.2	Arigna
Bellacorick	6	Bellacorick
Largan Hill	5.94	Carrick-on-Shannon
Burren ²⁰	2	Castlebar
Anarget	2	Cathaleen's Fall
Curabwee	4.6	Dunmanway
Milane Hill	6	Dunmanway
Inverin	3.3	Galway
Cark	15	Letterkenny
Cronalaght	4.8	Letterkenny
Culliagh	12	Letterkenny
Corneen	3	Shankill
Beenageeha	4	Tralee
Tursillagh	15	Tralee
Beale	4.2	Trien
Crockahenny	5	Trillick
Drumlough Hill	4.8	Trillick
Carnsore	11.8	Wexford
TOTAL	123.89	

²⁰ The TSO understands that the Burren wind farm has been shut down and is unlikely to re-commence operations.

D.3 GENERATION DISPATCH TABLE

Table D-3 lists the base case generation dispatches for 2003, 2006 and 2009. The SMR column represents the dispatch at summer peak, SNV at summer night valley, and WIN is the winter peak dispatch. These dispatches were used for the power flow analysis, the short circuit analysis, and as a starting point for the 220kV and 110kV transfer capability analyses. The values shown are in export terms i.e., they are net of each generation unit's own consumption. They indicate the power delivered to the Grid.

Table D-3 Base Case Generation Dispatches

GENERATION UNIT	Generation Dispatch (MW)								
	2003			2006			2009		
	SMR	SNV	WIN	SMR	SNV	WIN	SMR	SNV	WIN
Aghada 1	191	76	229	211	76	239	239	76	248
Aghada CT11	0	0	0	0	0	0	0	0	0
Aghada CT12	0	0	90	0	0	90	77	0	90
Aghada CT14	0	0	0	0	0	90	0	0	90
Ardnacrusha Hydro	25	0	89	25	0	89	25	0	89
Bellacorick 1	17	14	18	0	0	0	0	0	0
Bellacorick 2	0	0	0	0	0	0	0	0	0
Dublin Bay CC	392	315	392	392	314	392	392	319	392
Edenderry	105	105	105	105	105	105	105	105	105
Erne Hydro	22	0	65	22	0	65	22	0	65
Golagh Wind	0	0	0	0	0	0	0	0	0
Great Island 1	0	0	51	0	0	52	0	0	52
Great Island 2	0	0	0	0	0	51	0	0	52
Great Island 3	0	0	93	93	0	103	89	0	103
Huntstown CC	343	282	343	343	299	343	343	299	343
Kingsmountain	0	0	0	0	0	0	0	0	0
Lanesboro 2	0	0	0	0	0	0	0	0	0
Lanesboro 3	39	39	0	0	0	0	0	0	0
Lee Hydro	1	0	27	1	0	27	1	0	27
Liffey Hydro	0	0	30	0	0	30	0	0	30
Lough Ree Power	0	0	0	91	91	91	91	91	91
Marina CC	101	0	107	101	0	112	101	0	112

Table D-3 Base Case Generation Dispatches (continued)

GENERATION UNIT	Generation Dispatch (MW)								
	2003			2006			2009		
	SMR	SNV	WIN	SMR	SNV	WIN	SMR	SNV	WIN
Moneypoint 1	280	218	280	280	229	280	280	248	280
Moneypoint 2	280	0	280	280	0	280	280	0	280
Moneypoint 3	280	205	280	280	218	280	280	231	280
North Wall CC4	153	0	153	153	0	153	153	0	153
North Wall CT5	0	0	0	0	0	0	0	0	0
Poolbeg 1	0	0	105	95	0	105	105	0	105
Poolbeg 2	86	0	105	95	0	105	105	0	105
Poolbeg 3	212	122	228	211	114	238	238	117	247
Poolbeg CC	460	0	460	460	0	460	460	0	460
Shannonbridge 1	0	0	0	0	0	0	0	0	0
Shannonbridge 2	34	34	36	0	0	0	0	0	0
Shannonbridge 3	38	38	0	0	0	0	0	0	0
Tarbert 1	0	0	52	0	0	52	0	0	52
Tarbert 2	0	0	0	0	0	52	0	0	52
Tarbert 3	0	75	218	188	75	209	193	75	225
Tarbert 4	169	0	218	0	0	209	193	113	225

Note that the inclusion of a 400MW dummy generator at Finglas was assumed for winter 2009/10 studies. This was required so that sufficient generation was connected to meet demand in the studies.

D.4 RENEWABLE ENERGY SOURCES AND CHP PROJECTIONS

Additional renewable energy and CHP generation capacity is projected for the seven-year period to 2009. Unlike large-scale generation there is no precondition that a Connection Agreement must be signed before these generation projections are included in the Forecast Statement. The overall projections are not based on actual projects but rather on government and EU targets.

EU directive 2001/77/EC on the promotion of electricity produced from renewable energy sources (RES) specifies a target for Ireland's energy production from RES of 13.2% of gross electricity production by 2010. Details of how the TSO derived capacity projections from this overall energy target, and the rationale for the CHP projections, are presented in the *Generation Adequacy Report 2003-2009*.

Table D-4 presents the forecast of annual growth in generation capacity by generation type. It should be noted that while CHP, hydro and land-fill gas plants are most likely to be embedded, a number of future wind farms are likely to be transmission-connected.

Table D-4 CHP and RES Projections 2003-2009

Type	Annual Capacity Additions (MW)							Total Added 2003-2009
	2003	2004	2005	2006	2007	2008	2009	
Renewables								
Wind	76	113	113	113	113	113	113	754
Hydro	1	1	1	1	1	1	1	7
Biomass/LFG	5	5	10	10	10	10	10	60
Renewables Sub-total								821
CHP	5	5	10	10	10	10	10	80
Total	87	124	134	134	134	144	144	901

Table D-5 lists the future wind farms that have signed connection agreements with the DSO. Together with the future transmission-connected wind farms, Ratrussan and Kingsmountain, this represents a total of 211MW of committed wind generation, bringing the total connected in the near-future to 349MW.

Table D-5 Future Embedded Wind Farms with Signed Connection Agreements

Future Embedded Wind Farm	Capacity (MW)	110kV Station
Arklow Banks	25.5	Arklow
Beam Hill	14	Trillick
Meenadreen	3.4	Cathaleen's Fall
Meenanilta	2.55	Letterkenny
Raheen Barr	18.7	Castlebar
Mountain Lodge	3	Shankill
Sonnagh Old	7.65	Somerset
Lee Strand Co-Operative	15	Tralee
Gartnaneane	15	Meath Hill
TOTAL	104.80	