SUBMISSION: Consultation on reform of the water sector in Ireland

1. THE GOALS OF WATER POLICY

Future water policy will need to integrate a number of important goals: the provision of water as a public good; increasing the efficiency of water production and distribution; conservation of an increasingly scarce resource; progressive pricing of water production and distribution; modernising our water infrastructure and conservation technologies as a means of stimulating growth; and ensuring that all of the above goals take account of current economic conditions and don't undermine economic recovery. It is imperative that these goals work with, and not against each other. It is equally important that we draw lessons from other countries – seeking to emulate best practice while avoiding the problems that have arisen in other jurisdictions.

UNITE's priorities are:

- The reduction of water usage to the best practice benchmark in Europe
- The reduction of production costs to the most efficient levels in Europe
- The introduction of water pricing policies consistent with economic growth and social equity

2. THE ENVIRONMENTAL GOALS OF A NEW WATER POLICY

The over-riding aim of public policy should be to reduce the total amount of water produced and distributed into the system as part of a major conservation drive to protect this resource. UNITE believes we should set a goal of reducing water usage to, first, the EU-average levels and, having achieved that medium-term goal, to aim for best practice. This should be a national drive involving all producers and consumers of water resources.

(a) Water Infrastructure

The degradation of our infrastructure, where 41 percent of water distribution is unaccounted for (i.e. leakage[1]) contrasts with the EU average of 20 percent and the best practice of Denmark and Netherlands (6 percent). This constitutes water wastage on an unacceptable profligate scale. Reduction of leakage to the EU average in the medium-term would provide the most economically efficient way to reduce water consumption.

- **The priority must be to modernise the water infrastructure through a substantial and sustained investment programme.**

(b) In-House Conservation

In addition to modernising our infrastructure to reduce water consumption, we need to invest in in-house conservation. Water use for personal hygiene can comprise up to 70 percent of all household water consumption, compared to a very low level of water use for drinking purposes.

[1] PricewaterhouseCoopers, Irish Water: Phase 1 Report, November 2011

There is considerable scope for investment in this area to install water saving appliances such as dual flush/low-flow toilets, push-button sink taps, flow diffusers, etc. which can be introduced into our building stock over the medium-term through a number of mechanisms:

- Direct grant-aiding / tax relief
- Requirement that conservation appliances (along with modern in-house pipes) be installed when a house is built, sold or transferred.
- Requirement that all commercial/industrial buildings, private rented housing, and buildings in the public sector install conservation appliances.
- Free distribution of low-flow aerators.

This could be supported through low-interest loans (to commercial, industrial and rental sector) for installation.

(c) Public Awareness

Public awareness has been shown to have a positive effect on water consumption, with studies suggesting reduction of between 5 and 10 percent as a result[2]. This soft-form of demand-side management (i.e. seeking to reduce the demand) should not be under-estimated.

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Water consumption per capita per day in Netherlands is described as the '*one of the lowest in developed countries*' at 124 litres per day[3]. Government, public agency and industry estimates put Irish consumption at 150 litres.[4] Even with all the problems of leakage and poor in-house conservation, Irish consumption levels are not far off from best-practice levels.

The combined impact of investment, in-house conservation and public awareness campaigns can have a substantial impact on water usage. This is all the more so, given Ireland and the waste of unaccounted-for water use (leakage). This three-part programme proposed by UNITE should bring us close to, if not exceed, our target levels.

3. INSTITUTIONAL MODEL

What institution or agency should deliver a new water system? Currently, the production and distribution of water is fragmented among a number of public agencies/local authorities. This is not the most efficient way to deliver water services. A single agency, which can take advantage of scale, contains a number of advantages over the present system. It makes sense that there should be a single authority for the management, maintenance, planning, procurement and development of the country's water resources and needs. Fortunately, the skills, resources and experience for this task already exist in our semi-state / public enterprise sector.

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[2] Hurd, H. B. (2006), "Water Conservation and Residential Landscapes: Household Preferences, Household Choices", *Journal of Agricultural and Resource Economics*, 31(2;, Nauges, C. and A. Thomas (2000), "Privately Operated Water Utilities, Municipal Price Negotiation, and Estimation of Residential Water Demand: The Case of France", Land Economics, 76(1) (February).

[3] PwC Report

[4] There is evidence that older populations use less water while households with children use more. If so, then comparing Irish water consumption with other EU countries would need to take account of these demographics. Nauges and Thomas above.

Bord na Mona has successfully diversified into many new areas, in particular water management in recent years. The company is currently negotiating on the delivery of the Water Supply Project to pipe water from the Shannon to the greater Dublin region, the first new major source of water in Ireland in decades.

The new water authority should be a division of Bord na Mona. It owns major assets and facilities spread throughout the country, many of which will be useful in creating an efficient integrated water supply and waste water management system.

It is the stated policy of the present government to abolish quangos both on efficiency and cost-saving grounds. Creating a new quango rather than making more of the assets we already have would go against that policy. Placing Bord na Mona in charge of a new national water system would demonstrate the government's commitment to its own principles – efficiency and cost effectiveness in the public service.

(a) Funding Model of New Water Agency

Should water production/distribution be subjected to full cost recovery, recouped in charges from the household and business sectors? The OECD states[5] there are few full cost recovery water systems:

> *'Very few countries have attempted to cover full economic and environmental costs in water prices, a notable exception being Denmark. In some countries (e.g. Italy, United Kingdom) at least part of the 'governance costs" are included in the retail tariff, but the issue is open to controversy (e.g. in Italy the practice has been challenged and sometimes prohibited). In the United States, a system of federal grants underpins state revolving funds that lend at favourable rates to local authorities for investment in infrastructure, and their bond issues are interest-free.'*

Most countries have a complex system of charges, grants, state subsidies, loans (for capital expenditure), etc. A full cost recovery system is neither necessary nor desirable as it will impose economic costs incompatible with growth strategies while at the same time undermining the principle goal of water conservation (see below for a further discussion of water pricing policies).

A full-cost recovery system can lead to perverse situations whereby the goal of best-practice water consumption may be achieved and as a result, water charges actually rise. For instance, if we have profligate water consumers, the charge for water will be set at x to recover full costs. If consumers reduce their consumption, the charge will have to be increased (x+1) to maintain revenue. If consumers drive consumption down to best practice, the charge will have to be increased again (x+2).

A full cost recovery model can actually create the perverse situation whereby water conservation (through reduced domestic water consumption) is actually penalised.

UNITE proposals:

- **A new water services agency should be operated by an existing public enterprise, with particular consideration given to those agencies with water management experience; namely, Bord na Mona.**

[5] OECD, Pricing Water Resources and Water and Sanitation Services, 2010

- **A water system model should rely on a variety of funding sources rather than a full-cost recovery system which would penalise water conservation.**

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4. SOURCING INVESTMENT THROUGH EFFICIENCY SAVINGS

According to the PwC Report:

> *'There has been a substantial and historic under-investment in water and wastewater services in Ireland . . . a recent review carried out by Department of Environment indicates that there is . . a substantial backlog of capital investment. With an ageing and poor quality infrastructure . . . substantial investment will be required to bring the standard of the water network up to the needs of a modern economy. The Water Framework Directive (WFD) is a key initiative aimed at improving water quality throughout the EU. The Directive requires an integrated approach to managing water quality on a river basin basis; with the aim of maintaining and improving water quality. Full compliance with the Directive has not been costed but is likely to run to several billion euro over the period to 2027.'*

Not only is there a current need to substantially increase investment in water services, there will be a long-term demand on investment to reach compliance with EU Directives. Given the current and future demand on investment in our degraded physical and social infrastructures, it is imperative that the operational costs of water production / distribution be reduced in order to divert resources into investment.

Currently, €1.2 billion is spent on water services. There is evidence that the production and distribution costs of water in Ireland are high by comparison with UK water companies. This shouldn't be surprising given (a) the fragmentation of water production and distribution, and (b) our degraded infrastructure which requires unproductive maintenance. Achieving cost reductions will be vital given the considerable scale of investment that is needed. It is reasonable to assume substantial cost reductions from our proposals above:

- The creation of a single-utility integrated into an existing public enterprise will facilitate economies of scale which will reduce expenditure
- Infrastructural modernisation will facilitate the redirection of monies from maintenance

UNITE proposal:

- **Maintain current expenditure levels on water in the medium term. Any reduction in operational costs arising from increased efficiencies should be diverted into investment.**

This proposal has a two-fold benefit: it reduces Government expenditure on water services in real terms (after inflation) and as a percentage of GDP – thus effecting growth-friendly fiscal consolidation. Second, it releases efficiency savings for increased investment without recourse to extra borrowing, thus benefiting both conservation goals and economic activity.

(a) Efficiency in Revenue Collection

PwC estimates that the collection rate of non-domestic charges (i.e. commercial / industrial rates) is extremely low. Only 52 percent of charges are actually collected. Non-domestic charges are low by

international standards: water charges in Ireland are slightly above €1 per meter cubed; in Germany and Belgium it is €2 while in the UK it is above €1.50.[6]

A single utility, operating a unified charges and revenue collection administration, should be expected to increase this low collection rate, providing more resources for investment.

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5. REGRESSIVE AND DEFLATIONARY WATER PRICING POLICIES

UNITE believes that the over-riding priority in water policy is conservation, investment and efficiency in the production / distribution of water. Increasing revenue from households to reduce general government expenditure is just another tax – regardless of whether it is portrayed as a 'user-charge'. As such, it should be analysed in the same way as any other tax – its impact on households and the economy. And lessons should be learnt from other countries which have applied this tax.

(a) Water Charges are Regressive and Inequitable

Evidence from other countries is conclusive: water charges are regressive and inequitable.

OECD: Impact of Water Charges on Income Groups (% of Income)[7]

	England / Wales	Scotland	Mexico	France	Netherlands*
Lowest 10% Income	3.7	2.2	3.9	2.2	2.4
Highest 10% Income	0.4	0.4	0.7	0.4	1.0

* Netherlands compares the impact on the lowest / highest 20 percent income groups. The impact would be more regressive if comparing the lowest / highest 10 percent income groups.

Even with volumetric water pricing (charging on the basis of usage through meters), water charging is regressive. To address this, many countries/jurisdictions have started introducing 'social tariffs' or other forms of relief for groups on low-income. Like all ad hoc targeting measures, these suffer from thresholds which may provide some alleviation to income groups below the threshold. However, low-income groups (e.g. working poor) above the threshold do not benefit.

It has been argued that introducing a 'free allowance' could help alleviate this – but the little data available in the OECD report cited above shows that this only marginally reduces the ratio of water costs between high and low income earners.

That service charges based on household use of universal goods or services are, by their very nature, regressive is confirmed by CSO Household Budget Survey[8] which measures refuse charges.

[6] National Competitiveness Council, Cost of Doing Business in Ireland, 2011
[7] Distribution of Costs and Environmental Impacts of Water Services in OECD States: Affordability Measurement and Policies, 2003. More current data from the OECD suggests no qualitative improvement in these regressive ratios. If anything, it suggests that in some countries the regressivity has worsened (e.g. France).
[8] CSO, Household Budget Survey, 2005/6

CSO (2005) Expenditure on Refuse Charges: % of Disposable Income			
	Lowest 10% Income Group	**State Average**	**Highest 10% Income Group**
Refuse Charges	0.47	0.22	0.14

The ratio between the lowest and highest income groups is over three to one – that is, as a percentage of disposable income, low-income groups pay three times more than higher income groups. Introducing water charges that exhibit this character would be socially inequitable and regressive.

(b) The Economic Backdrop to Regressive Water Charging

The introduction of regressive water charging has to be set in economic context. The Irish economy has suffered an almost unprecedented collapse in consumer spending. In the period between 2007 and 2011, Irish consumer spending has fallen by 13 percent while it has actually risen in the Eurozone. In 2012, the Government is projecting[9] consumer spending to fall further while next year it is expected to flat-line. Consumer spending is not expected to start rising until 2014 and even then the rise will be minimal.

Further, the Government estimates that real wages (wages after inflation) will not start rising until 2015[10]. The continuing fall and stagnation in real wages will be exacerbated by household deleveraging and increased taxes over the course of the Government's fiscal consolidation schedule up to 2015.

Clearly, a new 'regressive' tax (households have already been subjected to cuts in personal credits, the Household Charge, VAT and carbon tax increases – all regressive) would negatively impact on domestic demand. The reduction in disposable income as a result of a new water charge could result in an almost one-for-one withdrawal from consumer spending for low and average income groups. With the ESRI projecting both consumer demand and domestic demand to remain in recession in 2013, further deflationary measures will exacerbate this continuing deflation[11].

- **It would be economically and fiscally irrational to impose regressive water charges during a period when domestic demand and real wages are either falling or stagnating. This will only postpone economic recovery.**

(c) Penalising Low-Income, Low-Consuming Households

It has been argued that charges will result in a decline in water consumption. This is not disputed – price a product high enough and demand / consumption will fall (this explains fuel poverty, for instance; where households don't have enough income to purchase an appropriate amount of heat). However, a charge-regime on households – while raising the spectre of a similar phenomenon of 'water-poverty' – also risks perverse consequences for low and average income households.

First, numerous studies highlighted by the OECD shows a significant relationship between income and water consumption at household level; in other words, the higher the income, the higher the usage

[9] Department of Finance, Economic and Fiscal Outlook, Budget 2012
[10] Department of Finance, Stability Programme Update, 2011
[11] ESRI, Quarterly Economic Commentary, Winter/Spring 2012

of water.[12] This is reasonable as higher income households – and larger houses - are likely to have more (and more intensive) water consumption appliances. In one particular study, a 10 percent increase in income results in a 3.6 percent increase in water consumption.

Second, the OECD highlights a '*serious policy concern'*:

> *'Furthermore, income is found to negatively affect households' responsiveness to price changes; in particular, a 10% increase in the price of water leads to a 5.3% reduction in water use for the low-income group, a 2.2% reduction for the moderate- to high-income group, and a 1.1% reduction for the wealthy people. The fact that low-income households are almost 5 times more responsive to price increases than the high-income households suggests a shifting of the financial burden of conservation through higher prices onto low-income households, and thus poses a serious concern for policy makers from an equity point of view.'*

This creates a perverse and highly inequitable scenario: low and average income households which consume appropriate levels of water will nonetheless be forced to reduce their consumption further to avoid inequitable charges. On the other hand, high-income excessive users have no incentive to reduce their consumption as the charges will have little impact. So consumers at appropriate levels will suffer twice – regressive charges and reduced water usage. This is the perverse outcome of water charges.

UNITE proposes:

- **There should be no charge at household level for the use of water – either flat-rate or based on consumption (metering).**

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6. NEW REVENUE RAISING STREAMS

There will be a need to raise money consistent with social equity and economic efficiency, to support the investment needs of our water network. UNITE believes this can be done within the broad income tax system – which benefits from being progressive.

In most other countries there are three main revenue streams for domestic water services:

- A charge based on the amount of water that is used (based on metering, or volumetric charges)

[12] Nieswiadomy, M. L. and D. J. Molina (1989), "Comparing Residential Water Demand Estimates Under Decreasing and Increasing Block Rates Using Household Demand Data", *Land Economics,* 65(3); Headley, J. Ch. (1963), "The Relation of Family Income and Use of Water for Residential and Commercial Purposes in the San Francisco-Oakland Metropolitan Area", *Land Economics,* 39(4) (November); Renwick, E. M. and S. O. Archibald (1998), "Demand Side Management Policies for Residential Water Use: Who Bears the Conservation Burden", *Land Economics,* 74(3), August; Howe, Ch. W. and F. P. Linaweaver Jr. (1967), "The Impact of Price on Residential Water Demand and Its Relation to System Design and Price Structure", *Water Resources Research,* 3(1); Jones, C. V. and John Morris (1984), "Instrumental Price Estimates of Residential Water Demand", *Water Resources Research,* 20(2); Nieswiadomy, M. L. (1992), "Estimating Urban Residential Water Demand: Effects of Price Structure, Conservation, and Public Education", *Water Resources Research,* 28(3); and Renwick, M., R. Green and Ch. McCorkle (1998), "Measuring the Price Responsiveness of Residential Water Demand in California's Urban Area", California Department of Water Resources, May

- A fixed fee (similar to a standing charge by utilities such as ESB and Bord Gais – a flat-rate payment by all consumers)
- A once-off connection fee.

We have already proposed that there be no charging based on water usage at household level due to its regressive nature, its deflationary impact on domestic demand and the perverse results whereby appropriately consuming households are penalised.

However, UNITE believes it is possible to construct new and progressive revenues streams based on fixed-fees/standing charges and connection fees.

(a) Fixed Fees / Standing Charges

It is usual for utilities to charge a flat-rate standing charge or fixed fee, regardless of usage. There is little dispute that a flat-rate fee – especially when it concerns a universal service (electricity, gas, telephone) is regressive. It impacts disproportionately on low-income earners – in particular, social protection recipients and the low-paid. A fixed charge for water would have the same effect.

However, if the fixed fee was collected through the income tax system, it would be progressive. One possible mechanism would be to establish a ring-fenced levy attached to the income tax – 0.2 percent for those on the standard rate rising to 0.4 percent at the top rate, with a top rate for incomes over €100,000 to be set at 0.6 percent. The low-paid and those on social protection would be exempt, just as they are under the income tax system. This would make revenue for water services progressive and protect low/average income earners. If this were collected through a separate levy, it would signal to people that this money is being directed into a better water service. Such a 'water levy' should be diverted into investment.

However, as we pointed out above, imposing additional taxation on low and average income earners during a period of falling real wages and stagnant levels of consumer demand would be economically damaging and social inequitable: Therefore, consideration of collecting the fixed rate through the income tax system should be delayed until real wages start rising and consumer spending growth becomes entrenched (though introducing the fee at the highest income levels end could be considered earlier).

(b) Water Connection Fee

An initial connection fee on the sale or transfer of houses should be introduced. To make it progressive, the first x amount of the sale/transfer value should be exempt. This would spread the cost of paying the connection fee over the life-time of the mortgage.

UNITE proposes:

- **A new revenue stream representing the fixed-rates for water services be introduced as part of the income tax system, with progressively higher rates, <u>but only after 2015</u> when real wage recovery commences.**
- **The introduction of a connection fee on sale/transfer of houses.**

7. FUTURE POLICY: METERING AND EVIDENCE-BASED POLICY

UNITE has shown that achieving efficiency savings and progressive revenue streams can raise considerable resources. Through infrastructural investment, in-house conservation and public awareness campaigns, we can substantially reduce water use. We believe this can achieve the twin goals of reducing water consumption and reduce water production/distribution costs to best practice levels. Ireland can become a league leader.

This is not to abandon a universal metering project. However, future metering policy needs to face up to three challenges:

- First, that it can be integrated into a common communication network with other smart meters (electricity, gas). Advanced metering infrastructure, with 'real-time' or 'smart metering', has the potential to integrate all utilities by using a single communication network. This would be far more efficient than establishing separate metering infrastructures (e.g. for electricity, for water, etc.).

- Second, that a volumetric fee tariff can be shown to have a progressive impact. Proposals linking usage with income have that potential but the serious lack of data regarding water consumption makes critical analysis of such schemes seriously problematic.

- Third, that people have confidence in a Government that introduces such a policy – confidence that has been shaken by regressive fiscal policies since the start of the recession.

There is an urgent need for evidence-based policy. Currently, there is little data regarding water consumption per income group, age or household type; economic and fiscal analysis of different water pricing models; leakage levels – there are even disputes over how many pipes we have. These challenges need to be addressed before any volumetric metering policy is adopted.

UNITE proposes:

- **Postpone the installation of meters and redirect that money into investment.**

As we have argued above, the conservation priority requires immediate investment into our degraded water infrastructure. Spending money on a separate water metering infrastructure which will introduce a regressive household charge constitutes an inefficient use of scarce resources. UNITE believes that Ireland can reach best-practice conservation levels without imposing extra costs on low-income, moderate consumers, or requiring them to reduce consumption from their already moderate levels. However, research should continue into rolling out an advanced integrated 'smart' metering infrastructure encompassing all utilities. This does not imply the introduction of water charges but would allow households to better monitor their use of energy and environmental services.

- **Proceed with policy only on the basis of data and evidence**

This should be self-evident. Unfortunately, too many policy initiatives are based on assumptions and untested premises, which results in poor quality. The amount of investment in our water infrastructure and services is too large and urgent to make this mistake this again. An immediate step must be to gather data on water consumption by income range, household type, age, etc.

END.