Proposed Value for the Flattening Power Factor for the year 2014

August 2013

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1 EXECUTIVE SUMMARY

The System Operators (SOs) have carried out an assessment of the 2012 capacity payments and the impact of different Flattening Power Factors (FPFs) on the Ex-Post and Variable Payments by Plant Type. Furthermore the SOs have considered the likelihood of how changes in the FPF may impact on the behaviours of generators who control predictable generation units. The key findings are as follows:

1.1 Generator Behaviours – key points

- It is very difficult to quantify how generators would respond to significant change in FPF by examining past behaviour
- Analysis carried out does tend to indicate that generators reaction to the capacity payment signal is minimal but it is difficult to isolate individual aspects of the mechanism or behavioural responses to them and in general generator units tend to aim for high availability at all times as opposed to reacting to capacity payment signals associated with specific trading periods.
- Planned outages are coordinated by the SOs to minimise fluctuations in the margin. Increasing the volatility of Variable payments may undermine this outage planning and coordination process which currently works well for all parties.
- The SOs would like to structure the CPM to incentivise Generators to take short term maintenance outages, which tend to arise at short notice but are usually quite flexible, at the time when margin is best. SOs believe that making the Ex-Post payments more volatile would be more likely to influence this behaviour. Changes in the Variable Payments are unlikely to influence this behaviour in the right way.
- Given these two points it is the SOs position that the variable component does not adequately meet the objectives of the CPM to incentivise investment and provide the correct signals for availability. The SOs also believe an increase in the volatility of the Ex-Post pot should influence behaviour more appropriately to meet these objectives.

1.2 Impact of different FPFs

Higher values of FPF cause the payments to be more closely correlated with the margin (the difference between availability and demand) i.e. when the margin is low the payments are high and when the margin is high the payments are low. With higher FPFs the difference between payments between high and low margins is quite significant. Having lower values of FPF dulls down the impact of the margin on the payments hence periods with high margins and low margins receive similar payments. By taking the payments made last year and varying the FPF the following conclusions were drawn (NB this assumes no behaviour change on the part of the generators)

Ex-Post Pot *(Note the Margin calculation is based on actual outturn availability)*

- Higher FPFs tend to best reward energy limited plant e.g. Hydro/Pump – this is easily explained as the availability of these units is calculated in a way which maximises their availability at times of low margin. Payments change by 69% from a low FPF to a high FPF for Hydro units.
- Higher FPFs tend to penalise wind units – this is because at times when the wind output is highest this actually causes the margin to be higher and consequently the payments to be lower i.e. these units tend to be 'available' during periods of high margin and 'not available' during periods of low margin. Payments change by 37% from a low FPF to a high FPF.
- Payments to thermal plants are largely indifferent for different values of FPF. Payments change by 3% from a low FPF to a high FPF.

Variable Pot (*Note the Margin calculation is based on a forecast that can be produced up to 6 weeks before the period in question)*

- Higher FPFs also tend to reward energy limited plant e.g. Hydro/Pump. The reward is not as significant in the variable pot as it is for the Ex-Post pot as payment is based on forecasted and not actual margin. Payments for hydro and pump units changed by 21% and 18% respectively from a low FPF to a high FPF.
- Wind units in this study are unimpacted significantly by the varying FPF. Payments change by 3% from a low FPF to a high FPF.
- Thermal plants are also largely indifferent to different values of FPF. Payments only change by 0.3% from a low FPF to a high FPF.

1.3 Recommendation

The SOs believe that changing the FPF at this time would not be in the interest of the industry and hence recommend that a value of 0.35 be retained.

2 INTRODUCTION

2.1 Purpose

In line with the T&SC, the System Operators, EirGrid and SONI, herein propose a value for the Flattening Power Factor (FPF) for 2014. The introduction of the FPF into the Loss of Load Probability Table (LOLPT) calculation has the objective of reducing the volatility in the Capacity Payments Mechanism (CPM). Choosing an appropriate value for the FPF is a matter of striking a balance between retaining sufficient volatility to signal the need for availability in times of low margin and avoiding excessive volatility that would render the mechanism highly unpredictable.

The T&SC states that it is the responsibility of the System Operators (SOs) to propose a value for the FPF to the RAs. Explicitly, it states:

"With respect to the Loss of Load Probability Table, the System Operators shall make a report to the Regulatory Authorities at least four months before the start of the Year proposing a value for the Flattening Power Factor (FPFy) for Year y which shall be in the range 0 < FPFy ≤ 1. The Market Operator shall publish the approved value of this parameter within 5 Working Days of receipt of the Regulatory Authorities' determination or two months prior to the first Capacity Period of the Year, whichever is the later. The System Operators may propose revisions to the value of the Flattening Power Factor (FPFy) during the Year and, subject to the approval of the Regulatory Authorities, the Market Operator shall publish such revised value not less than thirty 30 days prior to the first Capacity Period for which such revised value is to be applied".

2.2 Audience

This document will be published for consultation.

2.3 Scope

This document sets out the principles by which the FPF will be chosen for 2014. It further details analysis carried out by the SOs in determining whether the current FPF for 2013 is appropriate for 2014. Finally, it proposes the value for 2014.

2.4 Document Structure

Following this introduction, the remainder of this document is structured as follows:

- **Section 3 – Rationale** outlines the guiding principles for choosing the FPF for 2014 ;
- **Section 4 – Review** briefly goes through the components of the capacity payment relevant to the choice of the FPF;
- **Section 5 - Analysis** analyses the historical market outcomes for 2012; and
- **Section 6 – Conclusion** sets out the proposed value for the FPF for 2014 and any other recommendations.

3 RATIONALE

EirGrid and SONI in their role as system operators[1] in the Republic of Ireland and Northern Ireland respectively ensure the safe, secure, reliable, economic and efficient development, maintenance and operation of the high voltage transmission systems in ROI and NI respectively. These objectives will be at the core of this paper.

The aim of the TSC is to facilitate the achievement of the following objectives:

- to facilitate the efficient discharge by the Market Operator of the obligations imposed upon it by its Market Operator Licences;
- to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner;
- to facilitate the participation of electricity undertakings engaged in the generation, supply or sale of electricity in the trading arrangements under the Single Electricity Market;
- to promote competition in the single electricity wholesale market on the island of Ireland;
- to provide transparency in the operation of the Single Electricity Market;
- to ensure no undue discrimination between persons who are parties to the Code; and
- to promote the short-term and long-term interests of consumers of electricity on the island of Ireland with respect to price, quality, reliability, and security of supply of electricity.

These objectives will also be considered as part of this report. Specifically, the CPM should strike a balance between the following objectives:

1. Capacity adequacy and system reliability: (i.e. incentivising availability when the margin is tightest, and provide highest capacity prices at periods of Highest Loss of Load Probability)
2. Price stability: remove some of the volatility from the energy market
3. Simplicity/Fairness
4. Prevention of gaming
5. Efficient signals for investment (Providing a stable set of investment signals, improving investor confidence in the market)

Each of these objectives will be reviewed before recommending a value for the FPF for 2014 to ensure that all aspects and impacts of the choice of FPF are considered.

[1] EirGrid and SONI are also the market operator through the joint venture, SEMO.

4 REVIEW

Prior to the analysis of historical CPM outcomes, it may be useful to briefly discuss the structure of the capacity payment.

4.1 Overview of CPM

The annual sum available for capacity payments is set by the Regulatory Authority and is fixed prior to the commencement of the year in question. The amount available is of the order of €600M per annum. As this is a significant amount, it is imperative that the mechanism through which it is distributed is efficient and achieves the objectives set out in its design (see Sec. 2).

This annual amount is recovered from supplier units in the pool on a per MWh basis. The annual pot is further split into 12 monthly demand-weighted pots. These monthly pots are in turn split into three components - a Fixed, a Variable and an Ex-Post payment, at a ratio of 30:40:30.

Each of these 12 pots corresponding to each month in the year accounts for a capacity period and the fixed component is known as the capacity payment fixed sum CPFSc which is known a year in advance. After the month has past, during settlement this is converted into the capacity period fixed generation scaling price CPFGSPc. This is done by dividing the CPFSc by the sum of all units loss adjusted capacity payments eligible availability CPEALFh multiplied by the fixed capacity weighting factor FCPWFh and multiplied by the units' capacity period generation price factor CPGPFh for each trading period over all trading periods within the capacity period in question according to the equation below.

$$CPFGSPc = \frac{CPFSc}{\sum_{u,h\,in\,c}\left(CPEALFuh \times FCPWFh \times CPGPFuh\right)}$$

The FCPWFh for each trading period is also known a year in advance and it is calculated based on the annual demand forecast sent in at the start of the year. It is calculated by subtracting the minimum demand forecast within the capacity period from the demand forecast for the trading period in question and dividing by the sum of all such calculations throughout the capacity period according to the equation below.

$$FCPWFh = \frac{FD_h - MinFD_c}{\sum_{h\,in\,c}\left(FD_h - MinFD_c\right)}$$

The Capacity Payments Generation Price Factor CPGPFuh for each unit is not known until after the capacity period has passed. It is a small scaling factor applied to each unit's capacity payments to reduce its payment relative to the running time of the unit in question. This value is close to 1 and has only a minor effect on the payment.

The fixed capacity generation price FCGPh (€/MWh) for each trading period within the capacity period in question is determined by multiplying the capacity period's CPFGSPc by the particular trading period's FCPWFh.

Variable and Ex-post capacity payments, on the other hand, are linked to the margin via a LOLP curve. The margin is the difference between eligible availability and demand in any one period and is a measure of security of supply. The LOLP curve, though not a true calculation of Loss of Load Probability, is used as a relationship between the margin and the security of the system and is used to weight capacity payments in each trading period. It is calculated annually[2].

Fig. 4.1 shows how the LOLP curve[3] is used to calculate an Output LOLP value (OLOLP) based on an input margin. The FPF, the parameter being considered in this paper, is used to 'flatten' the LOLP curve by raising every value on the LOLP Curve to the power of the FPF (0 < FPF ≤ 1). This has the effect of lowering the volatility of capacity payments.

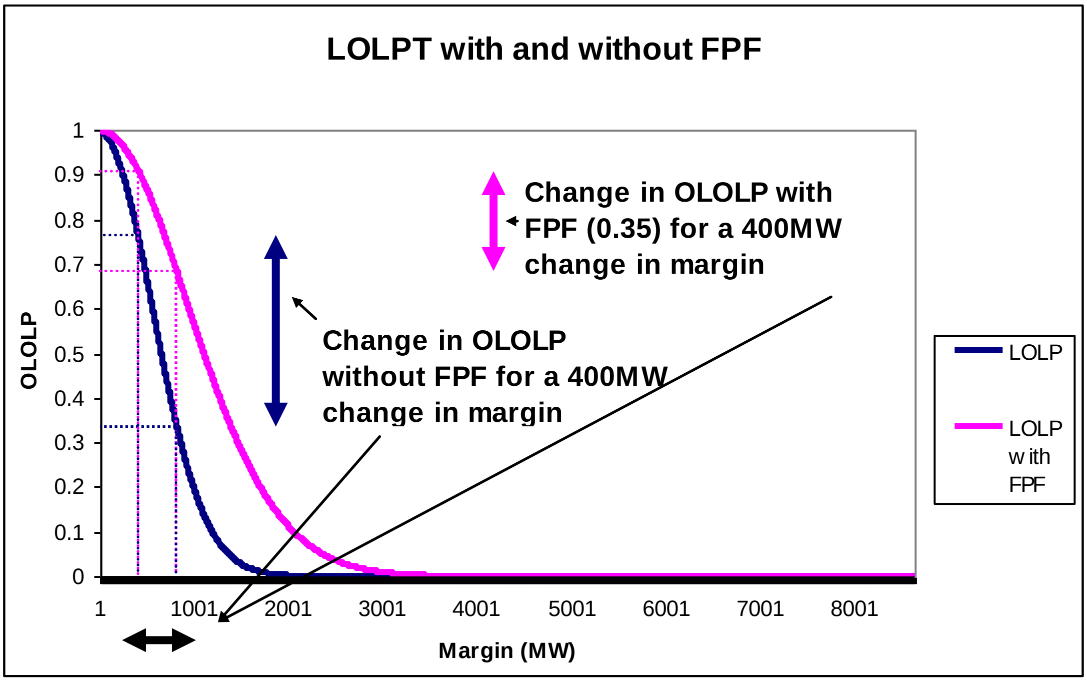


Fig. 4.1. – LOLP Curve with and without FPF

The variable component of each of the 12 capacity pots is known as the capacity payment variable sum CPVSc which is known a year in advance. After the month has past, during settlement this is converted into the capacity period variable generation scaling price CPVGSPc. This is done by dividing the CPVSc by the sum of all units loss adjusted capacity payments eligible availability CPEALFh multiplied by the Variable capacity weighting factor VCPWFh and multiplied by the units' capacity period generation price factor CPGPFh for each trading period over all trading periods within the capacity period in question according to the equation below.

$$CPVGSPc = \frac{CPVSc}{\sum_{u,h \text{ in } c} (CPEALFuh \times VCPWFh \times CPGPFuh)}$$

[2] Unless a unit of >50MW connects or disconnects to the system whereby it is recalculated within a year.
[3] The LOLP curve is, in fact, a discrete lookup table and is not a continuous function as the word 'curve' implies. However, the use of the word 'curve' allows various adjectives, such as 'flat' and 'steep' to be used.

The VCPWFh for each trading period is known a month in advance and it is calculated based on the month ahead EX-Ante LOLP run. It is calculated by dividing the output LOLP value for the particular trading period (based on forecasted margin) by the sum of all output LOLP values within the capacity period according to the equation below.

$$VCPWFh = \frac{\lambda_h}{\sum_{h\ in\ c} \lambda_h},$$

The variable capacity generation price VCGPh (€/MWh) for each trading period within the capacity period in question is determined by multiplying the capacity period’s CPVGSPc by the particular trading period’s VCPWFh.

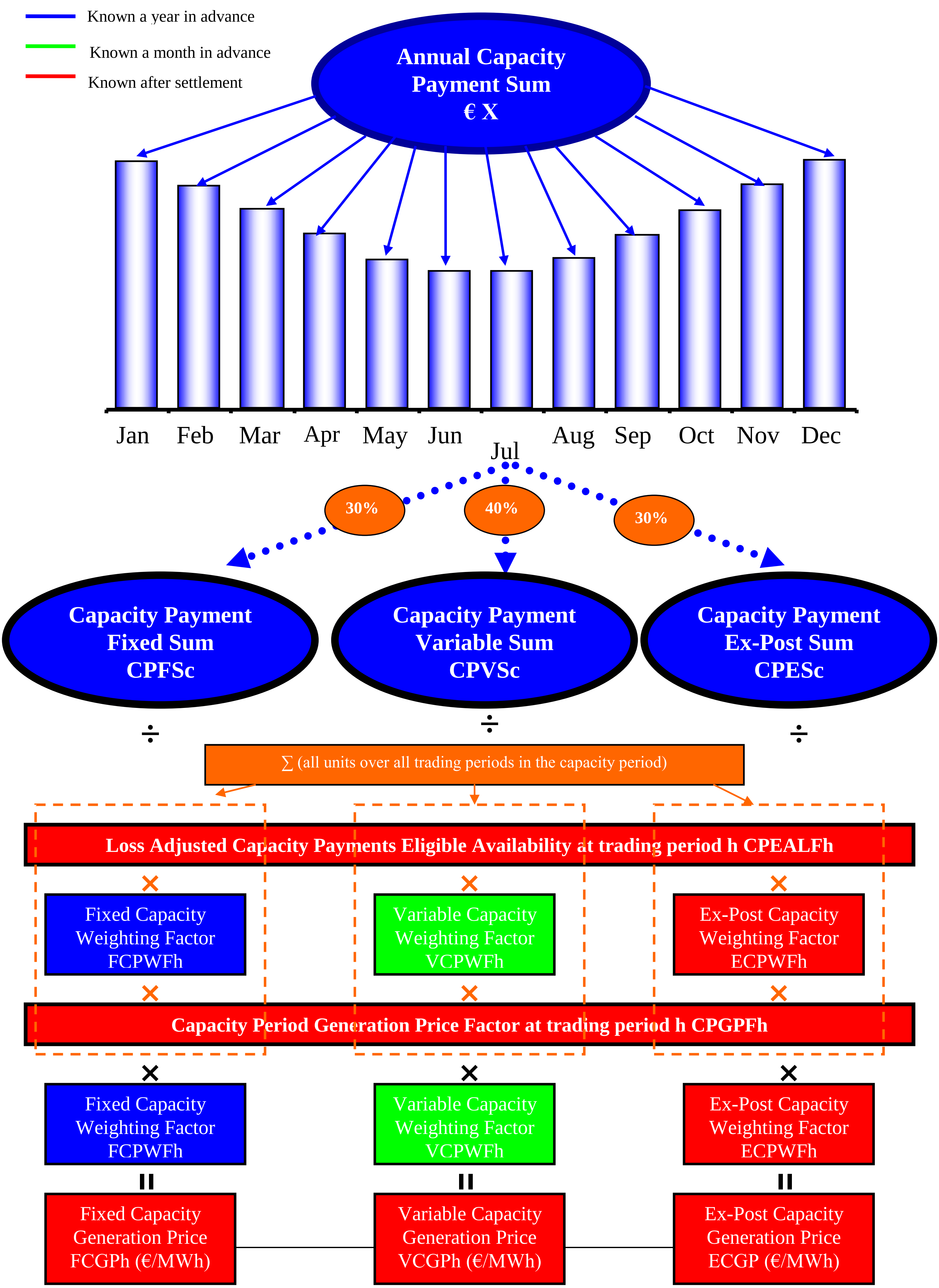
The Ex-Post component of each of the 12 capacity pots is known as the capacity payment Ex-Post sum CPESc which is known a year in advance. After the month has past, during settlement this is converted into the capacity period Ex-Post generation scaling price CPEGSPc. This is done by dividing the CPESc by the sum of all units loss adjusted capacity payments eligible availability CPEALFh multiplied by the Ex-Post capacity weighting factor ECPWFh and multiplied by the units’ capacity period generation price factor CPGPFh for each trading period over all trading periods within the capacity period in question according to the equation below.

$$CPEGSPc = \frac{CPESc}{\sum_{u,h\ in\ c} (CPEALFuh \times ECPWFh \times CPGPFuh)}$$

The ECPWFh for each trading period is not known until after the time has past and it is calculated based on the EX-Post LOLP run. It is calculated by dividing the Ex-Post output LOLP value for the particular trading period (based on actual margin) by the sum of all ex-post output LOLP values within the capacity period according to the equation below.

$$ECPWFh = \frac{\phi_h}{\sum_{h\ in\ c} \phi_h}$$

The Ex-Post capacity generation price ECGPh (€/MWh) for each trading period within the capacity period in question is determined by multiplying the capacity period’s CPEGSPc by the particular trading period’s ECPWFh.



Known a year in advance
Known a month in advance
Known after settlement
Annual Capacity Payment Sum € X
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
30%
40%
30%
Capacity Payment Fixed Sum CPFSc
Capacity Payment Variable Sum CPVSc
Capacity Payment Ex-Post Sum CPESc
÷
÷
÷
∑ (all units over all trading periods in the capacity period)
Loss Adjusted Capacity Payments Eligible Availability at trading period h CPEALFh
Fixed Capacity Weighting Factor FCPWFh
Variable Capacity Weighting Factor VCPWFh
Ex-Post Capacity Weighting Factor ECPWFh
Capacity Period Generation Price Factor at trading period h CPGPFh
Fixed Capacity Weighting Factor FCPWFh
Variable Capacity Weighting Factor VCPWFh
Ex-Post Capacity Weighting Factor ECPWFh
Fixed Capacity Generation Price FCGPh (€/MWh)
Variable Capacity Generation Price VCGPh (€/MWh)
Ex-Post Capacity Generation Price ECGP (€/MWh)

4.2 Difference between Variable and Ex-post payments

What distinguishes the Variable payment from the Ex-post payment (besides the fact that the Variable pot is ~33% larger) is that the relative portion of the monthly Variable pot available in each trading period is based on a forecast of the margin, which is calculated prior to the capacity period. Therefore, the relative amount of payment in each trading period is known in advance[4]. On the other hand, the Ex-post weightings are not known until after the capacity period. This foreknowledge of the Variable payments coupled with the relative size of the monthly Variable pot make the Variable payment a more certain revenue stream than the Ex-Post payment.

However, the forecast of the margin on which the Variable payments are based has a sizeable inherent error due to the variable nature of wind and demand and the unpredictability of discrete forced outage events a month in advance. An important consideration in the choice of an appropriate value for FPF is this inherent error in the forecast. Too volatile a payment may encourage greater availability at times when there is no real need for greater availability and may place little incentive in trading periods where, on the day, there is a real need for greater availability.

On the other hand, the Ex-post component of the payment is based on the actual margin. As the level of wind, demand and the occurrences of discrete forced outage events are not known until after the capacity period, it is more difficult for a generator unit to act to maximize their revenue from the Ex-post payment as the level of payment in each trading period is uncertain[5].

The Ex-post margin in a particular trading period is a better reflection of the security of the system in that trading period than the forecast margin used for the Variable payment. Units are rewarded for being available at times when the system *actually* most required their capacity. An important consideration in the choice of an appropriate value for FPF is ensuring that periods of relatively low Ex-Post margin are better rewarded. This requires the retention of sufficient risk and volatility to incentivise greater availability and to value capacity in periods of real system need appropriately.

[4] This is not strictly true as there are other components to the calculation which are not known in advance viz. Capacity Payments Generation Price Factor and Capacity Payment Price Factor. However, these factors have a relatively minor effect on the level of payment.
[5] A generator can use available wind and demand forecasts and scheduled outage programs in the form of an EX-Post signal to estimate when the periods of lowest margin will be.

5 ANALYSIS

The analysis to determine an appropriate FPF for 2014 is based on historical CPM data from 01/01/2012 to 31/12/2012. The FPF is chosen primarily based on the desire is to keep some volatility in the payments to signal the need for availability during periods of system stress, but at the same time provide a predictable stream of payments over the course of the month. To achieve this objective for 2014, following analysis of the effect of the FPF on the distribution of both Variable and Ex-Post payments, the SOs recommended that the value initially suggested by the RAs of 0.35 be adopted for 2014.

5.1 Capacity Adequacy and System Reliability

Fig. 5.1 and Fig. 5.2 below is a scatter graph of the Variable Capacity Payments Generation Price (VCPGP) and the Ex-Post Capacity Payments Generation Price (ECGP) in every trading period from 1st Jan 2011 to 31st Dec 2012 as a function of the total Eligible Availability (EA) less the total Forecast Unit Availability (FUA) of conventional units (i.e. not wind, energy limited, pumped storage or interconnector units). This aims to illustrate whether the high capacity prices lead to changes in availability of conventional units.

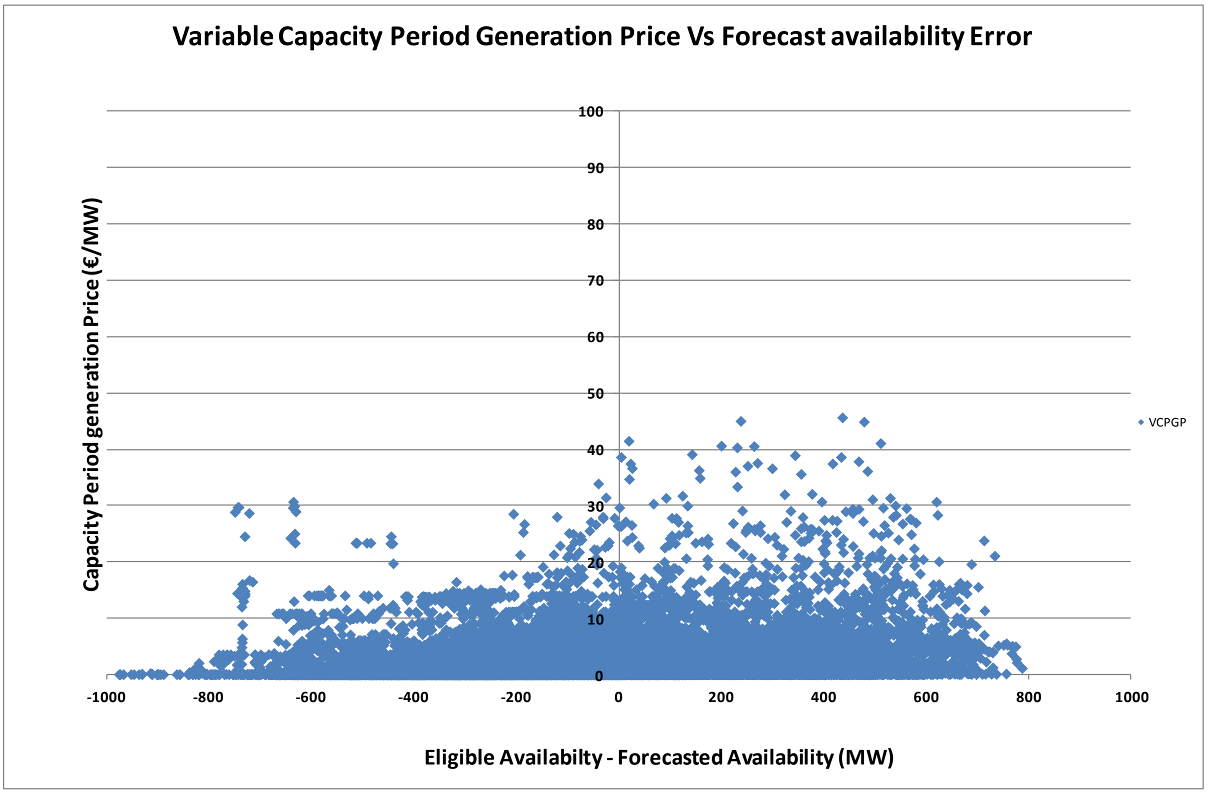


Fig. 5.1 – Scatter Graph of VCPGP as a function of (EA-FUA)

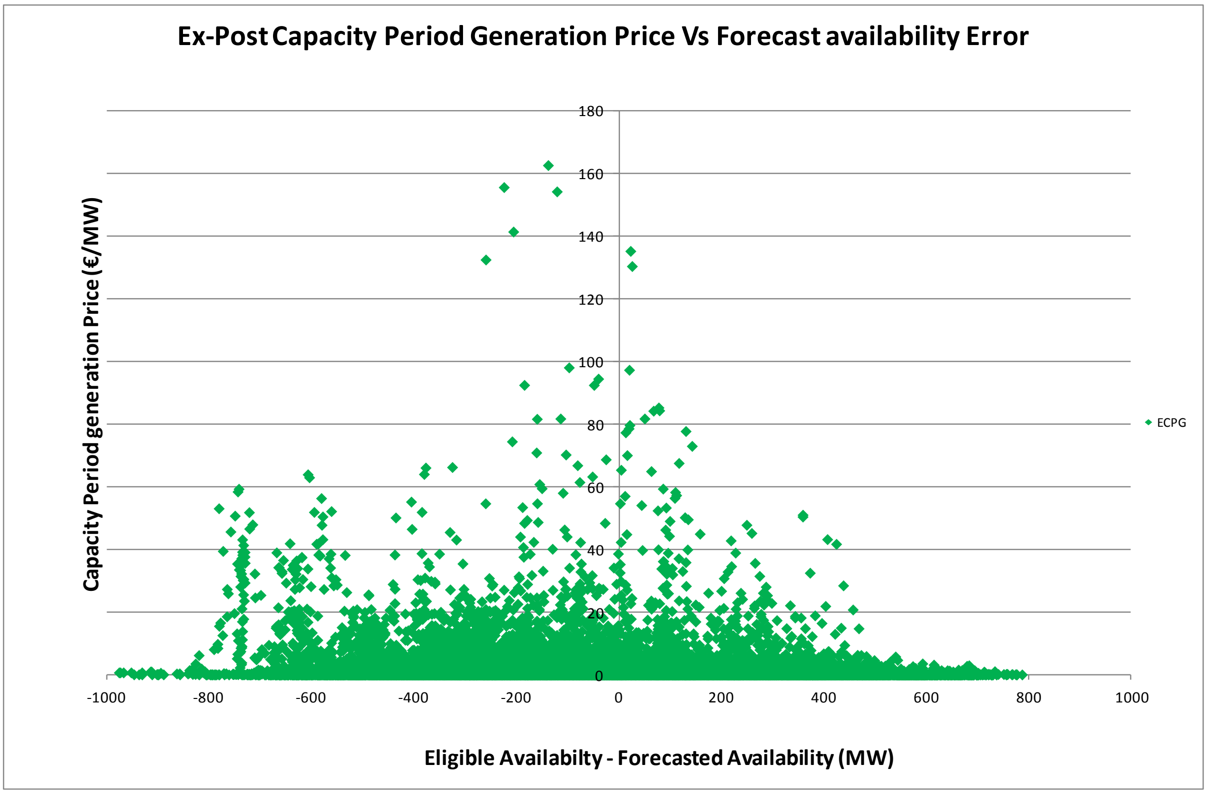


Fig. 5.2 – Scatter Graph of ECGP as a function of (EA-FUA)

The results indicate that trading periods with high VCPGP, whose main factor, the Variable Capacity Payment Weighting Factor (VCPWF), is known during the capacity period, coincide with periods where generator availability is close to if not slightly greater to what was forecasted. This implies that in times with large payments available in some periods known to generator units in advance, the availability in these trading periods' remains as expected and react, albeit to a small level to the EX-Ante signal.

In addition, trading periods with high ECGP, whose main factor, the Ex-post Capacity Payments Weighting Factor (ECPWF), is not known with certainty during the capacity period, coincide with periods where generator availability is *lower* than forecasted.

These trends *appear* slightly negative from a system operation perspective, as they imply that units are responding to the Ex-Ante signal more so than that of the EX-Post signal. However, due to the complex interrelationships between the many components of the capacity payment, it is difficult to isolate individual aspects of the mechanism or behavioural responses to them and in general generator units tend to aim for high availability at all times as opposed to reacting to capacity payment signals.

It is the view of the System Operators that on one hand the link to the Ex-Post margin is being overly damped and that there is insufficient incentive for generators to invest appropriately to improve their availability.

On the other hand, high Variable payments (based on a forecast with a large inherent error) are being paid to generators in trading periods where there is no appreciable scarcity. Fig. 5.3 and 5.4 illustrate the lack of correlation between the top ten Variable and Ex-post capacity payment prices between Jan and Dec 2012.

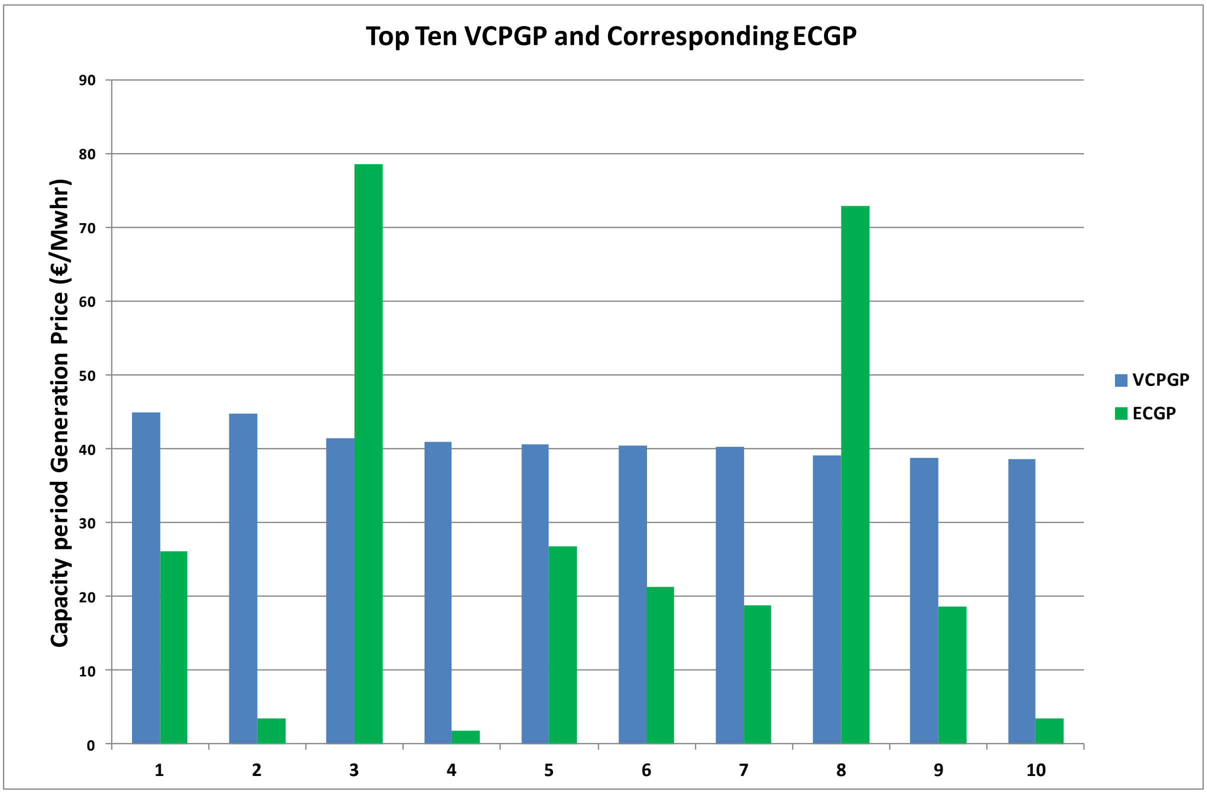


Fig. 5.3 – Top Ten VCPGP and the corresponding ECGP

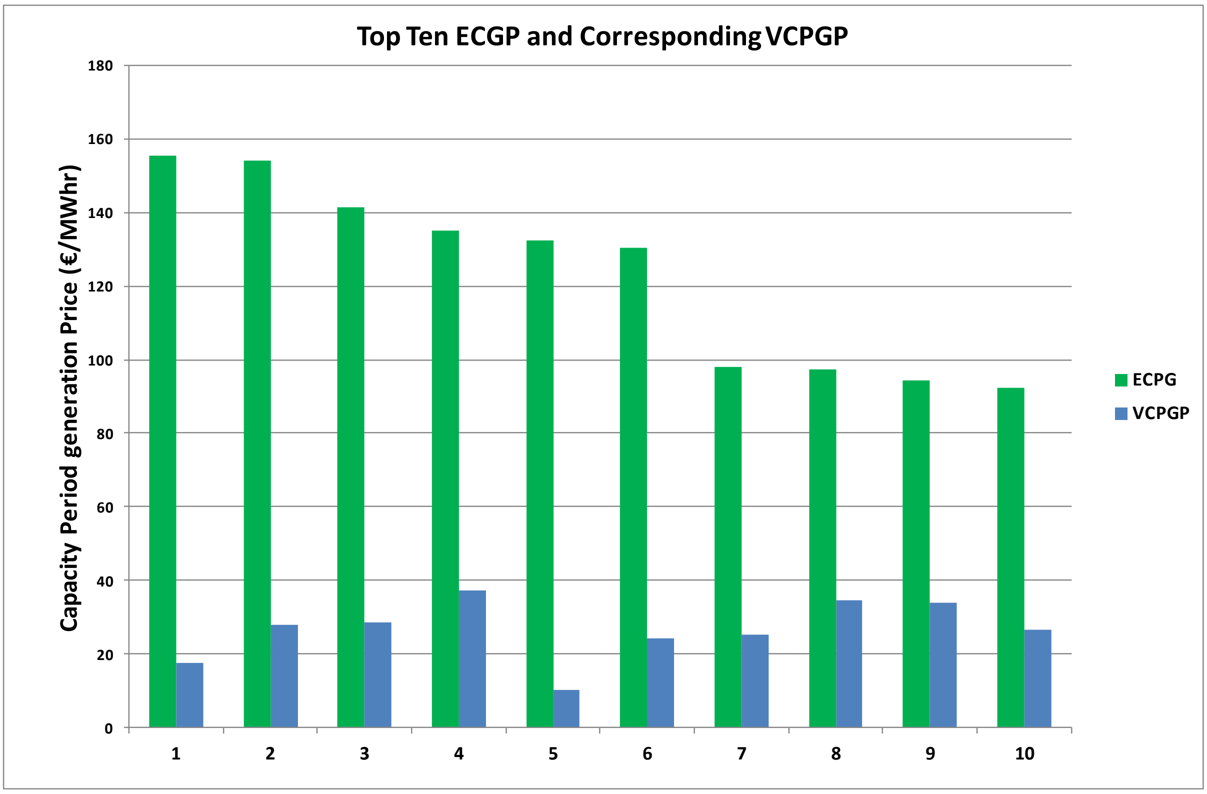


Fig. 5.4 – Top Ten ECGP and the corresponding VCPGP

5.2 Price stability

An important characteristic of the CPM is price stability. The Annual Capacity Sum governs what is paid out through the CPM. Monthly values are fixed and it is guaranteed that these amounts will be paid out.

The only consideration of relevance when determining the FPF is the volatility of payments. The volatility of the payments should be such that sufficient risk is retained to incentivise better availability. However, overly unpredictable payments would damage the signal that SEM is a stable investment environment.

Graphed below, in Fig. 5.5 and 5.6 are Price Duration Curves VCPGP and the ECGP. It can be easily seen that both distributions are relatively smooth and the frequency of high prices is low indicating a low volatility.

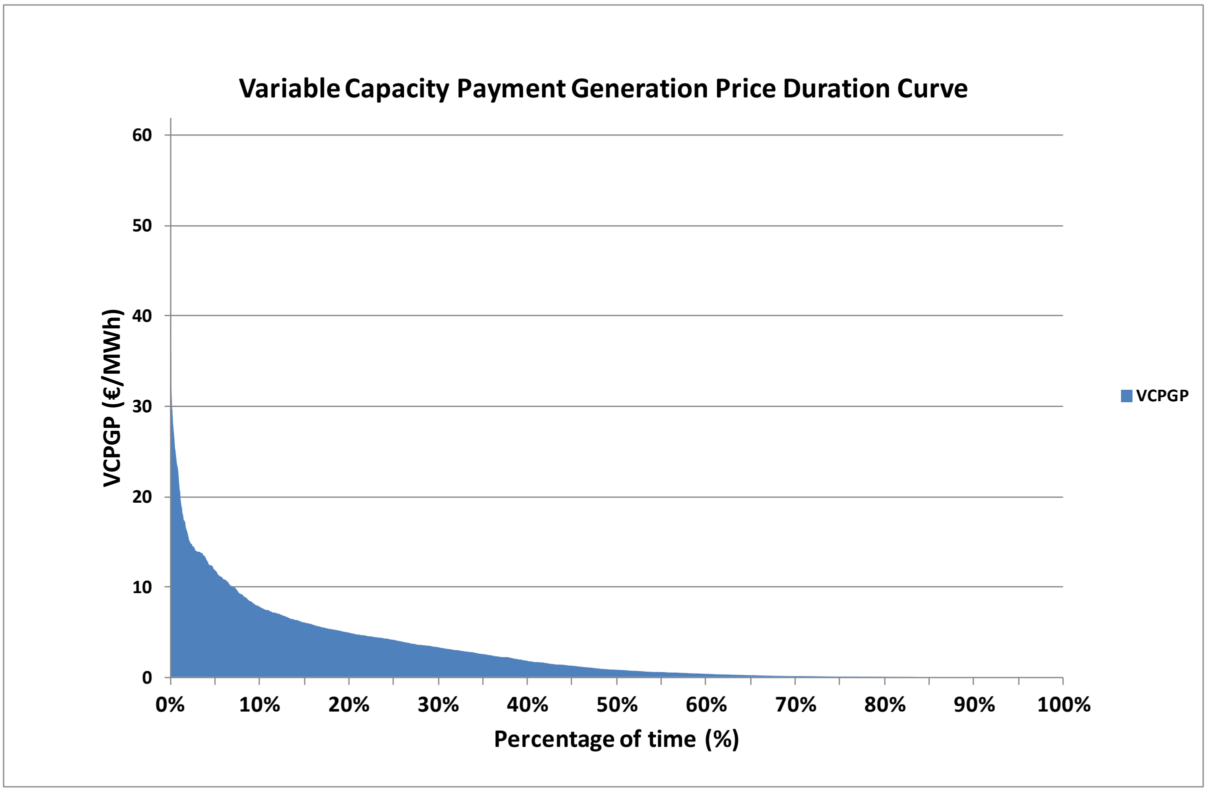


Fig. 5.5 – Price Duration Curve of Variable Capacity Payments Generation Price

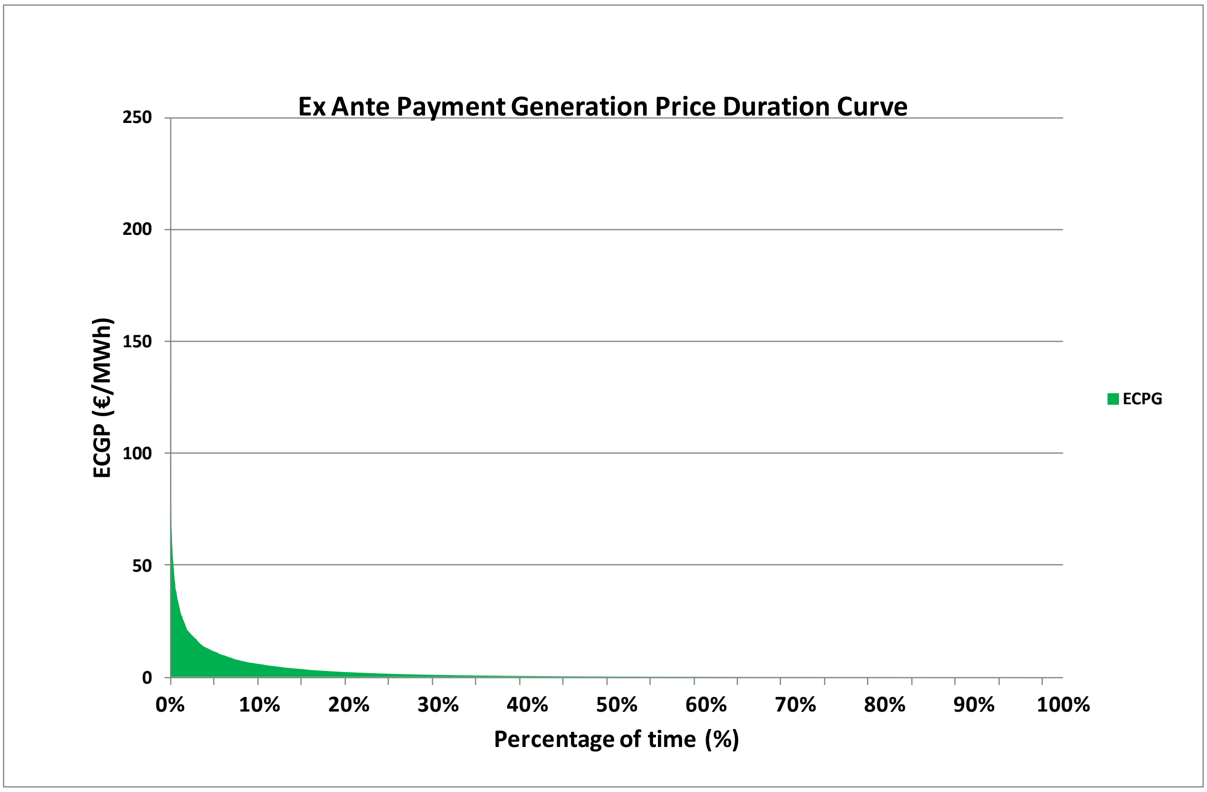


Fig. 5.6 – Price Duration Curve of Ex-Post Capacity Payments Generation Price

5.3 Simplicity/Fairness

A well chosen FPF does not overly complicate the CPM.

In terms of fairness, it could be argued that certain values of FPF benefit some types of unit more than others. This will be dealt with the "Efficient Signals for Investment" section below.

5.4 Prevention of gaming

Trying to manipulate capacity payments by withdrawing available generation with the intention of artificially creating a capacity shortage has been illustrated previously to be a redundant strategy[6]. Efforts to withdraw enough plant to elevate the ECPG by an amount such that a participant sees a net capacity payment revenue gain from the remaining available portfolio has been show to lead to in almost every case to a net loss of revenue. This study referred to was carried out prior to the application of an FPF. It is assumed here that any FPF<1 would make even more remote the possibility of profitably gaming the CPM. Therefore, we may conclude that the choice of FPF has no appreciable effect on a participant's ability to game the CPM.

5.5 Efficient signals for investment

From an investor's perspective the CPM is a very important component of revenue from SEM. While units may earn revenue above their Variable costs through infra-marginal rent, ancillary services payments and carbon allowances, a large proportion of a unit's capital and fixed costs are recovered through the CPM.

Inter-year revenue stability is more likely to be of more concern to investors i.e. the level of expected revenue from the CPM over the lifetime of the investment. This is discussed in the consultation by the Regulatory Authorities[7] and is not considered further here. However, in terms of intra-year revenue, the choice of FPF will benefit some plant over others and this would be a consideration by any investor.

[6] AIP-SEM-231-06
[7] http://www.allislandproject.org/GetAttachment.aspx?id=dee78878-ff15-4cd4-ad6c-5f522dd86366

Based on how different unit types are treated in the CPM, Table 5.7, 5.8 and 5.9 outlines how different levels of intra year payment volatility would have affected the variable, Ex-Post and combined revenues of these unit types in 2012. The unit types considered are based on their eligible availability profiles. A *New Thermal Unit* is a large CCGT unit (>300MW) with high availability. An *Old Thermal Unit* is an older gas or coal unit with a lower availability. A *Wind Unit* has variable availability. Both a *Hydro Unit* and a *Pumped Storage Unit* are energy limited but their availability is optimised to maximise revenue from the CPM. An *OCGT Unit* is a smaller unit with very high availability (>95%).

Relative Benefits of Different FPF's on the Variable Payment in the CMP by Plant Type						
FPF	0.1	0.25	0.35	0.5	0.75	1
New Thermal Unit	0.43%	0.04%	0.00%	0.07%	0.28%	0.52%
Old Thermal Unit	-0.11%	-0.14%	0.00%	0.22%	0.49%	0.62%
Wind Unit	-0.48%	-0.30%	0.00%	0.65%	1.89%	2.90%
Hydro Unit	-10.69%	-2.67%	0.00%	2.81%	6.11%	8.40%
Pumped Unit	-12.91%	-1.88%	0.00%	1.40%	2.58%	3.14%
OCGT Unit	-0.05%	-0.11%	0.00%	0.17%	0.34%	0.39%

Figure 5.7 The Effect of FPF on the Variable Capacity Payment.

Relative Benefits of Different FPF's on the Ex-Post Payment in the CMP by Plant Type						
FPF	0.1	0.25	0.35	0.5	0.75	1
New Thermal Unit	4.14%	1.23%	0.00%	-1.03%	-1.93%	-2.54%
Old Thermal Unit	-4.00%	-1.74%	0.00%	2.98%	9.20%	18.74%
Wind Unit	63.36%	18.89%	0.00%	-17.72%	-32.68%	-39.56%
Hydro Unit	-12.28%	-3.22%	0.00%	5.01%	16.33%	32.71%
Pumped Unit	-21.12%	-5.56%	0.00%	6.96%	18.96%	35.91%
OCGT Unit	-4.12%	-1.78%	0.00%	2.97%	9.09%	18.48%

Figure 5.8 The Effect of FPF on the Ex-Post Capacity Payment.

Relative Benefits of Different FPF's on the combined Payment in the CMP by Plant Type						
FPF	0.1	0.25	0.35	0.5	0.75	1
New Thermal Unit	2.24%	0.62%	0.00%	-0.47%	-0.80%	-0.97%
Old Thermal Unit	-2.12%	-0.97%	0.00%	1.64%	4.98%	9.96%
Wind Unit	20.42%	5.98%	0.00%	-5.36%	-9.43%	-11.00%
Hydro Unit	-11.50%	-2.95%	0.00%	3.93%	11.32%	20.79%
Pumped Unit	-17.17%	-3.79%	0.00%	4.28%	11.08%	20.15%
OCGT Unit	-2.15%	-0.97%	0.00%	1.61%	4.85%	9.72%

Figure 5.9 The Effect of FPF on the combined Variable & Ex-Post Capacity Payment.

An OCGT Unit, a Hydro Unit and a Pumped Storage Unit may benefit more from payments with higher volatility. This is due to the fact that the OCGT Unit has very high availability and the Energy Limited and Pumped Storage Units' availability is optimised for times of high capacity payments. Old and New Thermal Units are largely unaffected by the volatility of the CPM. A Wind Unit, while it might benefit less directly from for the Higher Volatility Case, it might benefit in the long run from the investment in units that have characteristics complimentary to the Wind Unit[8]. The opposite is true for the Lower Volatility Case.

[8] "The installation of complementary, i.e. flexibly dispatchable plant must be effectively incentivised so as to maintain adequate levels of system security". (All Island Grid Study , WS4, Conclusions, Jan 2008)

The System Operators believe that it would only be appropriate to decrease the volatility in the Variable and increase the volatility in the Ex-Post payments. Where there is only one FPF and given the current CPM structure, we believe that the current FPF of 0.35 provides an adequate balance between the objectives considered in this paper. An increase in the FPF would only be considered if the Variable component was removed from the CPM structure.

6 CONCLUSION

Choosing an appropriate value for the FPF is a matter of striking an appropriate balance between retaining sufficient volatility to signal the need for availability in times of low margin and avoiding excessive volatility that would render the mechanism highly unpredictable.

The System Operators view is that generator units do not readily react to the Capacity Payments signal but aim to be available for as much time as possible. This is seen by the fact that there is no absolute trend in the availability to match high capacity payments through our year’s analysis.

To change the value of the FPF would require a decision on who deserves to gain more from the mechanism. To increase the FPF Hydro units would benefit at the cost of wind units, while decreasing it would have the opposite effect. Conventional plant would not be as sensitive to the value of FPF but large thermal plant would benefit from a lower FPF at the cost of small peaking plant.

In the meantime, the System Operators see no reason to change the FPF from the current value of 0.35. This value is appropriate, as it retains some volatility in the Ex-post payment to signal the need for availability in times of actual low margin and yet avoids excessive volatility in the Variable payment.