OUTLINE FOR A NEW STRATEGIC PLAN: POTENTIAL OPTIONS

Deliverable C.1

WORLD BANK GROUP

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Contents

Abbreviations

AA	water supply (abastecimento de água)
AdP	Portugal Water Services Company (Águas de Portugal)
APA	Portuguese Environment Agency (Agência Portuguesa do Ambiente)
APDA	Portuguese Association of Water Operators (Associação Portuguesa de Distribuição e Drenagem de Águas)
AR	wastewater (aguas residuais)
B&C	billing and collection
capex	capital expense
EEC	European Economic Community
EG	operator (*entidade gestora*)
ERSAR	Water and Waste Services Regulation Authority (Entidade Reguladora dos Serviços de Águas e Resíduos)
EU	European Union
GAG	PENSAAR 2020 Management Support Group
GDP	gross domestic product
GoP	Government of Portugal
IoT	Internet of Things
IT	information technology
M&E	monitoring and evaluation
MTR	midterm review
NRW	nonrevenue water
opex	operating expense
O&M	operations and maintenance
PEAASAR	Strategic Plan for Water Supply and Wastewater (Plano Estratégico de Abastecimento de Água e de Saneamento de Águas Residuais)
PENSAAR	Strategic Plan for Water Supply and Wastewater–A New Strategy for the Water Supply and Wastewater Sector (Plano Estratégico de Abastecimento de Água e de Saneamento de Águas Residuais)
POSEUR	Operational Program for Sustainability and Efficient Use of Resources (Programa Operacional Sustentabilidade e Eficiência no Uso dos Recursos)
PDCA	plan-do-check-act
SSE	State Secretariat of Environment
WW	wastewater

Executive Summary

Twenty-six years since the approval of the 1993 sector policy reform, Portugal has witnessed a remarkable progress in the provision of drinking water supply and sanitation (WSS) services, closing most of the gaps it had in the provision of WSS services with other European countries and substantially increasing social well-being, public health, and environmental standards. For the past 19 years, the implementation of WSS sector reforms in Portugal has been guided by three successive strategic plans: PEAASAR 2000–06 (PEAASAR I), PEAASAR 2007–13 (PEAASAR II), and PENSAAR 2020–A New Strategy for the Water Supply and Wastewater Sector, still under implementation. While widely seen as successful, as substantiated by the international comparison in the midterm review (MTR) of PENSAAR 2020 (Deliverable A.1), PENSAAR 2020 also offers an opportunity to reflect on lessons learned to inform the next strategic plan.

The European Commission has provided a Trust Fund under an Administrative Agreement with the World Bank to support the Government of Portugal (GoP) in conducting a midterm review (MTR) of PENSAAR 2020, aimed at sustaining and improving the WSS sector's performance. The objective of work executed under the Fund are to improve performance of PENSAAR 2020 and develop the outline for the next strategic plan. The activities are structured along three lines: (A) full mid-term assessment and proposal of remedial actions; (B) improve the monitoring and evaluation framework; (C) develop the outline for the next strategic plan (this report).

The next strategic plan can build on gains from previous strategic plans and support the continued evolution of Portugal's water sector. However, some elements relevant to achieve success of PENSAAR 2020 were insufficiently considered. **Financing** of the strategic plan was not in place and no alternative scenario was available beforehand. The lack of enforcement capacity as well as the unaligned **incentive mechanisms** have undermined effective implementation of the plan. In addition, although identified, the role of the municipalities was insufficiently supported **(lack of buy in)**, although they are key stakeholders for the plan implementation and results delivery. Moreover, PENSAAR lacks a strong **feedback loop** that would (i) trigger a diagnosis of deviation when an interim target has not been met for a specific indicator; and (ii) propose corrective actions to ensure plan fulfillment.

While developing the next strategic plan several external challenges and trends are relevant to consider. Globally, the water sector is facing several challenges to "business as usual" approach. Megatrends such as urbanization, climate change, and disruptive technologies are poised to impact the sector in ways both good and bad. These trends are also prevalent in Portugal. An effective strategic plan will need to assess the scale of these challenges and their potential impact on the sector.

Based on the experience from previous plans, the challenges and trends the next plan can be developed. To gather enough input and feedback to develop a strategic plan with broad buy-in sustained effort by a dedicated team is required. Given the number of stakeholders in the water sector and multiple perspectives, a diverse skill set would be valuable assets. While the content of the next strategic plan

should be determined following consultation with a broad range of stakeholders, PENSAAR 2020 provides a solid base for an evolutionary approach.

The preparation of the next plan provides the opportunity to work in a more iterative and inclusive way: engaging with municipal leaders early and often to hear their feedback and better understand their needs. Such a process could help build greater buy-in by municipalities. In addition, the new plan can strengthen the focus on costs and financing opportunities to fully integrate a robust monitoring and evaluation (M&E) framework.

Three possible scenarios of framing the next strategic plan have been identified. An **equity perspective** would develop a vision around fair and equitable access to water from a consumer point of view. An **efficiency perspective** would focus on addressing the financial sustainability of the sector and identifying new sources of financing for infrastructure investment. Finally, a **resilience perspective** would focus on dealing with long-term climate effects to provide sustainable services.

A scenario of equity, economic efficiency, or resilience can provide a vision for the water sector to garner support for the next strategic plan. Based on the challenges identified in the MTR, activities to address the root causes of these challenges could be arranged under three strategic pillars: (i) building a stronger sector, (ii) optimizing financial resources, and (iii) planning for tomorrow. While the activities of the plan would focus around the vision selected, all three pillars are likely to be relevant under any of the three scenarios.

Activities under the first pillar, **building a stronger sector**, focus predominately on sector-level reforms, as well as efforts to build the operational capabilities of service providers. Under the second pillar, **optimizing financial resources**, activities would emphasize more effective sector funding and improving the commercial viability of service providers. Finally, the third pillar, **planning for tomorrow**, would initially include research into emerging trends and threats to the water sector, particularly regarding water resource management. This pillar would then evolve into a set of priority actions to mitigate risks, take advantage of new opportunities, and build resilience.

Chapter 1. Introduction

1.1 Assignment

Since joining the European Union (EU) in 1986, Portugal has significantly improved its water supply and sanitation (WSS) sector, increasing access to services in the rural and peri-urban areas and moving toward compliance with EU water legislation. This was supported by ambitious institutional reforms: the establishment of a well-respected national mainland regulator, massive investments in WSS systems, gradually moving tariffs toward full cost recovery, and the development of a diverse mix of public and private operators at the local and regional levels.

For the past 19 years, the implementation of WSS sector reforms in Portugal has been guided by three successive strategic plans: PEAASAR 2000–06 (PEAASAR I), PEAASAR 2007–13 (PEAASAR II), and PENSAAR 2020–A New Strategy for the Water Supply and Wastewater Sector, still under implementation. The monitoring committee (CdA) to draft the latter strategic plan was established by the Secretary of State for Environment and Spatial Planning through order 9304/2013 of July 6, 2013. The motto of this plan is "a strategy to serve the people: quality services at a sustainable price."

The European Commission and the World Bank share the objective of building competitive and sustainable economies and reducing poverty and social exclusion—the goals of the Europe 2020 Agenda, which emphasizes smart, sustainable, and inclusive growth. The European Commission and the Bank concur that direct interaction is beneficial to both institutions and ultimately benefits their client countries. This is particularly true for the provision of analytical, advisory, and knowledge services and technical assistance.

Hence, the European Commission has provided a Trust Fund under an Administrative Agreement with the World Bank to support the Government of Portugal (GoP) in conducting a midterm review (MTR) of PENSAAR 2020, aimed at sustaining and improving the WSS sector's performance.

1.2 Objective of the Study

The objective of work executed under the Fund are to improve performance of PENSAAR 2020 and develop the outline for the next strategic plan. The activities are structured along three lines: (A) full mid-term assessment and proposal of remedial actions; (B) improve the monitoring and evaluation framework; (C) develop the outline for the next strategic plan:

A. Improve the implementation of the Water Supply and Wastewater Sector Plan - PENSAAR 2020 by carrying out a midterm assessment of the implementation of PENSAAR 2020, that will enable the State Secretariat of Environment (SSE) of the Government of Portugal (GoP) to enhance implementation of the Sector Plan;
B. Enhance the current monitoring and evaluation (M&E) framework for the implementation of PENSAAR 2020 and design of a new M&E platform to follow performance of the current and future strategic plans; and

C. Prepare the outline of the next WSS strategic plan (for the period 2021-2027) focusing on specific areas and issues that need to be addressed to improve sector performance in line with good international and European practices.

This deliverable is a proposed outline of the next WSS strategic plan. It is an external input that will enable the SSE to develop the next strategic plan for sector development. It is meant to start and support discussion within SSE and the sector to prepare the plan, and it describes possible avenues from an external perspective. The deliverable is the **fourth** report in the series but can be read as stand-alone.

1.3 Structure of the Report

The report is part of several other deliverables but can be read as a stand-alone document. Chapter 2, "Background of the Water Sector," provides a snapshot of what has been achieved in Portugal under the first three water strategies and flags several issues in market structure, tariffs, subsidy policy, and investment. Chapter 3, "Highlights of the Midterm Review," provides a brief summary of the assessment of PENSAAR 2020. Chapter 4, "Challenges and Emerging Trends," discusses key themes from outside the water sector that could potentially influence the execution of the fourth strategy. Chapter 5, "Developing the Fourth Strategy," provides a potential roadmap on how the next strategy could be developed, using a bottom-up participatory process. Chapter 6, "Defining the Fourth Strategic Plan," suggest several visions for the future and strategic pillars that could be used to structure the next strategic plan. Chapter 7, "Recommendations," provides brief list of recommendations for the next strategic plan. Finally, appendix A presents an outline that for the strategic plan, based on other countries' strategic plans.

Chapter 2. Background of the Water Sector

2.1 Brief Overview

In 1993, Portugal had an underdeveloped infrastructure: only 81 percent of households had access to public water supply systems, 68 percent to wastewater management services, and 28 percent to wastewater treatment plants. Drinking water quality levels were low because only 50 percent of households had access to controlled drinking water with good quality. This situation was in other Cohesion European Union (EU) countries, such as Ireland, Spain, and Greece. This situation contrasted vividly with that of the average of the then 11 EU Member States, in which 95 percent of households had access to public water supply and more than 85 percent had access to wastewater collection (of which more than 90 percent had proper treatment) (Albuquerque 2017, 3).

From 1993 to today, Portugal has implemented the new water supply and sanitation (WSS) policy based on political consensus and anchored on a clear vision provided (and periodically updated) by long-term sector planning along with national water resources and environmental plans. The policy has been subject to minor adaptations during these years, showing resilience and stability. Contributing factors to this performance include a coherent institutional setting that has ensured policy coordination and collaboration, clear mandates assigned to the public entities responsible for implementation, and policy continuity.

Today, 26 years since the approval of the 1993 sector policy reform, Portugal has witnessed remarkable progress in the provision of drinking WSS public services, closing most of the gaps it had in the provision of WSS services with other European countries and substantially increasing social well-being, public health, and environmental standards. This is substantiated by the international comparison in the midterm review (MTR) of PENSAAR 2020 (Deliverable A.1). Ninety-six percent of the population has access to public water supply (WS) systems, with most of the remaining situations solved through individual solutions such as own holes or wells; 83 percent to wastewater (WW); and 82 percent to WW and treatment services (figures get closer to 100 percent when individual solutions such as septic tanks are considered). The quality level of the 98 percent of the drinking water provided is ranked as very good (90 percent is ranked as excellent), and continuity is 24 hours per day, 365 days per year. The inland and coastal bathing water quality fully complies with mandatory values. The sector's financial sustainability has improved significantly. The private sector has entered the water industry and expanded its participation in the market. In addition, there is plenty of high quality and publicly available sector information.

2.2 Legal, Institutional, and Regulatory Framework

In 1986, when Portugal joined the European Economic Community (EEC), the country faced two concomitant challenges: cope with the demands and targets of the European environmental legislation and make the best possible use of the available EU financial resources to raise water supply and wastewater services' quality to European standards.

The 1993 sector reform introduced legislation aimed at ensuring that the provision of WSS services meet social needs with specific quality standards. A suitable institutional setting was put in place, with a diversity of management models in the retail sector, including access of private sector to the water industry, and a strong public corporate sector capable of accomplishing heavy investments in the bulk sector. Later, a regulatory authority with increasing degrees of independence and a comprehensive mandate was also created. A vision of desired outcomes has guided sector development through the adoption of long-term planning based on seven-year national strategic plans. These plans have been developed with national water resources and the environmental entities, and with the participation of central and local governments and public and private sectors. The vision has pursued the optimization and efficient management of available financial resources.

The horizontal and vertical integration that characterize the policy of Portugal's WSS sector pursues well-defined objectives (economies of scale and scope). Yet despite the establishment of the Water and Waste Services Regulation Authority (ERSAR) as a strong, empowered regulator, some stakeholders have signaled the market's horizontal and vertical integration as responsible for some technical and economic difficulties. Others view integration as a matter that distorts the level playing field: a root cause of problems and one of the most difficult and sensitive to address. Preparing the next strategic plan offers an opportunity to revisit this policy and its implications.

2.3 Service Providers

Until 1993, delivery of WSS services in Portugal was the exclusive responsibility of local authorities. The 1993 policy reform has transformed the market structure by creating new models for delivering the services through larger and financially more solid public utilities; opening the market to the private sector; and allowing public and private concessions. The market was split into upstream, or bulk providers of water abstraction and treatment and wastewater collection and treatment services to the municipalities; and downstream, or retail providers of services to the final customers. The newly created and government owned Aguas de Portugal (AdP) was made the main shareholder of multimunicipal utilities (concessions or public-public partnerships) and the backbone of the market. The reform leveraged competition and professionalism. Further, the EU has helped to consolidate the reform by supporting by financing up to 85 percent of required capital investment.

The creation of aggregated municipal utilities benefits from economies of scale and scope. The first four utilities under public concessions were created in 1995 to provide services to about 45 percent of the population, mainly in large urban areas; a second group of utilities was created to provide services to about 35 percent of the population, mainly in low density areas (de Oliveria 2018). Today, AdP operates these companies through 16 utilities (5 percent of the 337 providers serving the market). Twelve are public concessions, three are public-public partnerships, and one is a state-owned utility, providing upstream services. Table 2.1 shows the number of utilities and connections served with water supply.

Table 2.1 Utility Profile: Distribution of Management Models in 2017 by Utility

Variable	Concession	Delegated management model	Direct management model		Total
			Municipal with autonomy	Municipal without autonomy	
By number of utilities					
Urban	19	20	19	23	81
Rural	10	6	1	154	171
Total	29	26	20	177	252
By connections (thousands)					
Urban	666	1,187	1,060	522	3,435
Rural	99	119	27	944	1,189
Total	765	1,306	1,087	1,366	4,624

Sources: ERSAR database 2017; World Bank 2019a.

Within the public municipal management model, the MTR dataset splits the model into two separate sets: municipal direct management *without* autonomy (those service providers that lack administrative and financial autonomy and operate the service as an appendix of the municipal authority) and *with* autonomy (those who operate the service with administrative and financial autonomy and have a separate accounting system). Service providers that lack autonomy are the market players with poorer performance results. Although they serve a small percentage of the connections (29.5 percent), they count for 70.2 percent of the 252 operators in the market, precisely those where more work needs to be done to strengthen the sector.

Utilities in Portugal are relatively small: 57 percent of the utilities in the market serve less than 10,000 households (146 out of 252), and only 13 percent (20 out of 252) provide services to more than 50,000 households) (GAP, 2018). Most small utilities operate in rural areas, have an average disposable household income 47 percent lower than that of large utilities, a share of inactive costumers larger than that of other utilities, and tend to be almost 10 times smaller than the typical large utility. Small utilities are associated with management models that lack autonomy (World Bank 2019a). Therefore, the next strategic plan can provide an opportunity to review the challenges facing smaller utilities and identify potential activities.

2.4 Sector Funding

Funding for the provision of all public services, including WSS, comes from tariffs, taxes, and transfers. Administrative costs, operations and maintenance (O&M), and capital investment (including replacement and renovation) all come from these sources. Given the high costs and long lifespans of most infrastructure in the water sector, governments and utilities typically borrow funds for capital investment.

Tariffs, subsidies, and affordability. Portugal's WSS tariff policy calls for full cost recovery to assure financial sustainability and efficient asset management but leaves implementation to municipalities. This policy may result in (it is happening with many small utilities), the service provider subsidizing the services due to noncompliance.

Tariffs charged to the customer should result from adding the tariffs charged to the utility by the bulk provider of services (if any) and the tariffs set by the retail utility for providing water distribution and wastewater collection services. If a utility underestimates the costs of providing the water distribution and wastewater collection services, the final tariffs will not be enough to cover costs. This practice is responsible for the operational deficit in many mostly small utilities.

Sector stakeholders want to make sure final tariffs are affordable to households throughout Portugal. Affordability is assured with average tariffs charged to the households of €1.08 per cubic meter for water supply and €0.81 per cubic meter for wastewater (reflecting the bulk water supply tariff of €0.49 per cubic meter and the wastewater tariff of €0.50 per cubic meter charged to the retail utilities by the bulk providers), and an average disposable income exceeding €18,400 per year in the case of the so-called "poor" utilities (World Bank 2019a). In fact, apart from Portugal (which has an affordability index of 0.4), among the EU Member States in the international comparison of the MTR, only Austria and Sweden exhibit values below 0.5 percent of income (France and Hungary are between 0.5 percent and 0.6 percent, and only Denmark exhibits a significantly higher value with almost 0.7 percent). Further, the financial burden from wastewater in Portugal is lower than the water supply (because wastewater tariffs are particularly low), and significantly lower than in all other countries.

A reality that translates into cost recovery problems and/or severe constraints to increase quality of service. Since in many cases these utilities in addition face higher average costs (because they cannot benefit from economies of scale),[1] particularly those under a direct management model without autonomy, this reality represents a double constraint, which underlines an underfinancing from users. Moreover, being closer to the customers than any other kind of residential public service provider, the small water and wastewater utility is more prone to political influence, which makes raising tariffs more difficult.

Taxes and transfers. The Portuguese water sector has benefited considerably from EU support. By 2015, this financial support amounted to €6,390 million in grants (48 percent of the €13,238 million investment by the sector from 1993 to 2015, and 65 percent of the main funding sources during the same period). The grants from the European Bank have been complemented by €1,900 million in loans from the European Investment Bank and helped leverage an additional €600 million in bonds and €950 million through public-public partnerships. However, it is unclear how much of the remaining €3,398 million (26 percent of the total invested) has come from government funding and how much has been internally generated.

Customers of WSS services have benefitted from significant capital subsidies. In some parts of the country and despite cost recovery policies, customers have benefited also from nontransparent consumption subsidies because costs have not been fully recovered. Should this practice be continued, or should it be

[1] The average revenue per cubic meter is €1.05 in "poor" utilities compared to €1.55 in other utilities. As for the average expenditure per cubic meter is €2.19 compared to €1.54 for other nonpoor utilities.

addressed through a review of the sector's financial policy? These or similar questions need be explored and, if considered necessary, the conclusions incorporated into the next strategic plan.

Financing. During the preparation of the next strategic plan, issues that deserve special attention include internally generated funds (directly from tariffs or through leveraging commercial finance), the appropriateness of current legislation to raise additional funding, the historical availability of funds vis-à-vis identified sector needs are all issues that deserve special attention, as they would shed light into available funding. PENSAAR 2020 assumes that the contribution from tariffs would cover 80 percent of the overall costs, approximately €3,000 million. However, because there was no clear monitoring mechanism on the financing available in the sector, it is unclear how much was made available and what its impact on PENSAAR 2020.

References

Albuquerque, Ana Barreto. 2017. *The Portuguese Public Policy for Water Services (1993–2016*). Lisbon

de Oliveira, Diogo Faria. 2018. "Bulgaria's Visit to Portugal, Water Supply and Sanitation Sector in Portugal."

GAG. 2018. PENSAAR 2020 Analise Indicadores 2011–2017 AA. Lisbon

World Bank. 2019a. *PENSAAR 2020 Midterm Review: Deliverable A.1*. Washington, DC: World Bank.

Chapter 3. Highlights from the Midterm Review

3.1 Performance of PENSAAR 2020

The midterm review (MTR) of PENSAAR 2020 finds that the strategy has been effective, noting the detail and rigor of proposed activities. Good progress has been made since the start of PENSAAR 2020, but some of the more complicated issues are recurring and hard to break. The previous strategic plans were less successful in the following areas: (i) cost recovery has remained a barrier to financial sustainability (it has had no clear upward trend during the implementation of PEAASAR II); (ii) optimization and integration of management and network systems have remained fragmented, with missed opportunities for leveraging economies of scale; and (iii) private sector involvement has remained low.

Compared to international comparators, the Portuguese sector has advanced well and keeps an even trend. The areas in which the sector is lagging compared to international comparators are related to levels of nonrevenue water (NRW), asset replacement, and funding. Affordability is high, but this is a direct cause of insufficient funding and low tariffs.

PENSAAR 2020 is a technical plan that covers the entire water services sector and has five strategic pillars to address the main issues. The detail in which measures and actions are described and prepared is impressive. It has a complex, pyramid-shaped organization that includes pillars, operational objectives, measures, actions, and indicators, which do not always align. In the review of the monitoring and evaluation (M&E) framework (Deliverable B.1), several suggestions are made to improve the relation between indicators and operational objectives.

Some elements relevant for the success of PENSAAR were insufficiently considered. Financing of the strategic plan was not in place and no alternative scenario was available beforehand. The lack of enforcement capacity and unaligned incentive mechanisms have undermined the plan's effective implementation. In addition, the role of the municipalities is insufficiently supported, although municipalities are key stakeholders for plan implementation and results delivery. Moreover, PENSAAR lacks a strong feedback loop that would (i) trigger a diagnosis of deviation whenever an interim target is not met for a specific indicator, and (ii) propose corrective actions to ensure the plan fulfillment.

Lack of funding. To meet the objectives of PENSAAR 2020, an investment of €3,7 billion was projected. Only a small portion of this amount, estimated at €705 million, has been raised—financed by the EU and provided through POSEUR. Although the EU funds provided for PENSAAR 2020 were considerably smaller than the EU funding for past strategic plans, further financing was expected to be generated through other sources. The sources for the remaining amount to be financed are diverse and represent both public and private entities. The contribution from tariffs was supposed to cover 80 percent of the overall costs—that is, approximately €3 billion was to be raised through tariffs. Yet while PENSAAR 2020 from the very start lacked sufficient funding for the implementation of the policies it recommended, its objectives and targets were not changed.

Incentives. There are limited sticks and/or carrots for municipalities -which are crucial for success- to perform better or to use tools available to them to try to improve performance (aggregation or partnerships with private sector). Linking POSEUR funds to aggregation processes (bulk/retail or retail amongst municipalities) is a good "carrot" to move municipalities into implementing this institutional measure, but at the same time there are other disincentives for them such as high transaction costs, potential greater losses, higher tariffs or more dysfunctional organization for some of the municipalities (besides other political aspects) which affect the municipalities' decision to aggregate, and the trade-off between both is not clear at local level.

Role of municipalities. Municipalities are necessary for the implementation of PENSAAR and in water sector public policies, but they are not fully performing their key role. In addition, they have hardly been involved in the preparation of PENSAAR 2020. This lack of involvement has resulted in insufficient ownership of the plan at the municipal level. Moreover, lack of enforcement and of some penalties, insufficient communication, and lack of capabilities have not led to expected and desired results. The incentives are not necessarily strong enough. To strengthen alignment of interests between national and local levels, policy makers and others should consult systematically with local stakeholders to ensure better understanding of the sector issues. Increased engagement helps build stakeholder ownership of the plan. It allows implementers to tackle potential problems or resistance, and diffuse potential impacts, thus improving conditions for success.

The quantitative assessment further shows that for some targets (such as NRW) to achieve PENSAAR 2020 the biggest improvements could be made in the larger utilities in urban areas because of the nature of water losses (amount per kilometer of pipeline) and not necessarily in the smaller municipalities. On a national scale this focus would have the most effect and probably the lowest costs to achieve PENSAAR 2020. This suggests that for achieving PENSAAR, the inequity between the smaller utilities and larger utilities would increase.

Feedback loop. In the M&E cycle of plan-do-check-act of PENSAAR 2020, there is no clear adjustment when objectives are not achieved in relation to its original targets. When deviations are found no changes in actions, adjustment of targets or additional resources are made available. The system is lacking the final step, act, to improve the effectiveness of the plan.

3.2 Assessment of Each Pillar

At the end of 2018, the Management Support Group (GAG) reported on the progress made against the operational objectives through the end of 2017. The evolution of the indicators is positive; however, the water sector still faces considerable challenges. For each of the pillars and objectives that are part of PENSAAR 2020, the MTR has identified underlying causes of not achieving targets through a root cause analysis.

Pillar 1—environmental protection and water bodies improvement. Root causes are (i) engagement with the public about the willingness to connect to the wastewater services, and (ii) connection cost. Once connected, additional charges, such as for waste, are charged to the household. Many households have

individual systems or dwellings that are inhabited only part of the year, which reduce households' willingness to connect. Although by law everybody is supposed to connect when service is available, there is no local enforcement. If municipalities were responsible for individual solutions and households were forced to pay for it, this may create the incentive to connect.

Pillar 2—improvement of service quality. Root causes is underperforming on the occurrence of floods and failures of mains and sewers. This is mostly due to a lack of planning and insufficient measures to control floods. Because of the age of the mains and limited replacement, the failures of the mains are higher than planned. What appears to be the root cause is the level of planning and investment. An analysis from the Portugal Water Services Company (AdP) shows that even when cost recovery is enough for investments, municipalities decide not to do so. Increasing cost recovery does not automatically imply more investments.

The MTR shows that the speed of renewal of infrastructure is lower than in the other Member States reviewed. Policy makers should analyze capital investment in infrastructure renewal because it must be performed in a higher rhythm than the present one.

Pillar 3—optimization and efficient management of resources. The skill level of staff highly influences the operational performance of utilities. Levels of NRW and optimization of the installed capacity are influenced by two factors: (i) the possibility to invest in additional connections, resource efficiency, leak and demand management; and (ii) operational skills to produce and distribute efficiently. Clear accountability of municipalities toward consumers through a full cost recovery tariff will increase the need for efficiency.

Pillar 4—economic, social, and financial sustainability. Although many utilities achieve cost recovery, smaller ones cannot. This is reflected in the quantitative assessment in the MTR for water supply and wastewater utilities (56 percent and 73 percent, respectively). Increasing the tariff will require political will, which is lacking, and reducing costs will require skilled staff. Access to investments is needed to reduce costs because NRW will require funds. Because of limited capacity, small utilities are often not able to apply to the Operational Program for Sustainability and Efficient Use of Resources (POSEUR).

Pillar 5—cross-cutting conditions. The assumption under PENSAAR 2020 is that aggregated municipal services perform better than individual municipalities under direct management. However, quantitative data show that the level of autonomy has an impact on the performance. For a thorough analysis, secondary data should be considered, which were not available. The international comparison shows that small utilities can perform well; however, this is not the case in Portugal for the ones without autonomy.

3.3 Input for the Next Strategic Plan

In response to the issues in the MTR, a set of remedial actions were developed (table 3.1). Because the remaining time frame of PENSAAR 2020 is very short (the strategy ends December 2020), remedial actions are focused on the ones offering the highest 'rate of return', or on actions aimed at improving the situation in utilities that are most lagging. While many of the highest priority actions can be completed prior to the launch of the next strategy, those still open could be incorporated into the next strategic plan.

Table 3.1 Priority Remedial Actions

Legal, institutional, and regulatory framework
Define basic organizational model
Enforce applicable law on connection and integration of individual solutions for wastewater collection
Enact tariff regulation
Capacity building and guidance
Intensify capacity building
Launch nationwide awareness campaign promoting the efficient use of water
Develop communication strategy on water value and willingness to pay
Structure water loss reduction programs (e.g., performance-based contracts, POSEUR support)
Financial viability
Development of business and investment plans, a base case for the upcoming 10 years per utility
Develop an investment program for funding network rehabilitation
Information and accountability
Improve PENSAAR indicators, entailing KPI breakdown by utility
Create tools for more assertive monitoring and evaluation (M&E)

Source: World Bank 2019b.

Note: KPI = key performance indicator; M&E= monitoring and evaluation; PENSAAR = Strategic Plan for Water Supply and Wastewater—A New Strategy for the Water Supply and Wastewater Sector; POSEUR = Operational Program for Sustainability and Efficient Use of Resources.

Besides the remedial actions four issues were identified from the MTR to inform the development of the next strategic plan.

- **Lack of buy-in**. Although municipalities are key stakeholders in the implementation of the strategy, their role is not sufficiently supported. Under the next strategy, a more participatory, iterative process could be used to engage them more effectively.
- **Sector funding strategy**. PENSAAR 2020 has not sufficiently secured available funding, although it has reviewed investment needs and financing options. A bottom-up, participatory process for the next strategy can help to identify a list of investment priorities. This can inform a market sounding exercise to determine the viability of commercial financing of all or a portion of these investments.
- **Lack of incentives**. Effective implementation of PENSAAR 2020 has been hindered by a lack of tools to encourage service providers and other stakeholders to perform, as well as unaligned incentive mechanisms. In the next strategic development process, a closer look at the political economy and formal and informal incentive structures of the water sector can inform policy changes to strengthen sector performance.
- **Lack of effective feedback loops**. PENSAAR 2020 lacks a defined process to trigger a diagnosis when an interim target is not met and to propose corrective actions. A clear system for feedback and course correction, based on the plan-do-check-act (PDCA) cycle can support a more dynamic and effective strategy. This also requires a strong M&E framework. As described in deliverable B.1 there is a disconnect between several operational objectives and their indicators to measure success.

Reference

World Bank. 2019b. *PENSAAR 2020 Remedial Actions: Deliverable A.2*. Washington, DC: World Bank.

Chapter 4. Challenges and Emerging Trends

Globally, the water sector faces several challenges to a "business as usual" approach. Megatrends such as urbanization, climate change, and disruptive technologies are poised to impact the sector in ways both good and bad. An effective strategic plan will need to assess these challenges and their potential impact on the water sector. The suggested areas that follow should be addressed in the next strategic plan. Each needs to be further detailed and elaborated by the strategy team.

4.1 Urbanization

Globally, around 55 percent of the world's population live in urban areas. This is expected to significantly increase by 2050, with 6.5 billion people—nearly seven out of 10 of the world's population—living in urban areas (UN 2018). In many aspects, this will be a positive trend. Cities provide economic opportunities for inhabitants, as well as economies for scale in infrastructure and service delivery. However, there is a risk that rural areas will be left behind when skilled workers and industries migrate to urban areas. In Portugal the degree of urbanization from 2007 (58.75 percent) grew to 64.65 percent in 2017.[2] This trend is expected to continue and will have an impact on the size of settlements in the interior. Small settlements, which are already struggling, will likely further decrease in size, making it challenging to plan and finance investments and sustain services.

4.2 Demographic Shifts

In addition to greater concentration of populations, global demographics are changing as well. Across the developed world, average ages are increasing, and Portugal is no exception. Today, slightly more than 40 percent of the country is over the age of 50. By the year 2050, this is expected to increase to more than 53 percent (UN 2015). In addition, the overall population is expected to decline as birth rates decrease below the replacement rate. In 2050, the total population of Portugal is expected to be approximately 9.2 million, a decline of nearly 1 million people (UN 2015).

There are several implications of an aging, declining population for the country's water sector. With fewer people, demand is likely to decrease. In addition, older households are likely to consume less water, so consumption could decline on a per capita basis. With a greater proportion of retired individuals, the tax base would shrink, limiting public resources available for the sector. This will also likely impact operational efficiency, as more experienced workers in the water sector begin to retire to be replaced by less experienced but more skilled ones.

4.3 Climate Change

A rapid increase in greenhouse gas (GHG) emissions is expected to cause an increase in global temperatures by an average of 2 degrees to 4 degrees Celsius (IPCC 2013). Climate change will result in

[2] See the Statista website, www.statista.com

increased incidences of extreme weather events, such as floods, droughts, and heat waves, and changes in precipitation trends. Sea levels are expected to rise as glaciers melt.

In Portugal, average temperatures are expected to increase even more due to the Mediterranean climate. By 2100, average temperatures are projected to be 3 degrees to 7 degrees Celsius higher, with a marked decline in precipitation (APA/Ecoprogresso 2009). Precipitation is expected to be concentrated into fewer, more dramatic weather events. This will have profound impacts on the water sector and the broader economy. For example, hotter temperatures and higher variability in rainfall will pose significant risks to the country's wine industry, requiring the development of new varietals and growing techniques (Fraga et al. 2013).

The World Bank's ThinkHazard! disaster screening tool indicates that Portugal is at high risk of urban and coastal flooding, as well as wildfires—all of which will be exacerbated by climate change.[3] For the water sector, climate change brings higher risk and uncertainty. Infrastructure will need to be resilient to flooding, fire, and extreme heat, and production and storage capacity will need to contend with the risk of greater water scarcity.

4.4 Macroeconomic and Political Issues

The water sector could be impacted by broader political events such as Brexit or macroeconomic issues such as a global downturn. Assumptions on public funding levels and opportunities for mobilizing private investment for water infrastructure should be reviewed against a range of domestic, regional, and global scenarios. A full menu of potential risks to the successful implementation of the next strategy will need to be developed. However, several potential issues to assess further include the following.

Rising risk of global recession. The decline in growth (and even contraction) of export-led economies such as Singapore, South Korea, and China in the third quarter of 2019 indicate the increased risk of a global recession. In addition, looming trade wars are creating significant uncertainty in global financial markets. Portugal's economy is heavily reliant on services, particularly tourism, which accounts for 20 percent of gross domestic product (GDP). Largely discretionary spending, tourism is closely linked to the economic cycle. A global recession would almost certainly impact the tourism sector and the broader economy in Portugal. For the water sector, this would result not only in lower consumption by industry and price-conscious households but also in a reduction of overall tax receipts, leading to lower levels of public funding for the water sector.

Brexit and tensions in the European Union. Within the European Union (EU), political and economic pressures may impact the water sector in Portugal. There is at this time no clarity on the Brexit and the implications of the final outcome. Further, Germany recently announced that its economy contracted in 2019. Transfers from the EU have been a crucial source of funding for the water sector in Portugal. A messy Brexit or fiscal strain in other Member States could potentially reduce the availability of such transfers in the future.

[3] See the World Bank's "Think Hazard!" website, accessed July 2019, http://www.thinkhazard.org/en/report/199-portugal.

High debt-to-GDP ratio. Currently at 120 percent, Portugal has one of Europe's highest debt-to-GDP ratios.[4] Driven by high levels of borrowing in the past, the response by the current administration has been to curtail spending to eliminate the budget deficit, although the debt load remains high. There is not likely to be strong appetite for the levels of public borrowing needed to finance the next water strategy. Even if there were the desire, the high debt-to-GDP ratio will make it challenging for the country to borrow at favorable terms.

Political resistance to increased tariffs or private sector participation. Macroeconomic issues in the short and medium term may impact the ability to fund the next water strategy through public borrowing, taxes, or transfers from the EU. Some or all of the funding gap could be covered through increased efficiencies and private investment, as well as tariff increases. However, navigating the political economy of these policy changes will be difficult, because it asks citizens to incur costs immediately for the promise of better service in the future.

4.5 Disruptive Technologies

The World Economic Forum has dubbed the current era the "Fourth Industrial Revolution," with a wave of emerging technologies disrupting economies and societies around the world. Innovations such as artificial intelligence, remote sensing, Internet of Things (IoT), and cloud computing are changing how business is done and how people interact with one another. Disruptive technologies have both positive and negative implications for the water sector. On the positive side, new technologies can drive operational efficiencies and provide new sources of revenue. Examples include the following:

Nanotechnologies. The ability to manufacture at a scale 1/5,000th the size of a red blood cell has provided opportunities for dramatic efficiency improvements in the water sector. In desalination, for example, nanotechnology startup NANOH20 has developed a membrane that requires 20 percent less energy while increasing water production by 70 percent. In addition, U.S. government agencies are currently collaborating to develop nanotechnology-based sensors for real-time surface water quality monitoring (NTSC 2016).

Fintech. Emerging financial technologies (fintech) are revolutionizing financial services by improving the efficiency and quality for consumers and businesses, in addition to enabling new business models that would otherwise be impossible. In the water sector, fintech enables more effective prepaid billing for low-income customers, and provides easier, cheaper, and more convenient ways to pay postpaid bills. WeChat, China's largest instant message client and payment platform, allows customers to pay their water bills from their mobile phone by taking a snapshot of a QR code. In the future, water utilities could use bill payment data as a form of credit history, partnering with financial institutions to offer consumer credit (Ikeda and Liffiton 2019).

[4] See Trading Economics web page "Portugal General Government Debt," accessed August 2019, https://tradingeconomics.com/portugal/government-debt.

Internet of Things. The vast network of low-cost, Internet-connected sensors provides water utilities with new options for real-time, highly accurate water and infrastructure monitoring. For example, smart meters allow remote meter reading, and some can be shut off or turned on remotely. A recent installation of more than 10,000 smart meters in northeastern United States by SUEZ resulted in a decrease in nonrevenue water (NRW) by 7 percent in the first year alone (UNC 2018). Sensus, an IoT startup recently acquired by Xylem, provides water utilities with sensors to monitor infrastructure health and measure pressure, temperature, level, and flow in the entire network in real time.

However, disruptive technologies can be a threat. Water utilities are prime targets for hackers and cyberterrorists but are often ill-equipped to defend themselves against these attacks. The U.S. Department of Homeland Security tracked over 25 cybersecurity incidents in water utilities in 2015 alone, and the number continues to increase. These incidents can have catastrophic outcomes. In Australia, an attack on a wastewater treatment plant's radio control system resulted in several pumps shutting down, causing raw sewage to spill into rivers, parks, and a nearby hotel (Clark et al. 2016).

4.6 Circular Economy

A circular economy is a regenerative industrial system. It shifts toward renewable energy use and aims to eliminate waste through new materials, supply chain management approaches, and business models (WEF 2018). While there are challenges to incorporating a circular economy perspective into the water sector, such as the long lifespan of infrastructure assets, utilities can begin to adapt to a circular economy,[5] including:

- Exploring nature-based solutions to storage and treatment
- Taking advantage of new technologies to turn sludge from waste to valuable resource
- Investing in high-efficiency pumping equipment and transition to renewable energy
- Minimizing waste during construction and operations

Portugal has been a leader in advancing the circular economy for water utilities. The concept continues to evolve as organizations learn and experiment and could be included as a focus area of the next strategic plan.

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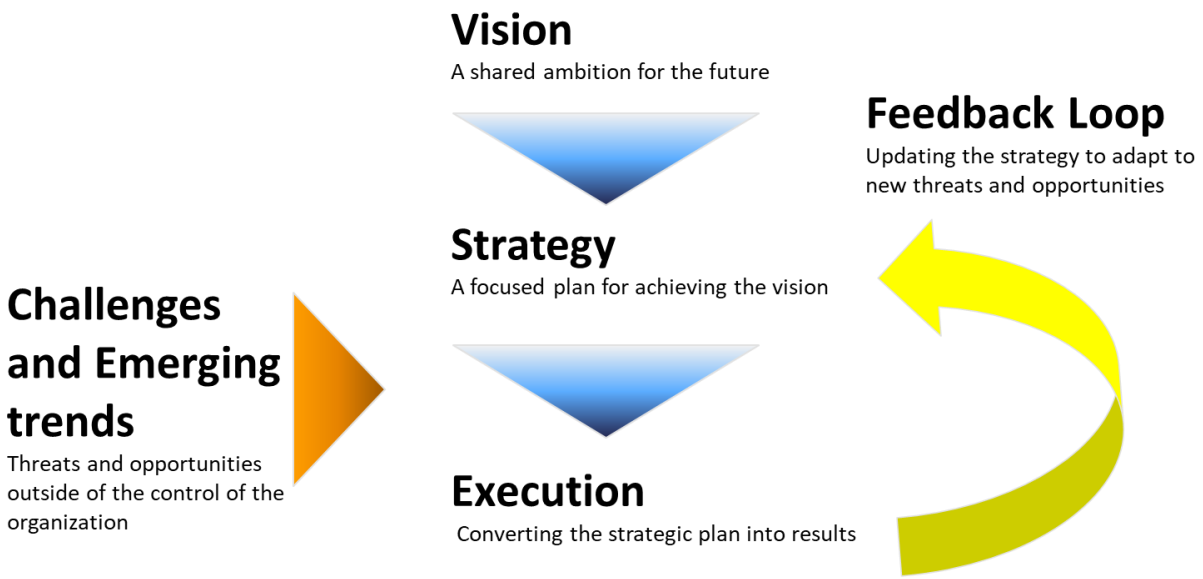
Chapter 5. Developing the Fourth Strategic Plan

5.1 Framework for Strategic Planning

The next strategic plan requires taking stock of the state of the sector and results achieved under the previous strategic plans, as well as a thorough review of the challenges and emerging trends described in the previous chapter. With this base of knowledge, the following framework for strategic planning is a potential tool to coordinate the exercise and will be in line with the development of PENSAAR 2020 (see figure 5.1). The methodology to develop the plan needs to build ownership at all levels and requires an inclusive process.

Figure 5.1 Structure to Develop a Strategic Plan



The **vision** provides an overall direction and ambition. The **strategy** is a set of choices of how best to use scarce resources to reach this vision. The strategic plan should incorporate a thorough analysis of the **challenges and emerging trends** that could impact the execution of the plan, both positively and negatively. Finally, **execution** is crucial: without action, a strategic plan is merely a document. Effective strategic plans typically build in a strong **feedback loop** of monitoring, evaluation, and adaptation, regularly adjusting the strategy as needed to maintain progress toward the vision.

The act of developing a strategic plan is as much about consensus building as analysis. Agreeing on a course of action upfront provides a clear set of goals for all stakeholders. As the next strategic planning process begins, the following questions can help in structuring meaningful discussions to achieve consensus:

- **Vision**
    - Where are we now?
    - Where do we want to be?
- **Strategy**
    - How do we deliver on our vision?
    - What resources are needed for success?
- **Execution**
    - Do we have the right people, culture, processes, and organizational structure to implement the strategy?
    - How do we communicate our strategy effectively to various stakeholders?
- **Feedback loop**
    - How will we know if we executing our strategy effectively?
    - How will we know our strategy is still relevant?
    - How do we agree to change course if not?
- **Challenges and emerging trends**
    - What are the broader political, social, environmental, and economic trends that could impact our strategy?
    - How do we take advantage of new opportunities and minimize risk?

The midterm review (MTR) identifies several areas in which the next strategic plan could build on previous success to achieve greater impact. First, a dedicated team could lead an iterative planning process, with broad stakeholder participation. This team would assess the progress achieved under the previous strategic plan and conduct a political economy analysis to further understand the incentives driving the water sector. The incentive mechanisms in PENSAAR 2020 have not generated the expected results, such as for aggregation or a clear understanding of the drivers needed to set attainable targets and results. Next, the team would gather input from stakeholders to develop a common vision and strategy to deliver the vision for the sector. Finally, a robust feedback loop mechanism would be set up to ensure that the strategic plan can adapt effectively if needed.

5.2 Building a Common Vision

An effective strategic plan starts with an inspirational vision. When stakeholders agree on the outcome they hope to achieve, determining the steps to get there is much simpler. In developing the next strategic plan, citizen feedback and design workshops could further develop and enhance the vision for Portugal's water sector.

The ultimate stakeholders of any public sector strategy are a country's citizens. A broad public consultative process upfront can provide additional insights to the vision, in addition to building greater buy-in and legitimacy for the strategic plan when completed. There are several potential channels for investigating the public's understanding of the water sector and the changes they hope to see. Ideally, multiple channels will be used to reach the broadest demographics and capture the widest diversity of opinions:

- Mail, in-person, or online surveys
- Regional focus groups
- Social media outreach
- Presentations at community meetings
- Kiosks or information booths in public areas
- Art or essay contests to engage with students

Drawing on this feedback, as well as a comprehensive review of the previous strategic plan and expert input, a **design sprint** could synthesize this information toward a common vision. Originally developed by the venture capital arm of Google, a design sprint is a tightly structured five-day workshop with five to eight participants designed to quickly transition from discussion to prototype to feedback. In the first day, participants define the scope of the challenge and gather additional information. On the second day, participants develop multiple concepts. On the third and fourth days, participants select one single concept and refine it as needed. On the last day, the concept is presented to outside stakeholders for feedback.[6]

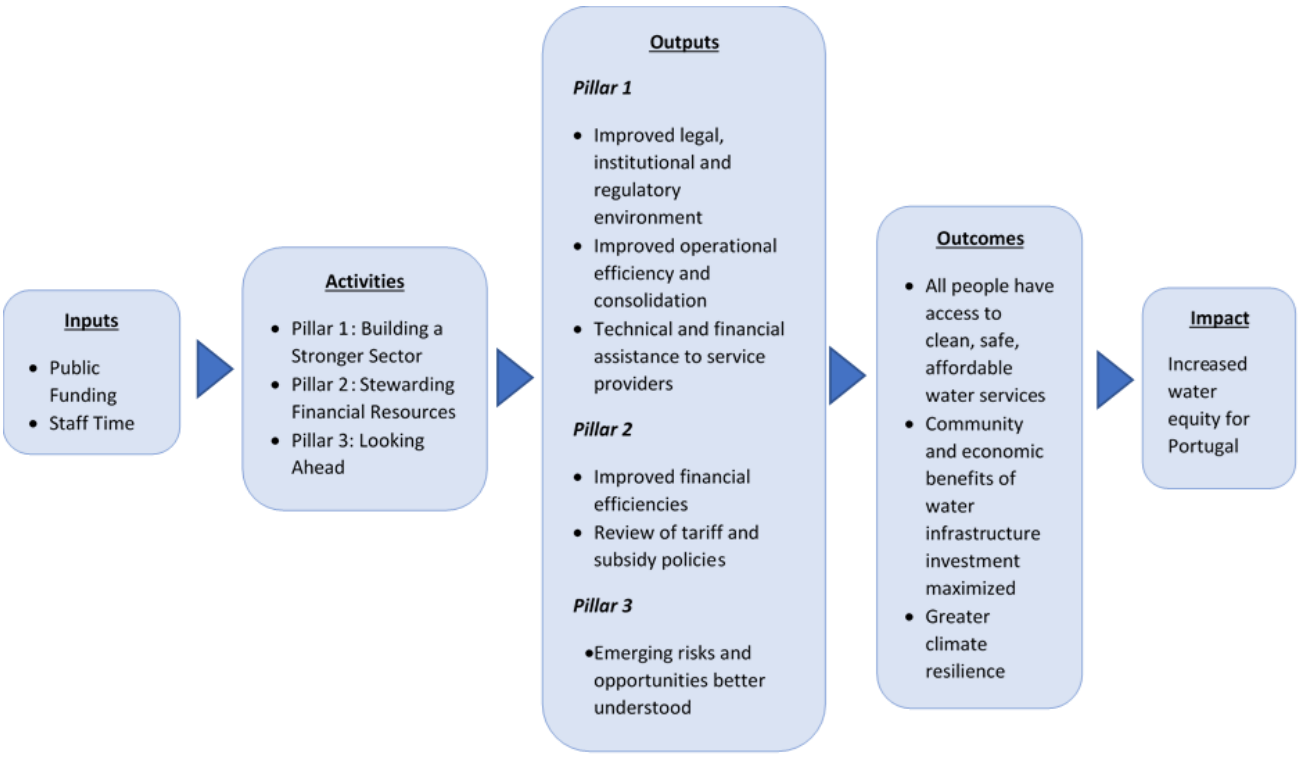
5.3 Theory of Change

Regardless of the vision and strategic pillars selected, the fourth strategic plan should be firmly anchored in a clear guiding mechanism such as, for example, the theory of change (figure 5.2). A clear theory of change aligns strategic goals with the input and activities. It also helps build feedback loops by illustrating which specific indicators are most useful for validating the success of the strategy. Developing a theory of change typically includes five steps[7]:

- Identify a long-term goal.
- Conduct "backward mapping" to identify preconditions necessary to achieve that goal.
- Identify interventions that the initiative will perform to create these preconditions (outcomes).
- Develop indicators for each precondition (outcome) that will be used to assess the performance of the interventions.
- Write a narrative to summarize the moving parts in the theory of change.

[6] See Google Ventures web page "The Design Sprint," Google Ventures, accessed August 2019, https://www.gv.com/sprint/.
[7] See USAID Learning Lab web page "What is a Theory of Change?" accessed August 2019, https://usaidlearninglab.org/lab-notes/what-thing-called-theory-change.

Figure 5.2 Illustrative Theory of Change



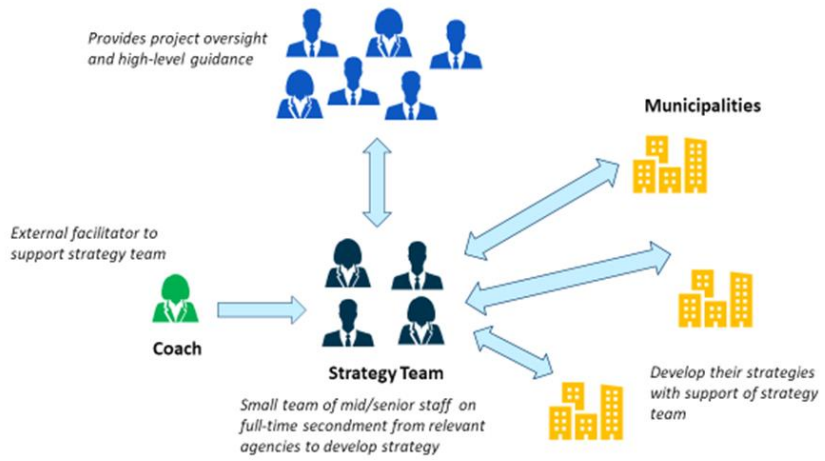
Source: World Bank elaboration.

5.4 Task Force Structure

Gathering enough input and feedback to develop a strategic plan with broad buy-in will require sustained effort by a dedicated team (figure 5.3). Given the number of stakeholders in the water sector and multiple perspectives, a diverse skillset would be valuable assets. Drawing on change management principles, a dedicated strategy team could be formed. The team would be responsible for delivering the strategic plan and would include five to six staff members seconded from their regular roles for 12 to 18 months. The team composition could vary based on identified needs but would ideally include high-performing mid- to senior-level staff from key organizations across the sector. The team should be properly funded to be able to organize data collection, information analysis, stakeholder outreach, and dissemination.

To ensure team cohesion and build momentum quickly, the team could be supported by an external partner such as an internationally recognized sector organization. The external partner would provide insights in sector development and an independent input to the strategic plan. The partner—ideally trained in Agile project management approaches or similar change management tools—would provide guidance on how to work together effectively. The coach would train team members on facilitation methods and provide individual feedback to team members.

Figure 5.3 Potential Task Force Structure



A high-level stakeholder group, comprising water sector leaders, would provide oversight, guidance, and feedback to the team. The stakeholder group would ultimately be responsible for the quality and impact of the strategy and would meet regularly with the strategy team to receive progress reports and provide feedback.

5.5 Engaging Municipalities

As noted in the midterm review (MTR), opinions are generally positive toward the current strategic plan as well as on the process of how the strategy has been conceived. It is considered a thorough and interactive process built on technical baselines and consensus. However, there is consensus that municipalities should have been more engaged in the preparation of PENSAAR 2020 and that they lack engagement in the implementation.

A more iterative process that engages municipal leaders frequently is likely to have two key benefits for the next strategy: (i) gathering feedback from the grassroots level early in the process to improve the strategy, and (ii) building buy-in from the municipalities. There are tools to engage municipalities, create spaces to share lessons, teach lessons and practices (both to the technical staff and to local authorities), and illustrate possible solutions and benefits of executing them. For example, the Participatory Planning Tool,[8] funded by the European Union (EU), was developed to build consensus on fishing regulations. It provides an extensive set of tools for reaching out to citizens and other stakeholders. The EU ENLARGE project provides a set of tools and 31 case studies on participatory planning approaches across Europe.[9] Finally, New Zealand's Auckland Plan 2050 shows how extensive community engagement can result in a more relevant and impactful strategy (GoNZ 2018). See also box 5.1 for an example from Italy.

[8] See the GAP/EU web page "Participatory Planning," accessed October 2019, http://gap2.eu/methodological-toolbox/participatory-planning/.
[9] See the EU ENLARGE web page "Synthesis of 31 Case Studies across the Sustainable Energy Field," accessed October 2019, http://www.enlarge-project.eu/synthesis-of-31-case-studies-of-participatory-processes-in-the-sustainable-energy-field/.

Box 5.1 Strategic Planning Across National and Local Governments: Italy

The Italian system of governance includes the central, regional, provincial, and municipal levels. The regional government is responsible for coordination and investment planning, the provincial government manages service delivery, and municipalities are largely administrative. The region of Basilicata provides one example of how countries can manage the strategic planning process across levels of government. The regional strategic planning process in Italy is overseen by the Inter-ministerial Committee for Economic Planning, which helps coordinate regional investment strategies. The State–Region Conference is a twice-yearly event that provides a platform for regions and the central government to discuss and negotiate investment priorities. While this process is sometimes hindered by weak participation of the regions and insufficient communications by the central government, the Basilicata Development Plan actively engages provinces and municipalities as well as other key stakeholders, leading to the use of an innovative new procurement mechanism to address capacity challenges identified during the development of the plan. The regional strategic planning process includes engagement with neighboring regions, resulting in the development of the Inter-Regional Programme Agreement on Water Management with Puglia. To implement the plan, Basilicata invested heavily in monitoring and evaluation (M&E) to track investments and provide decision-making tools at all government levels. (OECD 2013).

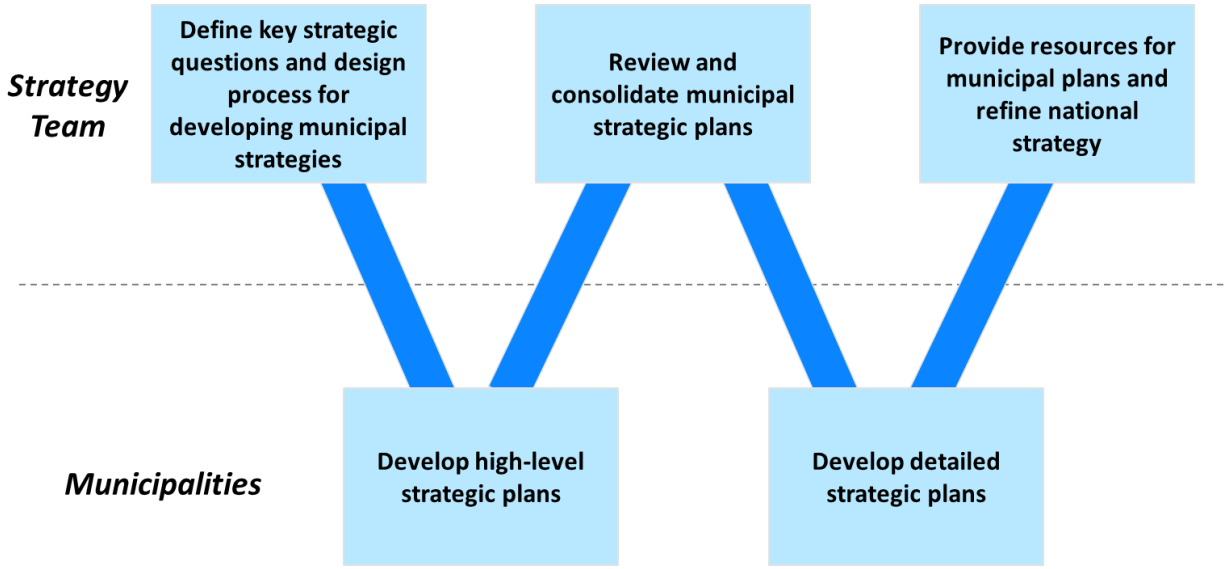
The W process is a participatory planning tool commonly used in classical strategic planning (figure 5.4). It combines top-down guidance with bottom-up engagement. In a corporate setting, it is typically used by a central strategic planning unit to coordinate with multiple business units, but the general process is readily adopted for public sector strategic planning.

The W process has five steps. First, the central unit defines the vision, the process for strategic planning, and the high-level contours of the strategic plan. Second, business units (or subnational governments in the case of public sector strategic planning) develop initial strategic plans based on guidance from the central unit. These individual plans are then analyzed and consolidated into a broader strategy. The business units refine the strategic plans based on feedback from the central unit, which are then incorporated into a final approved strategy. A modified version of this process could be used to engage municipalities more effectively in the development of the next strategic plan, with the goal of building their buy-in and increasing the effectiveness of execution:

Step 1—define strategic process. The strategy team consults with municipalities to understand key issues and develops the planning process. Key activities could include:

- Conduct focus groups and structured interviews with a cross-section of municipalities to understand their concerns, constraints, and visions for water services in their communities.
- Develop a short strategy brief that describes the storyline for the next strategic plan, potential strategic pillars, and the vision for the future state of the sector.
- Gather feedback on the initial strategy from municipalities.
- Develop simple municipality strategic plan template (five- to six-page document describing the municipalities' key activities and resource requirements) and associated tools.

Figure 5.4 W Process



Step 2—develop municipal strategic plan. The strategy team distributes the strategic plan template to municipalities and provides support as needed. Key activities could include:

- Hold national workshop to explain the strategic planning process.
- Distribute template to municipalities.
- Assist municipalities in preparing their strategic plans as needed.

Step 3—review and consolidate municipal strategic plans. The strategy team reviews the strategic plans provided by municipalities, identifies common trends, and consolidates activities and budgets. Key activities could include:

- Collect completed plans.
- Follow up with municipalities that have not completed their strategic plans.
- Refine strategic pillars, activities, and objectives as appropriate, based on municipal plans.
- Develop national budget.
- Identify revisions needed for municipal strategies.

Step 4—refine municipal strategic plans. Based on feedback from the strategy team, municipalities refine their strategic plan as needed. Key activities could include providing guidance to municipalities in which additional information or revisions are required.

Step 5—finalize national strategic plan. Final municipal strategies are used to develop a comprehensive national strategic plan with budget and work plan. Key activities could include:

- Finalize national strategic plan based on second round of municipal plans.
- Share strategic plan for feedback from municipalities and other stakeholders in a national workshop.

- Develop public relations campaign, M&E processes, and roles and responsibilities for executing the strategic plan.

Reference

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Chapter 6. Defining the Fourth Strategy

6.1 Vision for the Water Sector: Potential Options

PEAASAR I (2000–06) and PEAASAR II (2007–13) worked to expand access and bring the country to European standards of service quality. The plans focused on developing infrastructure. PENSAAR 2020 (2014–20) has built on the success of the previous strategic plans but shifted toward encouraging greater efficiency and improvements in service quality. PENSAAR's cross-cutting policies and instruments to advance implementation include:

- Efficient use of resources
- Human right to water and sanitation
- Adaptation to climate change
- Risk management and increase of resilience to natural disasters
- Provision of satisfactory services at a fair price based on sound governance principles including; transparency, accountability and participation
- Professional services with high performance, ensuring universal access to services that are sustainable on an environmental, economic, and social basis

The previous strategic plans provide a useful starting point for the next plan. Ultimately, the vision and strategic pillars should be defined by consultations. This chapter provides suggestions to define the fourth strategic plan, using the findings of the midterm review (MTR).

Three possible scenarios of framing the next strategic plan are formulated. An **equity perspective** would develop a vision around fair and equitable access to water from a consumer point of view. An **efficiency perspective** would focus on addressing the financial sustainability of the sector and identifying new sources of financing for infrastructure investment. Finally, a **resilience perspective** would focus on dealing with long-term climate effects to provide sustainable services.

6.1.1 Potential Vision: Equity

Water is one of the world's most important resources and is critical for human life and prosperity. Equal access to water and the many benefits it provides is enshrined in the human right to water. Equity has been a common theme of Portugal's three previous strategies and could continue an overarching element for the next strategy. The theme of equity is not yet fully achieved: given the differences in service in the interior and coastal zone, only 80 percent of households are connected to the service, and there are different policy arrangements for public and private service providers. As an evolution of PENSAAR 2020, the new strategy could continue the theme of equity through efficiency, while further developing aspects of environmental, social, and financial sustainability.

While there are many ways of defining equity, the U.S. Water Alliance provides a useful framework for water equity[10] that could inform a new strategic plan:

- Ensure all people have access to clean, safe, affordable water service.
- Maximize the community and economic benefits of water infrastructure investment.
- Foster community resilience in the face of a changing climate.

In general, discussions of equity in the water sector have focused on the first component. While access to water services is a critical challenge, in upper-middle-income countries it is largely a solved problem except for remote and extremely poor populations. Providing universal service that is consistent, reliable, and safe represents a much greater challenge. Even more difficult, providing this service affordably while ensuring the ongoing financial sustainability of the sector is a delicate balancing act. This framework goes further still, emphasizing the need to include a focus on greater equity in investment in the water sector, ensuring that the benefits from constructing and operating infrastructure assets are broadly shared.

In Portugal's water sector, an unequal playing field has been created and significant complexity was introduced. The policies of management models in the retail sector influence their performance or opportunities to compete, hence not maximizing benefits. While politically challenging, a focus on the "rules of the game" and streamlining the structure of the sector could improve both the efficiency and equity of service provision.

6.1.2 Potential Vision: Economic Efficiency

Sector funding and financial sustainability are part of another potential scenario for organizing the strategy. Portugal has made tremendous strides in advancing the state of the water sector. However, a portion of the capital investment driving this progress has been provided by the European Union (EU). With the amount of future support from the EU unclear at this point, a renewed focus on identifying ways to increase the economic efficiency of utilities and the sector more generally could both free up resources for investment and improve the ability of utilities and the Government of Portugal (GoP) to access capital markets for infrastructure construction and rehabilitation.

The strategy could focus on two core areas: (i) improving the operational efficiency of utilities and identifying opportunities for achieving economies of scale through consolidation; and (ii) exploring how tariff and subsidy policies can be more efficient and focusing on access to commercial finance of individual utilities. Focusing on these two pillars could enhance the quality and equity of service provision while using existing capital more efficiently and opening up new financing options. Finally, as noted in chapter 4, there are several emerging risks and opportunities that could impact the economic efficiency of the sector. Disruptive technologies could dramatically decrease the cost of service. Yet threats such as climate change are likely to have large and unpredictable cost implications for the water sector in Portugal. If economic efficiency is used as a framing mechanism for the fourth strategic plan, these risks and opportunities should be further explored.

[10] See the U.S. Water Alliance web page "Water Equity Clearinghouse," accessed July 2019, http://uswateralliance.org/wec/framework.

6.1.3 Potential Vision: Resilience perspective

One of the emerging trends that is relevant for Portugal and the next strategic plan is climate change, but also other external trends will influence the sector. Climate change will have significant impacts on the water sector in Portugal. However, these impacts will not be equally shared. More vulnerable populations are more likely to be exposed to extreme weather events such as heat waves, droughts, and floods, and more likely to experience service disruption as a result of climate change.

Resilience is a relatively new concept and aims to develop systems and institutions that respond and cope effectively with short- and long-term changes**.** Resilient water services are better able to adapt to stresses and shocks and continue delivering essential services to and safeguarding the consumers. To be prepared for changes in water availability, variability and extreme events the resilience perspective as sector strategy is suggested. This potential vision would be based on a long-term forward look.

6.2 Strategic Pillars

A scenario of equity, economic efficiency, or streamlining can provide a vision for the water sector to garner support for the next strategic plan. Based on the challenges identified in the MTR, activities to address the root causes could be arranged under three strategic pillars: (i) building a stronger sector, (ii) optimizing financial resources, and (iii) planning for tomorrow. While the activities would focus around the vision selected, all three pillars are likely to be relevant under any of the three scenarios. stretch

Activities under **building a stronger sector** would focus on sector reforms, as well as efforts to build the operational capabilities of service providers. **Optimizing financial resources** activities would emphasize more effective sector funding and improving the commercial viability of service providers. **Planning for tomorrow** would initially include research into emerging trends and threats to the water sector, particularly regarding water resource management. This pillar would then evolve into a set of priority actions to mitigate risks and take advantage of new opportunities.

6.2.1 Potential Strategic Pillar 1—Building a Stronger Sector

Since the 1993 reform, strengthening the management structure of the water sector has been a priority of government and sector authorities. This task has been at the front of every list of actions prepared to modernize the sector, consolidate the water market, and improve the quality and competence of service providers. Sometimes this objective has been connected to the idea that success in making the sector stronger requires aggregation, when aggregation is just one option. Building a more compact and stronger water sector—supported on more solid, competent, and professionally capable service providers—could certainly continue being the objective. The operational objective of building a stronger sector could be supported by actions on three main areas: (i) legal, institutional, and regulatory issues; (ii) operational efficiency and consolidation; and (iii) technical and financial assistance.

Legal, institutional, and regulatory actions could include the following:

- Review, update, and simplify managing and approving of legal, institutional, financial, and commercial incentives linked to aggregation (mergers, acquisitions, alliances, and other practices).
- Review and update current legal, institutional, financial, and commercial policies linked to the governance of service providers.
- Review and update the level playing field policy and practice resulting from the horizontal and vertical integration that characterize the sector, including the feasibility and convenience of amending the policy or even further empowering the regulator.
- Homogenize the rules of the game for the different management models, in particular not penalizing private sector participation.
- Study and assess the feasibility and convenience of introducing legal changes to the governance of the municipal direct management model, either by decreeing the need of separate accounting and institutional autonomy or by creating financial benefits or other type of positive incentives to motivate the municipalities to act on that direction.

Operational efficiency and consolidation will enable better service delivery and a financially better performance. Although aggregation is not a goal, it would allow utilities to benefit from economies of scale. It has been an important measure in PENSAAR 2020, and the MTR shows that utilities under direct management without autonomy (not aggregated) perform poorer than the other management models. The level of autonomy and accountability are important aspects in that respect. Allowing more autonomy has increased performance of all other management models. For operational efficiency and consolidation, actions could include the following:

- Keep promoting public-public partnerships, public-private partnerships, shared services and other practices aimed at aggregation such as mergers, acquisitions, and alliances.
- Revisit financial incentives to improve their attractiveness, particularly to medium and small service providers.
- Develop a program centered on offering financial incentives against results ("you do it and you get or keep them"; "you do not do it and you do not get or you return them").
- Conditional to successfully completing the transaction, fully subsidize transaction costs associated with aggregation initiatives, including engineering, technical, or organizational studies; initial operational deficits; and others.
- Emphasize practical solutions and programs attractive to competent utilities, such as incentives to undertake management transformation, strengthen governance, induce competition, and reward innovation.

In the Deliverable A.2 on Remedial Actions for the MTR, several actions for the midterm and long term have been identified. Some actions that are not possible on the short-term remedial actions are

considered below. For example, future **technical and financial assistance** actions could include the following:

- Develop programs focusing on assistance to municipalities and service providers committed to learn about processes or carrying out managerial solutions to get specific and measurable results.
- Develop programs favoring assistance (particularly financial assistance) to municipalities with proven capacity to operate infrastructure.
- Support research and testing of new approaches in medium and small municipalities.
- Finance studying and documenting successful aggregation initiatives and private sector participation and discussing and circulating these documents with interested stakeholders.

The implementation of these actions should be closely monitored through a clear framework including: (i) output indicators to assess the pillar's operational objectives; (ii) process indicators to assess the success of individual actions (and measures); and (iii) a policy of one indicator or index per objective and no objectives without a performance metric.

6.2.2 Potential Strategic Pillar 2—Optimizing Financial Resources

There are only three sources of funding in the water sector: tariffs, taxes, and transfers. Tariffs and other fees are paid directly by users. Taxes are general government revenues, earmarked for the water sector. Finally, a transfer from one country or entity to another can serve as a source of funding. If available resources do not meet capital investment needs, these investments can be financed through government debt (which is not tied to the viability of the investment) or borrowing by a ring-fenced, publicly owned service provider (which depends on the creditworthiness of the service provider).[11] Ultimately, the debt service can only be covered by the "3 T's," implying that any capital investment in the water sector must generate sufficient returns to justify the cost of the investment, either through improved operational efficiencies, increased revenues through increased consumption or the addition of new customers, or higher tariffs due to increased willingness to pay as service quality improves.

Optimizing the allocation and use of available financial resources to improve efficiency, efficacy, and targeting has been pursued by the sector at least since PENSAAR 2020. It is where the sector's backbone of social, economic, and financial sustainability rests, and whose accomplishment is central to strengthening the sector. Key areas are cost recovery; systems optimization; and efficient management of human, physical, and financial resources. The operational objective of optimizing financial resources could be supported by actions on three main areas: (i) financial efficiency; (ii) operational efficiency; and (iii) tariffs and subsidies.

[11] A Public Private Partnership can be a source of financing in cases when a privately-owned operator brings its own equity and debt financing. However, the return on invested capital and debt service would be built into the cost structure of the Public Private Partnership and would need to be covered by the 3 T's.

Financial efficiency actions could include:

- Carry out a major review and update of the national financial system, as regarding the water supply and sanitation (WSS) sector: objectives, goals, and assumptions; financing and contracting models; sources, allocation criteria, transfers, results and monitoring; targeting of subsidies; and accountability.
- Based on current practice (Operational Program for Sustainability and Efficient Use of Resources [POSEUR]), update and develop a metric to measure and evaluate the efficiency of public spending, including cost effectiveness; targeting and impact on quality of life (of capital and consumption subsidies); and the financial performance of service providers. Make sure the Plan's overall progress and each action, measure, and activity will be supervised and evaluated by that metric.
- Assess the practice of targeting subsidies as a guarantee of service providers' financial and social sustainability and the sustainability of the solidarity principle.
- Make more transparent the allocation and use of public resources. Evaluate expenditure on projects against agreed targets and goals, and improve public control by a wide dissemination of expected and actual results.
- In the context of current legislation, evaluate the historical availability and future likelihood of expanding internal generation. PENSAAR 2020 assumes that internally generated funds could cover 80 percent of overall costs. Were it the case, how much went to investment and how much to operations and maintenance (O&M), what could be the future target and under what circumstances?
- Assess the capacity of the sector and its key players for absorbing available resources.
- Ensure that in parallel to estimating the cost of implementing the Plan, there is a methodology for estimating and measuring actual costs and identifying the nature of those variations (changes in objectives, targets, other) and their behavior vis-à-vis risk assumptions.
- Review policies on accessibility to available funding and related selection criteria, as well as the criteria for allocating resources among different type of operators (municipalities' size, average income, and others). Financial support strengthens both the operators and the market, and this review and possible update of policies would inform where and how to select activities to include in the strategic pillars, delineate actions to carry out, and define related indicators and targets.

On **operational efficiency**, actions could include:

- Double down on the work completed under PENSAAR 2020 to improve operational efficiency. All actions included in that Plan need to be reassessed and reformulated to continue under the new plan.
- Capital investment in infrastructure renewal and reducing and controlling physical losses and nonrevenue water (NRW) are critical to improving sector efficiency. Both are handicapped by the lack of specialized personnel and, particularly in the case of asset rehabilitation, constraint

by cost requirements. Therefore, both actions deserve to be included as individual actions. This will raise their standing during implementation.

- Install or restore long-term planning in the management of the medium and small municipal utilities, fighting the pessimistic approach of "Why?" or "How to do it if the best you can do is plan for four or five-year cycles?" Prioritizing consideration of projects included in plans, offering financial incentives, and promoting sector planning as a key element or catalyzer of municipal planning and development could help. Asset rehabilitation would benefit from promoting planning because—apparently in small and even medium utilities—asset management is based on emergencies (on acting upon their presence).
- Encourage the study of the water balance and cost structure of delivering the services among medium and small service providers. As with long-term planning, consider realistic targets and required resources. Prioritize consideration of projects supported by well-estimated cost structures, even offering financial incentives, and consider the presentation to the community of such studies as a requirement to access public funds.
- Further support carrying out some of the activities suggested above by linking financial and sector restructuring; for example, make relevant estimating administrative and general costs by forcing accountability upon service providers.

Tariff and subsidy actions could include:

- Revisit the convenience of keeping tariff and subsidy policy setting in the hands of the municipalities vis-à-vis allowing the regulator to enforce the cost recovery policy. This should include enforcement by law. The Water and Waste Services Regulation Authority (ERSAR) suggests but does not set the tariffs. This situation explains the operational deficit observed today in many mostly small utilities. The tariffs calculated by the municipal service providers to cover the cost of water distribution and sewerage collection services (plus, in the case of retail utilities, adding to those costs the tariff charged to them by the bulk suppliers) may appear high to the local authorities. Because they have the autonomy to set the tariffs, the cost recovery policy is currently not guaranteed.
- Evaluate the preceding options, and consider introducing stronger financial incentives to consolidate the cost recovery policy and reconcile policy and practice on this field. The level of infrastructure quality is closely related to financing, and the role of tariffs is the most important variable toward ensuring financial sustainability in the provision of WSS services.
- Assess sector policy on capital subsides, cost recovery, and social tariffs, and discuss (i) how well targeted social tariffs are today; (ii) the impact tariff adjustment may have on municipalities with unrealistic low tariffs and their households; and (iii) ways to better target the significant capital subsidies provided today, answering questions such as situations and circumstances that trigger them, current financial sources and their sustainability throughout time, eligibility criteria to access them, and time nature of the subsidies (e.g., permanent or temporary, length of time).
- Assess the convenience of (i) reviewing tariff policy for the provision of bulk wastewater services; and (ii) studying the handling of seasonal dwelling occupancy and similar situations.

- Assess the impact that increasing water consumption during summer has on the expansion and maintenance of the infrastructure, and the convenience of establishing seasonal tariffs.
- Assess the convenience of limiting the number of water consumption blocks and defining the ranges of consumption levels within each range as a way to improve tariff signaling, as well as extending the application of the same blocks to the consumption of wastewater services.

The implementation of the actions suggested here should be closely monitored through a clear framework including (i) output indicators to assess the pillar's operational objectives; (ii) process indicators to assess the success of individual actions (and measures); and (iii) a policy of one indicator or index per objective and no objectives without a performance metric.

6.2.3 Potential Strategic Pillar 3—Looking Ahead

The water sector faces a number of challenges to a "business as usual" approach. Urbanization, climate change, and disruptive technologies are poised to impact the sector in ways both good and bad, and Portugal is not immune to these broader trends. Uncertainty is the driving theme of the 21st century. While risks such as lower water consumption or higher costs for inputs and labor can be anticipated and mitigated, uncertainty is much more challenging. Climate modeling, for example, can provide some insights on the likely impacts of climate change on Portugal, but the ultimate impact on the economy and society are difficult to predict.

From this perspective, the inclusion of a strategic third pillar focused on improving the resilience of the sector to future changes is worth considering. An effective strategic plan needs to assess these challenges and attempt to forecast their potential impact. A stronger and consolidated sector, based on competent and efficient service providers, and operationally and financially efficient, needs to be financially, environmentally, and socially sustainable. A forward-looking pillar would help to improve the likelihood of continued progress.

PENSAAR 2020 has included this objective as its fifth axis. The idea is to revisit that objective and rebuild it. The elements in PENSAAR 2020, and the initiatives, proposals, and ideas discussed by sector stakeholders (e.g., the set of initiatives to be discussed during the forthcoming National Meeting of Services Providers of Water and Wastewater Services) offer an excellent basis for building this pillar.

A Mission of Studies to lead this initiative could be considered. In 12 months, it could develop a proposal on how to develop and implement the "look ahead" objective, given appropriate financial and human resources. It could serve as a forum to discuss ideas and proposals, define and prepare studies and investment programs, formulate and study processes and practices, undertake studies, publish documents, and disseminate information.

6.3 Suggested Pillars and the MTR Root Cause Analysis

Table 6.1 summarizes suggested pillars and actions as the most sensible options to address the root causes identified in the MTR as responsible for the poor performance of the water sector. Root causes are related

to the observed probable causes of that performance. The strategic pillars build on the remedial actions that were identified as part of the MTR. The suggested actions in this overview in general have a longer lifespan and longer-term impact.

Table 6.1 Symptoms, Root Causes, and Actions

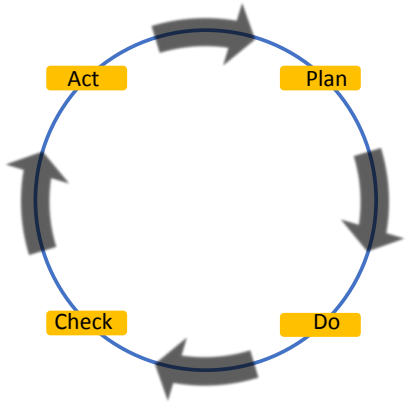
Probable causes of symptoms	Root causes	Suggested strategic pillars to address root causes
• Significant and equitable progress in delivering sustainable water services and ensuring inland and coastal bathing water quality • Lack of enforcement of regulations • Technical and financial constraints, mainly for small service providers • Horizontal and vertical integration issues distorting incentives in the sector	• Governance issues and lack of political will • Capacity issues in some municipalities and service providers • Lack of administrative and financial autonomy	**Building a stronger sector** • Revisit and update legal, institutional, and financial and commercial frameworks • Consolidate the market by raising the competence and professionalism of service providers • Develop and implement improved technical assistance programs
• Some utilities applying unsustainable tariffs and inappropriately targeted subsidies • Limited public resources and poor planning and budgeting practices • High degree of political interference in small markets • Minimal asset management • Scarcity of knowledgeable and skilled staff • Limited financial monitoring	• Lack of cost recovery and unwillingness to raise tariffs • Lack of appropriate institutional and financial incentives • Insufficient opportunities for training and capacity building	**Optimizing financial resources** • Update sector funding strategy, including allocation criteria and transfers • Develop metrics to measure and evaluate the efficiency of public spending • Improve operational efficiency • Support long-term planning by medium and small municipal utilities • Review tariff and subsidy policies • Explore stronger financial incentives to achieve cost recovery • Review practices related to water consumption, demand, and policies • Develop operational and financial metrics for service providers
• Significant interest in preserving the environment, but limited planning and action on water resource management • Lack of awareness • High levels of water losses • Lack of water demand management	• Sufficient water resources today, reducing the urgency to plan for declining water availability in the future • Lack of communication with the public • Lack of sustained institutional and financial support • Insufficient planning and lack of continuity	**Looking ahead** • Support a Mission of Studies to identify and monitor emerging issues around water resource management and other themes

6.4 Building an Effective Feedback Loop

One conclusion from the MTR is that although the performance of PENSAAR 2020 is reviewed annually, it lacks a mechanism through which observations are converted into actions. Data are a core tool for creating feedback loops needed for executing a strategy. The MTR and monitoring and evaluation (M&E) framework review note that data quality is high, but that the data have not been used as effectively as they could have been. In the next strategic plan, embedding data into implementation will help strengthen the impact of the strategy and increase accountability.

Monitoring and assessing the success of a strategic initiative is fundamental. Following the plan-do-check-act (PDCA) cycle (figure 6.1), it is critical to create the strategic plan, operationalize it through actions, check and analyze the impact and success of such actions and their contribution to the strategy, and update or renew the strategy as needed (World Bank 2019a). The MTR concludes that especially the act part of the cycle needs to be strengthened to respond to implementation challenges.

Figure 6.1 PDCA Cycle



Source: Adapted from Moen, n.d.

It might seem obvious that when discussing strategic planning, the strategic plan would represent the plan stage. The implementation of the strategy would be the do phase, and monitoring and evaluation would take place at the check phase. This is accurate when considering an overall view of the plan or when the plan is simple and does not have too many layers.

Chapter 5 provides an illustrative theory of change that could be adapted for the next strategic plan. It would then be much easier to define a shortlist of 10 to 15 key performance indicators (KPIs) that can be tracked and reported regularly to evaluate progress toward achieving the strategy. Finally, it can be useful to agree upfront on how the data will be used to assess the strategic plan and make course corrections if needed.

It is critical to understand the resources and the activities, and then to identify the outputs (direct products of the activities), outcomes (changes in knowledge, skills, status, and level of functioning), and impact (fundamental change occurring within seven to 10 years). A feedback loop through an M&E framework should produce metrics on all these concepts. Indicators should be allocated for each element of the system (one for each), from operational actions to strategic objectives. The Deliverable B.1 on the review

of the M&E Framework provides a roadmap for refining the monitoring platform under PENSAAR 2020 and highlights potential indicators for the next strategy.

References

Moen, Ronald. n.d. *Foundation and History of the PDSA Cycle.* Detroit: Associates in Process Improvement. https://www.deming.org/uploads/paper/pdsa_history_ron_moen.pdf.

World Bank. 2019a. *PENSAAR 2020 Midterm Review: Deliverable A.1*. Washington, DC: World Bank.

Chapter 7. Recommendations

PENSAAR 2020 provides a strong foundation for the next strategic plan. As Portugal continues to develop its water sector, an evolution of the current plan can help address key challenges while maximizing continuity. The following recommendations intend to help in the development of the next strategy and are based on the previous deliverables A.1, A.2 and B.2, with the goal of creating a high-impact strategic plan as efficiently as possible.

Conduct a thorough review of results achieved and the incentive mechanism under PENSAAR 2020. The current strategy has achieved strong results. Understanding the reasons behind strong results and areas in which there are gaps between expectations and reality will embed lessons from PENSAAR 2020 in the new strategy. The incentives have not driven the changes as envisioned for PENSAAR 2020 for the sector.

Define two to four strategic pillars and a small number of clear indicators that link closely to the vision and theory of change. Ultimately, a strategic plan is a set of choices. Too many objectives, activities, and indicators result in effort diffused too broadly. By keeping the focus of the strategic plan on the highest priority activities and a small set of key performance indicators, the odds of successful implementation increase.

Create a central strategy team. Developing a national strategy is labor intensive. Seconding staff from various institutions to work exclusively in a central strategy unit for a time-bound period can help ensure sufficient resources and focus to complete the strategy. It may be useful for this strategy unit to be supported by an outside neutral actor, such as the European Union (EU) or the World Bank.

Engage with municipalities and other stakeholders early and often. A bottom-up approach to the strategy can help to improve the participation and buy-in from municipalities, while a broad media campaign can raise awareness with citizens. The W process could be considered.

Focus on the Plan's investment costs and funding sources. Resource allocation is a core part of a strategic plan. Understanding and prioritizing investment needs for the new plan will be critical for achieving the goals. PENSAAR 2020 has identified but has not secured the required resources. The next strategic plan should identify funding sources and track actual versus projected allocation.

Incorporate a monitoring system that allows for real-time feedback and course correction. Effective strategies are dynamic: capable of adapting when the situation changes during implementation. The midterm review (MTR) shows no clear mechanism in PENSAAR 2020 to adjust when results are not attained, or funding sources do not materialize. Adjusting the objectives and resource allocation is increasingly important in the age of uncertainty. A strong monitoring and reporting system will provide data to determine if course correction is needed. Defining a process for assessing this data and agreeing on a change to the strategy will help to build a feedback loop into the execution of the strategy.

Appendix A Potential Outline for the New Strategic Plan

This appendix contains suggestions to prepare the next strategic plan. At its most effective, strategic planning is a process not a document. Engaging partners in developing and refining the strategy builds buy-in and helps validate assumptions. The final document is an artifact of the planning process, archiving the decisions made during strategic planning. Countries with successful water strategies have tended toward shorter, more succinct documents, typically around 30–50 pages. Separate background or technical papers can be prepared for specific audiences. Drawing on the ideas presented here, a potential outline for Portugal's next strategy could take the following form:

- Executive Summary (one page)
- Vision (five pages)
    - Current status of the sector
    - Recap of previous strategies
    - Description of where the sector will be at the end of the new strategy
- Strategic Pillars (15 pages)
    - Theory of change and key assumptions
    - Description of each pillar (activities and outputs) and key performance indicators (KPIs)
- Execution (five pages)
    - Timeline and summary of work plan
    - Budget
    - Implementation arrangements
    - Feedback loops and process for reviewing and updating the strategy
- External Influencers (two pages)
    - Risks and plans for mitigating them
- Appendixes (up to 15 pages)
    - Work plan and budgets
    - Results framework
    - Monitoring and evaluation (M&E)

Supporting materials may help publicize the strategy to such audiences as policy makers, municipal officials, and the general public. Supporting materials could include:

- One-pagers on various topics
- Briefing notes
- Technical papers
- PowerPoint presentations
- Talking points for senior officials
- Videos
- Website
- Social media outreach