

7.6 Interim Solutions

As outlined in Section 8.3.7.6 of the Framework Plan, the NWRP provides for an “interim solution” approach, which allows shorter term interventions to be identified and prioritised, when needed. The Preferred Approach for each WRZ, Study Area and Region will be delivered on a phased basis subject to budget and regulatory constraints. It will take many investment cycles to deliver the Preferred Approach across all WRZs, therefore, Uisce Éireann must have a means to continue delivering safe, secure and reliable water supplies (on a short to medium term basis) while we deliver our Preferred Approach.

On this basis, interim, short-term capital maintenance solutions have been identified for all WTPs and will be utilised when needed. These solutions will allow Uisce Éireann time to deliver the Preferred Approach, while at the same time, maintaining a sustainable water supply. These interim solutions are generally smaller in scale and rely on making best use of already existing infrastructure.

Examples of general interim measures for different water sources include the following:

- For groundwater sites, where the Preferred Approach requires that the existing WTP is to be maintained, the interim solution would typically provide for refurbishment of the existing boreholes or development of new boreholes and borehole pumps, and an upgrade of the treatment process in line with proposed growth predictions. This may require a staged upgrade of the WTP. For example, the interim solution would typically include an upgrade of the WTP to provide supply to existing customers with consideration given to a further required expansion of the WTP at a later date.
- For surface water sites, where the Preferred Approach requires that the existing WTP is to be maintained, the interim solution would typically involve the upgrade of the existing WTP in line with proposed growth predictions. Similar to groundwater sites this may require a staged upgrade of the WTP where the interim solution would typically include an upgrade of the WTP to provide supply to existing customers with consideration given to a further required expansion of the WTP at a later date.
- For groundwater and surface water sites where the Preferred Approach involves the decommissioning of the WTP by providing supply to the customers from another WTP within the WRZ or from another WRZ/Study Area/Region, the interim solution would involve the advancement of the rationalisation of the WTP, by provision of part supply or full supply if possible. If rationalisation is not feasible at that point in time due to dependencies on Study Area or Regional Option, containerised WTP upgrade solutions would be considered for the WTP. This involves the provision of a package WTP within a containerised unit. These package plants can be modified for use on other sites in the future and therefore are considered “no regrets” infrastructure investment.

A decision to progress any interim solution will be based on urgent or priority need to address water quality risk or supply reliability e.g., WTPs on the EPA Remedial Action List (RAL), drought issues or critical need. The RWRP-SE does not confer funding availability for any project and any interim measures will be subject to budget availability, relevant environmental assessment and other required consents in the normal way.

The interim solutions are for the purpose of maintaining continuity of supply and facilitating growth while we deliver the objective of the NWRP. However, it should be noted that the interim solutions will not improve the Level of Service. These solutions, in most cases, will only be used to allow time to deliver the longer-term solution. The interim solutions are determined in line with the Preferred Approach and as such, they are considered “no regrets” infrastructure investment.

7.6.1 Study Area K to Study Area M

The potential interim solutions for Study Areas K to M are summarised in Table 7.23 and described in the Technical Appendices 1 -3.

Table 7.23 Interim Solutions - Study Area K to Study Area M

Interim Solutions	Number of Interim Solutions by Type		
	SAK	SAL	SAM
Upgrade WTP to Uisce Éireann standards	11	2	5
Upgrade WTP to Uisce Éireann standards - potential site for containerised solution	4	6	0
Refurbish existing borehole(s) and upgrade WTP to Uisce Éireann standards - potential for a containerised solution	36	3	8
Refurbish existing borehole and upgrade WTP to Uisce Éireann standards	34	1	18
Refurbish existing spring abstractions and upgrade the WTP to Uisce Éireann standards	7	1	0
Refurbish existing spring abstraction & borehole, and upgrade WTP to Uisce Éireann standards	3	0	0
Refurbish existing spring and upgrade WTP to Uisce Éireann standards - potential site for a containerised solution	4	0	0
Total no. of solutions	99	13	31

Uisce Éireann 's Investment Plan 2020-2024 includes a number of programmes and projects targeted at providing for growth. One such programme is the Small Towns and Villages Growth Programme (STVGP) which will provide funding for Water and Wastewater Treatment Plant growth capacity in smaller settlements which are not otherwise provided for in the Capital Investment Plan 2020-2024. The STVGP is focused on supporting growth in areas already served by Uisce Éireann infrastructure where current or future capacity deficits have been identified. Uisce Éireann have engaged with Local Authorities across the country to ensure that the investment is made appropriately in accordance with the relevant County Development Plan. The interim solution for Galtee Regional (SAK), Adramone/Kilrossanty (SAK), Bennetsbridge & Kilmaganny (SAL), and Ballindaggin WRZ (SAM) will be considered under this programme.

7.7 Sensitivity Analysis

Our supply demand forecast has been developed using the best available information and application of best practice methods where we have data to do so. The uncertainty associated with our data is captured within our estimate of Headroom. The Headroom component is added to the Demand

component of the SDB. We have identified areas where we will focus improvements in data to improve the certainty of our forecasts. These are outlined in Section 9 of this RWRP-SE.

Future events that could alter the SDB and impact on Need, such as climate change and new abstraction legislation, introduce uncertainty to our long-term forecasts. For this reason, we undertake a Sensitivity Analysis that allows us to stress test our Preferred Approaches against a range of possible futures. This ensures that our decision making is robust and that the Preferred Approaches are adaptable.

We test our Preferred Approaches against future scenarios defined by five (5) uncertainty factors:

- **Sustainability:** New abstraction legislation introducing sustainability limits on quantities to be abstracted, increasing the SDB Deficit.
- **Climate change:** Climate change reduction in water availability at certain times of the year is greater than anticipated, increasing the SDB Deficit.
- **Growth forecast:** Growth in demand is lower than forecast, reducing the SDB Deficit.
- **Leakage targets exceeded:** We achieve better than expected levels of effectiveness and efficiency in reducing leakage, reducing the SDB Deficit.
- **Leakage targets not met:** Leakage does not reduce to target levels within the planning period, increasing the SDB Deficit.

We have not assessed against a scenario where growth is higher than forecast, as we consider the projections that we have used in our SDB calculation reflect an optimistic growth forecast. Furthermore, the scenario of higher than forecast growth would have the same impact as a scenario where Leakage targets are not met.

The uncertainty factors are tested independently. A combination of these scenarios may occur together. For example, we may find growth in demand is lower than forecast, and/or we achieve greater leakage reduction at the same time as the abstraction licensing regime limits our water availability. In this case, reductions in demand would offset some of the increasing deficit arising due to abstraction sustainability reductions.

As data and models improve over time Uisce Éireann will incorporate a more extensive approach to sensitivity analysis in the form of Adaptive Planning. This will provide the flexibility to respond to uncertainty when it occurs.

Overall, our sensitivity assessment of the Interim Solutions and Preferred Approach indicates they are highly adaptable to a broad range of futures, and therefore represent 'no regrets' infrastructure

We describe the scenarios we have assessed in further detail in Chapter 8 of the Framework Plan. A summary of the outcomes of the analysis we have undertaken is given in Table 7.24. Further details can be found in the Study Area Technical Reports (Appendices 1-3).

Table 7.24 Sensitivity Analysis of the Study Area Preferred Approach

Sensitivity Criteria	Impact on the SA Preferred Approach		
	SAK	SAL	SAM
Sustainability Impact			
Status of surface water abstractions potentially impacted by new legislations with the Preferred Approach in place*	Decommission 4 Maintain 18	Decommission 2 Maintain 2	Decommission 1 Maintain 8
Likelihood	Moderate/High	Moderate/High	Moderate/High
Change in Deficit (m ³ /day) 🚫	+39,400	+1,400	+6,000
Climate Change Impact			
Likelihood	High	High	High
Change in Deficit (m ³ /day) 🚫	+7,600	+300	+700
Demand Growth Impacts			
Likelihood	Low/Moderate	Low/Moderate	Low/Moderate
Change in Deficit (m ³ /day) 🟢	-5,950	-3,840	-18,520
Leakage Targets not met			
Likelihood	Low	Low	Low
Change in Deficit (m ³ /day) 🚫	+350	+320	+240

Sensitivity Criteria	Impact on the SA Preferred Approach		
	SAK	SAL	SAM
Leakage Targets exceeded			
Likelihood	Moderate/High	Moderate/High	Moderate/High
Change in Deficit (m ³ /day) ↓	-36,230	-3,830	-5,240

↓ = Reduced SDB Deficit

↑ = Increased SDB Deficit

* Number of abstractions potentially impacted by new legislation that are proposed to be decommissioned in the Preferred Approach. Abstractions that will be potentially impacted by the new legislation are set out in Table 7.19. These impacts are based on conservative estimates of what a future regulatory regime may require. The actual reductions that may be needed in future will depend on the specific requirements of that legislation.

7.8 Summary

Our SA Preferred Approaches consist of a combination WRZ Options and SA Options that perform best against our criteria of Resilience, Deliverability and Flexibility and Sustainability. These solutions have been developed with input from technical and local experts through workshops involving the assessment of 778 Feasible Options.

Our SA Preferred Approaches:

- Consist of 63 Options comprising 48 WRZ Options and 15 Study Area (SA) Grouped Options. The SA Grouped Options supply more than one WRZ and generally rationalise supplies, with associated environmental benefits.
- Comprise 27 increased or new local groundwater supplies, and one (1) increased or new local surface water supplies that contribute to meeting an estimated 27% and 9% of the Deficit across the South East Region.
- Supply 63% of the regional Deficit by interconnecting and rationalising supplies. This is combined with upgraded or new groundwater or surface water sources. The interconnected systems benefit 57 WRZs.
- Supply approximately 1% of the regional Deficit through three (3) Cross Region Interconnections benefitting eight (8) WRZs. The largest cross regional supply connects six (6) WRZs to the Limerick Supply System in the Eastern and Midlands Region. The remaining two connect single WRZs to the Arklow supply system and the Tinahely Supply system in the Mid Wicklow area of the Eastern and Midlands Region.
- Upgrade all WTPs to be maintained under the Preferred Approach, to reduce water quality risks identified through our Barrier Assessments.
- Increase resilience by delivering solutions through interconnections and rationalisation and providing 61 more water storages.
- Improve sustainability outcomes by decommissioning 63 WTPs and abandoning 66 associated abstractions. This includes seven (7) surface water abstraction sites that have been assessed to be potentially impacted by future abstraction legislation. The assessment was based on a conservative estimate of what a future regulatory regime may require.
- Include 143 Interim Solutions to ensure shorter term Deficits are addressed to account for lead times in delivery of Options that will ultimately meet the Deficit across the 25-year planning period.
- Are adaptable to change across a range of future scenarios including climate change, growth projections, sustainability outcomes and changes in leakage targets.

7.9 References

1. Department of Communications, Climate Action and Environment. 2018. *National Adaptation Framework. Planning for a Climate Resilient Ireland*. [Online]. Available from: <https://www.gov.ie/en/publication/fbe331-national-adaptation-framework/>.
2. UK Technical Advisory Group (UKTAG). 2008. UK Environmental Standards and Condition (PHASE 1). Water Framework Directive.
3. EU Drinking Water Directive (Directive 2020/2184 of the European Parliament and of the Council on the quality of water intended for human consumption (recast).
4. European Union (Drinking Water) Regulations 2023. (S.I. No. 99/2023).
5. Water Environment (Abstractions and Associated Impoundments) Act 2022 [Online]. Available from: <https://www.irishstatutebook.ie/eli/2022/act/48/enacted/en>.