

# **Scotland The Hydro Nation**

**Prospectus and Proposals for  
Legislation**

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Legislation**

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## **Foreword from the Cabinet Secretary for Infrastructure and Capital Investment**



The world is waking up to the critical importance of water and to its scarcity in some locations. Despite being a blue planet covered in water, only 3% of the water in the world is fresh, and this is distributed unevenly around the globe. One in eight of the world's population do not have access to clean water and 2.5 billion live without basic sanitation. Climate change and population pressures will lead to an estimated 30% increase in demand for fresh water and, as the world's food demand grows even more quickly, water availability becomes even more critical.

Scotland has a unique contribution to make in areas such as water technology, governance, management and regulation. Scotland has the communications capacity and global reach to project key messages on water issues and build our reputation as a Hydro Nation. As part of the interdependent global community, Scotland has a clear interest and responsibility to play its part in managing the world's water.

Just as Scotland is demonstrating world leadership in climate change and natural resource protection, in particular through our ambitious approach to reducing greenhouse gas emissions by 80% by 2050, we can also demonstrate leadership in meeting the world's water challenges. Our commitment to the low carbon economy will not only attract early investment in renewable energy and carbon capture technologies, but also allow us to reap economic and environmental benefits from our natural resources, including water. Delivering our concept of a Hydro Nation is a key part of Scotland's transition to a low carbon economy.

We can be the first truly Hydro Nation.

**Alex Neil MSP**

Cabinet Secretary for Infrastructure and Capital Investment



Provided by Scottish Water

## SECTION 1

### Strategic Vision

**Developing as a Hydro Nation is a huge opportunity for Scotland.** This prospectus outlines the first steps that have been identified which will contribute to the realisation of this strategic vision.

- Scotland's expertise in governance of water resources will be recognised internationally and we will have partnered other nations in developing their water governance framework.
- Scotland's water industry will be known for its transformation in performance and for low carbon sustainable approaches.
- Scotland's research community will participate in international research programmes contributing solutions to key issues.
- The value of our water resource to the economy will be increasingly realised through the development and marketing of technologies and services and the attraction of water intensive activities from areas of water stress.

Success will require concerted efforts from all those engaged in the sector. Progress will be dependent on a large number of small steps.



Provided by David Steane

## **Scotland: Creating A Hydro Nation**

Scotland has abundant water resources and as a Hydro Nation those resources will be harnessed more fully to boost the Scottish economy. In Scotland we can use the skills and experience we have in our water sector to raise our international profile. We can capitalise on global economic opportunities and support the good stewardship of water resources in an increasingly water stressed world.

Water is central to our national identity, from our lochs and reservoirs to the very origins of our industries, and the food and drink on our tables. Managing our water resource imaginatively, creating a Hydro Nation, is crucial to our future success and a key component of the transition to a low carbon economy.

Scotland has a dynamic water sector. There are significant European and North American water companies and some very large multinational companies that operate in the sector, but Scotland has expertise and a performance record that can compete on the world stage, and take advantage of the US \$300 billion worldwide market in water products and services.

Water has always been central to Scotland's prosperity, and as we face new environmental and economic challenges it still has a vital role to play. When the Glasgow Corporation Water Works system brought water down to Glasgow from Loch Katrine in 1860, it was admired internationally as an engineering marvel. It raised hygiene and living standards, and was

indispensable to the growth of Glasgow's industry. Scotland has built on this legacy – we have a thriving food and drinks industry, a strong tourism sector with fishing, sailing and other water sports worth over £200 million to the economy each year, and a high performing water industry delivering excellent quality water to our homes and businesses, supporting economic growth and protecting our health and our environment.

We can build on Scotland's water success story and make Scotland into a Hydro Nation.

A Hydro Nation will:

- Deliver Economic Gain to Scotland. Utilising Scottish expertise to maximise the economic benefit of our abundant water resources within a sound ecological context. Exploiting our expertise in governance, advocacy and water management and building on the transformation and excellent performance record of Scottish Water, our publicly owned water utility.
- Help Tackle Climate Change. Delivering high quality clean water and removing and treating waste water are energy intensive so a Hydro Nation must work towards being a low carbon water nation by using renewable energy and improving efficiency.
- Raise Scotland's International Profile. Being a Hydro Nation will raise our profile through recognition of Scotland as an international leader on water management and governance. We will work to gain international recognition of the Hydro Nation concept because water management is a global issue and tackling water scarcity is something we can and should play a role in.
- Share Knowledge on Water Issues. Developing a Water Centre of Expertise and Research with international reach that can help people around the world improve their water management and increase the numbers of people who want to live, work, learn and remain in Scotland. Establish a Hydro Nation Forum as a focus for international debate, knowledge exchange and policy development on water issues.





Provided by Gordon Neill

## **Scotland's Water Resource: The Facts**

- Scotland is a water rich country, has the wettest climate in the United Kingdom (UK) with the Western Highlands of Scotland being one of the wettest places in Europe. Over 1.9% of land surface in Scotland is covered by freshwater, with around 70% of the area and 90% of the volume of all the UK's inland surface water found in Scotland. The water contained in Loch Ness is nearly twice the amount found in all the standing waters of England and Wales combined.
- Scotland's water quality is amongst the best in the world. [River Basin Management Plans](#) (RBMPs) published in 2009 set out the Scottish Government's long-term vision for the continued improvement of Scotland's water environment. The RBMPs show how a high proportion of water bodies in Scotland are already meeting the standards required under the European Water Framework Directive and set out how the remainder will be brought up to this standard. Scotland is recognised across Europe as one of the leading nations in the achievement of these standards.
- The Environmental and Clean Technology (ECT) partnership consisting of Scottish Enterprise, Highlands and Islands Enterprise, Scottish Environment Protection Agency, the Scottish Funding Council and the Scottish Government are working together to support the innovation opportunities in environmental and low carbon emergent markets that present the greatest economic, environmental and social benefits to Scotland.

- In 2008/09 the global water supply and waste water treatment sub-sector was worth £242bn and the UK market was worth £8bn. By 2014/15 the UK market is forecast to be worth £9bn.<sup>1</sup>
- There are over 300 companies in Scotland in this sector. Scotland's research-intensive Small and Medium-sized Enterprises (SME) have developed world leading technology for water treatment.
- Analysis carried out for the Scottish Government and ECT Partnership reports that the water supply and waste water subsector had a market value in Scotland of £709m and employed 6,200 people in 2008/09<sup>1</sup>.
- Scotland's water exports in 2008/09, primarily bottled spring and mineral water, had a market value of £94m (13.3% of total market value). The main export destinations are Portugal, Indonesia and Thailand, and emerging economies such as India, China, Eastern Europe and Brazil.
- Scottish Water has made dramatic efficiencies in how it runs its business. Through enhanced asset management, intelligent investment and by deploying new technology it has delivered savings of more than £2.5 billion since it was established in 2002. As a result of making these savings Scottish Water's operating costs are now 35% lower than they were in 2002, a transformation unprecedented in the UK water industry.
- £2.5 billion is being invested by Scottish Water during the period 2010-15, contributing significantly to economic growth, and supporting an estimated 5,000 jobs directly in the civil engineering, construction and design sectors - roughly 20% of the market in these sectors in Scotland.
- We have introduced retail competition for non-domestic customers – a world first. A choice of retailer gives Scottish businesses a competitive edge and supports Ministers' strategic objectives for Scotland - in particular our overall purpose of increasing sustainable economic growth.

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<sup>1</sup> A Low Carbon Economic Strategy for Scotland: Scotland – A Low Carbon Society  
[www.scotland.gov.uk/Resource/Doc/331364/0107855.pdf](http://www.scotland.gov.uk/Resource/Doc/331364/0107855.pdf)



Provided by Drinking Water Quality Regulator

## **Scotland and Water: Hydro Nation an International Response**

The Scottish Government is determined to play a leading role within the international community in tackling global water issues. Creating a Hydro Nation can make a huge contribution to that agenda and sits proudly as an element of our wider international framework.

As a Hydro Nation, Scotland will support talented people engaged in all aspects of the international water community to live, learn, visit, work and remain here in Scotland. The water industry in its widest definition, from research to services and life science technologies, can provide a sharp economic focus to the promotion of Scotland abroad. Creating Scotland as a Hydro Nation would support Scotland's reputation as an independent minded and responsible nation at home and abroad, confident of its place in the world.

Scotland is already part of a dynamic and competitive water technology and services market, but we see more potential in Scotland yet to be unleashed. We have unique strengths in our academic institutions, the technologies our companies of all sizes are developing, and in the management and governance of our water industry. We will take a collaborative approach linking essential agencies and companies to make our case as a leader on water management, advocacy and services.

As a priority, we will look to strengthen further our already productive relationship with China. As one of the world's largest economies, China is looking for international expertise on all aspects of water management and Scotland stands ready to provide that service.

We recognise our good fortune in having abundant water and excellent sanitation but other nations are not so fortunate. In the future perhaps bulk export of water will be a practical solution for Scotland to offer. Until then we will play our part in tackling this global inequality by working with developing nations as part of our international aid effort to deliver practical solutions to water scarcity, water quality and sanitation challenges.

### **Water Centre of Expertise and Hydro Nation Forum**

Water is the focus of much international debate and concern with international water related organisations, trade events, Water Days and Weeks that seek to share knowledge and raise important water related issues up the political agenda. As we become a Hydro Nation, Scotland will take its place in the vanguard of this activity.

We will host our own Hydro Nation Forum focusing on our strengths in governance and efficiency and in bespoke consultancy solutions. Scotland may be the first to aspire to be a Hydro Nation but we want others to join us and ensure that excellence in water management is a global legacy that Scotland can be proud to have played a key role in delivering.

The Scottish Government has commissioned a Centre of Expertise on Water (CREW). This virtual Centre will bring together the best available expertise in Scotland, to provide advice and information on the management of water. The Centre is led by the James Hutton Institute in partnership with a wide range of Scotland's research organisations and universities. Scotland has a strong research base in water related topics exemplified by CREW and the University of Dundee UNESCO Centre for Water Law, Policy & Science. As a Hydro Nation, Scotland will seek to expand and internationalise this capacity. We will work with NESTA (the National Endowment for Science, Technology and the Arts) and others to take this forward.

**Action: We will bring forward a programme of action under the Hydro Nation banner. Here are the first steps:**

### **Economic Development**

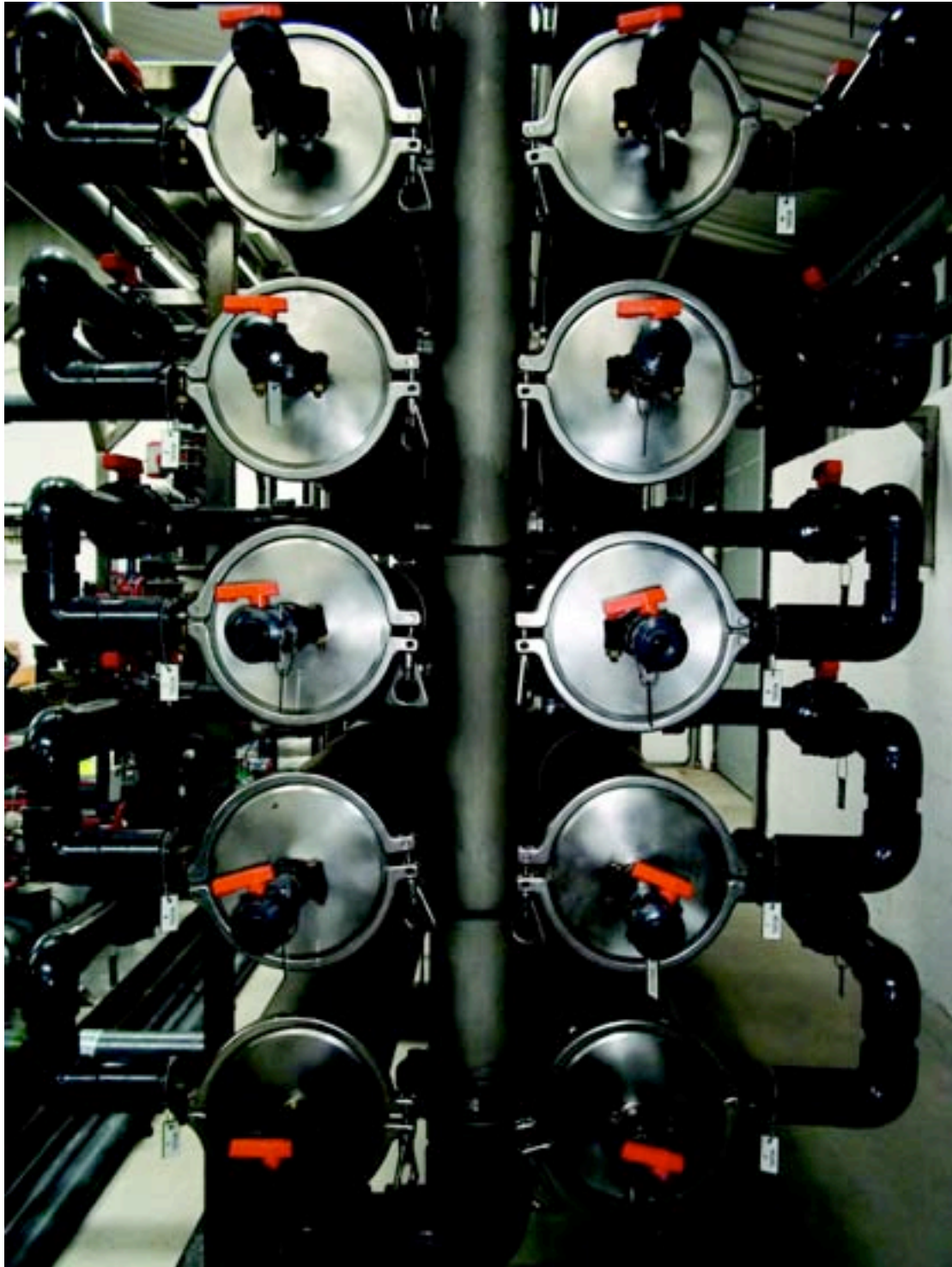
- Deliver a three year action plan with the Enterprise Agencies to secure economic benefits from the sector including the potential expansion of sector exports and what is required to support this activity.
- Identify of any barriers to innovation and commercialisation in Scotland including a feasibility study of an Innovation Park to test new products, facilitate proof of concept, EU accreditation and climate change resilience.
- Create a forward vision of what a low carbon water industry would look like in 10 and 20 years' time and develop a strategic plan to reach that point.
- Undertake a supply chain analysis of the water supply and wastewater treatment sector to identify where Scotland is under-represented and how this might best be improved
- Establish the size of the opportunity and prioritise potential to attract inward investment as a result of Scotland being a water rich country (for example through promotion of Scotland to water intensive users in water stressed locations across UK or Europe).
- Identify key innovation opportunities with Scottish Water working with research institutes and Scottish universities that require wider dissemination to business, including: new technologies requiring solutions for leakage detection; chemical-free water; grey water use; developing an optimum green fleet (especially in Highlands and Islands); and nutrient recovery.

### **International Action**

- To introduce Saltire Water Fellowships and Scholarships.
- To establish a Hydro Nation Forum to act as a focus for knowledge exchange between nations and to stimulate innovation in water management.
- To further develop our co-operation with China and others on water management.
- To further develop the focus on water related aid in our work with developing nations.

### **Research Excellence**

- To utilise and build upon the existing research capacity in all our higher education institutes, in particular the newly formed James Hutton Institute and the Dundee UNESCO centre.
- Realise Scotland's marketable international governance capacity with a view to being the helpdesk to the world on water governance.
- To identify opportunities for UK/EU funding and consider the best approach to secure this funding for research and development in the water sector.



Provided by Drinking Water Quality Regulator

## **Scotland and Water: The Opportunities**

Water plays a prominent role in the success of many sectors of the economy, some of which are strategically important to Scotland's economy (for example tourism, food and drink manufacturing and renewable energy generation). Scotland's expertise and abundant water resources provide significant economic opportunities. The water industry also has a vital role to play in

safeguarding public health and improving the environment, and the Hydro Nation programme will build on our current performance.

In Scotland our unique management model based on regulated public ownership has led to Scottish Water achieving efficiencies equivalent to £3m per week. We have stable water charges and a consistent capital investment programme that is delivering modern infrastructure and rapidly improving service standards. There is still further improvement that can be made, and Scottish Water aims to be in the top three water companies in the UK for customer service, by 2013/14.

We have introduced retail competition (i.e. billing, collection and customer contact services) for all non-domestic water customers - the first country in the world to do so. This has been a success. Over 60% of customers now have lower bills as a result, 40% are on e-billing and over £28m of discounts are available to customers each year. Over £19m has been saved through water efficiency advice and measures.

Other countries are learning from our experience. The UK Government has recently announced that it intends to introduce a similar regime in England and to work in partnership with us so that common arrangements operate across the two countries. There is the opportunity for Scotland to sell the expertise it has developed in this field to other countries.

Business Stream, a subsidiary of Scottish Water and the largest water retailer in Scotland, has been at the forefront of driving innovation and delivering tailored products and services to customers. The opening up of the English market will provide it with a significant business opportunity to expand and win English customers. This could be just the beginning. As the world's first large scale entity entirely focused on retail services to non-domestic water and sewerage customers, there is huge potential for it to enter international markets, either by working in partnership with the incumbent water and sewerage entities or delivering the retail service for them.

We have a strong academic base, we have innovative SMEs and a water industry that compares well, in performance terms, with any other across the globe. On that platform we can look to develop the potential of Scotland's water resource at home and internationally.



Provided by British Waterways

## **Energy from Water**

Hydro power is a commercial technology, long established in Scotland, which accounts for a significant proportion of existing renewable output. It contributes around 10% to Scotland's total current energy generation. Most output is produced by large scale hydro schemes. There are, however, an increasing number of proposals for small river hydro projects and these projects, together with the continuing refurbishment of the large hydro schemes will ensure that hydro will continue to play its part in Scotland's renewable energy mix. Scottish Water has been delivering and operating Hydro Power schemes over many years and is now building capacity and delivering new schemes.

Scottish Water is one of the largest purchasers of electricity in Scotland, using 450 gigawatt hours per year. This equates to over 1% of Scotland's electricity demand. It is committed to reducing its carbon footprint through a number of measures including greater use of renewable energy generated from its assets, where it is cost effective to do so. Indeed renewable energy installations already in existence provide some 5% of Scottish Water's electricity needs. Scottish Water's growth plan, approved by Ministers last year, forecasts £55m of investment over the next three years in waste recycling and renewable energy facilities. When combined with investment from partners, this will enable assets on its land to generate more renewable energy than Scottish Water consumes.

There is an abundance of water in Scotland, but water is a natural resource and should be used efficiently. Saving water is to everyone's benefit. Households can reduce their water (and therefore energy) use by, for



instance, taking shorter showers, only using a washing machine when there is a full load and harvesting rainwater. Scottish Water is taking action and since 2006 over 400 million litres of water a day have been saved through leakage measures – enough to supply half of Scotland’s households. More action is planned to reduce expensive chemical usage, remove more lead pipes, continue to fix leaks and explore more natural water management techniques.

The Scottish Energy and Resource Efficiency Service (SERES) partnership offers guidance on energy and resource efficiency, including advice on water usage. The establishment of a new integrated business resource and energy efficiency service in 2013 will take this further by maximising support to business, and will include water efficiency along with supporting uptake of new technologies within its remit.

To ensure that we maximise the potential to the economy and continue to protect the environment and public health, we can and should do more with Scotland’s water. This prospectus has set out the vision and the first steps to develop the economic potential of water in Scotland and to play a leading global role on water governance by creating a Hydro Nation.

**Action: We will legislate to create a framework which will ensure that Ministers and others work together to develop Scotland as a Hydro Nation.**

## SECTION 2

### Hydro Nation and the Water Resources Bill

The First Minister announced the Bill in his Programme for Government in September 2011:

<http://www.scotland.gov.uk/About/programme-for-government/2011-2012/WaterBill>

The previous public consultation in this area, “Building a Hydro Nation” ran from December 2010 until March 2011. Over 70 responses were received during that exercise and they have helped to shape the current legislative proposals. That consultation, the published responses and the analysis of those responses are available at:

<http://www.scotland.gov.uk/Topics/Business-Industry/waterindustryscot/publications/Consultations>

This consultation sets out the provisions the Government intends to bring forward in the Water Resources Bill, covering the following three areas:

- Hydro Nation Duty
- Scottish Water
- Modernising the Legislative Framework
  - Managing Temporary Water Shortages in the Public Supply
  - Protecting Drinking Water Sources in the Catchment
  - Prescribed Substances
  - Septic tanks
  - Non-domestic Customers

Legislation will not by itself deliver the vision – but these proposals offer a starting point for greater strategic development.

You are invited to comment on the new proposals for the Water Resources Bill by email or in writing by **midnight on 12 March 2012** to:

Water Industry Team  
Water Resources Consultation  
1 H North  
Victoria Quay  
Edinburgh  
EH6 6QQ

By email: [waterresourcesbill@scotland.gsi.gov.uk](mailto:waterresourcesbill@scotland.gsi.gov.uk)

## **Hydro Nation Duty**

Scottish Ministers have set out their ambitions with regard to making Scotland a Hydro Nation. In order to formalise and support this ambition, the Bill will place a duty on Ministers to take all reasonable steps to develop the value of Scotland's water resources.

In doing this, they will take account of sustainability and relevant environmental legislation including the Water Environment and Water Services (Scotland) Act 2003 and the Climate Change (Scotland) Act 2009.

Water resources in this context relate to inland water, wetlands and transitional waters, not to coastal waters or the marine environment. The value of water resources relates not only to the water itself, but also to services, industries and other economic activities such as academic research and hydro-power generation.

In undertaking this duty, Scottish Ministers will take account of and work with relevant experts and public bodies, facilitating a collaborative approach.

The Bill will require Ministers to report on the implementation of this duty within three years of the Act coming into force.

We would welcome comments on the draft legislative provisions set out below:

### **PART 1**

#### DEVELOPMENT OF WATER RESOURCES

- 1 Duty of the Scottish Ministers**(1) The Scottish Ministers must take such reasonable steps as they consider appropriate for the purpose of ensuring the development of the value of Scotland's water resources.
- (2) In fulfilling the duty under subsection (1), the Scottish Ministers are to act—
- (a) so far as is consistent with the proper exercise of their—
    - (i) functions under the 2003 Act and the 2009 Act,
    - (ii) other functions (whether or not relating to water resources or environmental matters),
  - (b) in the way best calculated to contribute to the achievement of sustainable development.
- (3) In subsection (1), the reference to the value of water resources includes the economic and other benefit deriving from the use of (or any activities in relation to) the resources.
- (4) In this section, “water resources” means wetland, inland water and transitional water within the meanings given by section 3(5) to (7) (as read with (10)) of the 2003 Act.

## **2 Involvement of public bodies**

- (1) For the purpose of securing its participation in development of the kind mentioned in section 1(1), the Scottish Ministers may give a designated body directions as to the exercise of its functions.
- (2) Directions under subsection (1) may be—
  - (a) of a general or specific character,
  - (b) for collective or individual application.
- (3) Before giving directions under subsection (1), the Scottish Ministers are to consult each body to which they would apply.
- (4) A body must comply with directions under subsection (1) applying to it.
- (5) Directions under subsection (1) may vary or revoke earlier such directions.
- (6) This section is without prejudice to any other enactment providing for the Scottish Ministers to give directions to a designated body.

## **3 Designation of bodies**

- (1) In section 2, the references to a designated body are to any of the following—
  - (a) Scottish Water,
  - (b) the Scottish Environment Protection Agency,
  - (c) Scottish Natural Heritage,
  - (d) Scottish Enterprise,
  - (e) Highlands and Islands Enterprise.
- (2) The Scottish Ministers may by order modify the list in subsection (1) by—
  - (a) adding a public body,
  - (b) removing an entry.
- (3) Before making an order under subsection (2), the Scottish Ministers are to consult each body to which the modification would relate.
- (4) An order under subsection (2) is subject to the negative procedure.

## **4 Reporting after 3 years**

- (1) The Scottish Ministers must lay before the Scottish Parliament a report on how (and the extent to which) during the reporting period they have fulfilled the duty under section 1(1).
- (2) The report under subsection (1) must be so laid as soon as reasonably practicable after the end of the reporting period.
- (3) In this section, the references to the reporting period are to the period of 3 years starting with the date on which section 1(1) comes into force.

## **5 Key definitions**

In this Act—

“the 2003 Act” is the Water Environment and Water Services (Scotland) Act 2003,

“the 2009 Act” is the Climate Change (Scotland) Act 2009.

Scottish Water has a particular role to play in supporting this agenda.

## **Scottish Water**

### **Background**

Scottish Water is a public sector success story.

It serves almost every household and business in Scotland, providing 1.3 billion litres of high quality drinking water through 47,000 km of pipes every day, and collects and treats nearly one billion litres of wastewater prior to returning it to our rivers and seas.

Expert management and significant investment since 2002 have driven dramatic improvements in efficiency and the services Scottish Water provides. By 2015 Scottish Water should match the best performing water companies in England and Wales while having domestic charges which are on average 15% lower.

Scottish Water is one of the largest publicly owned water and sewerage enterprises in the world and, with a turnover of £1.1 billion, it is one of Scotland's largest businesses. It has an experienced, business focused Board, a large asset base and a committed and skilled workforce which has extensive expertise in asset management, procurement, project management and perhaps unrivalled experience in managing regulatory processes. In short, it is a tremendous asset for Scotland.

Scottish Water's function is to provide high quality water and sewerage services to the households and businesses of Scotland. This must remain its focus. In addition, the Scottish Government considers that Scottish Water can and should play an important role in the development of Scotland as a Hydro Nation. It should evolve into a dynamic organisation, maximising the benefit from its expertise, assets and the water resources it has influence over for the continuing benefit of water customers, the environment and the wider Scottish economy.

### **Principles to Guide Scottish Water's Development**

In its 'Building a Hydro Nation' consultation the Scottish Government set out key principles that would guide Scottish Water's development while protecting its water and sewerage services. These principles received strong support in consultation responses and suggestions were made as to how they could be further strengthened – in particular:

- An over-arching principle that the essential water and sewerage services provided by Scottish Water should not be compromised. It

- was also suggested by several respondents that this principle should also refer to quality regulation as well as economic regulation; and
- The word 'exploitation' should not be used in the final principle.

The Government has incorporated these suggestions (see below) and will use these principles to guide Scottish Water's forward development.

### **Overarching Principle**

The essential services provided by Scottish Water in the delivery of clean fresh drinking water and the collection and treatment of sewage must not be compromised. Scottish Ministers will expect Scottish Water to deliver its core functions with increasing efficiency and at a standard comparable to the best providers elsewhere. Independent quality and economic regulation will continue to be essential to achieving this.

### **Principle One**

Scottish Water's commercial activities should support the Scottish Government's overall purpose to increase sustainable economic growth and in particular support the strategic objectives to make Scotland Greener and Wealthier and Fairer.

### **Principle Two**

Scottish Water should develop new activities and take on new functions where these are aligned to its existing activities or where Scottish Water demonstrably has the expertise and resources to do so.

### **Principle Three**

Scottish Water should seek to utilise its assets and expertise to develop Scotland's water resources as fully as possible. Scottish Water should develop new activities and take on new functions where there is a robust business case that they will deliver strong commercial returns or other social benefits. Scottish Water should avoid business and technical risks that are inappropriate for an essential infrastructure provider.

## Scottish Water – New Duties

The 'Building a Hydro Nation' consultation set out the potential for Scottish Water to develop commercially, to use its assets to promote renewable generation and to generally support the Hydro Nation agenda. These proposals received strong support in the consultation responses. The Government considers that Scottish Water's considerable potential in these areas should be encouraged and recognised in legislation and so the Bill will contain provisions to give Scottish Water new functions. These will be designed to promote the full utilisation of its assets, to plan and promote

renewable generation and thus more broadly supporting the duty on Ministers set out in Part 1 of the Bill.

In line with the overarching principle, and acknowledging the concerns raised in the previous consultation, the provisions will make the pursuit of these functions conditional on them not being inconsistent with the economic, efficient and effective exercise of the water and sewerage functions.

The present statutory framework was designed for Scottish Water being almost wholly focused on the delivery of its core water and sewerage services. It does not envisage Scottish Water undertaking significant activities beyond these services. A consequence of the current framework is that all of the functions of Scottish Water under any enactment, other than the exercise of its general powers under Section 25 of the Water Industry (Scotland) Act 2002 are defined as “core functions”.

The Scottish Government considers that the additional functions the Bill will bestow on Scottish Water should not be classified as “core functions”. The Bill will therefore include provisions to distinguish between Scottish Water’s water and sewerage functions and the additional functions set out above.

#### Scottish Water – Clarifying commercial powers

To be able to develop Scotland's water resources and its own assets fully, Scottish Water requires clarity and certainty over the powers it has to operate beyond its core functions. The ‘Building a Hydro Nation’ consultation proposed an amendment to section 25 of the Water Industry (Scotland) 2002 Act to provide this. Consultation responses supported the proposed amendment with some respondents suggesting that the word ‘exploitation’ should not be used due to its perceived connotations. The Scottish Government agrees with this and therefore proposes that the Bill contains the following provisions.

*(1) Section 25 (Scottish Water's general powers) of the Water Industry (Scotland) Act 2002 (asp 3) is amended as follows.*

*(2) After subsection (1) insert -*

*"(1A) The power in subsection (1) includes, in particular, power to do anything that Scottish Water considers will assist in the development of Scotland's water resources or any of Scottish Water's assets."*

*(3) In subsection (5), for "subsection" substitute "subsections (1A) and"*

#### Scottish Water – Powers for Scottish Ministers to Lend to Subsidiaries

The Water Industry (Scotland) Act 2002 provides for Scottish Ministers to lend to Scottish Water. The Water Services etc. (Scotland) Act 2005 provides for Scottish Ministers to lend to Scottish Water’s non-domestic retail business

undertaking, Business Stream. Scottish Water set up Business Stream as a wholly owned subsidiary but there are no powers for Scottish Ministers to lend to any other subsidiary of Scottish Water. If Ministers wished to make such lending available, for instance to support investment in waste facilities or renewable energy infrastructure on a commercial basis, that lending would have to be routed through Scottish Water. This is administratively inefficient and even more undesirably it potentially exposes water and sewerage customers to commercial risk, a concept which was not supported by responses to the consultation. The Bill will therefore include provisions to enable Scottish Ministers to lend directly to a Scottish Water subsidiary.

## **MODERNISING THE LEGISLATIVE FRAMEWORK**

The previous consultation exercise asked respondents about existing areas of the law that could usefully be modernised. There was support for modernising the legislative framework in relation to management of drought situations and also in the control of prescribed substances.

### **Managing Temporary Water Shortages in the Public Supply**

Any responsible Hydro Nation seeks to optimise usage of water resources and this must include arrangements for the times when water resources are diminished. Within Scotland, occasions when water resources are reduced are rare events. However, having a modern system in place that allows droughts to be properly managed (i.e. drinking water supplies maintained, industrial usage subject to minimal disruption and the environment protected) is a key element of the Hydro Nation agenda.

Provision of a supply of wholesome drinking water for domestic purposes is a vital public service. In Scotland this duty falls to Scottish Water. Currently, there are extensive and well established arrangements in place to manage abstraction and treatment of water for public supply during normal conditions. Additionally, there are provisions to manage emergencies that disrupt supplies. The public water supply can be subject, on occasion, to shortages that result from lack of rainfall, known as drought.

The previous consultation asked for views on modernising existing legislation to bring it in line with best practice. Responses indicated support for updating the drought provisions of the Natural Heritage (Scotland) Act 1991 and the Water (Scotland) Act 1980 which deal with drought orders and hosepipe bans respectively. We welcome comments on the proposals outlined below.



## **Current situation**

Powers to enable Scottish Water to provide drinking water are principally contained within the Water (Scotland) Act 1980 (as amended). Authorisation to abstract water is granted by SEPA in accordance with the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR).

From April 2011, emergency arrangements for abstraction of water and compensation flows were incorporated into CAR Regulation 18 to ensure that the Water Framework Directive was fully implemented.

Pre-existing primary legislation for drought management sits within the Natural Heritage (Scotland) Act 1991 (NHSA91), with a mechanism known as “drought orders” which allows Scottish Water to manage drought situations. Both CAR and NHSA91 regimes are current, but are not well aligned.

## **Modernising the Natural Heritage Scotland Act 1991 – proposals for change**

It is proposed that the term “drought order” will be substituted with “Temporary Water Management Order” (TWMO). The test for applicability of a TWMO will remain “exceptional shortage of rain” in accordance with the existing legislation. This definition will be extended to incorporate “insufficient recharge of water resource systems” into the definition. This is to cover situations where drought is caused not by a lack of rain but by the failure of a reservoir to fill, during periods of heavy snow for example.

It is proposed that the term “emergency drought order” will be substituted with the term “Emergency Water Management Order” (EWMO). The separation between the TWMO and EWMO will be largely unchanged from the NHSA91.

To achieve better alignment with the CAR arrangements there will be some modification to NHSA91 relating to: notice arrangements, consultation requirements and administrative procedures. Other significant changes are laid out below.

## **Proposals for managing customer demand when active water saving is required**

To ensure droughts can be well managed and water resources are equitably shared, it may become necessary to manage customer demand for water. To date, Scotland has not had detailed proposals in this area. Given that climate change may affect rainfall patterns, it seems prudent to expect that managing customer demand may be needed more frequently in future. Active water saving will help to ensure that the balance of interests between: maintaining drinking water supplies; industrial / commercial uses of water and protection of the environment, can be achieved in a drought event.

A flexible approach is proposed, that begins with raising public awareness of a water shortage and can be escalated if the situation requires. Steps a) – d) below lay out the proposals and comments are welcomed.

**a)** Introduce new measures termed “Temporary Water Saving Measures” which are available to Scottish Water and can be implemented at its discretion, subject to appropriate notice arrangements, for domestic customers. The obligation will be on Scottish Water to make domestic customers, in affected localities, aware of the need for water saving. This obligation set out within the Bill will not be accompanied by any enforcement powers.

With the explicit intention of saving water, Scottish Water may advertise all or any of the following Temporary Water Saving Measures and seek customer cooperation to:

- a) avoid watering a garden using a hosepipe or sprinkler
- b) avoid cleaning a private motor-vehicle using a hosepipe or pressure washer
- c) avoid watering plants on domestic or other non-commercial premises using a hosepipe or sprinkler
- d) avoid cleaning a private leisure boat using a hosepipe or pressure washer
- e) avoid filling or maintaining a domestic swimming pool or paddling pool
- f) avoid drawing water, using a hosepipe, for domestic recreational use
- g) avoid filling or maintaining a domestic pond using a hosepipe
- h) avoid filling or maintaining an ornamental fountain
- i) avoid cleaning walls or windows of domestic premises using a hosepipe
- j) avoid cleaning paths or patios using a hosepipe or pressure washer
- k) avoid cleaning other artificial outdoor surfaces using a hosepipe or pressure washer
- l) undertake other water saving measures as may be appropriate to the locality

Scottish Water would need to ensure that awareness raising activities and water saving advice was suitable to customers’ needs in the location affected.

**b)** It is proposed that the request to cooperate with temporary water saving measures would be converted into a requirement, backed by enforcement powers, where Scottish Water seeks them under a TWMO from Scottish Ministers. Scottish Water would have discretion concerning whether to apply for this power. For instance, where a drought is escalating in severity or extent, there may be a need to take this step. Scottish Ministers would need to grant enforcement powers for temporary water saving measures against domestic customers within the TWMO.

**c)** If the above steps prove insufficient to manage the water shortage, Scottish Water could apply to Scottish Ministers for the power to advertise and request temporary water saving measures by commercial and industrial sectors. It would be for Scottish Ministers to grant or refuse the TWMO application.

Where such temporary water saving measures are required, then Scottish Water could then advertise and seek co-operation with any or all of the following:

- a) avoiding watering outdoor plants on commercial premises
- b) avoiding watering fairways on golf courses (municipal or private clubs)
- c) avoiding filling or maintaining non-domestic swimming or paddling pools
- d) avoiding filling or maintaining a pond
- e) avoiding operating mechanical vehicle washers
- f) avoiding cleaning any vehicle, boat, aircraft or railway rolling stock
- g) avoiding cleaning non-domestic premises
- h) avoiding cleaning a window of a non-domestic building
- i) avoiding cleaning industrial plant
- j) avoid suppression of dust
- k) avoiding operating cisterns in unoccupied or closed buildings
- l) undertaking other actions that can be clearly identified that are relevant to the locality

Additionally, there would be an obligation on Scottish Water to make Licensed Providers aware of any temporary water shortage in the locality of their customers. This information can then be passed on by LPs to their customers.

**d)** In the highly unusual circumstances where a drought situation continues to develop, it is proposed that Scottish Water will be able to apply to Scottish Ministers for an Emergency Water Management Order (EWMO) to convert the request for cooperation into a requirement for commercial and industrial users to avoid some or all of the above activities. This would be backed by enforcement powers. It will be for Scottish Ministers to grant such powers. Additionally, as already laid down in NESA91, Scottish Ministers will be able to introduce any other temporary water saving measures deemed necessary in the circumstances.

It is intended that this package of new measures will encourage responsible management and usage of water when resources are diminished.

### **Responsible Management of Water Resources**

It is vital that we take our responsibility towards the environment seriously and this includes proactively managing water supplies. Our aim should be to limit or prevent harmful substances getting into the water supply, where this is possible, and having chemical treatment in place where it is not.

## **Protecting Drinking Water Sources in the Catchment**

Drinking water in Scotland is of excellent quality:

<http://www.dwqr.org.uk/technical/annual-report>

Scottish Water, in the course of its duty to provide wholesome drinking water, may become aware that a particular chemical or other substance is present in the drinking water from a particular catchment. At the present time, treatment of water is the main method for removing undesirable constituents in the raw water.

### **Present Situation**

At present, Scottish Water uses its powers under the Water (Scotland) Act 1980 to manage catchments and to proactively manage the quality of raw waters used for drinking water supplies. The existing legislation is general and makes no specific provision for using catchment management techniques to protect sources of drinking water.

### **Proposed Way Forward**

In this Bill, we are proposing that Scottish Water should have powers to access the land that forms part of the water catchment and to test the raw water to ascertain the source of the problem. Once identified, Scottish Water could work with the landowner or tenant to implement solutions to limit the substance reaching the raw water source.

A pro-active approach to catchment management to reduce sources of diffuse pollution that affect the quality of drinking water is consistent with the requirements of more recent legislation such as the Water Framework Directive. Additionally, managing diffuse pollution at, or near, the source is advantageous as it allows more sustainable solutions to be implemented. Costs of capital expenditure and operational expenditure for drinking water treatment may be managed more effectively where catchment management approaches are implemented. Combining catchment management for the protection of drinking waters with treatment may result in improved compliance with drinking water standards, where treatment alone will not achieve the required standards.

### **Prescribed Substances**

Responses to the previous consultation indicated support for modernising provisions relating to Prescribed Substances.

*“Prescribed Substances”* is a general term relating to a range of substances that have been identified as harmful to the water environment. In particular, prescribed substances include Priority Substances (PS) and Priority Hazardous Substances (PHS) identified under the Priority Substances Directive 2008/105/EC and substances identified within the Water Framework Directive 2000/60/EC.

## **Current Situation**

Scottish Water has a duty to drain under the Sewerage (Scotland) Act 1968 (as amended) and makes discharges from the public sewerage system to the water environment. Discharges are subject to control through discharge permits issued by SEPA under the Water Environment (Controlled Activities) (Scotland) Regulations 2011. However, the drainage system is essentially an open system, and although Scottish Water has some powers to control inputs of trade effluent into the sewer, it has no direct control over the constituents that enter the drainage system from domestic sewage, commercial premises or from surface water. Essentially, what enters the drainage system may ultimately enter the water environment as sewers provide a pathway to rivers and the sea.

## **Proposed Way Forward**

In order to better manage prescribed substances and contribute to delivery of a good water environment, it is proposed that additional powers are laid out in the Bill to allow Scottish Water to undertake work in drainage catchments and take pro-active actions to identify pollution. This approach will only be used in instances where it is shown to i) be cost effective and ii) be in the interests of customers and iii) provide an environmental benefit.

Specifically, the Bill will introduce proposals to amend Part II of the Sewerage (Scotland) Act 1968 to clarify that trade effluent consents issued by Scottish Water can identify prescribed substances within them. This will ensure that traders who use and discharge any prescribed substance can expect to contain the substance within their site, such that it is not released to the sewer and hence will not reach the water environment. This approach is consistent with the Polluter Pays Principle and control of pollutants at source.

Additionally, the Bill will clarify that discharges of fats, oils and grease to the foul sewer is an offence and will establish powers to rectify blockages.

Finally, in order to ensure that pollution problems caused by cross-connections between the foul and surface water sewer may be actively addressed, the Bill will include provisions to clarify that cross-connection is a defect that can be rectified under the Sewerage (Scotland) Act 1968. This will be supported by arrangements to allow Scottish Water to remedy these defects and recover costs, where owners do not comply with a notice to conduct the works.

## **Septic Tanks**

### **Current Position**

Septic tanks are widely used across Scotland for the collection and treatment of household waste water in rural areas. Under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 it is a requirement that the

discharge from a septic tank is registered with SEPA. The registration conditions require that 'the effluent treatment system shall be maintained in accordance with the manufacturer's or designer's recommendations, and in any event, in good working order'.

Research suggests that the contribution from sewage discharges in rural areas to total pollutant loadings can be as much as 10%. It can be difficult to establish hard evidence that individual septic tanks are causing pollution as they rarely cause deterioration at a water body scale. However, cumulatively these can have an adverse impact on water quality i.e. private drinking water supplies and achievement of bathing water standards. Shellfish grown in waters that are adversely affected by septic tank discharges may not achieve food standards. Litter from sewage discharges, including septic tanks needs to be reduced in order to meet our Marine Strategy Framework obligations.

### **Proposed way forward**

We want to emphasise prevention rather than remediation, and the challenge is to change our approach from one which is essentially enforcement-based to one which addresses pollution at source. As part of its RBMP delivery programme, the Scottish Government wishes to explore the potential for a more integrated approach to managing sewage discharges from septic tanks. This is likely to be the most cost-effective way of reducing pollution impacts; and an overall reduction in pollutant loadings may help reduce the need for carbon-costly solutions.

There are a number of ways to tackle problems relating to septic tank management, not all of which require legislation. We will therefore work with SEPA and Scottish Water to take a joined up approach, particularly around raising public awareness of the importance of maintaining a septic tank, how it can be emptied, and how to register a tank with SEPA.

In the case of community septic tanks, it can be difficult for the different owners to come to an agreement around sharing the cost of maintenance and emptying the tank. For SEPA, the lack of a single responsible person makes it difficult to pursue a case around the harmful impact on the environment. In the Bill, we will seek a legal mechanism to encourage regular maintenance and emptying of communal septic tanks.

### **Non-domestic Customers**

Non-domestic customers receive water and sewerage services from their chosen Licensed Provider (LP). There are a number of LPs who operate in a competitive market in Scotland and supply water and sewerage services to the commercial and industrial sectors. This market is comparatively new within Scotland and as it has matured a number of areas need to be addressed to ensure that the market is operating efficiently and that those receiving water and sewerage services are paying for their service.

LPs may inherit customers from another provider, either because a gap or vacant site has been identified and allocated to them or because another licensed provider has failed and its customers are reallocated amongst the remaining providers. The customers would be in receipt of water and sewerage services but would not have signed a contract with the new LP. However, as these customers are receiving a service, LPs should be able to demand and recover charges from these customers and we will clarify this in the Bill.

At present empty non-domestic properties are not charged for water and sewerage services. As these properties are still receiving drainage services, and have the availability of water supplies at any point there is an argument that these properties should be contributing to the maintenance of the system by paying fixed charges and for the drainage services they are utilising. The Scottish Government will engage with business organisations on introducing this change from 2015, with any additional income from charges being used to lower the charges of other non-domestic customers. The Bill will clarify the ability of LPs to demand and recover charges from landlords of empty properties so these are in place if required.

## **Invitation to Respond to Scotland the Hydro Nation: Prospectus and Proposals for Legislation**

Responding to this consultation paper

We are inviting written responses to this consultation paper by midnight on 12 March 2012.

**Please send your response with the completed Respondent Information Form (see "Handling your Response" below) to:**

waterresourcesbill@scotland.gsi.gov.uk

*or*

Scotland The Hydro Nation: Prospectus and Proposals for Legislation  
Consultation  
Water Industry Team  
The Scottish Government  
1-H North, Victoria Quay  
Edinburgh  
EH6 6QQ

If you have any queries contact the Water Industry Team on 0131 244 0258. We would be grateful if you could clearly indicate in your response which parts of the consultation paper you are responding to as this will aid our analysis of the responses received.

This consultation, and all other Scottish Government consultation exercises, can be viewed online on the consultation web pages of the Scottish Government website at <http://www.scotland.gov.uk/consultations>.

The Scottish Government has an email alert system for consultations, <http://register.scotland.gov.uk>. This system allows stakeholder individuals and organisations to register and receive a weekly email containing details of all new consultations (including web links). It complements, but in no way replaces SG distribution lists, and is designed to allow stakeholders to keep up to date with all SG consultation activity, and therefore be alerted at the earliest opportunity to those of most interest. We would encourage you to register.

### **Handling your response**

We need to know how you wish your response to be handled and, in particular, whether you are happy for your response to be made public. Please complete and return the **Respondent Information Form** as this will ensure that we treat your response appropriately. If you ask for your response not to be published we will regard it as confidential, and we will treat it accordingly.

All respondents should be aware that the Scottish Government are subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.



**Next steps in the process**

Where respondents have given permission for their response to be made public and after we have checked that they contain no potentially defamatory material, responses will be made available to the public in the Scottish Government Library.(see the attached Respondent Information Form), these will be made available to the public in the Scottish Government Library and on the [Scottish Government consultation](#) web pages by late April 2012. You can make arrangements to view responses by contacting the SG Library on 0131 244 4552. Responses can be copied and sent to you, but a charge may be made for this service.

**What happens next ?**

Following the closing date, all responses will be analysed and considered along with any other available evidence to help us reach a decision on whether the aspirations of the Hydro Nation Prospectus and Water Resources Bill are appropriate. We aim to issue a report on this consultation process by late April 2012 and introduce legislation in late May 2012.

**Comments and complaints**

If you have any comments about how this consultation exercise has been conducted, please send them to:

[waterresourcesbill@scotland.gsi.gov.uk](mailto:waterresourcesbill@scotland.gsi.gov.uk)

*or*

Scotland The Hydro Nation: Prospectus  
and Proposals for Legislation Consultation  
Water Industry Team  
The Scottish Government  
1-H North, Victoria Quay  
Edinburgh  
EH6 6QQ

# Scotland The Hydro Nation: Prospectus and Proposals for Legislation



## RESPONDENT INFORMATION FORM

Please Note this form **must** be returned with your response to ensure that we handle your response appropriately

### 1. Name/Organisation

Organisation Name

Title Mr  Ms  Mrs  Miss  Dr  *Please tick as appropriate*

Surname

Forename

### 2. Postal Address

<input type="text"/>		
<input type="text"/>		
<input type="text"/>		
<input type="text"/>		
Postcode	Phone	Email

### 3. Permissions - I am responding as...

Individual

/

Group/Organisation

*Please tick as appropriate*

(a) Do you agree to your response being made available to the public (in Scottish Government library and/or on the Scottish Government web site)?

*Please tick as appropriate*  Yes  No

(b) Where confidentiality is not requested, we will make your responses available to the public on the following basis

*Please tick ONE of the following boxes*

Yes, make my response, name and address all available

*or*

Yes, make my response available, but not my name and address

*or*

Yes, make my response and name available, but not my address

(c) The name and address of your organisation **will be** made available to the public (in the Scottish Government library and/or on the Scottish Government web site).

Are you content for your **response** to be made available?

*Please tick as appropriate*  Yes  No

(d) We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

*Please tick as appropriate*  Yes  No

## THE SCOTTISH GOVERNMENT CONSULTATION PROCESS

Consultation is an essential and important aspect of Scottish Government working methods. Given the wide-ranging areas of work of the Scottish Government, there are many varied types of consultation. However, in general, Scottish Government consultation exercises aim to provide opportunities for all those who wish to express their opinions on a proposed area of work to do so in ways which will inform and enhance that work.

The Scottish Government encourages consultation that is thorough, effective and appropriate to the issue under consideration and the nature of the target audience. Consultation exercises take account of a wide range of factors, and no two exercises are likely to be the same.

Typically Scottish Government consultations involve a written paper inviting answers to specific questions or more general views about the material presented. Written papers are distributed to organisations and individuals with an interest in the issue, and they are also placed on the Scottish Government web site enabling a wider audience to access the paper and submit their responses. Consultation exercises may also involve seeking views in a number of different ways, such as through public meetings, focus groups or questionnaire exercises. Copies of all the written responses received to a consultation exercise (except those where the individual or organisation requested confidentiality) are placed in the Scottish Government library at Saughton House, Edinburgh (K Spur, Saughton House, Broomhouse Drive, Edinburgh, EH11 3XD, telephone 0131 244 4565).

All Scottish Government consultation papers and related publications (eg, analysis of response reports) can be accessed at: [Scottish Government consultations](http://www.scotland.gov.uk/consultations) (<http://www.scotland.gov.uk/consultations>)

The views and suggestions detailed in consultation responses are analysed and used as part of the decision making process, along with a range of other available information and evidence. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review
- inform the development of a particular policy
- help decisions to be made between alternative policy proposals
- be used to finalise legislation before it is implemented

Final decisions on the issues under consideration will also take account of a range of other factors, including other available information and research evidence.

**While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.**

## CONSULTATION RESPONSE

**Please provide comments on Scotland The Hydro Nation: Prospectus and Proposals for Legislation**

Comments



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