



## ANNUAL CAPACITY PAYMENT SUM

### FINAL VALUE FOR 2008

DATE: 31 AUGUST 2007

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### Introduction

On 1 June 2007 the Regulatory Authorities published a memo setting out an indicative value of the Annual Capacity Payment Sum for 2008, the associated values of the Capacity Period Payment Sums and the basis upon which these numbers were determined. Following further work to finalise the data inputs to the calculations, this note sets out the final values of the Annual Capacity Payment Sum and Capacity Period Payment Sums and the basis on which these numbers have been determined.

### Background

The Capacity Payment Mechanism (CPM) under the Single Electricity Market (SEM) is a fixed revenue mechanism which allocates an amount of money (the Annual Capacity Payment Sum, ACPS<sub>v</sub>) determined prior to the start of each year, into monthly amounts (Capacity Period Payment Sums - CPPS<sub>c</sub>). This money is collected from Suppliers pro-rata based on their actual demand and is paid to Generators pro-rata based on their availability<sup>1</sup>. Determination of this value is based on the product of two numbers:

- A volume element (the Capacity Requirement) - the quantity of capacity required to just meet an all-island adequacy standard; and
- A price element – the fixed costs of a Best New Entrant (BNE) peaking plant.

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<sup>1</sup> The payment and charging mechanism considers the value of capacity at any given point in time rather than being a purely pro-rata allocation. Precise details of the payment and charging process can be obtained from the Trading and Settlement Code Version 2 <http://www.allislandproject.org/en/trading-settlement-code-decision.aspx?article=1854c8b6-c4d1-46fd-a86b-03c6fa7330f4>

## Values of $ACPS_Y$ and $CPPS_c$ for 2008

The following sets out the data and methodology utilised by the Regulatory Authorities to determine the value of the Annual Capacity Payment Sum for 2008 and the associated values of the Capacity Period Payment Sums.

### **Capacity Requirement**

#### **Data and Methodology**

The Capacity Requirement for 2008 has been determined in accordance the methodology set out in the Decision document - Methodology for the Determination of the Capacity Requirement<sup>2</sup>. The data employed was as follows:

- The Demand forecast was established by the TSOs and was based on the forecasts employed for the 2007-2013 Generation Adequacy Report (GAR) and the 2007-2013 Seven Year Generation Capacity Statement (SYGCS)<sup>3</sup>;
- Unit capacities were provided by market participants - when the Regulatory Authorities wrote to all Generation License holders in their respective jurisdictions requesting unit capacity data for 2007, each party was also asked to stipulate if any changes to this data was envisaged for 2008;
- The Generator Units expected to be registered in the market systems (and therefore entitled to CPM payments) in 2008 were determined as all those units in excess of the deminimis level set out in the Trading and Settlement Code, plus those units which, through discussions with their owners, it was considered that they would be likely to be registered – this process was further informed by data from the Market Operator regarding those units which have completed registration;
- The Scheduled Outage Duration for each Generator Unit was determined from historic data up to the end of 2006 – the Scheduled Outage Durations employed were the same as those used for the 2007;
- The Forced Outage Probability for each Generator Unit (other than the Interconnector) was set to 4.23% as required by the aforementioned Decision document;
- Commissioning and Decommissioning dates for Generator Units in 2008 were as provided by the TSOs based on best available data and as supplemented by information obtained directly from Generation License holders;
- The Capacity Credit for Wind Power Units was established by reference to Figure 2-2 in the 2007-2013 GAR and the entire wind capacity on the island of Ireland, as taken from the 2007-2013 GAR and SYGCS; and
- The Generation Adequacy Standard was set to 8 hours Loss of Load Expectation per year.

#### **Capacity Requirement for 2008**

Using the above data and the methodology set out in the Decision document, the Capacity Requirement for 2008 is 7211MW. This number is slightly higher than the indicative figure of 7200MW – the difference resulting from some minor errors found by the TSOs in the demand profile.

### **Fixed Costs of a BNE Peaking Plant**

#### **Data and Methodology**

The data employed to estimate the fixed costs of a BNE peaking plant was based on the data presented for 2007 in the Decision document – Fixed Cost of a New Entrant Peaking Plant for the

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<sup>2</sup> <http://www.allislandproject.org/en/capacity-payments-decision.aspx?article=5f59436b-d753-498c-8ddd-013ad40aba00>

<sup>3</sup> This document has yet to be published.

Capacity Payment Mechanism<sup>4</sup>. As noted by the Regulatory Authorities in the document announcing the Indicative value of ACPS for 2007<sup>5</sup>, the Regulatory Authorities have undertaken a review of this 2007 data so as to apply it to 2008. The Regulatory Authorities have concluded that a number of the base data items should be inflated by a Harmonised Index of Consumer Prices. The value to be used was determined as the geometric average of the HCIP values for RoI for the last 3 years (2004 to 2006 inclusive). This gave a value of 1.024. The data used in the BNE calculation which has been subject to this indexation are:

- Site procurement costs;
- All the pre-financial close costs;
- Electrical connection costs;
- Pre-operation O&M costs;
- All the recurring costs

All other matters (technology choice, fuel choice, cost of capital etc.) remain as utilised in determining the BNE cost for 2007. This data gives an annualised fixed cost for the identified technology choice (and location) of €85.95/kW per annum. This is fractionally higher than the indicative value of €85.34 – the difference arising from a minor error identified in the determination of recurring costs relating to working capital.

The inframarginal rent estimation has been undertaken in the same manner as for 2007 but using prices forecast for 2008 while the Ancillary Service revenue has been estimated using forecast prices for 2008. As reported for the indicative value of ACPS for 2008, the inframarginal rent was determined to be zero (€0.00/kW). This was largely a result of the commissioning of new baseload plant which reduced forecast values of SMP and removed the BNE Peaking plant from operation. The Ancillary Service revenue has been estimated for 2008 of €6.18/kW.

#### **Fixed Costs of a BNE Peaking Plant for 2008**

On the basis of the above input data and methodologies described, the Fixed Cost of a BNE Peaking Plant for 2008 is €79.77/kW.

### **Value of ACPS<sub>y</sub> for 2008**

On the basis of the above calculations the value of the Annual Capacity Payment Sum (ACPS<sub>y</sub>) for 2008 is €575,221,470, some €5 million higher than the indicative value of €569,952,000.

Using the methodology set out in the Decision document on Capacity Payment Factors published in December 2006<sup>6</sup> and the values of Forecast Demand (FD<sub>h</sub>) provided by the Market Operator, the values of the Capacity Period Payment Sums (CPPS<sub>c</sub>) for 2008 are shown in Table 1 below.

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<sup>4</sup> <http://www.allislandproject.org/en/capacity-payments-consultation.aspx?article=3a72c290-e714-42ee-97b3-4c8ff691f42e>

<sup>5</sup> Annual Capacity Payment Sum – Indicative Value for 2007 <http://www.allislandproject.org/en/capacity-payments-consultation.aspx?article=4c42e409-1082-4b9c-b9f3-b3e0ac03f564>

<sup>6</sup> <http://www.allislandproject.org/en/capacity-payments-consultation.aspx?article=6f3e4fed-ee5b-48b8-99d5-08cc8a24116f>

**Table 1 – Values of the Capacity Payment Period Sum (CPPS<sub>c</sub>) for 2008**

<b>Month</b>	<b>Amount</b>
<b>Jan</b>	<b>€6,001,701</b>
<b>Feb</b>	<b>€4,685,661</b>
<b>Mar</b>	<b>€2,515,595</b>
<b>Apr</b>	<b>€40,755,238</b>
<b>May</b>	<b>€38,627,173</b>
<b>Jun</b>	<b>€38,683,175</b>
<b>Jul</b>	<b>€37,899,151</b>
<b>Aug</b>	<b>€39,747,207</b>
<b>Sep</b>	<b>€44,017,337</b>
<b>Oct</b>	<b>€2,599,597</b>
<b>Nov</b>	<b>€8,871,788</b>
<b>Dec</b>	<b>€60,817,847</b>