

Urban Waste Water Treatment Directive (UWWTD) – ECJ case

Joint Oireachtas Committee on Housing,
Community, Planning & Local Government



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THE URBAN WASTE WATER COMPLIANCE CHALLENGE

The urban waste water compliance challenge

Scale of wastewater infrastructure in Ireland

Authorisation Category	Agglomeration P.E.*	No. Agglomerations	No. WWTPs	Km Networks
Certificate	< 500 P.E.	547	546	
Licence	< 500 P.E.	85	81	
Licence	> 500 P.E.	436	409	
Total		1,068	1,036	c. 25,000 km
UWWTD Applicable	≥ 2,000 P.E.	173	165	

Ongoing urban waste water challenges:

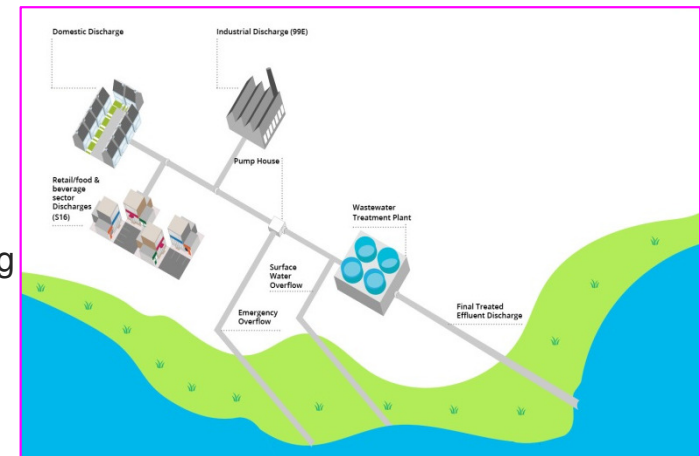
- Compliance with effluent standards
- Agglomerations with no treatment / preliminary treatment only
- Contributing to pollution
- Contributing to poor quality bathing waters
- Protected areas, including aquatic habitats
- Non-compliant waste water networks, with intermittent discharge

* **P.E.** Population Equivalent

Prioritised asset performance and investment delivering improved compliance

Focus on prioritised operation performance, complemented by major capital investment:

- Source control (domestic & non-domestic)
- Auditing of asset performance
- Process optimisation and control
- People and technology - improved operational procedures & training
- Capital maintenance – from reactive to planned
- Improved incident management
- **Capital Investment – projects and programmes**

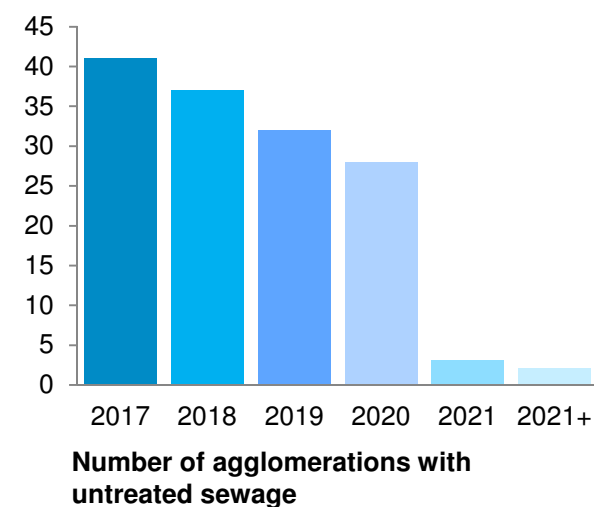


Prioritised asset performance and investment delivering improved compliance

OVERALL INVESTMENT PLAN (2017 – 2021)

Post 2018 subject to CER approval

CATEGORY	TOTALS (€m)
National Programmes	963
- Water National Programme	591
- Wastewater National Programmes	320
- Other Infrastructure Programmes	51
Capital Maintenance	552
Projects	2,074
- Water Projects	841
- Wastewater Projects	1,233
GRAND TOTAL	3,588

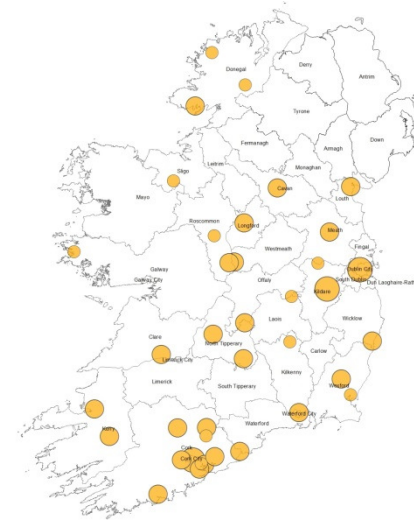


SUMMARY OF THE ECJ CASE

Ongoing ECJ Case

Urban Waste Water Treatment Directive (91/271/EEC)

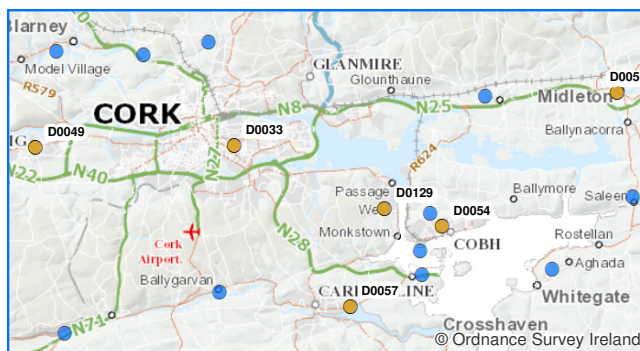
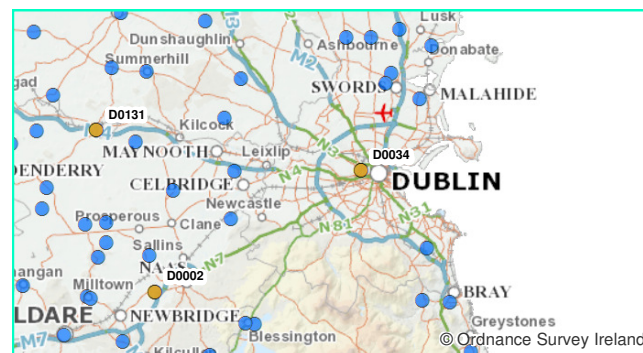
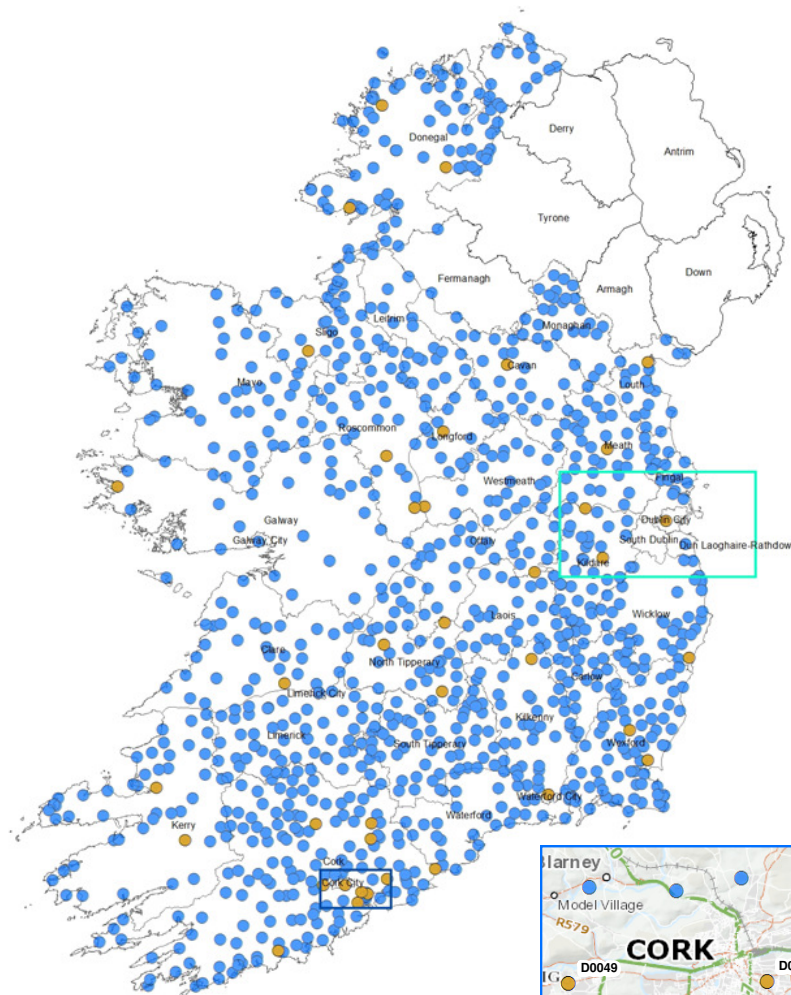
- ECJ Case highlights the urban waste water compliance challenges on larger schemes (over 2,000 P.E.)
- *“Failure to ensure that urban waste water in 38 agglomerations across the country is adequately collected and treated to prevent serious risks to human health and the environment”*
- **General issues** identified include reporting, measurements, generated loads and treatment plant capacities
- **Wastewater networks:**
 - issues include poor understanding of the networks (mapping etc.), poor condition of the networks (infiltration / exfiltration), unmanaged intermittent discharges from stormwater overflows



- **Wastewater treatments plants:**
 - issues include provision of treatment, capacity of plants to take connected load from agglomerations, lack of appropriate level of treatment (e.g. nitrogen and phosphorus removal)

Ongoing ECJ Case – failures of 38 agglomerations

ECJ UWWTD applicable to non-compliant agglomerations $\geq 2,000$ P.E.



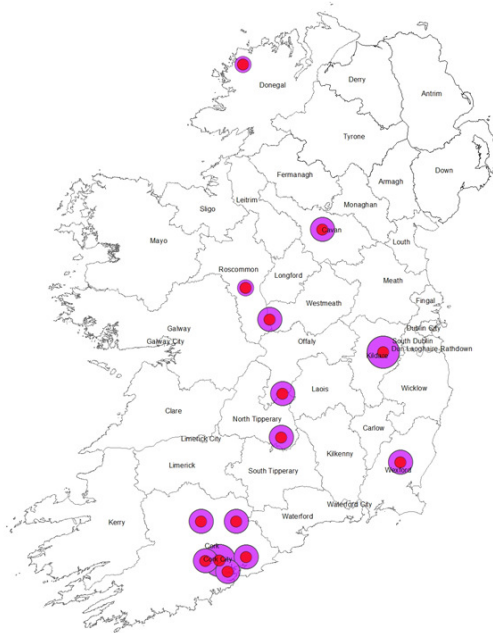
Waste Water Agglomeration

● ECJ Only

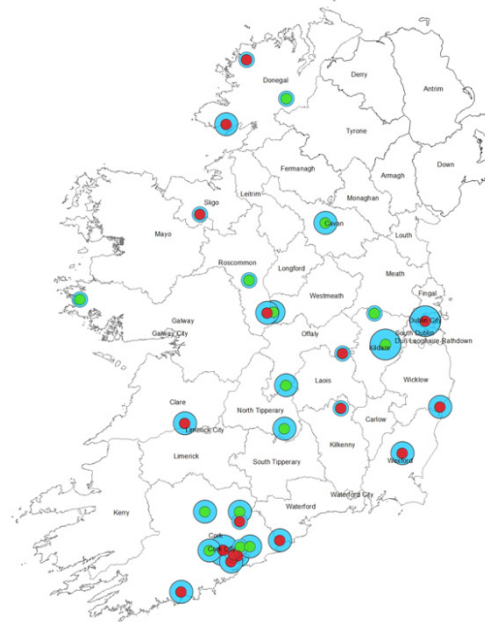
● All WWA

□ Local Authority/County Boundary

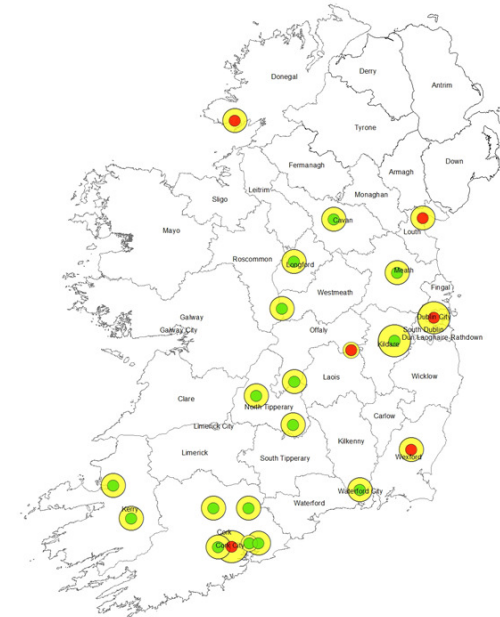
Ongoing ECJ Case – failures of 38 agglomerations



Wastewater Networks
Article 3
(14 no.)



Secondary Treatment
Article 4
(33 no.)



Nutrient Removal
Article 5
(22 no.)

**CONSISTENT WITH
COMPLIANCE IN 2016:**

- Fail
- Pass

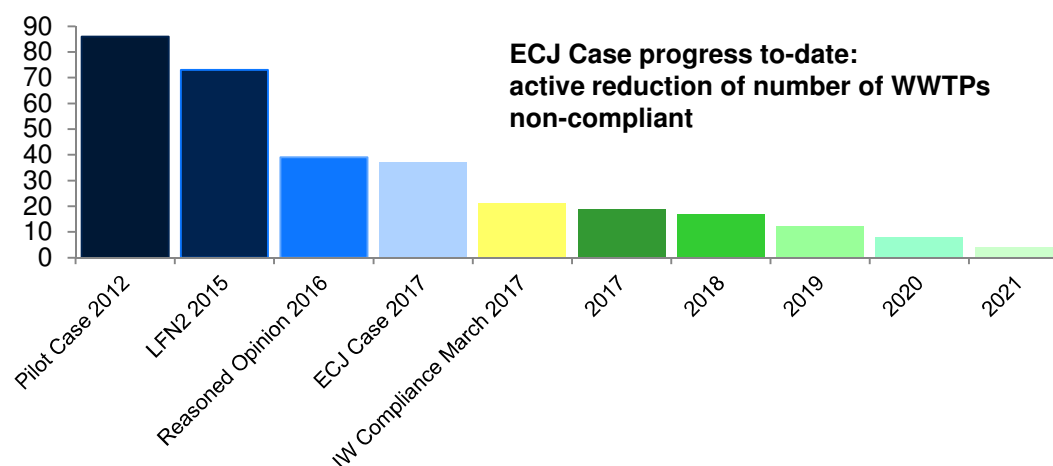
**Waste Water Agglomeration
PE**

- 2,000-10,000
- 10,000 - 100,000
- > 100,000

□ Local Authority/County Boundary

ECJ Case: significant planned investment and interventions for the identified agglomerations

- Significant progress in compliance during the progression from pilot phase to the full case
- 2014 – 2016: €179 million related capital expenditure
- 2017 – 2021: €623 million projected capital investment
- From 2014 to full compliance in 2024: €1.1 billion projected capital cost to deliver compliance
- Process optimisation, minor works programmes and improved practices are also delivering components of compliance with the UWWTD



CASE STUDIES DELIVERING COMPLIANCE



Ringsend Wastewater Treatment Plant Upgrade Project

Progress

- Outline Design of Project complete
- Detailed Design underway
- Preparation of EIS and new planning application underway
 - Planning application will seek permission to remove the long sea outfall tunnel and retrofit the existing treating tanks with an Aerobic Granular Sludge (AGS) technology
 - Will include a regional biosolids storage facility
- 400,000 PE Capacity Upgrade construction to commence Q1 2018
- Retrofit of existing treatment tanks to commence once approval of the new planning application is granted

Budget

- Project Budget €363M
- Spend to Date (Feb 2017) €51M





Cork Lower Harbour Main Drainage Scheme

Scope

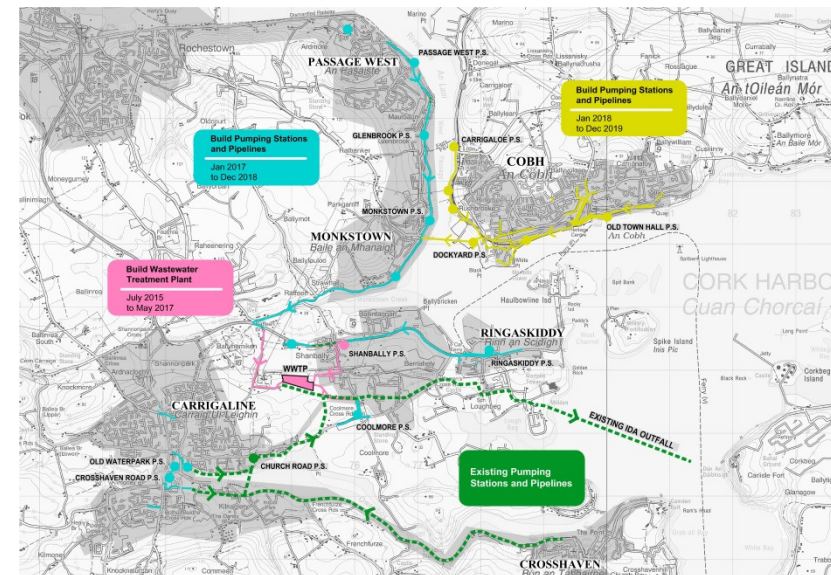
- Cork Lower Harbour serves the agglomerations of: Cobh, Carrigaline, Crosshaven, Passage West/Monkstown (including Glenbrook & Raffeen), Ringaskiddy (including Shanbally & Coolmore)
- New large Waste Water Treatment Plant (WWTP) at Shanbally
- 14 new pumping stations
- c. 30km of new main sewers, on busy suburban main roads

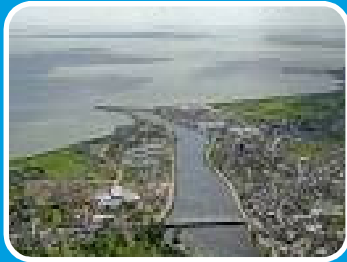
Progress

- WWTP recently commissioned
- Greenfield site to working plant within 18 months, within budget
- Passage West, Monkstown, Ringaskiddy networks on site
- Cork cross-harbour crossing at design stage
- Significant Community Engagement ongoing

Budget

- Project Budget €117M
- Spend to Date (Feb 2017) €36M





Arklow Sewerage Scheme

Progress

- Revised site selection for Arklow WWTP completed
- Site investigations for interceptor sewers completed
- Baseline Environmental Impact Statement surveys completed
- Planning / EIS lodged at An Bord Pleanala Q4 2017
- Commence construction planned for 2018
- Completion planned for 2020

Budget

- Project Budget €52M



Gweedore

Objective

- Environmental protection to UWWTD requirements
- Take account of rural area with dispersed housing & individual systems
- Requires sustainable approach at economic cost
- Excessive costs for conventional solution:
 - Difficult ground conditions
 - Undulating topography
 - High unit cost of collection system for un-sewered rural network
 - Alternative pressure system to be trialled (Denmark / New Zealand)

Progress

- Demonstration project identified and pilot planned for late 2017
- Scheme rollout 2019 - 2020

Budget

- Project Budget €10M

SUMMARY

In summary

- Major challenge to achieve wastewater compliance for Ireland
 - Priorities by 2021:
 - ECJ WWTPs compliance
 - > 40 no. untreated agglomerations completed
 - Strategic long-term major urban drainage plans completed
- => Likely significant further ongoing investments will arise.