



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

Global Settlement – the Residual Meter Volume Interval Proportion

DOCUMENT TYPE:	Decision Paper
REFERENCE:	CER 11/099
DATE PUBLISHED:	3 rd June 2011
QUERIES TO:	smacanbhaird@cer.ie

*The Commission for Energy Regulation,
The Exchange,
Belgard Square North,
Tallaght,
Dublin 24.*

www.cer.ie

CER – Information Page

Abstract: The CER has consulted on the Residual Meter Volume Interval Proportion to be adopted for Global Settlement in the Republic of Ireland. This factor determines the proportion of the Residual Volume to be attributed to interval meter demand (and in turn non-interval meter demand) in settlement. Following review of comments received, the CER has decided to set the value of this factor as zero. This will see 100 % of the Residual Volume being allocated to non-interval demand. The level of this factor will be reviewed annually. In the interim, the CER will assess any new data that becomes available as to the makeup of the Residual Volume. This value of zero will apply for 2011 from the implementation of the Global Settlement in the Republic of Ireland, and will be reviewed annually.

Target Audience:

This paper is for the attention of members of the public, the energy industry, customers and all interested parties.

For further information on this Decision Paper, please contact Seán mac an Bhaire (smacanbhaird@cer.ie) at the CER.

Related Documents:

- Single Electricity Market Operator, 16th September, Trading & Settlement Code Modifications Committee, Final Recommendation Report (FRR) Mod_34-09, Global Settlement, Version 1.0
- Single Electricity Market Operator, Single Electricity Market, Change request CR199/CR234 – Global Aggregation: Market Participant Overview
- SEM Committee Decision for the Regulatory Authorities in relation to Mod_34_09_V2 (Recommendation Report FRR_34_09_V1.0)
- [CER/11/079](#); Global Settlement – the Residual Meter Volume Interval Proportion, Consultation Paper

For further information on this document, please contact **Seán mac an Bhaire** (smacanabhaird@cer.ie) at the CER.

Executive Summary

Global Settlement is to be implemented in the Republic of Ireland in June 2011. It will see the Residual Volume being smeared across suppliers in accordance with their proportion of demand and metering type. This is to be done through a weighting factor called the Residual Meter Volume Interval Proportion (RMVIP). Where this weighting factor is equal to zero all the Residual Volume is allocated to non-interval metered sites and if set to unity it would be allocated exclusively to interval sites. The Residual Volume is derived from a number of sources; profiling errors, transmission and distribution losses and theft. Data to establish the exact extent to which the various factors contribute to the Residual Volume is not currently available, even the magnitude of the Residual Volume is unknown in advance of Global Settlement.

The CER has consulted on a proposal to attribute the entire Residual Volume to non-interval demand and set the RMVIP to zero. This proposal was on the basis that profiling errors are the main contributor to the Residual Volume and, in the absence of further detailed information, this was a reasonable position to start from, and is the approach taken in other jurisdictions. Generally, respondents accepted the weighting of the Residual Volume towards non-interval demand but there were differing views on the extent proposed. Respondents reiterated that the Residual Volume not only comprises of profiling inaccuracies but also other factors such as theft and estimation of loss adjustment factors which are not exclusive to non-interval demand. As such, some respondents proposed that while the exact contribution of these other factors to the Residual Volume is not currently quantifiable, it would be reasonable to attribute a proportion of the Residual Volume to these sites. Respondents proposed that 20% or 30% should be apportioned to interval sites to reflect their contribution to the Residual Volume.

The CER notes that the Residual Volume does not entirely arise due to inaccuracies associated with non-interval meters, but in the absence of data to quantify the contribution of the other factors, a reasonable set of assumptions must be applied. The demand profiling of non-interval metered sites has been identified through an industry working group as the main contributor to the Residual Volume per trading period which may create an in year cash flow issue for suppliers. However, given the process for M+13 settlement and the high proportion of actual meters reads, one respondent commented that the contribution from profiling errors of non-interval meter demand should balance out of the period of a year. Over this longer timeframe, the contribution of other factors such as network losses and theft which are independent of metering type, may become more significant. The CER accepts that ideally there should be some recognition of the contribution to the Residual Volume, attributable to losses and theft from interval sites, but notes that the proposals for the value of the interval meter contribution are somewhat arbitrary. The respondents' proposed values of 20% and 30% are not grounded in quantitative analysis. On

balance, the CER considers that the implementation of the proposal to set the RMVIP to zero as per the consultation is the appropriate approach at this time. However, the value of the RMVIP will be kept under review, as more information on the sources of the errors becomes available.

The consultation paper proposed that the value of the RMVIP would be reviewed annually and that new data would be used in the future annual approval of the RMVIP. Respondents' generally agreed with this proposal and suggested that the review should be conducted alongside the decision making process for other regulated charges and approved parameters e.g. network tariffs or policy parameters within the Trading and Settlement Code (such as PCAP and PFLOOR). As a parameter defined in the Trading & Settlement Code, the RMVIP will be reviewed annually as part of that review process. With the implementation of Global Settlement, the Residual Volume will be explicitly calculated, which will give the total magnitude of the Residual Volume. Furthermore, with the implementation of Global Settlement new data will become available that may provide an opportunity to quantify the contribution of the various factors to the Residual Volume. The CER is also minded to keep any newly available data under review and engage with and seek participants' comments as to whether the newly available data warrants an interim review of the RMVIP. However, the CER notes this would require a change to the Trading and Settlement Code, which currently allows for just an annual review.

In parallel, further work is being done which will improve the quantitative information available on the contributing factors i.e. profiling and losses. This includes the following:-

- Bulk Supply Point Metering
With the transition to bulk supply point metering, the DSO is likely to implement an improved estimation methodology. This change is likely to be consulted on over the coming year.
- Smart Metering
The CER intends to publish in due course the source data used to derive the electricity customer behaviour trial findings (in an anonymised format that complies with data protection regulations). Potentially this detailed information may be used to improve profile development for non-interval meters.

Finally, the CER notes that the above decisions in no way predetermine the method in which the RMVIP will be set and approved when Global Settlement is adopted in Northern Ireland. In this regard, the decision to set the value of the RMVIP to zero will apply for 2011 from the implementation of Global Settlement in the Republic of Ireland. This decision does not pre-empt the approach to be taken in Northern Ireland on the RMVIP.

Table of Contents

Executive Summary	3
1.0 Introduction	6
1.1 The Commission for Energy Regulation	6
1.2 Purpose of this paper.....	6
1.3 Structure of this paper	6
1.4 Structure of this paper	7
2.0 Review of Responses and Decisions.....	8
2.1 Introduction.....	8
2.2. Magnitude of the RMVIP	9
2.2.1. Respondents' Comments	9
2.2.2. CER's Response	9
2.2.3. CER's Decision	10
2.3. Ongoing Review of the RMVIP	11
2.3.1 Respondents' Comments	11
2.4 Conclusions	13
Appendix A - List of Decisions Outlined in this Paper	14



1.0 Introduction

1.1 The Commission for Energy Regulation

The Commission for Energy Regulation ('the CER') is the independent body responsible for overseeing the regulation of Ireland's electricity and gas sectors. The CER was initially established and granted regulatory powers over the electricity market under the Electricity Regulation Act, 1999. The enactment of the Gas (Interim) (Regulation) Act, 2002 expanded the CER's jurisdiction to include regulation of the natural gas market, while the Energy (Miscellaneous Provisions) Act 2006 granted the CER additional powers in relation to gas and electricity safety. The Electricity Regulation Amendment (SEM) Act 2007 outlined the CER's functions in relation to the Single Electricity Market (SEM) for the island of Ireland. This market is regulated by the CER and the Utility Regulator in Northern Ireland. The CER is working to ensure that consumers benefit from regulation and the introduction of competition in the energy sector.

1.2 Purpose of this paper

On 6th October 2010, the SEM Committee approved a Modification for the implementation of Global Settlement. Global Settlement sees all suppliers' demand being explicitly aggregated and the mismatch between metered demand and metered generation being smeared across all suppliers. In moving to Global Settlement, this mismatch (referred to as the Residual Volume) will be smeared across all suppliers in accordance with their proportion of demand and metering type - that is whether their customers are interval or non-interval metered. This allocation to interval and non-interval will be conducted in accordance with a smearing factor, the Residual Meter Volume Interval Proportion (RMVIP). This factor will determine the proportion of the Residual Volume to be allocated to interval metered volumes. In CER/11/079 CER proposed that the Residual Volume would be allocated in its entirety to non-interval demand (RMVIP to be set as zero). Following consultation with industry in May and review of the comments received, the CER is now detailing its decision on the RMVIP to be used in Global Settlement in the Republic of Ireland.

1.3 Structure of this paper

The CER received 3 submissions to the Consultation Paper (CER/11/079). Submissions were received from the following organisations or individuals:

- Electric Ireland
- Endesa Ireland
- NIE Energy (Supply)

The CER has published each of the responses received alongside this decision paper. The issues raised in the responses are addressed in Section 2.

1.4 Structure of this paper

Sections 2.0 reviews responses to consultation and details the CER's decisions

Annex A List of Decisions outlined in this paper.

2.0 Review of Responses and Decisions

2.1 Introduction

For each trading period of the wholesale electricity market, suppliers purchase electricity from the gross mandatory pool to meet the demand of their customer base. The quantity of electricity available in the pool (supply) must match the electricity being drawn from it (demand). However, due to some degree of estimation associated with these quantities, as well as data errors and unaccounted for electricity (theft), these figures generally do not align. To date, this mismatch was accounted for in settlement jurisdictionally by including it in the quantity of electricity that the Public Electricity Supplier (PES) must purchase. The additional cost born by Electric Ireland, as the PES in the Republic of Ireland, is in turn passed on to its customer base. Before deregulation of the retail markets, this cost was allowed for and included in regulated retail tariffs.

With increased competition Electric Ireland has a reduced market share so that the cost of the Residual Volume is being born by a smaller customer base than was previously the case. As such Electric Ireland is at a competitive disadvantage relative to other suppliers. To allow for an even playing field, Global Settlement¹ is to be adopted. This is where the demand for all suppliers is explicitly aggregated and the Residual Volume is smeared across all suppliers. This smearing is to be done on the basis of a supplier's overall share of demand and metering type. With the majority of the Residual Volume in each trading period associated with profiling of non-interval demand, it was decided that the allocation of the Residual Volume will be weighted to these demand sites. This will be done through a weighting factor called the RMVIP. Where this weighting factor is equal to zero, all the Residual Volume is allocated to non-interval metered sites and if set to unity it would be allocated exclusively to interval sites. With limited access to data to establish the exact extent to which the various factors contribute to the Residual Volume it was considered reasonable to attribute all the Residual Volume to non-interval demand and set the RMVIP to zero. This is the model adopted in Great Britain. The CER sought the views of stakeholders on this proposal to allocate the Residual Volume solely to non-interval metered demand. The CER also sought comment on the regularity at which its value should be reviewed. The proposals put forth in the consultation are discussed in turn in the following sections. Respondents' views are outlined and considered along with the CER's decisions.

¹ The implementation of Global Settlement was an agreed as SEM 'Day Two' issue

2.2. Magnitude of the RMVIP

Q1. Respondents are invited to comment on the proposal to attribute the Residual Volume solely to non-interval metered demand? Are you in favour of the proposal? If not, what value of RMVIP should be selected? Outline reasons for agreement or disagreement.

2.2.1. Respondents' Comments

Endesa Ireland agreed with the proposal put forth in the consultation paper to set the RMVIP to zero. However, both NIE Energy Supply and Electric Ireland stated that, the proposed approach to attribute the Residual Volume solely to non-interval metered demand was not suitable. In this regard, NIE Energy Supply and Electric Ireland highlighted loss adjustment factors, theft and metering errors as contributors to the Residual Volume that are attributable to both interval and non-interval demand. Electric Ireland highlighted that over the course of a year the main contributors to the Residual Volume have been identified as either theft or underestimated loss adjustment factors. They stated that after final re-settlement (M+13), which takes all available meter readings into account, that the contribution of profiling errors to the Residual Volume should be very low. They also indicated that the distribution loss adjustment factors are unfavourably allocated towards non-interval demand.

In light of the above, Electric Ireland and NIE Energy Supply suggested that a proportion (30% and 20 %, respectively) of the Residual Volume be allocated to interval demand. The relative proportioning suggested by both respondents was not supported by data quantifying the contribution of interval and non-interval demand to the Residual Volume. Indeed, NIE Energy Supply highlighted the inability to quantify such but indicated that their proposed 20% allocation to interval demand as a reasonable approach.

2.2.2. CER's Response

The CER notes that the Residual Volume is derived from a number of sources; profiling errors, transmission and distribution losses and theft. However, as highlighted by NIE Energy Supply, data to quantify the exact extent to which the various factors contribute to the Residual Volume is not currently available. With profiling in each trading period having been identified as the main contributor to the Residual Volume, it was considered reasonable to adopt at the outset, the model in place in Great Britain. This would see all the Residual Volume being apportioned to non-interval demand (consumption where profiles are applied). With the implementation of Global Settlement, the magnitude of the Residual Volume will be explicitly calculated. With the availability of this new data, it was

proposed to maintain the magnitude of the RMVIP under review (see section 2.3).

In relation to the proportioning of the Residual Volume towards non-interval demand based on its high contribution to the Residual Volume in a given period, Electric Ireland noted that with time, and the availability of meter reads, this contribution is balanced out in settlement and is in fact small over the course of a given year. However, under the settlement process suppliers are invoiced for demand across a week, with the final invoice being issued approximately 13 months after the week in question. As such, the outturn costs to a supplier for a year are first available at that time. Therefore, although the Residual Volume associated with profiling error would then by and large balance out for the supplier, suppliers would still have had to manage the volumes and costs associated with it during the 13 month period.

As regards, Electric Ireland's comment that the current greater proportioning of distribution loss adjustment factors to non-interval meter demand, is unfavourable, the CER would note that due to the nature of non-interval demand sites, they are predominantly connected to the distribution network at low voltage levels. With losses inversely proportional to the voltage at which the power is transmitted it stands to reason and is prudent that a higher proportion of losses be attributed to sites connected at lower voltages, which is the case.

2.2.3. CER's Decision

The CER accepts that ideally there should be some recognition of the contribution to the Residual Volume, attributable to losses and theft from interval sites, but notes that the proposals for the value of the interval meter contribution are somewhat arbitrary. The respondents' proposed values of 20% and 30% are not grounded in quantitative analysis. On balance, the CER considers that the implementation of the proposal to set the RMVIP to zero as per the consultation is the appropriate approach at this time. However, the value of the RMVIP will be kept under review, as more information on the sources of the errors becomes available – as discussed in the following section. This value of zero for 2011 will apply from implementation of the Global Settlement in Republic of Ireland.

Decision 1, Magnitude of the RMVIP.

The CER has decided to set the value of this factor as zero. This will see 100 % of the Residual Volume being allocated to non-interval demand. This value of zero will apply for 2011 from implementation of the Global Settlement.

2.3. Ongoing Review of the RMVIP

Q2. Do you agree that the RMVIP should be kept under review? If so, how often do you think it should be reviewed? Outline reasons for agreement or disagreement.

2.3.1 Respondents' Comments

All respondents agreed that the RMVIP should be kept under review. Both NIE Energy Supply and Electric Ireland were in favour of an annual review. Electric Ireland suggested that the review coincide with those for Distribution Use of System charges, Transmission Use of System charges and the Public Service Obligation Levy. NIE Energy Supply recommended the alignment of the review with those of other regulatory approved parameters published on a tariff year basis. Endesa Ireland put forth that a decision on the regularity at which the RMVIP should be taken once a year's worth of data (as to the magnitude and makeup of the Residual Volume) has been collected.

In addition to the regularity at which the RMVIP should be reviewed, Endesa Ireland also stressed the importance of the Distribution System Operator reducing losses and in this regard notes the CER's new incentive mechanism (designed to drive reductions). To assist in this, Endesa Ireland stated that the methodology adopted by the Distribution System Operator to record and measure losses should be improved.

2.3.2. CER's Response

The CER recognises the general preference for an annual review of the RMVIP, which aligns with the tariff / regulatory approved parameters decision making timelines, be conducted. Currently, the Trading and Settlement Codes provides for a single annual review of the RMVIP, with the approved value being applicable for a calendar year. In accordance with this the RMVIP will be reviewed annually as part of the review process for Trading and Settlement Code parameters. At the same time, the CER is conscious that with the implementation of Global Settlement new data will become available that may provide an opportunity to quantify the contribution of the various factors to the Residual Volume. Such new data will pertain to the magnitude of the Residual Volume, which in the absence of global settlement could not be calculated, and the accuracy of the standard profiles currently applied. In relation to the latter, metering data collected during the smart meter behavioural trials will provide an opportunity to further assess the accuracies of the current profiles and in turn their contribution to the Residual Volume per trading period. The CER is therefore minded to keep any newly available data under review and engage with

and seek participants' comments as to whether the newly available data warrants an interim review of the RMVIP. However, the CER notes that a Trading & Settlement Code Modification would be required to update the RMVIP more frequently than once a year. In addition the CER notes that, in time, Global Settlement will also be adopted in Northern Ireland. The CER also notes that the Trading and Settlement Code currently provides for a single RMVIP which covers both jurisdictions. As Global Settlement is going live in Republic of Ireland the setting of the RMVIP at this time in practice only influences settlement in this jurisdiction. The CER would stress that the above decisions in no way predetermine the method in which the RMVIP will be set and approved for when Global Settlement is adopted in Northern Ireland. Prior to the adoption of Global Settlement in Northern Ireland, the CER will, in conjunction with the Utility Regulator, consider how the RMVIP will be set with Global Settlement adopted in both jurisdictions. The CER notes that any change to the process currently prescribed in the Trading and Settlement Code would require a modification to be raised.

As to the methodology to determine distribution losses, the CER consider the current methodology to be effective. However, further work is being done which will improve the quantitative information available on the contributing factors i.e. profiling and losses. This includes the following:-

- Bulk Supply Point Metering
With the transition to bulk supply point metering, the DSO is likely to implement an improved estimation methodology. This change is likely to be consulted on over the coming year.

- Smart Metering
The CER intends to publish in due course the source data used to derive the electricity customer behaviour trial findings (in an anonymised format that complies with data protection regulations). Potentially this detailed information may be used to improve profile development for non-interval meters.

2.3.3 CER's Decision

As a parameter defined in the Trading & Settlement Code will be reviewed annually as part of that review process. With the implementation of Global Settlement, the Residual Volume will be explicitly calculated, which will give the total magnitude of the Residual Volume. With the implementation of Global Settlement new data will become available that may provide an opportunity to quantify the contribution of the various factors to the Residual Volume. The CER is minded to keep any newly available data under review.

Decision 2. Review of the RMVIP.

RMVIP will be reviewed annually as per the Trading & Settlement Code rules.

2.4 Conclusions

The CER has consulted on the RMVIP to be adopted in the Republic of Ireland. This factor determines the proportion of the Residual Volume to be attributed to interval meter demand (and in turn non-interval meter demand) in settlement. Following review of comments received, the CER has decided to set the value of this factor as zero. This will see 100 % of the Residual Volume being allocated to non-interval demand. This value of zero will apply for 2011 from implementation of the Global Settlement.

As a parameter of the Trading and Settlement Code the level of the RMVIP will be reviewed annually. The CER will, however, retain any new data available as to the makeup of the Residual Volume under review. The CER will seek input from participants as to whether an interim review of the RMVIP is warranted. The CER would stress that the decisions outlined in this paper in no way predetermine the approach to be taken in Northern Ireland to Global Settlement and the RMVIP.

Appendix A - List of Decisions Outlined in this Paper

Decision 1, Magnitude of the RMVIP.

The CER has decided to set the value of this factor as zero. This will see 100 % of the Residual Volume being allocated to non-interval demand. This value of zero will apply for 2011 from implementation of the Global Settlement.

Decision 2, Review of the RMVIP.

RMVIP will be reviewed annually as per the Trading & Settlement Code rules.