CER Note to the McCarthy Group - November 2010

Regarding ESB Group Generation Assets

1. Introduction

Overview

This note outlines the CER's initial review of options regarding the splitting of ESB Group's Generation Assets. The note is designed to provide the Government with information in relation to any potential decision it may make regarding the ownership of ESB.

Section 2 of this note outlines the forecast market share situation in 2015 should the current ring-fencing be maintained between ESB Power Generation (ESBPG) and ESBI. The subsequent sections then outline two other alternative ways in which the ESB Group Generation Assets as a whole could be split. Both of these alternative options involve splitting the ESB Group into two separate portfolios and are proposed with the following aims in mind:

- To reduce ESB's market power and thereby promote competition, to the benefit of the electricity customer; and,
- To provide for separate portfolios which are potentially commercially viable in their own right, were divestiture to be considered by the Government.

The market share results provided in this note for these options are based on forecast modelling recently carried out for the 2015 Calendar Year as part of the Regulatory Authorities' (consisting of the CER and NIAUR) work on Market Power and Liquidity in the SEM.

We would re-iterate that an important purpose for any divestiture must be that competition and the end customer benefits; thus any existing market power issues must reduce from such a move.

With the CER's statutory duties in relation to the consumer and competition in mind, the options in this note are considered reasonable starting points at this stage - the CER can of course carry out modelling of additional scenarios/portfolios as necessary. They same applies with respect to the modelling assumptions also (see next). The CER considers the splitting of ESB generation assets into two separate portfolios as a minimum to support increased competition and could still be problematic, particularly if one portfolio is bought by an existing player in the all-island market. Splitting ESB generation assets into more than two portfolios could have further benefits from a competition point of view and the CER would be happy to advise on any different split-up options as required.

We would also be happy to discuss any aspect of this submission.

Modelling Assumptions

The forecast modelling in this note assumes that the following major new builds are operational for 2015: two new gas CCGTs plants (with capacities of 430MW and 440MW and owned by smaller players) and the new 500MW East-West Interconnector with Great Britain (GB).

The demand growth out to 2015 is taken from EirGrid's low demand growth scenario in the 2010-2016 'Generation Adequacy Report' and is 2% per annum.

Results for the options in this note are presented for two fuel scenarios:

1) A 'low coal price scenario' in which the relative price of coal is low compared with gas and so coal plants are "in-merit" and run as baseload; and,

2) A 'high coal price scenario' in which the relative price of coal is high compared with gas and so coal plants are "out-of-merit" and therefore do not run.

A moderate level of exports from SEM to GB is assumed over the year, based on a medium assumption for GB prices.

Deloitte Report 2005

In 2005 Deloitte published a report, 'Review of the Electricity Sector in Ireland', in which they identified a range of alternative institutional arrangements and company structures, including ownership models, for ESB. Their recommended alternative for the Generation Assets was to remove the ring fencing from ESBPG and ESBI and to sell two separate portfolios comprised of:

- Aghada and Marina (including a new CCGT at Aghada); and,
- Poolbeg and Northwall.

There have been significant changes and advances in the electricity sector since the Deloitte Report was published. The SEM has been established and generators now compete on an all-Island level. ESB has sold a proportion of its generation capacity (Tarbert, Great Island, and four peakers) to a new entrant to the market, the Spanish utility Endesa. Bord Gais has entered the generation market, building a new CCGT in Cork. Three of the Poolbeg stations have closed (note also that Marina is forecast to be closed by 2015). On the retail/supply side of the market, all segments are now subject to significant levels of competition and customer switching. Taking all of these market developments into account, we do not believe that Deloitte's recommended alternative is now optimal.

2. ESBPG & ESBI in 2015

This section outlines the market share results for 2015 should the current ring-fencing between ESBPG and ESBI be maintained. Note that ESBI is comprised of the Synergen and Coolkeeragh gas stations.

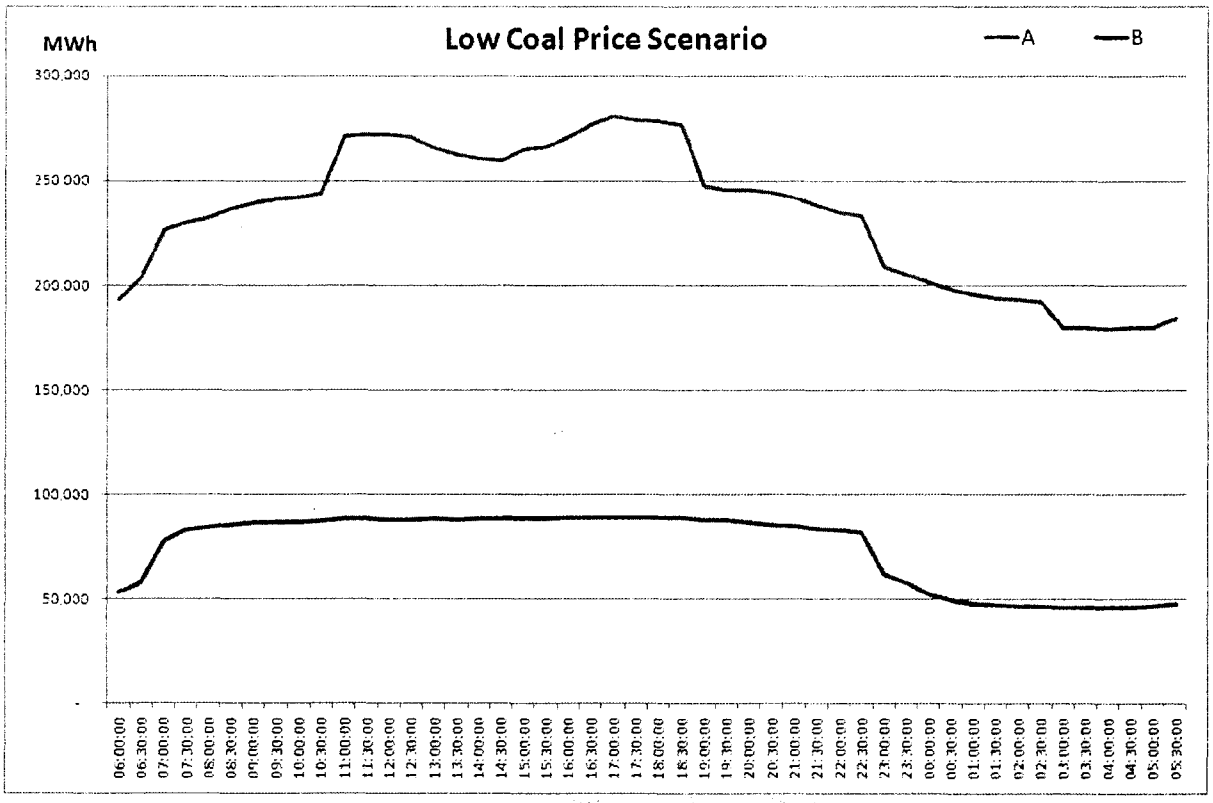
The tables below show the forecast market share of ESBPG and ESBI, if maintained as they are now, in 2015 in both the Low Coal price and High Coal price scenarios. Also included is the approximate MWh volume generated by each in the Peak (17:00 – 21:00), Midmerit (07:00-23:00) and Baseload (24 hours) categories.

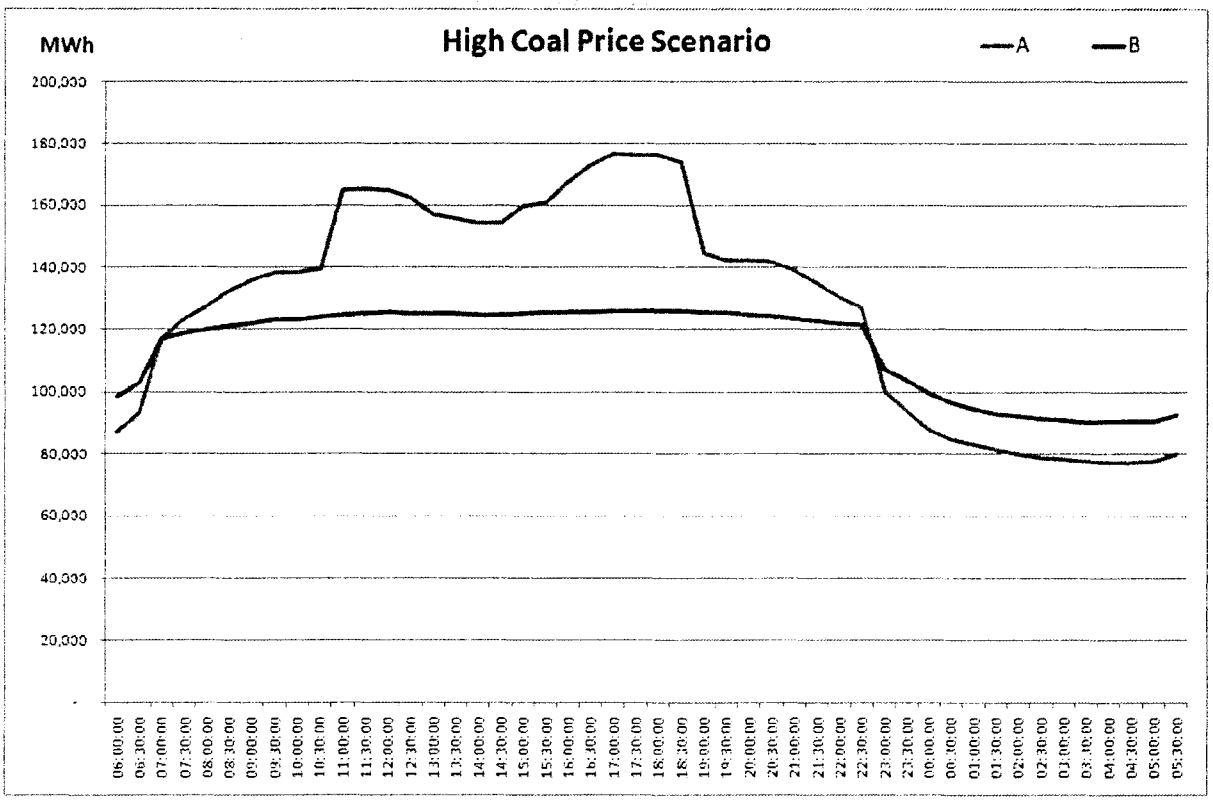
ESBPG is Group "A" and ESBI is Group "B".

Low Coal Price Scenario		
	Group A	Group B
Generation Market Share	27.5%	8.8%
Peak MWh	80,004	13,420
Midmerit MWh	1,920,370	1,164,881
Baseload MWh	9,215,922	2,410,694

High Coal Price Scenario		
	Group A	Group B
Generation Market Share	15.4%	13.8%
Peak MWh	99,977	16,056
Midmerit MWh	2,022,216	897,243
Baseload MWh	4,009,129	4,575,325

The charts below break down the generation profile of ESBPG and ESBI into the total MWh volume generated in each half hour period across the year for both the Low Coal price and High Coal price scenarios.


MWh
Low Coal Price Scenario
A
B
300,000
250,000
200,000
150,000
100,000
50,000
-


MWh
High Coal Price Scenario
A
B
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
-

3. Alternative 1

The table below shows the ESB generation asset portfolio in 2015, along with each unit's current capacity (MW), fuel type and current age. Also included is the category that each plant is forecast to be in 2015 (Baseload, Midmerit or Peaker) and the first example split of the portfolio into two separate 'Groups'; A and B.

The categories are roughly defined as:

- Baseload – units that generally run 24 hours a day when available
- Midmerit – units that generally run during the day but switch off at night and at times of low demand
- Peaker – expensive but flexible units that only run at times of high demand

Unit	Code	Capacity (MW)	Fuel	Age (years)	Category	"Group"
Old Aghada	AD1	258	Gas	28	Midmerit/Peaker	A
Aghada CCGT	ADC	431	Gas	1	Baseload	A
Old Aghada	AT2	90	Gas	28	Peaker	A
Old Aghada	AT4	90	Gas	28	Peaker	A
Old Aghada	AT1	88	Distillate	28	Peaker	A
North Wall	NW4	163	Gas	26	Midmerit/Peaker	A
North Wall	NW5	104	Distillate	26	Peaker	A
Lough Rea	LR4	91	Peat	6	Baseload	A
West Offaly	WO4	137	Peat	5	Baseload	A
Hydro (15 units)		169			Hydro	A
Turlough Hill	TH	292			Pumped Storage	A
Coolkeeragh	CPS CCGT	425	Gas	6	Baseload	A
Coolkeeragh Peaker	CGT8	58	Distillate	10	Peaker	A
Synergen	DB1	415	Gas	8	Baseload	B
Poolbeg	PBC	480	Gas	11	Midmerit	B
Moneypoint	MP1	280	Coal	25	Baseload	B
Moneypoint	MP2	280	Coal	24	Baseload	B
Moneypoint	MP3	280	Coal	23	Baseload	B

In this alternative Group B is comprised of the Moneypoint Coal units, the Synergen gas CCGT (also called Dublin Bay) and the Poolbeg gas CCGT which by 2015 will be a midmerit unit. Group A consists of all other plant as shown in the above table. The total capacities of these two groups and their average ages (weighted by MW but excluding the hydro and pumped storage units as these have a much longer life than thermal units) are shown in the table below.

		*not incl hydro
Group	Capacity (MW)	Ave Age (years)*
A	2396	14
B	1735	17

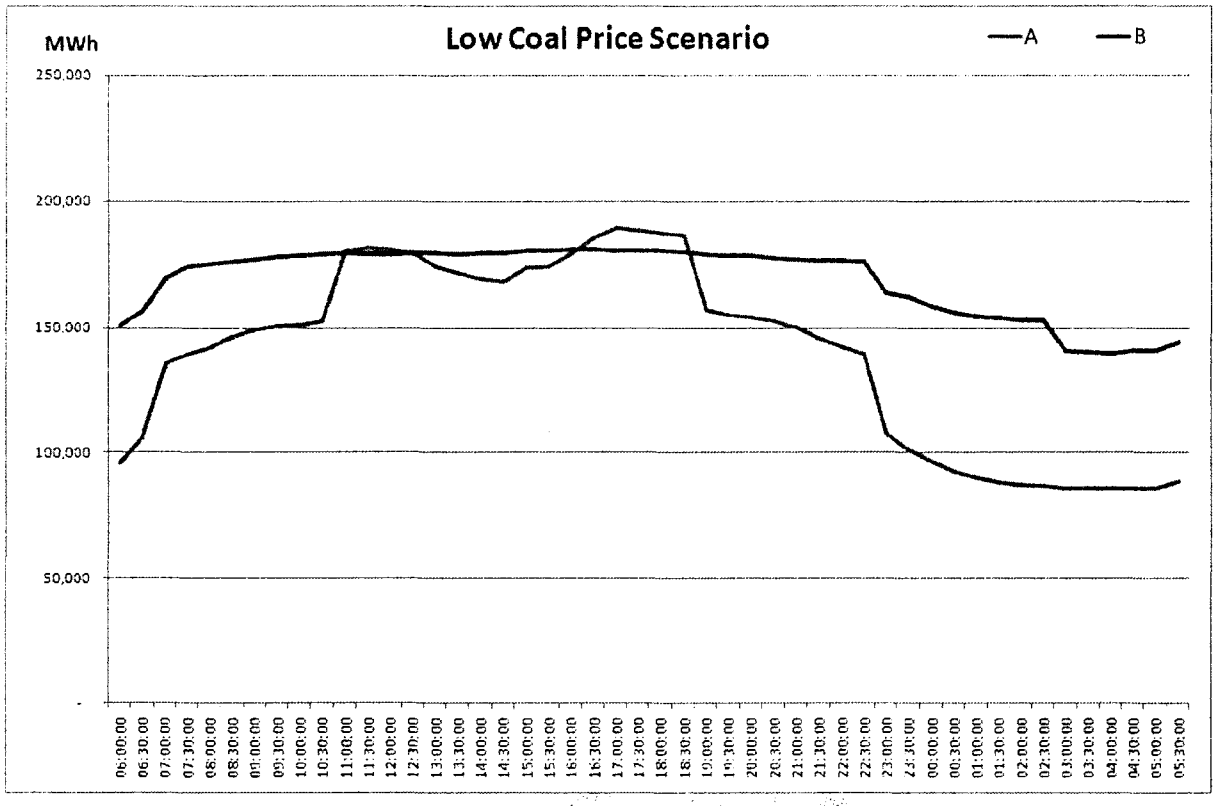
Alternative 1: Results for 2015

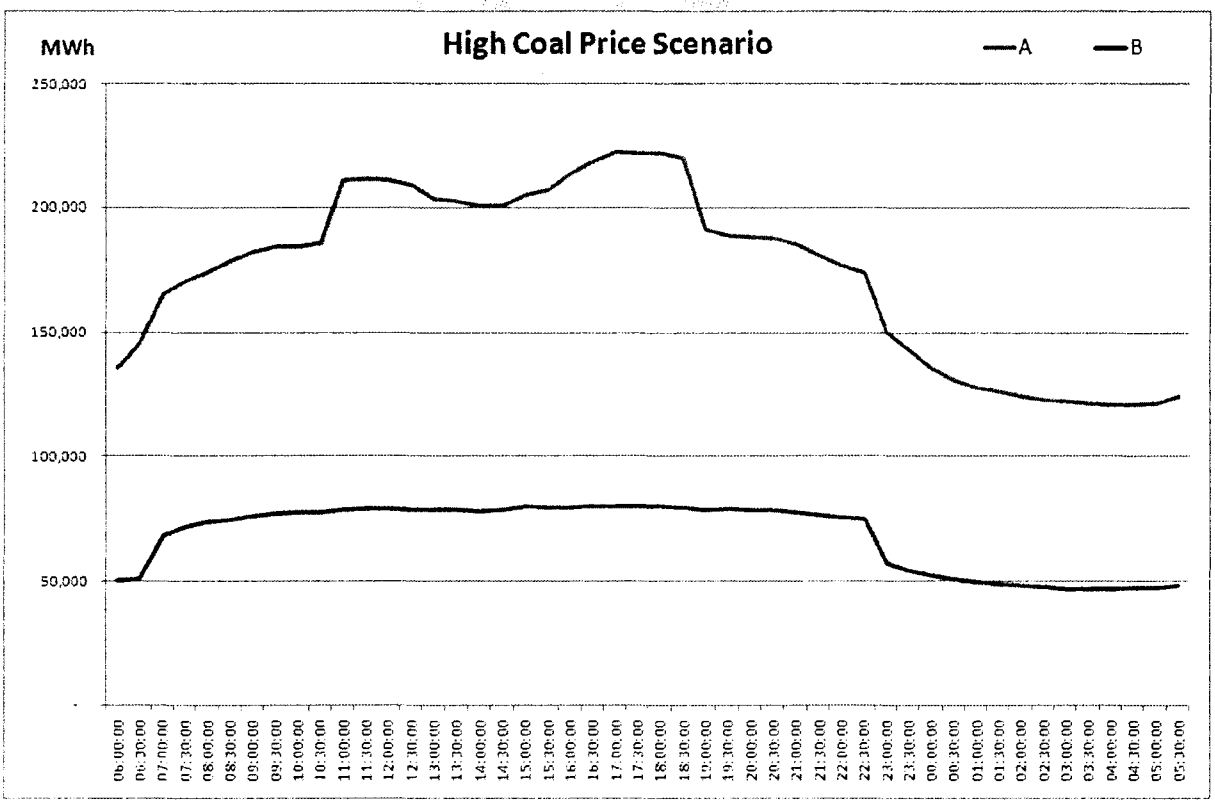
The tables below show the forecast market share of each Group in 2015, in both the Low Coal Price and the High Coal Price Scenarios. Also included is the approximate MWh volume generated by each Group in the Peak (17:00 – 21:00), Midmerit (07:00-23:00) and Baseload (24 hours) categories.

Low Coal Price Scenario		
	Group A	Group B
Generation Market Share	16.4%	19.9%
Peak MWh	82,024	11,400
Midmerit MWh	2,208,097	877,154
Baseload MWh	4,404,457	7,222,159

High Coal Price Scenario		
	Group A	Group B
Generation Market Share	20.9%	8.2%
Peak MWh	98,101	17,932
Midmerit MWh	2,041,090	878,370
Baseload MWh	6,202,321	2,382,133

The charts below break down the generation profile of Group A and Group B into the total MWh volume generated in each half hour period across the year for both the Low Coal price and High Coal price scenarios.





Alternative 1: Observations

4. Alternative 2

The table below shows the second alternative. In this alternative Synergen, Coolkeeragh, Aghada (Old and New) and one of the peat plants (Lough Rea) are placed into Group A. The other plants, most importantly Moneypoint and Turlough Hill, are kept in Group B. As referred to later, these are arguably our most strategically important plants.

Unit	Code	Capacity (MW)	Fuel	Age (years)	Category	"Group"
Old Aghada	AD1	258	Gas	28	Midmerit/Peaker	A
Old Aghada	AT2	90	Gas	28	Peaker	A
Old Aghada	AT4	90	Gas	28	Peaker	A
Old Aghada	AT1	88	Distillate	28	Peaker	A
Aghada CCGT	ADC	431	Gas	1	Baseload	A
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Poolbeg	PBC	480	Gas	11	Midmerit	B
Moneypoint	MP1	280	Coal	25	Baseload	B
Moneypoint	MP2	280	Coal	24	Baseload	B
Moneypoint	MP3	280	Coal	23	Baseload	B
West Offaly	WO4	137	Peat	5	Baseload	B
Hydro (15 units)		169			Hydro	B
Turlough Hill	TH	292			Pumped Storage	B

The total capacities of these two groups and their average ages (weighted by MW but excluding the hydro and pumped storage units as these have a much longer life than thermal units) are shown in the table below.

Group	Capacity (MW)	Ave Age (years)*
A	1946	11
B	2185	19

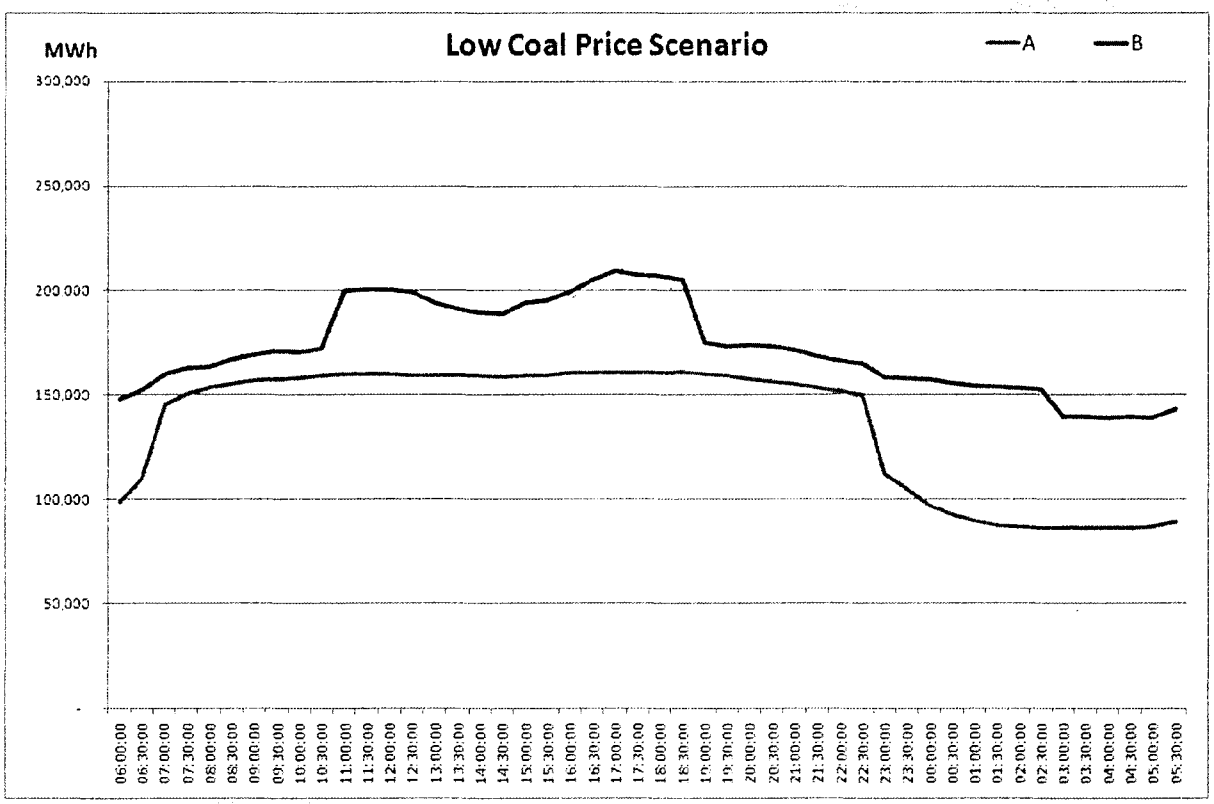
Alternative 2: Results for 2015

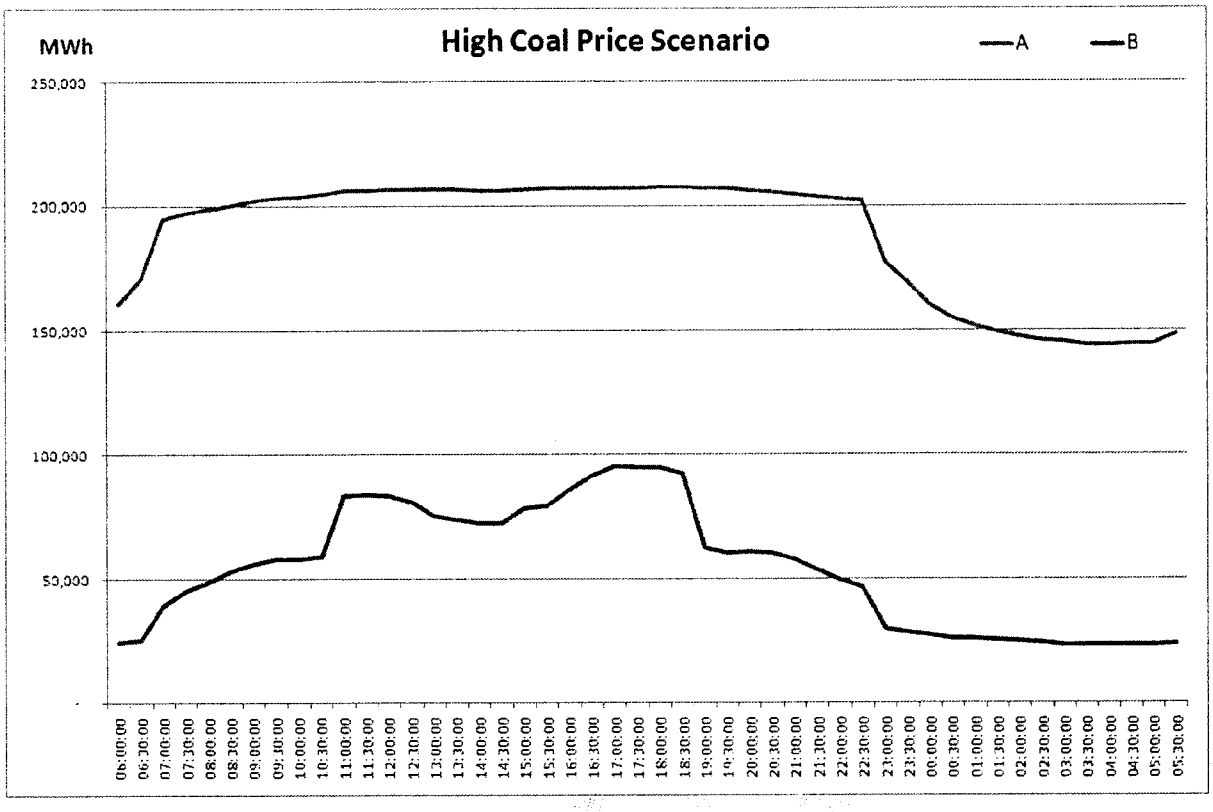
The tables below show the forecast market share of each Group in 2015 in both the Low Coal Price and the High Coal Price Scenarios. Also included is the approximate MWh volume generated by each Group in the Peak (17:00 – 21:00), Midmerit (07:00-23:00) and Baseload (24 hours) categories.

Low Coal Price Scenario		
	Group A	Group B
Generation Market Share	16.0%	20.3%
Peak MWh	22,733	70,691
Midmerit MWh	2,041,378	1,043,873
Baseload MWh	4,461,718	7,164,898

High Coal Price Scenario		
	Group A	Group B
Generation Market Share	22.6%	6.6%
Peak MWh	23,132	92,901
Midmerit MWh	1,606,958	1,312,501
Baseload MWh	7,378,537	1,205,916

The charts below break down the generation profile of Group A and Group B into the total MWh volume generated in each half hour period across the year for the Low Coal Price and High Coal Price scenarios.





Alternative 2: Observations

In Alternative 2 the 'Moneypoint coal price impact' is even more pronounced, with Group B having only 6.6% of market share in the High Coal Price Scenario, when Moneypoint doesn't generate.

In this alternative however, arguably the most strategically important plants in terms of system diversity/security, Moneypoint and Turlough Hill, are both kept in the one group, i.e. Group B. In this scenario therefore, Group A (which does not include these plants) could be sold first if divestment were to be considered.

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