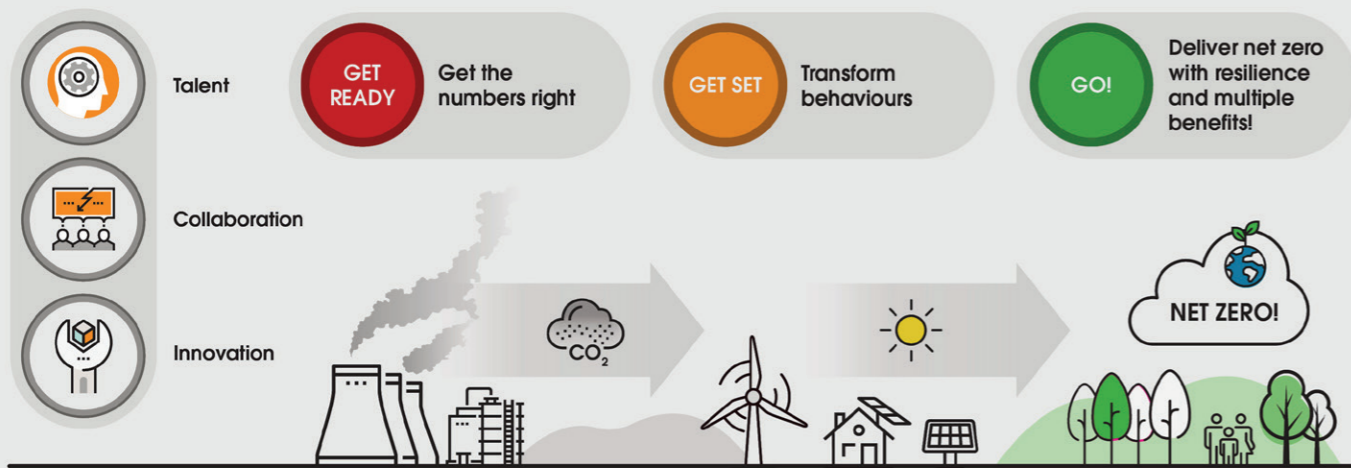


TACKLING THE CLIMATE EMERGENCY – WHAT CAN WE LEARN FROM THE COVID-19 EXPERIENCE?

From Here to Net Zero



Professor Adrian Johnson and Dr Bruce Horton of Stantec explore how the water sector can learn from the Covid-19 crisis to effectively tackle the climate emergency and create a low carbon, community-focused, resilient future.

The Covid-19 crisis presents unprecedented challenges for our nation. The water sector response has been swift and effective, mobilising resources and assets to ensure that water supply and drainage services have been uninterrupted. This is a testament to the resilience of the sector and reflects sustained investment in enhanced service provision. But, as we emerge from the immediate impacts of the pandemic, what will we learn for addressing the climate emergency?

We're at a fork in the road

Do we simply restart business-as-usual? Or do we grasp the opportunity to lead the way in creating a new low carbon, community-focused and more resilient future?

There are clear links between Covid-19 and the climate emergency. Both are

global crises which threaten millions of lives with clear science on how to manage them. We've seen short-term reductions in greenhouse gas (GHG) emissions and in our use of material resources from the economic slowdown and the need for fundamental changes in the ways we live and work.

There will be opportunities to use the recovery to 'lock in' key measures to tackle the climate emergency. The Climate Change Committee, representatives of COP26 and many others are calling for the government's economic stimulus to be geared to achieving the net zero emissions target. We need a clean, green recovery that creates jobs, provides affordable energy, protects nature and cuts GHG emissions.

So how can the impacts of Covid-19, and the way in which water organisations

respond to these impacts, help us tackle the climate emergency? Here are three areas for focus.

First, get better at measuring and understanding the numbers

A recurring feature of the Covid-19 crisis has been the need for reliable information about how many people are infected and where, and how quickly the virus is reproducing. Accurate information is vital since this informs our forecasting and policy choices. The better the numbers, the better the policies.

There is a clear parallel with the climate emergency. Understanding carbon impacts, in relation to decisions to invest in water infrastructure, relies on good information on how much carbon is emitted from each work unit. While some information is good, for example

the carbon emitted from consuming a kilowatt-hour of electricity, there is much less confidence in other areas, for example the carbon emitted in laying a kilometre of pipeline. This depends not only on the material used and its size but also on how it is installed. For example, is the pipeline laid in an open trench or installed by a 'no-dig' technique? The same applies to other things such as tanks, pumps and chemical dosing rigs, to name but a few. At present there is no accepted dataset we can use to keep track of the carbon from each million pounds spent on reducing leaks or removing phosphorus, for example. Whilst some companies have made great progress on their own, why don't we work together on a collaborative open-source approach with transparent peer review to increase confidence in the data? It's an urgent need.

As we can see in the Covid-19 crisis, getting more confidence in the numbers will in turn allow us to make the right choices, especially those to reduce carbon in the most efficient manner.

Second, transform behaviours

Government guidance has already transformed behaviours – staying at home, washing hands after every trip out, a massive increase in virtual meetings to get things done. For many – including people working in the water sector – home working could become the norm.

Since we now know that big behavioural changes are possible, we must take this learning and apply it to the climate emergency. We must find ways to do more with less, to switch from carbon-intensive resources to low carbon alternatives, to build only when essential, avoid concrete and generate renewables wherever we can. We must embrace digital approaches to design better solutions, to minimise on-site construction, and to operate water services more smartly.

But how do we make this happen? The urgency surrounding Covid-19 has driven innovation and collaboration at an unprecedented rate and scale, from 3D printing of PPE to new partnerships between industry and academia, to trialling vaccines within 3 months of the onset of the outbreak. People from all walks of life are contributing and there is a new-found willingness to try new approaches,

A Multi-Capitals Framework Underpins a Resilient Water Service



accepting that not all will succeed. "Adaptive management", so often discussed in the water sector, is happening as we apply the learning from one week to the next.

The water industry is already on this journey; the progress made on its Public Interest Commitment to achieve net zero carbon by 2030, as well its widespread work to adapt to climate change impacts, demonstrates this. To accelerate this, we must work closely with others such as the Green Construction Board's Infrastructure Working Group, which developed PAS2080 - an integrated approach that engages the whole value chain - and institutions such as the ICE which are calling professionals to act.

Third, focus on resilience and multiple benefits

Tackling the climate emergency needs a "both ... and ..." approach to deliver the resilience we need for the most benefit and least carbon. This can work because the issues we face are often interrelated. For example, behavioural changes, such as we have seen in recent weeks, not only bring carbon savings but also could slow urban growth and change patterns of water demand. During lockdown people have been rediscovering their local 'green' and 'blue' places and the value they bring. The reduction in movement of people and goods has reduced levels of air pollution and impacts on wildlife. The value of local community spaces and nature to health and well-being is firmly back in the public consciousness. Why not harness this to bring more flexibility, more community engagement and, thereby, more social value to the

provision of water and drainage services?

A multi-capitals framework is useful here. It helps us to maximise human, intellectual, manufactured, financial, social and natural capital benefits by harnessing the interdependencies that underpin a resilient water service. It will help to ensure every pound we invest counts.

In its recent report on using nature-based solutions to reach net zero, the Natural Capital Commission advocates a holistic approach for all infrastructure decision-making combining top-down coordination with local delivery to maximise 'environmental net gain', reduce emissions and adapt to the changing climate. Given their multiple interfaces with natural capital assets, including rivers, catchments and bathing waters, water and drainage companies should be at the forefront of this effort. Employing more sustainable drainage and catchment approaches, restoring wetlands and peatlands will help us to minimise the need for new 'grey' carbon-intensive infrastructure.

The lessons for the climate emergency are clear

We know we can maintain the resilience of water services in the face of unprecedented change. To ensure future resilience and drive down carbon emissions we must work together to properly understand the numbers, to transform behaviours, and focus on delivering multiple benefits for local communities. We have the talent, so let's grasp the narrow window of opportunity now to lead the way in creating a low carbon, community-focused and more resilient future.