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Tackling electricity theft - Consultation

Consultation

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Overview:

Theft of electricity has a material impact on customers in terms of cost and safety. We consider that the existing regulatory framework does not adequately encourage suppliers to be proactive in detecting theft. In this document we are requesting views on proposed new supply licence obligations to strengthen the arrangements for tackling theft and on the proposed role of Distribution Network Operators (DNOs) in tackling theft when it is not responsibility of suppliers. We are also consulting on additional policy measures and proposals to support suppliers in investigating, detecting and preventing theft.

Context

This document reflects the commitment set out in Ofgem's Forward Work Programme 2013-14, to support industry initiatives to introduce revised theft arrangements and consider whether further action is required.

The focus of this document is on the electricity market. We intend to build upon and further develop new arrangements for tackling gas theft developed in 2012.

Our proposals also support several key themes outlined in the Ofgem's Corporate Strategy and Plan 2011-16. These include: promoting value for customers and protecting the interests of vulnerable customers, helping to maintain security of supply and contributing to the achievement of a low carbon economy.

Associated documents

- Tackling gas theft: the way forward and Final Impact Assessment, March 2012, Ofgem (Ref: 35/12) http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=100&refer=Markets/RetMkts/Compl/Theft
- TRAS Direction, January 2013, Ofgem http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=149&refer=Markets/RetMkts/Compl/Theft
- Theft of Gas and Electricity - Discussion Document, April 2004, Ofgem (Ref: 85/04) http://www.ofgem.gov.uk/Markets/RetMkts/Compl/Theft/Documents1/6839-8504Energytheft.pdf
- Theft of Gas and Electricity - Next Steps, January 2005, Ofgem (Ref: 06/05) http://www.ofgem.gov.uk/Markets/RetMkts/Compl/Theft/Documents1/9342-next_steps.pdf
- Theft of Energy Incentive Group – Final Proposals, June 2007, ENA and ERA http://www.energy-retail.org.uk/documents/ReportoftheTheftIncentiveSchemeDevelopmentGroup-FinalProposalsJune2007.pdf
- DCP080/80A – Theft in conveyance, September 2011, Ofgem http://www.ofgem.gov.uk/Licensing/ElecCodes/DCUSA/Changes/Documents1/DCP080%20080A%20D.pdf
- Standing Issue 39 Final Report, February 2011, Elexon http://www.elexon.co.uk/Pages/Issue39.aspx
- Strategy consultation for the RIIO-ED1 electricity distribution price control - Outputs, incentives and innovation, September 2012, Ofgem (Ref 122/12) http://www.ofgem.gov.uk/Networks/ElecDist/PriceCntrls/riio-ed1/consultations/Documents1/RIIOED1SConOutputsIncentives.pdf

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Executive Summary

Theft of electricity increases the costs paid by customers and can have serious safety consequences. It leads to misallocation of costs among suppliers that can distort competition and hamper the efficient functioning of the market. It also has links to organised crime, and in particular cannabis cultivation.

We consider that existing statutory duties, licence conditions and industry code requirements are insufficient to ensure that electricity suppliers or Distribution Network Operators (DNOs) undertake sufficient activity to detect and deter electricity theft to protect honest consumers from harm arising from electricity theft.

We consider that Ofgem's role in this context is to facilitate the development of effective arrangements to tackle energy theft.

In September 2012 we consulted on our proposed strategy to develop new arrangements for tackling electricity theft that mirrored the new regulatory framework set out in the gas sector.

In light of the positive responses received, we have developed policy proposals designed to support suppliers in their actions to investigate, prevent and detect theft. Our proposals include:

- Introducing new licence conditions for electricity suppliers to strengthen their obligations to investigate, detect and prevent electricity theft
- Considering incentive measures to support suppliers in their activities to tackle theft
- Establishing a Theft Risk Assessment Service to facilitate industry actions to tackle theft
- Setting out our approach to new obligations for DNOs to tackle theft in circumstances where it is not the responsibility of suppliers

Our initial assessment of the proposed incentive measures is set out in a draft Impact Assessment, which is published alongside this document. Our analysis suggests that these measures have the potential to help reduce the incidence of electricity theft and that well calibrated combinations of such measures would provide most benefits for customers and the market more widely.

We are seeking responses to the consultation questions set out in this document and the draft Impact Assessment – as well as any other comments – by 28 August 2013. In the light of this feedback, we aim to publish our decision on how to take forward the proposed licence amendments in Q4 2013.

We do expect the industry to maintain, as a minimum, the current level of performance in tackling electricity theft whilst the proposed policy measures are being developed and introduced.

1. Introduction

Chapter Summary
In this chapter we describe the impact of theft and present our role in delivering appropriate regulatory arrangements. We then summarise previous work on electricity theft, associated work on gas theft and other related work areas.

Materiality

Costs

1.1. The total amount of electricity theft is unclear but some estimates put it at exceeding £200m per year[1].Suppliers and DNOs report that they find around 20,000 to 25,000 thefts per year. Moreover, the questionnaire used to inform our 2011 consultation on tackling theft[2] revealed that the retail value of the volume of electricity illegally taken that was detected in 2009 and 2010 was £21,719,285 and £19,116,506 respectively[3].

1.2. However, suppliers will sustain other costs aside from the retail value of the volume of electricity illegally taken –such as costs for investigating theft and repairing and replacing meters and equipment. DNOs also incur investigation costs. Such costs will then be passed on to consumers. Table 1 shows the results from our questionnaire.

Table 1 - Summary of costs of theft (response rate in brackets)

	2009	2010
Supplier investigation costs (direct + overhead costs)	£13,988,037 (80%)	£15,626,695 (79%)
Supplier disconnection, reconnection and meter replacement costs	£2,815,486 (82%)	£2,433,315 (82%)
DNO investigation costs	£5,923,883 (90%)	£6,546,975 (90%)

Source: Ofgem analysis 2011

[1] Industry estimate the total amount of energy stolen (electricity and gas) to be around £400m.
[2] See 'Overview of energy theft questionnaire' published by Ofgem, March 2012. http://www.ofgem.gov.uk/Markets/RetMkts/Compl/Theft/Documents1/Overview%20of%20questionnaire%20responses%20on%20theft%20of%20energy.pdf
[3] In recent meetings with suppliers and DNOs, parties have indicated that the retail value of detected theft in the past two years is in the order of £20m to £30m

Safety

1.3. Theft of electricity also has safety implications for customers that commit the offence as well as other individuals in close proximity. There is anecdotal evidence of fatalities and injuries.

1.4. Data on injuries and fatalities linked to illegal abstraction of electricity is not easily accessible. The only information available consists in the reporting submitted to the Health and Safety Executive (HSE) by DNOs and meter operators in accordance with Paragraph 31 of the Electricity Safety, Quality and Continuity Regulations (ESQCR)[4]. Information available shows that in 2012 there were four reported cases of serious injuries (ie electric shock and burns to hands and face). It is worth noting, however, that the reporting requirements of paragraph 31 ESQCR do not apply to suppliers. Hence, there is the possibility that the actual number of cases is higher than what reported to the HSE.

Cannabis cultivation and electricity theft

1.5. According to data provided to us by electricity suppliers, cannabis cultivation accounted for around a third by volume of all electricity illegally abstracted at premises where theft was detected in 2010. The corresponding figure reported by DNOs, based on their own records, was just over half the volume of all electricity illegally abstracted. Suppliers and DNO have told us that detections of cannabis farms has increased since then, particularly in London and surrounding counties, the West Midlands and Yorkshire.

1.6. Cannabis farms require large volumes of electricity to operate. Based on our interviews with suppliers and DNOs, recently detected cannabis farms have, on average, an estimated consumption of around 12,000 kWh per month, 40 times the typical domestic consumption of around 300 kWh per month. This consumption is often not paid for, either because it is unrecorded (because of meter tampering) or because the bill is not paid. Although both can result in losses to the industry and customers, for the purposes of this report we only consider losses due to unrecorded consumption.

1.7. Theft linked to cannabis cultivation is particularly concerning because:

- Each case of cannabis farm theft involves high volumes of electricity
- Electricity theft relating to cannabis farms can be more expensive to investigate, and suppliers and DNOs told us that there is a risk of serious physical harm to the investigating staff
- From the supplier's point of view there is little or no prospect of recovering amounts due to them following detection.

[4] See: http://www.legislation.gov.uk/uksi/2002/2665/regulation/31/made

1.8. The combination of these features means that cannabis farm theft is particularly costly for suppliers to detect, with little or no additional benefit to the supplier resulting from detection. On the other hand, the benefits to other bill-paying customers from the detection or prevention of such theft are potentially much greater than in relation to other types of theft.

Role of Ofgem

1.9. We consider that Ofgem's role in this context is to facilitate the development of effective arrangements to tackle energy theft. This is consistent with our principal objective to protect the interests of current and future gas and electricity consumers and our duties, for example in relation to safety. The tools that we intend to use to deliver this requirement are the following:

- Propose licence conditions, where necessary, to establish the broad regulatory framework
- Set out principles for new licence obligations on the requirement for DNOs to tackle theft where it is not responsibility of the supplier
- Enforce existing and new licence requirements
- Fulfil our responsibility to consider modifications to industry codes and approve these where we consider that they will deliver benefits
- Continue to work with the industry to develop and refine proposals to improve electricity theft arrangements

Links to other areas

Smart metering

1.10. The roll out of smart meters is expected to have a positive impact on reducing electricity theft. Firstly, the replacement of existing metering stock will remove existing meter tampers and may identify other tampers to the network that do not involve the meter. Secondly, it is intended that smart meters will be able to provide tamper alerts to give warning that a theft may be occurring. Lastly, more detailed consumption data should enable suppliers to better spot instances where unexpected levels of consumption suggest that there is a risk that a meter is not correctly recording consumption, including where this may be caused by theft[5].

Consumer vulnerability strategy

1.11. Ofgem is about to publish its new Consumer Vulnerability Strategy. This Strategy will set out our approach to understanding and tackling consumer vulnerability across our work. The Strategy aims to avoid a 'tick box' approach to

[5] New technology may also lead to new mechanisms for theft being developed. It is therefore important that the regulatory framework is capable of responding to this the dynamic nature of electricity theft.

considering consumer vulnerability and instead strives to identify which consumers might be vulnerable in different situations, and for what reasons. The Strategy recognises that vulnerability is about the situations in which consumers are in, rather than about the individual per se. Risk factors can stem from personal circumstances as well as from the behaviour and actions of the market itself. The Strategy puts in place a programme of work to identify and tackle vulnerability in the energy market.

Electricity specific proposals

1.12. In October 2009, Electricity North West Limited proposed a change to the Distribution and Code of System Agreement - DCUSA (DCP054[6]). This proposal sought to require each supplier to have in place a Revenue Protection Service[7], to have its arrangements audited and for there to be proper governance of the existing Revenue Protection Code of Practice. The aim of this proposal is to ensure that work is undertaken to detect and prevent theft and that theft, where it is identified, is correctly accounted for by settlement arrangements. A final draft of the code of practice has been produced and the change proposal is due to be considered by the DCUSA Panel in summer 2013.

1.13. As part of its considerations, the workgroup identified two specific issues that required resolution prior to the introduction of any improved arrangements: (1) definition of theft in conveyance; and (2) recording of found units into settlement. These issues have been further developed in two independent workstreams:

- *Definition of theft in conveyance* - DCP080 and DCP080A[8] sought to introduce "theft in conveyance" as a defined term into the DCUSA and to clarify the circumstances where either a supplier or a DNO would have responsibility for charging the customer where theft has occurred from the DNO's equipment. The Authority rejected DCP80 and accepted DCP80A, which defines theft in conveyance as any illegal abstraction of electricity for use other than at premises where any metering points or metering systems are registered.
- *Recording of found units into settlement* - A working group under the Balancing and Settlement Code (BSC) reported to the Panel in 2010 on a number of proposals to clarify responsibilities and propose possible arrangements[9]. Parties developed options to create mechanisms for entering stolen units into settlement. These were presented in a Final Report. While considering raising a modification, the workgroup concluded that it would be best to do so after getting more clarity over the contents of the code of practice developed within DCP054 and on Ofgem's proposals to tackle electricity theft.

[6] See http://www.dcusa.co.uk/Public/CP.aspx?id=68
[7] An organisation with the capability of detecting, investigating and preventing theft.
[8] See the Authority decision letter published on Ofgem's website: http://www.ofgem.gov.uk/Licensing/ElecCodes/DCUSA/Changes/Documents1/DCP080%20080A%20D.pdf
[9] See Standing Issue 39 Report http://www.elexon.co.uk/Pages/Issue39.aspx

1.14. A DCUSA party has raised a further issue in early 2013 with the DCUSA Standing Issues Group to consider efficient arrangements for moving unregistered customers to a position where they are registered by a supplier[10]. The effect of this change would be that customers not registered by a supplier would fall within the current registration arrangements, pay for the energy they use in the same way as other customers and would be able to change supplier if desired and enjoy the benefits of the smart meter roll-out. We will support the industry through the code modification process should this progress further into a DCUSA change proposal.

Structure of this document

1.15. This document is structured as follows:

- In Chapter 2 we discuss the current regulatory framework and the incentive problem suppliers currently face that may create obstacles to further theft investigation, detection and prevention activities
- In Chapter 3 we set out proposals to introduce new electricity supply licence obligations to deliver improvements to the electricity theft regime.
- Chapter 4 summarises the proposed policy measures to improve theft investigation, detection and prevention.
- Chapter 5 summarises the findings of our draft impact assessment (IA) on the proposals to improve theft detection[11].
- Chapter 6 sets out our approach to new obligations for DNOs to tackle theft
- Chapter 7 sets out our initial conclusions and next steps

[10] DIF 28 'Getting unregistered consumers registered by a supplier'
[11] Tackling electricity theft: Draft impact assessment, published 3 July 2013 on the Ofgem website

2. Understanding the current framework

Chapter Summary
In this chapter we describe the relevant aspects of the current regulatory framework and discuss the incentive problem suppliers face to increase efforts to tackle theft.

Current regulatory framework

Suppliers

2.1. Electricity suppliers are required by their licences to detect and prevent electricity theft. SLC 12.1 of the Electricity Supply Licence obliges all suppliers to take steps to tackle electricity theft[12].

2.2. Suppliers must inspect non-half hourly meters (where they are continually the supplier) every two years[13], including for signs of meter tampering and damage. Suppliers are also required to inform the DNO where they have reason to believe that there has been interference with metering equipment that prevents it from registering the correct quantity of electricity supplied[14].

2.3. Where electricity theft takes place, the units consumed are not entered into settlement through this process (at least not until the theft is detected)[15]. Any shortfall in reported unit consumption, compared to units generated (plus technical and other losses), is smeared across all suppliers through a correction process.

Distribution Network Operators

2.4. Until recently, DNOs had commercial incentives to reduce the amount of electricity illegally taken[16]. DNOs are also required under Standard Licence Condition

[12] In particular, SLC 12.1 states that: "The licensee must take and must ensure that its agents take all reasonable steps to detect and prevent: (a) the theft or abstraction of electricity at premises supplied by it; (b) damage to any electrical plant, electric line or Metering Equipment through which such premises are supplied with electricity; and (c) interference with any Metering Equipment through which such premises are supplied with electricity."
[13] In 2012 Ofgem decided to consent to British Gas' request to apply alternative meter inspection arrangements, subject to certain conditions, for a period of three years starting in April 2013
[14] See Clause 30.9 of DCUSA
[15] All electricity suppliers are required to sign and comply with the BSC. Suppliers have an obligation to ensure that they provide accurate meter readings for settlement. The BSC requires each supplier to appoint agents, called Data Collectors. Data Collectors read meters regularly and collect meter readings for settlement. The process for collecting meter data is set out in BSC procedure documents BSCP502 and BSCP504 (also available from the Elexon website)
[16] As part of the fifth electricity Distribution Price Control Review, DNOs were incentivised to reduce losses (including theft) against a target level. Under this mechanism DNOs would benefit by 6p for every kWh of theft reduction. However, this incentive has been removed due to concerns around the integrity of data available to support the mechanism.

(SLC) 27 of their Distribution Licences to provide information to suppliers when they suspect or identify theft or damage[17].

2.5. DNOs have identified concerns with the current commercial arrangements affecting the revenue protection (RP) activities and unregistered customers, and are currently working on proposed changes to DCUSA to enable more efficient action.

Interactions between suppliers and DNOs

2.6. Theft detection activities are currently organised in different ways. As far as theft from premises with a registered supplier are concerned, three broad types of arrangements are currently in place as presented in Table 2:

- In-house service carried out by the supplier (or its subsidiary or affiliate)
- Service contracted to a third party
- RP services provided by the local DNO under DCUSA and charged according to terms set out in its Miscellaneous Charges Statement. Suppliers are able to opt out of the DNO RP service under DCUSA, and some have chosen to do so.

2.7. We also gathered data from four out of the six DNOs; they cover 8 of the 14 areas in GB. The four DNOs that we spoke to considered theft in conveyance[18] to be their sole responsibility, rather than of any supplier. These DNOs used one of two approaches to tackle theft in conveyance:

- Two DNOs use the services of a subsidiary of suppliers. This service is also offered to other suppliers in their areas
- The other two DNOs use an in-house service. Again, this service is offered to all suppliers operating in their areas.

[17] DNOs are required under SLC27 of the Distribution Licence to "inform the Authorised supplier in question of [a suspected case of interference with the metering equipment] as soon as is reasonably practicable". DNOs are also under Section 9 of the Electricity Act 1989 to "develop and maintain an efficient, co-ordinated and economical system of electricity distribution".
[18] For a definition of theft in conveyance, see discussion on DCP80 at pag. 19.

Table 2 - Summary of different revenue protection arrangements of suppliers

	In-house RP services	Third party contract (not DCUSA)	DNO under DCUSA
How the activities are organised	All activities done by the supplier (including subsidiaries or affiliates) - identifying new leads, responding to tip-offs, site visits, loss estimation and recovery. Local DNO may still provide emergency "make safe" services.	Third party responsible for investigations and site visits. Local DNO may still provide emergency "make safe" services.	The local DNO carries out investigations, site visits, meter replacements and other electrical work. Investigations may be triggered by the supplier or by the DNO.
How the activity is funded	Internal budgets	Commercial contract covers amounts payable to the third party. Payment terms could be on a per site visit, per investigation or per detection basis.	DNO charges according to the schedule set out in their annual Miscellaneous Charges Statement approved by Ofgem. Miscellaneous charging statements are published on DNO websites.
Use of arrangements	Five out of the large suppliers have in-house RP services. Three of these use in-house RP services across GB. The remaining two use in-house RP services only in areas where they have historically had a larger number of customers	One large supplier uses an independent provider to provide RP services in certain geographical areas.	One large supplier relies on the local DNO for RP services across all areas. Another "big six" supplier uses the DNO service in all but two DNO areas across GB.

Role and incentives for electricity suppliers

2.8. This section considers the role of electricity suppliers in tackling electricity theft. It starts with a discussion of what we consider to be desirable behaviour and then discusses some concerns that, under current industry arrangements, the nature and scale of activities that suppliers will carry out to detect and deter theft are not aligned with what would be in the interests of the industry as a whole and consumers.

Desirable behaviour

2.9. This section identifies the actions by suppliers that are relevant to tackling theft. We categorise these actions into four broad types further discussed in the following paragraphs.

2.10. *Actions to detect theft* - Theft detection covers the entire range of activities that suppliers may undertake to aid the timely detection of theft. This may include:

- Prompt and proportionate response to tip offs or leads received from DNOs and other parties such as the police, local authorities or customers
- Visual inspection of meters on a regular basis, either as part of regular visits to read meters or targeted inspections based on a risk assessment
- Desktop analysis of metered consumption data to identify suspicious consumption patterns. This can be useful in identifying premises that have an unusual consumption pattern, eg a sudden drop in metered consumption. While such analysis will not remove the need for a visual inspection, it can be used to better target such inspections. In addition, as the number of smart meter installations increases, such analysis could become more sophisticated.

2.11. *Actions to make accurate estimates of the volume of electricity stolen following detection, and then to enter this volume into the settlement system* - Electricity theft, from the point of view of settlement arrangements, is a problem of under-recording of actual consumption. The design of the settlement system means that the costs associated with the under-recorded consumption are shared between honest bill-paying consumers. As part of efforts to tackle theft, it is important that any additional smeared cost arising from unrecorded consumption on consumers that do not take an illegal electricity supply is minimised.

2.12. *Actions to recover amounts due in relation to detected cases of theft* - After each detection, suppliers would seek to recover the costs of the electricity stolen, plus any investigation and detection costs (including meter replacement).

2.13. *Actions to prevent or deter theft* - Suppliers should also take proportionate steps to prevent and deter electricity theft. This could include making meters harder to tamper with and working with the police to support (and publicise) successful prosecutions.

2.14. These actions involve costs; how far a supplier should go on undertaking these actions will depend on the materiality of theft (ie the value of the electricity stolen) compared with the potential benefits of those actions. Our concern is the extent to which suppliers have obligations and incentives that are likely to encourage them to make a reasonable balance between the benefits (to consumers) from these actions and their costs.

The incentive problem

2.15. There is a risk that existing statutory duties, licence conditions and industry code requirements are insufficient to ensure that electricity suppliers undertake adequate activity to detect and deter electricity theft to protect honest consumers from harm arising from electricity theft. For instance, while SLC 12.1 requires suppliers to take "all reasonable steps" to detect and prevent theft, there may be different interpretations about what level of activity is reasonable. Furthermore, for reasons explained in the next section, it is possible that each supplier taking all reasonable steps does not necessarily lead to overall efforts to tackle theft that are in the best interests of consumers.

2.16. In the September 2012 consultation on setting the next electricity distribution price controls from April 2015 (RIIO-ED1), we identified that suppliers have "strong commercial disincentives" to detect and prevent electricity theft[19]. We proposed a range of policy measures, including the identification of principles for a scheme to address the disincentives that suppliers face in detecting theft. Our initial view was that the proposals for a gas theft detection incentive scheme for the gas market would also be appropriate for electricity.

2.17. We have identified features of the current GB electricity industry arrangements that mean that (leaving aside its legal obligations) an electricity supplier may face financial incentives to take an approach to tackling electricity theft that is not in the best interests of those consumers that do not take an illegal electricity supply.

2.18. Two specific features of the industry stand out in this respect: pass-through of the costs of undetected theft; and exposure to settlement charges when theft is detected. These are discussed below.

Pass-through of the costs of undetected theft

2.19. Under the current electricity settlement arrangements, each supplier pays generation, network usage and balancing charges based on the estimated consumption by its customers in each half-hour period.

2.20. Where electricity theft goes undetected, the costs of the stolen electricity (eg generation and distribution costs) are spread across all suppliers in the industry and are likely to be passed on to consumers. For as long as the illegal consumption remains undetected, the supplier would face no direct charges or costs in connection with the volumes of electricity abstracted at registered premises.

2.21. A supplier therefore may face no costs (other than missed opportunities for profit) when one of its customers engages in electricity theft. This limits the financial incentives that the supplier has to take steps to prevent theft by its customers. It also limits the supplier's financial incentives to detect theft by its customers: any benefit to the supplier from theft detection (eg revenues generated from subsequent lawful consumption following detection) may be offset by the additional costs it incurs for electricity consumption that may otherwise go undetected.

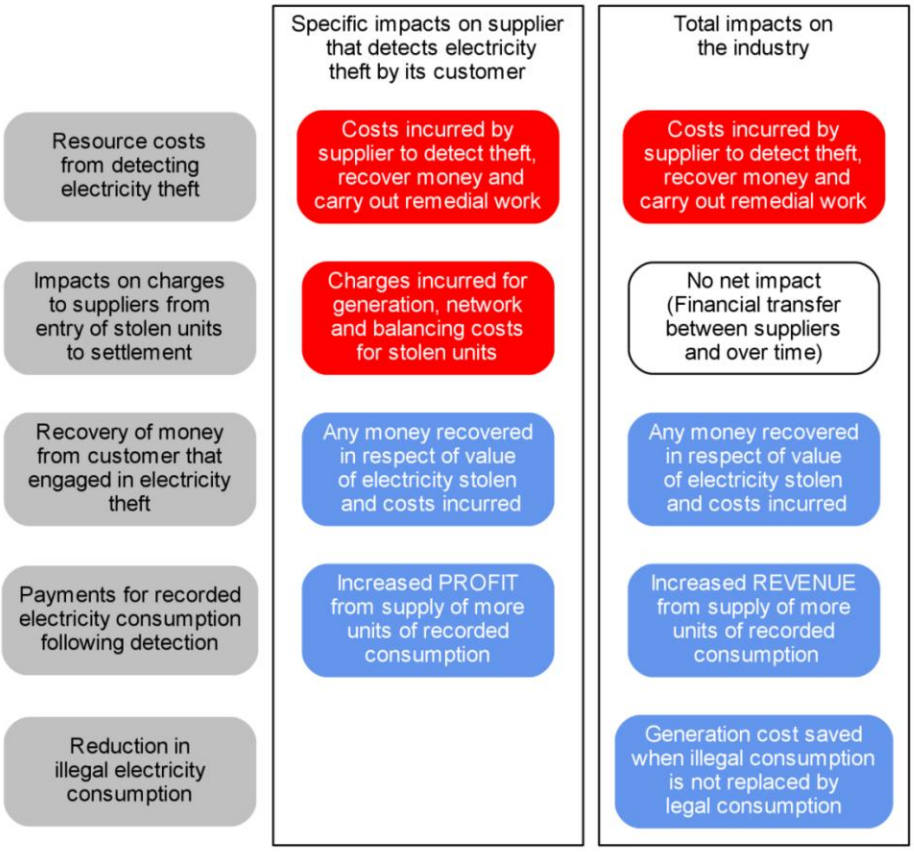
2.22. Our analysis discussed in the draft IA shows that the net benefit to the electricity supplier from theft detection and prevention is less than the net benefit to the industry as a whole. We explain this in more detail below, using the example of theft detection.

[19] Ofgem (2012) Strategy consultation for the RIIO-ED1 electricity distribution price control Outputs, incentives and innovation, page 44 and 45

2.23. We are not saying that electricity suppliers do not have financial incentives to detect or deter electricity theft, other than from legal obligations. This depends on a range of factors, including the costs of investigation and the likelihood of recovering revenues with respect to the value of electricity stolen. Rather, this discussion shows that electricity suppliers are unlikely to have financial incentives to carry out theft detection and deterrence activities to the extent that is in the interests of the industry as a whole and of honest consumers.

2.24. Figure 1 provides a summary of the main financial impacts arising from an electricity supplier detecting a case of electricity theft by one of its customers (compared to the hypothetical counterfactual where that theft goes undetected). It identifies several different types of impact, and it distinguishes between positive (in blue) and negative (in red) impacts for the industry as a whole. It also distinguishes impacts on the supplier that detects theft by its customer from impacts across all suppliers in the industry. Competition between suppliers will tend to mean that impacts and effects experienced across the industry will be passed through to consumers, so what might be an industry impact in the first instance will ultimately be a consumer impact.

Figure 1 – Summary of financial impacts of theft detection



2.25. The impacts captured in Figure 1 imply that:

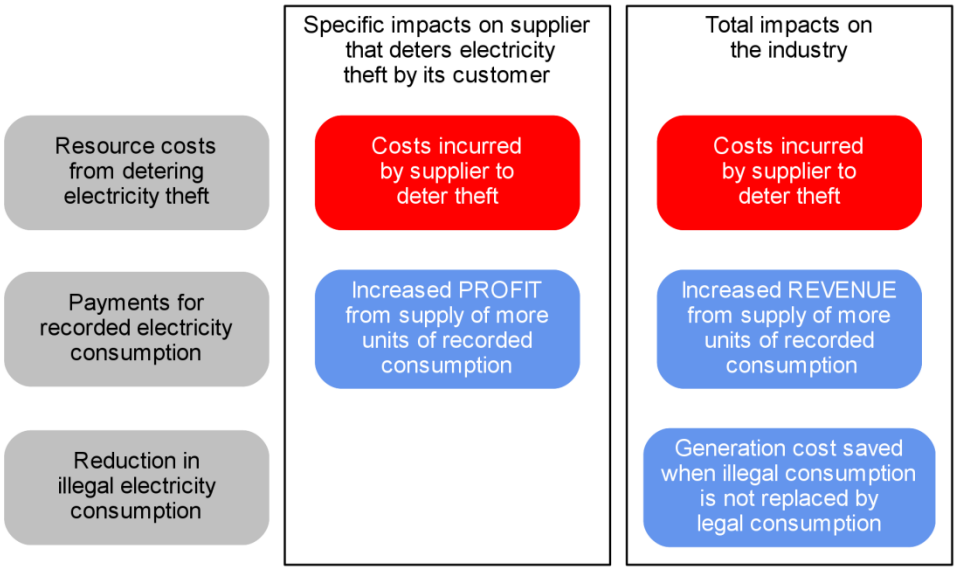
- The financial benefits to an electricity supplier from detecting electricity theft by its customers are likely to be smaller than the financial benefits to the industry as a whole from detecting that theft. The financial benefits to the industry include the potential resource (eg fuel and generation) cost saving from lower electricity consumption following detection of a case of theft, however the supplier detecting the theft does not benefit from this saving to any greater degree than other suppliers. In addition, in relation to correctly recovered consumption following detection, the total industry benefit is the total revenue from that consumption (which includes energy, network and balancing costs), whilst the specific benefit to that supplier is only the profit it earns on that supply (revenue minus its costs).
- The costs faced by an electricity supplier in detecting electricity theft by its customers may be greater than the costs to the industry as a whole. In particular, when it detects electricity theft by one of its customers, the supplier may incur liabilities relating to generation, network and balancing costs associated with the entry to the settlement system of estimates of the volume of electricity stolen by that customer. On the other hand, this action does not lead to an increase in costs at the level of the industry as a whole. Distribution and transmission network operators, and balancing and system operators, are subject to price controls set by Ofgem, and any increase in their revenue caused by unexpected additional volumes would result in lower unit charges for all suppliers in the following charging year. Energy charges paid by the supplier on the volumes entered into the settlement system would be treated as a reduction in unexplained losses, leading to lower unit charges for all suppliers operating in each GSP Group area in each of the settlement periods in question[20].

2.26. The fact that the individual supplier faces a higher cost and lower benefit from theft detection compared to the industry as a whole means that, in economic terms, theft detection activity by an electricity supplier imposes a "positive externality" (ie a benefit resulting from a transaction in which they had no direct involvement) on other suppliers in the industry and, in turn, on consumers.

2.27. A similar analysis applies in the case of potential action to prevent and deter electricity theft, other than through investigation and detection (see Figure 2). The net benefit to the electricity supplier from theft prevention and deterrence is likely to be less than the net benefit to the industry as a whole (leaving aside legal obligations).

[20] See http://www.elexon.co.uk/reference/technical-operations/gsp-group-correction-factors/ for further details

Figure 2 - Summary of financial impacts of theft prevention and deterrence



2.28. In the past, these concerns about the financial incentives on suppliers to tackle theft have been mitigated in part by the existence of incentive schemes applied to DNOs as part of the electricity distribution price controls. These schemes provided financial incentives for DNOs to reduce losses on their networks and are likely to have encouraged DNOs to take action to reduce electricity theft, including working with suppliers. These schemes have been withdrawn[21] due to concerns around the integrity of data available to support the mechanism in its wider application to reducing network losses and there is the risk that this may negatively affect the level of theft-detection activities carried out by electricity suppliers.

Exposure to settlement charges when theft is detected

2.29. When a theft is detected, the supplier is expected to enter a reasonably accurate estimate of the volume of units that have been stolen into settlement, at which point the supplier becomes liable for the cost of electricity generation, network and balancing charges in relation to those units. The possibility that any theft is eventually detected means that a supplier is exposed to the financial risk of incurring charges relating to the volume of electricity stolen. This exposure provides the supplier with some financial incentive to prevent electricity theft or to detect any cases of theft earlier rather than later, so that the settlement charges upon detection are kept as low as possible.

[21] Ofgem's decision to not activate the scheme during the fifth price control period (2010-2015) is set out here: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=755&refer=Networks/ElecDist/Policy/losses-incentive-mechanism

2.30. At a high level, the arrangements governing the treatment of stolen units following detection are as follows:

- The DCUSA "working practice" suggests that the supplier must pass on these units to their NHHDC[22].
- The BSC procedure (BSCP 504) says that the NHHDC must include such units received in their submission for settlement.
- At that point, the relevant supplier becomes liable for energy and network costs associated with those units irrespective of whether the supplier is able to recover any money from the customer in relation to the stolen electricity.

2.31. We have carried out research and held meetings with suppliers and DNOs to gain some understanding of current practices in relation to electricity theft volumes and the settlement system. There is uncertainty as to what happens, and there are limits to the availability of verifiable information, mainly because suppliers' data systems may not allow data relating to theft to be distinguished from other data entered for settlement. However, anecdotal evidence shows that suppliers do not always enter a reasonably accurate estimate of the volume of units that have been stolen following detection of electricity theft into settlement. Even when they do, suppliers have not produced sufficient audit trails that would satisfy external industry auditors. This practice allows suppliers to lower their potential exposure to settlement charges when a theft is detected, and therefore dampens the supplier's motivation to prevent and deter the theft in the first place.

2.32. In practice, however, BSC audits have found that "the majority of suppliers do not provide details of any unrecorded units notified to them by the Revenue Protection Service provider to the NHHDC"[23].

2.33. Technical Assurance Checks carried out by the organisation appointed by Elexon have found that "there is very little (in fact most cases none) engagement between Suppliers, NHHDCs and RPSs regarding the processing of revenue protection units"[24].

2.34. Additionally, the Performance Assurance Board, which reports to the BSC Panel has identified "the risk that stolen energy notified by Revenue Protection units is not used in calculations by Suppliers and NHHDCs resulting in inaccurate data being entered into Settlement" as one of the "top Settlement Risks"[25].

2.35. These statements cast some doubt on whether appropriate estimates of stolen units are being entered into settlement following a successful theft detection.

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[22] See Slide 10 of "Technical Assurance Checks Outcome Report – The processing of revenue protection reads by Non Half Hourly Data Collectors (NHHDCs) and Suppliers" (April 2010). Available from http://www.elexon.co.uk/wp-content/uploads/2013/01/Website_TA-Checks-Outcome-Report_RPr-v1.0.pdf

[23] See http://www.elexon.co.uk/wp-content/uploads/2012/08/Non-Confidential-ELEXON-Market-Issues-Supplier-0312.pdf

[24] Technical Assurance Checks Outcome Report – The processing of revenue protection reads by NHHDCs and Suppliers, Elexon (April 2010)

[25] Annual Performance Assurance Report 2011/2012, Elexon 2012

3. Enhancing obligations on suppliers

Chapter Summary
This chapter sets out our proposals to introduce new electricity supply licence obligations on tackling electricity theft.

Question 1: Do you agree with our proposals to introduce new electricity supply licence obligations in relation to theft?

Question 2: Do you agree that our drafting proposals set out in Appendix 3 reflect the policy intent described in this chapter?

Question 3: Do you consider that electricity suppliers should be required to offer vulnerable customers and customers that would have genuine difficulty paying, different methods for the repayment of charges associated with electricity theft as an alternative to disconnection?

Question 4: Do you agree that our proposed new electricity supply licence conditions should be introduced as soon as reasonably practical?

3.1. As discussed in the previous chapter, the incentives on suppliers to proactively detect electricity theft are, in many cases, weak. While some suppliers consider that they have a commercial incentive to be proactive, this position is not shared by all parties.

3.2. This has led to significant differences between suppliers in their approach to theft detection. While we recognise that there may be differences between supplier portfolios, we consider that there is scope for suppliers to increase their efforts to tackle theft to ensure that overall the industry undertakes a proportionate response to the impact of theft on customers and the market.

3.3. Our aim is to put in place effective and proportionate arrangements to tackle theft. To facilitate this, we propose to introduce new licence obligations on electricity suppliers setting out requirements in relation to the detection, prevention and investigation of electricity theft.

3.4. We are requesting views on our proposals to introduce new licence obligations discussed in this chapter and on our proposed licence drafting set out in Appendix 3.

The objective

3.5. We propose to introduce an overarching objective to require suppliers to detect, prevent and investigate theft. The obligation would apply to any premises where the licensee is the registered supplier. This will require suppliers to cooperate with other licence holders where necessary and ensure that when a supplier undertakes steps to meet its requirements, its behaviour and actions towards customers are fair, transparent, not misleading, appropriate and professional.

3.6. In setting this objective we have included damage to equipment as well as theft of electricity as we consider that damage may also lead to unrecorded electricity consumption and potential safety concerns. We consider that suppliers should therefore make efforts to identify damage, remedy it and prevent it from occurring in the first place. For clarity, our proposal in relation to theft of electricity described below also relate to damage to equipment unless explicitly stated.

3.7. The aim of the objective is intentionally broader than the offences created under Schedule 6 of the Electricity Act. We consider that suppliers should have a general requirement to be vigilant in protecting customers from the impacts of theft and damage to equipment. In the remainder of the licence we set out explicit requirements that the supplier would need to undertake to help meet the objective.

Duty to detect and prevent

3.8. We propose to support the new objective with explicit requirements on a supplier to detect and prevent theft of electricity at premises where it is the registered supplier.

3.9. We consider that suppliers should make reasonable efforts to detect any damage to equipment or theft at premises where they supply electricity. We recognise that there may be circumstances where theft or damage has occurred in the course of conveyance. We set out our proposed approach to DNOs' responsibilities for tackling theft in conveyance in Chapter 6. We would also expect suppliers and DNOs to establish standards for this exchange of information in a code of practice.

3.10. We have modelled this obligation on the arrangements set out in SLC 12.1 of the Electricity Supply Licence. We note that the obligation is broader than just the meter and its immediate installation and relates to theft and damage at premises supplied.

3.11. We consider that "prevent" has two connotations in the context of this licence condition. Firstly, the supplier should stop the theft from continuing to occur once it is identified. Secondly, it should seek to prevent the customer from undertaking theft in the first instance. This should include measures to deter customers from undertaking this activity and measures to deliver the physical security of the supply. We note that other parties, such as DNOs will also have responsibilities for aspects of physical security of the network. Our licence proposals are not intended to reduce the requirements of any other party in relation to theft or damage to equipment.

Duty to investigate

3.12. We also propose to introduce a duty on electricity suppliers to investigate once they suspect theft of electricity. We consider that this duty would complement obligations to detect and prevent theft. It would seek to ensure that when theft is suspected, reasonable efforts are made to determine whether it had occurred.

3.13. Recognising that it can be difficult, in practice, to obtain evidence of theft, we propose that this obligation would require a supplier to take all reasonable steps to determine whether an illegal supply has been taken. We would expect the code of practice to set out standards for the quality of investigations. We are also proposing to establish explicit standards in relation to the treatment of customers within the licence. These are discussed later in this chapter.

Introducing a new arrangement for theft detection

3.14. In Chapter 5 we summarise our proposed additional measures to improve electricity theft investigation, detection and prevention. Our proposal would allow Ofgem to direct what arrangements should be implemented to improve theft detection and prevention. Our intention would be to set out the key elements of the chosen scheme within the Ofgem direction. Our proposals would also set out a timeframe within which the scheme must be delivered.

3.15. We intend to place an obligation on electricity suppliers to co-operate in the delivery of these new arrangements to improve theft detection and prevention. In addition to the delivery of revised arrangements to detect theft, we are proposing that suppliers co-operate to identify where improvements to these arrangements could be made and implement these improvements where it is proportionate to do so.

3.16. These proposed new obligations reflect our concerns that implementing new arrangements to increase theft detection, while beneficial to customers and the market as a whole, may not be commercially desirable for an individual supplier.

Standards of customer treatment

3.17. In this section we propose requirements for electricity suppliers on the treatment of customers when investigating a suspected electricity theft. In particular, we set out specific proposals for the treatment of vulnerable customers, including those that are likely to have genuine difficulty in paying charges. We are proposing minimum standards for the provision of information to customers and the standard of proof required before a supplier takes action to disconnect or levy charges on a customer associated with a theft of electricity. We also set out proposals to distinguish the treatment of customers where a theft has occurred from the debt provisions set out in SLC 27 (Payments, Security Deposits and Disconnections).

3.18. For clarity, our proposals also relate to the actions of any agent or representative of the supplier.

3.19. We intend to monitor supplier behaviour on theft investigations. We will work with suppliers to detail specific auditing and reporting requirements as part of the discussions on the implementation of the new theft arrangements.

Disconnection and vulnerability

3.20. In addition to Ofgem 2011 proposals on disconnections in relation to smart meters[26], we propose that suppliers should be required to take all reasonable steps to identify vulnerability before considering whether to disconnect a customer on the grounds of theft[27].

3.21. Wherever possible the goal should be to maintain supply to customers identified as being in a vulnerable situation. Once identified, we are therefore proposing that suppliers take all reasonable steps not to disconnect these customer groups during winter. Our proposals focus on the winter months as the potential consequences for vulnerable customers not having an electricity supply could be greatest during these months. This proposal is also in line with the debt and disconnection prohibitions (for unpaid charges) set out in the electricity supply licence[28] that relate to the winter months.

3.22. Suppliers have powers to disconnect customers and demand charges when, on the balance of probabilities, a theft offence has occurred. This is a decision that a supplier would take rather than a court. The consequences of this action for customers are likely to have a high impact. Our proposals reflect our view that, for some groups of customers, such as those who are of pensionable age, disabled or chronically sick, the consequences of disconnection can be more severe and potentially life threatening.

3.23. We consider that any obligation on disconnection should be supported by a code of practice that establishes, among other things, clear rules for the identification and treatment of consumers in vulnerable situations, to ensure that an increase in theft detection activity does not have an undue impact on these customers. Energy UK's Safety Net provides a broad definition of vulnerability that may be suitable for these purposes. We seek views on the scope of definition of vulnerability within the context of electricity theft, also taking into consideration our new Consumer Vulnerability Strategy to be published in summer 2013.

3.24. In some circumstances, for example where a vulnerable customer repeatedly tampers with their electricity supply and puts themselves or others in danger, then disconnection may be an appropriate response[29]. In doing so, we would expect

[26] In support of the rollout of smart metering, we have consulted on strengthening consumer protections. We would expect suppliers to take this guidance into account, as appropriate, when investigating compliance under our proposed licence modifications. See Smart Metering Consumer Protections Package – Statutory Consultation, published 30 June 2011 http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=Smart%20Metering%20Consumer%20Protections%20Package%20-%20Statutory%20Consultation.pdf&refer=Sustainability/SocAction/Publications.

[27] ERA suppliers have established a Safety Net commitment - not to knowingly disconnect a vulnerable customer. http://www.energyretail.org.uk/preventingdisconnection.html. In addition, Ofgem published its "Review of protection for vulnerable customers from disconnection" in October 2009 (Ref: 121/09). http://www.ofgem.gov.uk/Sustainability/SocAction/Publications/Documents1/Review%20of%20vulnerable%20customer%20disconnections%20report.pdf.

[28] See SLC27.10 and 27.11 http://epr.ofgem.gov.uk/document_fetch.php?documentid=15667.

[29] A decision on whether to disconnect on grounds of safety is likely to be made by the DNO rather than the supplier. However, a supplier may choose to exercise its powers to disconnect where an offence has

suppliers to notify the relevant authorities (eg Social Services). This should be done at the time of disconnection, where possible. This would allow the relevant authorities to make alternative arrangements for the vulnerable individual or anyone else in the house being put in danger by the tampering. We consider that the new code of practice will set out common rules for suppliers for tackling these situations in conjunction with customer representative bodies.

Payment and vulnerability

3.25. As per our gas proposals, our electricity proposals would require suppliers to offer vulnerable customers to recover any charges associated with the electricity theft via a prepayment meter, unless it is not safe or reasonably practicable in all of the circumstances to do so[30]. We are also requesting views on whether it would be appropriate in the case of electricity theft to require suppliers to offer vulnerable customers other payment arrangements as an alternative to disconnection, in particular, whether it would be practical for suppliers to offer to enter into regular repayment arrangements or for payments to be deducted from social security benefits[31].

3.26. Prior to disconnection or a demand being made for charges where an offence has occurred, we propose to require that suppliers should seek to identify customers that may have a genuine difficulty in paying charges. For the avoidance of doubt, this would include charges associated with the offence committed such as the cost of the investigation or a meter exchange.

3.27. In instances where such customer has been identified, we propose to require that suppliers should seek to keep the customer on supply by offering to recover any charges associated with the electricity theft through a prepayment meter. We also consider that suppliers should act in accordance with the recommendations of Ofgem's debt review key principles[32]. For example, a supplier should not insist on substantial upfront payments before reconnection where the customer would not be able to make this payment or by doing so would put them in serious financial hardship.

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occurred and the matter has not been remedied (eg where outstanding charges have not been paid).

[30] Our 30 June 2011 consultation on smart metering consumer protections noted above also proposes that suppliers should have regard to guidance provided by Ofgem on the interpretation of when it is safe and reasonably practicable to fit a prepayment meter. We would similarly expect suppliers to take this guidance into account, as appropriate, in the context of our proposals on electricity theft and we would consider it in relation to any investigation on licence compliance.

[31] See for example electricity supply licence SLC27.6(a)(i) and SLC27.6(a)(ii).

[32] See Appendix 1 of Ofgem's Review of suppliers' approaches to debt management and prevention, published June 2010 - (Ref: 69/10) http://www.ofgem.gov.uk/SUSTAINABILITY/SOCACTION/PUBLICATIONS/Documents1/Debt%20Review%20Report.pdf.

Determination of an offence

3.28. The consequences for a customer if its supplier incorrectly considers that theft has occurred are significant. These include disconnection and requests to repay charges including the cost of the investigation and meter works. Our proposals therefore require suppliers to ensure that they have sufficient evidence on the balance of probabilities to establish that theft has occurred by the customer directly or by culpable negligence before disconnecting the customer or seeking to recover any charges associated with the offence[33].

3.29. Our proposals reflect the difficulty that some customers currently face in challenging a supplier's decision. Where there is a dispute over whether an offence has occurred then this may currently need to be resolved through the courts which may be prohibitive for some customers in terms of time, cost and effort required.

Customer communications

3.30. We consider that customers should be provided with timely (ie on the doorstep) and appropriate information during any theft investigation and subsequent follow-up where theft is detected. This would help customers to understand what action is being taken, why and how it can be challenged.

3.31. We are therefore proposing a new licence condition on electricity suppliers to ensure that customers are informed on:

- Who is undertaking the investigation and why
- On what basis a supplier considers that an offence has been undertaken
- The basis of any assessment of charges made by the supplier
- What the customer could do to reinstate their supply following any disconnection and how to challenge the supplier's decision[34].

Clarification of disconnection provisions in SLC27

3.32. We are concerned that the current drafting of SLC27 (Payments, Security Deposits and Disconnections) does not provide a robust framework for the protection of all vulnerable customers and customers that have a genuine difficulty in paying charges where a theft has occurred. It is only those customers that have an existing debt that are covered by the prohibition on disconnections (SLC27.9 to 27.11B). For example, if a vulnerable customer did not already have a debt with its current

[33] Ofgem provided guidance on the use of disconnection powers relating to theft in October 2010. http://www.ofgem.gov.uk/Markets/RetMkts/Compl/Theft/Documents1/Open%20Letter%20on%20Theft%20Disconnections%20(Final).pdf

[34] The ERA Safety Net (www.energy-retail.org.uk/documents/Disconnection_AW2.pdf) sets out the commitment of large suppliers not to knowingly disconnect vulnerable customers on grounds of debt, and standards for follow-up to understand whether customers that have been disconnected are vulnerable. We consider these standards should be adopted in relation to customers disconnected on grounds of theft.

supplier then the licence would not prohibit disconnection during winter[35] on the grounds of theft. However, if there was an outstanding debt then a disconnection on the grounds of debt would not be permitted.

3.33. We propose to amend SLC27 in recognition of the more targeted customer protections noted above that specifically deal with theft of electricity. Our proposal would clarify that the prohibitions on disconnection under SLC27 do not apply where a supplier is using its specific disconnection powers on theft. Our proposals seek to place appropriate safeguards for the protection of specific groups while recognising that an offence has occurred and that there are costs and safety implications for other customers.

Code of practice for investigations

3.34. A proposal to introduce a code of practice is currently being developed under the DCUSA arrangements[36]. We consider that the code of practice should apply to both the domestic and non-domestic markets.

3.35. To facilitate the continued alignment of the proposed code of practice with the objectives of the DCUSA, the change proposal would require a modification of the relevant objectives of the DCUSA. This change would insert a new relevant objective to secure compliance with the requirements of the new supply licence obligations on electricity theft. This would provide a point of reference for any related changes to the DCUSA and would also require parties to make efforts to ensure that the DCUSA facilitates the requirements of the new theft licence condition[37].

[35] We note and welcome the commitments provided under the ERA's Safety Net not to disconnect vulnerable customer at any time of year, where for reasons of age, health, disability or severe financial insecurity, that customer is unable to safeguard their personal welfare or the personal welfare of other members of the household.
[36]See DCUSA website for further details.
[37] SLC 11 of the electricity supply licence requires a supplier to comply with DCUSA (See http://epr.ofgem.gov.uk/EPRFiles/Electricity_supply_standard_licence_conditions_consolidated%20-_Current%20Version.pdf).

4. Policy measures to improve prevention, investigation and detection

Chapter Summary
In this chapter we describe the key features of our proposed additional measures to support suppliers in their theft investigation, prevention and detection activities.

4.1. This section sets out our proposed set of measures in relation to electricity suppliers. They include establishing a Theft Risk Assessment Service (TRAS), implementing enhanced audit and performance assurance arrangements and principles for new incentives to support suppliers in their actions to investigate, detect and prevent electricity theft. We also present alternative measures for the industry to consider.

4.2. We have produced a draft Impact Assessment (IA) which is published alongside this document. As discussed in Chapter 7 of the draft IA, the features of the current arrangements in the electricity industry mean that while each of these measures could bring benefits, on their own they may carry risks of perverse or unintended consequences. In order to mitigate these risks, it may be necessary to adopt a "package" of these different measures rather than a single measure.

4.3. We are seeking views on the policy measure (or package of policy measures) that, if implemented, has the potential of delivering best outcomes for consumers in the IA. We also provide a qualitative assessment of the impact of each policy measure in Chapter 5 of this document.

Improving incentives

4.4. In the following paragraphs we discuss a set of measures and incentive schemes that may support suppliers' action in investigating, detecting and preventing theft. In the discussion we set out the principles of potential incentive schemes; it would be for any industry party to progress work and decide to propose one or a combination of these (or alternative) measures as an industry modification.

4.5. Some incentive measures may be complementary, others are substitutes. One of the incentive measures (the detection-based incentive) is similar to the scheme developed for tackling gas theft[38].

[38] See link below for further details of Ofgem's proposals for tackling gas theft
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=136&refer=Markets/RetMkts/Compl/Theft

Detection-based incentive scheme

4.6. A detection-based incentive scheme, to be set up as part of an industry code, would offer suppliers an incentive payment for each confirmed case of theft detected. These principles would be similar to the one discussed in our gas theft proposals.

4.7. The purpose of this incentive scheme would be to provide an incentive for suppliers to tackle theft by transferring some of the industry-wide benefits of theft detection to suppliers who are, relatively speaking, more proactive in this regard. Different incentive payment rates for different types of theft might be considered to reflect differences in the benefit from detection between them. We have identified two possible options for this incentive scheme.

4.8. One type of detection-based incentive scheme might have the following features:

- The incentive scheme would pay a fixed amount to suppliers for each confirmed case of theft detected. The fixed incentive amount could vary by the type of theft detected to reflect differences in the cost and benefits to the supplier concerned (domestic/commercial/cannabis farms).
- The incentive payment would only be paid if the supplier provides, or makes available for independent verification, evidence that a reasonable estimate of units stolen has been made and entered into settlement. This may require refinement of the existing BSC procedures.
- The incentive scheme would be funded by all suppliers in proportion to their market share (either in terms of MPANs or settled volumes).
- There would be no annual cap on the number of detections or the overall amount that can be paid out under the scheme.

4.9. A possible variation on this scheme that could be considered as an alternative might have the following features:

- An industry-level theft target would be established, to be met by all suppliers. This target would be expressed in terms of the number of theft detections within a given period.
- An incentive pot for suppliers would be set up, the size of which would be based on an estimate of the costs that would be incurred by suppliers in achieving the theft target. The pot might be split by theft type, provided that the target is also split this way.
- The incentive pot would be funded by all suppliers in proportion to their market share (either in terms of MPANs or settled volumes). The incentive pot would be distributed at the end of the period in proportion to the number of detections achieved by each supplier in that period. Only detections for which the supplier provides, or makes available for independent verification, evidence that a reasonable estimate of units stolen has been made and entered into settlement would qualify for the incentive.
- Measures may be put in place to ensure that suppliers have frequently updated information about the number of detections.

4.10. There are two important differences between the two variants:

- If a fixed amount per detection is set in advance with no incentive pot (as per the first example above), each supplier will know the expected reward per detection with certainty. This means that suppliers would be able to compare the costs of carrying out additional theft investigation activity with the benefits arising from detection. However, because the incentive is funded by suppliers and there is no cap on the total incentive amounts paid out, suppliers face uncertainty in the cost of funding the scheme.
- If an incentive pot is set up (as per the second example above), each supplier would know the extent of their contribution to the incentive pot in advance, but they will not know the value of the reward that they would receive per detection until the end of the incentive period. This means that suppliers will have to plan their theft investigation activity on the basis of a forecast of expected revenue.

4.11. In both cases, we expect the incentive scheme to be revenue neutral, ie the aggregate amount paid in by suppliers would be equal to the aggregate amount paid out (minus administration costs).

4.12. The TRAS (described in more detail below) could be given the responsibility for aspects of such an incentive scheme, including setting the incentive payment rates and the size of an incentive pot, as well as providing information to the market on the number of successful detections. Also, the TRAS could be responsible for assessing the performance of the industry and conducting benchmarking analysis.

Settlement volume-based incentive scheme

4.13. A settlement volume-based incentive scheme, to be set up as part of an industry code, would offer suppliers an incentive payment for each unit of electricity entered into settlement following a confirmed case of theft detected.

4.14. The purpose of this incentive scheme is to provide an additional incentive for suppliers to tackle theft by transferring some of the industry-wide benefits of theft detection to suppliers who are, relatively speaking, more proactive in this regard.

4.15. A volume-based incentive rate (in p/kWh) means that detecting a higher value or longer running theft would bring with it a greater reward to suppliers. The rewards would include:

- For each detected case of theft, the incentive scheme would pay a fixed amount to suppliers for each unit (kWh) entered into settlement representing unrecorded consumption relating to that case
- To prevent fraud or error, suppliers must be able to demonstrate that these units represent a reasonable estimate of unrecorded consumption
- The incentive scheme would be funded by all suppliers in proportion to their market share (either in terms of MPANs or settled volumes). There would be no annual cap on the number of detections or the overall amount that could be paid out under the scheme

4.16. As with the detection-based incentive scheme, a variation of this scheme based on an incentive pot could be considered as an alternative. Such a variation might have the following features:

- An industry-level theft target would be established, to be met by all suppliers. This target would be expressed in terms of the volume of theft-related units entered into settlement within a given period of time.
- An incentive pot for suppliers would be set up, the size of which could be based on an estimate of the costs that would be incurred by suppliers in achieving the theft target.
- The incentive pot would be funded by all suppliers in proportion to their market share (either in terms of MPANs or settled volumes). The incentive pot would be distributed at the end of the period in proportion to the number of theft-related units entered into settlement by each supplier in that period. Suppliers must be able to demonstrate that these units represent a reasonable estimate of unrecorded consumption.
- Measures could be put in place to ensure that suppliers have real time information about the qualifying volumes entering settlement.

4.17. As with the detection-based incentive, there are two important differences between the two variants of the volume incentive scheme:

- If a fixed amount per unit is set in advance with no incentive pot (as per the first example above), suppliers would be able to compare the costs of carrying out additional theft investigation activity with the benefits arising from detection. This might encourage suppliers to direct their efforts towards those types of theft that involve high levels of unrecorded consumption. However, because the incentive is funded by suppliers and there is no cap on the total incentive amounts paid out, suppliers face uncertainty in the cost of funding the scheme.
- If an incentive pot is set up (as per the second example above), each supplier would know the extent of their contribution to the incentive pot in advance, but they will not know the value of the reward that they would receive per detection until the end of the incentive period. This means that suppliers will have to plan their theft investigation activity on the basis of a forecast of expected revenue.

4.18. In both cases, we expect the incentive scheme to be revenue neutral, ie the aggregate amount paid in by suppliers would be equal to the aggregate amount paid out (minus administration costs).

4.19. The TRAS could be given the responsibility for aspects of such an incentive scheme including setting of incentive payment rates and the size of an incentive pot, as well as maintaining frequently updated records of units entering settlement. Also, the TRAS could be responsible for assessing the performance of the industry and conducting benchmarking analysis.

Settlement cost-sharing scheme

4.20. A settlement cost-sharing scheme would allow suppliers to share, with all suppliers, part of the charges it will incur when entering "theft units" into settlement. It might be combined with a detection-based or a settlement volume-based incentive described above.

4.21. A similar scheme has already been explored in detail by the BSC Issue 39 working group and the DCUSA DCP054 working group. A report submitted to the BSC Panel set out the options, the preferred solution and an initial estimate of the costs involved in implementing each of these options[39]. No progress has been made yet on implementing the preferred solution for cost sharing.

4.22. The purpose of the scheme would be to reduce the financial downside to a supplier from the detection of a case of electricity theft that arises through entry to settlement of an estimate of the volume of stolen units. The cost-sharing would recognise the benefits to the wider industry from the detection activity by the supplier. Decisions would need to be made about the balance of cost-sharing. There are risks that the more costs a supplier can pass through to the industry, the smaller is its financial exposure to electricity theft by its customers and the less its incentives to prevent theft in the first place or detect cases of theft early on.

4.23. One way that such a scheme could be implemented is if a party to an industry code made proposals for such a scheme as part of industry code governance arrangements, perhaps by building on the work already done by Elexon.

Enhanced audit and performance assurance of settlement arrangements

4.24. In Chapter 2 we discussed that suppliers do not necessarily enter into settlement a reasonably accurate estimate of the volume of stolen units following a successful detection of electricity theft.

4.25. Apart from harming the accuracy of the settlement system, such an omission would mean that in some detected cases of electricity theft, the costs of the electricity stolen will be spread across all the suppliers in the industry and are likely to be passed on to consumers. This may impact a supplier's motivation to prevent and deter electricity theft by its customers.

4.26. A potential policy measure that could be progressed by the industry is to take steps to ensure the entry to settlement of an accurate estimate of the total volume of electricity stolen following detection.

4.27. Enhanced audit and performance assurance of settlement arrangements is a self-standing policy measure that addresses a previously identified problem with the

[39] Standing Issue 39 report (179/09), Elexon February 2011

settlement system, and is not necessarily conditional on the theft-related incentive measures, discussed earlier, being implemented.

4.28. We recognise that it might involve measures beyond audit, such as additional obligations on data collectors and perhaps changes to IT systems to allow better tracking of volumes of electricity consumption. We consider such a measure could be implemented as a modification to existing industry codes.

4.29. We consider enhanced audit of settlement arrangements to be a necessary part of the implementation of any detection-based incentive, settlement volume-based incentive or settlement cost-sharing scheme. We consider that it would reduce the risks of fraud and perverse incentives that might otherwise arise. There are a number of specific issues that support our view, for example:

- If a detection-based incentive scheme is implemented, it is not sensible to pay out the incentive for a proven detection unless an accurate estimate of the volume of electricity stolen is entered into settlement. The entry of stolen units to settlement is one of the mechanisms to capture the wider industry benefits from theft detection by a supplier (rather than the supplier retaining that benefit).
- Under a volume-based incentive scheme there is a further risk that, depending on the calibration of incentives, a supplier puts in too high an estimate of the volume of electricity stolen. The assurance and audit mechanism would be necessary to prevent fraud or gaming of the system.
- If a settlement cost-sharing incentive scheme is introduced, arrangements should be in place to ensure that the cost-sharing is only applied to stolen units of electricity entered to settlement as estimates of the volume of electricity stolen. It would not be appropriate to apply the cost-sharing arrangement to other units of electricity, such as the estimated consumption from meters that are recording consumption correctly.

Assessing theft risk

4.30. As per our final proposals for tackling gas theft, we recognise the benefits of extending our proposals for a central service to profile the risk of electricity theft, and potentially other sources of unrecorded electricity. These benefits are likely to come from pooling data from all suppliers and other sources to better target where it would be sensible to undertake a physical investigation to identify whether electricity was being correctly recorded. We note that the use of data analytics to identify potential theft occurs in other markets such as insurance, water, telecoms and parts of the electricity industry.[40]

[40] The Insurance Fraud Bureau has been established to tackle organised and cross industry fraud. (www.insurancefraudbureau.org). Water companies work with organisations and have internal teams to identify where customers may be taking a water supply without paying for it. Telecoms companies work with data organisations such as www.cifas.org.uk to help identify fraud. In electricity, some DNOs have used data analytics to identify potential cases of theft to target investigations.

4.31. We intend to require suppliers to implement the Theft Risk Assessment Service (TRAS) through a Direction under the electricity supply licence. We consider that suppliers should take the principles set out in the Direction and implement the TRAS by using appropriate industry governance mechanisms. We will set out a draft of the Direction in our Decision document.

4.32. Subject to our consultation, our intention would be to introduce the Direction at the same time or as soon as possible after the proposed new licence condition (set out in Appendix 3 of this document) is implemented. We recognise that it will take time to implement the TRAS. We would therefore welcome views on our proposal that the TRAS should be implemented in Q1 2015.

Main features of the TRAS

4.33. Our aim is for the TRAS to provide information to suppliers on the risk of theft at premises that they supply. It should do this by profiling the risk of electricity theft at premises using data from all relevant sources.

4.34. The TRAS will also require suppliers to submit their policies for tackling theft and to report on their performance in achieving the objectives set out in those policies. Actions will include activities for investigating, detecting and preventing electricity theft.

4.35. Depending on the type of incentive scheme developed, a Theft Target may be required. Among its responsibilities, the TRAS may also set this target to establish the size of the pot. Information provided by the TRAS to suppliers should allow them to understand the view of the TRAS on which sites should be investigated to allow the Theft Target to be met.

4.36. If a Theft Target and a size pot are not required, the TRAS will be responsible for setting the amount of the incentive. Information provided by suppliers to the TRAS on their policies for tackling theft would be used by the TRAS to ensure that suppliers operate in an efficient manner. This may be done by TRAS in different ways, such as external auditing of suppliers' theft policies, and benchmarking analysis of their performance.

4.37. Suppliers would be expected to investigate all cases provided to it by the TRAS unless there were good reasons for not doing so. If it chooses not to investigate a specific site, a supplier would need to ensure that it was operating in accordance with the proposed new licence requirement to take all reasonable steps to detect, prevent and investigate suspected theft of electricity.

4.38. We expect the TRAS to be subject to a robust performance assurance framework to ensure high-quality outputs. This should include incentives around the quality of the theft leads provided. To support this performance assurance framework, we consider that there should be regular independent audits and transparent reporting on the performance of the TRAS. We also consider that the TRAS may require suppliers to submit their policies on tackling theft and report on

whether the objectives of such policies have been achieved. We expect the TRAS to assess the performance of suppliers and make such information suitable for publication for benchmarking purposes.

4.39. We consider that the TRAS should provide regular reports to assist suppliers and DNOs in their efforts to detect theft. This might include information on geographical clustering of theft and the prevalence of existing and emerging forms of electricity theft, including theft related to cannabis cultivation.

Additional considerations

4.40. The TRAS will require access to data in order to perform its functions. It is important that this data is provided, held and processed in accordance with the Data Protection Act (DPA) 1998. There is nothing in our proposals that should be treated as an obligation on the electricity supplier or the TRAS to operate otherwise than in accordance with the DPA 1998. We propose that suppliers ensure that the TRAS has in place a compliance statement for how it would operate in accordance with the DPA 1998. Suppliers should also ensure that a Privacy Impact Assessment[41] is undertaken and maintained for the development and operation of the TRAS, in accordance with the best practice set out by the Information Commissioner.

4.41. Introducing a central service provider for theft data services may impact on the provision of services by other parties. Whilst we recognise that there are likely to be advantages in improving the efficiency of theft detection, we consider that measures should be introduced to limit the effect on competition. We therefore propose that TRAS is appointed through a robust competitive tender process and retendered on a regular basis.

4.42. We also propose specific additional measures to limit the impact of the TRAS on competition. For example by seeking to ensure that the TRAS manages and operates its services in a way that does not restrict, prevent, or distort competition, by introducing requirements that suppliers should not contain a competitive advantage in appointing the TRAS or through its operation and ensuring that the TRAS should be independent from suppliers and transporters.

Additional supporting measures

4.43. We set out a number of additional measures to improve arrangements for tackling theft. Besides the new code of practice under development by the DCUSA DCP054 Workgroup, we consider that key additional industry measures to be taken forward are the following:

[41] A Privacy Impact Assessment is a process which helps assess privacy risks to individuals in the collection, use and disclosure of information. They help identify privacy risks, foresee problems and bring forward solutions. The Information Commissioner"s Office (ICO) regards the conduct of a Privacy Impact Assessment as best practice.

- Establishing and maintaining a single, 24-hour theft telephone contact number that the public or other third parties could use to report suspected theft. Measures should be in place for information to be passed to the new emergency line immediately if there are safety concerns, for example if there is a smell of burning wires. Information from the telephone contact service could provide a useful source of information for the TRAS.
- A stolen meters register should be established to assist theft investigators identify where meters may have been illegally switched[42]. We consider that this role could be performed by the TRAS as a central repository of data.
- Establishing a forum for sharing best practice in theft detection. We appreciate the work already done by the UK Revenue Protection Association (UKRPA)[43] and would welcome further progress either under the banner of the TRAS, the new Theft Code of Practice or existing organisations such as the UKRPA. This is likely to be especially important as the roll-out of smart metering presents new challenges to those determined to take an illegal supply.
- Coordination measures with other agencies should be introduced to promote tackling electricity theft. Such agencies could include the police, theft detection services operated by DNOs, the UKRPA and consumer representative bodies. In this respect, we note the Home Office initiative to work with local Police and energy companies to promote better communication and collaboration in tackling theft related to cannabis cultivation.

4.44. At this stage we consider that the industry should move to implement these measures without the need for us to introduce new licence requirements. We are willing to support the industry in developing these proposals. However, we will consider this further, for example by amending the terms of the Direction, if appropriate changes are not progressed in a timely manner.

[42] This may be helpful in investigations as it provides information on whether a stolen meter may be being used to supply electricity rather than a new meter having been fitted through the industry arrangement but without this being correctly recorded on industry systems.
[43] The UKRPA is a trade association focusing on detecting, preventing and investigating energy theft.

5. Assessment of policy measures

Chapter Summary
This chapter summarises the key findings of our draft impact assessment of the proposed policy measures to support electricity theft investigation, detection and prevention.

Question 5: Do you agree with our approach to conducting the draft IA, the assumptions that we have made and the outcome of our analysis in the accompanying IA?

Question 6: Have we correctly assessed the main impacts in the accompanying draft IA? Are there additional impacts that we should consider?

Question 7: Which, if any, of the proposed policy measures (or package of policy measures) to support theft investigation, detection and prevention should be implemented and why?

Question 8: Do you consider that there are alternative proposals, or variations of the combinations of the proposed policy measures that should be considered?

5.1. A draft IA on the policy measures to increase theft detection set out in Chapter 4 has been published alongside this consultation. The draft IA sets out our internal assessment of the relative strengths and weaknesses of the options, but does not present a preferred option. We will use the responses to this consultation to help refine our analysis and to determine which, if any, of these measures should be implemented.

5.2. We invite views on whether we have correctly assessed the impacts of the proposed policy measures in the draft IA and whether there are any additional material impacts that we should consider. Further evidence relating to our detailed assumptions and the outcome of our analysis in the accompanying draft IA would be welcome.

5.3. Furthermore, we seek your views on which, if any, of the policy measures – including combinations of different incentives - should be implemented and why. We also welcome suggestions for developing or improving any of the proposals under consideration.

Impact on consumers

5.4. Our assessment considers the quantitative benefits that customers could achieve through lower bills under each (and a combination of) proposal(s)[44]. We also make a qualitative assessment of the proposals, relating to the likelihood that a

[44] See Chapter 3 of the IA for a discussion of the quantitative benefits for consumers of the proposed incentive measures.

customer would be investigated, the quality of that investigation and the prospect of an investigation leading to theft detection.

5.5. In our analysis we have assumed that, when suppliers benefit from improved theft detection, they would pass through the entirety of such benefits to consumers though lower electricity tariffs. We have made this assumption for each policy measure.

5.6. The impact of each scheme on consumers, therefore, would largely depend on the extent it would address the incentive problem discussed in Chapter 2. The more suppliers are incentivised to be efficient and effective in tackling theft, the more consumers would benefit from improved theft detection.

5.7. For the purpose of our analysis, we did not set a theft target suppliers should aim to meet. Instead, they will carry out theft detection as long as it is commercially profitable. Whether a theft target is necessary would depend on the form of incentive scheme implemented.

5.8. Our assessment focuses on a set of combinations of the proposed policy measures. As discussed in Chapter 4 when presenting the policy measures, we consider that the best outcome for suppliers would be achieved if a package of well-calibrated policy options is implemented. Our analysis suggests that two combinations of policy options would have the potential for delivering best outcomes. These are:

- Detection incentive schemes combined with settlement cost-sharing and enhanced audit of settlement; or
- Volume incentive schemes combined with settlement cost sharing and enhanced audit of settlement

Impact on competition

5.9. The impact of theft on competition is twofold:

- It leads to misallocation of costs among suppliers
- As a result, there is the risk that particularly small suppliers would be negatively affected by smearing of costs related to undetected theft

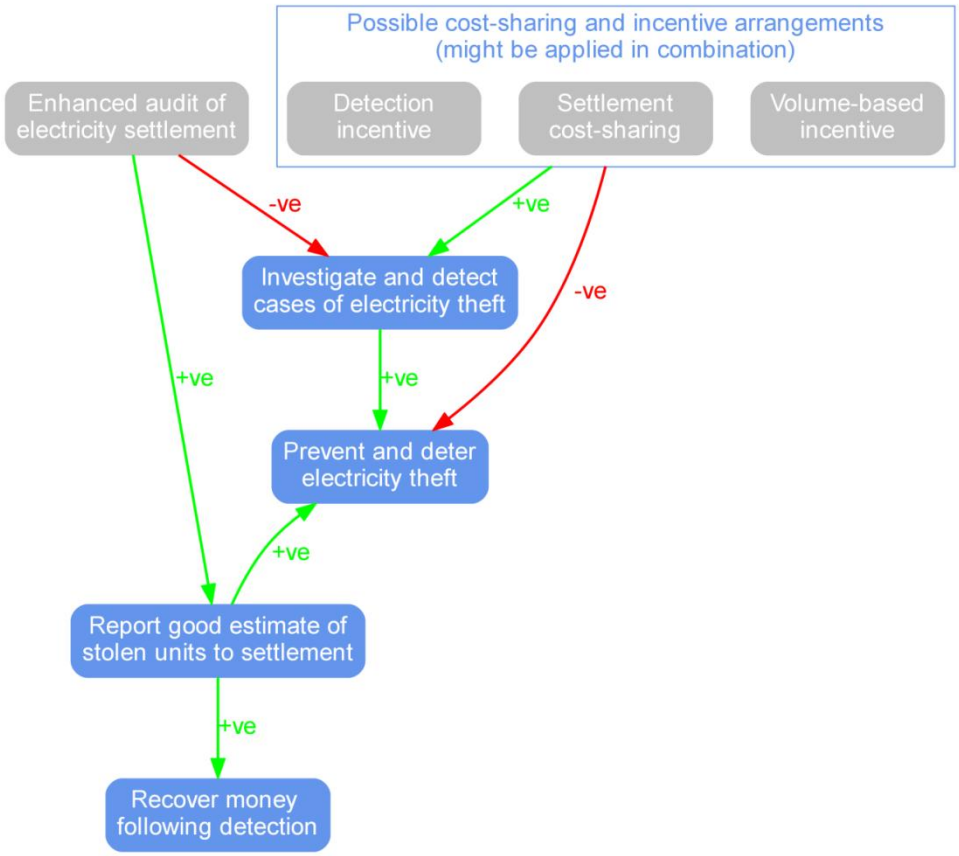
5.10. Each of our proposed incentive measures will tend to encourage suppliers to be more proactive in detecting theft.

5.11. By virtue of being conditional on providing verifiable evidence that an estimate of volume stolen has been entered into settlement following each detection, each scheme can encourage suppliers to report theft units for settlement in a transparent and independently verifiable manner.

5.12. Different incentive rates for different types of theft detections (eg domestic, commercial, cannabis farms) can make a detection-based scheme work more effectively by taking account of differences in the cost incurred by suppliers.

5.13. Figure 3 provide a high-level summary of the positive and negative impacts that detection incentives, settlement cost-sharing and enhanced audit of settlement could have on supplier behaviour. Arrows in green indicate where a positive impact occurs from a specific policy measure, while arrows in red indicate negative financial impacts.

Figure 3 - Summary of impact on financial incentives from different measures



5.14. There are important differences between the incentive measures as far as the incentives for detection and settlement processes are concerned:

- The detection incentive rewards detections, albeit after an estimate of volumes stolen is entered into settlement. The amount that a supplier can earn depends only on the number of detections, not on the value of electricity stolen or reported for settlement. This means that detecting low value theft (or short running theft) is just as rewarding for the supplier as high value theft (or longer running theft).
- The settlement volume incentive rewards volumes entered into settlement. The amount that the supplier can earn is determined by the

volumes stolen (and reported for settlement), not the number of detections. This means that detecting higher value theft is more rewarding than lower value theft.

- The settlement cost sharing arrangement would pass through, to other suppliers, part of the settlement charge faced by suppliers when a theft is detected. This means that preventing theft from happening or detecting early theft would result in lower charges for all suppliers.

5.15. Whether the settlement cost sharing arrangements would improve the current situation depends on how seriously different suppliers have taken their current obligations to report accurate assessments of the volume of electricity stolen into settlement. It will certainly encourage detections by suppliers who take their obligations on settlement seriously. However, it can be argued that non-compliance with those obligations is a de facto settlement cost sharing arrangement, and that a new scheme can only legitimise what is already standard practice for some suppliers. Nevertheless, we think there are benefits to bringing clarity to what is currently a grey area. More importantly, it will level the playing field for suppliers by removing the unfair advantage enjoyed by suppliers who take their obligations less seriously than others.

Impacts on sustainable development

5.16. Our assessment suggests that, for the combinations of policy measures that would increase the number of theft investigations and detection, there would be a small but positive impact on energy efficiency and reduced carbon emissions. This would be driven by a reduced level of consumption by those customers that have previously taken an illegal supply as a result of facing the full cost of their electricity charges once theft has been discovered. In the draft IA we are requesting views on the extent of this effect.

5.17. We also consider that increased theft detection would assist the goal of eradicating fuel poverty and protecting vulnerable customers by reducing bills and improving safety.

5.18. The extent to which each of the effects noted above is realised would depend on the success of the proposals to increase theft detection. As noted above, we are requesting views in the draft IA on the ability of each proposal to deliver increased theft detection.

Impacts on health and safety

5.19. Theft can have a material impact on safety for customers and others in close proximity to the theft. Reducing theft is likely to improve the safety and security of the electricity supply by reducing the likelihood of fires and black-outs, damage to the network and other related causes of interruptions. Our view is therefore that an increase in theft detection is likely to improve safety, although we have not been able to quantify this benefit.

5.20. As noted above, we are requesting views in the draft IA on the ability of combinations of policy measures proposed to deliver increased theft detection. We expect to use this information to help us determine whether there is a difference between the ability of each policy measure to improve safety.

Risks and unintended consequences

5.21. We have considered whether any of the proposed policy measures and proposed combinations of these measures give rise to significant risks or unintended consequences that have not otherwise been identified. Our initial view is that risks and unintended consequences largely depend on the calibration of the incentives and that, if the packages of incentives are carefully calibrated, these risks are limited. We seek feedback as to whether we have omitted any risks or unintended consequences.

5.22. We have noted that increased theft detection and prevention activity may increase complaints from customers about their treatment. This is an important area to monitor to ensure that suppliers are operating in accordance with the licence and the code of practice.

5.23. We considered that, whilst detection incentive schemes and settlement cost-sharing schemes can help promote action by suppliers to detect cases of theft, if not well calibrated such schemes may have an adverse impact on suppliers' theft prevention and detection activities. We noted that TRAS could help address this risk by requiring suppliers to report on the theft prevention activities and use these data for benchmarking purposes.

5.24. We have also identified the risk linked with the settlement volume-based incentive that suppliers may delay investigating suspected cases of theft in order to receive a larger payment once theft is detected. We note that the other incentive schemes do not present this risk.

Other impacts

5.25. In the draft IA we have considered whether there were any other impacts beyond those described above that we should consider in making our decision.

5.26. We have proposed an implementation timeline for the new licence conditions to be introduced in Q1 2014 and the TRAS to be implemented in Q1 2015. We would also encourage the introduction of an incentive scheme through changes to the relevant industry codes to be in place before implementation of the TRAS.

5.27. We have also considered the potential interactions with the timescale for drafting the new DNOs licences as set out within RIIO-ED1. We note that new licence conditions would be in place in 2015. We concluded therefore that before implementation of the TRAS all changes to licences would be in place to ensure the new theft risk assessment service would apply to all parties affected by the new arrangements.

6. Establishing principles for DNOs

Chapter Summary
In this chapter we set out our approach to enhancing new regulatory arrangements for DNOs to support and regulate their activities with respect to investigation, detection and prevention of theft in conveyance.

Question 9: Do you agree with our view that DNOs, for the time being, should not be included in an incentive scheme?

Question 10: Do you agree with our view that DNOs should have licence obligations to tackle theft in conveyance?

Question 11: Are you aware of any alternative proposals to support DNOs in tackling theft in conveyance that should be considered? If so, please provide further details.

Role of DNOs in tackling theft

6.1. In the past, DNOs have been proactive in detecting theft in their Distribution Service Areas (DSAs). This has partly reflected incentive schemes that they have faced under their price controls, but which have since been removed. A further driver of theft detection has been DNOs' obligation to run an efficient network.

6.2. In previous price control review periods, DNOs were subject to an electricity losses incentive scheme. Under this scheme, each DNO could receive a financial incentive for reducing losses on its network (compared to a benchmark level).

6.3. Under the scheme, losses were broadly defined as the difference between the number of recorded units entering and exiting the distribution network. The way in which the number of units entering and exiting the network was measured meant that total losses would include technical losses in the transfer of electricity (eg energy converted to heat in components such as wires and transformers) and non-technical losses including the electricity lost in theft.

6.4. The measure of losses would include the volume of electricity theft and, as a result, any reduction in electricity theft would contribute to a reduction in measured losses, and therefore improve financial performance for the DNO under the losses incentive scheme.

6.5. Many DNOs have devoted considerable resources to tackling electricity theft. Our interviews with DNOs confirm this view.

6.6. Ofgem has decided not to apply a financial electricity losses incentive scheme under the current electricity distribution price control (DPCR5) or the next price control (RIIO-ED1)[45]. There may be a perceived risk that DNOs may no longer show the same level of enthusiasm to undertake theft detection activities. However DNOs will still be under a licence obligation to reduce losses as far as reasonably practicable, and actions taken to reduce losses due to theft should be encouraged by this licence obligation.

6.7. DNOs have certain obligations to tackle electricity theft under the DCUSA. Paragraph 32.3 of DCUSA currently sets out that there is a rebuttable presumption that theft in conveyance is the responsibility of the DNO operating the network assets from which the electricity is being abstracted. This section of the DCUSA is being enhanced under a current modification proposal.

6.8. DNOs are also under a Distribution Licence obligation (SLC27) to promptly inform the relevant supplier (if any) if they become aware of a suspected case of meter tampering. This role of DNOs can support suppliers' efforts to tackle theft.

6.9. Some DNOs also provide revenue protection services to suppliers on a commercial basis (see Table 2). Suppliers are free to choose whether to use services provided by DNOs, by other parties or to carry out the work themselves. The extent to which suppliers use the services of DNOs should come down to what is the most efficient way to tackle theft.

6.10. We considered whether the current regulatory arrangements on DNOs support effective theft investigation, detection and prevention. We concluded that:

- DNOs play a central role in facilitating theft detection and any new regulatory framework should fully cater for this role, through a new licence obligation
- The non-activation of the electricity losses incentive mechanism could weaken some DNOs' involvement in tackling theft if it is not beneficial for them to be involved in theft detection activities
- Further clarity is required on the mechanism for DNOs to report and recover the costs they would face for tackling theft.

Establishing new principles for DNOs within RIIO-ED1

6.11. While we recognised that further clarity is required on the DNOs role in tackling theft, we do not propose to include DNOs in the policy proposals presented in Chapter 4. The incentives set out in our proposals are effective if the link between the consumers stealing electricity and the service providers is maintained, thus targeting theft occurring on sites registered by suppliers (theft not-in conveyance).

[45] See for further details about the reasons for this decision: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=755&refer=Networks/ElecDist/Policy/losses-incentive-mechanism

6.12. We consider that the general licence obligation for DNOs to design and operate their networks to ensure that electricity losses are as low as reasonably practicable should encourage them to undertake the necessary actions to identify and deal with theft. Any actions taken will be based on a positive cost benefit analysis, and the annual reporting process will provide auditable information on progress made.

6.13. We propose to amend the DNOs' licence obligations to provide more clarity on the requirement for DNOs to tackle theft. This would include taking the necessary action when there is no supplier responsible for the site (unregistered sites). We propose to assess the scope for costs associated with theft detection and reduction activities to be recovered through existing mechanisms. This approach is in line with the strategy on theft set out in the RIIO-ED1 Strategy Decision document, as well as the arrangements put in place for gas transporters.

6.14. We consider that the general licence obligations should, as far as possible, support pending changes to the DCUSA which address theft in conveyance, and registration of unregistered sites. The licence obligation should also include reporting and auditing requirements for DNOs to record and make verifiable all actions (and related costs) which they would undertake to detect and rectify theft.

6.15. We will consult on the licence obligations as part of the RIIO-ED1 licence drafting consultation process. This obligation will require DNOs to undertake all reasonable cost-effective actions to identify electricity theft occurring on their distribution network, and take the necessary steps to rectify the position within a reasonable time period. Any such actions should be in accordance with any approved Electricity Theft Reduction Strategy, which would be reviewed from time to time to ensure that a proportionate approach is being taken.

7. Conclusions and next steps

7.1. We consider that new policy measures should be introduced to support suppliers' activities in investigating, detecting and preventing theft to the benefit of electricity consumers. We note that new regulatory arrangements should be flexible to adapt to future changes in consumer behaviour (such as increased electricity consumption for heating, cooking or charging electric vehicles) and market arrangements (such as settlement reform, demand-side response mechanisms and smart meter rollout).

7.2. Building on the progress in establishing new regulatory arrangements for tackling gas theft, we have developed a package of policy measures that would have the aim supporting electricity suppliers in their activities of investigating, detecting and preventing theft. Our ambition is to implement a package of policy measures that is proportionate and effective in delivering a positive outcome for the industry and for electricity consumers and that will include:

- Introducing new licence conditions for electricity suppliers to strengthen their obligations to investigate, detect and prevent electricity theft
- Considering incentive measures to support suppliers in their activities to tackle theft
- Establishing a Theft Risk Assessment Service to facilitate industry actions to tackle theft
- Setting out our approach to enhance new obligations for DNOs to tackle theft in circumstances where it is not the responsibility of suppliers

7.3. To assist us in making the necessary improvements to the regulatory framework we are requesting responses on the proposals set out in this consultation by 28 August 2013. In particular, we welcome views on the package of incentives that has the potential to deliver the best outcome in terms of increased theft investigation, detection and prevention. We also welcome views on the draft licence condition that will introduce new obligations for suppliers to tackle electricity theft.

7.4. Following consideration of responses we aim to set out our decision in Q4 2013. This will include an updated IA. We are requesting comments in Chapter 8 of the draft IA on the timing of the implementation of any modification to the electricity supply licence but our initial view is that these should be in place in Q1 2014.

7.5. In our decision document we will also report on progress of DCP054, as well as on further industry change proposal to establish arrangements to address issues related to theft at unregistered premises.

7.6. We expect that the measures proposed in this document will support suppliers' activities in investigating, detecting and preventing theft at registered sites. We note that DNOs also have responsibilities for taking all reasonable steps for tackling theft in conveyance. As discussed in Chapter 6 we will consult on enhanced licence obligations within the RIIO-ED1 licence drafting consultation.

Appendices

Appendix 1 - Consultation response and questions

1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.3. Responses should be received by 28 August 2013 and should be sent to:

Smarter Markets
9 Millbank
London
SW1P 3GE
020 7901 7196
smartermarkets@ofgem.gov.uk

1.4. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.6. Having considered the responses to this consultation, Ofgem intends to publish a Decision document on the policy proposal, as well as a Final Impact Assessment, a draft proposed modification of the Electricity Supply Licence and a draft of the TRAS Direction in Q4 2013. Any questions on this document should, in the first instance, be directed to:

Chiara Redaelli
Smarter Markets
9 Millbank
London
SW1P 3GE
020 7901 7196
Chiara.redaelli@ofgem.gov.uk

CHAPTER: Three

Question 1: Do you agree with our proposals to introduce new electricity supply licence obligations in relation to theft?

Question 2: Do you agree that our drafting proposals set out in Appendix 3 reflect the policy intent described in this chapter?

Question 3: Do you consider that electricity suppliers should be required to offer vulnerable customers and customers that would have genuine difficulty paying, different methods for the repayment of charges associated with electricity theft as an alternative to disconnection?

Question 4: Do you agree that our proposed new electricity supply licence conditions should be introduced as soon as reasonably practical?

CHAPTER: Five

Question 5: Do you agree with our approach to conducting the draft IA, the assumptions that we have made and the outcome of our analysis in the accompanying draft IA?

Question 6: Have we correctly assessed the main impacts in the accompanying draft IA? Are there additional impacts that we should consider?

Question 7: Which, if any, of the proposed policy measures (or package of policy measures) to support theft investigation, detection and prevention should be implemented and why?

Question 8: Do you consider that there are alternative proposals, or variations of the combinations of the proposed policy measures that should be considered?

CHAPTER: Six

Question 9: Do you agree with our view that DNOs, for the time being, should not be included in an incentive scheme?

Question 10: Do you agree with our view that DNOs should have licence obligations to tackle theft in conveyance?

Question 11: Are you aware of any alternative proposals to support DNOs in tackling theft in conveyance that should be considered? If so, please provide further details.

Appendix 2 – Summary of questionnaire responses

1.1. In this appendix we present a summary of electricity suppliers' responses to a questionnaire that we issued in December 2010. The purpose of the questionnaire, which was issued to electricity suppliers as well as to gas and electricity distribution companies, was to understand the current performance of the industry in tackling theft. Responses were received in January 2011.

1.2. The data request covered the period 2006 to 2010. In this Appendix we focus on the last two years covered by the questionnaire, 2009 and 2010. We have asked suppliers updated data covering years 2011 and 2012. We have received updated data from a small number of suppliers so far. In this draft consultation therefore we present data gathered from all suppliers in our 2011 Questionnaire and, if possible, will provide estimates based on updated information in our decision document.

Suspected, investigated and identified theft

1.3. The reported sources of leads on electricity theft varied significantly between suppliers. Table 1 below shows that there is no clear pattern and some suppliers have used the "other" category where they were not able to provide an accurate breakdown. The low figure for data analysis suggests that some suppliers are not proactive in theft detection. However, we consider that, in practice, this figure may be slightly higher as thefts generated by revenue protection officers, and recorded under the "other" category will be, to some extent, data driven.

Table 1: Sources for theft detection (weighted average by number of theft cases found)

	Supplier 1	Supplier 2	Supplier 3	Supplier 4	Supplier 5	Average
Data Collector	21%	39%	1%	61%	11%	26%
Meter Operator	10%	25%	52%	2%	21%	21%
DNO	18%	6%	1%	1%	10%	7%
RPS	0%	11%	19%	21%	24%	14%
Analysis	9%	2%	5%	12%	0%	8%
Other*	42%	17%	22%	4%	34%	24%

* Revenue Protection Officer self-generated, tip-off, housing association, police, new tenant and other third parties

Source: Ofgem analysis 2012

1.4. Table 2 below reports the total number of suspected theft cases identified by suppliers or their agents or notified to suppliers by third parties and DNOs. This information is broken down by consumption category and shows that the number of suspected cases is highest in the Non Half-Hour (NHH) category[46].

Table 2: Suspected theft

	2009	2010	Response rate 2009	Response rate 2010
NHH	63,925	66,082	99%	99%
HH	45	38	33%	33%
Total	63,970	66,120		

Source: Ofgem analysis 2012

1.5. Table 3 below shows that most of the reported suspected theft in 2009 and 2010 was followed up by an investigation[47] (respectively 78% and 70% of the suspected cases were investigated).

Table 3: Investigations by suppliers

	2009	2010	Response rate 2009	Response rate 2010
NHH	49,563	46,421	100%	99%
HH	32	26	33%	33%
Total	49,595	46,447		

Source: Ofgem analysis 2012

1.6. Table 4 presents the number of cases of theft found by suppliers. This data relates to thefts which are the suppliers' responsibility. The 49,595 investigations conducted in 2009 led to 21,156 theft cases being found, which represents a conversion rate of 43%. The conversion rate dropped to approximately 36% in 2010.

Table 4: Identified cases of theft

	2009	2010	Response rate 2009	Response rate 2010
NHH	21,150	16,706	100%	99%
HH	6	8	33%	33%
Total	21,156	16,714		

Source: Ofgem analysis 2012

1.7. Table 5 presents the number of cases of theft found by suppliers which were related to cannabis farms. Although the number of identified cases of theft decreased

[46] This represents supply points whose meters are read with a frequency above half-hour. Supply points with meters that are read every half-hour are Half-Hour (HH) supply points. In our tables, NHH – D refers to domestic sites in the NHH market and NHH – ND refers to non-domestic sites in the NHH market.
[47] These are investigations conducted after the ECV, where it is assumed that the case of theft falls under the responsibility of suppliers.

from 2009 to 2010 by 21%, the number of theft cases related to cannabis farms has increased slightly. In 2009, the number of thefts related to cannabis farms was 10% of the total cases of theft, and in 2010 this increased to 14%. Anecdotal evidence from suppliers confirms that during the past two years theft related to cannabis farm has increased compared to 2010.

Table 5: Identified cases theft related to cannabis farms

	2009	2010	Response rate 2009	Response rate 2010
NHH	2,137	2,463	100%	99%
HH	5	4	20%	20%
Total	2,142	2,467		

Source: Ofgem analysis 2012

1.8. Table 6 reports suppliers' analysis on the estimated volume of electricity abstracted from the thefts that they detected. The 16,714 cases of theft identified in 2010 lead to 158.6GWh of electricity being illegally taken by customers. Our analysis estimates the average amount of electricity taken per case of theft varies significantly across suppliers, ranging from 6MWh to 21MWh.

Table 6: Estimated volume of total electricity illegally taken (GWh/Year)

	2009	2010
Total	171.9	158.6
Response Rate	100%	99%

Source: Ofgem analysis 2012

1.9. Table 7 presents the estimated volume of electricity illegally taken relating to cannabis farms. In 2009, 33% of the total volume of electricity estimated to be stolen was related to cannabis farms. This decreased slightly to 32% in 2010.

Table 7: Estimated volume of electricity illegally taken relating to cannabis farms (GWh/Year)

	2009	2010
Total	55.5	51.0
Response Rate	100%	99%

Source: Ofgem analysis 2012

1.10. Table 8 below shows the average duration of theft. The data below suggests theft in the NHH domestic and NHH non-domestic sector may be similar. However the discrepancy in the response rate limits the level of confidence in this conclusion.

Table 8: Average length of theft (Years)

	2006 - 2010	Response rate
NHH - D	1.4	82%
NHH– ND	1.4	51%
HH	1.0	13%

Source: Ofgem analysis 2012

Resources allocated to tackling theft

1.11. Suppliers have provided data on the human resources allocated to tackling electricity theft. Table 9 shows the total number of internal and external FTEs across all suppliers that reported data for 2009 and 2010. One supplier was unable to state the number of external FTEs that they employed, however it spent approximately £790,000 in 2009, and £820,000 in 2010 on external third parties used for revenue protection activities.

Table 9: FTEs allocated to tackling electricity theft

	2009	2010
Total	238	237
Response Rate	100%	99%

Source: Ofgem analysis 2012

1.12. Table 10 presents the aggregate indirect costs[48] that suppliers have reported that they incurred in tackling theft of electricity. From 2009 to 2010, overhead costs increased by approximately 13%.

Table 10: Overhead costs with activities to tackle electricity theft

	2009	2010
Total	£5,574,000	£6,395,000
Response Rate	62%	62%

Source: Ofgem analysis 2012

Costs of tackling theft

1.13. Table 10 shows the total reported retail value of the electricity illegally taken. This value has decreased in 2010. We consider this reflects the decrease in the estimated volume of total electricity illegally taken in 2010 in comparison to 2009.

[48] These are the costs suppliers incurred in running the activities related with tackling theft of gas, but that are not directly linked to tackling specific theft cases. One example of an indirect cost is employees' salaries.

Table 10: Retail value of the volume of electricity illegally taken

	2009	2010
Total	£21,719,285	£19,116,506
Response Rate	100%	99%

Source: Ofgem analysis 2012

1.14. Table 11 shows that the reported costs incurred by suppliers associated with theft investigations increased from £7.6m in 2009 to approximately £8.4m in 2010.

Table 11: Investigation costs

	2009	2010
Total	£7,620,402	£8,412,092
Response Rate	80%	79%

Source: Ofgem analysis 2012

1.15. Table 12 shows the total costs incurred by suppliers from disconnection, reconnection and meter replacement costs associated with gas theft. These costs have decreased slightly in 2010. This could be due to the approximate 4,500 reduction in identified theft cases.

Table 12: Disconnection, reconnection and meter replacement costs

	2009	2010
Total	£2,815,486	£2,433,315
Response Rate	82%	82%

Source: Ofgem analysis 2012

1.16. Table 13 presents information about the number of warrants suppliers applied for during 2009 and 2010. A supplier may apply to a magistrate or its equivalent in Scotland for a warrant which would grant rights of entry to inspect the premises and to disconnect supply where an offence has occurred. A warrant would be required where, for example, the customer did not allow access to a meter for inspection.

Table 13: Number of warrants

	2009	2010
Total	3,400	3,256
Response Rate	86%	87%

Source: Ofgem analysis 2012

1.17. One supplier indicated that in 2010, 74 theft cases resulted in successful criminal convictions.

Benefits from tackling theft

1.18. Table 14 shows the aggregate recovered charges from customers (including charges for investigation and metering costs). One supplier indicated that the revenue lost through illegal abstraction is recovered by incorporating it within any existing balance and does not record this separately. This supplier further stated that the data they provided only represents the monies recovered through re-connection fees paid directly to the supplier.

1.19. In addition, one supplier stated that the data they provided for the domestic consumption category are the amounts of money added to bills on prepayment meters. This supplier noted that it was unable to identify how much of this is recovered.

Table 14: Revenue recovered from cases of theft

	2009	2010
Total	£12,635,012	£8,967,134
Response Rate	100%	99%

Source: Ofgem analysis 2012

Appendix 3: Draft proposals to amend the Electricity Supply Licence

SCHEDULE

Condition XX. Matters relating to Theft of Electricity

Objective

XX.1 The objective of this licence condition (the "Objective") is to ensure that:

(a) the licensee and any Representative individually and/or in cooperation with other licence holders where necessary:

(i) detect Theft of Electricity;

(ii) investigate suspected Theft of Electricity;

(iii) prevent Theft of Electricity once detected;

(iv) prevent Theft of Electricity by other means such as deterrence and the security of the supply in respect of any premises supplied by the licensee; and

(b) when taking the steps mentioned in sub-paragraph XX.1(a), the licensee and any Representative:

(i) behaves and acts towards Customers in a manner which is fair, transparent, not misleading, appropriate and professional; and

(ii) takes into account whether Domestic Customers and/or the occupants of Domestic Premises are in a vulnerable situation, such as - but not limited to - customers of Pensionable Age, disabled or chronically sick and/or Domestic Customers at Domestic Premises will have difficulty in paying all or part of the Charges for the Supply of Electricity resulting from Theft of Electricity.

XX.2 The licensee must take (and ensure that any Representative takes) all reasonable steps:

(a) to secure the achievement of the Objective; and

(b) to avoid doing anything which jeopardises its ability to achieve the Objective.

XX.3 The steps which the licensee must take (and ensure that any Representative takes) to secure the achievement of the Objective include, without limitation, the steps which are detailed at paragraphs XX.5 to XX.15 of this condition, and the obligations set out in Clause 30.9 of the Distribution Connection and Use of System Agreement.

XX.4 In respect of premises not supplied by the licensee, its obligations under paragraphs XX.1 and XX.2 are limited to the provision of notification to the Relevant Electricity Distribution Network Operator under Clause 30.9 of the Distribution Connection and Use of System Agreement.

Requirement to detect, prevent and investigate Theft of Electricity

XX.5 In respect of any premises supplied by the licensee, the licensee must take (and ensure that any Representative takes) all reasonable steps to detect and prevent Theft of Electricity.

XX.6 Where, in respect of any premises supplied by the licensee, the licensee has reasonable grounds to suspect Theft of Electricity, it must take (and ensure that any Representative takes) all reasonable steps to investigate that suspected Theft of Electricity.

The Theft Arrangement

XX.7 The licensee must be a party to, comply with, and maintain such arrangement to give effect to the Objective, as the Authority may direct (the "Theft Arrangement").

XX.8 The licensee:

(a) must take such steps as are necessary and within its reasonable control; and

(b) must not take any unreasonable steps to prevent or delay,

to ensure that the Theft Arrangement is implemented by such a date as the Authority may direct.

XX.9 The licensee must take all reasonable steps to secure and implement changes to the Theft Arrangement and its systems, procedures and processes which are necessary to give full, timely and practical effect to the Theft Arrangement.

XX.10 The licensee must take all reasonable steps to cooperate with other licence holders where necessary, to facilitate the achievement of the Theft Arrangement.

Standards for Theft of Electricity investigations

XX.11 The licensee must ensure (and ensure that any Representative ensures) that the following standards are met when it is taking any of the steps referred to in paragraphs XX.1, XX.2,XX.3 and XX.4 of this condition at particular premises:

(a) The licensee must take (and ensure that any Representative takes) all reasonable steps to identify whether

(i) the Domestic Customer and/or the occupants of those premises which are Domestic Premises (in this condition "the relevant premises") is in a vulnerable situation, such as – but not limited to - of Pensionable Age, disabled or chronically sick;

(ii) a Domestic Customer at the relevant premises will have difficulty in paying all or part of the Charges for the Supply of Electricity resulting from Theft of Electricity;

(b) The licensee must take (and ensure that any Representative takes) into account the Domestic Customer's ability to pay all or part of the Charges for the Supply of Electricity resulting from Electricity Theft when calculating instalments, giving due consideration to:

(i) Relevant information provided by third parties, where it is available to the licensee; and

(ii) Where instalments will be paid using Prepayment Meter, the value of all of the charges that are to be covered through that meter;

(c) Where the licensee or any Representative has identified persons of a category described in sub-paragraphs XX.11(a)(i) and/or (ii), the licensee or any Representative must before seeking to Disconnect the relevant premises, as a minimum offer the Domestic Customer to pay those Charges for the Supply of Electricity by using a Prepayment Meter, where it is safe and reasonably practicable in all the circumstances of the case for the Domestic Customer to do so;

(d) Where the licensee or any Representative knows or has reason to believe that there may be persons of a category described in sub-paragraph XX.11(a)(i), the licensee or any Representatives must take all reasonable steps not to Disconnect the supply of electricity to the relevant premises in Winter;

(e) The licensee must have (and ensure that any Representative has) sufficient evidence to establish (on the balance of probabilities) the Statutory Disconnection Power before stopping the supply of electricity to the premises on grounds of Theft of Electricity;

(f) Where Theft of Electricity has been established, the licensee must comply with the relevant requirements of the Distribution Connection and Use of System Agreement and the Balancing and Settlement Code in respect of that Theft of Electricity;

(g) The licensee must have (and ensure that any Representative has) sufficient evidence to establish (on the balance of probabilities) that Theft of Electricity has occurred as a result of that Customer's intentional act or by culpable negligence before requiring payment of all or part of the Charges for the Supply of Electricity relating to that Theft of Electricity; and

(h) The licensee must provide (and ensure that any Representative provides) in plain and intelligible language, clear, timely and accurate information and advice to the Customer about:

(iii) the basis of any assessment made by the licensee (or its Representative) that Theft of Electricity occurred;

(iv) the basis for the calculation of any Charges for the Supply of Electricity associated with the Theft of Electricity made to the Customer;

(v) what steps the Customer should take if they wish to dispute that Theft of Electricity occurred; and

(vi) the steps a Customer may take to reinstate supply if the licensee (or its Representative) has exercised the Statutory Disconnection Power.

XX.12 The licensee must keep (and ensure that any Representative keeps) a record of its compliance with its obligation under this licence condition.

XX.13 The licensee must take all reasonable steps to establish management arrangements that facilitate the licensee's compliance with its obligations under this condition, including, as appropriate, steps to ensure that any Representative, agent and subcontractor of the licensee establish equivalent arrangements.

XX.14 The licensee must provide to the Authority, in such manner and at such times as the Authority may reasonably require, such Information as the Authority may require or deem necessary or appropriate to enable the Authority to monitor the licensee's compliance with this condition.

XX.15 The licensee is not required to comply with paragraph XX.14 if it could not be compelled to produce or give the Information in evidence in civil proceedings before a court.

Definitions for Condition

XX.16 In this condition:

Theft of Electricity	includes, but is not limited to; (a) circumstances described in paragraphs 6(1)(a) and 5(2) of Schedule 6 to the Electricity Act 1989 in so far as they relate to a electricity supplier; (b) circumstances described in paragraph 6(1)(b) of Schedule 6 to the Electricity Act

	1989; and (c) circumstances described in paragraph 11(1) of Schedule 7 to the Electricity Act 1989

Condition 27. Payments, Security Deposits, Disconnections and final Bills

[Introduce new paragraphs after SLC 27.18]

27.11C Paragraphs 27.5 to 27.11B shall not apply where the licensee is considering exercising its Statutory Disconnection Power.

Condition 1. Definition for standard conditions

[Insert new definition in SLC 1.2]

Statutory Disconnection Power	means paragraphs 5(3) and 6(3) of Schedule 6 and paragraph 11(3) of Schedule 7 to the Electricity Act 1989

Appendix 4 - Glossary

B

BSC
Balancing and Settlement Code

D

DCUSA
Distribution Connection and Use of System Agreement

DNO
Distribution Network Operator

DPCR
Distribution Price Control Review

DTN
Industry data transfer network

E

ENA
Energy Networks Association

ERA
Energy Retail Association

ESQCR
Electricity Safety, Quality and Continuity Regulations

G

GSP
Grid Supply Point

H

HHDC
Half-hourly Data Collectors

HSE
Health and Safety Executive

M

MPAN
Meter Point Administration Number

N

NHH
Non-half hourly

NHHDC
Non half-hourly Data Collectors

R

RIIO-ED1
Revenue=Incentives + Innovation + Outputs

RP
Revenue Protection

S

SLC
Standard Licence Condition

T

TRAS
Theft Risk Assessment Service

Appendix 5 - Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments

1.2. Please send your comments to:

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