

Scotland The Hydro Nation

2nd Annual Report

**Laid before the Scottish Parliament
By the Scottish Ministers
SG/2015/162**



Scotland The Hydro Nation – Second Annual Report - Developing the Water Economy

Introduction by Keith Brown MSP, Cabinet Secretary for Infrastructure, Investment and Cities

I am very pleased to introduce this second annual report to Parliament of progress on Scotland: The Hydro Nation. This has been a significant year for this important agenda with key elements of our strategy being delivered in support of our aim of growing the value of Scotland's water resources.



In May 2015, we welcomed in the region of 1,000 delegates to the XVth World Water Congress and side events, providing a unique opportunity to share, and add to, Scotland's knowledge with a wide range of water experts from across the globe. We will seek to build relationships with many of them to explore areas of mutual interest and build strategic partnerships which will have a positive impact on our domestic economy as well as raising our international profile as a trusted partner in tackling some of the most serious water resource management issues around the world. During the Congress, we announced the award of the contract for the Hydro Nation Innovation Service (HNWIS) – a key plank in our strategy. The Service is being delivered by a business-led consortium with the aim of increasing innovation in the sector and supporting greater collaboration. I wish them every success and look forward to the many positive impacts this initiative is expected to bring.

We have continued to develop our research base and to support Scottish businesses at home and abroad. Our publicly-owned utility, Scottish Water has released another impressive annual report and results, underlining excellent performance to the benefit of consumers and the overarching economy of Scotland.

The Hydro Nation Forum continues to provide a helpful and constructive role in supporting the development of Scotland The Hydro Nation. The Forum has shown it is not afraid to look at itself and is working to ensure its structures support and develop the agenda as effectively as possible.

As we look forward, we will continue to focus Hydro Nation's efforts on a strong water economy that benefits Scotland, supporting continued improvements to domestic service at home, particularly in the area of rural supply, and to new developments with key international partners.

Scotland: The Hydro Nation – Second Annual Report – summary of activity

Developing our industry:

Having identified the water industry as a distinct priority focus area, our **Enterprise Agencies** continue to develop dedicated programmes of activity and support, focussing on innovation and growth, and are working closely with the new **Hydro Nation Water Innovation Service**, which was launched earlier this year

The **Scottish Environment Protection Agency** is working with DEFRA and other UK Verification bodies (including EMEC: European Marine Energy Centre Orkney) to support the European Commission Environmental Technology Verification (ETV) Pilot Programme.

We are continuing to develop our specialised research capacity and have welcomed a further cohort to join the **Hydro Nation Scholars Programme**.

Improving services:

Scottish Water is on track to facilitating more energy generation across its estate than it consumes by 2018 – contributing to lower costs for customers and enhanced service resilience.

With our partners we are prioritising work in support of Sustainable Rural Communities, developing a comprehensive research and pilot project programme to address key policy challenges of rural service provision and the recovery of priority substances.

Scottish Water recently successfully transferred redundant assets to the local community in Sunart for the development of renewable energy. We will work with Scottish Water and other key partners to identify and develop mechanisms to deliver similar results in other rural communities.

Growing our international reputation:

We hosted the XVth World Water Congress in Edinburgh in May 2015 – with significant input from Scottish institutions and partners including Scottish Water.

The **Water Industry Commission for Scotland (WICS)** is playing a leading role with European partners as an adviser and as a senior supporter of a new water regulators network – WAREG - and hosted the network's meeting during the XVth World Water Congress.

Hydro Nation support for the Scottish Government's **Climate Justice Fund** is improving lives in Malawi, where 30,000 people now have access to safe, clean drinking water as a result of our intervention.

We have exported Scottish Water expertise to operators abroad, including in Canada, Poland and Qatar.

Section 1: Background: The Hydro Nation Duty

This Second Annual Report sets out the steps that have been taken since the publication of the first report in August 2014, to meet the duty placed on Scottish Ministers under The Water Resources (Scotland) Act to develop the monetary and non-monetary value of Scotland's water resources.

The Scottish Government remains committed to developing and consolidating our strategic vision of Scotland as the world's first 'Hydro Nation.' The First Annual Report set out the ambition of establishing a 'water economy' at the heart of our national and international identity and we have been working with our partners to deliver against that ambition through increased innovation support for the sector, building our knowledge base, delivering more efficient resource use and taking Scottish expertise on regulation, governance and operational matters to international markets and partners in Europe and further afield.

The Hydro Nation Forum, Chaired by Keith Brown MSP Cabinet Secretary for Infrastructure, Investment and Cities, continues to provide guidance and advice and to track progress at its biannual meetings. With the Forum's help we continually review our overarching strategy to ensure it is fit for purpose and are working with the Forum to ensure that its structures and ways of working can best support the strategy.

Scotland The Hydro Nation

Scotland is fortunate to have a significant and high-quality water resource. Water is of central importance to the economy of Scotland, both as a sector in its own right and as a critical resource in the manufacturing, agriculture, food and drink, tourism and energy sectors. The estimated market size of the sector is £1.8 billion, including Scottish Water. This equates to approximate employment levels of 8,500. Scottish Water's share alone is 3,600 employees and a turnover of £1,100 million¹.

There is the potential to support, attract and develop opportunities for businesses or industries for whom a large volume of water is a critical resource. Access to a highly-developed, diverse and specialised supply chain provides assurance that Scotland is an excellent place for water-sector businesses to set up shop. All of this is underpinned by a distinctive and internationally-respected model of governance and regulation. [Scotland's Water Capability Statement](#), published by Scottish Development International, highlights key sectoral strengths, with examples of how Scottish companies, universities and research bodies support the developing water economy in Scotland and beyond.

¹ Figures from Simon Hallam (2014) Analysis of the Scottish Company Base and Market Opportunities: Low Carbon Heating & Cooling and Water Supply & Wastewater. A Final Report. Scottish Enterprise & Highlands and Islands Enterprise. Available at: <http://www.evaluationsonline.org.uk/evaluations/Search.do?ui=basic&action=showPromoted&id=556>

Section 2: Scotland the Hydro Nation - Second Annual Report

Governance of the Water Sector in Scotland

Scotland has a distinctive governance framework for the water environment and industry in which the industry (Scottish Water), independent regulators and Scottish Ministers each have a distinct and important role. They have responded to the opportunities of Scotland: The Hydro Nation - to build on these roles.

The **Water Industry Commission for Scotland** (WICS) as independent economic regulator of the sector, continues to play a key role in promoting the hydro nation agenda, bringing energy and commitment to spreading the knowledge and experience from Scotland into other markets.

As a founder member of the European water regulators network (WAREG), WICS has been involved at the heart of building capacity, learning and sharing experience with other sector regulators. WICS successfully hosted the first Assembly meeting of the network in Edinburgh in May 2015. WICS have also been assisting the EU Special Task Force for Greece by delivering a training programme to the Hellenic Special Secretariat for Water and have been providing support to regulatory bodies in Oman, Ireland and Abu-Dhabi. WICS have contributed to an OECD report on approaches to economic regulation in the water sector and attended numerous international conferences with the aim of promoting the Scottish regulatory model abroad and learning from other jurisdictions. Closer to home and recognising the depth of its experience of retail market reform from the Scottish market, WICS has been actively involved with the Open Water programme of reforms for the English market which will lead to the introduction of retail competition in England in April 2017.

The **Drinking Water Quality Regulator for Scotland** (DWQR) actively supports the rural provision agenda, and, along with partner organisations is helping to oversee work now progressing to pilot project stage to understand better the nature of remote rural supplies and ways to improve service quality and access.

Citizens Advice Scotland represents water consumers, and are a key partner in many areas of policy development, including the rural service provision strand of the strategy

The **Customer Forum** has played a complementary role and members of the Forum continue to provide advice to WICS on a variety of matters e.g. in the continuing Strategic Review of Charges, and its impact is being keenly observed in many other countries.

Hydro Nation Water Innovation Service

The Hydro Nation Water Innovation Service

With funding from partners of around £800,000 over three years, the Innovation Service contract has been awarded to AECOM and is a collaborative project involving Scottish Water, the Scottish Government and our enterprise agencies, the Scottish Environment Protection Agency and the Scottish Funding Council, along with WRc, UK Water Ltd and a range of academic institutions including the Roslin Institute and Strathclyde University

Innovation is critical to the health of our economy and to water industry within it if it is to develop and grow. In recognition of the barriers often faced by small and medium-sized enterprises (SMEs) in the sector in bringing innovative products to market we have established the business-led Hydro Nation Water Innovation Service (HNWIS). With funding from partners of around £800,000 over three years, the Innovation Service contract has been awarded to AECOM and is a collaborative project involving Scottish Water, the Scottish Government and our enterprise agencies, the Scottish Environment Protection Agency and the Scottish Funding Council, along with WRc, UK Water Ltd and a range of academic institutions including the Roslin Institute and Strathclyde University.

The Hydro Nation Water Innovation Service is a significant element in the delivery of our strategic approach, with the aim of increasing innovation within the sector by providing access to testing and demonstration facilities, access to specialist support and building more effective links across wider industry and stakeholders. The focus of the service will be on helping bring innovative water technology products to market more smoothly and quickly. HNWIS will look to increase the number of collaborative projects between businesses, academia and the public sector, in order to encourage knowledge sharing and harness opportunities. The service will also aim to develop international networks to support innovation and collaborative funding bids for appropriate projects.

The Hydro Nation Water Innovation Service opened to enquiries in August 2015, and is now working to identify which ideas will be taken forward and supported.

Environmental Technology Verification (ETV)

Another aspect of work in Scotland to support innovation is the involvement of the Scottish Environment Protection Agency (SEPA) in the European Commission's Environmental Technology Verification (ETV) Pilot Programme. ETV is a new tool to help innovative environmental technologies reach the market. Claims about the performance of innovative environmental technologies can be verified by qualified third parties called "[Verification Bodies](#)". The "[Statement of Verification](#)" delivered at the end of the ETV process can be used as evidence that the claims made about the innovation are both credible and scientifically sound. With proof of performance credibly assured, innovations can expect an easier market access and/or a larger market share and the technological risk is reduced for technology purchasers. The Hydro Nation Water Innovation Service will work closely with SEPA to ensure suitable candidate technologies identified via the service are appropriately signposted to the programme.

Scottish Water and Hydro Nation

In providing essential services to 2.46 million households and 150,000 business premises across Scotland, Scottish Water recognises the importance of harnessing maximum economic value and benefit from its vast water resources.

Energy, in particular, is an area where Scottish Water's resources are making an active contribution to the development of the Hydro Nation through a four-pronged approach to energy management that is expected to see Scottish Water facilitate more energy generation than it consumes by 2018 by:

- Reducing consumption by improving the capability of assets and operations;
- Increasing self-generation where there is a good return for customers – deploying innovation and technologies that maximise value from assets;
- Hosting private renewables investment on land where compatible with service and quality;
- Optimising the energy-purchasing strategy to maximise benefit for customers in terms of price risk mitigation against rising energy costs.

Energy Efficiency and energy from Water - the Scottish Water approach

Scottish Water's energy efficiency programme includes the installation of over 4000 smart meters to measure consumption and help target opportunities. Changes have been made to operational practices and its asset base to reduce consumption or move demand to cheaper tariff periods.

Over the last 5 years Scottish Water has reduced base electricity consumption by over 5%.

Since 2013 installed renewable capacity has been doubled to over 50GWh and Scottish Water's portfolio has been diversified to include hydro, wind, photovoltaic and combined heat and power (CHP).

Scottish Water already hosts 350GWh of third party wind turbines on its estate and is working with developers to increase this to over 900GWh from schemes with planning consent.

Scottish Water currently operates 27 hydro turbines, 16 small-scale wind turbines and 16 photovoltaic schemes, helping to offset the amount of electricity required from the grid to operate its assets, with several treatment works now self-sufficient. Whatever the weather, it means Scottish Water is generating its own electricity, and saving customers over £6m pa.



Glencourse supplies fresh drinking water to around 450,000 customers across Edinburgh. Water pressure and flow within the assets is used to drive turbines to generate electricity. This integration into existing civil infrastructure provides a benefit in reduced construction cost compared to a standalone project.

The power generated is consumed by the waste water treatment works with any surplus power is exported to the National Grid.

Climate Change and sustainability

Operational carbon emissions have been reduced by 18% since 2006/07

Scottish Water's carbon footprint for 2013/14, the most recently reported year, showed a decrease of 3%, or over 13,000 tonnes of carbon dioxide equivalent (tCO₂e), compared to 2012/13. Its water service continues to have the lowest carbon intensity in the UK, largely due to the opportunity to use gravity to supply many of our customers rather than pumping.

Scottish Water and community action

Scottish Water are maximising their surplus and rural assets by working co-operatively with communities across the country to agree solutions that provide an improvement for those that live and work in those areas.

Broadband to Applecross was delivered in February this year when Scottish Water helped the Applecross Community Company to bring the wireless network to the remote north coast by housing a relay for the signal on their Diabaig site.

In April 2015 **Dundee Museum of Transport** secured Scottish Water's former vehicle and supply storage depot, thus ensuring a permanent home for the Museum. The Museum's members work voluntarily to preserve local history and enhance tourism to the City of Discovery.

Addressing Key Policy Challenges

Rural Service Provision for drinking and waste water

We recognise there are particular challenges that arise from around 20,000 Private Water Supplies (PWS) in Scotland. Supplies are largely in rural locations, with often difficult access to the public supply network making connection costs too high for most householders as well as beyond the Reasonable Cost of Connection requirements for Scottish Water. Concerns have been raised about the quality of



some supplies, and potential negative impacts on public health and tourism. Led by the Scottish Government Water Industry Division, the Rural Provision Group was established to improve partners' collective understanding of the private water and sewerage infrastructure in Scotland, and to offer policy advice on action to address emerging issues and ensure legislative standards are met. Group members include Scottish Water, the Drinking Water Quality Regulator, the Scottish Environment Protection Agency, Water Industry Commission for Scotland, Citizens Advice Scotland and Scotland's Centre of Expertise for Waters (CREW)

The Group links to the research-focussed Sustainable Rural Communities Steering Group which recognises that

rural communities face other infrastructural challenges in relation to energy and waste for example and that an integrated approach which considers these inter-related issues more holistically is more likely to develop solutions which better utilise local resources and contributes to achieving more sustainable communities. Supported by CREW, the Sustainable Communities Steering Group is currently finalising the identification of sites and criteria for a small number of community pilot projects in a range of remote and other geographical locations around Scotland to explore PWS issues in those areas and develop ways in which positive change could be instigated. Projects commence in Autumn 2015, reporting back in Spring 2015. Other projects being taken forward in the context of rural communities include work on innovative solutions for sustainable drinking water treatment; examining the epidemiology of small rural supplies and finally, work on resource recovery systems.

Green Growth: *Phosphorus and Priority Substances*

The first Hydro Nation Annual Report drew attention to the "Water Action Plan" brought forward by Scottish Energy Advisory Board (SEAB) Green Growth Group which aim to accelerate the exploitation of Scotland's low-carbon market opportunities in line with the Government's Economic Strategy. The Plan focusses on two key objectives of *addressing Priority Substance removal or reduction in waste water*, and *the reduction and/or recovery of phosphorus in water treatment and stabilisation in soil (Phosphorus Reduction/Recovery)* - issues of increasing importance, cost and risk, but also potential benefit, for the water and other industries. Environmental remediation opportunities in Asia for example, represent considerable opportunity for these products as well as addressing the same in our domestic market.

A cross-agency project led by Highlands and Islands Enterprise and funded together with the Scottish Government's Water Industry Division and Zero Waste Scotland is supporting a Small Business Research Initiative (SBRI) competition to bring forward new and innovative ideas to address the challenges and opportunities above. Other partners include Scottish Water, SEPA and Scottish Enterprise. Three Scottish-based projects already approved and expected to run through 2015 with a view to producing prototypes, depending on the results of the phase 1 projects. We will ensure appropriate links are made to the Hydro Nation Water innovation Service.

The Hydro Nation Research Programme

The Hydro Nation agenda includes a strategic commitment to excellence in water-related science, engineering, policy and governance. We continue to work closely with Scotland's Centre of Expertise for Waters (CREW) who have a primary role in the science/policy interface in the water domain. The CREW-managed research programme, developed in partnership with Scottish Government and key partner organisations such as the enterprise agencies, SEPA and the industry, is aligned to policy priorities related to the Hydro Nation agenda such as Green Growth, and includes:

- the development of a dynamic interactive visualization tool for the Scottish Water Sector
- work to determine how catchment management can potentially reduce drinking water-treatment costs
- an assessment of the potential market for reclaimed water use; and
- a project looking specifically at the concept of value in relation to our water resources.

The Hydro Nation Scholars Programme

The new Hydro Nation Scholars Programme, managed by CREW on behalf of the Scottish Government, funds postgraduate research projects aligned to the strategic priorities of the Hydro Nation Agenda. Scholars benefit from specialised programmes provided under the auspices of the Hydro Nation Graduate School managed by CREW to deliver objective and robust research and expert opinion to support the development and implementation of water policy in Scotland. The Programme include periods of research at a water-related institution, such as Scottish Water, the Scottish Government, Scottish Environment Protection Agency, or industry. From the four Scholars appointed in the first year of the Programme, a total of thirteen Scholars will be participating from the start of the 2015/16 academic year.

Building our international reputation as a Hydro Nation

Our strategy recognises that Hydro Nation must reach out to the world to share our knowledge and expertise and invite collaboration, and we are doing this in a number of ways:

- helping the water sector in Scotland identify and respond to international business opportunities
- growing our networks and growing awareness beyond Scotland of our capacity and reputation for academic and research excellence
- building on our expertise in governance and management practice

As part of this effort officials have met high-level delegations, including from the Turkish Ministry of the Environment, The Chinese Academy of Sciences, and the Guangdong Association of Environmental Protection Industry. We will continue to liaise with all of our international networks to spot opportunities for our water industry, with an expected focus in the period ahead on India and China.

Scotland : The Hydro Nation - Active in Europe and across the globe – Water policy and governance

OECD Water Governance Initiative

We are proud that our framework of governance has provided the basis for the transformation of the performance of Scottish Water over the last decade. This is a story from which others can learn. We are therefore working with the OECD Water Governance Initiative, and to coincide with the IWRA Congress, the Scottish Government hosted a one-day Plenary Meeting of the OECD Water Governance Initiative, highlighting the approach to the governance of Scottish Water.

Aqua Publica Europa (APE)

Scottish Government is working with Acqua Publica Europa (APE), the European Association of Public Water Operators in their efforts to secure the effective and equitable management of water resources. We strongly support the view that this can only be achieved through informed decision-making and inclusive governance based on stakeholders' and citizens' participation; which indeed are already key features of the Scottish governance model. We will continue to contribute to the European discussion on these, and other, key water-policy issues in support of the contribution that the public ownership model makes to the sustainable development of water resources.

Scotland : The Hydro Nation - Active in Europe and across the globe – supporting the global research agenda - Proud hosts of the XVth World Water Congress, Edinburgh, May 2015

Scotland has made a significant contribution to the global debate on key water issues and increase our international profile through the Scottish Government's hosting of the XVth International Water Resources Association World Water Congress in Edinburgh in May 2015.



Including a range of side events which were hosted in parallel with the Congress, in the region of 1,000 delegates from 71 countries participated in 56 Parallel Sessions addressed by 262 presenters, 37 Special Sessions and. 5 technical visits. The Hydro Nation scholars were actively engaged as speakers, rapporteurs and in the preparation of the report 'Valuing Water – Implications for Scotland's Hydro Nation Strategy of the XVth World Water Congress'

During the Congress, around 40 delegates participated in the first annual assembly of the Network of European Water Sector Regulators (WAREG) which was established in 2014 to promote Europe-wide coordination and cooperation between water service regulatory authorities and develop best practice. The appointment, during the Congress, of WICS' Director of Strategy and Corporate Affairs, as Vice President of the network is a positive step for Hydro Nation, helping to establish and consolidate Scotland as an international leader in water management and governance.

Scotland: The Hydro Nation – Scottish business success across the world - Scottish Water International

Scottish Water International, a wholly-owned subsidiary of Scottish Water, delivers reputation-enhancing projects by drawing on experience of the remarkable transformation in the water industry in Scotland to offer services to utilities, governments and other clients from around the world, including the Middle East, Canada, Ireland and Australia.



Scottish Water International has a team of high calibre in-house consultants offering services that support utilities to transform efficiency and service, with specific focus on:

- Operations and maintenance advice and support, including training and strategic advice;
- Asset management and capital investment governance;
- Regulatory and financial restructuring for public utilities

Scottish Water International's diverse assignments include:

- *Qatar* - helping oversee the management of a 5-year Drainage Asset Management Programme, as sub-consultants to MWH, to transform drainage and waste water services;
- *Ireland* – supporting the creation and development of Irish Water, charged with providing water and waste water services to all customers in the Republic of Ireland;
- *Canada* – helping to improve the efficiency and effectiveness of water services for The City of Calgary's Water Services business unit. The value of the efficiency benefits from these opportunities was valued in the range C\$2.4m – \$5.0m per annum (5%-10% of the overall operating budget);
- *Australia* – supporting SA Water, the utility serving the water and waste water needs of the state of South Australia, as sub-consultants to KBR, to build asset management capability with a focus on customer service

Scotland : The Hydro Nation - Active in Europe and across the globe – Water as a development issue - Our work in Africa

The £6m Climate Justice Fund, supported by Hydro Nation, is already funding 5 water-related adaptation projects in Malawi and Zambia.



Water management project, Salima district, Malawi, funded by Climate Justice Fund managed by Tearfund.

Scotland enjoys a strong relationship with Malawi due to historical ties between the two nations and is recognised under the Hydro Nation agenda through joint working at an official level on water resource management, governance and legislation

Our innovative £6m Climate Justice Fund, supported by Hydro Nation, is funding 11 projects in four sub-Saharan African countries (Malawi, Rwanda, Tanzania and Zambia).

The Climate Justice Fund focuses on water-related adaptation projects in order to address issues of scarcity and quality, and to increase communities' resilience to the impacts of climate change. It also empowers communities to know their water rights and share best practice natural resource management. To date, over 11,000 households in Malawi have been trained in water rights and resource management and nearly 30,000 more people now have access to safe, clean drinking water.

Scotland: The Hydro Nation – supporting Scottish business global success

Water disinfection technology specialists Scotmas are a Scottish Borders-based SME employing 42 people, with current sales of £3.5M. Entirely family owned, the company has diversified and grown significantly over the years and is now supplying specialised water disinfection equipment to a number of projects around the World.

Scotmas has been supported by Scottish Enterprise account management for a number of years, and have been provided with Innovation Support by SE, along with access to university expertise through Interface – The knowledge transfer network for Scottish Universities. Building on work carried out under a Knowledge Transfer Partnership with Heriot Watt University, the company has recently delivered and commissioned a specialised water disinfection system for the City of Doha, Qatar (pictured) which was entirely designed and built in Scotland, and shipped to Qatar in January 2015.



Alistair Cameron, Managing Director said: “Access to the World Leading research expertise of Scottish Universities has already been a game changer for our business and has allowed us to compete and win against multinational competitors for prestigious contracts around the World. Increasing cooperation and collaboration with other Scottish water technology companies will allow us in future to integrate our technologies for water disinfection with other class leading water filtration and waste water technologies from Scotland, and offer our clients a truly World-Class service”

Over the next year, Scotmas are working to develop a number of opportunities in the Indian and Middle Eastern Markets with assistance from Scottish Trade International local offices.

Section 3: Towards a Water Economy – Taking Scotland The Hydro Nation Forward

We are continuing to develop the Hydro Nation programme to build on the success achieved to date. With our partners, including Scotland's enterprise agencies we are engaging with ever more stakeholders in the Hydro Nation agenda, working closely with the sector, sharing knowledge and expertise to identify opportunities to promote and drive Scotland the Hydro Nation forward. Our aim is to maximise the contribution of the Hydro Nation agenda to the development of a vibrant water economy in Scotland, by focusing on the following key themes:

- **Wealth creation** – growing the profitability of existing and new water sector businesses, with a particular focus on supporting SMEs through innovation and exploiting export potential;
- **Scotland's international reputation** – we will continue to identify networks and opportunities for international collaboration and communication, supporting Climate Justice and knowledge sharing with the Malawi Government in particular, and as an active contributor to other global forums in water technology, skills and governance, as set out elsewhere in this report;
- **Education including research excellence** - we will build the scale and reputation of the Hydro Nation Scholars Programme. We will look to better connect SMEs in the sector with key emerging research findings, and we will explore potential new areas of work in key overseas territories, including India, Pakistan and China, which can add value to the Hydro Nation agenda and the Scottish economy;
- **Delivering for customers** - with a particular focus on rural communities we will continue to develop a comprehensive workplan to deliver sustainable provision options for the Scottish Ministers – the work of the Sustainable Rural Communities Group is a significant element of this programme;
- **Sustainable development in the water sector** – we will continue to promote and support the development of more efficient resource use, and low-carbon service delivery across the sector, building on the impressive efforts made by Scottish Water, thereby developing and growing the value of our water resources;
- **Communication** - we will work with our partners including the Hydro Nation Forum to develop, inform and engage more people with the Hydro Nation agenda, with a focus on young people, building on the Young Water Professionals session at the World Water Congress 2015 in Edinburgh and [Ooska News'](#) AquaNow series of seminar / webinar events, which were supported by Scottish Government and delivered across Scotland, and webcast to the world, in the period covered by this report.

Hydro Nation Forum

Chair: Keith Brown MSP, Cabinet Secretary for Infrastructure, Investment and Cities.

Professor Iain Gordon, Chief Executive of the James Hutton Institute.

Dr Douglas Henderson, Senior Lecturer and School Director of Student Enterprise at Edinburgh Napier University (stood down July 2015)

Chrysoula Pantsi, Edinburgh Napier University School of Engineering and Built Environment.

George Eckton, Chief Officer for Development, Economy and Sustainability at COSLA.

Councillor Stephen Hagan, Spokesperson for the Environment and Regeneration Team at COSLA.

Gareth Pender, Head of School and Professor of Environmental Engineering in the School of the Built Environment at Heriot-Watt University.

Dr Howard Dryden, Founder of Dryden Aqua.

Dr Alan MacDonald, Principal Hydrogeologist at the British Geological Survey.

Terry A'Hearn, Chief Executive of SEPA.

Professor Robert Kalin, Professor of Environmental Engineering for Sustainability at Strathclyde University.

Steve Dunlop, Chief Executive of Scottish Canals.

Professor George Fleming, Founder and Chairman of EnviroCentre.

May East, Chief Executive at CIFAL Scotland.

Galen Fulford, Managing Partner of Biomatrix Water Technology.

Simon Parsons, Director of Strategic Customer Service Planning, Scottish Water.

Dr David Johnstone, Senior Visiting Research Associate at the School of Geography and the Environment, University of Oxford.

Lisa Webb, Convener of Freshwater Taskforce at Scottish Environment Link.

Alan Simpson, Chairman of the Institute of Civil Engineers.

Professor Chris Spray, Chair of Centre for Water Law, Policy and Science, University of Dundee.

Professor Gordon Hughes, Chairman at the Water Industry Commission for Scotland.

Nick Lyth, Director, Green Angel Syndicate.

Jan Reid, Senior Manager, Low Carbon Technologies at Scottish Enterprise.

Diane Duncan, Head of Low Carbon and Environmental Clean Technologies at Highlands and Islands Enterprise.



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