

UISCE ÉIREANN PROGRAMME ON STREAM TO TRANSFORM Ireland's Water Services

Uisce Éireann's delivery of its largest-ever capital investment programme of €1bn across the State for the year ahead is on stream, with projects ranging from large-scale water and wastewater treatment plant upgrades to smaller interventions such as reservoir repairs and upgrading pumps, writes Seamus Ryan, Programme Manager of the Greater Dublin Drainage Project at Uisce Éireann.

Uisce Éireann is Ireland's national, publicly owned, water services utility responsible for the delivery of secure, safe and sustainable water services for the people of Ireland. Our purpose is to rise to the challenge of delivering transformative water services that enable communities to thrive. Our vision is a sustainable Ireland where water is respected and protected, for the planet and all the lives it supports.

This year Uisce Éireann will deliver its largest-ever capital investment programme in one year, amounting to a spend of over €1bn right across the State with projects ranging from large-scale water and wastewater treatment plant upgrades to smaller interventions such as reservoir repairs and upgrading pumps. It also involves several ongoing national programmes focused on areas such as leakage reduction and enhanced water treatment.

Uisce Éireann works closely with local authorities and our delivery partners to ensure the delivery of our Capital Investment Plan nationwide. Recognising that people are critical to the successful delivery of this ambitious investment programme, we have placed a huge focus on supporting and developing our staff with a stated commitment to harnessing a safe, diverse, inclusive culture where our people are empowered and high performing.

With over 5,000 people working on multiscale projects and programmes across Ireland, our priority is to ensure that everyone goes home safely from work each day. At Uisce Éireann, we believe 'no activity is so important or urgent that it cannot be done safely'. By working together and holding ourselves accountable, we can cultivate a work environment where everyone is safe.

FOCUS ON COLLECTIVE SAFETY

Our recently launched 'Am I SAFE?' campaign is designed to ensure that together with our delivery partners we maintain a focus on our individual and collective safety. The overarching objective of all Uisce Éireann's investments is to support communities with water and wastewater infrastructure to ensure a safe and reliable drinking-water supply and that wastewater is treated to the correct standards to go back into the environment.

Our capital investment programme has been growing and expanding over the past six to seven years. We plan to scale up investment in critical water infrastructure to €1.5bn a year up to 2030. At any one time, we estimate that around 5,000 people are working directly or indirectly on our projects, which represent about 10% of the total public sector capital investment programme.

Over the past year we have been working on seven large-scale projects involving investment of over €100m each. Among these is the flagship €140m Arklow Wastewater Treatment Plant Scheme in partnership with Wicklow County Council, which commenced in 2021 and due to be completed by 2025.

Now well underway, this is a critical project which will stop the discharge of wastewater from the town of Arklow into the Avoca River and out into the sea. It is important in terms of protecting the environment, facilitating economic development and providing for a growing population.

The Arklow project is part of our commitment to ending the discharge of all untreated sewage in Ireland. From having 50



Mobilising a Tunnel Boring Machine (TBM) at one of the many trenchless shafts for the Arklow Wastewater Treatment Plant Scheme.



An aerial view of the Ringsend Wastewater Treatment Plant Upgrade Works.

locations where raw sewage was being discharged in 2014, we are on track to end almost all raw sewage discharges within the next two years, with over 65% of these already eliminated to date. This progress has been achieved by building new wastewater plants and networks in 23 towns across the country where treatment had never existed before.

This new infrastructure has stopped the discharge of about 20 million litres of raw sewage every day, which equates to the sewage generated by over 100,000 people. We currently have 16 new locations under construction, with the remainder due to get underway from 2023 onwards.

CAPITAL INVESTMENT PROJECTS

A prime example of the success of the capital investment programme is the €144m Cork Lower Harbour Main Drainage Project, completed in 2021, which means wastewater from surrounding towns is no longer being discharged untreated into Cork Harbour. Instead, it is collected and fully treated before its safe discharge to the sea. In 2015, before work began on the project, the equivalent of 40,000 wheelie bins of raw sewage was discharged every day into Cork Harbour.

As well as a new wastewater treatment plant in Shanbally, the project included the Cobh to Monkstown Estuary Crossing. This landmark engineering feat involved

drilling under the Lee Estuary, two of the longest horizontal direction drills ever carried out in Ireland. Meanwhile work is ongoing across the country to upgrade existing treatment plants to ensure they operate in compliance with the relevant Irish and European standards.

The most significant project has been a major upgrade to the Ringsend Wastewater Treatment Plant (WwTP)

in Dublin, where wastewater has been treated since 1906. Currently the Ringsend WwTP treats approximately 40% of the country's wastewater.

To treat the increasing volumes of wastewater arriving at the plant to the required standard and capacity, we're investing over €500m in the phased upgrading of the plant. The project will deliver, on a phased basis, the capacity to treat the wastewater for a population equivalent of 2.4 million while achieving the standards of the Urban Wastewater Treatment Directive by the end of 2025.

Most recently the project reached another significant milestone with the completion of Ireland's first facility to recover phosphorus from wastewater. This facility will be capable of producing 4,000 tonnes of phosphorous-based struvite every year, removing a potentially damaging product from the waste stream and using it to produce a fertilizer product. It is a great example of how Uisce Éireann puts sustainability at the heart of our projects.

GDA FACILITIES UPGRADED

Having adequate wastewater infrastructure is vital to support the sustainable growth of communities and business and to protect the environment. In addition to the major upgrade of



Pipeline installation as part of the longest horizontal directional drill on the Cork Lower Harbour Main Drainage Project.



Construction of the three main storage tanks (30,000m³) on the Blanchardstown Regional Drainage Scheme (BRDS).

Ringsend, upgrades of our existing wastewater treatment facilities in the Greater Dublin Area (GDA) are underway, as well as significant investment in new infrastructure.

A shortfall in wastewater treatment capacity would have serious consequences, potentially impacting economic growth and development in the GDA as well as compliance and potential environmental impacting local communities.

In the longer term, the Greater Dublin Drainage (GDD) project will provide additional wastewater treatment capacity for the region, once the country's largest wastewater facility at Ringsend reaches its upgraded maximum capacity by the mid-2020s.

This project represents the next vital step in the development of our wastewater infrastructure for Dublin and the surrounding counties. Once operational, the GDD project will have the capacity to provide wastewater treatment for the equivalent of half a million people living and working in this area.

One recently completed project is the Blanchardstown Regional Drainage Scheme (BRDS), a strategically important €88 million wastewater infrastructural project that will support existing and future residential and commercial development in Blanchardstown and surrounding areas.

The project will also protect the local environment by reducing the frequency and volume of untreated overflows from the wastewater network to the Tolka River, protecting habitats and ecosystems in both the river and in Dublin Bay.

STREAMLINED APPROVAL PROCESS

There are well-recognised challenges in relation to the delivery of large-scale infrastructure in Ireland. The timelines for the delivery of critical wastewater infrastructure are subject to funding approvals and other issues such as planning and land acquisition which are outside of Uisce Éireann's control and can impact on delivery timelines.

It can typically take five to seven years for a project to progress from planning to completion, and seven to ten years and beyond where further complexities (additional consents such as foreshore licences for early-stage marine modelling and compulsory purchase orders) arise.

Timelines can extend much further where appeals and judicial reviews are encountered. Uisce Éireann has provided recommendations as part of the review of the Planning and Development Bill and is hoping this will lead to a more streamlined planning and statutory approvals process so that critical infrastructure can be built across the State without delay.



FACTFILE – Seamus Ryan
Seamus Ryan is a Chartered Civil & Structural Engineer with 20 years' industry experience across a wide range of infrastructure projects. For the past 10 years, he has worked with Uisce Éireann managing the delivery of small to large scale projects and work programmes across water and wastewater. Since 2017, Seamus has been programme manager for the Greater Dublin Drainage project, one of Uisce Éireann's largest and key strategic projects.

