

INTRODUCTORY PAPERS

Energy Efficiency Certificate Trading

**A Workshop in association with the
19th meeting of the IEA DSM EXCO**

Milano, Italy

17 April 2002, 8.30-18.00

**CESI
Via Rubattino, 54
20125 Milano - Italy**

Organised by:



CESI

**The workshop is hold under the aegis of the Italian Regulatory Authority for
Electricity and Gas, AEEG**

8.30 Registration

9.00 Welcome and Introduction;

*Hans Nilsson, IEA
A. Porrino, CESI*

Session A: Policy Overview (9.20-10.15)

A1: Certificate trading as a policy instrument – key design and policy issues.

Phil Harrington, IEA

- fundamentals of policy design
- how do tradable instruments create value?
- advantages and disadvantages relative to other approaches

Abstract

This presentation will provide an overview of certificate trading as a policy mechanism. It will describe how these schemes create value, how they work, and how they might complement (or conflict) with other policy approaches, particularly for energy efficiency. He will show that these schemes offer some real advantages, compared to more traditional policy approaches to demand-side management and energy efficiency. The key advantages include greater economic efficiency, certainty of outcome, negligible budgetary outlays/risks, and flexibility and “neutrality” in allowing private actors to find the least-cost pathways to the desired outcome. The certificate trading approach appears to be fully compatible with competitive electricity markets, where players are used to managing risks and conducting trades through a suite of derivative instruments.

At the same time, he will argue that these schemes can be complex, involve high administrative and compliance costs, and be difficult to negotiate even with future beneficiaries. There is also a key decision to be made about “boundary conditions” or objectives. That is, should these schemes focus on carbon, energy, efficiency, certain technologies, all sectors, some sectors? The answers to these questions have significant economic and policy consequences, while the debate over them can be a focus for political opposition. Finally there are significant issues in linking certificate trading schemes for different “commodities” (eg, efficiency, renewables, carbon) at the national level, and even more significant issues in linking schemes across national boundaries. The risk of legal disputes is not insignificant, particularly if property rights are not well-defined under the schemes. These issues are likely to attract increasing attention as Kyoto flexibility mechanisms gain in popularity in coming years.

The presentation will conclude that there is a strong *prima facie* case for developing trading schemes at the national level, including for energy efficiency, provided key policy design hurdles can be cleared. It will also conclude that the case for linking across national boundaries is less clear.

A2: The Kyoto Context

*Richard Baron, IEA¹
Poul Erik Morthorst, Risoe*

- relationships between different trading schemes/commodities and Kyoto obligations

Richard Baron:

The Kyoto Protocol sets legally-binding greenhouse gas emission objectives for most developed countries, combined with the possibility to trade emission reductions among these countries, with an aim to minimise the cost of their reduction efforts. A number of countries are designing domestic emission trading systems for CO₂ and other GHG to help them achieve necessary reduction and to link to a broader international regime under the Kyoto Protocol.

In parallel, a number of governments have introduced mandatory obligations to generate renewable electricity that can also be traded, on the basis of so-called “green certificates”, and energy efficiency goals seem next on the list. These instruments have clearly overlapping policy objectives, including CO₂ emission reductions. The presentation will touch on the following issues:

- Can we learn something from CO₂ trading when we think about energy efficiency certificate trading?
- Can and should bridges be built across different trading instruments?
- What would be gained from merging markets and what could be lost?

A more fundamental question is under what circumstances certificate trading may be the best available policy to foster energy efficiency improvements.

Session B: Country experiences (10.30-13.00)

B1: Certificate trading for energy efficiency – Italy *Roberto Malaman, AEEG
Marcella Pavan, AEEG*

Energy Efficiency Certificate Trading: food for thought from a recently launched Italian scheme

ABSTRACT

The promotion of energy efficiency in end-use sectors is one key tool to curb polluting atmospheric emissions and, in particular, greenhouse gas emissions from the energy system.

¹ The views are those of the author and do not reflect those of the IEA Secretariat or IEA member countries.

As the opening up of electricity and gas market to competition progresses new types of policy interventions and tools have to be designed to promote change in production and consumption behaviours. Two basic constraints hold: cost-effectiveness and coherency with a competitive market framework. In turns these constraints call for the introduction of policy mechanisms which are non distorsive, non discriminatory, flexible and transparent.

The design of an energy efficiency certificates trading scheme can, at least in principle, meet these requirements.

Italy is experimenting the use of such a mechanism for the promotion of demand-side management actions.

The Italian recently introduced scheme includes yearly quantitative targets for electricity and gas distribution companies, energy efficiency project made by distributors and Escos, energy efficiency certificates emission and trading, and sanctions for those distributors who don't reach the assigned target either through direct intervention or via certificates exchange. Certificates trading should guarantee that energy efficiency targets are reached at the minimum total cost.

The presentation will touch on the following main issues:

- key design choices and technical issues related to energy efficiency policy implementation
- alternative options regarding how to create a demand for certificates
- eligibility criteria for projects selection and evaluation approaches
- defining trading rules and non-compliance schemes
- tackling possible inter-relationships between certificate trading and energy prices regimes.

B2: Certificate Trading for UK's Energy Efficiency Commitment

John Costyn, OFGEM

Extract from:

Energy Efficiency Commitment

Administration Procedures (see also Appendix)

December 2001

Summary

The Electricity Act 1989 and Gas Act 1986, as amended by Sections 70 and 99 of the Utilities Act 2000 and Section 103 of the Utilities Act 2000, make provision for energy efficiency obligations to be set for electricity distributors and suppliers and gas transporters and suppliers.

The Electricity and Gas (Energy Efficiency Obligations) Statutory Instrument 2001 came into force on 15 December 2001. This Statutory Instrument, resulting from the consultation on the Energy Efficiency Commitment 2002-2005, sets out the framework for the obligation in relation to electricity and gas suppliers. It is Ofgem's duty to administer this programme, to be known as the Energy Efficiency Commitment (EEC).

The EEC 2002 – 2005 will follow on from the Energy Efficiency Standards of Performance (EESoP) programmes which began in 1994. It also forms part of the Government's Climate Change Programme and is highlighted in the Fuel Poverty Strategy.

All energy supplier groups with 15,000 or more domestic customers have an obligation to achieve improvements in energy efficiency. Suppliers will be required to meet this target by encouraging or assisting domestic customers to take up energy efficiency measures in homes. At least 50% of the energy savings must be targeted at customers receiving certain benefits or tax credits.

Suppliers have the option of trading either energy savings from approved measures or trading their obligations to another supplier. The Statutory Instrument states that in either case a written agreement is required from Ofgem before a trade can occur.

It is expected that suppliers will have the option of trading excess energy savings onto the national emissions trading scheme as carbon savings. The rules and mechanisms for this shall be devised by DEFRA and Ofgem when the emission trading policy has been finalised.

B3: Certificate trading for renewable energy – lessons learned - RECs in Europe

Peter Niermeijer, Ecofys NL (RECs group chair)

Abstract

RECS stands for Renewable Energy Certificate System. It is a company driven initiative to work on harmonisation of certificate systems in Europe. More than 150 companies are participating in this process from 14 countries.

A certificate has a life cycle: it is issued, it can be transferred from one owner to another and it can be redeemed (or consumed). This is done in such a way that fraud is impossible and a certificate represents uniquely a certain amount of renewable energy.

What are certificates used for

Certificates are used to facilitate the market for renewable energy. Different aspects of this market can be facilitated.

- The voluntary green market: in case a green kWh is sold the certificate should go with it. Only then the same kWh can not be used or sold twice.

- For obligations: in case a market player has to fulfil an (legal) obligation, the certificate should go with it. Only then can be avoided that the same kWh is sold on the free market as well.
- For a feed in system: financial support can be given per kWh, but the certificate should go with it. Only then can be guaranteed that the same kWh is not sold or used for an obligation as well.
- For import and export of electricity: In case electricity is exported the certificate should go with it. This has implications on the targets set in the directive per Member State.
- Certificates also can be used for labelling electricity, monitoring the targets set by governments and it is of course also a system for guarantee of origin as is required by the EU.

Lessons learned

We have to distinguish three aspects looking at green certificate systems: (1) first of all the certificate system themselves must be operating well with high reliability and reasonable cost, (2) there must be a demand for these certificates and (3) in case there is a certificate system in place and there is a demand, there will be trade. This trade must be facilitated to ensure some (price) transparency and stability in the market.

Systems can be build and initiated by companies, but the demand is always driven by forces in society. This means that concerning the demand side the government is one way or an other always involved. Especially when there is cross border trade possible. Harmonisation of the demand side becomes a big issue.

Getting the governments involved is important for the developments of green certificates in Europe. In the presentation more details will be given.

B4: Certificate trading for renewable energy – Australia

David Rossiter² Regulator, Office of the Renewable Energy Regulator

Abstract

Concern about climate change and concerted international action to reduce greenhouse gas emissions are powerful new drivers for renewable energy.

Australia has progressively adopted a series of policies relating to the climate change issue with the initial *National Greenhouse Response Strategy* of 1992 being added to in 1997 by a suite of policies under the banner *Safeguarding the Future* and developing into the *National Greenhouse Strategy* in 1998. A further policy package was announced in

² The authors wish to gratefully acknowledge assistance in writing this paper from other members of the Office of the Renewable Energy Regulator. Karla Wass manages the office of the Renewable Energy Regulator and David Rossiter is the Regulator

1999 under the heading *Measures for a Better Environment*. Together with State and Territory policies Australia now has over 100 policies aimed at the issue of climate change and backed by over A\$1billion of committed funds.

Australia has developed a national tradeable renewable energy certificate system to encouraging additional renewable energy in electricity supplies. The paper outlines the objectives of the Renewable Energy (Electricity) Act, its legal framework, describes the tradeable certificate mechanism and summarises the experience of the first year of operation of the Act.

Session C: Technical design issues – certificate trading for energy efficiency (14.00-16.30)

C1: Framing the market (Panel discussion)

Facilitator: Marcella Pavan

- who can sell? who must buy?
- target setting
- managing price risks

C2: Defining the 'currency' (Panel discussion)

Facilitator: Peter Niermeijer

- defining a project – against what baseline?
- eligible projects
- ensuring additionality
- certificate definition – units, tradability
- integrity/ security issues

C3: Trading mechanisms (Panel discussion)

Facilitator: P.E.Morthorst Risø National Laboratory

- registry structure
- who can trade?
- access for smaller players
- national vs international schemes

National environmental targets and international emission reduction instruments

Abstract

According to the agreed burden sharing within the European Union the overall EU emission reduction target as agreed by in the Kyoto protocol is converted into national greenhouse gas reduction-targets for each of the member states. In parallel with national emission reduction initiatives common EU policies for emission reductions are

considered. Currently discussed is the introduction of a market for tradable permits for CO₂-emissions to achieve emission reductions within the power industry and other energy intensive industries. This initiative from the EU-Commission has to be seen in the context of developing Kyoto-instruments for achieving CO₂-reductions, the Clean Development Mechanism and Joint Implementation. To a certain extent the EU emission trading market is a prerequisite for utilising Kyoto-instruments in the EU-policies for emission reduction.

In parallel with this markets for green certificates to deploy renewable energy technologies seem to be appearing in a number of countries, among these Denmark, Italy, Sweden, Belgium (Flanders), England and Australia. Although these national initiatives for a green certificate market are fairly different, they could be a starting point for establishing a common EU certificate market. But interactions between national targets for greenhouse gas emissions and these international instruments for emission reduction are not a trivial matter, especially not seen in relation to the possible contributions of these instruments in achieving national GHG-reduction targets.

The lecture discusses the implications of different trading schemes especially in relation to the EU member states' efforts in achieving their national CO₂-reduction targets. It is split into three parts all taking a liberalised power market as starting point: The first part discusses the consequences of a general deployment of renewable energy technologies, using planning initiatives or national promotion schemes (feed-in tariffs). In the second part an international green certificate market is introduced into the liberalised power market context, substituting other national promotion schemes. Finally, in the third part a combination of an international green certificate market (TGC) and an international emission-trading scheme for CO₂ is analysed within the liberalised international power market set-up. In this part is also treated the use of Kyoto-instruments as CDM and JI.

The main conclusion is that neither the use of national renewable support schemes nor the introduction of a TGC-market into a liberalised power market can be recommended, if these initiatives efficiently are expected to contribute in achieving the national CO₂-reduction targets. Countries most ambitious in implementing renewable energy technologies will only partly be gaining the CO₂-reduction benefits themselves. The ambitious countries will support the less ambitious ones in achieving their GHG-reduction targets. Finally, in a TGC-market context the most ambitious countries to fulfil their TGC-quotas will have to buy certificates from the less ambitious ones, although this only contributes to fulfilling a national target for renewable development, not in reaching their national CO₂-reduction targets.

However, a combination of an international tradable permits market and a green certificate market is seen to be efficient in contributing in achieving the national CO₂-reduction targets if a close co-ordination of the two instruments is undertaken at least at the national level: When the green power production is increased, the tradable permits quota should be decreased correspondingly. Otherwise the expected CO₂-reductions will not contribute by the full value in achieving the national targets for greenhouse gas reductions. Thus if it is a prerequisite that renewable power contributes to achieving

national GHG-reduction targets, then the combination of these two markets might be the right solution.

Session D: Gathering the Threads (16.30-18.00)

D1: Lessons learned (Open discussion)

Facilitator: Phil Harrington

- best practice policy design features
- assessment
- mechanisms for monitoring outcomes
- issues for further investigation

D2: Implications/Opportunities for IEA DSM (Open discussion)

Discussion Leader: Hans Nilsson

The DSM Programme (Implementing Agreement) has throughout its existence kept pace with development in market development to ensure that the opportunities to improve the efficient use of energy are recognised and used.

The work of the DSM agreement has covered issues of Policy, Technology and Measures (see table below) and could be used also for development of the Certificates. Typically the work within an Annex comprises elements both of gathering/exchange of experiences, analysis to find key issues, development of those and dissemination of the results.

ASPECT	YESTERDAY	TODAY	TOMORROW?
POLICY	I: INDEEP		Evaluation handbook
	IV: IRP Methods		Application in liberalised systems (e.g. trading schemes)
	VI Mechanisms to promote DSM		
		IX: Municipalities	Generator, transmission, operator perspectives
TECHNOLOGY	II: Communication		Metering and pricing
		(XI: New products and services)	<ul style="list-style-type: none"> • Software for gridfunctions, dispatching (follow up on VIII) • Decentralised Power
MEASURES	III: Technology Procurement	VII: Market Transformation	<ul style="list-style-type: none"> • Public Procurement • Technology Deployment issues
	V: Implementing in the market place		<ul style="list-style-type: none"> • Certificate Trading • Standards and labelling
		VIII: DS Bidding	Balancing systems
		X: Performance Contracting	Contracting developed

Appendix

Extract from: Energy Efficiency Commitment Administration Procedures

December 2001

Summary

The Electricity Act 1989 and Gas Act 1986, as amended by Sections 70 and 99 of the Utilities Act 2000 and Section 103 of the Utilities Act 2000, make provision for energy efficiency obligations to be set for electricity distributors and suppliers and gas transporters and suppliers by the Secretary of State for Environment, Food and Rural Affairs. The Electricity and Gas (Energy Efficiency Obligations) Statutory Instrument 2001 came into force on 15 December 2001. This Statutory Instrument, resulting from the consultation on the Energy Efficiency Commitment 2002-2005, sets out the framework for the obligation in relation to electricity and gas suppliers. It is Ofgem's duty to administer this programme, to be known as the Energy Efficiency Commitment (EEC).

The EEC 2002 – 2005 will follow on from the Energy Efficiency Standards of Performance (EESoP) programmes which began in 1994. It also forms part of the Government's Climate Change Programme and is highlighted in the Fuel Poverty Strategy.

All energy supplier groups with 15,000 or more domestic customers have an obligation to achieve improvements in energy efficiency. Suppliers will be required to meet this target by encouraging or assisting domestic customers to take up energy efficiency measures in homes. At least 50% of the energy savings must be targeted at customers receiving certain benefits or tax credits.

Ofgem is required to carry out a number of determinations in the course of administering the EEC. First, Ofgem is required to determine the energy efficiency targets for each gas or electricity supplier on whom obligations are imposed by the Order. Ofgem will adjust each supplier's target each year of the EEC. Second, Ofgem is required to determine whether any proposed action qualifies for the purpose of achieving the whole or any part of a supplier's energy efficiency target; and, if so, what improvement in energy efficiency is to be attributed to the proposed action, or to any result of that action specified in the determination. Suppliers will submit schemes for approval and through this Ofgem will determine which actions qualify. Determination of energy savings will be based on information collected from recognised sources. Ofgem will collect data on the measures actually installed in each scheme to determine the actual energy saving achieved.

Ofgem has developed procedures for the continuing monitoring of each supplier's progress against their target and compliance with their obligation. Another important part of Ofgem's role is to oversee the trading arrangements between suppliers. Suppliers will be required to notify Ofgem of all proposed trades and seek approval before finalising a transaction.

The Energy Efficiency Commitment is a statutory requirement on supply licensees. These administration procedures are designed to allow Ofgem to assess projects on a scheme by scheme basis as well as set up on-going monitoring of each supplier group's progress against their target.

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2. Target setting

The overall target

2.1 DEFRA has set suppliers a total target of 62 TWh of fuel-standardised energy savings to be met in efficiency improvements from April 2002 to March 2005. The illustrative mix of measures used to derive this target is set out by DEFRA on its website, <http://www.defra.gov.uk/environment/energy/eec/index.htm>. Ofgem shall be responsible for dividing the overall EEC obligation between suppliers in accordance with the apportionment curve in the Statutory Instrument.

Companies covered by the Energy Efficiency Commitment

2.2 Ofgem will determine the overall EEC obligation according to supplier group customer numbers. All supplier groups with 15,000 or more domestic gas or electricity customers will have a target.

2.3 All licensed suppliers will be required to provide, by 10 January, their domestic gas and domestic electricity customer numbers on the previous 31 December for each relevant year of the EEC. Ofgem shall collate this information and will be required to set the targets by 31 January. The targets will provisionally be set in January 2002 and then adjusted according to customer numbers on 31 December 2002 and 31 December 2003 in January 2003 and 2004 respectively.

2.4 As defined in the Statutory Instrument, a domestic customer is "a consumer to whom electricity or gas is supplied at domestic premises in any part of Great Britain (GB)." Where electricity or gas is supplied to a consumer at both domestic and non-domestic premises, the consumer will be classed as a domestic customer only at the domestic premises.

2.5 All licensed suppliers will also be required to explain their company group structure. The supplier group includes any holding company or subsidiary of the supplier with GB customers. In line with the legislation, targets will be set separately for gas and electricity. Ofgem will then add together each of these targets for each supply group.

Table 1: Timetable for setting and adjusting energy efficiency targets

Date of customer numbers	Suppliers provide customer numbers	Ofgem sets targets	Target status
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31 December 2001	by 10 January 2002	by 31 January 2002	Provisional target
31 December 2002	by 10 January 2003	by 31 January 2003	Adjusted target
31 December 2003	by 10 January 2004	by 31 January 2004	Final target

2.6 Targets will be set and adjusted according to the following rules.

- A supplier group with less than 15,000 domestic customers on the 31 December 2001, 2002 and 2003 will not have a target.
- A supplier group with at least 15,000 domestic customers on the 31 December 2001, 2002 and 2003 will have a target based on the average of these three customer numbers.
- A supplier group that exceeds 15,000 domestic customers only on one of the above dates, will have their target based on a third of their customer numbers on that date, even if this falls below 15,000 customers. The supplier will be subject to a target from that year until the end of the EEC. This is illustrated in table 2.
- A supplier with more than 15,000 customers on two of the dates when customer numbers are collected will have a target based on two-thirds of the averaged customer numbers on the two dates, even if this falls below 15,000 customers. The supplier will be subject to a target from this year until the end of the EEC. This is illustrated in table 3.

Table 2: Example 1, setting the target for smaller suppliers

Supplier A customer number on 31 Dec 2001	5,000	Not counted
Supplier A customer number on 31 Dec 2002	10,000	Not counted
Supplier A customer number on 31 Dec 2003	15,000	Counted
Customer number on which target is based for Supplier A	5,000	15,000/3

Table 3: Example 2, Setting the target for smaller suppliers

Supplier B customer number on 31 Dec 2001	10,000	Not counted
Supplier B customer number on 31 Dec 2002	15,000	Counted
Supplier B customer number on 31 Dec 2003	18,000	Counted
Customer number on which target is based for Supplier B	11,000	$(15,000+18,000)/2*2/3$

2.7 The model for target setting is set out in the Statutory Instrument and imposes progressively tighter targets for companies of increasing size. In order to apportion the overall target of 62 TWh, each supplier group's customer numbers will first need to be adjusted. These 'EEC-adjusted' customer numbers will then be used to divide up the overall target between the suppliers. The 15,000 domestic customer number target threshold will apply to actual, not adjusted, customer numbers.

2.8 For example, a supplier with 100,000 domestic customers will have an 'EEC-adjusted' customer number of 74,674, whereas a supplier with 1,000,000 domestic customers will have an 'EEC-adjusted' customer number of 869,951. The linking of domestic customer numbers to 'EEC-adjusted' customer numbers is incorporated in the energy saving target determination by the following

formulae (as used to specify the graph in DEFRA’s Statutory Instrument):

$$A = N \times (8.94 + \ln(N / (1 + 0.00008 \times N))) / 18.1284$$
 Where:
 A is the adjusted number
 N is the supplier’s customer numbers
 Ln is the natural logarithm

Table 4: Conversion of customer numbers to ‘EEC-adjusted’ customer numbers

No. of domestic customers	‘EEC-adjusted’ customer numbers
15,000	9,637
50,000	35,436
100,000	74,674
1,000,000	869,951
15,000,000	14,701,286

2.9 As stated in the Statutory Instrument, all licensed suppliers should inform Ofgem in writing if their domestic customers fall below, or rise above, the 15,000 threshold at any time during the EEC. However, there will be no mid year adjustment of targets.

2.10 Suppliers will be able to use energy efficiency improvements from electricity, gas, coal, oil and liquid petroleum gas to meet their targets, as the target will be in fuel standardised units. Although the target will be set on a supplier group’s domestic gas and electricity customer numbers, the efficiency schemes do not have to be contained to the supplier’s own customers and can include households using solid and liquid fuels.

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Qualifying measures

3.16 Ofgem is responsible for determining which measures are qualifying action under the EEC and the improvements in efficiency to be attributed to each measure. Qualifying action is described in the legislation as an ‘activity that produces an improvement in energy efficiency.’

3.17 As the overall EEC target is a numerical, energy saving one, ‘qualifying action’ must be quantifiable. The accredited energy savings for each qualifying measure will be taken from approved sources; for instance the figures for insulation and condensing gas boilers will be obtained from the Building Research Establishment (BRE). As far as possible energy savings from measures will be calculated in the same way as DEFRA’s illustrative mix of measures.

3.18 Ofgem’s scheme submission pro forma sets out the standard energy efficiency measures and the energy saving attributed to them. These energy savings will not be altered over the course of the EEC. If any new standards are introduced

for these measures which affect the energy savings, these will be assessed and classed as new measures.

3.19 Where a supplier wishes to employ a new or innovative measure, Ofgem will require that supplier to provide independent verification from a body accepted by Ofgem as being qualified to assess the savings. All innovative schemes should be submitted for pre approval. Ofgem may ask for additional information to accompany an application for a new measure.

3.20 Suppliers will be limited in the number of compact fluorescent lamps (CFLs) they can mail out to customers. Firstly, CFLs provided for free are limited to four per household. Where a cost contribution is made from the customer the limit is six CFLs. Suppliers must offer a choice of lamps, i.e. in packs of 2, 4 or 6 as well as offering a choice of wattages to customers. Where the supplier wishes to have a scheme where the customer can choose to purchase 5 or 6 lamps these lamps must be sold for at least 50% of the purchase price from the manufacturer or for more than £1.50 each.

3.21 For schemes offering candle lamps it might be appropriate to increase the number of lamps, but this will be assessed on a scheme by scheme basis. Ofgem also requires suppliers to limit the receipt of a lamp offer from its own schemes during the course of the EEC to one per household.

3.22 Lamps that are delivered with another measure are limited to six, with the customer being offered a choice, as above, in the number of lamps taken.

3.23 Many of the respondents to Ofgem's consultation document questioned the level of loft insulation top-up, in relation to the new Building Regulations. Where appropriate Ofgem strongly encourages suppliers to provide top-up to 250mm for professional installations, to reflect these regulations, and to install lower levels where the higher level is not possible for technical reasons.

Energy services

3.24 DEFRA has provided an incentive for energy service schemes. Energy service schemes that conform to the definition in the Statutory Instrument will be accredited with an additional 50% of energy savings. This incentive will be limited to 10% of a supplier's overall target.

3.25 As set out in the Statutory Instrument, energy service schemes must include two qualifying measures. One of these measures must be insulation to the loft or the walls, a boiler or CHP. The energy service agreement also requires the supplier to undertake an assessment of the premises, provide relevant advice and offer customers the option of deferring payments for the measures.

3.26 The uplift for energy service schemes will be based on the measures installed in the home and not for the assessment of the property or the provision of advice to the consumer. An assessment of the property should ideally involve a home visit and could take place when the house is surveyed for measures. However, a telephone interview or sending a form to a household for the customer to

complete will also be eligible for the assessment part of an energy service. Suitable questionnaires are Do-It-Yourself Home Energy Checks (DIY HECs) or other similar telephone questionnaires. On-site property assessments could include more comprehensive audits such as SAP or National Home Energy Rating (NHER) surveys.

3.27 The provision of advice should follow the assessment of the property. Suppliers should advise on any suitable measures, to be funded through the energy service scheme. Further advice should then be offered relating to the measures provided as well as general energy efficiency advice. Advice offered to customers should conform to the minimum requirements of the Code of Practice on the efficient use of gas and electricity, supply licence condition 25.

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5. Trading

5.1 Suppliers have the option of trading either energy savings from approved measures or trading their obligations to another supplier. The Statutory Instrument states that in either case a written agreement is required from Ofgem before a trade can occur. It is important that Ofgem is kept aware of all the trades that take place but given that all schemes have to be approved agreeing to trades is not expected to be time consuming and merely for the purpose of tracking energy savings.

Trading energy savings

5.2 Obligated suppliers are able to buy or sell energy savings from approved measures to each other under the EEC. Energy savings will be allocated to one supplier (first supplier) from another supplier (second supplier) in the trade. Ofgem will require details of the proportion of these savings met through the priority group.

5.3 The second supplier will be responsible for fulfilling any relevant monitoring and reporting requirements for the energy savings transferred.

5.4 Suppliers should provide the required information on the trade, i.e. the savings and the Priority group benefit, and then seek agreement from Ofgem before completing the trade.

Trading obligations

5.5 Suppliers also have the option to trade either their complete obligation or part of their obligation to another supplier. The supplier paid to meet the extra target will then be required to meet both the energy saving target and fulfil all other requirements for compliance.

5.6 Each supplier involved will be required to provide information on the trade, which will involve a written agreement from each supplier identifying who shall

take on responsibility for meeting the supplier's obligation and the terms and conditions. It is imperative that the level of obligation to be traded is clearly stated, along with the proportion that will count towards the priority group. Ofgem will then offer written agreement and adjust the targets of the suppliers involved accordingly.

5.7 If the suppliers involved in a trade want to change the contractual agreement, for example after an increase or decrease in the level of the traded obligation following adjustment in target on the 31 January 2003 or 2004, both parties to the trade should inform Ofgem in writing.

Trading on the national emissions trading scheme

5.8 It is expected that suppliers will have the option of trading excess energy savings onto the national emissions trading scheme as carbon savings. The rules and mechanisms for this shall be devised by DEFRA and Ofgem when the emission trading policy has been finalised.