

Chapter 7

Objective:

Support Social and Economic Growth



Our Strategic Aims

- Support National, Regional and Local Economic and Spatial Planning Policy.
- Facilitate growth in line with national and regional economic and spatial planning policy.
- Ensure that water services are provided in a timely and cost effective manner.

Introduction

The delivery of appropriate infrastructure to meet the required demand where and when it is needed is fundamental to supporting social and economic growth. Water and wastewater capacity is an important factor in maintaining Ireland's competitiveness for industry and commercial activity and as a destination for foreign direct investment. Water stress is an increasingly critical issue in many parts of the world, whereas Ireland has an abundance of water resources, provided we manage them appropriately.

Irish Water must assess where the demands for water services are most likely to arise based on national and regional spatial planning policies and plans, together with population and economic growth predictions. We will plan to ensure continuous service to all Irish Water's existing customers whilst providing additional capacity to meet future population growth and industrial development.

Our Legal Obligations

The Department of Environment, Community and Local Government (DECLG) sets policies in relation to spatial planning and economic development. The DECLG also sets policy in relation to water services and the protection of the environment. Under sections 33 and 34 of the Water Services (No. 2) Act, 2013, Irish Water must be consistent as far as is practicable with national & regional spatial planning policy and have regard to local spatial planning policy when developing strategies and planning investment in water services. These sections also require Irish Water to be consistent as far as is practicable with and take account of the River Basin Management Plans in relation to the implementation of the WFD. In addition, these sections require that Irish Water consults with its economic and environmental regulators and with regional and local planning authorities before preparing its strategic and investment plans.

As per the Planning and Development Regulations, 2001 (as amended) Irish Water is a prescribed body for the purpose of the making of Regional Planning Guidelines (new Regional Spatial and Economic Strategies), county development plans, local area plans and planning schemes. Irish water is also a prescribed body for development management.

The DECLG will prepare Ministerial Guidelines under section 28 of the Planning and Development Act, 2000 (as amended) to guide the engagement between Irish Water and local government at a regional and local level to ensure that water services provision is aligned with the country's spatial planning policy.

The Current Situation

Some 62% of Ireland's population currently live in urban areas, with Dublin and the Mid-East being the most urbanised regions in the country. The Greater Dublin Area is the most significant area in terms of population concentration. However, in line with the objective of the current national spatial planning policy (National Spatial Strategy, NSS) for balanced regional development, economic development and growth is promoted across all regions. The NSS identifies a settlement hierarchy strategy of gateways, hubs and other towns for focused development and growth with appropriate infrastructure services.

In rural areas away, from these settlements, the population is dispersed resulting in a large number of water supply zones and wastewater networks serving small populations. Many rural households are served by small private individual water and wastewater systems (wells and septic tanks respectively for the most part). Private Group Water Schemes have also been developed in rural areas. These private systems (individual or group) are outside the scope of Irish Water's remit.

Population growth targets for each of the state's 8 regions under the NSS were set by the Department of Environment, Community and Local Government (DECLG) in 2010, based on a balanced regional development policy. Each of the regional authorities subsequently set population targets to 2022 for each county within their region through their Regional Planning Guidelines (RPGs). All County Development Plans prepared since 2011 have based population growth targets for their settlement strategies on the relevant RPG.

The Central Statistics Office has published population growth forecasts at a national scale to 2046 and at a regional scale to 2031 based on the results of the 2011 census. These projections indicate that the national population will grow from 4.5 million in 2011 to between 5 million and 6.7 million by 2046, depending on the growth scenario used. Growth will vary across regions, with the Dublin/Mid East region likely to experience the greatest growth and the Western and Border Regions likely to experience the least growth. These forecasts indicate that in some areas, RPG targets to 2022 are unlikely to be achieved, while in other areas, targets will be surpassed.

The Department of Environment, Community and Local Government (DECLG) will be preparing a new National Planning Framework to replace the NSS in the near future and the three new regional assemblies (identified in "Putting People First") will subsequently prepare Regional Spatial and Economic Strategies to replace the existing RPGs by 2016.

Irish Water will regularly review and update our Water Services Strategic Plan to take account of the prevailing national, regional and local spatial planning policy and demographics.

Key Challenges

The key challenges and uncertainties in the provision of water and wastewater services to support social and economic growth are:

- Uncertainty in the rate of population (domestic) growth and changing demography.
- Uncertainty in non-domestic demand, from general commercial development which usually follows domestic growth, from agriculture and from industrial development which can have significant "one-off" demands for large water and/or wastewater capacity.
- Balancing investment for growth with investment priorities for compliance, security of supply and operational efficiency.
- The extended timetable required for the planning and implementation of new strategic water and wastewater capacity.
- Funding availability for strategic capacity provision.
- Impacts of climate change and socio-economic factors on the demand for water services.
- Meeting environmental compliance whilst providing for growth.

What our Customers can Expect from us

Our primary objective is to support population and economic growth in line with national and regional spatial planning policies and objectives. Our approach to planning and providing water services for growth will be evidence based. We will focus on utilising the capacities of our existing treatment facilities and networks to best effect while matching delivery of new capacity with realistic projections of demand based on appropriate planning horizons. We will aim to provide adequate spare capacity (headroom) in strategic level infrastructure to cater for variability in demand arising from factors such as weather and operational risk and some upward variation around projected development demand. We will seek to ensure that the standard of water services to our existing customers is maintained.

Case Study

Supporting Growth in the Greater Dublin Area

Over the past decade, water supply availability has regularly exceeded demand requirements in the Dublin Water Supply Zone by just 1%-2% (20% excess over seasonal peak would constitute normal best practice for a large urban area). The Dublin Water Supply Zone serves 84% of the population of the Greater Dublin Area (based on the 2011 Census population).

There have been three significant disruption 'events' in the past five years which have highlighted how finely balanced the supply-demand position is; the exceptional water demand at the time of severe cold weather in the winter of 2010, the algal bloom experienced on the Vartry Reservoir in May of 2013, and the operational problems experienced with raw water chemistry at the Ballymore Eustace plant in late October 2013 (at the time the Web Summit was hosted in Dublin). Each of these events resulted in supply interruptions and restrictions across the supply area, with negative economic and reputational impacts for the area and the country.

Over 84% of Dublin's water treatment capacity is now dependent upon the River Liffey, and this fact illustrates the vulnerability of the service, with negligible headroom, and the need for new long term sources in planning to manage risks such as unexpected population growth or migration, economic growth or risks from climate change and pollution.

Population in the Dublin Water Supply Zone is projected to reach 1.64m by 2021*, from 1.52m in the 2011, and is forecast to grow to 2.15m** by 2050. (The population in the GDA itself is projected to be 1.95m by 2021*). Despite expected reductions in leakage and developing existing sources to their sustainable limits, increasing population and economic growth and security of supply will result in a need for a new source by the early 2020's. Similar considerations apply to wastewater capacity provision in the Greater Dublin Area.



Leixlip Water Treatment Plant on the River Liffey. Photo: Irish Water

*based on the 2011 Census figures and the CSO's "most likely growth scenario" (Modified M2F2) identified in their Regional Population Projections

** Project Need Report (2015) for the Eastern and Midlands Region Water Supply Project

Objectives and Strategies

The proposed strategies to meet the above challenges and to achieve this objective are summarised in the table below and are detailed in the remaining sections of this chapter.

Strategy	Purpose
Aim SG1 - Support National, Regional and Local Economic and Spatial Planning Policy	
SG1a	<p>Liaise with national, regional and local government bodies and potential customers to anticipate and plan water services in line with the statutory planning policy.</p> <p>To ensure that we plan and advise coherently on future development and that our infrastructure development strategies are consistent as far as is practicable with national and regional planning policy and plans and have regard to local development policy and development proposals.</p>
Aim SG2 – Facilitate growth in line with national and regional economic and spatial planning policy	
SG2a	<p>Maximise capacity of existing assets through effective asset management and optimised operation.</p> <p>Minimise requirement for additional infrastructure.</p>
SG2b	<p>Plan water service infrastructure at national, regional and river basin level.</p> <p>To ensure water services are planned at a strategic level and can be provided where needed in line with development plans.</p>
SG2c	<p>Invest in the development of strategic networks and treatment works.</p> <p>To meet projected demand for our water services.</p>
SG2d	<p>Maintain appropriate headroom in strategic water services infrastructure.</p> <p>To facilitate growth between investment periods.</p>
SG2e	<p>Provide a high quality customer service for new customers.</p> <p>To promote Irish Water as a modern utility meeting published service standards to its new customers.</p>

Strategy	Purpose
Aim SG3 - Ensure that water services are provided in a timely and cost effective manner	
SG3a	Plan for water services infrastructure development to meet projected demand facilitating delivery on a phased basis.
SG3b	Balance investment for growth in demand with other priorities to ensure best outcome for customers.
SG3c	Operate an equitable New Connections Charging Policy that ensures efficient service provision to new customers with full cost recovery on a least cost basis.

SG1: SUPPORT NATIONAL, REGIONAL AND LOCAL ECONOMIC AND SPATIAL PLANNING POLICY

[SG1a] Work with national, regional and local bodies and potential customers to anticipate and plan for water services for growth in line with the statutory planning process.

Irish Water will actively engage with national, regional and local government bodies and its economic and environmental regulators in the planning and development of our strategies for the delivery of water services and our investment plans.

Our method of engagement will follow the direction of the Ministerial Guidelines to be prepared by the DECLG under section 28 of the Planning and Development Act, 2000 (as amended) and the requirements of Planning and Development Regulations 2001 (as amended).

We will support a collaborative approach with national, regional and local planning bodies to promote proper planning and co-ordinated development which is environmentally and economically sustainable. Water is a valuable asset necessary for the life, wellbeing and wealth of our nation. With the creation of Irish Water, we provide a coherent national focus in the discussions regarding regional and national spatial planning and in the provision of critical national water infrastructure to underpin the economy and support growth. We are committed to fulfilling our role as a statutory consultee in the preparation of regional, county and local development plans.

We will support the objectives of the Government’s strategic approach to housing identified in Construction 2020 ¹ and will continue our participation in the Housing Supply Co-ordination Task Force for Dublin (established by the DECLG as an action under Construction 2020).

We will engage with potential new industrial and commercial customers and key stakeholders such as the IDA, Enterprise Ireland, trade representative bodies and government organisations to anticipate and deliver water services infrastructure to support industrial development and job creation. We will engage directly with all inquiries for possible development and will seek to provide accurate and timely information on the capacity and likely cost of meeting requirements for water services. We recognise the need to build confidence in our ability to cater for such development, responding efficiently to opportunity, as it arises.

¹ Construction 2020; A strategy for a renewed construction sector; May 2014; Government Publication; 2014

SG2: FACILITATE GROWTH IN LINE WITH NATIONAL AND REGIONAL ECONOMIC AND SPATIAL PLANNING POLICY.

[SG2a] Maximise capacity of existing assets through effective asset management and optimised operation.

Irish Water has established an asset management approach to water services investment planning, which involves mapping and modelling our existing systems in the first instance and implementing management and operational policies to ensure that they operate effectively to their design capacity. This forms the basis on which all capacity planning is carried out, with scenarios examined which take full account of how existing assets can be utilised to their optimum and how they might be cost effectively upgraded to meet the capacity need and maintain a safe headroom.

[SG2b] Plan water service infrastructure at national, regional and river basin level.

We are committed to providing strategic capacity to cater for domestic demand arising from population growth and non-domestic demand associated with this growth (e.g. demand from education, hospital and commercial facilities serving these populations). The objectives of the Government's strategic approach to housing identified in Construction 2020 must be provided for in terms of both treatment and network capacity. In addition, we are committed to facilitating the requirements of commercial and industrial development for water services on the basis of full cost recovery, based on the least cost principle (lowest cost of available options to meet the capacity need).

In order to deliver on this commitment we will take a national, regional and river basin perspective on the development and management of water services to meet existing and planned for demand. Through the preparation of national implementation plans such as the National Water Resources Plan we will ensure that the strategies identified in this Water Services Strategic Plan are implemented through a programme of works and subsequently through individual projects identified in our Capital Investment Plans.

In the development of the National Water Resources Plan we will target a rationalised approach towards fewer schemes based on larger and more sustainable sources to provide reliability of service, network resilience and value for money to our customers. Our objective is to optimise the resources available to us, including consideration of sustainable catchment transfers, where necessary, for adequacy and security of service.

Our Wastewater Compliance Strategy will focus on ensuring that wastewater treatment is provided where and when it is required and that our treatment plants achieve compliance with the requirements of the Urban Wastewater Treatment Directive and support the achievement of the quality objectives of the Water Framework Directive on a prioritised phased basis. Where investment in infrastructure is necessary in order to achieve water quality standards and wastewater compliance, we will include additional capacity to meet future planned demand where there is evidence that this demand is likely to be realised.

[SG2c] Invest in the development of strategic networks and treatment works.

We will adopt a strategic planning perspective in respect of the delivery of strategic infrastructure. Strategic water and wastewater service plans will be prepared to quantify existing asset capacity and utilisation and assess how future demands will impact on our assets. This assessment will be completed under various growth scenarios, based on development plan projections. The scenarios will include short, medium and long term growth horizons. Appropriate design solution options to address these impacts will be generated, evaluated and costed, based on asset management principles.

A key element will be active engagement with planning authorities at an early stage in their planning process to facilitate appropriate consideration of water services and, in particular, to ensure awareness of water service related constraints that might impact on size, scale, cost and location of proposed development centres, including environmental impact.

[SG2d] Maintain appropriate headroom in strategic water services infrastructure.

A key element of Irish Water's strategy for meeting demand is the maintenance of an acceptable level of headroom (available capacity over current demand) in our systems to allow for growth potential and capacity risks. This is a key parameter in managing risks to service and takes account of the likelihood and consequences of failure from scheme to scheme. Once this headroom falls below the specified level, it acts as a trigger to provide a further increment of capacity.

Many water supply schemes currently have insufficient headroom to provide an acceptable protection against occasional loss of supply. For example, the Greater Dublin Area has regularly operated historically at headroom levels of 1-2%. Appropriate and timely investments are required to keep capacity abreast of demand and to maintain headroom for security of supply.

The capacity of most systems can be increased by extending existing treatment works and upsizing key pipelines and pumping stations. It is our long-term objective to provide for and maintain capacity headroom based on the size of the settlement served, the economic and social impact of failure and likely growth potential in line with the settlement hierarchy identified in the NSS and its successors as follows:

- Large urban settlements (Dublin, Cork, Limerick/Shannon, Galway and Waterford); 20% headroom.
- Regional Gateways; (Dundalk, Sligo, Letterkenny/Derry and Athlone/Tullamore/ Mullingar); 15% headroom.
- Other towns; 10% headroom.

If new industries require large one-off demands, then this would be provided for by utilising available reserves coupled with upsizing of treatment plants and networks to restore system capacity. The actual cost incurred in restoring the headroom would be recovered in full from that industry in accordance with provisions of our New Connections Charging Policy.

For water and wastewater networks we will develop hydraulic models to enable us to establish available capacity for growth and existing deficiencies. We will prepare strategic network development plans e.g. drainage area plans on phased basis for larger settlements which will set out how we will address existing deficiencies in capacity and cater for anticipated future growth. Growth provision will align with the prevailing "core strategies" in local authority development plans.

We commit to a long term objective to maintain and publish a treatment **headroom capacity register** on an on-going basis.

[SG2e] Provide a high quality customer service for new customers.

Irish Water will provide a high quality service to new customers through our Connections and Developer Services Team which will have representatives located in each of our regional offices. Our team will consult with the developer/new customer to provide a detailed connection offer and will sign a connection agreement with the customer should the offer be acceptable. We will provide a clear set of design standards for water services infrastructure which must be implemented by the developer and inspected by Irish Water, where not directly provided by our contractors under the agreement, prior to any connection taking place.

Where we receive requests for connections from beyond our networks for existing developments served by private treatment facilities (for example ribbon development served by septic tanks) we will consider these with the CER based on the costs of service and the willingness of the property owners to sign development agreements and meet the costs involved. We will work with Group Sewerage Schemes to avail of grant support from the DECLG Rural Water Programme where relevant and will cooperate in 'Taking in Charge' connections infrastructure constructed to our requirements and meeting all prescribed tests on completion.

SG3: ENSURE THAT WATER SERVICES ARE PROVIDED IN A TIMELY AND COST EFFECTIVE MANNER

[SG3a] Plan for water services infrastructure development to meet projected demand facilitating delivery on a phased basis.

All Irish Water's assets are targeted to provide an appropriate return on investment to ensure that charges to our customer base are kept as low as possible. A balanced and timely approach to meeting existing and emerging demands is required to ensure that investment is not wasted on the development of premature and oversized water services. This requires that our forward planning is comprehensive and based on accurate knowledge of our system capacity across all of our schemes.

When planning strategic infrastructure we must take an appropriate view of the cost of future upsizing of major infrastructure. Therefore, when planning for certain “one-off” infrastructure such as long distance pipelines, outfalls or strategic crossings (rail, motorway) we will take a long term view of likely future demands based on the fact that its future upsizing is not practical or economical.

Where possible, Irish Water will develop infrastructure assets, including critical national infrastructure, according to the following principles:

- We will develop water services demand forecasts taking cognisance of population/growth projections and national spatial and economic planning policies. Some large scale assets, which are ‘one off’ in nature, will be delivered on the basis of long term growth forecasts.
- We will review headroom in strategic infrastructure on a regular basis and consider upgrading the infrastructure if capacity has fallen below the target headroom for that facility. We will include a planned upgrade of the facility in our next Capital Investment Plan to cater for a projected growth for 5-10 years from the planned completion date of the upgrade.
- Treatment plants and major pumping facilities will be planned based on a modular design and a phased approach to construction. Capacity for growth would be added in time to support development. This has the benefit that our capital is used to best advantage and provides better value for money to our customers. The land requirement to accommodate the ultimate capacity of the plant will be considered such that land availability will not compromise the development of the plant to full capacity.
- New major pipelines need to be of sufficient size (diameter) so that they do not require to be augmented in the short to medium term.
- Outfalls from treatment plants and combined sewer overflows may be required to be constructed on a ‘one-off’ basis, similar to major pipelines.
- Crossings of major infrastructure, such as motorways, railways, or canals may also be sized for long term capacity, to avoid repeated and socially expensive disruption.
- We will work with local authorities, local development groups and private investors to ensure that smaller towns and villages are appropriately supported by water services infrastructure in line with:
 - Planned demand;
 - Identification of funding sources;
 - Selection of appropriate technical solutions; and
 - Growth opportunities in towns and villages on a cluster basis.

[SG3b] Balance investment for growth in demand with other priorities to ensure best outcome for customers.

Irish Water faces many challenges in providing an appropriate level of water services to our customers, in achieving compliance with statutory standards and legislation and in facilitating growth while ensuring that our services are provided in an efficient and economic manner to existing and new customers.

We are required to operate in a commercially viable and environmentally responsible manner and must take this into consideration when considering priorities for investment.

As a national body we have the opportunity to align our capital investment in a national context and to balance our investment priorities to ensure the best outcome for our existing customers while facilitating future growth as far as is practicable.

To achieve this balance we will engage with the EPA and CER to create alignment and agree priorities which support national planning policy and provide best outcomes for our customers.

[SG3c] Operate an equitable New Connections Charging Policy that ensures efficient service provision to new customers with full cost recovery.

Prior to the establishment of Irish Water, each local authority set their own connection charging policy in terms of a Connection Fee and Planning Levies. Irish Water will operate a New Connection Charging Policy at a national level which clearly sets out our charges for all new customers based on full recovery of the cost to Irish Water of connecting customers to a public water/wastewater system. Our New Connection Charging Policy will be fully approved by the CER and we expect a uniform approach across the country.

Irish Water will work to ensure, through our New Connection Charging Policy and our investment plans, that the cost of developing water services and connecting to the Irish Water network is equitably apportioned between new and existing customers.

Indicators and Targets

Indicators and targets for the objective to support social and economic growth are presented in the table below.

Primary Objective	SUPPORT SOCIAL AND ECONOMIC GROWTH				
Indicators	Definition	Current Baseline	End of 2021 Target	End of 2027 Target	2040 Target
AIM SG2	Facilitate Growth in line with National and Regional Economic and Spatial Planning Policy				
Availability of Headroom at Water & Wastewater Treatment Plants to meet Core Strategies	% of treatment plants with 20% capacity headroom in large urban areas, 15% headroom in Regional Gateway Towns, 10% headroom at all other plants	 Establish a register of current available headroom against required headroom by 2016.	 60% of plants meet headroom target	 75% of plants meet headroom target	 100% of plants meet target
Capacity in Strategic Networks to Support Growth	Availability of hydraulic models and strategic network development plans	 Establish a register of strategic networks and current availability of hydraulic models for water and wastewater networks by 2016	 Have hydraulic models and strategic network development plans for large urban areas & Gateway Towns	 Have hydraulic models and strategic network development plans for settlements > 2000 population	 Have hydraulic models and strategic network development plans for settlements > 2000 population