The importance of water efficiency for Scottish businesses

EXPERT INSIGHT

AN EXCLUSIVE INTERVIEW WITH:
Dr Stuart Ballinger, The Water Technology List

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Dr Stuart Ballinger is one of the UK’s leading authorities on water resources management, drought management planning and water efficiency. He regularly advises industrial and commercial water users on water policy, demand management and water quality.

He has led the development and delivery of a number of large scale water efficiency programmes with the UK water industry and has expert knowledge of the impact of water abstraction on the environment, recently delivering projects for UK Government which have informed the water abstraction policy reform agenda currently progressing in this area in England and Wales. Stuart has also recently led work on socio-economic scenario planning for water demand in the food and drink sector for the Environment Agency.

Stuart is Project Director for the UK Government’s Water Technology List.

The Water Technology List was set up to incentivise UK organisations to invest in water efficient products by offering a tax benefit through the Enhanced Capital Allowance (ECA) water scheme.

The ECA Scheme offers a 100% first-year allowance for investments in certain water efficient plant and machinery and lets you write off 100% of the cost of qualifying plant and machinery against taxable profits in the year of purchase.

Eligible products are detailed on the Water Technology List.
Q: Why should Scottish businesses care about water efficiency?

A: In a recent survey of global businesses, carried out by the Carbon Disclosure Project, 68% of business leaders said that water availability posed a substantive risk to their business.

It is not hard to see why. All businesses need water to provide water for their staff both for drinking and within washroom facilities. For manufacturers such as food and drink firms, water can be an absolutely vital resource, used for cleaning raw materials, for cooling products and equipment etc.

It would be difficult for most, if not all, businesses to continue functioning effectively with a limited water supply. Indeed a quarter of the businesses in the CDP research already report that issues around water could limit the growth of their business.

Here in Scotland, many people believe that we are safe from the impact of water shortages and that shortages only happen in England. And they are right, to a point - droughts do occur more often in England, especially the South East. But Scotland is not immune to them.

A shortage of rainfall led to supply problems in Scotland in 2003, 2010 and 2012. And don’t forget that in 2014 the water supply to Colonsay was turned off to prevent wastage after an abnormal volume of water was used due to the ALS Ice Bucket Challenge.

Like the business leaders that took part in CDP’s research, Scottish businesses should be mindful of water supply risks.
Q: What’s creating increased water supply risks?

A: The term ‘the perfect storm’ has been used to explain the multiple issues that are currently occurring and putting pressure on global water resources.

On the one hand we have growing global populations. Plus increasing living standards and changing diets that demand more water. On the other hand, we have reducing water supplies due to a reduction in water quality and climate change.

The United Nations predicts that 3.6 billion people will be living in water stressed areas by 2050. While these issues are talked about on a global scale, they are also applicable to Scotland.

The Scottish population is forecast to increase by 9 per cent to 5.78 million by 2037, with Aberdeen and Edinburgh projected to grow by 28 per cent. This urbanisation introduces additional challenges as there will be greater demand for water in condensed areas. This can result in more competition for water. And water quality may reduce as urban runoff increases diffuse pollution and it becomes harder to treat the waste water, due to the increased volume and difficulties in finding land suitable for treatment plants.

Between 1961 to 2004, there was 20% more rainfall in Scotland. Initially this suggests there is not an issue with water shortages, but this rainfall is not consistent, with close to 70% increase in North Scotland and a slight decrease in East Scotland.

Looking to the future it’s projected that the volume of rain across Scotland won’t change significantly, but the time and location will. For example wetter winters, and drier summers, particularly in the North West are expected. And those wetter winters could affect water quality with greater diffuse pollution from run off, not to mention the increased risk of flooding that can impact on business continuity.
Q: In reality, what do these pressures actually mean for decision makers in Scotland?

A: The impact of water shortages is a greater risk to businesses in Scotland than many initially think. But, it’s also important to remember that we exist in a global economy and so there’s also a risk from non-direct impacts.

Take Scottish business supply chains that often reach into geographic areas that have a high risk of water scarcity. Water scarcity will impact these supplier’s ability to supply. This in turn impacts on our local businesses and their ability to continue doing business at expected levels.

And there’s virtual water - the fresh water used to produce and process an item - as popularised by Tony Allen in his book ‘Virtual Water: Tackling the Threat to Our Planet’s Most Precious Resource’. How much water does it take to make a cup of coffee? One cup, two cups, more? Try 140 litres. Allen argues that’s the amount of water used in growing, producing, packaging and shipping the beans you use to make your morning coffee.

Countries are switching onto virtual water, and realise they are in effect exporting their water. This is unsustainable in areas of increasing water scarcity. So I predict we'll see a change in the products produced, to those that require less water, and availability of products along a supply chain will decrease. With shortages, you can be sure prices will quickly increase.

There is also an increasing scrutiny on businesses to reduce their impact on the environment - from employees and the public. For example there is a move towards sustainable procurement, particularly amongst public sector contracts in Scotland, requiring businesses to show how they are reducing their impact on the environment. Businesses that do not consider their water use, will find their sales decrease.
Q: What actions should Scottish businesses take?

A: The first action any business should take is to discover how much water they use, and how it is used. This will help them understand which areas of the site use the most water. Areas where water is given additional treatment (e.g. heating) should be sought out in particular. Becoming more efficient in these areas will reduce water use, and the amount of treatment costs incurred (e.g. energy costs).

It’s likely this action will require time spent walking around the site and this in itself can very often highlight wastage that can quickly be solved e.g. leaking pipes, broken push taps etc.

Communication is important to ensure staff understand the importance of water and are encouraged to reduce wastage. Also it’s likely that water saving operational changes will impact on staff. So, having their buy in will make it smoother to implement.

Tapping into their ideas is a great way to get their buy in and at the same time to utilise their specific knowledge of the areas in which they work e.g. can a machine have its flow reduced without impacting on the output.

In terms of global risks, more and more businesses are reviewing the location of suppliers (and potentially their suppliers) to understand just how exposed to water scarcity their business is. It may simply be a case of identifying the level of water availability where each supplier is located, or having a conversation with each one to discover if they have taken action on reducing their water use. This is very sensible.
Q: What do you think would be the key benefits of taking action?

A: If a business can take steps to reduce its water use e.g. by improving processes or upgrading water-using equipment to modern, efficient technologies, then that offers lower water supply and water disposal bills.

There is also likely to be a reduction in energy bills as less energy is required to heat water or pump it around the site.

Another benefit is a reduced risk of water scarcity having an impact on business operations, as production can continue with a lower volume of water.

Many businesses have said they expect water insecurity to restrict their growth in future years, but if you have reduced your water use, it will be easier to increase production levels if you have headroom in any maximum levels set by the water company.

There will also be less tangible benefits such as through customer perception and environmental sustainability.

Remember, it’s not possible to control water availability, but businesses can control their own water use. The more efficient they are, the less water they use, and therefore they will be less exposed to water risks.
Further support

Resource Efficient Scotland can give you expert, one-to-one support to help you improve your resource use and save money.

Funded by the Scottish Government, all our advice for SMEs is completely free, independent and confidential.

Give us a call today on 0808 808 2268.

Free Download:

Want further advice on saving water? Then download our free guide: ‘Save money on your water bill: Advice and support for organisations in Scotland’

It’s full of ideas, case studies, and resources to help you save money and water.
By using resources more efficiently, Scottish organisations could save £2.9bn every year.

Resource Efficient Scotland is a Scottish Government-funded programme that helps business, public and third-sector organisations save money by using resources efficiently. It provides free, specialist advice, access to funding and suppliers, and in-person on-site support to help organisations cut their energy, water and raw material costs.

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