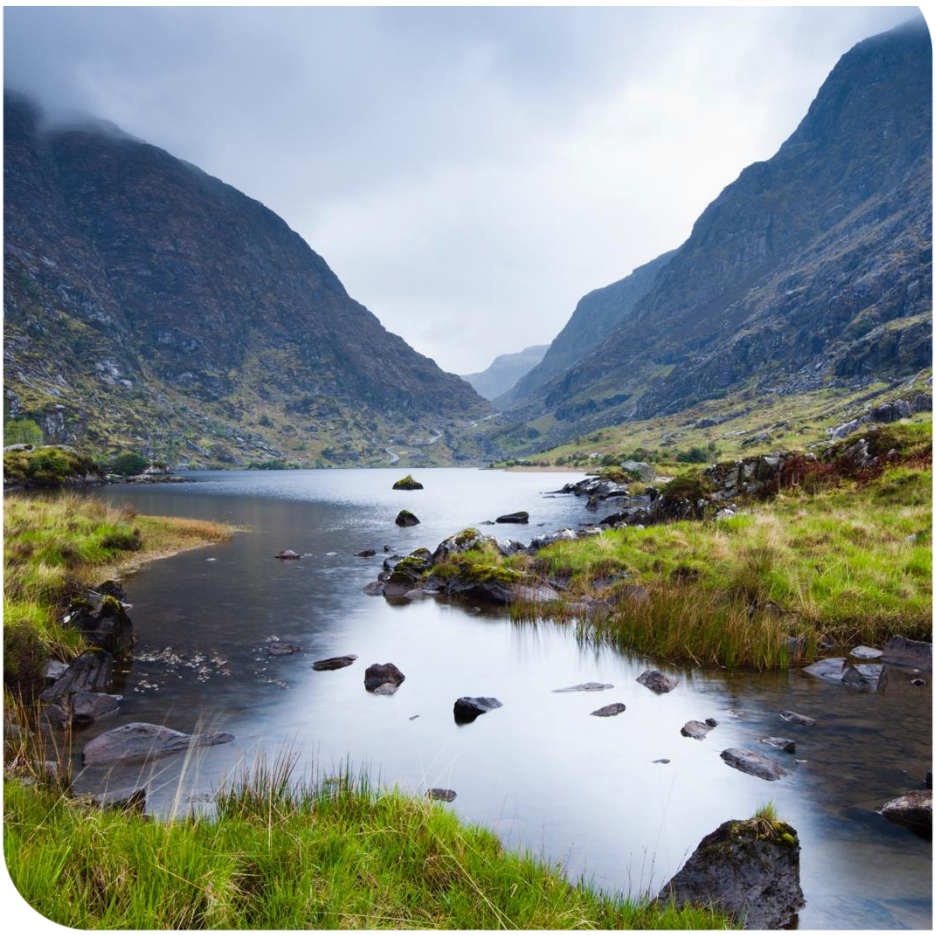
Spring 2021

# National Water Resources Plan – Framework Plan

## Non-Technical Summary

### Irish Water's 25 Year Plan for Our Water Assets



Tionscadal Éireann
Project Ireland
2040

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Data Disclaimer:

This document uses best available data at time of writing. Some sources may have been updated in the interim period. As data relating to population forecasts and trends are based on information gathered before the Covid 19 Pandemic, monitoring and feedback will be used to capture any updates. The National Water Resources Plan will also align to relevant updates in applicable policy.

# 1. National Water Resources Plan

## 1.1 Introduction

This is the Non-Technical Summary (NTS) of Irish Water's National Water Resources Plan (NWRP) - Framework Plan. The purpose of this document is to provide a summary of the content and to signpost key areas of the Framework Plan, to help readers navigate it. Throughout the NTS, you will see key signposts, which will point you to where you can find further information within the Framework Plan documents. The NTS also gives some guidance to help readers understand the Framework Plan.

**In order to support the reader, the key concepts used in Water Resource Planning are outlined in Section 1.7 of this document We have included a full glossary of terms in the Framework Plan.**

The Framework Plan has now been adopted by Irish Water and this is an amended version of a draft Framework Plan that was widely consulted on. The 84 submissions received during the public consultation were considered by the NWRP Project Team, and changes were made to the draft Framework Plan to reflect submissions where considered relevant. A Consultation Report has been published by Irish Water which summarises the submissions received and explains how those submissions are responded to. A Strategic Environmental Assessment (SEA) Statement and an Appropriate Assessment (AA) Determination, both relative to the Framework Plan, have also been adopted by Irish Water.

The complete set of documents for the Framework Plan are:

- The Framework Plan (and this NTS);
- Appendices A to N, which include the supporting information for the Framework Plan;
- The Consultation Report;
- The Framework Plan SEA Statement; and;
- The Framework Plan AA Determination.

The above documents are available online at www.water.ie/nwrp, and hard copies are available on request by contacting the Project Team in the following ways:

Email: nwrp@water.ie

Post: National Water Resources Plan, Irish Water, P.O. Box 13216, Glenageary, Co. Dublin

Freephone: 1800 46 36 76

## 1.2 Who we are?

On the 1st January 2014, through the Water Services Act (No. 1) 2013, Irish Water assumed statutory responsibility for the provision of public water services and management of water and wastewater investment. Irish Water's role is to provide public water and wastewater services throughout the country. It is our responsibility to ensure that all our customers and communities receive a safe and secure supply of drinking water and have their wastewater collected, appropriately treated and returned to the environment. We support Ireland's social and economic growth in a sustainable manner through appropriate investment in water services and strive to protect the environment in all our activities.

## 1.3 What is a Water Resources Plan?

Irish Water is developing its first National Water Resources Plan (NWRP). This 25-year strategic plan for our water supplies, is the first such plan to be developed in Ireland and will allow us to move towards a safe, secure, reliable and sustainable drinking water supply for all our customers, whilst safeguarding the natural environment.

The preparation of the NWRP provides an opportunity to plan for delivery of water services at a national level. It allows us to review all our water supplies in a consistent way and to develop a clear approach to resolve any issues that we find. This in turn will allow us to prioritise investment in water services over the short, medium and long term.

As this is Ireland's first NWRP, it is being delivered in two phases. This process is described in more detail below. The Framework Plan marks the completion of the first Phase. The Framework Plan sets out how we can balance the amount of drinking water we can supply with the demand for water from customers and communities. It also sets out how we take a risk-based approach to ensuring the quality, reliability and sustainability of our supplies. This means that instead of reacting to incidents that occur in the public water supply, such as contamination of supplies or water outages, we proactively work to identify the reasons for these incidents to prevent them from happening in the future.

Where we identify issues with our supplies, we have identified a methodology which in turn will allow us to assess potential Options (referred to as "Preferred Approaches") to resolve these issues. This approach allows us to understand the extent of the problems across all our supplies nationally, from the smallest to the largest, and to identify robust solutions.

## 1.4 Why do we need a plan?

Irish Water provides drinking water to approximately 87% of the population, delivering water through 65,000km of pipelines. Ireland's existing public water supply was built gradually over 150 years, often responding to local needs by developing nearby water supplies.

As a result, we have a fragmented supply system that consists of 749 individual water treatment plants (WTPs) providing water into 539 areas known as Water Resource Zones[1] (WRZs). Due to historic underinvestment, the treatment facilities, pumps and water main networks within these WRZs are in poor condition compared to standards in most European countries. The issues with our current water supplies can result in intermittent Boil Water Notices for our customer or other interruptions to reliable water supply. Population growth, aging of our water supply infrastructure and climate change will lead to further deterioration in this situation over time if nothing is done.

Over the past six years, Irish Water has made positive progress in improving water services for our customers, by developing policies and strategies for our water supplies and investing in water services and infrastructure.

Between January 2014 and December 2019, Irish Water invested €3.9 billion in public water and wastewater infrastructure, with a further projected spend of approximately €5bn planned up to 2024. Key outcomes from this investment include:

- Lifting of Boil Water Notices for approximately 80,000 customers since 2014
- Upgrading over 250 water treatment plants through our National Disinfection Programme
- Replacing over 30,000 lead service pipes under our National Leakage Reduction Programme
- Reducing leakage within our distribution networks from 46% in 2018 to 38% by 2021

[1] (WRZs are areas in which the need for water can only be met by water resources within the zone, unless new pipelines, pumping stations or treatment plants are built to link it with another WRZ.)

Despite these achievements over 50% of our public water supplies are still not as secure or as reliable as we would like them to be. We need to continue transforming the public water supply over time to meet historic and future challenges. .

The safety and security of our water supplies depend on many factors, including:

- The legacy condition of our water supply infrastructure such as treatment plants and distribution networks;
- The ability of our water supplies to perform in all weather conditions, including extreme weather events;
- The need to develop consistent standards and target levels of service across all our water supplies;
- The need to develop an appropriate risk-based approach to managing our water supplies;
- The protection of natural water bodies from which we abstract water, such as rivers, lakes and groundwater sources;
- The impact of legislation on water quality and the natural environment; and
- The need for ongoing sufficient investment in and transformation of our public water supplies.

Our existing infrastructure is still in relatively poor condition, and we also face future challenges to water supplies, including:

- **A growing population:** Ireland's population is expected to increase by approximately 1.2 million people over the next 25 years, which will increase the demand for water services.
- **Changes in land use and emerging contaminants:** Changes in the way we use land and contamination of our water supplies from chemical and organic compounds has the potential to impact the effectiveness of our existing treatment plants and increase the difficulty and costs associated with providing safe treated drinking water.
- **Climate Change:** Despite Ireland's relatively high average rainfall, rainfall is unevenly distributed throughout the country, with more falling in the west than in the east where population is concentrated. Changing weather patterns may reduce available water supplies and increase the frequency of drought and extreme weather conditions, which in turn impact future water availability.
- **An environment in need:** In continuing to transform water services we must protect the health of rivers and wildlife by not polluting water sources and by managing how much water we abstract. **Changing environmental legislation:** New legislation and regulations on water abstraction are being developed to protect and improve the environment within Ireland's rivers, lakes and groundwater. This will have an impact on how much we manage public water supplies from these sources.
- **Changing Drinking Water Legislation:** The European Union's recast Drinking Water Directive requires all water services authorities and utilities across Europe to take a risk-based approach to managing water supplies. This will require proactive ways to manage risk and increased protection of our water sources, improved treatment and better water distribution networks. Irish Water is in the process of adopting the World Health Organisation's Drinking Water Safety Plan (DWSP) approach to managing risk. Although this approach is central to the NWRP, it will take time to complete DWSPs for all our water supplies. Protecting our water supplies will require the engagement and cooperation of many stakeholders.
- **Improving Levels of Service (LoS):** A Level of Service is a way of tracking the performance of a water supply, measured in the number of unwanted supply interruptions in a specified period of years. At present, over half of our water supplies cannot provide a sufficient Level of Service to our customers. Many water treatment plants abstract water from vulnerable small water sources and our distribution networks operate as isolated systems which are not interconnected. This means that our customers experience unplanned interruptions to their supplies or are subjected

to precautionary Boil Water Notices or other restrictions more frequently than they should be. In order to prevent the LoS from getting worse as our infrastructure ages, we need to improve our water supplies and the way we find solutions to solve these issues.

Where we can address these challenges as part of our NWRP, we will ensure that future infrastructure development is proportionate to identified need and that the investments we make are sustainable, reliable and resilient, with a focus on the community.

Through our NWRP we will strive to;

- Ensure that we can provide all our customers with consistent and improved water services. That wherever you are in the country, when you turn on your tap you will have a safe, secure, sustainable and reliable water supply.
- Ensure that Ireland's water supplies will have the capacity to support current and future growth and encourage investment. This will be critical for the sustained development of business and the economy in Ireland. It is envisaged that delivery of the NWRP will bring economic benefits to the whole country, supporting growth in the regions, by supporting improved standards of service, job creation and quality of life.
- Ensure that we will improve the security of our existing supplies and consider changes in land use and emerging pollutants that can end up in those water supplies. We will achieve this through sustainable methods such as catchment management and improvements to our treatment and distribution infrastructure.
- Better understand the changes in patterns of rainfall and temperature, and account for these when developing forecasts for water availability and demand patterns. Irish Water will improve the resilience of our public water supplies, allowing us to manage climate change impacts.
- Improving the sustainability and resilience of our supplies through the development of secure water sources and improved connectivity of our networks.

The transformation of our public water supplies will take time and investment over many decades. However, by understanding the current issues and future challenges across all of our supplies in a uniform way, we can prioritise delivery of solutions and ensure that we minimise, or where possible avoid, any environmental impact in the delivery of our plan.

The NWRP also allows for full transparency and public participation in our plan for water services, through statutory and non-statutory public consultations, and stakeholder feedback.

**For more information on the key challenges we face, see section 1.6 of the Framework Plan.**

**For more information on the consultation undertaken to date, please see Section 3 of this NTS below. See also Section 9 and Appendix A of the Framework Plan and the Consultation Report published on** www.water.ie/projects-plans/our-plans/nwrp/.

## 1.5 How our Plan is designed to incorporate Policy

The context for the NWRP is based in legislation and Government policy for water services, growth and economic development, protection of the environment and climate change adaptation.

Irish Water operates under an economic regulatory regime which requires us to operate efficiently, having regard to whole life cost of providing water supplies. We must develop a strategic plan for our water supply infrastructure that provides a clear and transparent roadmap for how we operate, maintain,

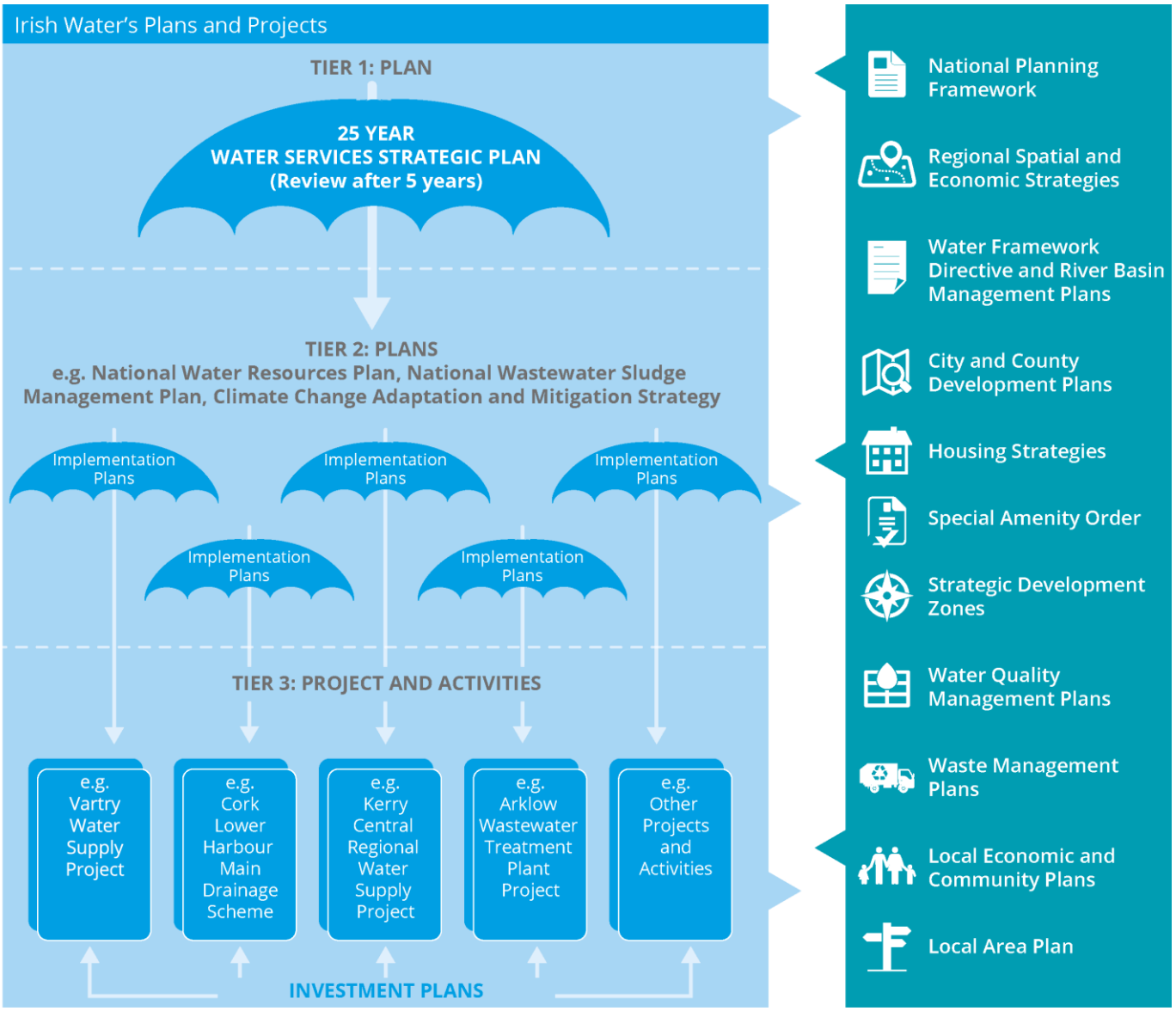
reinforce, develop and invest in our asset base, in a way that is aligned to national policy and ensures the best outcomes for water users.

The key policies feeding into our NWRP are:

- Water Services Policy Statement (WSPS);
- Project Ireland 2040 – National Planning Framework (NPF);
- Water Framework Directive (WFD) & River Basin Management Plan (RBMP) for Ireland;
- National Adaptation Plan (NAP) & Adaptation Plan for Water Quality and Water Services Infrastructure; and
- Recast Drinking Water Directive (DWD).

Under the Water Services (No. 2) Act 2013, Irish Water is required to prepare a Water Services Strategic Plan (WSSP) setting out the company's objectives for the provision of public water services in Ireland , over a 25-year period.

The WSSP identified the need for a NWRP to be developed in order to meet its objectives. In Figure 1.1, we show how the NWRP will be the means by which we directly align government policy with our strategic plans for water services.




It should be noted that the listing of the documents on the right of the graphic is not intended to show a hierarchy of plans or an alignment of the plans with the Irish Water Tier 1, Tier 2 and Tier 3 plans/ projects.

**Figure 1.1 How Irish Water incorporates Government Policy into Strategic Planning.**

**For further information on the context of the NWRP please see Section 1.8 of the Framework Plan.**

## 1.6 How we are delivering our Plan

Water Resource Plans are standard practice for utility companies in other jurisdictions, and guidelines for Water Resources Plans are often required by law to be set by environmental and economic regulators. As there are no Ireland-specific guidelines or relevant legislation at present, the starting point for our NWRP is based on proven methodologies and guidelines commissioned by the EU and applied across Europe, with modifications to account for specific issues with our public water supplies in Ireland.

As this is the first Water Resources Plan developed in the Ireland, we have split the NWRP into two Phases for the purposes of delivery:

- Phase 1: NWRP - Framework Plan; and
- Phase 2: four Regional Water Resources Plans (RWRPs).

We outline these phases in more detail below and at Section 1.9 of the Framework Plan.

### Phase 1 – The National Water Resources Plan – Framework Plan

Phase 1 comprises delivery of the Framework Plan, now complete. This Framework Plan has been subject to SEA and AA, and its development has been informed by public consultation. This NTS relates to the final version of the Framework Plan, as adopted. The purpose of the Framework Plan is the establishment of an appropriate set of guidelines, key resources planning parameters and methodologies to develop Preferred Approaches (solutions to need), which are suitable for the public water supply in Ireland, considering factors such as:

- Dispersed population;
- How our water infrastructure is performing now (Baseline Performance);
- Large number of isolated Water Supplies; and
- Availability of data.

The development of the Framework Plan allows us to ensure that the guidelines and standards that we set for ourselves have been subject to stakeholder consultation, and are agreed in advance of the development of the RWRPs. The Framework Plan establishes the Supply Demand Balance for each WRZ. The Framework Plan has now been finalised following a consultation process. This allows for the next phase, the development of the four RWRPs, to now proceed. The RWRPs will develop the Preferred Approaches to transforming our public water supplies over the next 25 years.

### Phase 2 - Four Regional Water Resources Plans

Phase 2 of the NWRP consists of the development of four Regional Water Resources Plans (RWRPs) covering all of the 539 WRZs in Ireland. They will be developed in accordance with the principles established in the Framework Plan. They are named as follows:

- The North West Region (Group Area 1)
- The South West Region (Group Area 2)
- The South East Region (Group Area 3)
- The Eastern and Midlands Region (Group Area 4)

The Framework Plan explains how the boundaries of these RWRPs were determined in Section 1.9.4. These regional boundaries are only relevant for the development and delivery of the first NWRP and have been identified as the most appropriate way to allow Irish Water to identify Preferred Approaches for each WRZ in an efficient and timely way. Once the first NWRP has been finalised, comprising the Framework Plan and four RWRPs; together they will be treated as a unified NWRP.

Each of the four RWRPs will summarise the needs for each WRZ in terms of quality, quantity, reliability and sustainability and will apply the methodology in the Framework Plan to each water supply. This will allow for the development of plan-level Preferred Approaches (solutions to identified need) for each supply.

Each individual RWRP will be subject to its own public consultation process and separate SEA and AA process. Figure 1.2 summarises this approach.

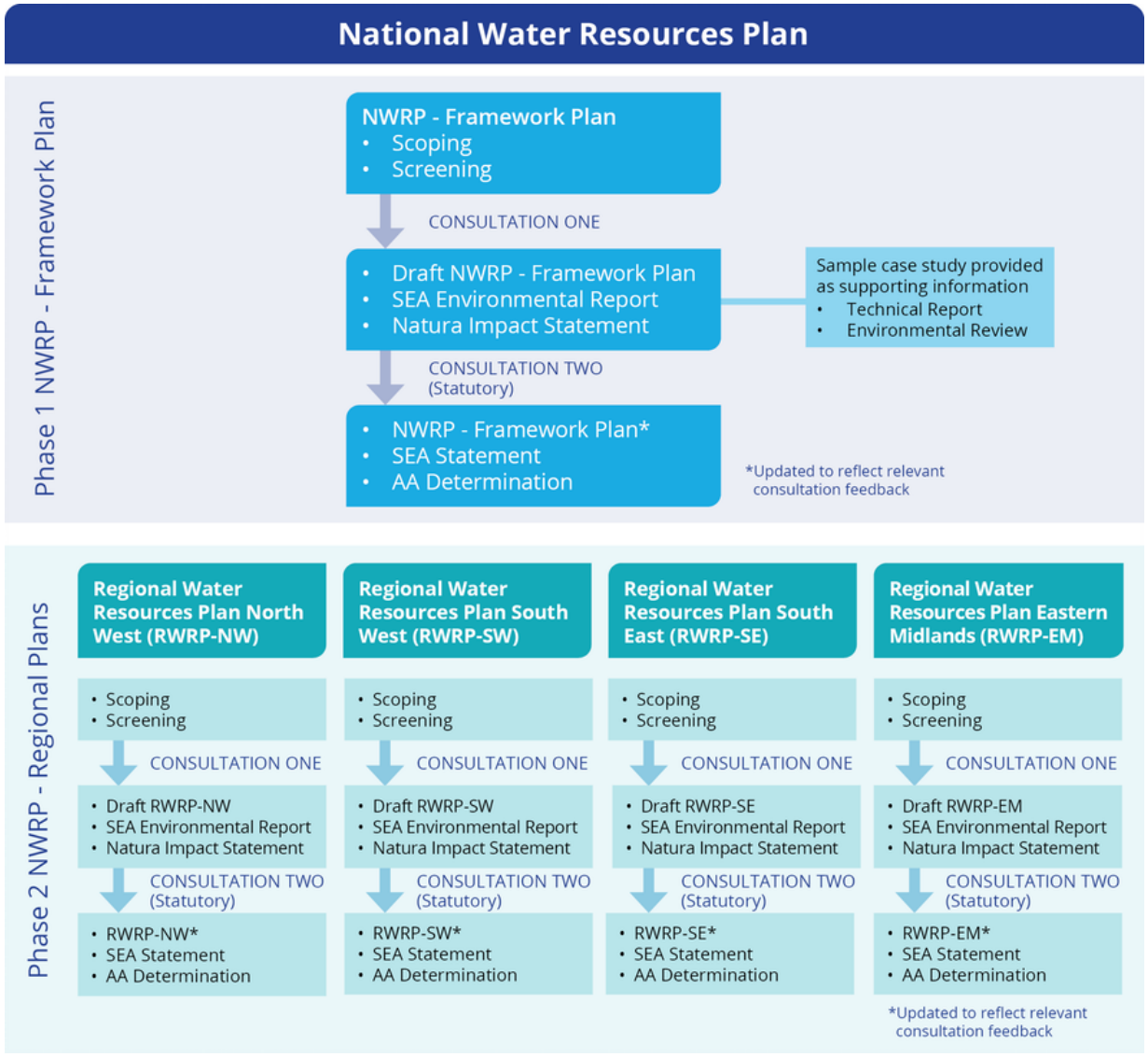



**Figure 1.2 Component Parts of National Water Resources Plan**

**Further information on this can be found in section of 1.9 of the Framework Plan.**

## 1.7 Key Concepts in Water Resources Planning

In England, Wales and Northern Ireland, water utilities and water service providers have a statutory obligation to produce Water Resources Plans every five years. In Scotland, where water supplies are publicly owned and operated, water resources planning is not a statutory requirement. However, it is recognised as best practice and plans are also developed and published in Scotland every five years.

Water Resources Planning in the UK has evolved significantly since the first plans were developed in the 1990s. Comprehensive guidelines have been prepared by water utility regulators. A significant body of peer reviewed research has also been conducted by the UK Water Industry Research, of which Irish Water is a member. Collectively, this has provided a solid foundation of research and experience for Irish Water to begin to develop its first NWRP.

When considering guidelines from other jurisdictions, however we must also account for the stage of development of Irish Water and the public water supply in Ireland. Our asset base is still in poor condition compared to other European countries. Despite significant improvements delivered by Irish Water, our data and business intelligence systems have not yet matured sufficiently to facilitate the full integrated resources planning that can be carried out in other jurisdictions.

Although our asset base and approach to supplying water is similar to the UK, the public water supply in Ireland also includes a large number of small remote supplies due to our dispersed low-density population. As it is difficult to move small volumes of water over large distances without compromising water quality, finding solutions to address supply need in these remote areas can be difficult.

To account for these issues, we have adapted long established water resources planning methodologies to account for Irelands unique starting point. This included the use of surrogate data from other jurisdictions, until such time as our data and intelligence systems have matured and become more established. We have also considered alternative ways to reinforce and provide resilience to small remote supplies, including careful operational incident response like site-specific enhanced plant and network management, drought and critical period plans.

Whilst we used established best practice methodologies to inform our decision-making approach, we will further develop approaches and improve processes as we continue on our journey of data gathering and improvement in data quality. The models developed under the Framework Plan for each region will be regularly updated with both input data and output results to support future water resource planning.

The key concepts that we used to develop the Framework Plan are as follows:

- Water Resource Zones (WRZs)
- Weather Event Planning Scenarios
- Levels of Service (LoS)
- The Supply Demand Balance (SDB)

**For further information on key concepts see Chapter 2 of the Framework Plan, along with Appendix B - Planning Scenarios, Appendix C - Supply and Appendix D - Level of Service**

### Water Resource Zones:

WRZs are the management units at which water resource planning g is undertaken. A WRZ represents an area where the supply and demand are largely self-contained. Effectively, a WRZ is a stand-alone water supply, with its own sources, water treatment plants, reservoirs and distribution networks, serving a population such as a small village, town, or city. The public water supply in Ireland consists of 539 water resource zones.

**Further information on Water Resource Zones can be found in section 2.3.1. of the Framework Plan.**

### Weather Event Planning Scenarios:

As access to a good quality uninterrupted water supply is essential for public health, we must ensure that we can provide a continuous supply of water to all of our customers in all weather conditions.

However, certain weather events such as drought, storms and winter snowfall events can have a significant impact on our supplies.

**Drought Events (extended periods of low rainfall):** Drought events have a twofold impact on our water supplies. They reduce the amount of water available in our water sources (rivers, lakes and streams), and increase the demand for water across our supplies.

**Storm Events:** Storm events produce heavy rainfall, which results in significant run-off from land and drains. This impacts the raw water quality in our water sources and can increase the risk of contamination of our supplies. Storm events can also test the reliability of our supplies, with high winds disrupting power supply to our more remote and isolated sites.

Although Ireland has a temperate climate its proximity to the Atlantic Gulf Stream means that extreme weather conditions are not common. As global temperatures continue to rise, Ireland may experience more frequent extreme weather events, such as droughts and storms. Irish Water must plan for these events, developing a resilient water supply system to limit impacts of extreme events on our customers. Table 1 outlines the four Weather Event Planning Scenarios we consider in this Framework Plan.

Table 1.1 - Weather Event Planning Scenarios considered in the Framework Plan.

| Scenario | Scenario Description and Weather Type | Feels like |
|---|---|---|
| NYAA | Normal Year Annual Average: The normal year scenario describes the demand and supply available to Irish Water in a typically average weather year |  |
| DYAA | Dry Year Annual Average: The dry year scenario is when there is low rainfall but no constraints on demand. Demands are based on the average daily demands experienced over the year under “dry” year weather conditions. Demands would be higher than in normal years |  |
| DYCP | Dry Year Critical Period: This occurs within the dry year, generally a few weeks during the summer where demands can be significantly above the annual average |  |
| WCP | Winter Critical Period – The WCP generally occurs as a result of Freeze–Thaw incidents such as Storm Emma in 2018. High demands during these periods are driven by an increase in leaks from burst of pipes as a result of the very low temperatures |  |

**For more information on Weather Event Planning Scenarios, see section 2.3.2 and Appendix B of the Framework Plan.**

## Level of Service (LoS)

This refers to the reliability of the public water supply that customers and communities can expect. It is usually expressed as the number of interruptions that can be expected within a certain time period. For example, 1 in 50 would mean that a customer could expect to experience a significant water outage or severe limitations to your water supply, on average, once in every 50 years.

The current levels of service in our public water supplies are low compared to most European countries. In addition, standards across our supplies vary significantly. Some customers and communities experience very low levels of service with frequent interruptions to supply, while others experience fewer interruptions.

Due to this large variation in reliability across our supplies, in this Framework Plan we have set an initial target of a minimum 1 in 50 LoS for the entire public network. As it will take many years and significant investment to improve our supplies to this level, we have set this as our design target for the first iteration of our Plan, until our data and understanding of our water supplies improve.

Current best practice, as applied as a target in the UK, is to provide a 1 in 100-year LoS. Accordingly, the LoS targets in the NWRP will be reviewed as part of each five-year update to the NWRP.

It is also important to note that a 1 in 50-year LoS relates to large scale interruptions to supply and when we achieve this LoS, our customers and communities may still experience some infrequent water restrictions to non-essential usage, such as Water Conservation Orders during drought periods. We aim to ensure that frequency of non-essential use restrictions is limited to once in every ten years, within our first NWRP. Again, this is a baseline target, and we will review this as part of the five-year review cycle of the NWRP.

Due to the current conditions of the public water supply network, Irish Water also needs to consider maintenance requirements, as the standard of our networks and our treated water storage can also cause interruptions to water supply to customers and communities.

**For more information on Level of Service (LoS) see Section 2.3.3 of the Framework Plan, and Appendix D Level of Service. For information on the impact of drought on the LoS, see Appendix E Drought Planning.**

## Supply Demand Balance

The Supply Demand Balance (SDB) is the difference between the water Irish Water has available in our supplies compared to the demand for water under each weather event planning scenario.

In terms of supply availability, the SDB considers water availability in the natural environment, current abstractions, water treatment capacity, process losses, trunk main constraints, and required allowances to ensure continuity of supply during planned and unplanned events.

In terms of demand, the SDB considers the volumes of water consumed by domestic and non-domestic customers, how this varies over the course of a year and any uncertainties in our estimates. As the water our customers receive travels through extensive watermain networks before it reaches their taps, our demand estimates also consider the efficiency of our networks and any losses that occur through the distribution networks. The components of the SDB are shown in Figure 1.3.

A deficit in the SDB means that the demand for water is higher than the available supply. In the event of an identified deficit, Irish Water considers what actions could be taken in response to reduce future demand, increase supply or a combination of both, for example.

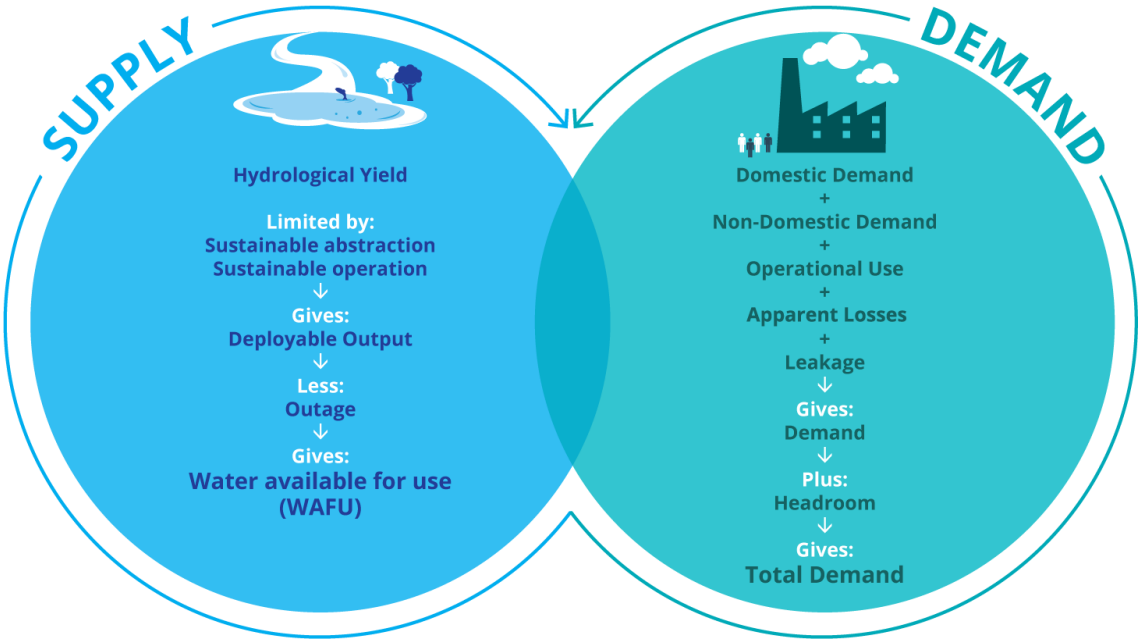



Figure 1.3 - Components of the Supply and Demand Balance

**For more information on how we calculate the Supply and Demand Balance (the water we have and the water we need), see Sections 3, 4 and 5 of the Framework Plan We also include a full assessment of our supplies in Appendix C and summary of the Supply and Demand information for each of our 539 Water Resource Zones in Appendix L of the NWRP Framework Plan.**

## 1.8 How do we consider the environment?

Protecting the natural environment is at the heart of the NWRP. We are considering the potential impacts of our NWRP on the environment throughout all stages of its development and will strive to avoid impacts where possible or provide appropriate mitigation measures where we cannot.

The NWRP is subject to Strategic Environmental Assessment (SEA) as outlined in the European Union (EU) SEA Directive (2001/42/EC) and the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI No 435/2004), and Appropriate Assessment (AA) (under the EU Habitats Directive (92/42/EEC) and European Communities (Birds and Natural Habitats) Regulations 2011 (SI No 477/2011). SEA and AA are being carried out in parallel with the development of the NWRP. This ensures that we evaluate environmental impacts likely to arise from the NWRP, both positive and negative, and outline the appropriate prevention and mitigation measures.

SEA screening was conducted in August 2017 by Irish Water and we determined that SEA of the NWRP was required in accordance with Directive 2001/42/EC.

The development of the NWRP began in 2017 and involved:

- Identifying best practices that could be applied to water resource planning in Ireland;
- Identifying all issues related to water supply including, quality, quantity, leakage, reliability and sustainability;
- Developing a robust methodology to identify and prioritise programmes of work to address the identified need; and

- Early stakeholder engagement and consultation with key stakeholders.

Irish Water developed:

- An SEA Scoping Report outlining the scope of the NWRP Methodology and SEA;
- The environmental baseline for the Framework Plan; and
- A proposed framework of SEA objectives to inform the strategic assessment.

The first round of public consultation to inform the development of the (SEA) Environmental Report and AA Natura Impact Statement (NIS), the environmental reports that accompany the NWRP, took place from 9 November to 22 December 2017 (now referred to as “Phase 1 NWRP – Framework Plan, Consultation one”). We requested feedback on the SEA Scoping Report and invited comments and suggestions to be considered at that stage.

Irish Water determined that it made sense to deliver the NWRP in two Phases as described in the introduction to this document. We subsequently undertook statutory consultation on Phase 1 of the NWRP, the Framework Plan, from 8 December 2020 to 12 March 2021 (Phase 1 NWRP – Framework Plan, Consultation two). During the Phase 1 NWRP – Framework Plan Consultation two, Irish Water consulted on the draft Framework Plan and the accompanying SEA Environmental Report and Natura Impact Assessment report. The relevant consultation processes that informed the development of the Phase 1 NWRP – Framework Plan are summarised in more detail at Section 3 of this NTS below.

**For further information on how we assess sustainability in our methodology, please see Section 8.2.4 of the NWRP Framework Plan. The SEA Environmental Report and NIS also outline how these impacts are assessed.**

## 1.9 What is in the Framework Plan?

Phase 1 comprising the development of the NWRP- Framework Plan, is now complete. It includes the following:

- The methodology Irish Water will use in the NWRP Phase 2 to identify need across the public water supply in the RWRPs.
- The Framework Plan also includes details on how Irish Water will:
    - assess the current available water supply and forecast changes to this over the next 25 years;
    - assess current demand for water and forecast how this may change over the next 25 years;
    - develop forecasts of supply compared to demand to identify quantity needs across our supplies and develop solutions for each WRZ;
    - identify quality and reliability needs through the barrier assessment for all of our supplies; and
    - assess potential environmental sustainability issues with our current supplies;
- Specifically, Irish Water will use this methodology in the development of Phase 2 of the NWRP i.e. in the four RWRPs to assess Options to resolve need identified in the Supply-Demand Balance, and to carry out the Barrier Assessment through investment and improved operation of our supplies. This will include:
    - A transparent step by step approach to identify Feasible Options to address the identified needs (the types of Options such as new water treatment plants or improvements to our networks that we could use to resolve problems with our supplies);
    - How we will assess the Feasible Options to develop a range of policy driven approaches (how we identify the best Options that align us to our strategic objectives); and

- How we will develop a Preferred Approach for each supply or combination of supplies (how we identify the most likely best solution).

- An assessment of need across the 539 individual WRZs in terms of quality, quantity, reliability and sustainability.

# 2. Water Resources Planning- How do we know what we need?

Our water resources planning process involves identifying need across our supplies over the 25 years of our NWRP, and then developing solutions to address this need. The process is summarised in Figure 2.1.

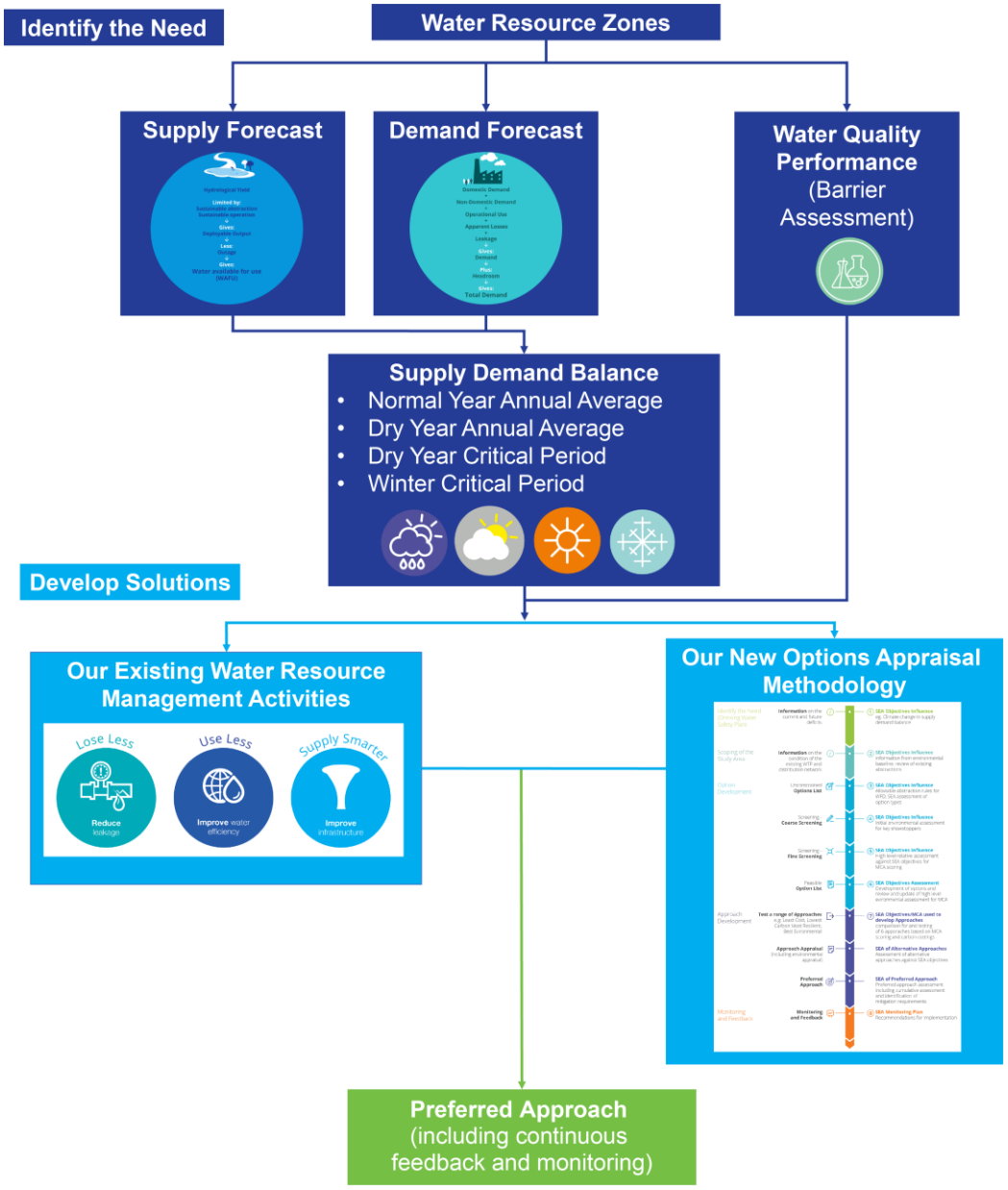



Figure 2.1 - Our NWRP Options Process

## 2.1 Supplies – How we estimate water availability now and into the future

The first step in the process is to develop an estimate of water availability in our existing supplies and to forecast how this might change over time.

To plan for future water availability, Irish Water must determine the amount of water that we can currently supply to our customers and then forecast how this might change over the next 25 years. The amount of water we can currently supply depends on a number of factors including:

- The quantity of “raw water” we can safely abstract from the natural environment, when considering the level of service that we strive to achieve;

- The amount of this water we can convert to drinking water using our existing treatment facilities; and
- How much of this treated drinking water we can send into our distribution systems via our bulk distribution networks (trunk water mains).

By considering all of these factors we can identify the constraints in our water supply systems. In some cases, we may have an abundance of natural raw water; however, we are constrained by the capacity of our current treatment facilities. Conversely, in other areas, we may have appropriate treatment capacity, but our existing natural supplies are at risk, particularly during drought conditions.

Our treatment processes can also come under pressure when raw water quality deteriorates following storm events and/or pollution events. In order to ensure that water customers receive safe and secure supplies, we must also consider reliability and risk to supply in our assessments. This is because no water sources, treatment facilities or bulk distribution networks can operate at 100% capacity all of the time.

When we account for availability, capacity in production, capacity in transfer mains, reliability and risk within our existing supplies, we call the amount of water we have available to supply our customers Water Available for Use (WAFU). Figure 2.2 shows the WAFU calculation process.

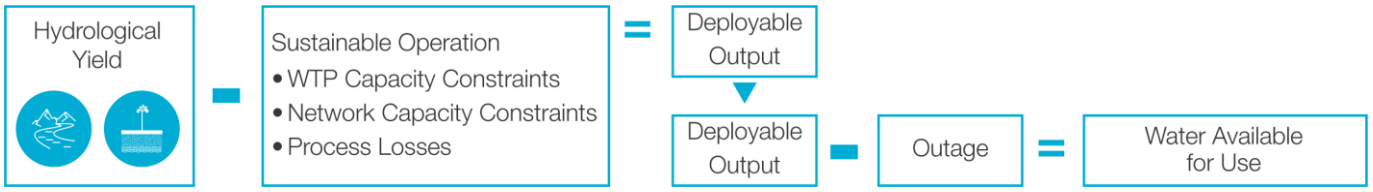



Figure 2.2 - How we calculate Hydrological Yield

We also must understand how these supplies might perform over time and how the current water availability might reduce due to climate change or environmental restrictions on the amount of water we can abstract from the natural environment.

It is envisaged that climate change will inevitably impact on our supplies and that even when considering additional capacity being delivered over the next three years that supply will reduce over time.

**For more information on how we understand our public water supplies, please see Section 3 of the Framework Plan.**

## 2.2 Demand – How we estimate demand for water now and into the future

To plan for future water demand, Irish Water must understand the current demand for water, and then forecast how this might change over the next 25 years (Figure 4.1). The term ‘demand’ refers to the amount of water we need to input into our distribution networks at water treatment plants to ensure that we can meet our customer’s water requirements in homes and businesses at the boundaries of our networks.

Our water distribution networks are extensive, for example the distribution network for Clonakilty in County Cork contains approximately 450 kilometres of water mains (approximately the distance between Cork and Letterkenny). As our water supplies travel through large networks before they reach our customers, the network performance or level of leakage needs to be considered in our demand calculations. Figure 2.3 shows the components that make up demand. The components are assessed separately as they each involve different patterns of use and are subject to different drivers for change over the next 25 years.


Figure 2.3 - How we calculate demand

We also must understand how the demand for water will change over time, as our population increases, our economy grows, and we continue to reduce leakage across our networks.

**For more information on how each component parts of demand are calculated, see Section 4 of the Framework Plan.**

## 2.3 Water Quality and Reliability

We must consider water quality and reliability along with quantity when assessing the overall water need and allow for improvements to our water supplies in the short and medium term. Therefore, asset performance and reliability needs are considered within the Framework Plan.

Irish Water has a statutory obligation to produce safe drinking water that complies with regulatory standards set out in the European Union (Drinking Water) Regulations 2014 (the Drinking Water Regulations), and this is overseen in Ireland by the Environmental Protection Agency (EPA). Irish Water has put in place the necessary structures to support sampling, testing and reporting from source to tap and puts in place the necessary actions should a risk to the safety of a supply be identified from our monitoring programmes.

In general, public water supplies show good compliance with the Regulations, achieving between 99.1 and 99.9% compliance with the Drinking Water Regulations in 2019. Most compliance trends have improved over time from 2014 to 2019.

We are now going further to ensure that public water supplies are also secure and reliable. This requires us to identify and appropriately manage risk to our water supplies. Risk is the possibility of an adverse event occurring (e.g. *Cryptosporidium* contamination of the source, failure of a dosing pump) that could impact on our ability to provide safe treated drinking water. Risk cannot be 100% eliminated, but by quantifying, categorising, and managing risk, we are taking a proactive approach to ensuring that our supplies are safe, secure, sustainable and reliable. Irish Water's risk management approach is based on the World Health Organisation's Drinking Water Safety Plan (DWSP) approach.

The DWSP approach involves assessing a comprehensive range of hazardous events that could potentially occur in a drinking water supply at any point from the source in the environment to our customers tap. These assessments are then used to inform the required operational measures, maintenance, or investments that will manage or mitigate the likelihood of these hazardous events from occurring. These hazard assessments from the DWSPs are converted into 'identified need' within the Framework Plan.

As part of the Framework Plan we have assessed the capability of our current water supply assets (water treatments plants and water supply network), to deal with existing and future potential risks. This is called a Barrier Assessment.

A barrier assessment allows us to understand the likely quality and reliability need and assess the additional improvements and infrastructure required that will allow us to meet the standards that we have set for ourselves.

It should be noted that a “quality need” identified through the barrier assessment is not an indicator that Irish Water has failed or is failing to comply with the Drinking Water Regulations. Rather, it is an assessment of the need to invest in areas of our asset base, to ensure that we can adequately address potential risks or emerging risks to our water supplies.

**For more information on Quality, Barrier Assessments and how we comply with Water Quality Risk and monitor risk to water quality, please see section 5 of the Framework Plan.**

**We also include a full assessment of our supplies in Appendix C and a full explanation of Irish Water’s approach to achieving Safe and Secure Drinking Water in Appendix J.**

## 2.4 What are the key issues – summary of overall need and national challenges

In chapters 1 to 9 of the Framework Plan we look at key challenges and opportunities facing the public water supply in terms of quantity, quality, sustainability and reliability (or level of service).

When we assess our existing supplies against these performance drivers using a 1 in 50 level of service, we have identified issues across many of our existing Water Resource Zones, including the following:

- Over 50% of our WRZs do not meet a 1 in 50-year level of service, during normal conditions, due to source or infrastructure issues
- 66% of supplies do not meet this level of service during drought conditions

Although the majority of the water we supply is compliant with the standards set out in the Drinking Water Regulations, many of our treatment facilities do not have the correct processes in place to adhere to the risk reduction standards we have set for ourselves within the NWRP.

**For more information on the summary of the needs of our supplies nationally, see Section 6 of the Framework Plan.**

## 2.5 Developing Solutions - Irish Water’s Approach

Due to the legacy issued described here, Irish Water faces significant challenges in terms of the future quantity, quality, reliability and sustainability of the public water supplies across the country.

Irish Water must ensure that our water supplies become more sustainable over time, therefore we need to ensure that solutions to supply issues consider the broader environment within which they operate. This means:

- Irish Water cannot continue to abstract increasing volumes of water from sensitive sources to meet increasing demand. Where feasible, we must cater for increased growth requirements in the first instance by driving an aggressive leakage reduction programme combined with strong promotion of water conservation measures in homes and businesses;
- Irish Water will fully adhere to the World Health Organisation (WHO) principle that the starting point for good clean drinking water is source protection, rather than relying on ever more complex and costly treatment for sources that are deteriorating due to inadequate protection. Irish Water will achieve this by developing and implementing Water Safety Plans across all our supplies.

In developing the appropriate sustainable solutions, we can adopt  to address the needs identified, Irish Water has  classified the range of available solutions into three pillars; "Lose Less", “Use Less” and “Supply Smarter”.

**For more information on the potential solutions identified to address the supply and demand imbalances, see Section 7 of the Framework Plan.**

- **Lose Less** – reducing water lost through leakage and improving the efficiency of Irish Water's distribution networks;
- **Use Less** – reducing water use through efficiency measures and improved water conservation by customers; and
- **Supply Smarter** – improving the quality, resilience and security of supplies through infrastructure improvements, operational improvements and development of new sustainable sources of water.


Figure 2.4 – Three Pillars to address the key challenges to the Framework Plan

Together these pillars will enable Irish Water to optimise our capital and operational solutions to achieve the best outcomes and react to emerging issues.

**For more information on the three pillars, see Section 7 of the Framework Plan.**

## 2.6 Developing Solutions – New Options Assessment Methodology

As part of the needs assessment, we have identified that a significant number of water resource zones, do not meet the standards that we have set for ourselves in the Framework Plan. Although we manage to supply fully compliant water to the majority of our customers in normal conditions, our supplies in some areas are vulnerable, and do not provide an appropriate level of service, particularly during adverse weather conditions such as storms and dry periods. These issues manifest as interruption to supply and precautionary Boil Water Notices for  customers.

The purpose of the Options Assessment methodology is to allow us to understand the issues and develop solutions to improve all of our water supplies, allowing us to move towards a safe, secure, reliable and sustainable public water supply over time. Our Options Assessment methodology is based around the following five criteria:

**Resilience:** ensuring that Options have enough capacity to allow for minimal disruption to our customers when operational issues occur, and that our supplies are adaptable to change over time and provide an acceptable Level of Service;

**Deliverability and Flexibility:** It is important that the Options we choose to address a need can be implemented or constructed safely within required timeframes and are flexible to allow for future

adaptation as water availability or demand changes. “Deliverability” considers the practicality of building or implementing an Option or Options and “flexibility” considers how adaptable an option will be to future changes in demand and the environment.

**Progressibility:** Within resource planning, it is important that the Options proposed to address the needs identified satisfy strategic, national and local planning objectives. This criterion helps us to compare all of the Options against each other to understand the differences, and how deliverable the Options may be. The purpose is not to eliminate Options, but to give maximum consideration to the potential challenges that might be met, should they be progressed. This also allows us to take account of delivery timeframes and complex planning.

**Sustainability (Environmental & Social impacts):** The sustainability criteria are based on the objectives defined for the Strategic Environmental Assessment (SEA). Appropriate Assessment (AA) is also integrated into the environmental assessment process. Aligning with the SEA allows the environmental assessment to be central to the Options Assessment and eventual selection of the Preferred Approaches. Through this approach, options which have a likely unacceptable environmental and/or social impact which could not be mitigated, would not be taken forward. In particular, options are only taken forward after coarse screening if it can be determined that they will not adversely affect any European site (in accordance with the requirements of the Habitats Directive) or site designated under national law for environmental conservation.

**Cost:** When comparing the costs of different Options at a Plan level, it is important that all costs are considered. Costs include the total investment costs and environmental and social impact costs. During the Options Assessment process, no option will be discounted on the basis of cost alone at the initial screening stages. This ensures that due consideration is given to all viable options under the selection criteria. This means the least cost Option will not necessarily be chosen.

**For more information on these criteria, see Section 8.2 of the Framework Plan.**

## 2.7 Our Process for Assessing Options and developing a Preferred Approach

Within the NWRP, we aim to consider all of the possible Options to resolve the needs we have associated with each of our supplies. This allows us to ensure that we select the best approaches to transform our supplies. It allows us to find sustainable sources, to understand how we might use combinations of sources or connectivity between our supplies that would improve resilience. The process also allows us to fully incorporate environmental considerations at the earliest stages of our plan.

The Options Assessment Methodology contained in the Framework Plan involves:

- Identifying all possible solutions for each area or Water Resource Zone (WRZ) using the Options Assessment methodology;
- Screening out Options that are not feasible;
- Developing outline designs for the Feasible Options;
- Applying multi criteria analysis (MCA) and cost analysis (This cost analysis includes environmental, social and carbon costings); and
- Developing Feasible Options and Preferred Approaches for each area or WRZ in the short, medium and long term.

The methodology is an eight-step process, as set out in Figure 2.5.

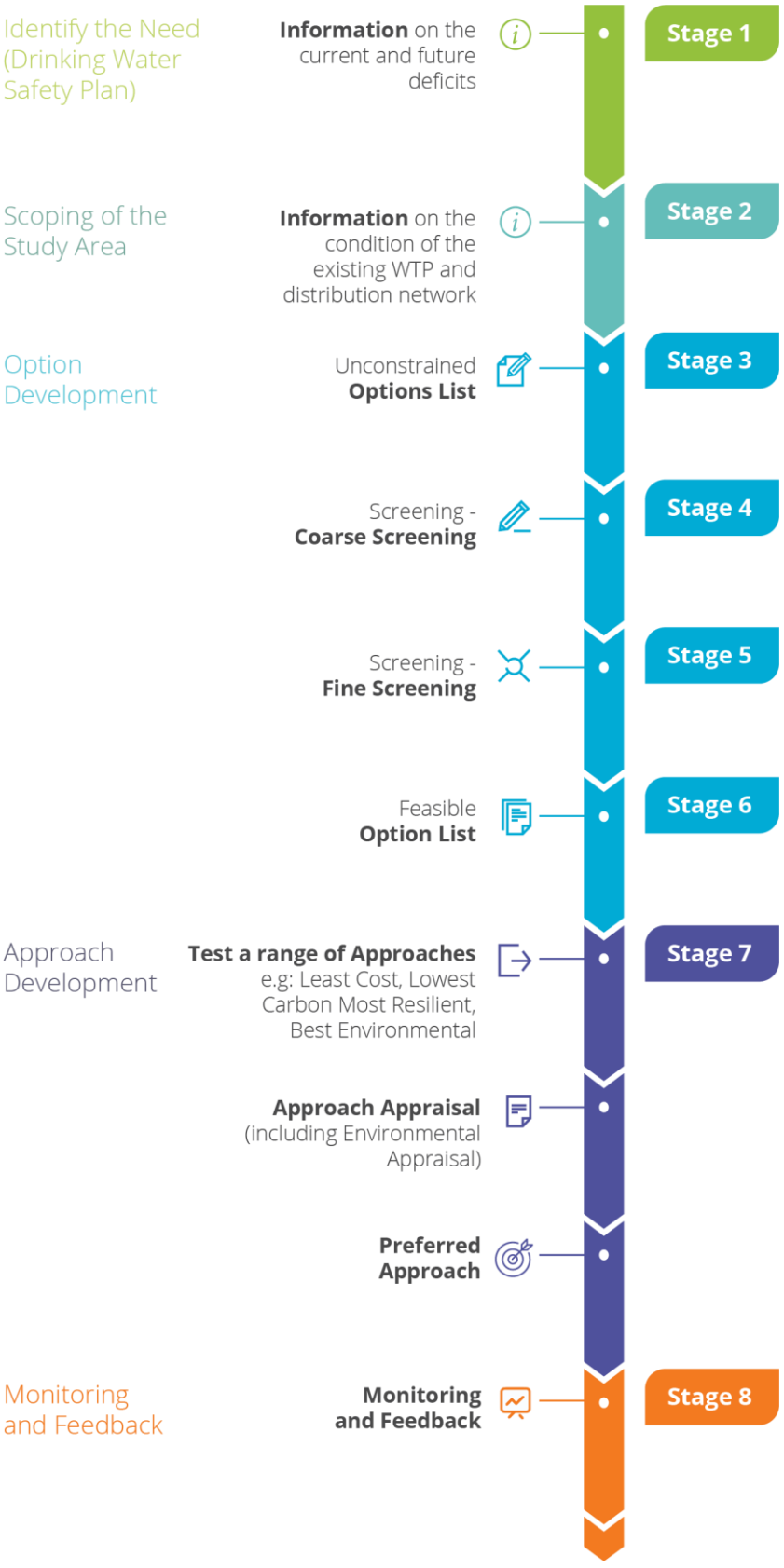



**Figure 2.5 - Options Assessment Methodology**

### Stage 1: Identify the Need

The process starts with the 'need identification' (quantity, quality, reliability and sustainability) as described in Chapters 3 to 6 of the Framework Plan. The identification of all these needs provides context for the Options Assessment Methodology and informs the scale of the solutions required. The Options, Approaches and Preferred Approach to address the identified needs for each WRZ will form part of the four RWRPs now being developed.

### Stage 2: Scoping of the Study Area

In order to manage the roll-out of the Options Assessment Methodology and delivery of Phase 2 of the NWRP (the four RWRPs), Irish Water has split the public water supply into the four regional areas, as shown in Figure 2.6. These regional areas are generally based on:

- Irish Water's operational regions (North and West, Eastern and Midlands and Southern Regions);
- Local authority boundaries;
- WRZ boundaries; and
- Environmental impact
- Water body catchments as delineated by the EPA under the River Basin Management Plan

These regional areas are further subdivided into clusters of WRZs termed "Study Areas".

Grouping WRZ's into Study Areas means that:

- Options can be developed that address multiple problematic supplies, which prompts us to consider regional solutions to resolve local needs in more than one supply; and
- Broader strategic decisions can be made.


Figure 2.6 – Regional Areas

The Study Area boundaries are based on WFD catchments and WRZ locations and types (urban and rural).

**For more information on how the Regional areas were identified, and the WRZs and Study Areas, see Section 1.9.4 and Section 8 of the Framework Plan.**

Data is being compiled for each individual Study Area including but not limited to:

- The water quality that can be supplied;
- The water quantity that can be supplied;
- The sustainability of Irish Water sources or infrastructure; and
- The reliability of Irish Water assets.

A detailed programme of consultation and workshops will be conducted with our Local Authority partners and stakeholders, to ensure a full and comprehensive understanding of need across the given study area, including essential maintenance, refurbishment work or issues with the distribution networks.

As it develops the Study Area reports, Irish Water is considering the potential environmental impact of our existing abstractions. This allows us to identify sites where we know there are sustainability challenges. This will also allow us to identify situations where we may need to reduce or remove existing abstractions within the coming years.

### Stage 3: Unconstrained Options

The Supply Demand Balance (SDB) and the Barrier Assessment inform the type and scale of Options that Irish Water must consider.

For each Study Area a specialist team including groundwater professionals (hydrogeologists), surface water professionals (hydrologists) and environmental specialists conduct a desktop assessment of all potential Options or combinations of Options, including rivers, lakes and groundwater sources. Our engineering teams assess upgrades to existing and new infrastructure requirements, and our environmental scientists review the potential for catchment measures. We also conduct Unconstrained Options workshops with our Local Authority partners to ensure that we have incorporated local knowledge on existing and potential supplies.

Whilst options are considered individually, an approach to meet identified need may be provided from a combination of these options. For example, rather than seeking to meet a deficit of 10 million litres per day by increasing abstraction from an existing source by that amount, the Preferred Approach (solution) could achieve the same result by increasing an abstraction from an existing source by only 6 million litres per day, but reducing leakage by 3 million litres per day and reducing consumption through demand management measures by 1 million litres per day (aligned with the Three Pillar approach), for example.

An “Unconstrained Options” list is then developed. This list contains all of the possible solutions that have been identified, which either fully or partly resolve a water supply deficit, regardless of cost, environmental or social constraints, which are considered at later stages.

The Unconstrained Options list can include solutions at a WRZ, Study Area, Regional Area or even National level. Key Option types are listed in Figure 2.7.


Figure 2.7 – Key Option Types

### Stage 4: Coarse Screening

Our next stage is the Coarse Screening assessment, where we review the Unconstrained Options list and start to rule out any non-viable Options. By “non-viable Options”, we mean those that have a potentially fundamental impact that we are unlikely to be able to mitigate e.g. cost.

The Coarse Screening assessment uses the criteria listed in Table 2.1, with Options scored against a red, amber or green traffic light system.

Any Option which scores **red** against a question has a fundamental issue that would be difficult to mitigate and is discounted on the basis that it is unlikely to ever be delivered.

An **amber** rating across any of the Coarse Screening criteria does not rule out an Option. However, it indicates that the Option may require mitigation measures and additional environmental assessments should the option be progressed.

Therefore, the coarse screening allows us to better understand the scope of Options at a plan level, and factor this into plan level costing.

After Coarse Screening, the remaining Options are known as “Constrained Options”, which are carried forward to Stage 5: Fine Screening.

Table 2.1 – Coarse Screening Questions

| Criteria | Unconstrained Option Assessment questions | | Assessment Score |
|---|---|---|---|
| **Resilience** | **Q1** | Does the option address the supply-demand problem? | **Yes** / **Maybe** / **No** |
| **Deliverability and Flexibility** | **Q2** | Is the option technically feasible? | **Yes** / **Maybe/ No** |
| | **Q3** | Can the risks and uncertainties associated with the option be mitigated to avoid failure of the option? | **Yes** / **Maybe / No** |
| **Sustainability (Environmental and Social impacts)** | **Q4** | Can the impacts on known high level environmental constraints including at internationally designated sites be avoided? If not is mitigation likely to be possible? | **Yes** / **Maybe / No** |

### Stage 5: Fine Screening

Fine Screening involves a more detailed desktop assessment of the Constrained Options, known as a Multi Criteria Assessment (MCA).

An MCA process allows a combination of issues to be considered together and allows us to assess the Options relative to each other. For example, although two Options might be viable, one option might be more environmentally acceptable and cost effective than the other. The MCA methodology has been tailored to provide a structured and transparent approach to inform the decision-making process and to be as objective as possible in the scoring process. It also allows both non-monetary and monetary objectives to influence decisions.

In total, 33 assessment criteria are applied to each option at the Fine Screening stage, using the best publicly available information from specified sources. The MCA scoring is uniformly scored across all options, by a technical panel of specialists, including civil engineers (feasibility, progressibility, quickest deliverability and resilience criteria), ecologists and environmental scientists, hydrologists and hydrogeologists (ecological, environmental, and social criteria).

The environmental and ecology questions we use as part of this assessment are directly aligned with the SEA and AA of the NWRP. This ensures that environmental considerations are at the centre of our Options Assessments Methodology and decision-making process.

Where there are a very large number of Options covering a range of option types, Fine Screening can be used to identify poorly performing Options. These can be removed or placed on a reserve list for future consideration should they be required. Options that have passed through the constrained Options stage might also be removed at Fine Screening if a more detailed assessment shows them to be unsuitable. Any options which are discounted at this stage are recorded on the Rejected Options Register.

Better performing options are taken forward into Stage 6 for further consideration.

### Stage 6: Feasible Options List – Option Costing

The output of the Fine Screening stage is called the Feasible Options List. A plan-level outline design

and estimated cost is developed for each Option on this list. “Whole life” construction and operation costs are based on Irish Water’s project costing tool (PCT) to ensure alignment with Irish Water’s investment planning processes.

**Further information on how we develop our Option Costings can be found in section 8 of the Framework Plan.**

The purpose of the RWRP-level costing is to allow us to compare the Feasible Options relative to each other. We do not include detailed project level costing for “in-flight projects”. This is to ensure that the Framework Plan methodology is uniformly applied in the development of Preferred Approaches. We will apply the Preferred Approach methodology to all WRZs with in-flight projects in them, unless there are exceptional circumstances for not doing so.

It should be noted that assessments at this stage are desk-based plan level assessments. Environmental Impact Assessment, Appropriate Assessment and costing of projects are further reviewed at project level. Alternatives must also be considered as part of any statutory environmental impact assessment process in the usual way.

### Stage 7: Approach Development

After Fine Screening the remaining Feasible Options are assessed against a specified number of approaches. An approach is a way of aligning the Feasible Options with the objectives and policies set out in the Framework Plan.

For example, there are many ways of driving to a given location (Feasible Options). If you were to put a destination into the Satnav on your phone and hit search, it will give you a shortlist of a number of different ways to get to the destination (approaches), such as:

- A route that takes you along a motorway. This might be the quickest way, but that route may involve a number of tolls and therefore a higher cost.
- A route that takes you along a national road, which may cost less, but take more time to reach the destination; or
- A route along a regional road, that looks to be more direct, but where you might run the risk of getting stuck behind a tractor, or slow-moving traffic.

If you urgently needed to get to a destination, your Preferred Approach would be the motorway route.

The six approaches in our Framework Plan are:

1. Least cost – ensures we are aligned with the Public Spending Code;
2. Best AA– lowest impact on European designated sites, the approach that following a desktop assessment, will have the least impact on a European Site (without consideration of mitigation measures). This approach also accounts for the fact that Options with a high likelihood of significant effects, which could lead to adverse effects on a European site, will have already been removed at Coarse Screening stage;
3. Quickest delivery – can be designed, constructed and delivered in the shortest time, ensures we can address critical risk if there is an urgent need;
4. Best SEA Environmental – lowest potential impact on the environment;
5. Most resilient – best performance over time, ensures we are aligned with the DHPLG Sectoral Adaptation Plan; and
6. Lowest carbon – Lowest carbon cost to build and operate, ensures we have a benchmark for our policy of reducing carbon emissions over time.

For each WRZ we then identify which combination of the Feasible Options appears at this stage to be the best approach or "Preferred Approach".

The Approach Development process is conducted through workshops with technical specialists, including engineers, hydrologists, hydrogeologists, ecologists and environmental scientists, who assess the Feasible Options in the 6 approach categories, relative to each other, using the process set out in Figure 2.8.

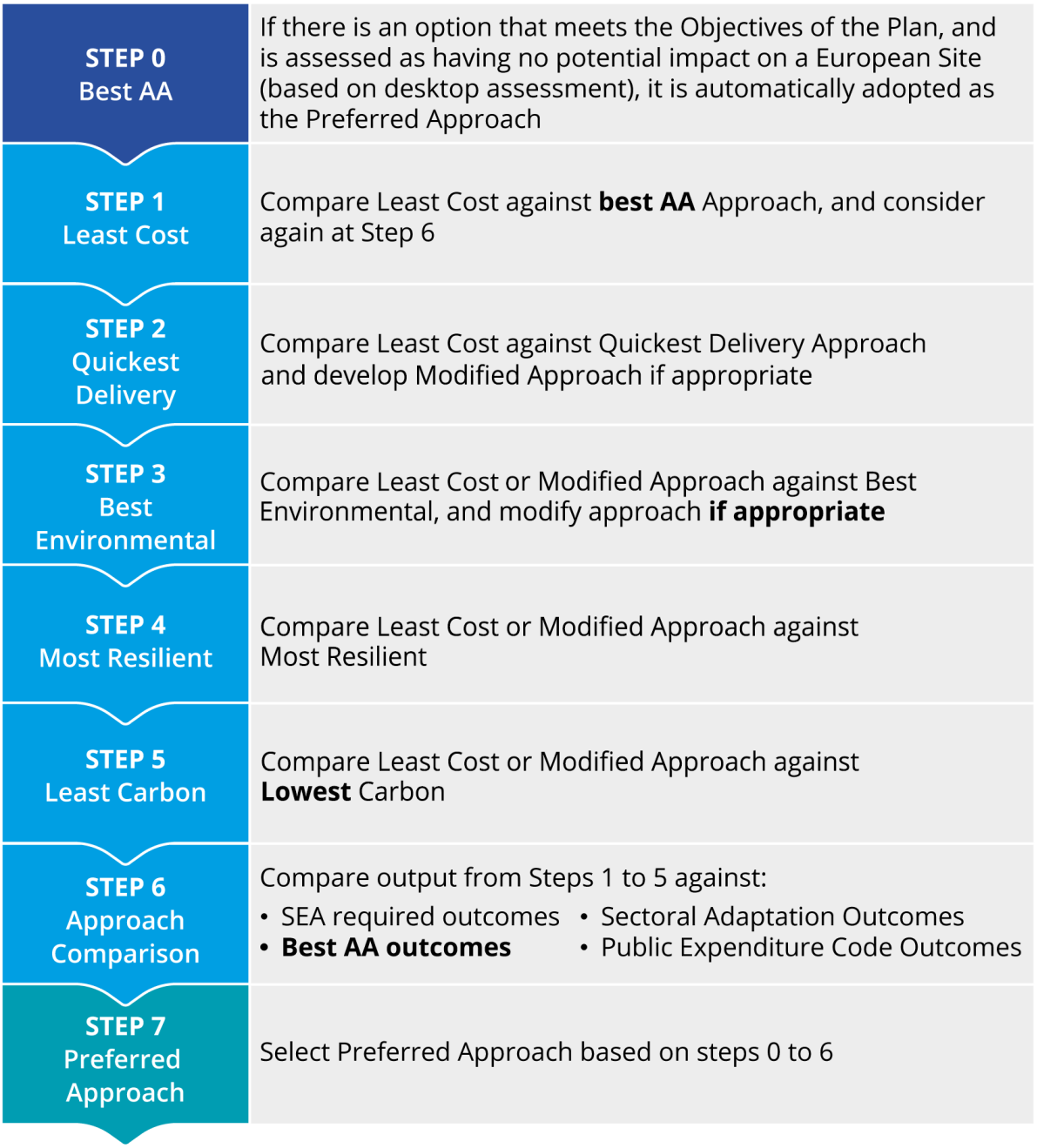



**Figure 2.8 – Approach Development Process**

It is important to note that the drivers for each WRZ are unique to the supplies and the area within which they are located. Therefore, it is essential that we look at each approach through this lens.

The output at the end of this process is the Preferred Approach for the WRZ. When we have identified the Preferred Approach for each individual WRZ level, we then identify any option combinations that could address the needs of more than one WRZ at once. (For example, an option might be to decommission five isolated water treatment serving individual WRZs and replace them with a single larger treatment plant that serves all five supplies). We repeat steps 0 to 7 for those grouped options. This allows us to understand the full range of improved options for our existing supplies.

When we have assessed the Preferred Approaches at a study area level, we identify any option combinations that could address the needs of more than one Study Area. We repeat steps 0 to 7 for those grouped options for the entire area of a Regional Water Resource Plan. This again allows us to understand whether there are any options at a Regional Level that could provide a better all-round outcome than those at area WRZ or study area level. The SEA and AA of the Preferred Approaches and their potential cumulative/in combination effects will inform the study area and regional level decision-making process. SEA mitigation and monitoring plans will also be taken into account through the Regional Plan implementation.

The purpose of the reviewing the Preferred Approach across the three spatial scales allows us to develop a strategic plan for all of our public water supplies.

**Further information on how we develop solutions using our Options Assessment methodology can be found in section 8 of the Framework Plan.**

### Interim Solutions

Based on the scale of need across all Irish Water's WRZs, it will take multiple investment cycles to fully address all the issues across existing water supplies. Therefore, smaller, localised interventions may be required on an interim basis to secure priority need in existing supplies until the

Preferred Approach can be delivered. For example, although the Preferred Approach for a small WRZ may be to decommission it and connect it to a neighbouring supply, there might be a boil water notice that must be addressed in far less time than it would take to deliver the Preferred Approach. In that case, we might have to provide a temporary upgrade at the existing supply in order to take it off a boil water notice for the time it will take us to deliver the Preferred Approach.

Any projects considered within the interim approach will only be progressed on the basis of urgent or priority need such as a critical water quality risk and supply reliability issues. One example of a common interim measure is using temporary containerised treatment processes that can be moved from site to site as required.

**Further information on Interim Solutions can be found in section 8.3.7.6 of the Framework Plan.**

### Stage 8: Monitoring and Feedback into Plan

The public water supply in Ireland is a live asset base and is subject to continuous change. New assets such as water treatment plants, storage reservoirs, trunk and distribution mains are continuously developed and upgraded. Knowledge and data relating to our assets is improving and operational procedures are being standardised.

External factors can also influence the performance of Irish Water's water supplies, including:

- Changes in legislation and policy that impact the way Irish Water operates its asset base or its interface with the natural environment;
- Reductions in water supply availability due to climate disruption and environmental impacts;
- Growth in demand for water for domestic and non-domestic use; and
- Funding availability and requirements to improve LoS for our customers.

All of these factors influence need in terms of quality, quantity, sustainability and reliability, therefore the SDB and barrier scores in the NWRP represent a snapshot in time of live metrics.

Similarly, the development of Preferred Approaches as part of the forthcoming Regional Water Resources Plans is influenced by evolving scientific data, and policy change in relation to the natural environment.

Irish Water must be able to continuously adapt to these changes, which may be minor or material in nature. Therefore, the Framework Plan commits to undertaking continuous monitoring and ensuring that there is a feedback mechanism within the Framework Plan and Regional Water Resources Plans. The Regional Water Resources Plans once adopted, will be subject to formal review every five years. However, the continuous monitoring process will ensure that material amendments are assessed for significant impacts on the environment.

The monitoring and feedback process as outlined at Section 8.3.8 of the Framework Plan involves:

- Implementing the Environmental Action Plan and Monitoring Plan as described in the SEA Statement (Chapter 4)
- Identifying the internal and external factors that may impact the Framework Plan, mapping the areas of the Framework Plan that they will influence;
- Updating needs identification by updating the SDB, Drinking Water Safety Plans and Barrier Scores to reflect these changes;
- Assessing the impact of these changes on the Framework Plan and Preferred Approaches developed within the RWRPs; and
- Updating the overall need in the RWRPs where the changes are deemed to be material.

In certain circumstances, monitoring and feedback will identify the need for a variation to the NWRP - Framework Plan or one or more Regional Water Resources Plan. Where a variation is required, Irish Water will screen the change for SEA and AA in accordance with its legal obligations and where required it will carry out an SEA and/or AA before adopting the variation.

# 3 Public Consultation

Public consultation is essential to ensuring stakeholders and members of the public have an opportunity to contribute to the development of the NWRP. Several rounds of consultation have already taken place in relation to the NWRP, and further consultation will take place relative to the RWRPs, as outlined below.

In particular, as noted at Section 1.8 of this NTS above, Irish Water carried out two rounds of consultation on Phase 1 NWRP – Framework Plan, comprising:

- Phase 1 NWRP – Framework Plan, Consultation one; and
- Phase 1 NWRP – Framework Plan, Consultation two.

These consultation processes are outlined in more detail below.

## 3.1 Phase 1 NWRP – Framework Plan, Consultation one

The first round of public consultation informed the development of the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA), of the NWRP. We asked for feedback on the SEA Scoping Report and invited comments and suggestions for consideration at this stage. This consultation began on 9 November 2017 and concluded on 22 December 2017. Members of the public, interested parties and environmental authorities were invited to contribute to the development of the NWRP, as part of the SEA process, through public consultation.

There were 17 written submissions received during this component of Phase 1 NWRP – Framework Plan, Consultation one, 15 from organisations and two from members of the public. An overview of the feedback in the submissions received is presented in the NWRP Consultation one report available on our website http://water.ie/NRWP

Feedback from this consultation process (which we are now referring to as “Phase 1 NWRP – Framework Plan, Consultation one) was used to inform a decision to phase delivery of the NWRP in two phases due to the size of the task. That same feedback helped us develop the draft Framework Plan and was taken into account as part of the SEA and AA process for the preparation of the draft Framework Plan.

For more information on Phase 1 NWRP - Framework Plan, Consultation one please see Framework Plan, Appendix A: Consultation and the Strategic Environmental Assessment Environmental Report, Section 4: Consultation and Appendix C: Summary of Responses to the SEA Scoping Report and the Consultation one report.

## 3.2 Phase 1 NWRP – Framework Plan, Consultation two

Since 2018, we have undertaken extensive engagement with the environmental authorities, our local authority partners and interested stakeholders to inform the development of the draft Framework Plan and associated Environmental Reports.

Irish Water subsequently undertook statutory consultation on the Phase 1 NWRP draft Framework Plan in accordance with the consultation requirements of the SEA Regulations. We have termed that consultation as “Phase 1 NWRP – Framework Plan, Consultation two”. Consultation two commenced on 8 December 2020 with the publication of the draft Framework Plan and associated SEA Environmental Report and NIS and ran until an initial closing date of 16 February 2021. Irish Water subsequently

facilitated two extensions to this statutory public consultation at the request of stakeholders, with consultation finally closing on 12 March 2021.

The Phase 1 NWRP – Framework Plan, Consultation two included an opportunity to make submissions on the accompanying SEA Environmental Report, and on the NIS relative to AA matters.

A number of communications tools were developed to promote the Phase 1 NWRP – Framework Plan, Consultation two and to raise awareness among the public, interested parties and environmental authorities and to encourage participation in the consultation process. These communications tools and channels are discussed in more detail in section 3.3 of the Consultation Report.

More information on Phase 1 NWRP - Framework Plan, Consultation two process can be found in Section 1.9 of the Framework Plan and Consultation report **www.water.ie/nwrp**

## 3.3 Adoption of the NWRP Framework Plan

All 84 submissions and observations received during Phase 1 NWRP – Framework Plan, Consultation two have been considered and taken into consideration, and the draft NWRP Framework Plan was amended to reflect those submissions as appropriate and as detailed in the Phase 1 NWRP - Framework Plan Consultation two Report.

The final Framework Plan was then adopted by Irish Water, as was the accompanying Strategic Environmental Assessment Statement and Appropriate Assessment Determination.

The SEA Statement outlines the issues raised and demonstrates the amendments that were made to the Framework Plan as a result of the consultation. The SEA Statement outlines how environmental considerations have been integrated into the NWRP Framework Plan and how consultation influenced the development of the Framework Plan.

The AA Determination confirms that the NWRP Framework Plan will not, individually or in combination with other plans and projects, have an adverse effect on the integrity of any European site. Irish Water would not have been entitled to adopt the NWRP Framework Plan unless and until it had achieved this standard.

Phase 2 of the NWRP is due to get underway shortly. There will be an initial phase of consultation with key statutory stakeholders, termed Phase 2 NWRP – RWRP Consultation one, that will not be open to the public, although the documents will be on our website and accessible to all. Following on from that process, four draft RWRPs will be consulted on, each of which will be subject to SEA and AA. Each of the four RWRPs will have their own public consultation phases.

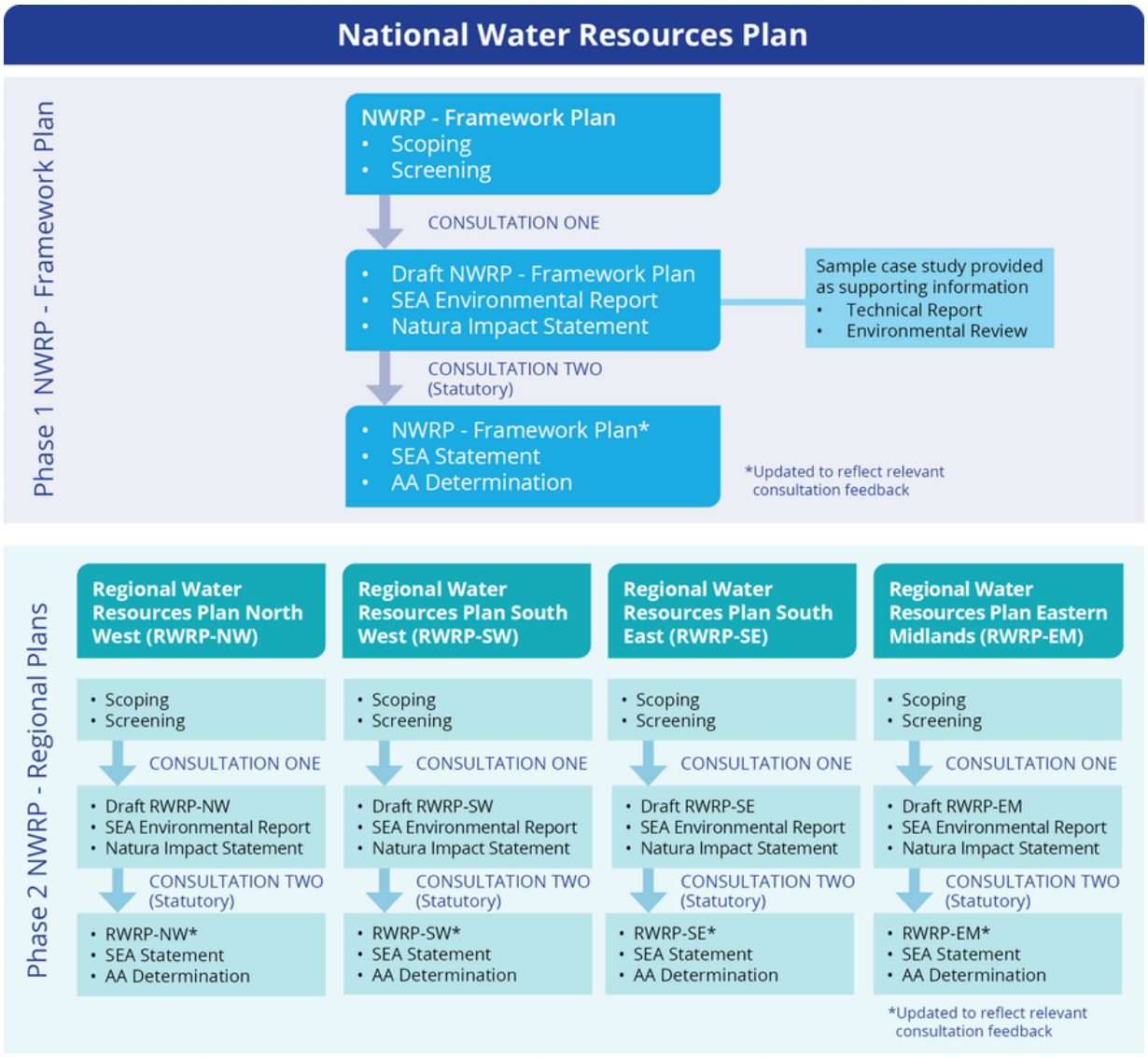



Figure 3.1 Component Parts of National Water Resources Plan

These public consultations, termed Phase 2 NWRP – RWRP Consultation two will take place during 2021 (Figure 3.1) and will be adopted with all necessary amendments, and accompanying SEA Statements and AA Determinations, likely in 2022. For more information on any aspect of the NWRP please see www.water.ie/nwrp

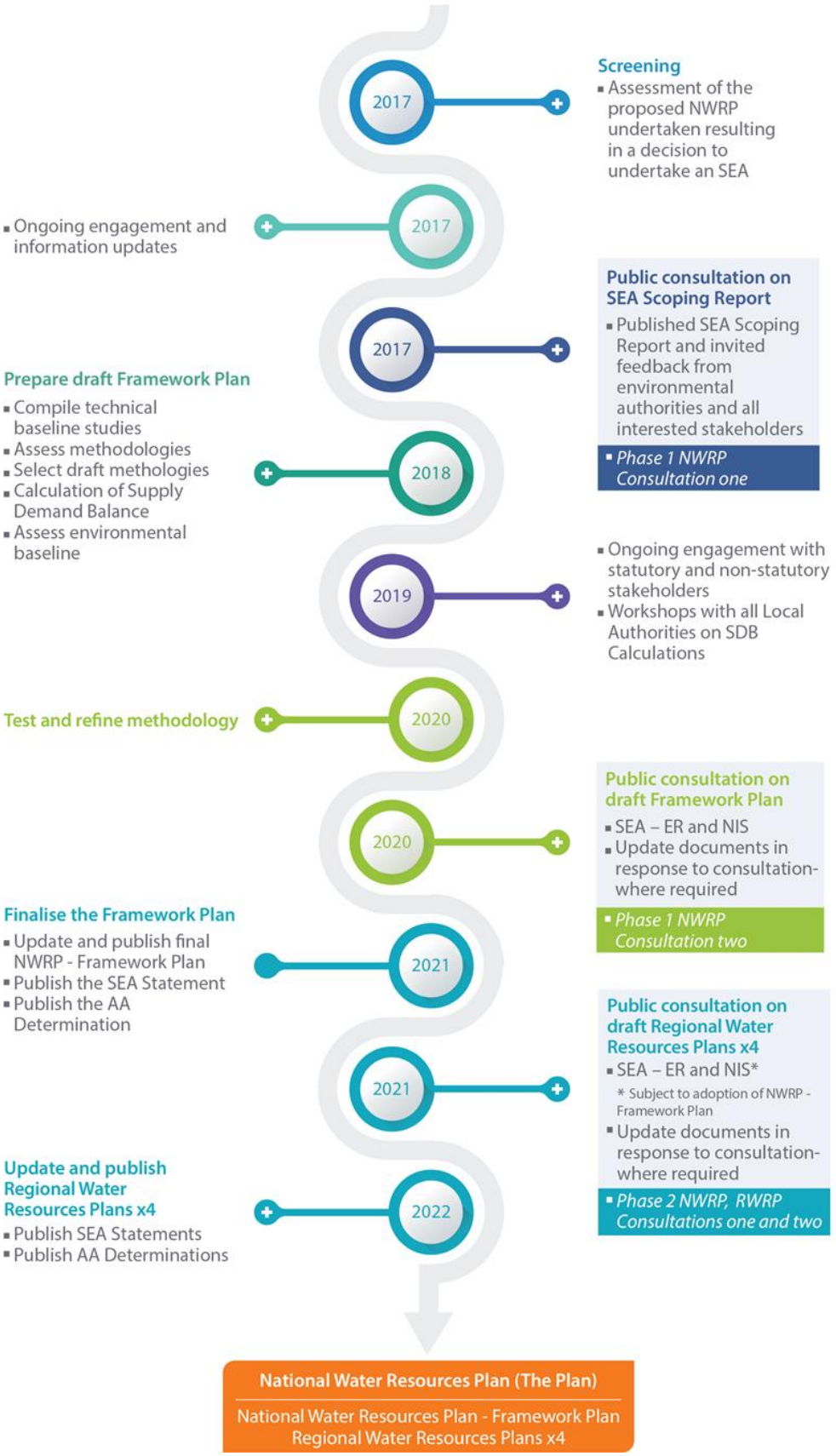



**Figure 3.2 – NWRP Consultation Roadmap**