RETAIL TARIFF STRUCTURE REVIEW

PÖYRY

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A report to CER and NIAUR
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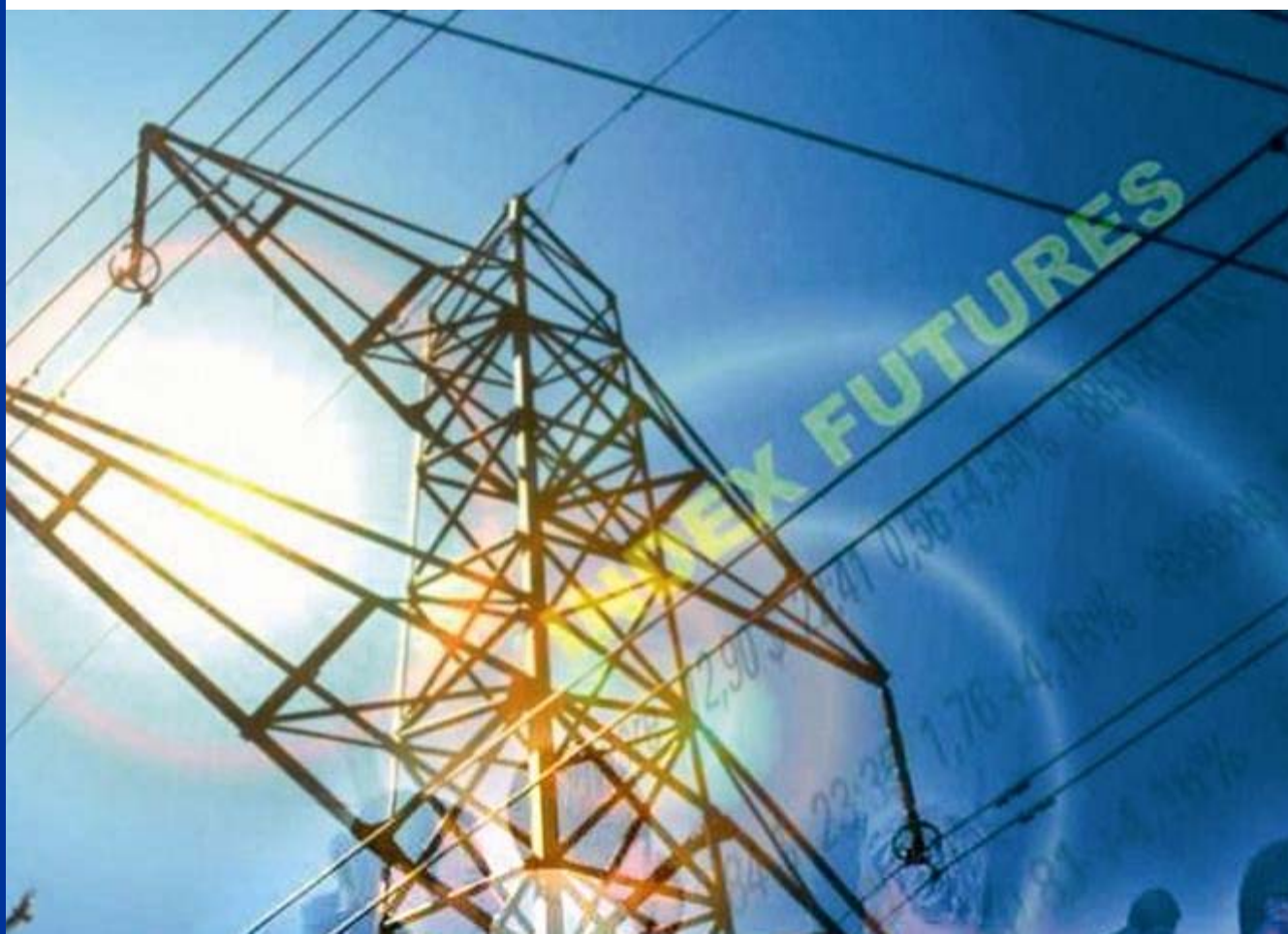

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1. INTRODUCTION

1.1 Background to the study

The Single Electricity Market (SEM) came into effect on the 1st November 2007. Since then the Commission for Energy Regulation (CER) and the Northern Ireland Authority for Utility Regulation (NIAUR) have implemented a number of measures to promote harmonisation within the retail markets in the SEM. Section 6 of the SEM Memorandum of Understanding states that:

"*CER and OFREG (NIAUR) will apply a transparent, consistent and harmonised approach to the regulation of the wholesale and retail markets in a manner which supports effective competition and equal treatment of customers' regardless of their location.*"

In January 2008 the CER and NIAUR set out a work programme for the regulation of retail markets in the SEM in 2008 which identified key Day 2 issues. This included a strategic review of the application of tariff structures. In support of this element of the Day 2 issues the CER and NIAUR have retained Pöyry Energy Consulting (Pöyry) to undertake this review and suggest how tariff structures in both jurisdictions might be harmonised with a view to promoting competition in the provision of electricity supplies.

This review of tariff structures sets out the views of Pöyry on the developments that should be embraced in order to harmonise Public Electricity Supplier (PES) tariffs for the purpose of creating consistency and promoting competition through providing choice to customers It has been conducted alongside a review of the use of k-factors in the regulation of prices for monopoly services, and their linkage to the supply margin that each PES is permitted to earn. The k-factor review is a separate project but since the two subject areas are intrinsically interlinked there are some references in this paper to the relevance of the k-factor in the structure of PES tariffs. Proposals for the future treatment of the k-factor as a regulatory device are to be found in the accompanying paper prepared by Skyplex Consulting Ltd.

1.2 Paper structure and objectives

This paper has been prepared in four parts. The next section (section 2) compares and contrasts the approaches taken in the formulation of tariffs by both PES, including a review of the cost allocation methodologies each employs. This is by necessity a brief exposition. Its purpose is to inform the third section of the paper which contains our proposals for the harmonisation of PES tariffs. In the fourth section we evaluate these proposals against a series of criteria to assess their effectiveness in dealing with different aspects that impact tariff structures. Section 5 has our conclusions and recommendations for how the RAs should proceed.

The electricity market in the island of Ireland is served by a number of suppliers but the supply of electricity to residential and smaller SME premises remains predominantly in the hands of Northern Ireland Electricity Energy Supply (NIEES) in Northern Ireland, and ESB Customer Supply (ESBCS) in the Republic of Ireland. Since these companies enjoy a virtual monopoly of these sectors of the market the tariffs made available to their customers continue to be regulated.

The review has focussed on comparing and contrasting the existing tariff structures employed by ESBCS and NIEES acting as PES in each jurisdiction. A part of this exercise has been to understand the differences in the cost allocation methodologies that have been employed so that the different exposure of individual classes of customer in each jurisdiction to specific costs can be noted.

The ideas that are advanced for harmonising PES tariff structures have focused mainly on the infrastructure that supports the electricity market and the formulation of PES tariffs. The ideas advanced in this respect are intended to encourage innovation in tariff design and provide customers with the maximum degree of choice in the products they are offered. This choice may extend to the time of use regimes in the tariffs, contract duration, the indexation of prices, and the frequency of price reviews. Inevitably they will impact other independent suppliers.

The evaluation of these ideas against the chosen criteria is intended to judge whether each idea will promote competition, assess its ease and timescale for implementation, the support it might give to wider public policy objectives, and the prospects for any unintended consequences. This evaluation is a subjective assessment and is intended to stimulate the thinking of those that might wish to respond to the consultation. The assessment and its conclusions are those of Pöyry and do not necessarily reflect the views of the Regulatory Authorities.

1.3 Consultation questions

We have included a number of questions relating to the consultation at the end of each Section. This list is not exhaustive and we have also provided an opportunity for respondents to comment on any aspect that is considered relevant in each section.

2. EXISTING PES TARIFF STRUCTURES AND COST ALLOCATION

2.1 Tariff objectives

Electricity tariffs are designed to recover for a supply business the costs of supplying electricity to a customer or class of customers. Ideally they should do this in a way that enables the underlying costs to be reflected so that the consumer can exercise economic choice in how it conducts its affairs. Since electricity cannot be stored in any significant quantity the costs of producing electricity vary significantly throughout the day and year. This leads to a temporal pattern of price for wholesale supplies that is both diurnal and seasonal. Reflecting this to customers provides a signal for using their electricity supplies economically. However, this prospect will be tempered by the cost of the associated metering and data processing, and the customer's desire to see a hedged price that removes the price uncertainty from the spot market.

The Licence Conditions for PES electricity supply in both jurisdictions require the PES not to show any undue preference or discrimination to any customer or group of customers. This condition is fulfilled by the supply businesses segmenting the market into classes of customer with similar consumption characteristics and designing their tariffs so as to recover the costs of the customer that represents the average of the class. For customers with non interval metering, profiles of consumption are used to represent an assumed pattern of electricity use for each customer in the tariff class. This has an obvious weakness in that costs will not be properly reflected to those customers in the class whose patterns of demand depart significantly from the average assumed by the profile.

Tariff structures may also be used to support wider public policy objectives such as supporting lower emissions in the production of electricity, ensuring efficient capital expenditure in the development of electricity networks, and social objectives such as encouraging efficiency in energy use and assisting those in fuel poverty. To some extent these public policy objectives may run counter to the cost reflection that underpins the undue discrimination provision.

Inevitably the formulation of electricity tariffs must strike a balance between these competing demands and constraints. The structure adopted is unlikely to be able to serve all purposes and objectives at the same time.

2.2 Tariff Methodology Statements

Since the introduction of the SEM both PES have been require to prepare and publish a Tariff Methodology Statement (TMS) that must be approved by the Regulatory Authority. These documents set out the principles and methods by which costs are allocated to individual groups of customers along with information on tariff structures. They can also be used for advancing proposals for the formation of new tariff structures.

The TMS describes the legal background to the requirement for the statement and lists the tariffs that will be covered by the statement. The methods adopted for allocating the various costs recovered by the tariff are then described. Most of the description relates to the treatment of the wholesale costs incurred in giving a supply since the network charges of transmission and distribution are separately regulated and already expressed in end user terms that can be incorporated directly into the retail tariff.

The TMS also briefly describes the other costs the PES is required to recover. These include its own costs of supply and customer service, other transactional charges recovered for the networks business, and the imposition of the Public Service Obligation (PSO) levy. The position of the PES in relation to other licence obligations that have a bearing on its charges, such as its universal supply obligation and its role as a supplier of last resort are also noted.

Most issues covered by the TMS are dealt with reasonably briefly at a high level. There is clearly scope for the TMS to be expanded to provide more detail of the computations undertaken by both PES in deriving their charges. It is also open for consideration whether the description should include details of the methodologies employed by the transmission and distribution companies. Although not the responsibility of the PES the formulation of these charges, which on average constitute one quarter of the PES charges, are not described in any other published document.

2.3 Tariff Availability

The availability of PES tariffs is largely a function of the metering that is employed. In the Republic of Ireland (RoI) ESB Networks is the custodian of the metering Codes of Practice (COP). For larger loads Quarter Hour (QH) recording metering is employed. Currently the criteria for QH meters are:

- customers with an annual consumption > 300MWh;
- existing Customers with a Maximum Import Capacity (MIC) > 100kVA; and
- all new customers with expected demands > 50kVA.

For smaller loads either single rate or two-rate meters are employed. Prepayment meters are also available for customers that have difficulty managing their payments.

In Northern Ireland the metering COP requires half hour recording meters to be installed for all premises with electrical loads connected of more than 70 kVA. For smaller loads one and two rate meters have generally been employed historically although these are now being supplanted by keypad meters that have a limited built in functionality for time of use tariffs. Some loads of less than 70 kVA are metered with half hour recording meters, which enable these customers to be supplied under multi rate tariffs.

2.3.1 Domestic tariffs

The bulk of NIEES domestic customers are supplied with tariffs that have either a single kWh rate, or separate day and night kWh rates (Economy 7). Two rate tariffs are based on a 7 hour night as a result of the legacy of the storage heating technology of the 1980s. There are also a range of preserved off peak tariffs that are applied to dedicated off peak storage heater circuits. Customers with keypad meters can elect for a “Powershift” tariff. This has three energy rates reflecting the costs of supplying electricity at times of peak, daytime and off-peak periods.

Although the distribution network tariff that must be paid by the supplier in respect of each of its domestic customers contains a fixed standing charge this is not reflected in the most ubiquitous NIEES domestic tariff (Home Energy). However, the Economy 7 variant of the tariff (7 hour night) has such a charge. Discounts are available for direct debit or pre-payment arrangements, albeit capped at a maximum of £40 in any year, and the keypad tariff rates include a 2.5% discount. These discounts are believed reflective of the reduced costs to serve as a consequence of improved cash flow and a reduction in bad debts.

In contrast ESBCS formulates its domestic tariff so as to carry forward the standing charge in the distribution network tariff and incorporates some if its fixed supply costs into the fixed charge. The night-saver version of the domestic tariff has a 9 hour off-peak period that reflects a longer night valley.

ESBCS domestic tariffs draw a distinction between 'urban' and 'rural' supplies which reflects primarily the different distribution network arrangements for these customer categories. Urban domestic connections are defined as domestic connections that are fed from a three-phase overhead or underground low voltage (LV) network. This rule ignores the service cable which may be single or three phase. Rural domestic connections are defined as domestic connections that are fed from single phase overhead network. ESBCS has not featured discounts for the different payment options in regulated tariffs.

2.3.2 Business tariffs

Generally a distinction is drawn between tariffs for smaller SME premises where the metering will be similar to that used for residential customers, and those for larger industrial and commercial premises which are equipped with interval (half-hourly or quarter-hourly) metering. The different Metering Codes of Practice strike this boundary slightly differently in each jurisdiction although there is a tendency for interval meters to be used below the level defined in the Codes of Practice. Competition from independent suppliers to supply these sectors of the market is now well established but the PES tariff structures that are available may have an impact on the competitive offerings.

NIEES offers tariffs to the SME sector that broadly follow the options available to residential customers. A single rate, two rate (Economy 7), and peak and weekend variants are available. Unlike the Home Energy tariff the SME business tariffs reflect the standing charges in the associated distribution tariffs.

For supply capacities greater than 70 kVA half hourly (HH) metering will normally be employed. NIEES employs time of use tariffs for loads connected at medium, high and extra high voltages. Four kWh rates are used to reflect expected changes in wholesale electricity prices and are indexed on a monthly basis to movements in the SEM Pool prices. There is also a standing charge and Chargeable Service Capacity (CSC) charge. The CSC charge in the tariff is subject to a minimum supply capacity of 50 kVA for MV connections, and 100 kVA for HV and 33 kV connections. Reactive power charges are restricted to winter peak periods (16.00 to 19.00, November to February) and apply if the average power factor in the period falls below 0.9.

In the Republic of Ireland a non-domestic customer premises is defined as any premises whose main purpose is that of carrying out a business or where the connection agreement is with a company. All connections above a 30 kVA capacity are treated under the terms for business connections. Non domestic supplies provided by ESBCS up to 50 kVA are offered under tariffs that utilise the same single or two-rate metering provided for measuring domestic supplies. The General Purpose (GP) tariff has a two kWh block structure with the second block having a lower price that will typically apply where the average demand of the supply exceeds 15 kVA. As for residential tariffs the distribution use of system charge for these customers is directly reflected in the structure of the retail tariff.

ESBCS supplies to premises with import capacities greater than 50 kVA will typically be provided under a maximum demand tariff with winter monthly demand charges, separate winter and summer day kWh rates, and a night kWh rate. The use of a maximum demand charges has the prospect of creating penal charges for low load factor customers.

Accordingly the LV MD tariff is supplemented by a low load factor variant that incorporates a peak kWh rate in place of the maximum demand charge.

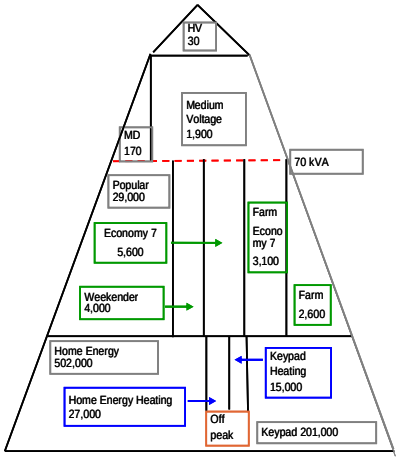
In the RoI a CER Direction places a restriction on new and prospectively returning large energy users (LEU) connected at 10/20 kV and higher voltages from taking their electricity supplies from ESBCS. Legacy LEU customers that have been continuously supplied by the PES take their supplies under a pool pass through tariff that reflects daily movements in pool prices. These customers would typically have a supply capacity greater than 1 MW.

ESBCS also publishes tariffs for street lighting and street furniture which relate to 24 hour, dusk to dawn, and dusk to midnight lighting regimes.

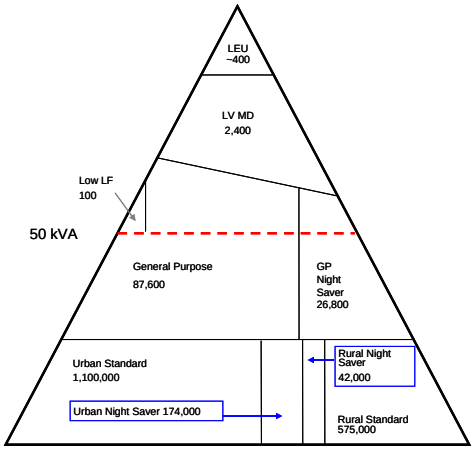
2.4 Customer numbers

To provide an appropriate perspective to the harmonisation of tariff structures in both jurisdictions the approximate number of customers supplied under each PES tariff are summarised in the following diagrams. In Northern Ireland NIEES supplies around 750,000 customers whilst in the Republic of Ireland ESBCS has around 2.2 million customers. The vast bulk of these are residential customers.

NIEES



ESBCS



2.5 Cost allocation methodologies

Wholesale electricity costs comprise:

- The cost of Pool purchases at SMP which is set on a half-hourly basis;
- Hedging costs, which will be the premium or discount incurred as the consequence of purchasing CfD cover;
- Capacity charges as determined by the Capacity Payment Demand Price (CPDP);
- Market operator charges for the administration of the SEM; and
- Imperfection charges, that relate to the costs of despatching generation out of merit to overcome transmission constraints.

Overall wholesale electricity costs are the largest element of the cost recovery obtained from retail tariffs. Pool SMP and the CPDP are determined ex-post on a half-hourly basis, whereas the market operator and imperfection charges are forecast ex-ante and applied uniformly through a published tariff to all Pool purchases within the market year (January to December).

Each PES creates a forecast of SMP and CPDP using proprietary models. Separate forecasts of the capacity charges are made based on anticipated market shares. Both PES have an Economic Purchase Obligation (EPO) that requires them to use all reasonable endeavours to procure Contracts for Difference (CfD) that will hedge the anticipated customer demand associated with fixed price tariffs to the extent possible; subject to hedges being available, suitable and economic. The obligations in this respect are further described in a Hedging Policy Statement that must be approved by the relevant Regulatory Authority. Broadly speaking these Statements oblige the PES to provide price certainty for the tariff year for the bulk of its exposure to SMP, provided that this can be procured at a cost that the PES judges to be acceptable for the risk that is removed.

Any premium or discount in the CfD price that is paid is recovered somewhat differently in each jurisdiction. NIEES spreads the premium uniformly over the period to which the CfD relates. ESBCS weights the CfD premium across the load shape such that value of the contract premium is used to risk adjust the pool price forecast. The consequence is to divert a larger proportion of the premium into the winter peak periods compared to the off peak periods.

In allocating wholesale costs on a half hourly basis to each tariff group NIEES adopts an intermediate stage that averages the forecast wholesale costs into a Portfolio Supply Tariff (PST). The PST identifies 39 separate time periods over the year each with an associated kWh rate. The PST is intended to make tariff computations easier but has the added advantage of providing a greater degree of transparency in the nature and incidence of anticipated wholesale electricity costs over the tariff term. NIAUR is informed of the PST by way of a voluntarily produced document known as the GT Statement that is provided on a confidential basis. It is also used as a vehicle to inform NIAUR of the hedging activity that has been undertaken.

Both PES allocate these costs on the basis of the settlement profiles that describe the average pattern of consumption for each customer class over the year. NIEES has derived customer profiles for NHH metered loads from GB sourced data. These profiles follow the same customer groupings as in GB with two residential profiles and six SME profiles. A farm profiles has been derived by varying the relevant SME profile using appropriate assumptions.

ESBCS draws on load research data obtained from standing samples for 9 customer groups to create baseline profiles for calendar 2005. The Standard Load Profiles were developed for the Irish Market, in consultation with Electricity Association Consultants, UK. The profile data is collected and processed annually by the DSO, using the most recent profile data from the sample meters, to create the profiles for the following year. These profiles are then refreshed each year. Public lighting profiles are synthesised from the relevant lighting regime.

2.6 Support for Renewable Generation

In Northern Ireland NIEES, along with all other suppliers, is subject to an obligation to procure a fixed proportion of the electricity it supplies from renewable sources of generation. In 2008/09 the proportion was 3.0%, and 3.5% in 2009/10. The proportion is validated by the submission of certificates (ROCs) for this amount although any shortfall must be bought out at £35.76/MWh (at April 2008 prices), which is indexed to RPI. The buy-out payments are recycled to those suppliers who submitted ROCs to cover their obligation. This cost is incorporated into the wholesale cost of the electricity for the purpose of its allocation in the tariff.

In the Republic of Ireland the costs of supporting renewable sources of generation over and above the market price of electricity are recovered through the PSO levy. The levy is added as a specific item on the customer's bill and is collected by all suppliers.

2.7 Network cost allocation

In both jurisdictions Distribution Use of System (DUoS) and Transmission Use of System (TUoS) charges are recovered through a tariff levied by the network company and paid by the supplier. This is expressed in terms of the end users' load and consumption.

2.7.1 NI Distribution and Transmission charges

In Northern Ireland a single price control target revenue has previously been set for both distribution and transmission. This is divided in the ratio 82% to 18% between the distribution (DUoS) and transmission (TUoS) parts of the business for the purposes of setting tariffs. Transmission voltages are designated as 275 kV and 110 kV parts, whilst the distribution network is defined as that which serves customers at 33 kV and lower voltages.

DUoS tariffs are constructed from a separate consideration of capex and opex costs. Capex recovery is derived using a 500 MW model of the network that covers the system from the Grid Supply Point at the 33 kV primary sub-station to the LV terminals of the domestic customer. The model represents the network that it is anticipated would be built to cater for future levels of demand. The capex allocation is derived by valuing the assets in the model at their MEA value. Six levels of exit are considered representing two possible exit points at each voltage level, one immediately below the transformer and one further down the distribution voltage. To reduce the computational complexity the year is split into seven time bands. These comprise a day, night and weekend/evening periods in the summer, and the same periods in the winter with the addition of a peak period. The capex costs are allocated across the highest 20% of demand in the year at each voltage level.

Annualised network capital costs at each voltage level are associated with the peak periods, and network opex costs are allocated across all half hours in relation to the duration of demand at that voltage level. Opex costs are then cumulated into the seven time bands for computational ease. The overall result is a seven-rate matrix of network capex and opex costs that can be allocated to each class of customer depending upon the coincidence of that class peak demand with the maximum demand at each voltage level, and the class utilisation over the year.

Connection costs are recovered in full at the time of connection for all customers greater than 1 MW, but at a level of 60% of the scheme cost for smaller loads. The DUoS tariff then recovers the remaining 40% of connection costs for customers under 1 MW, and all

of the asset renewal and operations costs. From October 2008 DUoS tariffs published for distribution connected generation reflected the 100% recovery of capex and opex recovered at the time the connection is made.

Although a full analysis of this model is undertaken each year the relative liability of each customer class for distribution costs has not been fully aligned with the charging model since 1999. Since then NIAUR in pursuit of its wider tariff formulation objectives has determined that DUoS charges are set by increasing the rates established in 1999 for each class of customer by a uniform amount that will recover fully the price control target revenues for the year.

Following the introduction of the SEM, transmission costs in NI are the responsibility of the System Operator Northern Ireland (SONI), and are designed to recover 18% of the overall revenue that is permitted under the price control for use of the networks. The present status quo is that SONI will recover 25% of its use of system revenue from generators, and 75% from demand. SONI has yet to develop its own charging methodology but the transmission charging methodology currently in use is based on the same as that used for distribution pricing.

NIEES incorporates these network charges directly in the relevant retail tariff. As noted above in the case of its 'Home Energy' domestic tariff the fixed and capacity related charges in the tariffs are averaged in the kWh rates. The rationale for this is to provide a measure of assistance to low usage customers who are assumed to equate with low income households.

2.7.2 RoI Distribution charges

Deriving charges for use of the ESB distribution networks in the Republic of Ireland follows a similar process to that in Northern Ireland although there are some significant differences. DUoS charges for different classes of customers were established in 1999 based on the approach used by EDF in France at that time. The general arrangement is to allocate costs to different parts of the 'as is' network (or rather that extant in 1999) and then allocate these costs to the customer classes they serve to the extent they make use of that part of the network. Annual charges are determined by scaling the previous year's charges in line with overall allowed revenue in the distribution price control. Most distribution assets are at 38 kV or lower voltages although around Dublin there are some 110 kV assets that are defined as distribution assets. Due to their significantly different characteristics, three phase medium voltage networks are classified separately to single phase medium voltage networks for the purpose of establishing charges.

The ESBN asset model assumes an asset life of 40 years (although the distribution price control assumption is now 45 years). The price control assumption is that 50% of new connection costs are recovered through a capital contribution at the time of connection. The assets in the asset model are valued at their modern equivalent asset (MEA) value and this value annualised over the assumed asset life at a weighted average cost of capital, and expressed on a per kW basis.

The underlying principle is that per kW capital costs of the network are then attributed to use at times of high system demand. The ESBN model analyses five separate high points in the system load shape to determine the coincidence between a kW of customer class demand and a kW of peak demand at each system voltage and transformation level. Capital costs of the system are accumulated for each customer class depending upon the number of voltages and transformation levels used by that customer class.

Operating costs are separately identified as being network related, general overhead, or customer related. Network related costs, which cover the maintenance and operation of the system, are collected on a voltage level basis and treated similarly to the capital costs of the system assets. Customer related costs are recovered through the standing charge in the tariff, and the general overheads of the network business by way of a supplement to the kWh rates of the tariff. The per kW costs identified for each customer class are translated into a kWh tariff using the class load factor. For LV connected customers a fixed customer charge recovers around half of the local asset costs together with the costs of the relevant metering.

The revenue that can be raised through use of system charges is set by the distribution price control that currently runs from 2006 to 2010 (DPR3). Generally speaking the DUoS charges for each customer group are increased each year in line with the change in the allowed overall price control revenue. The revenue target is subject to adjustments for customer numbers and annual consumption. As previously noted the relativities created between different customer classes in 1999 have been preserved in subsequent years by increasing all rates in line with the change in the price control revenues.

2.7.3 RoI Transmission charges

Transmission charging in RoI is currently being reviewed in an all island context, but EirGrid's present approach to charging for use of the transmission system is based on an allocation of the revenue required between generation and demand on a 25/75 basis. The 25% recovered from generation is allocated to users in accordance with the results of an integra (DC load flow) programme that creates a base case scenario of system use at times of winter peak with all generation running but scaled back to match the peak demand. Each power station is then considered in isolation and the MEA value of the assets utilised by that power station in transporting energy to meet system peak assessed. Values are then scaled to match the 25% revenue recovery and charges applied uniformly across the year.

The 75% of revenue that is to be raised from supply is not subject to the same signal for location but is applied as a postage stamp for all customers. 60% of the charge is allocated as a network capacity charge linked to the maximum import capacity (MIC) of each site (kVA), and 40% to the network transfer charge (kWh) and demand system services charge. The demand tariffs also recover the costs of the provision of ancillary services as a flat per MWh demand system services charge. Demand transmission charges are applied in three tariffs.

Customers directly connected to the transmission system (DTS-T) pay the network capacity charge as a fixed sum for 80% of their MIC each month, and then at a € per MW rate for the remainder of the capacity up to their MIC. There is a € per MWh penalty rate for all energy consumed in excess of the MIC. The network transfer and demand system services charges are applied on a uniform € per MWh basis.

Customers connected to the distribution network who are greater than 500 kW (DTS-D1) pay a three rate tariff comprising a per MW charge subject to the same 80% minimum of their MIC criterion, and then an incremental charge up to their maximum metered demand in each month. Network transfer and demand system services charges are applied at a constant € per MWh rate.

All other customers (DTS-D2) pay a € per day MWh rate for the capacity charge and then the same € per MWh rate for the transfer services and demand system services as other customers. Since all tariffs are expressed at the metered terminals there is no recognition of the impact of electrical losses on the distribution network for these charges.

2.8 Supply cost allocation

NIEES supply costs are recovered as part of a 5-year price control originally set to cover the period April 2000 to March 2005. This control has been the subject of a 2-year extension on two separate occasions such that the existing control expires on 31st March 2009. A further one year control has been approved for 2009/10. The approved supply costs in the one year control are expected to represent 4.7% of the overall turnover and include a predicted net supply margin of 1.68%. The ratio of fixed to customer variable proportions of the supply cost recovery (that is the overall allowed revenue minus the cost of electricity purchases) is set at 67:33

The supply costs are allocated as a uniform percentage uplift across all customer groups. Whilst this approach is relatively easy to implement it effectively deems that supply costs are related to the overall value of the energy taken by each customer class.

ESBCS supply costs and an associated margin are approved for a 5-year period. The quantum that can be recovered in any year is separately approved by CER and takes account of any under or over recovery in the previous tariff year. The supply costs are attributed to each tariff category in accordance with factors derived using an ESBCS cost to serve (CTS) model. The factors are approved as part of the 5-year control and are unchanged throughout the course of the price control period.

In the current tariff year the allowed recovery in respect of the supply costs and associated margin is €160.78 million and adds some 5% to the overall revenue recovery.

2.9 Consultation questions

Question 1: *Has this review appropriately described the various features of the structure of retail tariffs and their underlying cost allocation methodologies?*

Question 2: *Are there other aspects that should be covered by this review to the extent that it impacts PES retail tariff structures?*

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3. PROPOSALS FOR PES TARIFF HARMONISATION

3.1 Introduction

The core functions of a supply business are to:

- facilitate the delivery of electricity to the customer; and
- hedge the volatility of wholesale electricity prices to the extent required by the customer or class of customers.

In both jurisdictions the supply businesses also recover the revenues due to the transmission and network businesses for use of their systems, and provide for the costs of the functioning of the SEM.

Both PES have unique obligations in respect of acting as a supplier of last resort, and are also charged with a universal supply obligation. In those sectors of the market where the PES continues to enjoy a de facto monopoly in supply there is also a need for price levels to be regulated. Broadly speaking these sectors are the smaller end of the SME market and residential customers.

In advancing proposals for harmonising tariff structures we have been mindful of the requirement in the Memorandum of Understanding between the RAs that they should be '*in a manner which supports effective competition and equal treatment of customers' regardless of their location'*. In this context we have interpreted 'effective competition' to mean the choice that is available to the customer. This choice might be expressed in terms of the ability of customers to choose different suppliers to provide their supplies of electricity, which would argue for market developments that will create a level playing field. It might also be expressed in terms of the ability of the retail market to support differing product offerings that might better suit particular types of customer.

At present limitations in the market arrangements and varying approaches in the allocation of costs for both network and energy charges will result in some types of customer in each jurisdiction being treated somewhat differently. Furthermore the precision with which costs can be reflected to customers is dependent on the nature of the metering that is employed. This differs between the two jurisdictions further constraining the design of tariffs and reducing the behavioural response that might be expected from customers. The constraints of a 'tariff year' linked to the regulation of network charges and the functioning of the contracts market further limits the tariff options that can be offered by the PES to its customers.

The ideas advanced here for harmonising tariffs are loosely grouped into three categories depending upon their prospective regulatory impact.

3.2 All island market structure proposals

3.2.1 CfD liquidity

If supply businesses are to be encouraged to offer electricity supplies that have an energy component in a form better suited to the needs of different sectors of the market then it implies that the supply business should be able to manage the risk of the Pool price exposure over the term of any arrangement. The acquisition and loss of customers from each supplier's portfolio, coupled with the prospective choice that might be made available to the customer in the contract term and indexation provisions, requires a more liquid hedging contracts market so that a supplier can shape its hedging requirements to the envelope of its customers' demands.

The Regulatory Authorities are already committed to encouraging the emergence of a more liquid market for contracts for difference that hedge the pool price. It is understood that the annual auction round is to be displaced by a more progressive auction of CfD cover to help facilitate this, but the term and shape of contracts will still tend to render these as relatively blunt instruments. There may be merit in encouraging shorter term CfDs that would permit the supplier to better shape its cover to its Pool price exposure. The Electricity Forwards Agreement[1] (EFA) that was used for this purpose in the GB Pool may be worthy of consideration in this respect. Trading of this type of contract would be facilitated by the appointment of a Broker to manage bids and offers. The Broker might also be required to produce reports that would assist price discovery.

3.2.2 Global aggregation

In the present electricity market arrangements the PES has a unique position in that its customers are deemed to have consumed all the electricity transported across the system that cannot be ascribed to independent supply businesses. The consequence of this is that all errors in the assumed distribution loss factors, and differences between the actual consumption of independently supplied customers and their assumed profiles, both of which might go in either direction, are borne by the PES and its customers.

It is an agreed policy objective of both RAs to replace this system of 'differencing' by a method of 'global aggregation' that would separately calculate any error for the system and uniformly scale all supply businesses energy in each market settlement period to account for the error. Exposing each PES to the same risks as independent suppliers would seem an essential requirement in creating a level playing field of competition on which PES tariffs could be harmonised.

A system of global aggregation would provide the same treatment to all suppliers. It would create a more transparent settlement arrangement than the current differencing approach, but implementation would require significant changes to the settlement systems employed by both network businesses.

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1 A description of the Electricity Forward Agreements structures employed in the E&W Pool can be found at: http://www.spectrongroup.com/uk-electricity-definitions/category960.html

3.2.3 Metering

The Codes of Practice (COP) for metering form part of the Distribution Code in each jurisdiction. At present there is no alignment of the metering COP for either larger customers, where interval metering is installed, or for smaller customers, where PES supplies predominate and profiles are used to shape demand to each settlement period. The availability and sophistication of time of use tariffs for smaller customer is limited by the metering requirements specified in the relevant COP. ESBCS use only two rates although there is also a reliance on an MD charge (or peak kWh charge in some instances) to convey the costs of meeting peak demands. NIEES uses interval metering for loads greater than 70 kVA but will generally install keypad metering that can be accompanied by up to a 4-rate time of use tariff for smaller loads. Alignment of the metering Codes of Practice in both jurisdictions would enable tariff structures to draw on the same building blocks.

Smart metering technologies and their communications networks are currently being investigated by ESB Networks as part of a CER initiated project. A common Metering COP would also provide a vehicle for rolling out a smart metering programme when a suitable measurement and communications technology has been identified, and supplier systems developed.

3.3 All island regulatory proposals

3.3.1 Profile load research

Both PES employ customer class profiles to attribute the energy consumed by an individual customer to the half-hourly settlement periods of the SEM. The use of profiles that determine the shape of the supplier's liability to wholesale electricity costs in respect of any particular customer, while necessary from a pragmatic viewpoint may be considered a barrier to competition. This is because the profiles insulate the supplier from the consequence of any change in the pattern of electricity use by an individual customer that may result from the time of use features in the electricity tariff structure.

Until 'smart' and advanced meters are generally employed the use of profiles will be necessary in the settlement of the market. Even if these types of meters are eventually deployed universally the use of profiles will still be a requirement for tariff construction.

The profiles relied on by NIEES and ESBCS have somewhat different origins. Creating a common programme of load research that would define the pattern of usage for different customer classes would both enhance transparency and enable the wholesale cost allocation in the formulation of PES tariffs to be made on a common basis. Profiles are published by ESB Networks in the Republic of Ireland, but not in Northern Ireland. Extending the ESB programme so that it covered both jurisdictions would treat customers in the same class on the same basis. Applying the same profiles would depend on the customer characteristics being similar, although this seems likely for residential and smaller SME customers. The treatment of SME customers is considered further below. If a common set of profiles were applied then they might also be used as the basis for CfD forms that would mimic the transfer of customers between competing suppliers.

To better reflect the liability for wholesale energy before smart metering is deployed profiles could be 'chunked' in settlement. That is they could be expressed in terms of a sequence of part year profiles that matched the time periods of the in situ multi rate metering. This would allow a better reflection of costs than the standard class profiles currently in use that extend across the full year.

3.3.2 SME profiles

The SME sector displays a wide variation of customers both in their annual consumption and in their pattern of electricity use. The derivation of profiles in both jurisdictions that reflected the characteristics of specific customer groups within the SME sector, such as schools, would permit more market segmentation that would enable supply tariffs to better reflect the costs of that particular group. This would encourage competition in that all supply businesses would have the opportunity to offer tariff structures and terms that might better suit the requirements of each sector.

Introducing more specific profiles for sub groups would result in greater segmentation of this diverse sector of the electricity market. Inevitably if this idea were to be adopted there would be winners and losers with some customers paying more and others paying less. Although there would be better cost reflection it may be appropriate to consider an impact analysis to assess the degree of disruption in final prices that would be likely.

3.3.3 Network charging methodologies

The creation of a uniform all island transmission charging arrangement is under consideration. Network charges that incorporate locational signals in order to encourage both load and generation to site economically would also assist economic investment in the transmission network, and may also be appropriate for higher distribution voltages.

The derivation of distribution charges in both jurisdictions involves a model to attribute system costs to customer classes, and then scales those charges to satisfy a revenue target that sustains investment in the networks. The methodologies could be aligned by the development of a single cost allocation model although scaling would need to continue to reflect the underlying cost recovery permitted in the relevant price controls. The use of a single model which employed geographic cost signals would provide a uniform locational signal across the island, as well as making it easier for supply businesses to predict under or over recoveries against a target for any year of a price control, and thus the adjustment in subsequent years of the price control.

3.4 PES regulatory proposals

3.4.1 Separation of network and wholesale energy costs

Expressing the PES electricity tariffs as a set of rates designed to recover all costs in making a supply requires the combination of wholesale energy and network use of system costs, albeit these may impact differently in both a temporal and capacity sense. This leads to the need for compromise in the formulation of the retail tariff that will blunt the clarity of the cost message that should be apparent for each.

Separating the network charges from the energy component in the charge to the PES customer would make transparent the price that was being ascribed to the energy component of the supply. It would also enable suppliers to offer energy hedges of a different form and different term to the annually set network charges. The approach would permit flexibility in the provision of indexation arrangements that could be directly related to pool prices, and which would provide a further method of hedging the pool price risk.

There could be a number of approaches to achieving this separation. Most obviously the two charges could be shown separately on the customer's bill. The present practice of publishing network charges as relating to the supply offered to each customer would help facilitate this. However, there would be attendant costs to amending billing systems and the time taken to effect this. Alternatively the charge could still be applied as a composite

charge but with parallel publication of the network charges. This is a less attractive proposition since it would require the customer to make the subtraction to reveal the energy component of the charge but may be more easily accommodated by the existing billing systems.

3.4.2 Supply cost allocation

The adoption of a uniform basis for the allocation of supply costs would be an obvious and relatively easy step in the alignment of cost allocation between the two jurisdictions. At present the proportions of the allowed ESBCS supply costs attributable to each customer class are approved at the start of the price control period and held constant over the period. The proportions of the NIEES approved supply costs that are attributed to the fixed charge and the kWh rates in the tariff are also agreed with the regulator. The use of a common Cost to Supply (CTS) model to determine the supply costs attributable to each customer class in the forthcoming price controls would seem a useful step in harmonising tariff cost allocation.

3.4.3 Contract term and indexation

Following the implementation of the SEM the PES supply tariff years were aligned with the gas year (October to September) in order to encourage convergence between PES tariffs and consistency with the SEM hedging contract auctions. In practice, as recent events have demonstrated, even with a significant proportion of the energy hedged, the volatility of wholesale prices has required revision of PES tariffs in a shorter term.

If network charges were separated from the energy component of the price then the supplier could more readily offer, and the customer could elect for, arrangements that might have:

- different terms for the energy price, say 6-month, 1-year, 2-year;
- indexation that reflected movements in wholesale prices; and
- triggers relating to wholesale price movements that would cause a review of prices.

Such approaches imply a contractual term between the supplier and customer that previously may not have been considered appropriate for residential customers. The need for charging arrangements that support supplier investments intended to promote the efficient use of energy should re-open the prospect of term agreements. Most residential customers are now used to contractual arrangements with other service providers. The periodic renewal of supply contracts could also encourage competition in supply by requiring relatively frequent customer decisions on their choice of supplier and energy price.

Inevitably a significant number of customers may choose to ignore the termination date of their contracts. Accordingly if this idea was pursued regulatory rules regarding the deeming of contracts in the event that a customer did not renew its contract would also be required to ensure that customers were protected from excessive charges when their contracts were ‘deemed’.

3.4.4 Time of use tariffs

The temporal nature of wholesale electricity prices implies that time of use charges for the energy component of the retail price will provide the best framework for reflecting costs and a price signal that will encourage the efficient use of electricity. It will also offer the best structure for the supply business to manage its risk of exposure to pool prices. Time of use tariff structures are a natural development and could be coordinated between both PES. The number of time regimes is constrained by the metering but routine reading of larger loads with non interval metering would permit the use of seasonal charges.

The continued use of block tariff structures where the average rate declines with use, or maximum demand charges that reflect the costs at times of highest demand would no longer seem appropriate and might better be replaced with time of use tariffs. The use of a multi rate Seasonal Time of Day (STOD) tariff would be a better option for reflecting changing wholesale costs and also minimise the risk to the supplier, although the purpose of this harmonisation project should be to create options for customers rather than dictate any single solution.

3.4.5 Tariff Methodology Statement

Transparency in the manner by which tariffs are formulated is important both to users who can see the rationale for their charges and make an estimate of how those charges might change with externalities. It also encourages competition in supply by demonstrating to independent suppliers the cost basis of PES tariffs, and is an aid to the regulation of PES tariffs.

The Tariff Methodology Statements (TMS) are still relatively recent creations and can be expected to become more explicit and informative with time. The common development of the TMS might encourage this process. There may ultimately even be the possibility of a joint TMS that would ensure the method for deriving tariffs was based on the same methods and principles in each jurisdiction.

3.4.6 k-factors

The arguments for abandoning k-factors in wholesale and supply costs to facilitate competition are well rehearsed. The RAs have a separate project to address this prospect which is being consulted upon alongside this paper on harmonising the structure of PES tariffs. The separation of energy and network charges to allow the supply business to 'pass through' regulated network charges, the development of a more liquid contracts market, and the wider use of indexation clauses or price review triggers are all devices that could be adopted to obviate the need for a k-factor in the PES tariff energy price component.

3.5 Consultation questions

Question 3: *Do you agree with the categories suggested for these proposals?*

Question 4: In the context of the all island market structure do you think the introduction of an EFA style CfD would assist in bringing liquidity to the CfD market? What other arrangements would help in this respect?

Question 5: *Would 'global aggregation' provide a level playing field for the PES to better allocate its costs within its tariff structures?*

Question 6: Would the creation of a common code of metering practice across both regulatory jurisdictions help in providing a basis of measurement that would facilitate harmonising retail tariff structures?

Question 7: Do you agree that the use of common profiles for class demands in both jurisdictions would help ensure the same allocation of wholesale costs when deriving retail tariffs, and provide the same incentives for the structures offered?

Question 8: Would the further segmentation of the SME sector of the electricity market and the creation of class profiles for these segments make PES tariffs more reflective of the underlying costs and also encourage competition in supply to these customers?

Question 9: Would the harmonisation of distribution use of system charges better facilitate competition in supply? Would the introduction of a pricing signal for higher distribution voltages provide a useful signal to encourage the appropriate location of distributed generation?

Question 10: Do you agree that the separation of charges for the provision of energy, and the use of the transmission and distribution networks would create an opportunity for customers to be offered more choice in the term of the energy component of its contract and the manner in which price levels could be revised? Should the PES simply pass on the network charges it incurs to its customer?

Question 11: Should customers be permitted to choose from fixed price energy contract terms that could vary from 6 months to 2 years, and which could also include indexation provisions that would help align retail and wholesale energy price? Should the PES be encouraged to offer such a choice?

Question 12: Would there be merit in adopting a common 'cost to serve' model in both jurisdictions for allocating the regulated costs of supply between different customer classes?

Question 13: Should the PES be encouraged to offer tariff structures with more time of use rates that reflect the underlying movement in wholesale costs and thus provide the customer with the choice of when it would be most economic to take its supplies of electricity? Would you support the replacement of maximum demand charges and block kWh structures in existing tariffs by a time of use tariff structure?

Question 14: Would the publication of a common Tariff Methodology Statement that would apply to each PES be helpful in bringing a convergence in the practices and cost allocation methodologies used by each PES?

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4. EVALUATION OF HARMONISATION PROPOSALS

The approach we have adopted to evaluate our proposals for the harmonisation of PES tariffs is to consider each against the criteria of:

1. Promoting competition
    a. Competition: We interpret this criterion as the ability of the tariff framework to create choice in terms of the product offerings that could be made, as well as placing all suppliers on a common footing.
    b. Transparency: Improvements in transparency can be interpreted in a number of ways. In this context ideas would score well if they provide the customer with a better understanding of the method by which charges are derived, or if the nature of the costs is more explicitly described.
2. Implementation ease and speed
    a. Timescale: Generally the speed at which a proposal could be implemented would produce a high score in this respect
    b. Simplicity, ease and cost: Whilst some ideas may be relatively slow to implement there may be other considerations that make the suggested idea attractive because of its ease of implementation; and vice versa.
3. Support for wider public policy objectives
    a. Sustainability and energy efficiency policies: A high rank would be awarded where the proposal had the prospect of aiding the reduction in green house gas emissions, or where there was a positive support for efficiency in energy use.
    b. Customer protection policies: Removal of tariff support for low usage households might be viewed as running counter to structures intended to mitigate fuel poverty, although providing clearer cost signals in tariffs would indicate when its use was cheapest.
    c. Future market and regulatory changes: The electricity market arrangements, their regulation, and associated price controls is evolutionary. New technologies for power generation and carbon mitigating policies are likely to render some tariff features obsolete with time. This consideration is concerned with assessing the degree to which the idea is 'future proofed'.
4. Prospects of unintended consequences
    a. Whilst the above criteria will generally be favourable to a proposal in some degree the prospect of unintended consequences that might increase risks is a measure that will have the potential to disrupt the proposal's intended effect.

The evaluation has followed the same order as in Part 2. The comments below are accompanied by a simple ranking shown in the Table below that judges the possible impact each proposal might have on each of the criteria. There is no comment concerning k-factors since they form part of the Skyplex study.

Strong positive impact on criterion	✔ ✔
Lesser impact but still positive	✔
No impact or not appropriate	-
Mildly adverse impact in furthering criterion	✕
Prospect for strong adverse impact	✕✕

4.1 All island market structure proposals

4.1.1 CfD Liquidity

Promoting competition ▪ Improvements in CfD liquidity would assist suppliers in hedging more precisely the expected demand of customers. ▪ Price transparency would be assisted if market reports were also required to be provided by an appointed Broker	✔ ✔
Implementation ▪ New hedging agreements could be introduced relatively quickly ▪ Might require the appointment of a Broker to manage a market in short term contracts.	✔ ✔
Public policy objectives ▪ No direct impact on furthering sustainability objectives ▪ No direct impact on mitigating fuel poverty or customer protection ▪ Non physical nature of CfD hedges makes the form of this arrangement innately flexible to changing extraneous circumstances	-
Unintended consequences ▪ Contracts market may not be large enough for liquidity to flourish ▪ Cost of supporting the Broker could impose an excessive premium on contract prices if market is thinly traded	✕✕

As observed above if competition in supply is to flourish there needs to be a supporting competitive wholesale electricity market. The SEM provides this in a physical sense but encouragement is still needed for the surrounding CfD market. The introduction of more granulated contract forms scores highly in promoting competition and in its ease of implementation. However, there must be a serious concern that the market size is insufficient for liquidity to become established.

4.1.2 Global aggregation

Promoting competition ▪ Provides a level playing field for all suppliers. ▪ Reduces the prospect for gaming market sub-sectors that are a poor fit with established profiles ▪ Little improvement in transparency	✔ ✔
Implementation ▪ Could take time to implement given the need for commonality in market processes and changes to settlement processes ▪ New IT systems could require significant resources	✘
Public policy objectives ▪ Could provide an incentive to make distribution losses more visible ▪ No impact on mitigating fuel poverty ▪ The existing differencing arrangement is not durable in a competitive environment and could be usefully replaced	✔
Unintended consequences ▪ None foreseen	-

A 'global aggregation' approach in balancing supply and demand for each settlement period will provide a level playing field and is thus strongly supports the promotion of competition. Although its implementation will be managed by the networks businesses it could require significant resources to amend settlement systems in order to put it into effect. A moderate score is awarded in its support for lower emissions policies since it would have the added benefit of making more visible system losses and thus provide an opportunity to create an incentive for their reduction.

4.1.3 Metering

Promoting competition ▪ Aligning metering COP should facilitate similar tariff structures to be offered for the same type of customer by each PES ▪ No impact on transparency	✔ ✔
Implementation ▪ There could be a lengthy timescale in getting approval to a common COP. ▪ Installation of meters to align practices would take even longer. ▪ Since metering is provided by the network companies in both jurisdictions implementation should be straightforward ▪ Agreement between both network businesses on most appropriate technology and format may "dumb down" specification	✘ to ✔
Public policy objectives ▪ Would facilitate the introduction of time of use metering and smart meters ▪ Future changes in metering arrangements would be coordinated ▪ A common declaration on implementing smart metering would be helpful.	✔ ✔
Unintended consequences ▪ None foreseen	-

A common metering COP would enable the boundaries between different metering specifications to be aligned. It also presents the opportunity to develop and align the time regimes for tariffs and thus scores well on promoting competition and transparency. The main benefit would be that it would create a uniform platform on which time of use metering and in particular smart metering could be introduced. In this respect the proposal scores highly in its support of public policy objectives. The downside is likely to be in the time it might take to create a common COP and the period for any subsequent adjustment of extant metering systems, although this is offset by the relative ease with which the process could be controlled by the network companies.

4.2 All island regulatory proposals

4.2.1 Profile load research

Promoting competition ▪ Employing uniform customer class profiles on an all island basis would ensure a particular type of customer was treated similarly in both jurisdictions ▪ Publication of profiles would also make transparent the settlement assumptions for wholesale cost allocation	✔
Implementation ▪ Extending standing samples of customers and collecting data implies a timescale of 2-3 years, although data would improve with time. ▪ The established programme in the Republic should be capable of being readily extended to both jurisdictions	✔ ✔
Public policy objectives ▪ Whilst profiles insulate suppliers against the actual costs of customer demand, the resulting improved cost reflection would support sustainability objectives ▪ No direct support for customers, although load research would reveal consumption patterns of low income households and determine whether these were synonymous with fuel poverty ▪ Settlement profiles should be an inter regnum until smart metering is deployed, however research data will always be needed for tariff construction	✔
Unintended consequences ▪ None obvious, but see SME sector below	-

The adoption of common profiles for non interval metered customer classes would have the benefit that the same wholesale cost allocation assumption would be used in each jurisdiction. It thus moves both PES and other suppliers to a common basis and scores moderately well in promoting competition in this respect. If the ESBN standing samples that are already established could be extended and adopted by NIE T&D then adoption of the proposal should be relatively straightforward giving it a highly positive score for implementation. There should also be some positive impact through better cost reflection on public policy objectives, in that there would be a better reflection of costs, and the characteristics of residential customers in fuel poverty might be better understood. Hence the modest support for public policy objectives.

4.2.2 SME profile proliferation

Promoting competition ▪ Would facilitate establishing competition in the SME sector ▪ More SME profiles would allow better cost reflection for market segments ▪ Publication of profiles should improve transparency in how costs are allocated for customer groups	✔ ✔
Implementation ▪ Dependent upon results of load research programme, but could be 2 – 3 years ▪ Availability of profiles should enable more appropriate tariff construction, albeit subject to constraints of metering	✔
Public policy objectives ▪ More specific cost allocation and the prospect for time of use pricing should encourage more efficient use of electricity. ▪ No obvious support for fuel poverty objectives ▪ More segmentation of the market should better enable implementation of other regulatory policies	✔
Unintended consequences ▪ Sample sizes for particular customer groups may initially prove too small to be useful. ▪ Use of profiling may undermine the economic case for advanced and smart metering for the SME sector	✘

We believe that the use of more SME profiles would be an effective way to promote competition in a sector of the market where competition is becoming established. It would also better reflect the costs of supplying customers in this sector of the market. Both effects support the promotion of competition. Implementation would again be dependent on a joint load research programme, and would provide better cost reflection to customers which should encourage the efficient use of electricity. If the proposal frustrated the roll-out of a smart metering programme then the approach could be counter-productive in achieving its intended objectives.

4.2.3 Network charging methodology

Promoting competition ▪ Aligning network charging methodologies would result in similar customers being treated in the same manner in both jurisdictions ▪ The introduction of locational signals into network charges for EHV networks would provide an incentive for distributed generation and load to site economically ▪ Publication of a separate network charges methodology statement, or inclusion of the method in the retail TMS, would significantly improve transparency of charges	✔ ✔
Implementation ▪ Could take some considerable time to align principles and policies between both jurisdictions ▪ Relatively easy to implement since management is the hands of a price regulated network businesses	✕ to ✔
Public policy objectives ▪ Providing economic location signals would support efficient production and use of energy and thus support sustainability ▪ No obvious implications for use by those in fuel poverty	✔
Unintended consequences ▪ Could introduce retail price disruption for those customers where network costs departed significantly from customer class averages	✕

Network charges are a significant cost disparity for customers in differently licensed areas. At present all customers in the same customer class in each jurisdiction will see the same network charge but this creates boundary issues for similar customers in different jurisdictions. We have scored this highly as an idea for promoting competition because of its potential to provide common treatment to all customers in the island and the influence it could have on the location of distributed generation.

If pursued implementation again benefits from being in the hands of the network companies although determining the most appropriate approach may slow its adoption. The opportunity to influence the location of renewable generation leads us to suggest a modestly positive score for supporting sustainability policies.

4.3 PES regulatory proposals

4.3.1 Separation of network and wholesale energy costs

Promoting competition ▪ Provides a basis for PES to innovate in the structure of the energy hedge provided to customers ▪ Increases the prospect of product offerings that better suit the needs of the customer ▪ Creates prospects for demand side pool price hedging through indexation thus enhancing competition in the CfD market ▪ Makes transparent the distinction between network and energy charges and their separate description in the Tariff Methodology Statement	✔ ✔
Implementation ▪ Separation of charges on the bill would require changes to PES billing system ▪ Should prove relatively quick to implement subject to these changes	✔
Public policy objectives ▪ Supports sustainability policies by providing more scope for time of use energy charges and indexation linked to Pool prices ▪ Detracts from ability of tariff to provide financial support to low usage customers, but provides better cost reflection. ▪ Enables price regulation of network charges to be independent of energy component	✔
Unintended consequences ▪ Could increase focus on structure of network charges ▪ Might prompt demands for longer term network hedges	✘

The separation of energy and network charges on the bill to the customer earns most of its benefit in promoting competition by enabling the PES to focus on the manner in which it structures the energy component of the tariff. Innovation in this respect should provide customers with substantially more choice that they currently enjoy. If innovations in this respect also encourage more time of use tariff structures, or the displacement of anomalous structures by time of use features that influence customer behaviour, then this will also support sustainability objectives.

The proposal would also help future proof the regulation of network charges by providing a clear separation of those parts of the price influenced by regulatory policies and those parts that are the consequence of competitive processes.

4.3.2 Supply cost allocation

Promoting competition Places both jurisdictions on a common footing and thus ensures consistency in supply cost allocation	✔
Implementation ▪ Would need to coincide with start of next price control period, which in both jurisdictions would be 2010 ▪ The use of common "cost to supply" model could be particularly timely ▪ Supply costs are already separately incorporated in the tariff structure	✔ ✔
Public policy objectives ▪ No impact on sustainability objective ▪ No impact on customer protection objectives ▪ Would ensure cost categories in each PES are synchronised	-
Unintended consequences ▪ None foreseen	-

This suggestion would appear to be a "quick win" in the sense that it could be adopted for the next supply price control review in 2010. Whilst the costs may be different between the two PES ensuring that the same categories are defined in each jurisdiction would bring commonality of treatment to the provision of cots for supply and those that relate to the unlicensed activities of the PES. We have thus scored this highly in respect of its ease and timeliness of implementation, and modestly in its promotion of competition.

4.3.3 Contract term and indexation

Promoting competition ▪ Would provide for innovation in contract terms that could better suit the needs of customers ▪ Would also provide additional hedging opportunities through appropriate indexation provisions ▪ Generally improve the transparency of the energy related component of prices	✔ ✔
Implementation ▪ Could be introduced relatively quickly albeit subject to constraints of metering and settlement arrangements ▪ Would require changes to terms and conditions of supply and internal accounting procedures	✔
Public policy objectives ▪ No impact on sustainability objectives ▪ No impact on customer protection objectives ▪ Would provide flexibility in contractual arrangement	-
Unintended consequences ▪ Creating a contractual relationship between customer and PES could frustrate competition by independent suppliers thus inhibiting customer switching	✕✕

Innovation in product offerings should have a strong impact on the promotion of competition by opening up more choice to customers. The suggestion could also be introduced relatively quickly although it may be dependent upon the availability of suitable metering. However, it could create problems for competition if the creation of longer term PES contracts was seen as frustrating the ability of customers switching to other suppliers.

4.3.4 Time of use tariffs

Promoting competition ▪ Ability to offer more kWh rates in the tariff would bring better cost reflection ▪ Should also provide increased scope for innovation in product offerings ▪ Would make expectation of future movements in Pool prices more transparent.	✔ ✔
Implementation ▪ Dependant upon installation of more sophisticated metering, although this could be facilitated by a common metering COP ▪ Settlement and billing arrangements would require substantial revision to accommodate more time of use options	✘
Public policy objectives ▪ Time of use tariffs should encourage more efficient use of electricity ▪ Reduces support for fuel poverty by reflecting high prices when demand is least price elastic, but also reveals times of low cost. ▪ More time of use variation in tariff structures would allow prices to better track movements in wholesale costs	✔ ✔
Unintended consequences ▪ Installation of multi rate metering to provide time of use tariffs could be counter-productive for smart metering	✘

Time of use tariffs will enable more innovation in the product offerings that could be made available to customers and thus the proposal ranks highly in its promotion of competition. It should also make more transparent supplier's views about the shape of future Pool prices. Generally time of use tariff structures should influence customer behaviour and thus the proposal ranks well in supporting polices aimed at reducing carbon emissions.

The availability of metering for use in larger SME premises is unlikely to be an issue, but there is a risk that if time of use meters were adopted widely for SME and even residential premises then it would undermine the benefit expected from the installation of smart metering systems.

4.3.5 Tariff methodology statements

Promoting competition ▪ Providing clear description of approved methodology should enable regulation of price levels to be relaxed ▪ Significant and substantial benefit to improving the transparency of tariff design, especially if detail of TMS was enhanced	✔
Implementation ▪ Could be implemented relatively quickly for next tariff amendment ▪ A common methodology statement would encourage the convergence of the detail and models used by each PES	✔ ✔
Public policy objectives ▪ No obvious impact on sustainability objectives ▪ No impact on customer protection objectives ▪ Would facilitate future developments in tariff structures in a coordinated fashion	-
Unintended consequences ▪ None foreseen	-

This idea might be seen as another 'quick win' in that it is easily implemented. Its main benefit might be that it creates a common framework on which tariff structures can evolve in the future in a coordinated fashion.

4.4 Consultation questions

Question 15: Do you think the criteria chosen to evaluate the various proposals in Section 3 are appropriate? Are there other criteria that should have been considered?

Question 16: Would you generally support the conclusions of the evaluation? If not how would your view differ from those expressed here?

5. CONCLUSIONS AND RECOMMENDATIONS

The ideas considered here for harmonising PES tariffs generally interact with each other. Individually each will contribute in some measure either to providing a more consistent treatment of customers throughout the island, or contribute directly to the promotion of competition. However, because the proposals interact, collectively the suggestions will create a more competitive environment for the supply of electricity and allow the PES and other suppliers to innovate in the tariff structures that are most appropriate to their customers. It is our view that in time all these proposals would be worthy of implementation although the opportunities for this may present themselves at different times.

5.1 All island market structure proposals

Some of these proposals are being addressed in an all island context. The RAs have made a commitment to improving the liquidity of the CfD market and have suggested the establishment of a web based trading platform. More recently it has been indicated that the annual auction round by the major generators will be spread over a longer period to permit price discovery and a wider involvement by independent suppliers. A review of the prospects for trading EFA type contracts and a CfD shape that matches the profiles of each customer class as an adjunct to these initiatives could be added to the RAs' programme. The use of an appointed Broker to manage these contracts might also be appropriate.

Similarly there is a commitment to the introduction of a process of 'global aggregation' to replace the differencing arrangement that currently exposes the PES to the risk of the mismatch in losses and the profile used for settlement. This process will run its course and its place in creating a level playing field for competition is already recognised.

The AIP environment might also be seen as an appropriate vehicle on which to pursue the prospects for a common Metering Code of Practice. This too is a longer term prospect but would provide a platform on which to embrace either time of use metering on a common basis, or smart metering systems. This in turn should help create a common basis for time of use tariff structures that could be employed.

5.2 All island regulatory proposals

The second group of ideas could be pursued on an all island basis but aimed at the settlement of electricity charges. The programme of load research implemented in the Republic of Ireland in 2005 could be extended to embrace Northern Ireland. It would appear that this proposal could be relatively quickly implemented especially if patterns of domestic consumption are found to be reasonably similar in both jurisdictions. Establishing a sufficiently large sample size would enable further segmentation of the SME sector that should further encourage competition.

Competition in supply is now well established in the interval metered parts of the market but the non interval metered SME premises have consumptions that vary too widely too be accommodated by a small range of profiles. The introduction of additional profiles for groups of similar customers should provide better cost reflection and allow independent suppliers to compete for these. It should also help facilitate tariff innovation for these customers. A difficulty with this prospect is that it may be overtaken by the deployment of

smart metering that would offer better prospects for pricing arrangements that were even more cost reflective.

The convergence of network charging arrangements has an important position in ensuring that customers are treated similarly in both jurisdictions. Although all supply businesses will be subject to the same charges for any particular customer the application of locational use of system charges at voltages where distributed generation is likely to connect would directly impact the competitiveness of generation. Whilst not mainstream to this review we believe that the development of appropriate charging arrangements for use of the distribution network could have a particular importance in furthering progress to a low carbon economy.

5.3 PES regulatory proposals

The separation of network charges from other components of the electricity bill would be in our view an extremely positive step in encouraging the PES to provide a choice of different energy related product offerings to its customers. This also has the prospect of encouraging competition in the contracts market if some of these products were to include indexation to pool price provisions of some description. It would also help demand side response or management to become a part of the PES' armoury for hedging its exposure to pool prices. This proposal would allow the price regulation of the networks to proceed unencumbered by movements in the wholesale market, and for competition in energy supplies to be unconstrained by the application of network charges. Its implementation is dependent on the speed with which PES billing arrangements can be modified.

PES regulation requires the publication of a Tariff Methodology Statement that describes the manner in which tariffs are constructed. Introduced from the implementation of the SEM these statements remain relatively high level documents. In this construction they are reasonably aligned. Development of the Statements on a joint basis that would provide a more precise description of the manner in which tariffs are derived would first provide a common canvas on which tariff rates would be established and also provide an impetus of the alignment of PES tariff structures and rates to the extent that this was appropriate. The TMS can be revised at the direction of the RA so this would be a development that could be implemented at the next tariff review.

Legacy tariff forms that continue to employ maximum demand charges and block structures might be viewed as anomalous given that wholesale costs that are now essentially temporal. The employment of time of use tariffs would seem an inevitable outcome as more sophisticated metering is installed. A further 'quick win' would be to replace these tariff structures by seasonal time of day tariffs, or at any rate relegate the tariff to a preserved structure that would be no longer available for new supplies. The RA has already approved this in principle but implementation has yet to occur.

The wider use of time of use tariffs will be dependent upon the installation of appropriate metering. A judgement is needed as to whether these await the deployment of smart meters and their associated systems, or whether a progressive programme of providing advanced meters to all larger SME premises should be adopted.

Finally and most easily applied, the regulation of supply costs could also be placed on a common basis both in terms of the cost definitions that are allowed, and the level of the recovery that is permitted. It would be particularly timely since both RAs will be implementing new supply price controls during 2010.

5.4 Recommendations

The proposals relating to the structure of the all island electricity market, whilst facilitating competition in electricity supply, may not be considered to have any direct influence on harmonising the structure of retail tariffs. Nonetheless they should contribute to an environment that will encourage innovation and flexibility in tariff design.

Our recommendations therefore relate to the second and third groups of ideas. We would suggest that the RAs embrace the principle of the separation of network and energy charges on the customer's bill and seek its implementation within whatever timescale the PES can manage to amend its billing arrangements.

For the coming tariff year the RAs could require the two PES to amend the formulation of their tariffs such that they:

- Describe their tariff methodologies using a common template.
- Reflect the distribution use of system costs as they are incurred directly to the customer.
- Replace maximum demand charges and blocking features in the extant tariffs by seasonal time of day tariffs features to the extent that the metering permits.
- Align the allocation of supply costs between customer classes by utilising a common 'Cost to Serve' (CTS) model.

Although it would have a timescale for delivery of 2-3 years the RAs could further implement a programme that would:

- Establish a common programme of load research for deriving the profiles to be used in settlement and publish these.
- Segment further the SME sector of the market, that is particularly diverse in its character, as part of this process.
- Initiate a joint review of the network charging arrangements that could be applied in both jurisdiction and consider the possibility of introducing pricing signals at the higher distribution voltages that would encourage distributed (renewable) generation and load to site in the most optimal economic manner.

ANNEX A – FULL LIST OF CONSULTATION QUESTIONS

Question 1: *Has this review appropriately described the various features of the structure of retail tariffs and their underlying cost allocation methodologies?*

Question 2: *Are there other aspects that should be covered by this review to the extent that it impacts PES retail tariff structures?*

Question 3: *Do you agree with the categories suggested for these proposals?*

Question 4: *In the context of the all island market structure do you think the introduction of an EFA style CfD would assist in bringing liquidity to the CfD market? What other arrangements would help in this respect?*

Question 5: *Would 'global aggregation' provide a level playing field for the PES to better allocate its costs within its tariff structures?*

Question 6: *Would the creation of a common code of metering practice across both regulatory jurisdictions help in providing a basis of measurement that would facilitate harmonising retail tariff structures?*

Question 7: *Do you agree that the use of common profiles for class demands in both jurisdictions would help ensure the same allocation of wholesale costs when deriving retail tariffs, and provide the same incentives for the structures offered?*

Question 8: *Would the further segmentation of the SME sector of the electricity market and the creation of class profiles for these segments make PES tariffs more reflective of the underlying costs and also encourage competition in supply to these customers?*

Question 9: *Would the harmonisation of distribution use of system charges better facilitate competition in supply? Would the introduction of a pricing signal for higher distribution voltages provide a useful signal to encourage the appropriate location of distributed generation?*

Question 10: *Do you agree that the separation of charges for the provision of energy, and the use of the transmission and distribution networks would create an opportunity for customers to be offered more choice in the term of the energy component of its contract and the manner in which price levels could be revised? Should the PES simply pass on the network charges it incurs to its customer?*

Question 11: *Should customers be permitted to choose from fixed price energy contract terms that could vary from 6 months to 2 years, and which could also include indexation provisions that would help align retail and wholesale energy price? Should the PES be encouraged to offer such a choice?*

Question 12: Would there be merit in adopting a common "cost to serve" model in both jurisdictions for allocating the regulated costs of supply between different customer classes?

Question 13: Should the PES be encouraged to offer tariff structures with more time of use rates that reflect the underlying movement in wholesale costs and thus provide the customer with the choice of when it would be most economic to take its supplies of electricity? Would you support the replacement of maximum demand charges and block kWh structures in existing tariffs by a time of use tariff structure?

Question 14: Would the publication of a common Tariff Methodology Statement that would apply to each PES be helpful in bringing a convergence in the practices and cost allocation methodologies used by each PES?

Question 15: Do you think the criteria chosen to evaluate the various proposals in Section 3 are appropriate? Are there other criteria that should have been considered?

Question 16: Would you generally support the conclusions of the evaluation? If not how would your view differ from those expressed here?

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