



**Research Paper NIAR 183/10**

**May 2010**

# **EXTENT OF THE MAINS WATER NETWORK IN ENGLAND, WALES, SCOTLAND AND THE REPUBLIC OF IRELAND**

**Desmond McKibbin**

This paper identifies:

- the number of people in England, Wales, Scotland and the Republic of Ireland who are not connected to the mains water supply;
- the extent to which the existing network within each region extends;
- details of what support is provided by government to extend the existing network and to connect properties to the network; and
- legislation that exists in each jurisdiction in relation to extending the network and the provision of assistance for properties to become connected.

Library Research Papers are compiled for the benefit of Members of The Assembly and their personal staff. Authors are available to discuss the contents of these papers with Members and their staff but cannot advise members of the general public.

## **SUMMARY OF KEY POINTS**

Almost all (over 99%) of the UK population is served by the public water supply although in the Republic of Ireland the mains water supply is less prolific.

### **England and Wales**

The powers to provide water and sewerage services in England and Wales were privatised under the Water Act 1989.

Under section 41 of the Water Industry Act 1991, water companies must respond to requests (requisitions) for connection to the mains water supply, where these services are for domestic purposes.

The company may require the person asking for the connection (the requisitioner) to pay a security before commencing work, and can recover the reasonable costs of providing the infrastructure from the requisitioner after the work is completed.

In England and Wales only 30,021 households out of 21,660,475 (0.14%) are not connected to the mains water supply.

### **Scotland**

Scottish Water is a publically owned company serving 2.2 million household customers.

Around 150,000 (approximately 7%) of people in Scotland rely on a private water supply.

Scottish Water has an obligation under the Water (Scotland) Act 1980 to take its water mains and sewers to a point that will allow customers to connect to Scottish Water's network, at a reasonable cost to the customer.

The Scottish Government do provide financial support to customers wishing to connect to the mains water supply; for domestic properties, the maximum contribution currently works out at around £1,300 for water connections and £1,500 for wastewater connections.

### **Republic of Ireland**

87.5% of the Republic of Ireland's population receive their water from public supplies, while the majority of rural homes in Ireland receive the water from 'private supplies'.

The Rural Water Programme (RWP), which is run by the county councils of the Republic of Ireland (ROI), has been established to deal with deficiencies in the water supply network, and provides grants and subsidies for the privately operated supplies.

## CONTENTS

<b>Outline of paper</b> .....	<b>1</b>
<b>Water Provision in England and Wales</b> .....	<b>1</b>
Requisitioning Mains Water .....	1
<b>Water provision in Scotland</b> .....	<b>2</b>
<b>Water provision in the Republic of Ireland</b> .....	<b>3</b>
The Rural Water Programme .....	4
<b>References</b> .....	<b>5</b>

## OUTLINE OF PAPER

This paper will identify:

- the number of people in England, Wales, Scotland and the Republic of Ireland who are not connected to the mains water supply;
- the extent to which the existing network within each region extends;
- details of what support is provided by government to extend the existing network and to connect properties to the proposed network extension; and
- legislation that exists in each jurisdiction in relation to extending the network and the provision of assistance for properties to become connected.

## WATER PROVISION IN ENGLAND AND WALES

Almost all (over 99%) of the UK population is served by the public water supply<sup>1</sup> while in England and Wales this rises to almost 99.9%, where 30,021 households out of 21,660,475 (0.14%<sup>i</sup>) have private supplies<sup>ii</sup>. Table one shows a regional breakdown of the population supplied by mains water in England and Wales, as well as those with a private supply.

**Table 1: Regional Water supply arrangements in England and Wales**

REGION	Population Supplied	Water Supplied Ltr/day (million)	(Approx.) Number of Private Supplies
Central Region	8,782,000	2,348	6,785
Eastern Region	6,373,000	1,791	2,369
Northern Region	14,191,228	3,848	5,882
Southern Region	5,154,240	1,329	645
Thames Region	12,254,391	3,901	1,393
Western Region	4,282,470	1,194	8,996
Wales	2,923,922	848	3,951
Total	53,961,251	15,259	30,021

Source: [www.dwi.gov.uk](http://www.dwi.gov.uk) (2009)

The powers to provide water and sewerage services in England and Wales were privatised under the Water Act 1989<sup>2</sup>. There are now 24 companies in England and Wales who supply water and sewerage services,<sup>iii</sup> and they are legislated for by the Water Industry Acts 1991 and 1999 and the Water Act 2003.

## REQUISITIONING MAINS WATER

The Water Industry Act 1991, as amended by the Water Act 2003, relates to the installation of new water mains. Under the 1991 Act (section 41) water companies have to respond to requests (requisitions) for mains water where these services are for domestic purposes; either the owners or occupiers of the premises can make a request, but more commonly it will be made by developers.<sup>3</sup> The company may require the person asking for the requisition (the requisitioner) to pay a security before commencing work, and can recover the reasonable costs of providing the infrastructure from the requisitioner after the work is completed.

<sup>i</sup> Figure extrapolated using table 1 and 2001 census data see: [www.statistics.gov.uk/census2001/profiles/727.asp](http://www.statistics.gov.uk/census2001/profiles/727.asp)

<sup>ii</sup> Those not connected to the mains supply.

<sup>iii</sup> There are 14 companies who provide water only and 10 who provide both water and sewerage [\[link\]](#)

'Reasonable costs' refers to costs incurred without any profit,<sup>4</sup> with the rationale being that this person/building will become a paying customer. The legislation allows the requisitioner to choose to pay the reasonable costs in two ways: 'the relevant deficit mechanism' - which requires requisitioners to make yearly payments for up to twelve years, or through 'the discounted aggregate deficit' payment (or 'statutory commuted sum') which is one lump sum payment paid immediately after the work is done<sup>5</sup>. "Most companies have standard charges, calculated by the length of pipe laid or the amount of excavation that is needed. Some companies calculate charges based on the actual costs incurred. Companies can set conditions before making the connection, including asking customers to pay a deposit".<sup>6</sup>

## **WATER PROVISION IN SCOTLAND**

Scottish Water is a publically owned company with some 130,000 business customers and 2.2 million household customers.<sup>7</sup> Around 150,000 (approximately 7%<sup>iv</sup>) people in Scotland rely on a Private Water Supply (PWS);<sup>8</sup> this refers to any water supply not provided by Scottish Water. Hunter, et al. (2009) suggests that a large number of the population which is dependent on a PWS for their water come from the more remote parts of the country such as Aberdeenshire, which is known to have a particularly high density of PWS.<sup>9</sup>

Scottish Water has an obligation under the Water (Scotland) Act 1980 and the Sewerage (Scotland) Act 1968 to take its water mains and sewers to a point that will allow customers to connect to Scottish Water's network, at a reasonable cost to the customer. However, these Acts only require Scottish Water to make a connection if it is practicable to do so at a 'reasonable cost'.<sup>10</sup>

The level of 'reasonable cost' is established in accordance with Regulations made by Scottish Ministers. Ministers issued their Regulations, by Scottish Statutory Instrument 2006/1203, on 8<sup>th</sup> March 2006. They came into force on 1<sup>st</sup> April 2006<sup>11</sup>. These are detailed in SSI 2006/10: The Provision of Water and Sewerage Services (Reasonable Costs) (Scotland) Regulations 2006.<sup>12</sup> These regulations also give details of the elements of a new connection that are eligible for a contribution, and the maximum value of this contribution.

The component parts of a new connection can be split into four distinct elements:

- Part 1: the connection from individual premises to a water main or sewer;
- Part 2: the water mains and sewers that connect developments (for example, a street of houses) to trunk mains and trunk sewers and some sustainable urban drainage systems (SUDS);
- Part 3: the local bulk infrastructure, such as trunk mains and trunk sewers, water service reservoirs, wastewater pumping systems and some SUD systems;
- Part 4: the strategic assets such as raw water intakes, water impounding reservoirs, water pumping stations and aqueducts, and water and wastewater treatment works.

For domestic properties, the maximum contribution currently works out at around £1,300 for water connections and £1,500 for wastewater connections. Scottish Water is required to contribute the cost of any Part 2 and Part 3 work needed to accommodate the connection, or the maximum contribution, whichever is lower.

---

<sup>iv</sup> Based on figure of 2.27 million households see: General Register Office for Scotland [online] available from: <http://www.gro-scotland.gov.uk/press/news2005/drop-in-number-of-vacant-dwellings-and-second-homes-in-scotland.html>

## WATER PROVISION IN THE REPUBLIC OF IRELAND

The mains water network in the Republic of Ireland (ROI) is much less prolific than in Great Britain, and consequently much more complicated. There are five distinct categories of water supply in Ireland, of which the latter four would be classified as “private” in the context of the Regulations. These categories are listed and described below.<sup>13</sup>

**Public Water Supplies (PWS):** These are local authority operated schemes (though these may be run by a private contractor on behalf of the local authority). They supply water to the majority of households in Ireland. However, ‘One in five households in Ireland is not connected to public mains water.’<sup>14</sup> These households receive their piped drinking water from these other “private supplies”.

**“Public” Group Water Schemes (PuGWS):** These are schemes where the water is provided by the local authority, but responsibility for distribution of the water rests with the group scheme. These schemes tend to be supplied off larger public water supplies.

**“Private” Group Water Schemes (PrGWS):** These are schemes where the owners of the scheme (usually representatives of the local community) source and distribute their own water. The 2002 census in the ROI showed that 45,000 received their drinking water supply from a PrGWS. However, the National Federation of Group Water Schemes (NFGWS) have over 50,000 affiliated households and further estimate that unaffiliated schemes may account for between 10,000 and 15,000 further households.<sup>15</sup>

**Small Private Supplies (SPS):** This is a large group of different types of supply comprising industrial water supplies, (such as those used in the brewing industry) to boreholes serving commercial premises (e.g. pubs, hotels etc.) and public buildings (e.g. schools, nursing homes). If a public drinking water supply or public/private GWS is not available, private consumers may also have to consider boring a private well and drawing out groundwater for supply needs; this is called an exempted supply.

**Exempted Supply:** These are supplies serving less than 50 persons and not supplying water as part of a public or commercial activity. The majority of these supplies are private wells serving individual houses. The 2002 Census figures for private dwellings indicate that 137,705 dwellings in Ireland have a private drinking water source served by an exempted supply; a further 4,478 have no piped water.

**Table 2: Water Supply zones in 2007 and the Proportion of the Population Served**

	Number of water supply zones	Percentage (%) of total population served
<b>Public Water Supplies</b>	952	87.5
<b>“Public” Group Water Schemes</b>	830	3.2
<b>“Private” Group Water Schemes</b>	588	5.0
<b>Small Private Supplies</b>	888	0.4
<b>Exempted Supplies.</b>	N/A	3.9

**Source: Environmental Protection Agency (2009)**

## THE RURAL WATER PROGRAMME

The Rural Water Programme (RWP), which is run by the county councils of the Republic of Ireland (ROI), has been established to deal with deficiencies in the water supply network and specifically targets group water schemes; small public water and sewerage schemes; and private supplies by providing them with different grants and subsidies for maintenance and improvement works. The following funding is available:<sup>v</sup>

### **Grants for Group Water Schemes**

- Up to 100% of the cost of essential treatment & disinfection facilities for schemes participating in bundled Design, Build, Operate (DBO) contracts<sup>vi</sup>. Other necessary works like buildings, reservoirs, pipelines etc are grant aided at up to 85% of cost, subject to a maximum of just over €7,600 per house.
- For new group schemes and general upgrading of networks etc, grants of up to 85% of cost subject to a max of €6,475.
- A group sewerage grant of up to 75% of cost subject to a maximum grant of €2031.58 per house is payable where a number of households provide a shared sewage collection/disposal system.

### **Subsidies:**

An annual subsidy per house is payable towards the cost of providing free domestic water to group scheme members:

- €50.79 for each house supplied from a local authority source;
- €101.58 for each house supplied from a private source (well, lake, borehole etc); and
- €196.81 for each house where water disinfection and/or treatment is provided under a Design, Build, Operate (DBO) contract or where the water disinfection/treatment plant is operated and maintained by a contractor by way of a bona fide Operational and Maintenance Contract.

### **Individual Water Supply Grant Scheme**

A grant of up to 75% of cost subject to a maximum grant of €2031.58 is payable for upgrading a private individual water supply where no alternative group or public supply is available.

---

<sup>v</sup> This information has been taken from the Department of the Environment, Heritage and Local Government website, see:

<http://www.environ.ie/en/Environment/Water/WaterServices/RuralWaterProgramme/>

<sup>vi</sup> Design/Build/Operate (DBO) contracts are now the standard form of procurement for water or wastewater treatment infrastructure being funded by the Department of the Environment, Heritage and Local Government for the Water Services Investment Programme, see: [http://www.wsntg.ie/circulars/L4\\_05.pdf](http://www.wsntg.ie/circulars/L4_05.pdf)

## REFERENCES

- <sup>1</sup> Water UK (2008) "Sustainable Water: State of the Water Sector Report". UK Water [online] accessed 20/04/2010 available from:  
<http://www.water.org.uk/home/news/press-releases/sustainable-water/stateofsector2008.pdf>
- <sup>2</sup> The Water Act 1989 [online] accessed 21/04/10 available from:  
[http://www.opsi.gov.uk/acts/acts1989/ukpga\\_19890015\\_en\\_1](http://www.opsi.gov.uk/acts/acts1989/ukpga_19890015_en_1)
- <sup>3</sup> Ibid
- <sup>4</sup> The Water Industry Act 1991, section 41 [online] accessed: 21/04/10 available from:  
[http://www.opsi.gov.uk/acts/acts1991/ukpga\\_19910056\\_en\\_6#pt3-ch2-pb1-l1g41](http://www.opsi.gov.uk/acts/acts1991/ukpga_19910056_en_6#pt3-ch2-pb1-l1g41)
- <sup>5</sup> OFWAT (2005) "New connections to the main or sewer" [online] accessed: 21/04/2010 available from:  
[http://www.ofwat.gov.uk/mediacentre/informationnotes/prs\\_inf\\_newconnects](http://www.ofwat.gov.uk/mediacentre/informationnotes/prs_inf_newconnects)
- <sup>6</sup> Ibid
- <sup>7</sup> (WICS) Water Industry Commission for Scotland (2010) "Who's who in the Scottish water industry" WICS: Edinburgh [online] accessed 21/04/2010 available from:  
<http://www.watercommission.co.uk/UserFiles/Documents/InfoNote3.pdf>
- <sup>8</sup> Open Scotland (2010) "Private Water Supplies in Scotland". The Scottish Government [online] accessed 21/04/2010 available from:  
<http://openscotland.net/Topics/Environment/Water/pws>
- <sup>9</sup> Hunter, C., Vergunst, P., Jones, C, Ioris, A., Strachan, N. and Farrington, J. (2009) "Private water supplies (Scotland) regulations 2006: Understanding engagement of owners and users" Scottish Government Social Research: Aberdeen [online] accessed 24/04/2010 available from:  
<http://openscotland.gov.uk/Resource/Doc/291045/0089405.pdf>
- <sup>10</sup> (WICS) Water Industry Commission for Scotland (2006) "Reasonable-cost determinations: Statement of procedure". WICS: Edinburgh [online] accessed 21/04/2010 available from:  
<http://www.watercommission.co.uk/UserFiles/Documents/Reasonable%20Cost%20Determinations%20Statement.pdf>
- <sup>11</sup> Ibid
- <sup>12</sup> [www.opsi.gov.uk/legislation/scotland/ssi2006/20060120.htm](http://www.opsi.gov.uk/legislation/scotland/ssi2006/20060120.htm)
- <sup>13</sup> (EPA) Environmental Protection Agency (2009) "The Provision and Quality of Drinking Water in Ireland: A Report for the Years 2007 – 2008" [online] accessed 24/04/2010 available from:  
[http://www.epa.ie/downloads/pubs/water/drinking/Final%20DW%20Report%202007%20\(2\)2.pdf](http://www.epa.ie/downloads/pubs/water/drinking/Final%20DW%20Report%202007%20(2)2.pdf)
- <sup>14</sup> (FSAI) Food Safety Authority of Ireland (2006) "Safety of Potable Water in Ireland" FSAI: Dublin [online] accessed 22/04/2010 available from:  
[www.fsai.ie/assets/0/.../37dc25ff-91aa-4854-ab12-053e81d38921.pdf](http://www.fsai.ie/assets/0/.../37dc25ff-91aa-4854-ab12-053e81d38921.pdf)



---

<sup>15</sup> (NFGWS) National Federation of Group Water Schemes (2010) “About the NFGWS” [online] accessed 24/02/2010 available from: <http://www.nfgws.ie/About-the-NFGWS>