

THE REFORM OF WATER AND SEWERAGE SERVICES IN NORTHERN IRELAND : EQUALITY TECHNICAL APPRAISAL

This technical appraisal issued along with the draft EQIA on domestic water charging proposals in November 2004 is an aggregation of papers outlining the work done in the 3 separate phases (I to III) of the equality analysis.

1. PHASE I – JUNE 2003

The water reform consultation document released in March 2003 undertook to conduct an equality assessment of the water charging options presented. Phase I sets out the evidence of equality impact for the 3 main options presented at that time.

In summary, Phase I analysis indicates that the metering option would result in the smallest equality impact. There is little to choose between the other 2 options in terms of equality – both have large and wide-ranging equality implications.

1.1 AVAILABLE DATA & RESEARCH

The recent publication of the 2001 Census results allows analysis of most of the Section 75 groups in terms of their spatial location within Northern Ireland. This is a rich dataset, giving up-to-date information which was not previously available for some of the groups, such as ethnic minorities, and carers. Unfortunately, there are still no population data available for the sexual orientation groups.

Data used in this work for each of the groups were :

Age – Mid-Year Estimates (MYEs), June 2001. In the 2001 Census year, mid-year estimates are similar to the census population enumerated in April (only 4,052 or 0.24% difference, due mostly to the excess of births over deaths in the intervening 2 months). However, MYEs are preferred over Census counts for age and sex because they are produced every year to a consistent definition, so that it establishes good practice to use these data for EQIA purposes.

Gender – 2001 MYEs – as above.

Marital Status – 2001 Census, which also gives information on ‘living arrangements’ (ie. alone or as part of a couple).

Religion – 2001 Census, ‘Community Background’ variable. The 2001 Census asked respondents to state their religion, and also the religion in which they were brought up. There have historically been problems in analysing ‘religion’ per se, since the question is not mandatory, and a large minority (19% in 1991, 14% in 2001), opt not to state their religion or state that they have ‘no’ religion. The addition of the *community background* variable in 2001 resulted in higher coverage of the two traditions – only 3% are in the residual ‘other’ category for this variable.

Racial Group – 2001 Census – for the first time these data are available on the numbers of ethnic minorities in the NI population.

Disability – those in receipt of Disability Living Allowance *or* Attendance Allowance, February 2003. Data are also available in the Census for those suffering a limiting long-term illness. Benefits data can be updated for EQIA purposes, whereas census data are reported only every 10 years. In February 2003, 13% of the population were in receipt of these benefits, compared to over 20% reporting a limiting long-term illness in the April 2001 Census. Differences in the figures can be explained, amongst other things, by benefit take-up rates on the one hand, and the quality of self-reported information on the other.

People with Dependants – the number of households with dependant children is taken from the 2001 Census. Also for the first time, the 2001 Census recorded the number of people caring for others, who may be elderly or disabled.

Political Opinion – first preference votes cast in the June 2001 District Council elections.

Sexual Orientation – no population data are available – it is not possible to include this group in the quantitative analysis presented here.

These Section 75 population datasets can be linked to other data which illustrate the effect of each of the 3 proposed charging policies. In other words :

- (i) The property-based charging equality assessment uses 1998 and 1999 house sales data from the Valuation & Lands Agency (VLA), along with earnings information from the DETI 'New Earnings Survey' 2002 and household income information from the NI Household Panel Survey.
- (ii) The flat charging proposal is assessed using data on household size from the 2001 Census.
- (iii) The metering option should be considered in the light of water consumption information.

Ideally, analysis would be carried out by linking householders and their Section 75 characteristics with individual data on household size, water consumption, income and house value. However, as this is not possible with the data available, analysis is carried out in a spatial way to link the overall population characteristics of an area to the *average* household sizes etc. Care must be taken in interpreting the findings in that the characteristics of areas cannot be assumed to be homogenous. For example, where house prices at the district council level are higher than the Northern Ireland average, that does not mean that there are no individual houses which fall well below the average price and which would have a lower water charge under the property-based charging option.

1.2. CHARGING OPTIONS – ASSESSMENT OF EQUALITY IMPACTS

Three main options are presented in the consultation exercise. A fourth, a mixture of fixed and variable charges, has not been assessed here, as the ratio of fixed:variable components is not yet clear. If this becomes a viable option, the equality effects will be the appropriate ‘mix’ of the property-based (variable) and flat charging (fixed) proposals.

The equality effects of the 3 options are fundamentally driven by different factors as follows :

- i. Property-based charge – differential house prices related to the Section 75 profile of the people who live in them.
- ii. Flat charge – differential household sizes and the Section 75 profile of the people in those households.
- iii. Metering – differential consumption, and the Section 75 profile of the people who ‘need’ to consume more.

1.2.1 (i) Property-Based Charge

The basis of the analysis under this option is a dataset giving open market property sales of around 17,000 transactions for 1998 and 1999 from the Valuation & Lands Agency (VLA). Analysis of these data indicate how the property-based water charge might vary across Northern Ireland, and by linking with the underlying characteristics of the population at district council level, we can assess the resultant differential equality impact.

It is considered that a sample of 17,000 house prices is a reasonable number on which to base the analysis. Given that the data are a few years old, this analysis assumes that the *relative* house price differential between district council areas still holds true.

Average property prices by district council are given in Table 1.

Table 1

District Council	Average price 1998-1999
Antrim	£68,162
Ards	£70,645
Armagh	£59,479
Ballymena	£60,938
Ballymoney	£56,527
Banbridge	£63,854
Belfast	£66,040
Carrickfergus	£58,730
Castlereagh	£78,387
Coleraine	£64,814
Cookstown	£61,713
Craigavon	£47,670
Derry	£58,657

Down	£72,157
Dungannon	£53,480
Fermanagh	£63,415
Larne	£58,882
Limavady	£57,911
Lisburn	£74,551
Magherafelt	£56,021
Moyle	£63,937
Newry/Mourne	£59,147
Newtownabbey	£61,376
North Down	£84,731
Omagh	£61,068
Strabane	£47,029
NI Average	£66,232

It is not yet known precisely how the capital value of a property will link to the water charge levied, or whether there will be payment bands. For equality assessment purposes, therefore, the difference from the NI average at that time (£66,232) is taken to be an indication of the relative difference in the expected water charge.

District council population characteristics are weighted by the magnitude of the difference between the average house price for a council area and the NI average. In other words, North Down is the most expensive council area in which to buy a house, and therefore householders in that area will be expected to pay the highest charges under this system – the characteristics of the North Down population (higher than average numbers of elderly people and Protestants) will therefore carry more weight in the analysis than the population characteristics of Antrim, say, which has an average house price only marginally higher than the NI average.

Results show that charging for water on the basis of the capital value of the house would have **no differential impact** on the equality groups of **gender** or **race**.

There would be a **marginal differential impact** for the **marital status, disability, dependants** and **age** categories. Where house prices are higher, there are fewer single people, fewer disabled people, fewer households with children and fewer under 16s (and more over 65s) – see Table 2. There is more than the average number of carers, who tend to be caring for the elderly rather than the disabled (of the people suffering from a long-term limiting illness in the Census, and who have a carer in the household, a larger proportion are aged over 65 in these district council areas compared to areas with lower house prices).

Table 2

Weighted % of population	DCs with higher than average house prices *	DCs with lower than average house prices	NI Total
Single People	29%	35%	33%
Disabled People	11%	14%	13%
Households with	35%	37%	36%

children			
Under 16 year olds	22.5%	24%	23.5%
Over 65 year olds	14%	13%	13%
Carers	12%	11%	11%

* Antrim, Ards, Castlereagh, Down, Lisburn, North Down

In terms of the **religion and political opinion** categories, there would be a **substantial differential impact**, with Protestants and Unionists being disadvantaged compared to Roman Catholics and Nationalists. In other words, where house prices are higher than the NI average, Protestants make up 67% of the population, compared to only 53% in Northern Ireland as a whole (and 48% in the areas where house prices are lower) – see Table 3.

Table 3

Weighted % of population	DCs with higher than average house prices *	DCs with lower than average house prices	NI Total
Roman Catholic	28%	49%	44%
Protestant	67%	48%	53%
Nationalist	22%	49%	42%
Unionist	59%	45%	48%

* Antrim, Ards, Castlereagh, Down, Lisburn, North Down

Discussion : Mitigation ? – Ability to Pay

It could be argued that those who live in areas where houses are more expensive can afford to pay higher water charges. Although there has historically been a paucity of information on income in Northern Ireland, data from the first wave of the ‘Northern Ireland Household Panel Survey’ (NIHPS), which aims to track the same individuals over time, was released in February 2003. These data show a weak relationship between the capital value of the house and the equivalised income of the household – the correlation coefficient is 0.24. There were 1,353 households in the sample, and the capital value of the house was self-assessed by the respondent. In other words, at NI level, there is only a tentative relationship between house value and income.

The survey also asked about religion, but unfortunately the numbers are too small to carry-out a 3-way analysis of house value, income and religion, in that the sampling errors become too large to facilitate robust conclusions on whether Protestants living in more expensive houses have larger incomes.

An alternative source of information which may be useful when considering ‘ability to pay’ is the ‘New Earnings Survey’ (NES) conducted by DETI in April of each year. This is a sample survey of around 6,000 employees whose earnings are obtained directly from their employers, thereby lending some objectivity to income levels. 2002 data based on district of residence are given in Table 4. The table also gives the percentage of the average house price represented by the annual earnings (weekly x52), with council areas sorted from the lowest % to the highest – in other words, North Down is the area where the average annual earnings represent the lowest proportion of

the average house price – it is hardest to afford a house in North Down based on the average earnings of the residents in that district council.

Table 4

District	Weekly Earnings	% annual earnings/house price
North Down	£407.70	25.02%
Cookstown	£302.90	25.52%
Coleraine	£326.90	26.23%
Lisburn	£383.00	26.71%
Down	£377.90	27.23%
Antrim	£363.70	27.75%
Banbridge	£347.00	28.26%
Ards	£390.90	28.77%
Armagh	£340.30	29.75%
Fermanagh	£371.80	30.49%
Carrickfergus	£348.90	30.89%
Omagh	£363.20	30.93%
Strabane	£282.50	31.24%
Newry/Mourne	£358.30	31.50%
Derry	£360.90	31.99%
Castlereagh	£482.30	31.99%
Limavady	£358.00	32.15%
Belfast	£408.50	32.17%
Magherafelt	£351.40	32.62%
Ballymoney	£354.70	32.63%
Larne	£374.00	33.03%
Ballymena	£396.20	33.81%
Newtownabbey	£410.40	34.77%
Dungannon	£373.80	36.35%
Craigavon	£357.80	39.03%
NI Average	£390.10	32.40%

Note : no data for Moyle – the sample size is too small

These data indicate that in the 6 council areas with higher than average house prices (highlighted in bold above), the annual earnings of the residents in those areas represent a lower proportion of the house value than the NI average of 32.4%. In other words, there is no indication in these NES data that ability to pay is related to house values at district council level. In fact, in 3 out of these 6 district council areas (Antrim, Down and Lisburn), the average earnings fall below the NI average absolutely as well as relatively, and in a fourth, Ards, they are only 80p higher per week.

In addition, since the NES is based on people in employment only, it does not include pensioners, who may be even poorer. The proportion of households represented by pensioners (living alone or in a couple) in the 6 council areas with higher than average house prices is 20.1% (compared to 19.1% in the other council areas). Undoubtedly,

some of these pensioners will live in expensive homes in which they brought up their families, and which under this policy would attract the highest water charges.

In conclusion, there is no evidence that ‘ability to pay’ can be used as a mitigation of the equality effects of this charging policy.

1.2.2 (ii) Flat Charge

The equality effects of this option will depend on the differential nature of household sizes between Section 75 groups. Large households will benefit from a flat charge as they will tend to use more water, yet pay the same amount as single-person households.

Section 75 groups will more often fall into small or large households on the whole. For example, people with dependants may have more people in their house than single people; pensioner householders will have smaller household sizes than married couples with families, etc. Table 5 gives NI household compositions from the 2001 Census.

Table 5 – Household Composition, Census 2001

NI	No. of Households	% of Households
Single pensioners	80,486	12.8%
Single Other	91,087	14.5%
Pensioner couple	40,769	6.5%
Married/Co-habiting without children	79,766	12.7%
Married/Co-habiting with children	213,544	34.1%
Lone parent with children	79,627 (27,061 with 1 child) *	12.7% (4.3%)
Other (students, more than one family etc)	42,439	6.7%
Total	626,718	100%

* estimated from census family data

In summary, 27% of households comprise only one person. In addition, at least a further 23.5% have only two people. These 50.5% of households, highlighted in bold in Table 6, will be those which are most clearly disadvantaged by a flat rate water charge. Table 6 sets out more detailed assumptions about the Section 75 composition of these 319,169 households compared to the NI population as a whole.

Table 6

Section 75 group	1-person households	2-person households	All Households
Age (pensionable age)	47% (est.)	28% (est.)	15.5%
Marital Status (not living in a couple)	100%	9% (est.)	44.3%
Community background (Protestant)	62%	66% (est.)	53.1%
Without dependant children	100%	91% (est.)	36.5%
Race (white)	99.4%	99.5% (est.)	99.2%

The main **equality effects** will be on **pensioners, people not living in a couple, Protestants** and those living in **households without dependant children**. In terms of race, although the numbers of ethnic minority households in Northern Ireland number only 4,323, there are proportionately fewer smaller households within the ethnic community, so that **racial minorities overall would benefit** from a flat charging system.

In examining the equality effects of the flat charging option, another test is to look at average household sizes by district council area, and relate these to the underlying population characteristics of the areas. Average household sizes from the 2001 Census are given in Table 7.

Table 7

Council Area	Av HH size
Antrim	2.71
Ards	2.53
Armagh	2.89
Ballymena	2.63
Ballymoney	2.77
Banbridge	2.71
Belfast	2.38
Carrickfergus	2.52
Castlereagh	2.44
Coleraine	2.56
Cookstown	2.97
Craigavon	2.65
Derry	2.87
Down	2.80
Dungannon	2.91
Fermanagh	2.78
Larne	2.50
Limavady	2.96
Lisburn	2.67
Magherafelt	3.05
Moyle	2.68
Newry/Mourne	2.94
Newtownabbey	2.51
North Down	2.41
Omagh	2.91
Strabane	2.94
NI Average	2.65

The population characteristics of areas with larger than average households compared areas with smaller households are given in Table 8. The patterns emerging are similar to the household composition analysis above.

Table 8

% of population	DCs with smaller than average household size	DCs with larger than average household size	NI Total
Males	48%	50%	49%
Females	52%	50%	51%
Roman Catholic	29%	56%	44%
Protestant	67%	42%	53%
Nationalist	25%	55%	42%
Unionist	60%	40%	48%
Married People	54%	56%	55%
Households with children	32%	40%	36%
Carers	12%	10%	11%
Disabled People	13%	13%	13%
Ethnic Minorities	1.1%	0.7%	0.9%
<16s	22%	25%	24%
16-64 year olds	63%	63%	63%
65+	15%	12%	13%

The findings from this analysis can be summarized for each Section 75 group as follows.

There is no effect on **disabled** people.

The apparent negative effect on **females** is a function of a more elderly population where household size is smaller – female pensioners make up 11% of these district councils, compared to only 9% in the rest of NI, accounting for the extra 2 percentage points, so we can discount an equality impact on gender alone.

There are slightly fewer **married people** than the NI average in the councils with smaller household size which is as we would expect – single people live in smaller households.

Although it appears that **ethnic minorities** may lose out on a flat charge policy, since they are more numerous where household sizes are smaller, this is an anomaly in the spatial analysis. The reason is that the largest concentrations of ethnic minorities are in Belfast and Castlereagh (these councils contain 33% of the ethnic population, but only 20% of the population as a whole), and both of these council areas have smaller than average household sizes (Table 8). However, 59% of households in Belfast and Castlereagh where the ‘household reference person’ (HRP) is a member of the ethnic minority community, contain children or more than one family. The comparative figure for white households is 48%. Therefore, within council areas with a small *average* household size, ethnic minorities tend to live in larger households and will benefit from a flat charge for water.

The equality effects on other groups are more stark (shown in bold in Table 8). In the areas with smaller household sizes, there are clearly more Protestants, more Unionists, and fewer households with children (linking to fewer under 16 year-olds). There are more elderly people (and more people who care for them), which is a function of the

number of pensioners living alone (15% of households compared to 11% in the areas with larger household size).

The biggest differences are in terms of **religion** and **political opinion**. In other words, the areas with the smaller household sizes (Ards, Ballymena, Belfast, Carrickfergus, Castlereagh, Coleraine, Larne, Newtownabbey and North Down) are in aggregate more ‘Protestant’ and more ‘Unionist’ than the other areas in Northern Ireland.

The 2001 Census shows that of households where the HRP has a Protestant community background, only 43% are made up of either lone or married/cohabiting parents with children, compared to 53% of households where the HRP has a Roman Catholic community background. On the other hand, 62% of single-person households are ‘Protestant’ (see also Table 7), while only 35% are ‘Roman Catholic’.

1.2.3 (iii) Metering

This option would allow charging related to water consumption through metering. The important issue for equality here is that people may choose to use more water and therefore pay more, but others may ‘need’ to use more water out of necessity, and they will be the ones negatively affected. In other words, teenagers probably use a lot of water for personal bathing, whereas disabled people may need to use a lot of bathing water for health reasons. The former are not considered to be negatively affected, whereas the latter are.

A qualitative assessment of the expected equality effects on the Section 75 groups is given in Table 9.

Table 9

Section 75 Group	Equality Impact	Notes
Religion	None	
Political Opinion	None	
Sex	None	
Age	Negative on babies / young children	Older people may need to use more water, but that is more likely to be a function of their health than their age – considered as part of the disability impact. Babies need to be washed often for hygiene reasons.
Marital Status	None	
Disability	Negative on disabled people	People who are disabled may need to use more water for health reasons
People with Dependants	Negative on those caring for young children or disabled people	Carers of disabled people will be affected by perceived curtailment of water use. Parents of babies and young children will be negatively affected.
Race	None	
Sexual Orientation	None	

2. PHASE II – MARCH 2004

This analysis (March 2004) revisits the Phase I methodology for the capital values option and introduces the equality effects of a new option of water charging based on house size.

In summary, Phase II analysis indicates that a charging mechanism based on property size would have the lesser equality effects of the 2 current options.

2.1. AVAILABLE DATA & RESEARCH

Data used were the same as in Phase I with the following exceptions :

- A new dataset was obtained from VLA of 18,000 house sales during 2002 and 2003 which gives both capital value and size of house.
- Age and Sex data were updated to the 2002 mid-year estimates of population.
- Data on the number of disabled people were updated to those in receipt of Disability Living Allowance or Attendance Allowance in May 2003.

As before, spatial analysis is carried out to link the overall population characteristics at district council level to the *average* capital value and size of the houses recently sold in the area. Care must be taken in interpreting the findings in that the characteristics of areas cannot be assumed to be homogenous.

2.2 CHARGING OPTIONS – ASSESSMENT OF EQUALITY IMPACTS

2.2.1 (i) Charge based on Capital Value

Analysis of the VLA data indicate how the value-based water charge might vary across Northern Ireland, and by linking with the underlying characteristics of the population at district council level, we can assess the resultant differential equality impact.

Average (mean) property prices by district council are given in Table 10. The results of this analysis are different to that carried out in Phase I, because the council areas which have a higher than average capital value now include Banbridge, Belfast and Newtownabbey in addition to Antrim, Ards, Castlereagh, Down, Lisburn and North Down, as before. It is believed that this later analysis more accurately reflects the current housing market.

It is not yet known how the capital value of a property would link to the water charge levied, or whether there will be payment bands. For EQIA purposes, therefore, the difference from the NI average (£103,033) is taken to be an indication of the relative difference in the expected water charge.

Table 10

District Council	Average price 2002 & 2003
Antrim	£106,711
Ards	£117,996
Armagh	£89,478
Ballymena	£92,354
Ballymoney	£76,297
Banbridge	£104,693
Belfast	£118,109
Carrickfergus	£90,875
Castlereagh	£121,379
Coleraine	£94,838
Cookstown	£86,952
Craigavon	£82,941
Derry	£81,882
Down	£111,190
Dungannon	£81,099
Fermanagh	£84,666
Larne	£83,230
Limavady	£76,938
Lisburn	£117,286
Magherafelt	£94,417
Moyle	£94,122
Newry/Mourne	£102,325
Newtownabbey	£103,272
North Down	£136,365
Omagh	£83,072
Strabane	£65,251
NI Average	£103,033

District council population characteristics are weighted by the magnitude of the difference between the average house price for a council area and the NI average, as in Phase I.

Results of this weighted analysis show that charging for water on the basis of the capital value of the house would have **no differential impact** on **disability**.

There would be a **marginal differential impact** on the **marital status, sex, race, dependants** and **age** categories. Where house prices are higher, there are fewer married people and more separated/widowed/divorced people. There are fewer households with children and fewer under 16s (and more over 65s) – see Table 11. There is more than the average number of carers, who tend to be caring for the elderly rather than the disabled, and more women, reflecting the older age structure. There are also more ethnic minorities, due to the inclusion of Belfast where a disproportionate number of this group lives.

Table 11

Weighted % of population	DCs with higher than average house prices	DCs with lower than average house prices	NI Total
Married people	50%	52%	51%
Separated/Divorced/Widowed	17%	14%	16%
Households with children	34%	39%	36%
Under 16 year olds	22%	25%	23%
Over 65 year olds	14%	12%	13%
Carers	12%	10%	11%
Females	52%	50%	51%
Ethnic minorities	1%	0.7%	0.9%

In terms of the **religion and political opinion** categories, there would be a **substantial differential impact**, with Protestants and Unionists being disadvantaged compared to Roman Catholics and Nationalists. In other words, where house prices are higher than the NI average, Protestants make up 62% of the population, compared to only 53% in Northern Ireland as a whole (and 44% in the areas where house prices are lower) – see Table 12.

Table 12

Weighted % of population	DCs with higher than average house prices	DCs with lower than average house prices	NI Total
Roman Catholic	34%	53%	44%
Protestant	62%	44%	53%
Nationalist	31%	52%	42%
Unionist	56%	42%	48%

2.2.2 (ii) Charge based on Property Size

This is a new option for charging. The proposal would be to set charges based on the size (floor area) of the property, in that water consumption may be related to the number of rooms in a house which can in turn be proxied by house size.

The same VLA sample was used to allow direct comparison with the capital value results. Average (mean) house sizes by district council are given in Table 13.

Again, it is not yet known how the size of a property would link to the water charge levied, or whether there will be payment bands. For equality assessment purposes, therefore, the difference from the NI average (117m²) is taken to be an indication of the relative difference in the expected water charge.

As before, district council population characteristics are weighted by the magnitude of the difference between the average house size for a council area and the NI average.

Table 13

District Council	Average size (m²)
Antrim	128
Ards	119
Armagh	129
Ballymena	123
Ballymoney	121
Banbridge	129
Belfast	99
Carrickfergus	111
Castlereagh	107
Coleraine	127
Cookstown	125
Craigavon	118
Derry	113
Down	124
Dungannon	128
Fermanagh	131
Larne	114
Limavady	121
Lisburn	116
Magherafelt	128
Moyle	132
Newry/Mourne	128
Newtownabbey	115
North Down	120
Omagh	141
Strabane	116
NI Average	117

In summary, the results are almost the mirror-image of the results under the capital value option. This is because expensive houses in the Eastern region tend to be smaller, while cheaper houses in the West tend to be bigger. This simple dichotomy is slightly complicated by an additional urban-rural effect in that houses in Derry, for example, are low in value *and* smaller than average.

Results show that charging for water on the basis of property size would have a **marginal differential impact** on the **marital status, sex, race, dependants, disability** and **age** categories. Where houses are bigger, there are more married people, more households with children, more under 16s (and fewer over 65s) – see Table 14. There are fewer females, fewer disabled people and fewer carers. There are also fewer ethnic minorities, due to the exclusion of Belfast where a disproportionate number of this group lives.

Table 14

Weighted % of population	DCs with higher than average house size	DCs with lower than average house size *	NI Total
Single people	31%	36%	33%
Married people	53%	48%	51%
Separated/Widowed/Divorced	14%	18%	16%
Households with children	37%	35%	36%
Under 16 year olds	24%	23%	23%
Over 65 year olds	13%	14%	13%
Females	50%	53%	51%
Disabled people	12%	14%	13%
Carers	10%	12%	11%
Ethnic minorities	0.7%	1%	0.9%

* Belfast, Carrickfergus, Castlereagh, Derry, Larne, Lisburn, Newtownabbey, Strabane

In terms of the **religion and political opinion** categories, there is also a **marginal differential impact**. The impact under this house size option is noticeably less than under the capital value option. However, this time Roman Catholics and Nationalists are disadvantaged compared with Protestants and Unionists. In other words, where houses are bigger than the NI average, Roman Catholics make up 45% of the population, compared to 44% in Northern Ireland as a whole (and 42% in the areas where houses are smaller) – see Table 15.

Table 15

Weighted % of population	DCs with higher than average house size	DCs with lower than average house size *	NI Total
Roman Catholic	45%	42%	44%
Protestant	51%	56%	53%
Nationalist	44%	40%	42%
Unionist	47%	51%	48%

* Belfast, Carrickfergus, Castlereagh, Derry, Larne, Lisburn, Newtownabbey, Strabane

3. PHASE III – AUGUST 2004

The water reform consultation document released in March 2003 gave an undertaking to conduct a full Equality Impact Assessment (EQIA) on the preferred water charging option once decided. A paper produced in June 2003 (Phase I) set out the quantitative evidence of equality impact for the 3 main charging options at that time. A subsequent analysis in March 2004 (Phase II) revisited the methodology for the capital values option and for the new option of water charging based on house size.

The analysis presented here now concentrates on the discrete capital value option alone.

3.1. AVAILABLE DATA & RESEARCH

A further updated sample of open market property sales of over 30,000 transactions for 2002, 2003 and the 2004 year-to-date was obtained from the Valuation & Lands Agency.

This new analysis examines equality effects at the electoral ward level as opposed to the district council level. The population data from the 2001 Census are all available at electoral ward level, of which there are 582 in Northern Ireland. Phase I and II analysis had used MYEs for age and gender breakdowns, but as these are not available below district council level, Phase III reverts to 2001 Census populations.

First votes cast in 20001 local government elections, as a measure of political opinion, are not available at ward level, so that analysis is performed at the higher spatial level.

3.2. PREFERRED CHARGING OPTION – ASSESSMENT OF EQUALITY IMPACT

Analysis of the new VLA dataset indicates how the value-based water charge might vary across Northern Ireland, and by linking with the underlying characteristics of the population at electoral ward level, the resultant differential equality impact can be assessed.

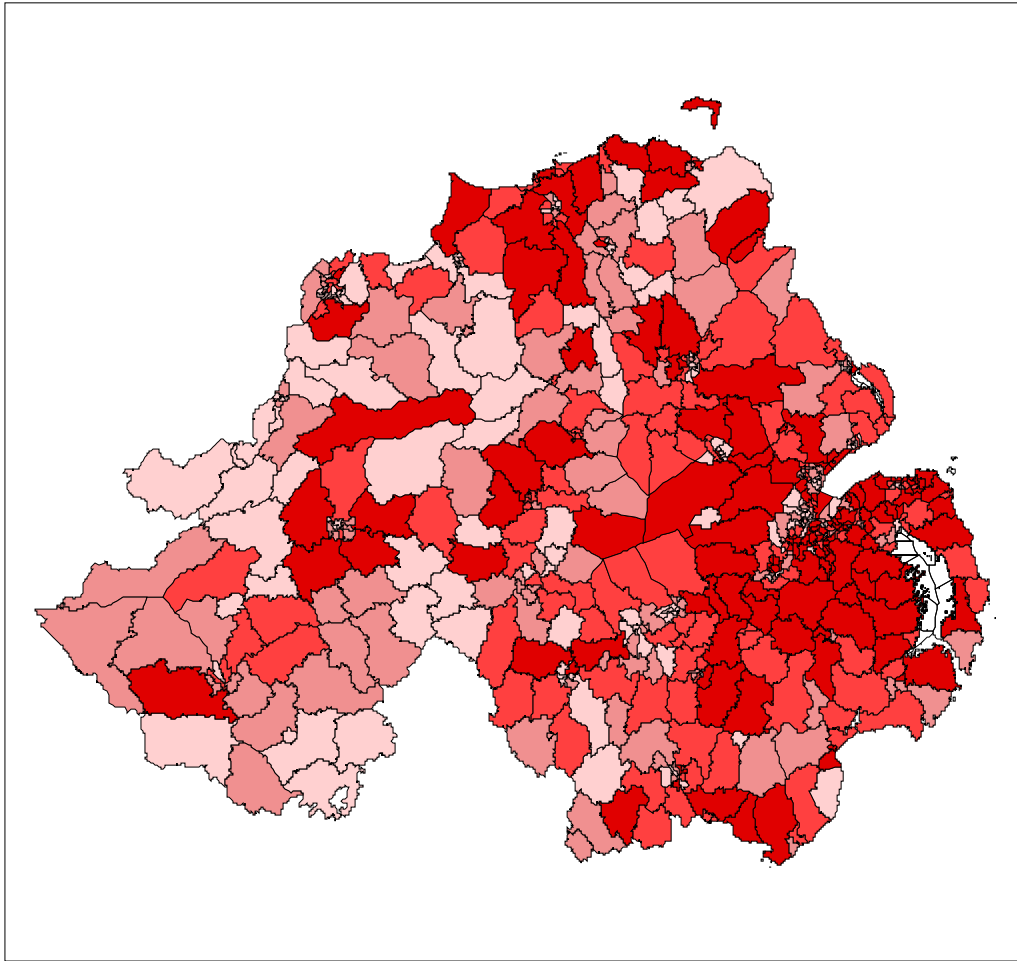
The VLA database gives the achieved market value of houses sold in each electoral ward. It is considered that the coverage of 30,000 houses is a sufficiently robust sample to allow ward-level analysis of differential capital values.

The wards were divided into four groups (quartiles) depending on their average house price. The quartile thresholds are given in Table 16, with that of Q4 being the highest average ward value in the sample (Cultra in North Down). Map 1 illustrates the geographical distribution of these quartiles.

Table 16

Quartile	Upper Limit £
Q1	£77,716
Q2	£90,939
Q3	£110,066
Q4	£278,073

Map 1 Average House Price in Northern Ireland by Ward (2002 to 2004)



Average House Price		
£33,963 to £77,716	(151)	
£77,717 to £90,939	(139)	
£90,940 to £110,066	(146)	
£110,067 to £278,073	(146)	

Phase I and II analyses had used a weighted population methodology which was dependent on the magnitude of the difference between the average house value at district council level and the NI average. Weighting is not employed in this latest analysis because (i) ward-level analysis is more accurate than council-level analysis, and (ii) the wards are divided into the 4 quartiles, rather than just 2 groups of district councils. Populations in the equality groups are added up within the quartiles (groups of wards), and their distributions can be compared with each other and with Northern Ireland as a whole.

Results of Phase III analysis show that charging for water on the basis of the capital value of the house would have a **marginal differential impact** on the **marital status, dependants, disability** and **age** categories (Table 17). Where house prices are highest (Q4) :

- there are more married people and fewer single and separated/widowed/divorced people.
- there are fewer households with children and fewer under 16s (and more over 65s).
- there is more than the average number of carers, who tend to be caring for the elderly rather than the disabled, as there are fewer disabled people than the NI average in these areas.

Table 17

% of Population	Q1	Q2	Q3	Q4	NI
Single	36.6%	33.5%	31.0%	32.0%	33.1%
Married	44.1%	50.4%	54.4%	54.3%	51.1%
Sep/Wid/Div	19.4%	16.2%	14.6%	13.7%	15.8%
HH with children	36.4%	38.2%	37.5%	34.2%	36.5%
Aged <16	24.7%	24.6%	24.0%	21.6%	23.6%
Aged 65+	13.3%	12.6%	12.9%	14.1%	13.3%
Carers	10.4%	10.8%	10.9%	11.7%	11.0%
DLA + AA ¹	16.9%	13.9%	11.9%	10.3%	13.1%
LLTI ²	24.5%	21.1%	19.0%	17.6%	20.4%

1. Those in receipt of Disability Living Allowance or Attendance Allowance (February 2003) – a measure of disability.
2. 2001 Census variable – self-reported ‘Long term Limiting Illness’ – another measure of disability.

The effects on the **race** and **sex** categories are more difficult to determine exactly (Table 18).

- Although there are more ethnic minorities living in wards where the houses are most expensive, this does not necessarily mean that those individuals are living in these houses – small numbers are the problem here. Ethnic minorities are most prevalent in the Belfast wards of Botanic, Stranmillis and Windsor, all of which are in Q4.
- There is little difference in the proportions of men and women in the four quartiles.

Table 18

% of Population	Q1	Q2	Q3	Q4	NI
Non-white	0.82%	0.66%	0.73%	1.14%	0.85%
Males	48.4%	48.8%	49.0%	48.8%	48.7%
Females	51.7%	51.2%	51.0%	51.2%	51.3%

In terms of the **religion** as measured by the 'Community Background' 2001 Census variable, there is a **substantial differential impact**, with more Protestants in electoral wards where house prices, and therefore water charges, are higher (Table 19). Those of 'no' or 'other' religion are also over-represented in these areas.

Table 19

% of Population	Q1	Q2	Q3	Q4	NI
Roman Catholic	51.7%	50.7%	41.9%	33.1%	43.8%
Protestant	45.9%	46.9%	55.3%	62.4%	53.1%
Other	2.4%	2.4%	2.8%	4.5%	3.1%

Political Opinion, as measured by voting patterns in the 2001 local council elections, cannot be analysed at ward level. The lowest spatial level for these data is 'District Electoral Area' (DEA) which are aggregations of wards. It would be erroneous to assume that all wards within a DEA have the same proportionate voting pattern, therefore analysis is repeated at District Council level as in March 2004, albeit updated with the new house prices information. This is based on the weighted population methodology, and the only change is that Banbridge District Council has a slightly lower average house price than the NI average (in Phase II it had a slightly higher average capital value).

Table 20 shows that the areas with lower than average house prices, where water charges will be less under the capital values charging regime, are characterised by more Nationalist voters and fewer Unionist voters than the NI average. The extent of this pattern indicates a **substantial differential impact** in terms of **political opinion**.

Table 20

Weighted % of population	DCs with lower than average house prices	DCs with higher than average house prices	NI Total
Nationalist	50.2%	31.5%	42.3%
Unionist	42.8%	55.9%	48.4%

3.3 CONCLUSION

Charging for domestic water supplies on the basis of capital value of the property will have differential negative equality effects for Protestants and Unionists, and to a lesser extent, married couples and the elderly (and those that care for them).