



Unmetered Supplies and the Carbon Reduction Commitment

Important changes following the Comprehensive Spending Review

As always, it is important to ensure that all activities and operations related to carbon reduction, energy management and procurement are considered as a whole, rather than as separate issues. The significant budget cuts that authorities face mean that more than ever, every penny counts and must be spent only where necessary. The inclusion of street lighting in the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES) is one such issue, and this briefing aims to explain the financial, carbon, procurement and operational issues and what authorities should do to minimise adverse impacts.

What has changed?

The October Comprehensive Spending Review proposed the simplification of the CRCEES. The most significant impact is that the cost of scheme participation has substantially increased. This is due to money raised through the sale of carbon allowance purchases no longer being recycled to participants (the exact amount being determined by performance in the league table). Instead all revenue raised from the sale of allowances will now be kept by the government.

“Revenues from allowance sales totalling £1 billion a year by 2014-15 will be used to support the public finances, including spending on the environment, rather than recycled to participants.” http://cdn.hm-treasury.gov.uk/sr2010_completereport.pdf

This has increased pan-London participation costs by approximately £12 million. As street lighting can account for a significant proportion of a council's carbon footprint, LEP in association with Power Data Associates have evaluated the situation and details of our analysis follow.

How is unmetered energy traded?

All unmetered energy is, by its very definition, 'unmetered'. There has been some confusion caused by the CRC terms 'passive, dynamic and pseudo Half Hourly metering'. The three types of *unmetered* trading are as follows:

- **Dynamic Half Hourly** (also referred to as pseudo Half Hourly metering by the CRCEES) – involves using the information from a PECU Array and/or any Central Management System (CMS) to calculate consumption
- **Passive Half Hourly** – instead of using a PECU Array (which records actual daylight conditions), it uses published sunrise / sunset times to calculate consumption. Passive HH customers are unable to use data from a CMS for billing purposes
- **Non Half Hourly** – uses a set of annual hours published by ELEXON. Whereas any form of HH traded UMS accurately profiles energy consumption and costs throughout the year, NHH traded UMS uses a simple Estimated Annual Consumption (EAC)

figure and divides this equally amongst all the days in the year. This means that NHH traded customers receive bills which vary only depending on the number of days in the month. Please note that published hours were revised recently: you may wish to check if your area has increased, as this has a cost impact. The changes in London are marginal.

What impacts do trading methods have in the CRC?

On the 24th January 2010, DECC issued guidance regarding unmetered supplies, specifically how unmetered energy was treated under the CRCEES. Dynamic Half Hourly is classed as a core source, which means it must be included in an authority's qualification, footprint and annual report and that the authority will have to purchase carbon allowances to cover those emissions. Dynamic Half Hourly UMS are classified as voluntary AMR and therefore their emissions provide an Early Action Metric (EAM) benefit.

Non Half Hourly and Passive Half Hourly traded UMS are not classified as core sources and are not required to be reported at all under the CRCEES. If a local authority is trading its unmetered supplies using either of these methods, it does not have to buy carbon allowances to cover those emissions.

What does this mean for local authorities?

Although Dynamic Half Hourly trading is the most accurate way of measuring unmetered energy, the announced changes to the CRCEES mean that authorities seeking to trade on the Dynamic HH market will pay £12 per tonne of CO₂. Those who trade on the Passive HH market will avoid paying for carbon allowances for their unmetered supplies. Therefore, switching where possible, on an interim basis to Passive Half Hourly trading, seems the most obvious way of managing the risks and costs of UMS within the CRCEES.

What are the costs for an authority?

- For a typical London authority with an annual consumption of 7,500,000 kWh and spending approx £600k on UMS energy, the cost of carbon allowance purchases would be:

$$(7,500,000 \text{ kWh} \times 0.001 \times 0.541) \times \text{£}12 = \text{£}48,690 \text{ per year}$$

- For a large county authority with annual consumption of 50,000,000 kWh the cost would be:

$$(50,000,000 \text{ kWh} \times 0.001 \times 0.541) \times \text{£}12 = \text{£}324,600 \text{ per year}$$

$$\text{tCO}_2 = \text{kWh} \times 0.001 \times 0.541$$

Carbon Allowance = 1 tCO₂ = £12 UMS price 8p/kWh

If an authority trades on the Passive Half Hourly market, will it benefit from any planned or already implemented energy saving initiatives?

Passive Half Hourly trading allows you to benefit financially and demonstrate carbon savings (though not under the CRCEES) from part night switch off, a single step part night dimming (i.e. 70% power from midnight - 5am) and any investment you have made in new, more energy efficient lamps.

All unmetered trading works off your detailed inventory, containing charge codes (power rating) and switch regimes (hours of operation). There are extra advantages from dynamic Half Hourly, which are not available from Passive Half Hourly. Benefits not achievable Under Passive HH include: 'Trimming', the use of lower lux photocells, which detect light levels and can be calibrated ('trimmed') to turn off earlier in the morning and to come on later in the evening and 'Variable Dimming' using a CMS, which enables the reduction of power, e.g. 80% 8pm - 10pm, 70% 10pm - midnight, then 60% midnight - 5am and then 80% till dawn. Data from CMS will not be used for billing purposes.

The key issue is that any savings offered through Dynamic trading are unlikely to outweigh the cost of the carbon allowances you would need to purchase. A quick calculation suggests the typical London borough above would need to reduce its UMS energy consumption by **8%, or 608,625 kWh** through trimming and variable dimming to make it financially viable to be Dynamic Half Hourly as opposed to Passive Half Hourly.

Does this have an impact on an authority's league table position?

Firstly, it should be noted that the CSR announcements mean that for the foreseeable future, the league table is for reputation purposes only and carries no financial benefit.

In year one, the only active performance measurement is the EAM. As a result, all competing organisations will be measured solely on the percentage of emissions covered across their organisation by voluntary AMR and/or by an approved carbon verification scheme.

Therefore, in Year One, if you have Dynamic unmetered supply, which counts as voluntary AMR and attracts Early Action Metric benefits, those emissions covered will have a positive impact on your league table position and in year one (2010-11), you are not required to pay for carbon allowances.

In year two the Absolute Metric (reduction in emissions) will account for 45% of a participant's score, Early Actions will account for 40% and 15% is attributable to the Growth Metric.

If you switch off your PECU array and revert to Passive HH traded unmetered supply, it may result in a lower league table position against the Early Action Metric benefit. On the other hand, by removing UMS, you will have reduced your emissions, which may result in a higher Absolute Performance league table position

The question for your authority is whether an improved or reduced reputational impact is worth paying for the extra carbon allowances you will

have to purchase from 1st April 2012 onwards. Given current and severe pressures to budgets, it seems most unlikely.

What should an authority currently trading on the Non Half Hourly market do?

There are many advantages to trading on the Half Hourly market. Half Hourly trading, be it Passive or Dynamic provides greater accuracy and visibility of energy consumption, allowing an authority to monitor and manage emissions more effectively. This was one of the reasons why DECC originally incentivised dynamic Half Hourly by counting it as an EAM.

There can also be significant cost savings in the p/kWh rate that you pay. In some distribution areas, the Distribution Use of System (DUoS) charges favour Half Hourly trading, because it more accurately reflects the time energy is used, i.e. mainly at non-peak times (night time). For example, in the Scottish & Southern Energy area in North Scotland, 2010/11 financial year, potential savings of 20% could be achieved, in North Wales, this saving was approx. 8%. In London, the savings are currently less pronounced. As savings are dependent on the distribution business area, authorities should contact their buying organisations (such as LASER or Buying Solutions) or Power Data Associates to establish if there are any potential benefits for switching.

What should my Authority do to reduce cost impacts?

The Environment Agency has stated that the CRC Order provisions do not prevent switching of electricity supply arrangements from Dynamic to Passive supply. CRC supply rules are that unmetered electricity supplies measured on a Passive basis are not classified as a CRC supply. Therefore it is correct to conclude a Passive supply is not reportable and has no surrender obligations under CRC.

DECC has confirmed that it is highly unlikely any changes will now be made to the CRCEES with respect to unmetered supplies within the introductory

phase. Given their plans to extend the introductory phase this means that any changes will not be introduced until the start of the second phase, now due to commence on the 1st April 2013. Note, there is a technical overlap of the introductory and second phases, therefore to clarify the position, allowance purchases are NOT required to cover the emissions from passive unmetered supplies in 2011/12 (purchase in arrears July 2012), 2012/13 and 2013/14. If passive unmetered supplies are eventually included in the CRCEES the earliest scheme year that allowances may need to be purchased to cover these emissions is in 2014/15.

Therefore, local authorities with Dynamic Unmetered Half Hourly supplies should contact their Meter Administrator / Distribution Business and request to switch to Passive Half Hourly effective from 1st April 2011 as **an interim solution**. They should also inform their buying organisations and utility suppliers if appropriate. If there are any contractual issues, such as termination clauses, these should be resolved as soon as possible.

Will the Distribution Network allow switching?

Currently the following Networks have indicated that they would support Passive Half Hourly trading on an interim basis: Scottish & Southern Energy, Scottish Power and UK Power Networks (formerly EDF Energy Networks). However discussions are currently ongoing with ELEXON and the other Distribution Businesses to see if they can/will facilitate Passive Half Hourly. There will be a meeting in January at ELEXON where this issue will be discussed and hopefully resolved. Following that meeting an update will be available. Please note, all London boroughs should be able revert to Passive HH UMS at the present time.

This information has been produced as part of the London Energy Project (LEP) to provide assistance to local authorities in respect of the CRCEES. It was prepared in good faith and is not a comprehensive summary of all aspects of the CRCEES but is intended to highlight some important aspects,

based on the current form of the government's proposals. Whilst reasonable steps have been taken to ensure the information is correct, you should be aware that the information contained in it may be incomplete, or may have become out of date. In addition although every effort has been made to establish and follow a robust reporting method, the accuracy of the information provided cannot be guaranteed. Accordingly, LEP and Power Data Associates make no warranties or representations of any kind as to the content of this information or its accuracy and, to the maximum extent permitted by law, accept no liability whatsoever for the same including without limit, for direct, indirect or consequential loss, business interruption, loss of profits, production, contracts, goodwill or anticipated savings. Any person making use of this information does so at their own risk. When any local authority or other person is considering the specific implications of the CRCEES for them or what action they should take in respect of any initiative, proposal or other involvement with any public private partnership, they should take specific legal, financial, technical and/or other relevant professional advice, as appropriate. Where products names or solutions are mentioned this is not intended to be nor should it be interpreted as an endorsement of, or recommendation for, any supplier, service or product.

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Power Data Associates are an ELEXON qualified Meter Administrator and member of the Unmetered Supplies User Group (UMSUG). We are the largest Meter Administrator in Great Britain, operating right across the whole of Great Britain. As an independent company we are not associated with an energy supplier or a Distribution Network Operator so are able to provide completely independent advice and focus on giving the Lighting Authority an excellent service.

Useful information on the differences between the trading methods and the potential savings for your area, are outlined in Power Data Associates presentation to APSE: <http://www.apse.org.uk/presentations/2010/10/roads-street-lighting-highways-maintenance-advisory-group/PDA.pdf>

An example of the types of information and reports available to you using Half Hourly metering:

http://www.powerdataassociates.com/Monthly_Report_Info_Note.pdf

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