

Scottish Water Industry Innovation Panel

# Innovation – a Shared Vision

Summary Report and Recommendations



November 2015

# Innovation – a Shared Vision

## Overview

This report summarises the findings and recommendations of the Scottish Water Industry Innovation Panel. The Panel was established by the Water Industry Commission for Scotland (WICS) with a broad remit to review the approach to innovation in the water industry in Scotland and make recommendations to drive further progress. The Panel comprised four independent members with wide-ranging expertise in driving innovative approaches, along with key staff from WICS, Scottish Government and Scottish Water. Appendix 1 lists the Panel membership.

Meeting at approximately two monthly intervals between August 2013 and January 2015, the Panel held interviews with key stakeholders including SEPA, DWQR, the Customer Forum, Licensed Providers and suppliers and innovation development partners. Case studies were undertaken on two recent examples of innovation: the “de-ragger” project and development of the Section 29E process. The learning points from these case studies were incorporated into the Panel’s recommendations, along with the findings from the stakeholder discussions and the Panel’s deliberations.

## 1. Background, terms of reference and scope of work of the Panel

The Scottish Water Industry has undergone transformational change in recent years and, with Government leadership, has created a modern regulatory framework that meets the needs of customers and stakeholders. The regulatory framework bears similarities in some respects to the organisational arrangements in the privatised English and Welsh water sector but has distinct and unique characteristics. For Scotland, provision of water service remains a public service and Scotland has been able to exploit its governance arrangements to develop novel and innovative approaches, such as the introduction of retail competition and the introduction of a customer negotiated settlement model. Scotland has been able to provide a lead in implementing and benefitting from innovation.

The Hydro Nation vision also provides a key stimulus for greater innovation in what is seen as a traditionally risk-averse industry. It is a unique approach and one which all participants can relate to and engage with. The Hydro Nation vision is to stimulate growth for the Scottish economy under three main headings:

- Utilising Scottish expertise to maximise the economic benefit of the abundant water resources within a sound ecological context by reducing energy use, improving efficiency and creating a low carbon water nation.
- Raising the international profile through recognition of Scotland as an international leader on water management and governance – the first Hydro Nation.
- Developing a water centre of expertise and research with international reach.

As part of this continuing stimulus, the Scottish Water Industry Innovation Panel was formed in August 2013 at the instigation of the Water Industry Commission for Scotland. Under its terms of reference, the Innovation Panel set out to:

- Review and discuss the innovative approaches identified by Scottish Water in the 2015-2021 programme,
- Assess and discuss the extent for further opportunities for innovative approaches within the 2015-2021 programme,
- Assist Scottish Water in working with other stakeholders to develop these further opportunities and address concerns,
- Provide reports as required to the Customer Forum, WICS and other stakeholders on the extent to which innovative approaches have been embedded in the 2015-2021 programme,
- Establish whether there are further regulatory or systemic barriers to innovation and, where these exist, propose solutions. This would include an assessment of how best to enhance the opportunities offered by the ‘Section 29E’ mechanism to drive greater innovation in the industry.
- Engage with Scottish Water to identify and report on the longer term measures that would allow innovation to become an integral part of Scottish Water’s business model

This report summarises the key findings of the Panel and makes recommendations on a series of measures which will further enhance the opportunities for innovation to flourish. These recommendations have been grouped into those relevant across the industry and those particularly applicable to Scottish Water.

As a follow on piece of work to the findings of the Innovation Panel, particularly relating to the cross Scottish water industry recommendations in Table 1 below, a further study into the mechanisms for establishing collaborative approach to risk has been carried out by Paul Fletcher, an independent member of the Innovation Panel. The output of this study is available on the WICS website.<sup>1</sup>

## 2. Key findings

The Panel found strong evidence of an extremely positive atmosphere and motivated culture relating to innovation within Scottish Water which demonstrated that it recognises the importance of innovation in ensuring that the business progresses. Strong leadership is being reflected and demonstrated in the behaviour and process across the employee population and examples of good practice, such as in the annual innovation awards, is evident. Innovation was seen to be embedded in the assumptions in building the 2015-2021 business plan, positioning Scottish Water well to take innovation to the next level.

However, the Panel observed that there is not as yet a co-ordinated approach to innovation across the Scottish Water industry. Whilst WICS, the Scottish Government (through the Hydro-Nation initiative) and Scottish Water share many common goals in driving innovation, there are no firm agreements in place to identify how all three parties could work together and also work within the wider community of the quality regulators, partners and suppliers.

---

<sup>1</sup> “Collaborative Approaches to Risk: *Innovation in a Regulatory Environment*” October 2015

The Hydro Nation is at the point where it is developing innovation centres and the time is right to ensure that all three organisations develop protocols and practices to drive the innovation agenda forward, working with all key industry stakeholders including DWQR, SEPA, customer representatives and suppliers to the industry. The Panel found that the approach taken tended to manage innovation as if it were a project. This was to be expected as processes and practices for project management were well developed. However for the future there will also be a need to handle smaller innovations such as operational organic improvements.

The position can therefore be summarised as being that WICS, Scottish Government (Hydro Nation) and Scottish Water recognise that the industry is at an early stage of evolution with regard to innovation, with opportunity to grow a stronger culture across the industry. There is a need to come together to formalise arrangements to ensure that all parties work together effectively in the future, providing an environment that stimulates innovation. The Panel also saw the need to embed and build capacity and a culture of innovation across the populations of other organisations including SEPA, DWQR, suppliers and customers.

The concerns that need to be addressed include:

- Ensuring that people within the organisations understand the innovation vision and can translate and apply it to the way they undertake their roles,
- Providing a process for innovation that is appropriate and which provides the required governance whilst protecting freedoms,
- Recognising the needs in terms of ensuring continued leadership of innovation and ensuring that risk is managed while ensuring that pace is also achieved through a sense of urgency,
- Ensuring that innovation is seen as customer based in improving service and in promoting efficiency.

Governance and organisational protocols between WICS, Scottish Government, Scottish Water, SEPA, DWQR, customer forums and suppliers need to recognise and address the barriers that exist and allow people time to innovate.

These challenges to effective innovation exist in many other spheres but the conditions within the Scottish water sector provide a clear opportunity to build on what has already been achieved and to become an exemplar in implementing innovation.

### **3. Recommendations**

The Panel's recommendations have been divided into Tables 1, 2 and 3 below, reflecting those recommendations that:

1. are applicable across the water industry in Scotland;
2. relate to guidance for Scottish Water and can be taken forward for immediate consideration and action; and
3. relate to guidance for Scottish Water and require further consideration prior to implementation.

The Panel recommends that the actions are taken forward through a suitable stakeholder forum which is given ownership of developing a shared vision and approach. The report 'Collaborative Approaches to Risk' develops the concept of an Innovation Forum and offers a sample agenda.

### **3.1 Recommendations relating to the water industry in Scotland**

Table 1 sets out the Innovation Panel's findings in relation to the key stakeholders in the water industry in Scotland. The stakeholder group includes regulators (WICS, DWQR and SEPA), the Scottish Government, the Hydro Nation community, Scottish Water, customer representatives, licensed providers and suppliers.

Table 1 - Cross Scottish water industry recommendations

Recommendation	Detail	Measure
<p>1. Industry stakeholders should work jointly to establish a clear VISION for innovation within the Scottish water sector. Within this: FOCUS is seen as vital in terms of breadth of scope, priority guidance and direction of travel. (Common definitions of innovation must emerge in tandem.)</p>	<p>WICS, Scottish Water, Scottish Government (Hydro Nation), SEPA and DWQR should engage with customer representatives to discuss, agree and decide on the extent of innovation involvement and depth they wish to engender. A collective approach toward achieving affordable outcomes for Scotland is required. Focus is undoubtedly the key behaviour at the centre of this drive.</p>	<p>Hold a forum/summit meeting with all parties present.</p> <p>Set out the high level outcomes expected from innovation planning.</p>
<p>2. Agree processes for innovation within and between organisations.</p> <p>Common POLICY should emerge, along with space for 'bottom-up' staff involvement and contribution.</p>	<p>Define how organisations are to be engaged with the innovation process. Set out how new ideas are interpreted, prioritised and owned; including delivery of benefit within the regulated business as well as externally and commercially.</p> <p>Validity of innovation approaches and project choice, in the context of focus described above, is seen as important and worthy of continuous review and improvement.</p>	<p>Approval procedures should be defined in accordance with governance principles of each organisations and would set out how projects were to be funded and where outcomes and risk would be managed.</p> <p>A common understanding of RISK management across the stakeholder group is required.</p>
<p>3. Hold occasional Challenge Workshops (around high level co-operation, focused on specific topics and utilising obvious regulatory calendar opportunities.)</p>	<p>Cross-industry Challenge Workshops should be held, when appropriate, involving all stakeholders to address specific topics. External participants, experts and facilitators may be involved with these workshops.</p>	<p>Agree and prioritise topics to be addressed in potential challenges. These may originally be identified at a forum/summit meeting but periodically reviewed.</p>
<p>4. Communicate the innovation plan to staff (across the stakeholder group) and set expectations and behaviours.</p>	<p>Providing well defined 'purpose' to staff in terms of strategic innovation vision, direction and an understanding of each individual's role in this. Develop and use a common language and shared definitions.</p>	<p>Provide communications to staff and other organisations of the innovation plan, the targets and priority areas as well as processes for submission and realisation of benefits from innovative ideas and proposals.</p>
<p>5. Ensure a Hydro Nation link and provide a more strategic, proactive approach (involving Scottish Government, SDI and Scottish Enterprise)</p>	<p>Develop a strategy that links Hydro Nation to innovation activity and involve this perspective in commercial thinking relating to IPR, product or systems development. This is an industry-wide issue but SW must bring Hydro Nation to front of mind, including greater involvement in business plans.</p>	<p>Show examples where partnership, collaboration of commercialisation have featured a Hydro Nation perspective. Show evidence of where Hydro Nation has become a strategic pillar: involving SW Horizons but also core SW.</p>

### **3.2. Recommendations/Guidance to Scottish Water**

The Panel also makes further recommendations and introduces guidance specific to Scottish Water which is split into immediate short term considerations (in Table 2) and action and advice on what might be progressed in the future (in Table 3). These recommendations also come with suggested associated measures, although Scottish Water may wish to create metrics appropriate for their evolving innovation plan.

Whilst the maturation of, for instance, intent and scope is listed as an immediate consideration the Panel realises that these elements are subject to evolution, growth in complexity and learning. A similar approach to implementation of the other recommendations is proposed where a measurable, simple foundation can lead to cumulative complexity over time. So for aspects such as the financing of innovation or the creation of more appropriate and sophisticated approaches to 'behavioural risk', the Panel recommends the development in the short term of an initial starting point and evidence of simple initial solutions which can be built upon. The Panel would also encourage plans to build upon existing systems to be developed as joined-up solutions, and communicated across wider employee populations.

The Panel strongly recommends that Scottish Water reviews and revises its approach to innovation management in order to achieve a faster pace, especially in initial ideation and experimentation phases. The Panel also recommends that Scottish Water share its approach to risk appetite and behaviours with WICS and the wider core stakeholder group.

Currently little room exists for radical challenge or 'big ideas' within existing innovation structures. It would serve Scottish Water well if it were able to channel new ideas or innovative projects across a wider range of descriptions, instead of just as problem solving or technology solution in the main. Empowering employees to 'just do it' or to change systems or processes and even to challenge existing strategy are just as valid and a more mature realisation of advanced innovation culture.

Beyond year one the Panel would hope to encourage Scottish Water to address exciting new initiatives, characterising best practice and bold thinking in the innovation realm. This would include the overdue creation of a distinct commercial strategy (with an overt Hydro Nation dimension) and a significant move into collaboration/open innovation initiatives as a core business mentality. Scottish Water could also improve on initial starts to systems and measurement of innovation building upon initial learning. As data becomes an ever increasing aspect of analysis and team thinking, the Panel also hope that the business will ambitiously employ analytics and, for example, spatial representation of data as a primer to increased implementation of innovative thinking.

Table 2 – Scottish Water guidance: for Immediate consideration/action

Guidance	Detail	Measure
1. Create and share common language and definitions in relation to innovation. (Work to create symmetry across the stakeholder group.)	All stakeholders to share a common definition of innovation and, where possible, employ an agreed common set of phrases and wordings.	Provide evidence of initial communications and dissemination pathways.
2. Align Vision, Strategy and Purpose in order to provide direction for innovation behaviour. Provide clarity in Focus, Scope and Intent in the drive to innovate. (Focus and clarity of internal communications are seen as the priority.)	Provide employees with a 'Purpose' related to vision and strategy on which to base innovative behaviour and as a directional compass for innovation activity.  This focus would mean inclusion in the detailed business plans and should also address longer term outcomes beyond traditional Strategic Review periods.	Evidence of communications and workshops to this effect. A short discussion/description doc should be produced.  (The senior team at SW requires to address Focus and Purpose as a priority and communicate the outcome to all staff in order to facilitate an advanced innovation culture.)
3. Innovation becomes a Vision Award	Innovation requires prominence and recognition and should form a focal point to the annual Vision Awards.	An award for Innovation exists, perhaps as the evening's main prize. (Whilst innovation features <i>within</i> all categories, a separate innovators award event may prove appropriate.)
4. Describe and Create Different Innovation Pathways	Provide variable pathways for innovation ideation and implementation activity. For example: "just do it!", "initiate a project", "invest in experiments", "challenge existing strategy".	In report format show and bundle annual innovation activity, summarised under specific implementation pathways. Provide evidence of communications relating to this.
5. Create a refreshed view on risk appetite and risk behaviours (across the employee population) in order to support and drive innovation and the pace of experimentation.	Advance risk behaviours to the benefit of innovation and deepen the involvement of all employees and related stakeholders. (Enhance e.g. ARCS methodologies.) Deepen understanding of risk and opportunity to increase pace.	Show where learning has driven a more advanced perspective on the understanding, management and analysis of risk in order to support and progress innovation culture across the organisation.
6. Systemise the Financing of Innovation	Put in place an accessible and clear process for initial project or experiment funding which might lead to further finance out-with traditional department allocations.	An initial, simple system of project initiation linking early funding and continued finance if appropriate and separate from annual department budgets. May involve 'initial trials'. (Avoid 'spend to save' mentalities.)

**Note: Become even more 'Customer Facing' in idea generation and in the implementation of innovation. Involve the customer in ideation and implementation of innovation.**

Table 3 – Scottish Water guidance: for future consideration

Guidance	Detail	Measure
1. <i>Enhance Parallel Innovation Support Systems</i>	Starting with simple, achievable common electronic storage and progress systems to allow monitoring, measurement and above all cross company collaboration in innovation. If employees could access this freely and in addition 'self- start' innovation then all to the better.	Provide a written explanation of an Electronic system(s) and show evidence that all innovation ideation, projects and implementation pathways are included. (We appreciate the existence of the Innovation Pool and planned 'challenges' but feel this foundation can go further.)
2. <i>Create and implement a Collaboration Strategy</i>	Working with supply chains, subcontractors or commercial partners (and customer groups at every turn) to prepare an initial strategic view leading to proactive initiatives. (Involve Hydro Nation)  (Work with Scottish Enterprise and external practitioners on aspects such as knowledge improvement, funding and best practice.)	Provide distinct case studies and evidence of a written strategic plan.
3. <i>Benchmark Innovation Activity. (Perhaps around customer satisfaction, impact, efficiency, problem solving, for example)</i>	Measure the progress, impact and uptake of innovation behaviour; based on an initial benchmark.	An Annual Report based on an ongoing measure of innovation activity and implementation; founded on an initial review.
4. <i>Data Mining as a Primer</i>	Provide widespread access to data, predictive analytics and data mining in order to stimulate innovation.	Provide evidence in the form of a report showing where innovation has arisen from data analysis. Produce a case study of a successful example.
5. <i>Drive Cross Functionality via Innovation practice.</i>	Encourage and allow cross departmental/functional behaviour in ideation, problem solving and in innovation project scope.	Example 'stories' and a case study produced. CEM, FOP et al are examples of where this is starting to work but perhaps a common set of tools on problem definition and effective ideation would enhance this drive.
6. <i>Put in place a Commercial Process and Strategy.</i>	Build the beginnings of a commercial strategy, taking into account Hydro Nation, Horizons and SW International, which filters advances in IPR, market facing product, commercial services, innovation and systems which might be leveraged for financial, brand or customer benefit.	Produce a robust strategy for commercialisation. (Which may still remain an insignificant aspect of turnover or focus.) Provide evidence where new income or reputational benefit has arisen through partnership, license, collaboration or direct initiative.
7. <i>Systemise Ownership of Roll-out</i>	Once an idea has been prioritised for action and implementation, how does the business ensure ownership and responsibility for wider implementation? (Especially for successful ideas.)	Provide a written explanation of the proposed system coupled with an example case study. (Planned benefit realisation and mapping approaches mark a step in the right direction.)
8. <i>Create Leadership Programming focused on Innovation facilitation.</i>	Simply to put in place a senior leadership programme designed to equip leaders with skills, knowledge and a described role in innovation culture development.	Provide details of the new competency and details of the cohorts trained.

#### **4. Next Steps**

The initial work of the Innovation Panel is now complete and the recommendations and guidance will be taken forward by the Water Industry Commission, Scottish Water and the Scottish Government. It is proposed that the Panel will reconvene to review progress against the recommendations at a point in the future to be agreed in due course between the three parties.

The Water Industry Commission will publish its methodology for the next Strategic Review Period in Autumn 2016 and a key theme will be ensuring that the regulatory framework is driving greater innovation in the industry. Similarly, the Hydro Nation initiative continues to provide an impetus for the water industry in Scotland to champion innovative approaches.

## Appendix 1 – The Scottish Water Innovation Panel

**Independent members:**

Jerry Bryan (Chair)

Paul Fletcher

Martin Shouler

Steve Whipp

**Water Industry Commission for Scotland:**

Ian Tait

**Hydro-Nation:**

Jon Rathjen

**Scottish Water:**

Geoff Aitkenhead

Belinda Oldfield

Simon Parsons

George Ponton

Alan Scott

Other Scottish Water staff including Neil Hemings provided key input to the case studies.