

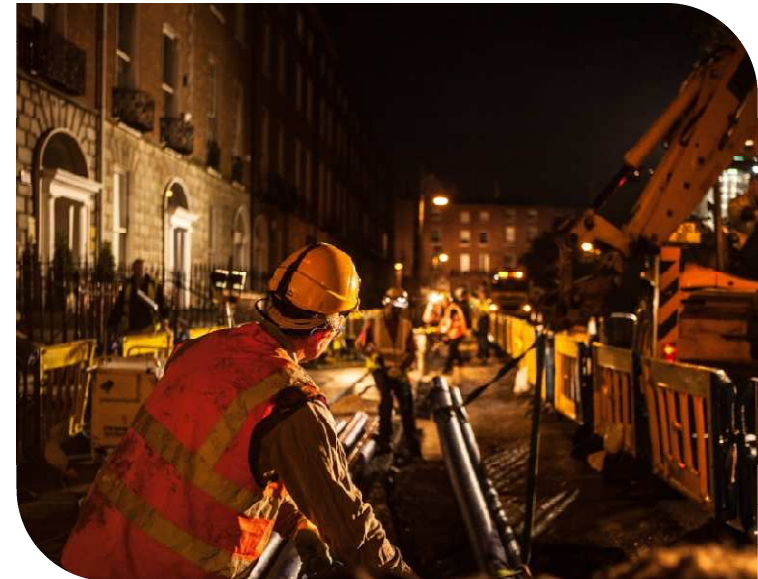


**An Roinn Tithíochta,
Pleanála agus Rialtais Áitiúil**
Department of Housing,
Planning and Local Government



Irish Water's 5 Year Investment Look Ahead - Delivering on Policy Priorities

**Finbarr Burns
Asset Delivery**

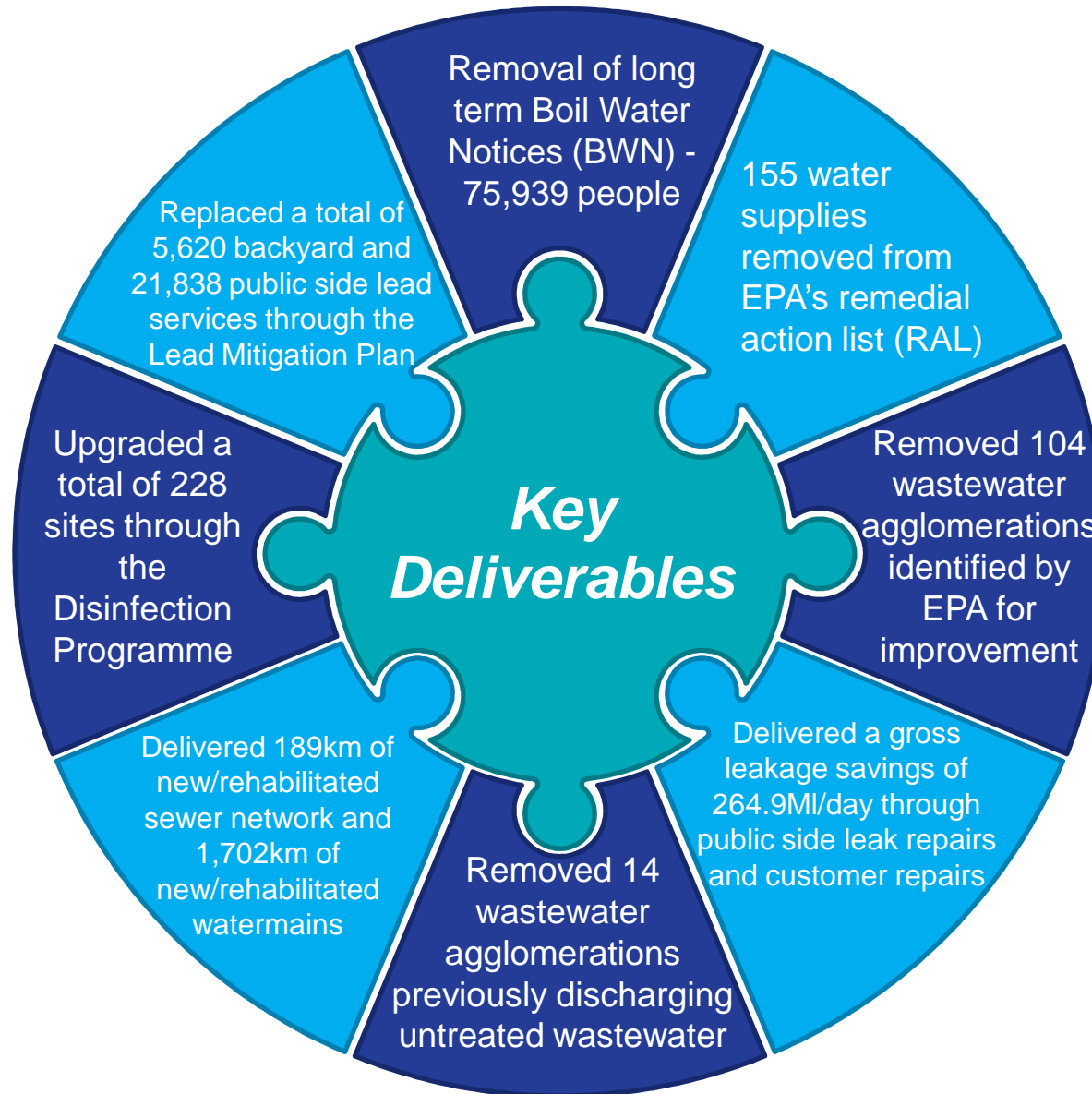


Clayton Silver Springs Hotel, Cork

10 October 2019

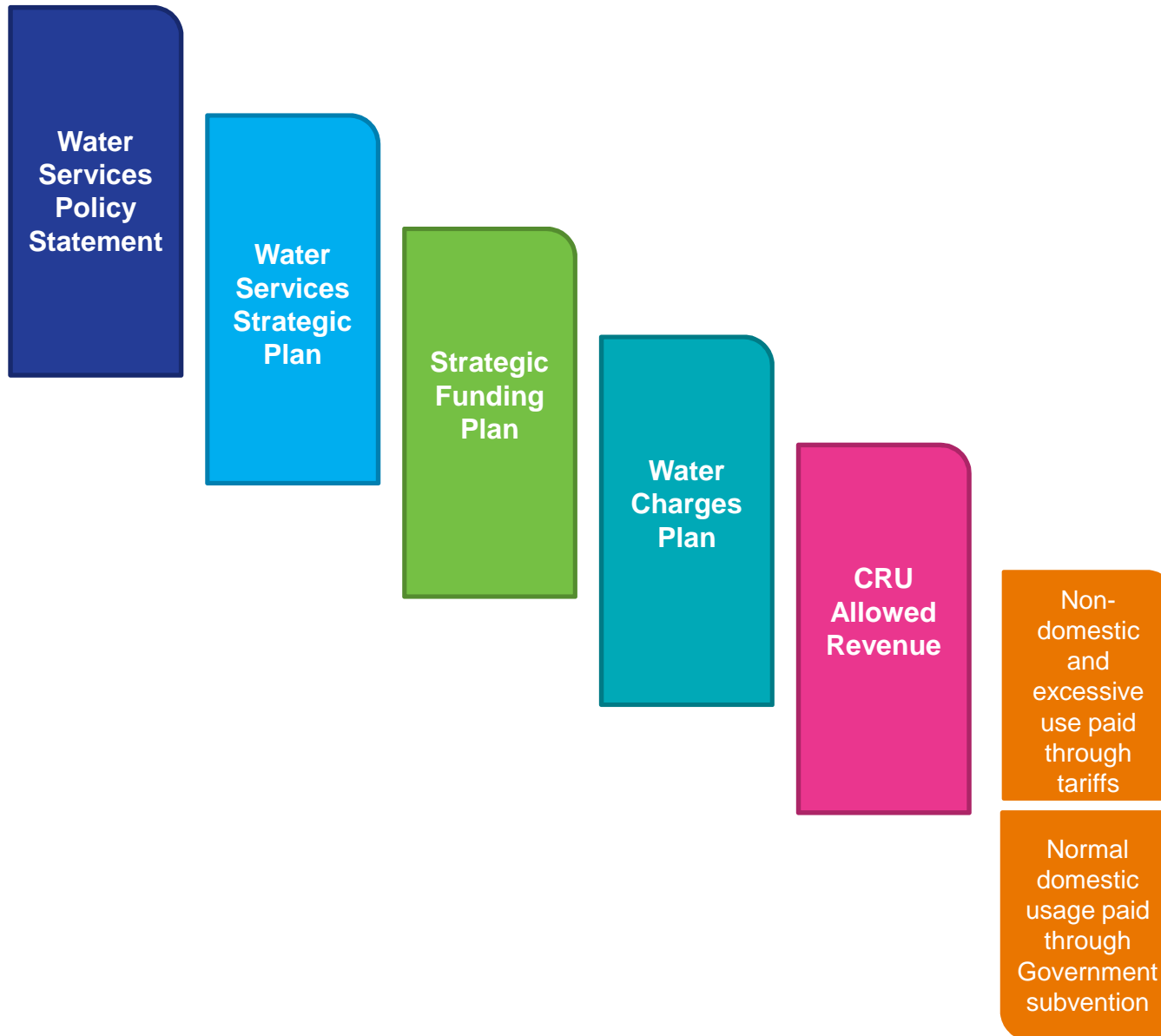
Look Back before Look Ahead

Highlights from IRC1 and IRC2



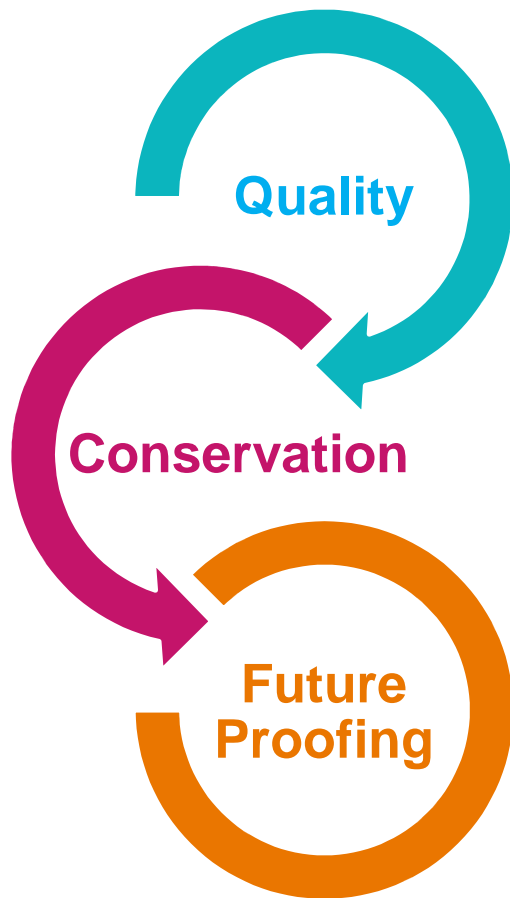
Policy & Plan

Policy Approach to Investment



Meeting the Policy Objectives

Irish Water's Capital Investment Plan is structured around the three key themes of the Water Services Policy Statement.



Safe drinking water is essential to the day-to-day activities of households, communities, social services and the economy.

Responsible environmental, social and economic policy means that conservation must be firmly embedded at the heart of water services policy.

Ireland's future economic and social progress is critically dependent on upscaling our capacity to deliver reliable, high quality water and wastewater services.

Strategic Funding Plan



Capex 2019-2024 €6.1bn

Quality - €3.0bn

17% Water

- Complete risk assessments
- Remove plants from EPA's RAL
- Implement lead strategy

32% Wastewater

- UWWTD Compliance
- Protect high status waters
- Deliver RBMP improvements

Conservation - €0.7bn

9% Reduce Leakage

- Increase awareness of need to conserve
- Meet leakage targets
- Complete the Water Resource Plan

2% Protect the Environment

- Sludge management
- Energy Efficiency

Future Proofing - €2.4bn

21% Capacity & Resilience

- Improve resilience in areas most vulnerable to a shortfall in water supply and wastewater services

19% Support Economic Growth

- Support National Planning framework and Regional and Spatial Economic Strategies

Delivery Challenges

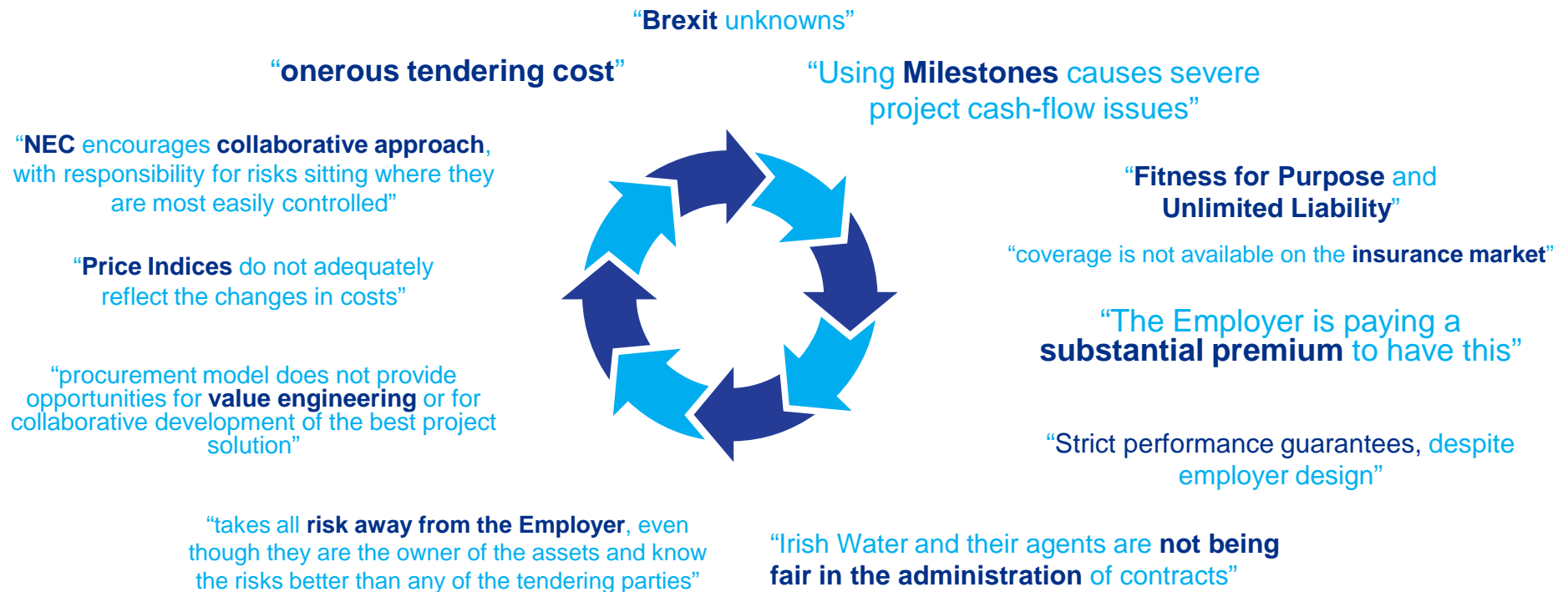
Investment Plan Challenges



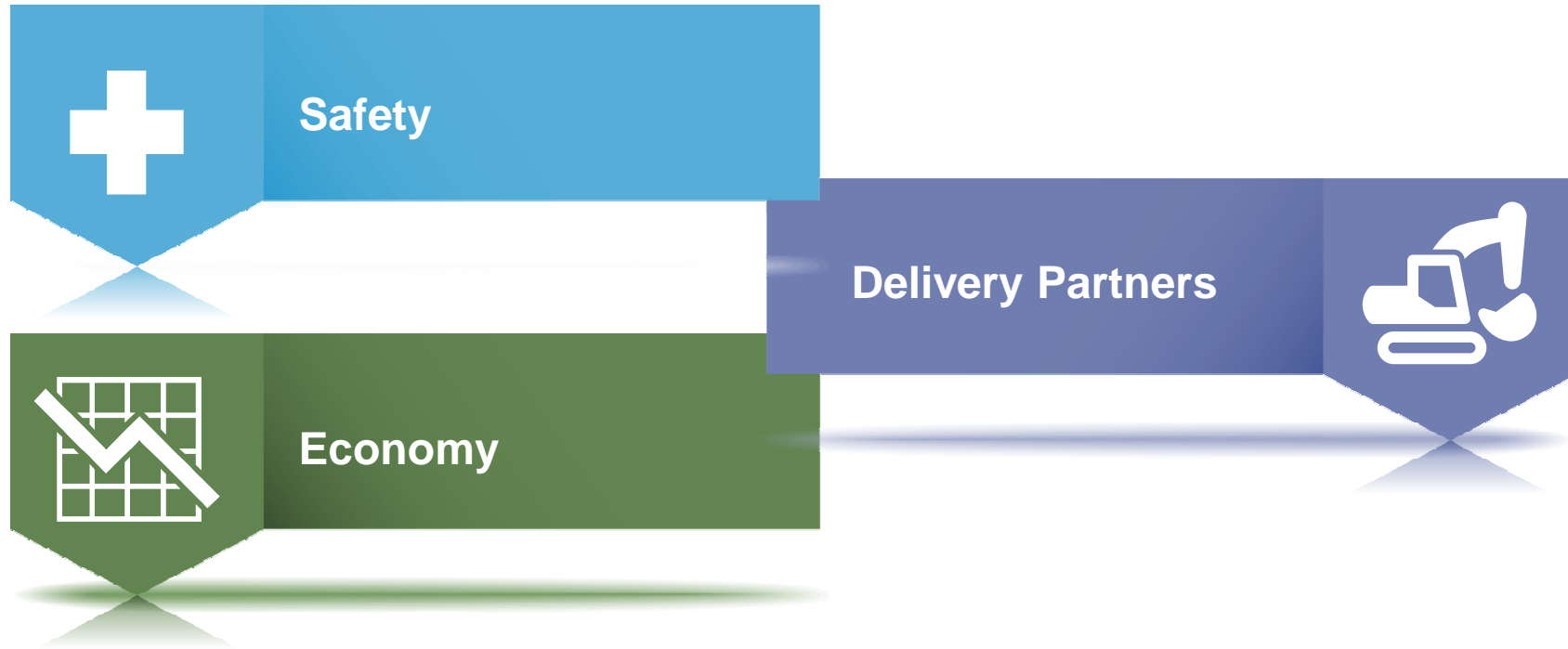
Investment Plan Challenges



Listening to our Delivery Partners



Investment Plan Challenges

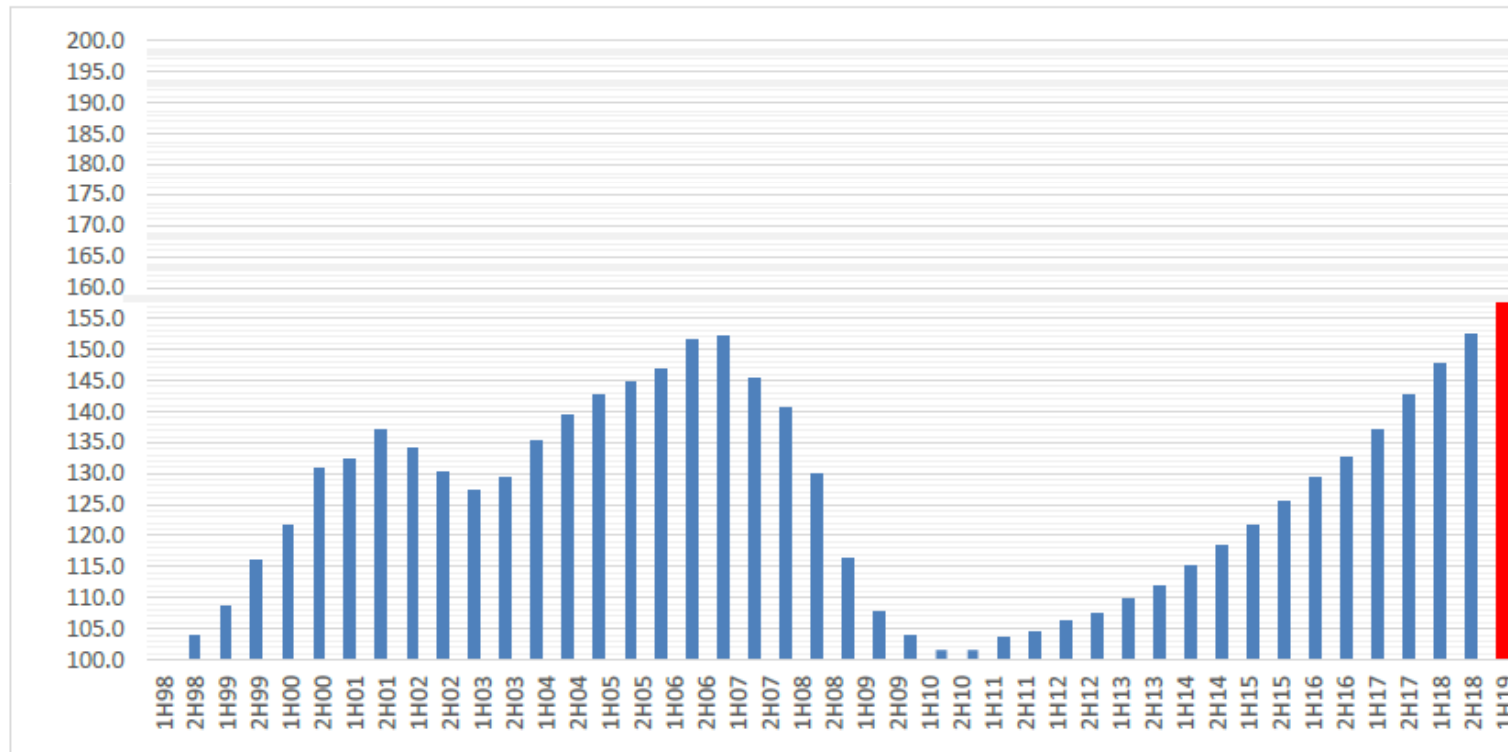


Risk Allocation



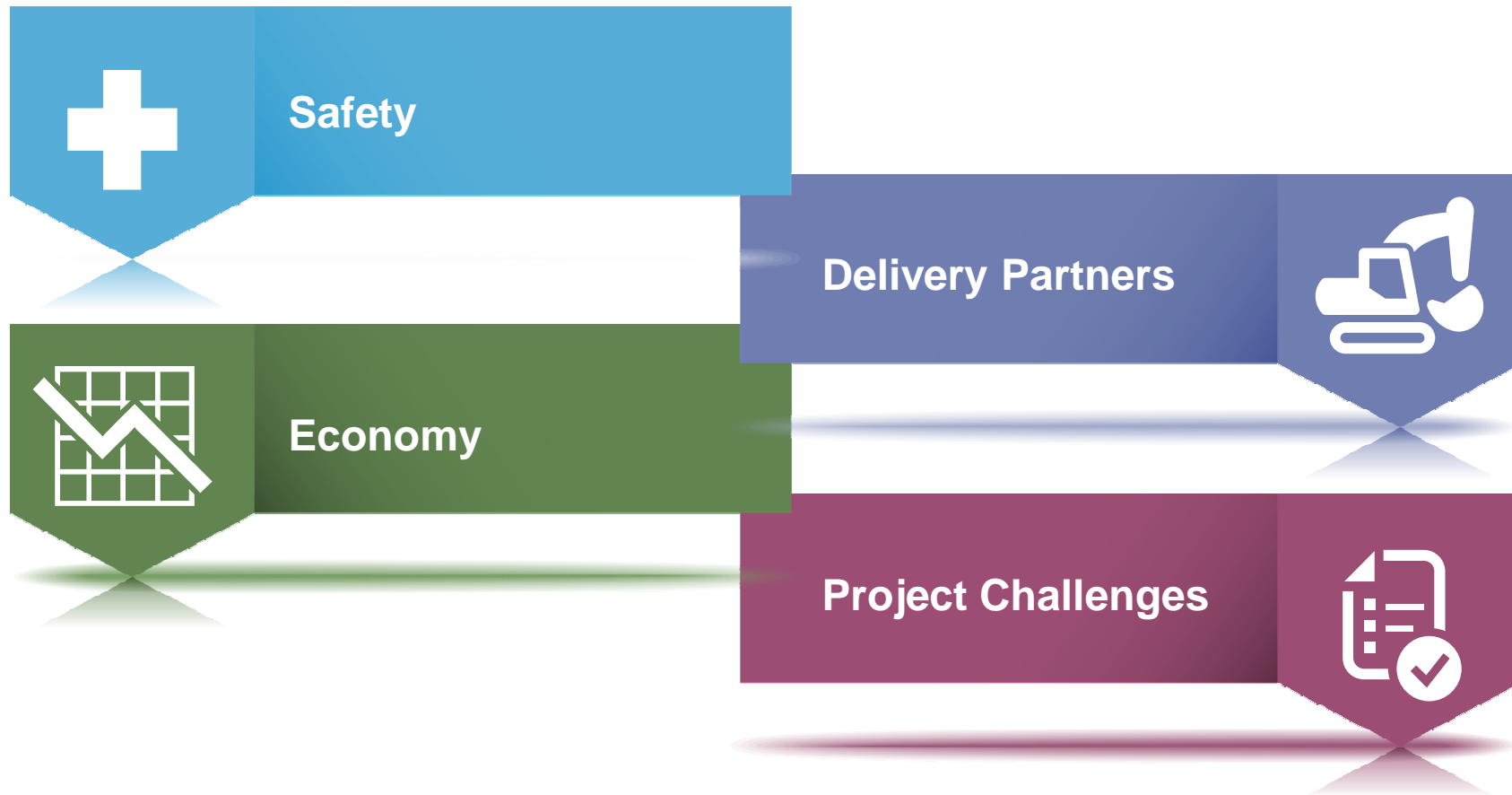
TENDER PRICE INDEX

Fig. 2: Construction Tender Prices



SCSI Construction Tender Price Index July 2019

Investment Plan Challenges



Investing in Quality

Water & Wastewater Quality



Quality - €3.0bn

17% Water

- Complete risk assessments
- Remove plants from EPA's RAL
- Implement lead strategy

32% Wastewater

- UWWTD Compliance
- Protect high status waters
- Deliver RBMP improvements

- Risk of under delivery was identified if multiple projects across water and wastewater were progressed in traditional manner.
- Site surveys, ground investigation, design, planning, land & wayleaves and tender process all to be completed prior to construction contract award would end up in significant back ended delivery of outcomes and outputs.
- Early Contractor Involvement identified as opportunity to best involve supply chain in ensuring delivery of plan.

ECI Approach and Benefits to IW & Supply Chain



Committed Volumes enable better resourcing, economies of scale and reduced tendering.



Target cost model with open book actual costs reimbursed. Incentivised model used to further drive value and efficiencies.



Improved programme management, reporting and integration of delivery teams.



Collaborative model utilising resources in the right way to focus on improved ways of delivering outcomes and outputs.



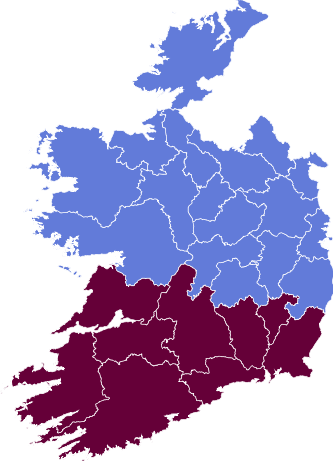
Enable innovation across the supply chain and efficiencies at an early stage.



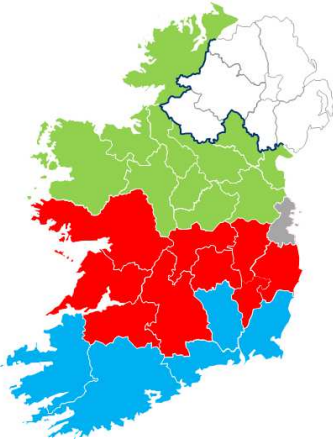
Better manage risks across the contract to provide more certainty of delivery with greater transparency on costs.

Selecting the right Partners

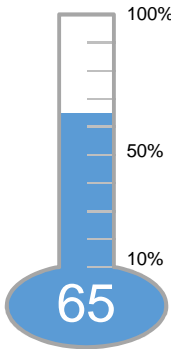
Water Regions



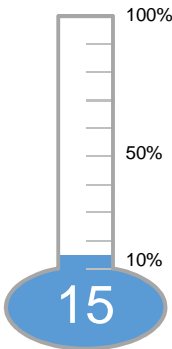
Wastewater Regions



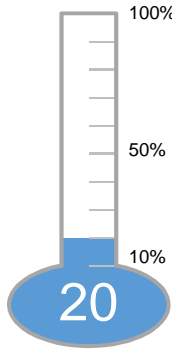
Tender Evaluation Approach



Technical / Capability



Commercial



Behavioural Assessment

Investing in Conservation

Energy Efficiency



Conservation - €0.7bn

9% Reduce Leakage

- Increase awareness of need to conserve
- Meet leakage targets
- Complete the Water Resource Plan

2% Protect the Environment

- Sludge management
- Energy Efficiency

- Irish Water is committed to an increase in its energy efficiency to 33% by 2021.
- Since the Energy Efficiency Capital Programme was established, more than 150 energy audits and 118 projects will have been carried out on our largest energy using sites by the end of 2019.
- Efficiency upgrades targeted at sites with approx. 5 year payback period as well as renewable energy programmes to offset energy usage.

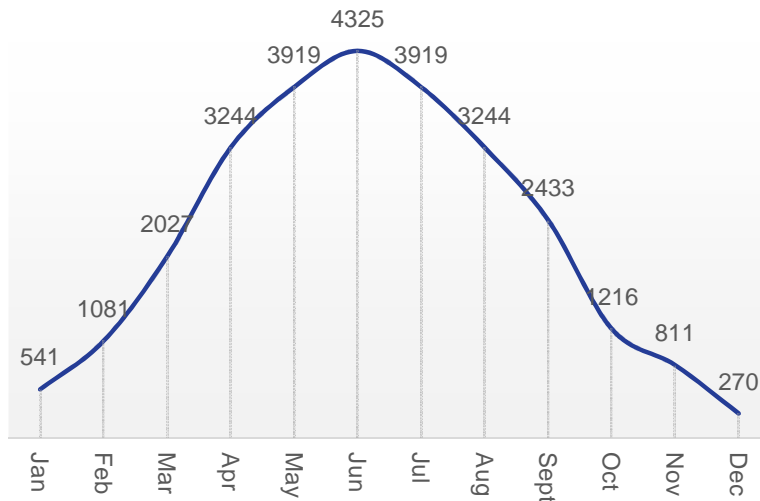
PV Solar Pilot Projects



Pilot Photovoltaic Energy Generation Sites:

- Two pilot projects carried out in June 2019
- Nenagh and Newcastle West Wastewater Treatment Plants
- 240 solar panels (400 square metres) installed, generating 58,500 kWh (kilowatt hours) electricity per year
- €86k capital cost with approx. €8,300 saving per year (10.4 year payback)
- Equivalent to a reduction of 26.5 tonnes in carbon emissions each year

Est. Generation Nenagh WWTP (kWh)



Energy Efficiency Projects

Heating & Lighting

- Lighting Pilot Completed Leixlip WTP – 450 Fluorescent lights with LEDs.
- Energy reduction – 360,400 kWhr per annum (approx. €54,060).



Figure 11 - Typical Twin T8 vs LED Batten
20

Aeration Systems

- Purcellsinch WWTP Upgrade - replaced existing mechanical aeration system with Fine Bubble Diffused Aeration coupled to variable speed air blowers with accurate Oxygen Input Control.
- 48% Energy reduction - 965,000 kWhr per Annum (approx. €144,750).
- Plant also brought into compliance and operational savings of >€50,000 annually.
- Additional headroom gained for future growth.



Investing in Future Proofing

Providing for Growth



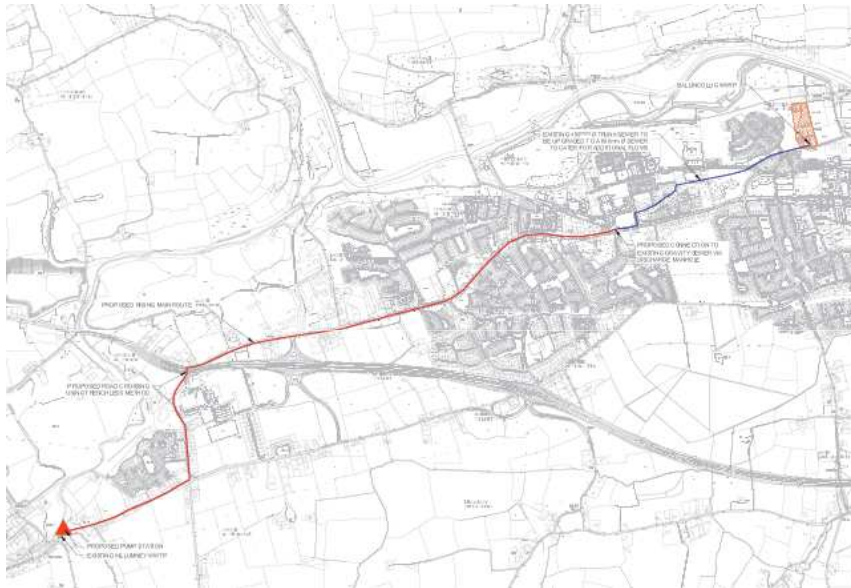
Future Proofing - €2.4bn

21% Capacity & Resilience 19% Support Economic Growth

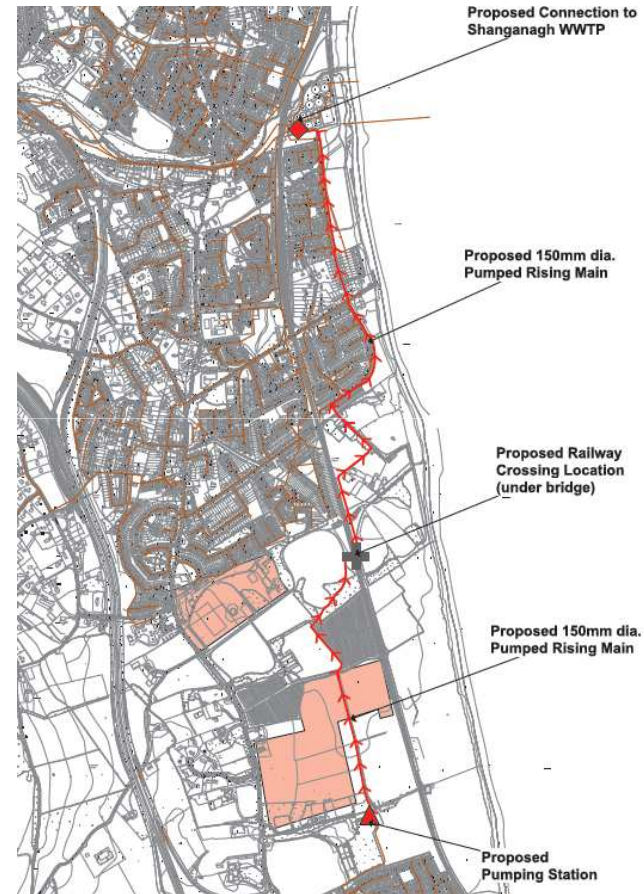
- Improve resilience in areas most vulnerable to a shortfall in water supply and wastewater services
- Support National Planning framework and Regional and Spatial Economic Strategies

- Growth & Development Programme established in response to growth demands nationally. Aim is to deliver key network extensions and upgrades to facilitate commercial, residential and industrial developments in towns and cities across Ireland.
- Certainty of delivery timelines are critical to removing bottlenecks across our network and enabling new developments.

Growth & Development Programme



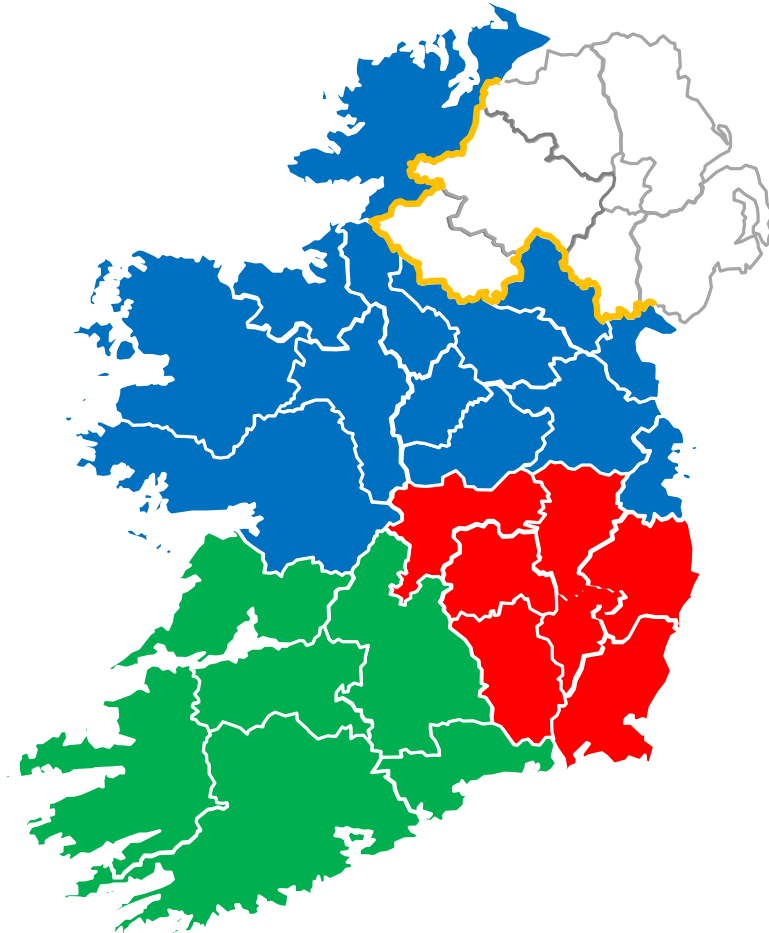
Killumney, Cork



Shanganagh, Dublin

G&D Programme Contract

- 5 year regional programme contract
- Single contractor per region
- 3 stage Design Build contract bringing in earlier stages of process
 - Concept Design
 - Detailed Design & Planning
 - Construction
- Bespoke Programme Contract with Irish Water Major Works Civil Engineering Contract as basis of works & services agreement
- Schedule of rates and priced standalone works and services
- Cross regional mini-competitions where required
- Contract KPIs key to performance monitoring



Sustainable Delivery Approach

Delivering on Policy Priorities

Clear Objectives

Strategic Funding Plan objectives defined with Irish Water progressing projects and programmes to deliver identified outcomes and outputs by 2024

Portfolio Balancing

Annual budgetary profile defined. Need to balance portfolio of work within parameters to deliver optimal matrix of projects meeting mandatory requirements, reducing risk, providing for growth, etc.

Effective Approaches

Differing delivery approaches are key to ensuring delivery within the regulatory allowance and timeframe, considering challenges ahead and efficiencies required.

Collaboration

Cross industry approach essential with Irish Water committed to building a sustainable approach to building and upgrading our asset base.

Thank you

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