

SEPA begins analysis of first samples in COVID-19 RNA fragment waste water monitoring trial

📅 22 June 2020

The Scottish Environment Protection Agency (SEPA) has begun its analysis work on the first samples of waste water (sewage) in a new trial aimed at helping monitor the spread of coronavirus in Scotland.

With the backing of Scottish Government and Health Protection Scotland, part of Public Health Scotland, the agency's scientists are building on exploratory work started by Scottish Water and academic partners from the University of Edinburgh's Roslin Institute to monitor the levels of fragments of COVID-19 ribonucleic acid (RNA) in waste water.

If successful, the trial could form the basis of an ongoing monitoring programme that would provide additional information to further strengthen the nation's Test and Protect strategy in response to the pandemic.

The trial will see samples collected by Scottish Water and its operators from incoming waste water at public waste water treatment works in each of the 14 NHS Scotland health board areas being analysed by SEPA. It is estimated the samples will be representative of waste water from between 40-50 percent of the Scottish population and could contribute to helping understand trends in the prevalence and distribution of the virus in Scotland, in combination with community testing and hospital admissions data.

The World Health Organization has said there is currently no evidence that coronavirus has been transmitted via sewerage systems. This project will track non-infective, COVID-19 RNA fragments – a genetic footprint which can be measured in waste water even after the virus has been destroyed.

SEPA is among the first European agencies to begin this exploratory work.

The first waste water samples from eight health board areas are now being analysed in SEPA's Lanarkshire Angus Smith laboratories using techniques based on the latest scientific research trialled by the University of Edinburgh's Roslin Institute and other leading academic institutions in the field.

Scientists at The Roslin Institute have been working with Scottish Water and SEPA to develop robust methodologies for detecting and measuring SARS-CoV-2 genetic material in wastewater. Funding from the Centre of Expertise for Waters (CREW), which is supported by Scottish Government, has allowed scientists in Scotland to work with academic colleagues across the UK to keep pace with international developments in the rapidly expanding field of wastewater epidemiology.

Terry A'Hearn, SEPA's CEO, said:

"As Scotland's environmental watchdog, we're playing an important role in the national effort against coronavirus. As one of the first European Environmental Protection Agencies to do so, we're in the early stages of this exploratory work to trace the presence of coronavirus RNA in Scotland's waste water. Our expertise in designing and implementing monitoring networks, coupled with our scientific capabilities, meant that we were able to get up and running quickly with the support of our partners. We believe we are one of the first agencies in Europe to begin this work.

"Our hope is that our analysis could provide useful data in Scotland's efforts to trace the virus. However, we first have to understand what the samples are telling us and that's the important work our experts, alongside Health Protection Scotland, The Roslin Institute and others in the scientific community are embarking on now."

George Ponton, head of research and innovation at Scottish Water, said:

"Taking away and managing the nation's waste water is a vital service, and a key part of ensuring public health is maintained, and Scottish Water has infrastructure in communities the length and breadth of Scotland.

"We are delighted to be working with SEPA and the other partners to determine whether the waste water system can be used to track the spread of the coronavirus in the community and help prevent the spread of the virus."

Dr Alexander Corbishley of the University of Edinburgh's Roslin Institute, said:

"Detecting viral genetic material in waste water is relatively easy, however the challenge is measuring how much genetic material is present accurately and relating that to disease levels in the community. The support from CREW has allowed us to use our expertise in disease monitoring to inform SEPA and Scottish Water's efforts to develop a Scottish wastewater monitoring programme".

Environment Secretary Roseanna Cunningham said:

"The COVID-19 pandemic has been an unprecedented global crisis which has fundamentally affected us all.

"There has of course been much research work carried out globally to better monitor, assess and understand the virus. Such work is crucial to ensure our recovery and I welcome this important project being undertaken by SEPA, Scottish Water, academia and other partners to monitor the prevalence of the virus across the Scottish population."

SEPA is also in discussions about how our monitoring could assist UK government scientific advisors, who are engaging with the research community to investigate if waste water monitoring could be used to track the transmission of coronavirus.

SEPA's response to the COVID-19 pandemic can be found at coronavirus.sepa.org.uk.

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SEPA and Scottish Enterprise aligning to deliver 'strong green spine' and support Scotland's green recovery

 22 June 2020

The Scottish Environment Protection Agency (SEPA) today confirmed that it would accelerate its strategic partnership with Scottish Enterprise to support Scotland's green recovery.

Welcoming the publication of the Report of the Advisory Group on Economic Recovery, Chaired by Benny Higgins, SEPA Chief Executive, Terry A'Hearn, said:

"The Scale of the economic and environmental challenges facing our economy are significant, with a real urgency to act. With both the healthcare and climate emergencies battering our economy, the report is right to highlight the need for a strong green spine to our recovery.

"The global crisis calls for public and private partners to work together in innovative new ways. It's time to step up, not step back. The separation of economy and environment is dead. As Scotland's environment protection agency, we'll work in a powerful new partnership with Scottish Enterprise to drive green growth and to deliver an inclusive, sustainable restart to Scotland's economy.

"We are delighted that the report emphasises the need to maintain regulatory standards and to focus on innovation in the way those regulatory standards are implemented, including a recognition of the work we are doing at SEPA. This recognition gives us a confidence boost to put the foot on the reform accelerator at SEPA so we can make an even bigger contribution to a sustainable economic recovery in Scotland."

Bob Downes : A Climate for Change

✖ 16 June 2020

SEPA Chair Bob Downes writes for Holyrood Magazine on the climate for change.

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January 2020, a few short months ago, now seems a world away. Then, as every year, the World Economic Forum was meeting at DAVOS in Switzerland. Their focus was unequivocally on our environmental futures: 'The top 5 risks facing the world are now all linked to the Climate Crisis'.

You can be sure that the agenda for next year's probable 'virtual' WEF forum will look very different. But should it be different? It is clear that COVID-19 is not a new risk. The world just missed treating it with the importance it deserved. We must not make the same mistake with climate change.

In the *Financial Times*, Tim Harford has queried why we fail to plan for these major risks. He quotes Bazerman and Watkins from their 2003 work "Predictable Surprises: The disasters you should have seen coming". Harford concludes our problem is that faced with clear risks we still fail to act.

Nearly 19 years ago I attended an enthralling seminar in Philadelphia on futures scenarios which included environmental catastrophe, religious conflict, inequalities, mass migration, diseases and terrorism. The seminar kicked off around 8am that morning. Some way through the presentation the Chairman took the floor. The date was 9th September 2001. Warning signs were the-e beforehand of what was about to happen, graphically depicted in Lawrence Wright's book *The Looming Tower*. Perhaps more hidden in plain sight were the seeds of COVID-19 in SARS, MEARS and EBOLA.

It appears that we don't like making investments in what might happen, because that would mean forgoing more immediate priorities. The risk this time is that we will become pre-occupied with the need for stability, normality and most of all with personal economic security.

Climate change may not easily find space in the minds of citizens anywhere. If we are to win the hearts and minds for the battle against climate change, benefits must be clear to people and communities. The threat of what "might" happen may not work.

According to a group of experts: "Even if the world agreed to maintain all the pandemic enforced restrictions on travel and consumption, the emissions saved would amount to almost nothing compared with what is needed to achieve the Paris Agreement climate target."

The investment case must be an economic renewal plan which mitigates climate change while providing for the personal economic security and wellbeing we all desire. This will take systemic changes utilising our technological and

innovative capacity in a reframed set of tools which assess public investment returns quite differently. It will need an accompanying fiscal and regulatory framework appropriately geared to longer term sustainability. Reshaping all these things can provide economic security through clever design.

Many businesses including investment institutions were onto this before COVID-19 hit. That momentum for change can be accommodated as we plan the future out of the current emergency. Nineteen years ago in Philadelphia the threats were clear. Each has come true – most dramatically the tragic attack on the Twin Towers.

The world was ill-prepared for COVID-19. Will we allow ourselves to be so ill-prepared for the looming climate risk?

Bob Downes is chair of the Scottish Environment Protection Agency (SEPA)

[Ambitious new route map points the way to £1 billion for nature conservation](#)

 22 May 2020

A route map towards unlocking £1 billion of new investment for nature conservation in Scotland has been published by the Scottish Wildlife Trust and the Scottish Environment Protection Agency (SEPA). This work comes at a critical time as society plans a green recovery from the social and economic upheaval caused by COVID-19, and continues to respond to the urgent climate and ecological emergencies.

The route map, which was developed in collaboration with a broad coalition of stakeholders and experts over a period of two years, highlights nine tangible opportunities for investment that would contribute to a green recovery and result in significant benefits for nature, people's health and wellbeing, and the nation's economy. Crucially, the route map also includes models which aim to stimulate investment in Scotland's natural capital by delivering a financial return to investors.

Attracting new investment into nature through innovative approaches to tried and tested mechanisms would also help Scotland to meet its commitment to the Sustainable Development Goals, and help bridge a gap between the resources needed to tackle urgent challenges facing nature and the funding available from traditional sources (1).

Terry A'Hearn, Chief Executive of SEPA, said:

"The global healthcare pandemic has drawn into sharp focus the connection between social, environmental and economic prosperity. We're already seeing

communities and companies rising to the challenge – from innovation like manufacturers switching production to health equipment to investors looking towards more sustainable business models.

“As we start to focus on recovery we must recognise the opportunity for that to be more inclusive and more sustainable. The £1 Billion Challenge provides a real opportunity to bring together real-world projects that spark regeneration of communities, build green businesses and create new jobs, with investors that understand that a successful, resilient economy depends not just on achieving financial returns – but on creating social and environmental value and success.

“Scotland needs a globally competitive, entrepreneurial, inclusive and sustainable economy. At SEPA our One Planet Prosperity strategy will mean we can regulate in a radically new way – helping businesses bring commercial and environmental success together as the joint engine rooms of economic and social prosperity. SEPA is proud to be working with the Scottish Wildlife Trust and other partners on this innovative and progressive initiative to help support economic recovery, with benefits for Scotland’s people and environment.”

Jo Pike, Chief Executive, Scottish Wildlife Trust said:

“The urgent challenges facing nature have been brought into sharp focus by the COVID-19 pandemic. Many people have been reminded of the importance of having high quality and connected green spaces close to home during lockdown, and there is growing support for ensuring that the recovery from this crisis comes in harmony with the natural environment.

“It is increasingly clear that solving these challenges will only be possible if we can develop new and innovative funding mechanisms that help us take solutions to scale. Our route map aims to identify ways to generate greater investment in nature conservation, whilst also creating green jobs, more resilient communities and helping to fight climate change. We hope it will stimulate further discussion about how these new models can be at the heart of a green recovery.”

The route map is the culmination of the Scottish Conversation Finance Project’s £1 Billion Challenge. It has been developed with the support of a wide range of private, public and third sector organisations (“Scottish Conservation Finance Pioneers”), including Conservation Capital, Scottish Natural Heritage, Central Scotland Green Network Trust and many more.

The nine opportunities outlined include a Natural Capital Pioneer Fund, a Marine Fund, and a first-of-its-kind Nature-Climate Bond.

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NOTES TO EDITORS

(1) A 2016 report by Credit Suisse AG and the McKinsey Center for Business and Environment found an estimated USD\$300 – \$400 billion per year is needed globally, to preserve healthy ecosystems. Currently only around \$52 billion

is available per year, mostly in the form of public and philanthropic funds.

About the Scottish Wildlife Trust:

- The Scottish Wildlife Trust is Scotland's leading nature conservation charity, representing over 40,000 members who care for wildlife and the natural environment.
 - For over 50 years, the Trust has worked with its members, partners and supporters in pursuit of its vision of healthy, resilient ecosystems across Scotland's land and seas.
 - The Trust successfully champions the cause of wildlife through policy and campaigning work, demonstrates best practice through practical conservation and innovative partnerships, and inspires people to take positive action through its education and engagement activities.
 - The Trust manages a network of around 120 wildlife reserves across Scotland and is a member of the UK-wide Wildlife Trusts movement.
 - The Trust receives financial assistance and support from a range of organisations, funders and individuals including Scottish Natural Heritage and players of People's Postcode Lottery.
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Scotland's waste workers keep the nation recycling

 21 May 2020

Further information for Scotland's commercial recyclers and waste managers launched at managingourwaste.scot/wastemanagement

- **Scotland thanks everyone working to keep as many waste services running as possible**

Scotland's environment watchdog, the Scottish Environment Protection Agency (SEPA), and partners, have today launched an information hub to support Scotland's recyclers and waste managers in these difficult times – as part of Scotland's campaign to help manage waste during the current COVID-19 restrictions. Hosted on a dedicated section of managingourwaste.scot the resources provide information and signpost to the most up-to-date guidance on a range of topics, including support for businesses, environmental regulations, temporary regulatory positions and health and safety.

The Scottish Government, Scottish Environment Protection Agency (SEPA), Zero Waste Scotland (ZWS) and the Convention of Scottish Local Authorities (CoSLA) recognise the important role waste workers play on the frontline, helping communities, public services and essential businesses functioning – and have put their support towards the new information hub.

Environment and Climate Change Secretary Roseanna Cunningham said:

“The COVID-19 pandemic has been an unprecedented global crisis which has fundamentally changed every aspect of our lives, and could continue to do so for some time to come. I met with industry representatives to hear first-hand about key issues, the impact of measures taken to date and ongoing challenges and I know both the public and private waste sectors have played a key role in maintaining essential services and protecting our environment.

“It is critical that the waste and recycling sectors – just like every other area of our society – has clear and up-to-date communication about the information and guidance to support available to them through this difficult time, and I’m confident this new campaign and hub will provide just that.”

Support for the waste management sector

SEPA has been clear from the beginning of the COVID-19 restriction period that businesses should make their best endeavours to meet environmental obligations and continue recycling services for as long as possible. The agency is clear that businesses who are trying their hardest to do the right thing will be supported and helped.

Jennifer Shearer, Head of Enforcement at SEPA, said:

“Now more than ever, Scots are recognising the importance of local services like recycling and the responsibility we all play in managing our waste. And we should be truly grateful to everyone working in the waste industry to keep as many services running as possible.

“We recognise that waste managers are trying to operate in extraordinary circumstances, trying to look after the health of their own workforces and dealing with supply-chain and other challenges. If you are unable to fully meet your compliance obligations, prioritise conditions which directly protect the environment over those of an administrative nature. Our strong message is that you should contact SEPA, work closely with us and document the choices and actions you take.”

Scottish Government and UK Government have also introduced a range of schemes and measures to support businesses, with details available through the information hub.

SEPA cracking down on illegal behaviour

There is also a warning to those who are seeking to use the opportunity of disruption to services to their criminal advantage, and a plea to businesses to help SEPA to tackle unscrupulous companies and individuals by reporting suspicious behaviour and making sure they only deal with legitimate waste companies.

Shearer warned: “Despite the global pandemic and more restricted collections by some local councils, the majority of household waste and recycling collections are continuing as normal. However, we know that in some cases there are services and operators that are affected, and we know that illegal

activity places further stress on those that clean it up and take custom away from legitimate business. We will take tough action where necessary."

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Notes to editors

Signs of possible illegal activity to watch out for include:

- Out-of-hours activity at night, over weekends and during bank holidays;
- Smoke caused by constant burning;
- An increase in the number of lorries or vans entering a site;
- Increasing quantities of waste stockpiled on site;
- Odours caused by rotting waste;
- Water pollution.

Links for further information