



Water
Service

Memo

From:

Your ref:

cc:

Our ref:

Tel:

To: Shaun Woodward MP

Date: [] November 2005

DOMESTIC METERING POLICY PROPOSALS

Issue:

Policy proposals for domestic (or household) metering in the context of the introduction of a comprehensive water and sewerage charging regime on 1st April 2007.

Timing:

It is planned that an announcement will be made alongside the publication of the Integrated Impact Assessment (IIA) consultation report on [] November 2005.

FOI Implications:

This submission may be exempt from disclosure under Section 35 of the FOI Act 2000 (Formulation or development of Government Policy).

Presentational Issues:

Domestic metering is of great public interest. There will be both positive and negative reaction.

Recommendations:

- i. Ministers should confirm that a managed long-term transition to widespread domestic metering will be undertaken;
- ii. Meters will be installed in all new properties and first time connections and billed on that basis – low income protection will be awarded on the same basis as for unmeasured customers;
- iii. Metering will be available from the date of the introduction of comprehensive water and sewerage charging to pensioner households who apply – meter

optants will be able to revert to an unmeasured charge within 12 months;

- iv. Where a meter is installed in a property, all subsequent occupiers will be subject to metered charges with no option to revert to an unmeasured charge;
- v. The policy will be subject to a statutory review within two years with a view to extending the domestic metering option to further groups from year 3 thus making metering more generally available to all customers.

Detail

Following Devolution in December 1999, the Executive highlighted the issue of paying for water and sewerage services in the 2002 consultation on rating and proposed a number of ways in which a direct water charge could be introduced. While acknowledging that the metering of domestic water supplies would reflect the spirit of the EU Water Framework Directive in relation to sustainability of water resources, the consultation document stated that in recognition of the potential equity issues surrounding domestic metering and the cost of operating a metering regime, metering of domestic supplies was not being considered. Notwithstanding this, the possibility of metering was raised again in the March 2003 consultation on the reform of water and sewerage services.

2. On 13th September 2004 John Spellar, the NIO Minister with responsibility for the Department for Regional Development, announced proposals for the introduction of a comprehensive water and sewerage charging regime in Northern Ireland. His proposals for the domestic sector entailed an unmeasured regime but included the intention to make provision for household metering, once charges were fully phased in. He explained that careful consideration had to be given to the best way to do this before any scheme was finalised.

3. It was originally envisaged that this consideration would be carried out over a two year period (from 2005 – 2007) leading up to policy recommendations around April 2007. However, domestic metering has increasingly become one of the two key issues for domestic customers (alongside protection for low income households) following John Spellar's announcement and the consultation on the Integrated Impact Assessment (IIA) (November 2004 – March 2005). In the light of this it was decided to advance work on domestic metering and this has been underway since January 2005. A draft report has been produced the purpose of which is to provide ~~supporting~~ research and evidence to inform policy consideration of the best way in which to implement household water metering in Northern Ireland. The findings of this lengthy report are summarised in this submission but the full report is available for your consideration.

bias?

Drivers for domestic metering

4. The metering debate is characterised by strong views both in support of and against domestic metering. In Northern Ireland, the General Consumer Council (GCCNI) has argued strongly for universal metering (with adequate protections for low income families) whereas many voluntary groups are opposed to metering because of concern at the impact on low income large families. The views of the NI political parties vary from strong opposition to any form of metering (SDLP and Sinn Fein) to support for some form of metering (Alliance), optional metering (DUP) or universal metering (UUP).
5. The differing views are manifested in different approaches to metering even within the UK. Whereas in England and Wales there is an ongoing move to domestic metering (26% of households in 2005 increasing to 36% by 2010) – OFWAT considers metering to be a fairer way of charging – in Scotland there is virtually no domestic metering. Alongside this domestic metering appears to be standard practice throughout the world where, in many cases, meters were installed 'from the outset' at low cost.

6. Domestic metering raises issues in four broad areas. The first three feed in to the fourth and inform the policy decision as to whether metering of domestic premises should be undertaken. These areas are:

i. Environmental: this is best encapsulated in the EU Water Framework Directive which requires the provision of adequate incentives for users to use water resources efficiently. Metering provides the usage information which can give both price signals to users (to encourage economic use of water) and reliable consumption information to undertakers (which can help in identifying leakage). It is argued that metering can, therefore, make a significant contribution to sustainable development.

ii. Economic: there are two conflicting issues here – reduced use can reduce the cost of providing water services but over against this, the cost of providing metering *ex post facto* in a system where there is little provision for meters is very high.

iii. Social: metering can have varying impacts on disadvantaged households – in larger families raising the charges but in pensioner households reducing the charges.

iv. Political: the above considerations together with the issues of equity (consumers with markedly different demands on the service attracting similar charges) and consumer choice.

7. It is the balancing of these issues that leads to a high degree of complexity in developing domestic metering policy. However, it is apparent from the public debate and the analysis undertaken that the two major obstacles to the use of domestic metering for charging purposes revolve around the potentially adverse impact on low income households and the potentially excessive cost of implementing widespread metering. These are two points

in common in virtually all views expressed on the issue of domestic metering.

8. From a water undertaker perspective, a high cost of metering can be justified in circumstances where excessive water demand might require new water sources (at higher cost) and where metering would avoid those costs but the Water Resource Strategy 2002-30 does not propose new sources. From a customer perspective the cost of metering is justified where the charges paid better reflect the demands placed on the services and ability to pay.
9. For these reasons, domestic metering policy has been developed in parallel with the low income proposals (which are set out in [name]'s submission of [date]). If it is possible to implement a low income protection scheme that adequately addresses the affordability issue the focus of domestic metering policy could be directed towards minimising the cost of a transition towards metering. Indeed, it could be argued that if the affordability issue is addressed through a low income protection scheme it would be difficult to sustain an argument, in principle, against metering for customers who can afford water and sewerage charges.

Modelling of domestic metering

10. The modelling of domestic metering options involves the assembling of a wide range of information and certain general assumptions which are set out at Annex A. These are, as far as is possible, consistent with policy proposals being developed for the reform of domestic rating (the proposed unmeasured charging regime is based on the capital valuations being undertaken for domestic rating). Five separate metering regimes for existing customers are modelled and the proposal to meter all new build properties is also considered. The six options are set out below:

- i. **Universal:** metering of all domestic properties on a compulsory basis;

- ii. **Optional:** metering available to all domestic customers on an optional basis – these customers are termed ‘optants’;
- iii. **Single occupiers:** metering available to all single occupier households on an optional basis;
- iv. **Pensioners:** metering available to all pensioner households on an optional basis;
- v. **Meter ready:** metering available on an optional basis to all properties that are already fitted with a water connection that has provision for a water meter; and
- vi. **New build:** compulsory metering of all new build properties and all new (first time) connections.

11. Each of the models requires key input information which is described in Annex B. For each model a ‘base case’ is drawn up and the input information is varied for sensitivity analysis. The analysis in the models provides key output information which is described at Annex C. This output information enables a comparison to be made between the six models.

12. The sensitivity analysis in each of the models reveals that the three most important factors that have a significant effect on the outputs are:

- i. The nature and level of the support for low income households – the implementation of the proposals currently before the Minister (a 25% discount with a cap to ensure that customers do not spend more than 3% of household income on water and sewerage charges – funded by a DEL subsidy) provide the maximum benefit to low income households and make a very substantial contribution to securing the affordability objective for charging. The analysis of the original proposal (a 25% discount funded by customers) and a revised approach (a 25% discount funded from DEL) indicates that around two-thirds of low income customers would be worse off and very large numbers of customers would opt for metered charges (over half of existing customers within five years). While increasing

the number of low income qualifiers (through, for example, the NI Special Rate Relief scheme) would reduce the number of optants it would increase the level of the DEL subsidy;

ii. (In the optional models) the point at which a customer will choose to switch to a meter – this is termed the ‘switching threshold’ and is a measure of the savings that a customer would expect to make before they would consider it worthwhile to switch to a metered supply. In the modelling a conservative level of switching threshold has been selected – in a mature charging regime it is likely to be higher and this would result in fewer optants. The switching threshold also depends on whether customers have to pay ‘up front’ for meter installation – where this is the case the switching threshold is likely to be higher and fewer customers will opt;

iii. The level of the standing charge – lower charges increase the number of optants whereas higher standing charges reduce the number. The base cases are drawn up using a mid-range standing charge (recovering 35% of costs) which reflects both the level of standing charge for Northern Ireland’s existing metered (non-domestic) customers and the level of standing charge in the proposed unmeasured regime.

13. In addition to these factors there are the practicalities associated with metering and, in particular, the capacity of the water company to undertake a programme of metering. Although work carried out by consultants during the financial and strategic review modelled a scenario involving around 80,000 installations per annum for the first six years, one of the larger water companies in England installs only around 25,000 optional meters per annum together with a similar number of new build meters. This suggests that a programme of metering that requires the installation of more than 25,000 meters per annum is unlikely to be sustainable – for example, a universal or fully optional regime available from day one.

Modelling results

14. Universal metering requires the installation of around 650,000 meters. The additional annual costs are estimated at £18 million while the savings through reduced water use are estimated at around £5 million. The nett additional cost of £13 million suggests that the overall impact would be negative but it is demonstrated that low income customers are unlikely to be worse off. It is considered that this option would fully meet the 'incentive' requirements of the EU Water Framework Directive (WFD) but the timescale for implementation is at least eight years (see paragraph 13) and probably considerably longer (25 years). It is concluded that, whatever the merits of universal metering in principle, the key outputs indicate that, in practical terms, it could not be implemented in the short to medium term and consideration would have to be given, in any case, to a means of effecting a transition towards that longer term goal. This raises the question as to the manner in which a transition to widespread metering could be undertaken.
15. Optional metering would require the installation of around 230,000 meters within three years (255,000 within five years). It is costed at £12 million per annum with savings of £3 million (nett cost £9 million). The impact on low income households is also considered to be neutral. Although metered customers are likely to save, on average, £81 per annum by 2011/12, the rebalancing effect is estimated at £83 per customer per annum by 2011/12 in increased unmeasured bills. This option would go a considerable way towards meeting the 'incentive' requirements of the EU WFD but the implementation timescale is estimated at up to 10 years although the number of optants would require installation within 3 – 5 years. It would, therefore, be difficult to manage a transition to metering in this regime because demand for metering would outstrip the ability of the undertaker to deliver it. The high costs of metering and the very significant impact on unmeasured bills could add to concerns about the fairness of the overall charging regime in terms of 'affordability'.

16. Single occupier metering would require the installation of 80,000 meters within three years. The nett costs (additional costs of metering less savings from reduced consumption) are estimated at around £3.6 million annually with an implementation timescale of at least three years. The impact on low income households is considered to be neutral. While metered customers would save up to £142 per annum by 2011/12, the impact on unmeasured customers is estimated at around £28 per customer per annum on average (over five years). Movement towards EU WFD compliance is partial. Offering meters to these households is considered to be a more manageable proposition but it is considered that for many of these customers affordability would not be a key issue.
17. Pensioner household metering seeks to target those households where there is perhaps the largest proportion of asset rich / income poor households. This option would require the installation of around 67,000 meters within three years. The nett costs are estimated at around £3 million and the implementation timescale is considered to be of the order of three years. The rebalancing effect on unmeasured customers amounts to £23 per annum on average (over five years). Again, movement towards EU WFD compliance is partial. Offering meters to pensioner households is considered to be a feasible proposition for a group where affordability concerns could remain and is a plausible first step in the direction of eventual widespread metering.
18. Meter ready (optional) metering would require the installation of around 30,000 meters within three years. The nett cost of the meter ready option is less than £1 million per annum – in relative terms the cheapest considered so far. The timescale for implementation is of the order of around 3 years and movement towards EU WFD compliance is partial. It is estimated that there would be minimal rebalancing impacts – around £9 in total (over three years). Meter ready metering is, therefore, also a plausible early step in the direction of widespread metering.

19. New build (or first time connection) metering option has no adverse impact for existing customers. The cost of the installation would be covered in the water connection charge to the developer and the additional revenue will exceed the marginal cost of providing services to the customer. If it is accepted that charging for water and sewerage services should, in the long term, be based on metering, the metering of first time connections should be implemented on a compulsory basis as it would be completely counter-productive to introduce further unmeasured properties into the customer base. Those who plan to occupy new properties would do so in the knowledge that the water supply is metered and could factor this in to their decision to purchase. It is concluded that compulsory first time connection (new build) metering is a given if domestic metering is confirmed.
20. The draft report draws together the results of each domestic metering model and proposes a scheme for weighting the key outputs. These outputs are summarised in Annexes D and E respectively. In this consideration new build metering receives the highest score (298) followed by meter ready metering (295) and then pensioner (278) and single occupier metering (260) but the four options are fairly close together. Universal metering achieves a score of 210 and optional metering 187. Although it is recognised that weighting and scoring can be a fairly inexact approach the result of this analysis suggests that a managed transition to widespread metering would involve new build metering and some targeted metering at the groups already considered.

Equality impacts

21. An initial equality impact assessment (phase 1) of the wide range of options for domestic charging was carried out in June 2003. The analysis undertaken then concluded that metering would result in the smallest equality impact (compared to the other options considered – including a property capital value based charge). It was found that metering would, however, impact negatively on the disabled and people with dependents.

- adverse
22. The 2004 equality impact assessment of the capital value based charging regime (subsequently revised) concluded, *inter alia*, that a capital value based charge would have significant negative impacts on: people living in households without other adults (particularly those widowed and lone parents), the elderly and children in low-income households.
23. Combining these conclusions suggests that a move towards metering (through, for example, new build or meter ready metering) could be supported as a means of reducing the general inequalities in an unmeasured capital value regime and a targeting of pensioner households could be supported as it could remove a specific inequality.

Issues

24. Under the existing legislation in GB, domestic meters are installed free of charge at the point of supply. The additional cost of metering is met by the domestic metered customer group. In the light of this the base cases are drawn up under the assumption of 'free meters' but imposing an 'up front' charge for metering could potentially reduce the number of optants by 25%. A higher level of standing charge has a similar effect. Neither of these approaches are recommended in this submission but Ministers might wish to consider them to ease the rate of transition.
25. GB legislation provides a right for customers who opt for meters to revert to unmeasured charges within 12 months although subsequent occupiers of such a property will be liable to metered charges. This reflects the reality that it is only after a property is metered that a customer knows their actual level of consumption and can make a well-informed choice. In Northern Ireland, where charges are being introduced, customers have no history of unmeasured charges and it is possible that large numbers of customers who would have high consumption might initially request a meter as an experiment knowing that they can revert to unmeasured charges. This could threaten the water company's capacity to deliver a

metering programme and give rise to considerable additional expense. However, it could be minimised in a number of ways.

26. First of all, targeted metering restricts the group of customers who could adopt such an approach and, secondly, the provision of good information to customers about such issues as their likely consumption levels, the additional costs of metering and the appropriateness of unmeasured bills in certain circumstances would equip them to make fairly well-informed choices. Accordingly, it is recommended that a 12 month reversion provision should be allowed.

Recommendations

27. The foregoing discussion summarises the recommendations of the draft domestic metering report, which are as follows:

- i. Ministers should confirm that a managed long-term transition to widespread domestic metering will be undertaken;
- ii. Meters will be installed in all new properties and first time connections and billed on that basis – low income protection will be awarded on the same basis as for unmeasured customers;
- iii. Metering will be available from the date of the introduction of comprehensive water and sewerage charging to pensioner households who apply – meter optants will be able to revert to an unmeasured charge within 12 months;
- iv. Where a meter is installed in a property, all subsequent occupiers will be subject to metered charges with no option to revert to an unmeasured charge;
- v. The policy will be subject to a statutory review within two years with a view to extending the domestic metering option to further

groups from year 3 [DN: meter ready or single occupier households could be next in line] thus making metering more generally available to all customers.

[NAME]

The cost of water and sewerage services has not yet been finalised as work on the financial model is still ongoing pending agreement of various issues with HM Treasury. The modelling has been carried out without taking account of the proposal to fix average charges in Northern Ireland at the level of the England and Wales average charges for 2007/08 to 2009/10. Apportionment of costs between domestic and non-domestic customers is on the basis of consumption as set out in the IIA policy proposals document.

Number of households

The number of households connected to the water and sewerage networks is based on both VLA data and the NIHE house condition survey. The VLA data (November 2003) provided an estimate of the number of properties connected to both water and sewerage and water only at a JGD level. These figures were inflated to take account of new build, demolition and vacant property data and brought into line with figures in the house condition survey. The data is consistent with the customer numbers used for 2006/07 in the URS financial and strategic review.

Capital Values

The capital value data is based on the property data collated by VLA in the development of the valuations for the reform of domestic rating. This data comes from a sample of almost 60,000 properties comprised of sales and 'beston' valuations to ensure adequate representation of all properties in Northern Ireland. The data is normalised to a valuation date of 1 January 2005 (in keeping with the antecedent valuation date for domestic rating reform) and extrapolated to 650,000 properties on a local government district (LGD) basis.

Water consumption of households

Data on the number of households of different sizes was collated from 2001 Census data and the range of consumption of each size of household was estimated using data from England and Wales and the overall water balance figure for household customers in Northern Ireland. The consumption of households was estimated by applying a normal distribution to the average, maximum and minimum consumption data for each household size and by making the assumption that the level of consumption for a given household size is broadly similar.

GENERAL ASSUMPTIONS FOR DOMESTIC METERING MODELS

1. Costs of water and sewerage services

The cost of water and sewerage services has not yet been finalised as work on the financial model is still ongoing pending agreement of various issues with HM Treasury. The modelling has been carried out without taking account of the proposal to fix average charges in Northern Ireland at the level of the England and Wales average charges for 2007/08 to 2009/10.

? Apportionment of costs between domestic and non-domestic customers is on the basis of consumption as set out in the IIA policy proposals document.

2. Number of households

? The number of households connected to the water and sewerage networks is based on both VLA data and the NIHE house condition survey. The VLA data (November 2003) provided an estimate of the number of properties connected to both water and sewerage and water only at a LGD level. These figures were inflated to take account of new build, demolition and vacant property data and brought into line with figures in the house condition survey. The data is consistent with the customer numbers used for 2006/07 in the UBS financial and strategic review.

3. Capital Values

The capital value data is based on the property data collated by VLA in the development of the valuations for the reform of domestic rating. This data comes from a sample of almost 60,000 properties comprised of sales and 'beacon' valuations to ensure adequate representation of all properties in Northern Ireland. The data is normalized to a valuation date of 1st January 2005 (in keeping with the antecedent valuation date for domestic rating reform) and extrapolated to 650,000 properties on a local government district (LGD) basis.

4. Water consumption of households

Data on the number of households of different sizes was collated from 2001 Census data and the range of consumption of each size of household was estimated using data from England and Wales and the overall water balance figure for household customers in Northern Ireland. The consumption of households was estimated by applying a normal distribution to the average, maximum and minimum consumption data for each household size and by making the assumption that the level of consumption for a given household size is broadly similar across all

agree composition if means size & (age profile)

property values. Data produced in a discussion with Severn Trent Water have confirmed the reasonableness of both of these assumptions.

5. Low income households

The data on low income households is taken from the low income report. No allowance has been made for the NI Special Rate Relief (although this will be one of the passport benefits) as no reliable estimates have been made available. Including additional numbers of customers in the low income category would have the effects of reducing the number of customers who would opt for meters and of increasing the DEL subsidy.

KEY INPUTS FOR DOMESTIC METERING MODELS

All these inputs can be varied within the models

Reductions in water use: drawing on a number of studies carried out in Great Britain it is estimated that the consumption of metered customers will fall by between 9 (in the optional models) and 12% (in the compulsory models).

Variable costs: based on existing financial information it is estimated that variable costs account for around 20% of total costs and fixed costs account for around 80%.

Additional costs of metering: calculations suggest that the additional costs of metering (covering both installation costs and operating costs) are around £30 per customer per annum (in 2007/08) excluding the cost of benefits to metered customers which are not enjoyed by unmeasured customers – these figures are similar to the OFWAT differential figures. The costs rise to £46 per annum when including metered benefit costs.

Low income protection: the analysis is based on the revised proposals which were developed in parallel with this work. These proposals involve the application of a capped charge to low income households. Other regimes can also be modelled.

Standing charge: four levels of standing charge can be selected within the model – no standing charge; 10% standing charge; 35% standing charge; and, 75% standing charge.

Switching threshold (where appropriate): this is a measure of the savings that a customer would expect to make before they would decide to opt for a meter.

KEY OUTPUTS FOR DOMESTIC METERING MODELS

Number of meters: this provides important information about the total costs of the option, the timescale required to implement and the total savings resulting from reduced consumption.

Rebalancing: this is a measure of the savings that metered customers gain plus the impact that customers moving to a metered tariff will have on the level of unmeasured bills. Information is provided on the change in metered and unmeasured bills.

Benefits for low income customers: consideration is given to the extent to which options improve or worsen the affordability situation for low income customers and to the level of the DEL subsidy that is required.

Compliance with EU Water Framework Directive: an assessment is made of the extent to which the model would help meet the requirement to ensure that there are adequate incentives to use water resources efficiently.

Customer Choice: consideration is given to the extent to which options facilitate customer choice.

ANNEX D

KEY OUTPUTS FROM DOMESTIC METERING MODELS

Factor	Metering Regime					
	Universal	Optional	Single Occupier	Pensioner	Meter Ready	New Build
Meters (000s)	650	256	81	68	30	0
Annual Cost (£m)	18	14	4	3.3	1.7	0
Time to Implement	25 yrs	10 yrs	3+ yrs	3yrs	3 yrs	0
Compliance with EU WFD	100%	39%	12%	10%	5%	2%
Effect on metered	+\$20	-\$81	-\$142	-\$140	-\$150	£0
Effect on Unmeasured (£)	-	+\$83	+\$28	+\$23	+\$9	£0
DEL subsidy (£m)	+\$3.6m	+\$13.6m	+\$3.7m	+\$3.0m	+\$1.1m	0
(Change on unmeasured)	(+16%)	(+56%)	(+15%)	(+12%)	(+5%)	(0%)
Water Savings (£m)	5	1.2	0.3	0.25	0.13	0
Affordability – number worse off (£)	17,000 (+\$31)	45,000 (+\$13)	45,000 (+\$7)	45,000 (+\$6)	45,000 (+\$2)	Neutral
Customer Choice	None	100%	28%	28%	17%	None

ANNEX E

WEIGHING OF RESULTS FROM DOMESTIC METERING MODELS

Factor	Weight	Metering Regime					
		Universal	Optional	Single Occupier	Pensioner	Meter Ready	New Build
Cost	10	1	3	8	8	9	10
Time to Implement	8	1	3	7	8	8	10
Compliance with EU WFD	6	10	4	1	1	1	0
Effect on Unmeasured	6	5	1	3	4	5	6
Water Savings	5	10	5	2	2	1	0
Affordability	5	3	4	5	5	6	7
Effect on metered	4	3	6	10	10	10	4
DEL subsidy	4	4	1	4	5	6	7
Customer Choice	3	3	10	3	3	2	1
Total Score		210	187	260	278	295	298