



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

Prepayment Meters

A Consultation Paper

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1 Introduction

The electricity supply market will be fully opened from 19th February 2005¹. This will require a range of practical measures and systems to be in place by that date if market opening is to be fully effective, particularly on the retail side.

This consultation paper considers one such aspect of full market opening: the potential use of prepayment meters and arising issues.

The consultation paper is without prejudice to any future legislation likely to be introduced, including legislation to give effect to Directive 2003/54/EC.

Interested parties are invited to comment on the issues raised in this paper by close of business on 16th January 2004. Submissions should be forwarded to:

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¹ See S.I. No. 632 of 2003

2 Background

Electricity customers can choose to pay their bills in a number of ways. Prepayment meters are a flexible payment option and enable customers to better manage their electricity usage. At present, except in cases of debt and poor payment patterns, no suppliers offer prepayment options to their customers. In some other countries prepayment meters have long been available to all customers. With full market opening scheduled for 2005 the possibility of making prepayment available to customers needs to be considered.

The purpose of this paper is to describe the current use of prepayment meters, the potential advantages the introduction of a new prepayment system may bring, as well as outlining the issues that need to be addressed so that any system introduced is beneficial to all concerned parties.

2.1 What are prepayment meters?

Prepayment meters only allow electricity to be consumed if the meter is in credit. When the credit runs out the electricity supply is stopped, although some prepayment meters can give some emergency credit. Customers need to buy credit for prepayment meters at a vending point.

There are a number of different types of technology in use in other countries. These include:

- token meters
- key meters
- smartcard meters
- keypad meters

Token meters use cards with a magnetic strip, which are programmed for each supplier with a fixed amount (e.g. a €10 card for supplier X). These are purchased by the customer and placed in their meter, which then invalidates the card.

Smartcards and keys record the amount purchased at the vending point, and this information is then fed into the meter in the home through a card swipe mechanism. Other information, such as data to recalibrate the meter, can also be downloaded to the key or card. This information flow can also go in the opposite direction, whereby the key or card can inform the supplier of the meter reading. The data transfer between the customer's card and the supplier occurs at the vending point.

Keypad meters do not require any physical card or key for their operation. At the vending point, customers are issued with a vend code, which they then enter into the keypad of their meter to receive the credit. This is similar to a credit purchase for a pay-as-you-go mobile phone. Other codes can be issued to recalibrate the meter, as well as to change a variety of other settings. This system has recently been adopted in Northern Ireland.

2.2 Current Arrangements

In Ireland there are approximately 24,000 residential customers using prepayment meters installed by ESB since 1990, representing about 1.8% of the market. The meters are generally introduced in situations where the customer is having payment difficulties. With the current “token meter” system, the capital and operating costs outweigh the revenue from these customers, as there is no additional charge on the customer for having a prepayment meter. They are therefore not available as a payment choice to customers in general. These meters need to be manually configured, and no operational savings are gained from their introduction.

3 Capabilities of prepayment systems

Over recent years prepayment meter systems have advanced considerably. In general, this has meant that the extra costs of these meters can now be offset against significant savings.

Costs:

- Cost of meter
- Installation of meter
- Support systems (IT requirements, transactional charges etc.)

Benefits (depending on type of meter):

- Reduced management costs (manual reading of meter, manual tariff changing, disconnection/reconnection etc. may no longer be needed, call-outs only necessary during working hours, etc.).
- Reduced bad debts
- Increased control/security over debts
- Working capital savings through earlier receipt of payments
- No need to issue bills, fewer statements required for customers.
- Security (e.g. non transferable credit)

The prepayment meters currently in use in Ireland are technologically outdated. The high operating costs compare very unfavourably with current available technology. It would not be a positive step therefore to continue or increase the use of this system for any longer than absolutely necessary.

If prepayment is to become available, an industry wide system could ensure uniform standards and efficiency gains, as well as avoiding barriers to switching suppliers. While the Commission does not wish to prescribe what system a supplier may use, a single prepayment system that supported a number of suppliers may promote competition as well as bestow any efficiency gains on participating suppliers.

Any prepayment system introduced should enable customers to change supplier with no more difficulty than other payment methods. From a consumer perspective, a range of different prepayment systems in the market may result in confusion.

An analysis of the strengths of the various technological systems available should be made before deciding on an appropriate system. Initial investigation suggests that the difference in costs of prepayment meters compared to other payment methods is much less than in the past, and they may even be cheaper than other payment methods.

If prepayment metering systems are not significantly more costly, prepayment meters could become an option for any customer, not just those with payment/debt difficulties. If there is customer satisfaction amongst prepayment users the use of prepayment meters may either be encouraged, even amongst customers not in debt, or only introduced as a last resort before disconnection. The high rate of use of prepayment meters in the U.K. and in Northern Ireland is partly because some customers prefer a payment system that enables them to feel in control of costs. Many customers know that prepayment may be more expensive (in parts of the U.K.) but it remains their preferred payment method.

3.1 Operational Considerations

Considering the size of the domestic market in Ireland, a standardised meter technology capable of supporting multiple suppliers and tariffs would seem to be a strong option. This would facilitate customers switching suppliers, and would not require suppliers to individually arrange vending points and systems.

With regard to the management of the payment systems, the most appropriate structure regarding responsibility will depend on the technology of the prepayment system adopted. There are two possible scenarios:

3.1.1 One agent for all suppliers

A central agent could manage all customer accounts on behalf of all suppliers. The advantage of such a system would be that each supplier would not need to invest in new management systems. However, if the agent needed commercially sensitive information to successfully manage the system, or access to customer details, then data protection issues may arise.

ESB Networks (the DSO) may be in a position to coordinate and be responsible for the support infrastructure. If the technology eliminates the need for manual meter reading, or manual resetting of tariffs, the DSO may wish to be part of any new system that would supply meter readings.

A New Zealand metering service provider² has taken on this role by offering management services to suppliers for their prepayment customers. Such a system would allow suppliers to offer prepayment to their customers even if they only had a small number of customers wishing to avail of it.

² NGC Smart Metering Services, see www.ngc.co.nz/article/articleview/231/1/9/

3.1.2 Individual supplier responsibility

Each supplier would need to invest in systems to support their prepayment customers. Depending on the scalability of the technology, there may be a minimum customer base required to make it cost effective.

Additionally, suppliers individually or as a group may wish to be responsible for vending outlets. These considerations will depend on the technology available, as well as market demand and suppliers wishes.

3.2 Technology

The available technologies vary according to:

- Unit costs
- Savings potential - no meter reading required, no bills issued (fewer customer enquiries and resultant call-outs), fewer statements etc.
- Support infrastructure needed (hardware and software)
- Ease of use/security

Modern prepayment meters can be programmed to only disconnect at specified times. This means call outs can be restricted to working hours, and ensure customers are only disconnected when vending outlets are open. Encrypted meter readings can be relied upon for accuracy and remove the need for manual reads. Tariffs can also be reset without a visit, and modern meters can also store a number of tariff and time settings which can be changed without a visit. These features can reduce management costs.

Meters that rely on cards or keys storing data experience difficulties when these are broken or damaged, which can occur frequently. More modern meters no longer rely on any physical card for data storage and avoid these problems and associated costs.

The extra costs traditionally associated with prepayment meters are being covered by the savings they bring in terms of management. The cost of prepayment meters should therefore not be an impediment to their introduction.

Northern Ireland Electricity has replaced their old token-based prepayment meters with a keypad prepayment system. These work in a similar way to mobile phone top-up systems. At the vending outlet, the customer receives a code that they punch into their keypad at home, and the meter is credited. Domestic disconnections no longer occur since the installation of keypad and prepayment meters, bringing consequent operational savings (by comparison, in 2002 ESB Networks performed over 6,000 de-energisations)³. Prepayment customers are offered a discount of 2.5%, with installation of the prepayment meter free of charge⁴. Direct debit is the only cheaper payment method for N.I.E. customers.

³ See Ofreg's Customer Service Report 2002-03, Chapter 6, and ESB Networks Distribution Performance Report, 2002.

⁴ Payment options can be accessed through N.I.E.'s website <http://www.nie.co.uk/home.htm> (see Home Energy, Paying for your Electricity).

4 Further considerations

4.1 Ownership and management

The Commission is of the view that ownership and installation of prepayment meters should be the responsibility of the DSO, as is the case with all meter types currently in use.

Depending on the technology, a potential for major cost saving is the removal of manual meter reading requirements. If meter readings are known or accurately estimated (based on credit purchased) by the supplier, the DSO will then need to be informed of these readings. This procedure may be agreed between individual suppliers and the DSO. Alternatively, if the DSO acted as a central managing agent on behalf of suppliers, they would automatically have data on usage of all prepayment meters.

4.2 Code of conduct

In the event of prepayment meters being offered by a number of, or all, suppliers, there may be a need for a common code of conduct with relation to certain issues (see points below). Issues with regard to the use of prepayment meters in cases of debt are dealt with separately in the next section.

4.2.1 Customer information and emergency credit levels

- What information should customers be given about opening times of vending outlets, especially regarding holiday periods?
- When and how should the customer be informed?
- What level of emergency credit should be available? Should this cover a holiday weekend period, e.g. 3 days, or be set at a monetary value?

If possible, the meter should be configured not to cut off electricity at night, weekends, or other times depending on opening hours of vendors/suppliers/financial institutions (this will reduce cost of resultant call-outs, as they will be within working hours). It would seem beneficial to customers and suppliers alike to limit call outs to normal working hours to ensure savings. This would be preferable to setting a credit limit which could result in disconnection at any stage. Limiting the load of a customer who has run out of credit may also be possible, ensuring some level of service if this occurs at night/weekend/holiday periods. These measures are to avoid disconnection for non-payment only for periods where payments cannot be made.

- What information should customers be given regarding the operation, usefulness, advantages and disadvantages (including price) of having a prepayment meter installed?

If they are not receiving bills, they should have clear information available to them regarding their credit levels, consumption levels, and the time/tariff they are on. Ideally, customers should not be charged a transaction fee at the point of sale, and there may also be a need for a limit to the amount of

credit a meter may have at any one time to prevent its use as a way to store savings.

4.2.2 Time-of-Use Tariffs

The information that customers could have through their prepayment meter display units may have a potential impact on demand management. As customers are informed of their consumption and costs, they may change to more efficient energy usage patterns. If this potential exists,

- should time-of-use tariffs be introduced for domestic customers?

While prices in the open market will not be regulated, there may be a valid argument in favour of requiring a time-of-use tariff to be offered so that customers can make savings through efficient use of energy. This could be seen as within an overall policy to move to profile metering where it is cost efficient, to reduce need for peak time energy needs and resulting capacity requirements.

4.2.3 Costs

- If a customer moves into a premises with a prepayment meter already installed, who should bear the cost of removing the prepayment meter if the customer does not wish to prepay?

If a prepayment meter could also effectively operate as a standard meter, issues of replacement costs would be avoided. The supplier could credit the meter, and then bill the customer in the usual way.

4.3 Replacement Costs

If the existing token meters are to be replaced by any new system, there will be replacement costs involved. If there are immediate savings to be made from the introduction of a new system, a replacement program for existing prepayment meters should be proactive rather than passive.

5 Prepayment and Debt

Prepayment meters have traditionally been associated with debt management. The increased use of prepayment meters in other countries is not due to a great increase in customers facing debt, but as a result of customer demand as the costs of prepayment meters have come down. However, for those customers who do use prepayment to help them with debt repayment, there are a number of issues that need to be addressed with regard to the use of prepayment meters.

5.1 Allocation of Costs

If prepayment meter costs do outweigh benefits, how and to what extent should this extra cost be passed through to the customer? If this is the case, the Commission is of the view that their use should be restricted, as is current ESB policy. Customers with debt problems are often from disadvantaged groups. Should these customers be expected to pay the full cost, or should they to be recovered elsewhere?

One possibility is for the extra costs to be borne by all users through incorporation in DUoS charges, as is currently the case. Any extra costs should not be burdened solely on any future supplier of last resort if this would require cross-subsidisation from its other customers.

5.2 Prepayment as a choice

In the event of outstanding debt or poor payment patterns, at what stage should prepayment meters be offered or forced by a supplier? Should a customer be able to refuse the installation of a prepayment meter?

Should customers who clear a debt over time through prepayment then be informed of cheaper alternative payment methods (if prepayment is a more expensive way of paying)? In the event of debt repayment through a prepayment meter, is there a need for regulation of acceptable calibration of the meters for debt recovery?

For example, with the keypad meters introduced in Northern Ireland, the level of debt recovery can be set at 1%-99%. (For example, if set at 10%, when a customer purchases €30 worth of credit, €3 will go to the payment of outstanding debt, and €27 will go to credit for electricity use). It is envisaged that the question of calibration levels should be left to the supplier and customer to resolve in a manner acceptable to both.

5.3 Procedures for introduction of prepayment meter in case of debt

A code of practice for the introduction of prepayment meters is likely to be necessary, to ensure certain procedures are followed before a prepayment meter is introduced in cases of debt. This may include offering payment restructuring plans, involvement of outside agencies, distinguishing customers in difficulty from those in default etc. These measures would ensure that the installation of a prepayment meter is appropriate.

However, if prepayment is not more expensive, the above cost issues disappear and become consumer choice issues.

Prepayment meters could influence any developments relating to debt management, as customers in debt often use prepayment meters. The introduction of prepayment meters may impact on some of the issues raised in the consultation paper “Debt Management and Market Opening”.

6 Next Steps

Many of the issues described above will only arise if prepayment has higher costs than other payment methods. For many customers prepayment may enable them to better manage their energy consumption and costs, removing worries about bills whose amount varies. Problems relating to bills based on estimated consumption and subsequent adjustment of accounts after actual meter reading are also avoided through the prepayment system. Prepayment may also prove to be a cost effective and convenient way of dealing with debt. Effective prepayment systems have been introduced in other countries, and some of the difficulties encountered by others can be overcome through the use of the latest systems which have been designed with these experiences in mind.

The introduction of any new prepayment system should be done on a phased basis to ensure its effectiveness and functionality.

The Commission welcomes the views, comments and suggestions of all interested parties regarding the points raised in this paper regarding the introduction of a prepayment system, as well as any submissions relating to current technological possibilities.