

Making water and sanitation affordable for all:

Policy options and good practices to ensure the affordability of safe drinking water and sanitation services in the pan-European region



UNECE



Making water and sanitation affordable for all:

Policy options and good practices to ensure
the affordability of safe drinking water and
sanitation services in the pan-European region



UNITED NATIONS

Geneva, 2022

NOTE

Requests to reproduce excerpts or to photocopy should be addressed to the Copyright Clearance Center at: <https://www.copyright.com/>

All other queries on rights and licenses, including subsidiary rights, should be addressed to:

United Nations Publications
405 East 42nd Street
S-09FW001
New York, NY 10017
United States of America

Email: permissions@un.org

Website: <https://shop.un.org>

The findings, interpretations, and conclusions expressed herein are those of the author(s) and do not necessarily reflect the views of the United Nations or its officials or member States.

The designations employed and the presentation of material on any map in this work do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Links contained in the present publication are provided for the convenience of the reader and are correct at the time of issue. The United Nations takes no responsibility for the continued accuracy of that information or for the content of any external website.

This publication is issued in English, French and Russian.

Photos for this publication were provided by Adobe Stock and the NGO Armenian Women for Health and Healthy Environment.

ECE/MP.WH/20

UNITED NATIONS PUBLICATION

eISBN: 978-92-1-001184-6

© 2022 United Nations

All rights reserved worldwide

United Nations publication issued by the
United Nations Economic Commission for Europe

ACKNOWLEDGEMENTS

This policy brief was prepared by the United Nations Economic Commission for Europe (UNECE) and the World Health Organization (WHO) Regional Office for Europe as joint secretariat of the Protocol on Water and Health. The development of this publication would not have been possible without the contributions of experts from several countries and partner organizations. The UNECE and the WHO Regional Office for Europe would particularly like to thank the members of the Expert Group on Equitable Access to Water and Sanitation, and the co-lead Parties, France and Hungary, for sharing their experiences, comments and ideas.

We extend special thanks to the following country representatives who took part in the survey on affordability, which was developed to inform this policy brief, and to those who provided comments on the text and case studies.

- Albania:** Ms. Zhaneta Miska, Public Health and Primary Care Sector
Mr. Ndriçim Shani, Water Regulatory Authority
- Armenia:** Ms. Armine Arushanyan, Ministry of Energy, Infrastructures and Natural Resources
Ms. Emma Anakhasyan, NGO Armenian Women for Health and Healthy Environment
- Azerbaijan:** Ms. Gunel Qurbanova, Ministry of Ecology and Natural Resources
Ms. Leyla Tagizadeh, Ministry of Health
- Bulgaria:** Ms. Diana Iskreva, NGO Earth Forever
- Czech Republic:** . . Ms. Martina Myšáková, National Institute of Public Health
- Estonia:** Mr. Ramon Nahkur, Ministry of Social Affairs
- France:** Ms. Béatrice Jedor, Ministry for Solidarity and Health
Ms. Aude Ratinahirana, Ministry for the Ecological Transition
Ms. Adriana Salazar, French Water Partnership
- Georgia:** Mr. Alexander Mindorashvili, Ministry of Environment Protection and Agriculture
- Germany:** Ms. Bettina Rickert, Federal Environment Agency
- Hungary:** Ms. Márta Vargha, National Public Health Centre
- Italy:** Mr. Luca Lucentini, National Institute of Health
- Latvia:** Mr. Edgars Riekstiņš, Ministry of Agriculture
- Lithuania:** Ms. Natalja Sliachtic, Centre for Health Education and Diseases Prevention
- Republic of Moldova:** Ms. Tronza Serafima, Ministry of Agriculture, Regional Development and Environment
- Montenegro:** . . . Ms. Dijana Djuriović, Institute of Public Health of Montenegro
- North Macedonia:** . Mr. Mihail Kochubovski, Institute of Public Health
Ms. Natasha Dokovska, NGO Journalists for Human Rights
- Portugal:** Ms. Helena Costa, Water and Waste Services Regulation Authority
- Romania:** Ms. Carmen Neagu, Ministry of Environment, Water and Forests
- Serbia:** Ms. Dragana Jovanović, Institute of Public Health
Ms. Biljana Filipović, Ministry of Environmental Protection
- Slovakia:** Ms. Lýdia Bekerová, Ministry of the Environment
- Spain:** Ms. Concepción Marcuello, Ministry for the Ecological Transition and the Demographic Challenge
- Switzerland:** . . . Ms. Awilo Ochieng Pernet, Federal Food Safety and Veterinary Office

Additional comments and inspiration were gratefully provided by the following experts: **Mr. Xavier Leflaive** (OECD), **Mr. Rio Hada** (OHCHR), **Mr. Olivier Loebel** (EurEau), **Mr. Milo Fiasconaro** (Aqua Publica Europea), **Mr. Richard Johnston** (WHO), **Mr. Guy Hutton** (UNICEF), **Mr. Stef Smith** (IRC), and **Ms. Barbara Mateo**, an independent expert on the human rights to safe drinking water and sanitation.

Mr. Roberto Martín-Hurtado, UNECE consultant, is the main author of the publication.

From the joint secretariat of the Protocol, **Ms. Diane Guerrier** and **Ms. Nataliya Nikiforova** (UNECE), and **Mr. Oliver Schmoll** and **Ms. Enkhtsetseg Shinee** (WHO/Europe) contributed to the conceptual development of the publication and provided technical input and peer review. **Ms. Cammile Marcelo** and **Ms. Mayola Lidome** provided administrative support. The publication was edited by **Ms. Cathy Lee**.

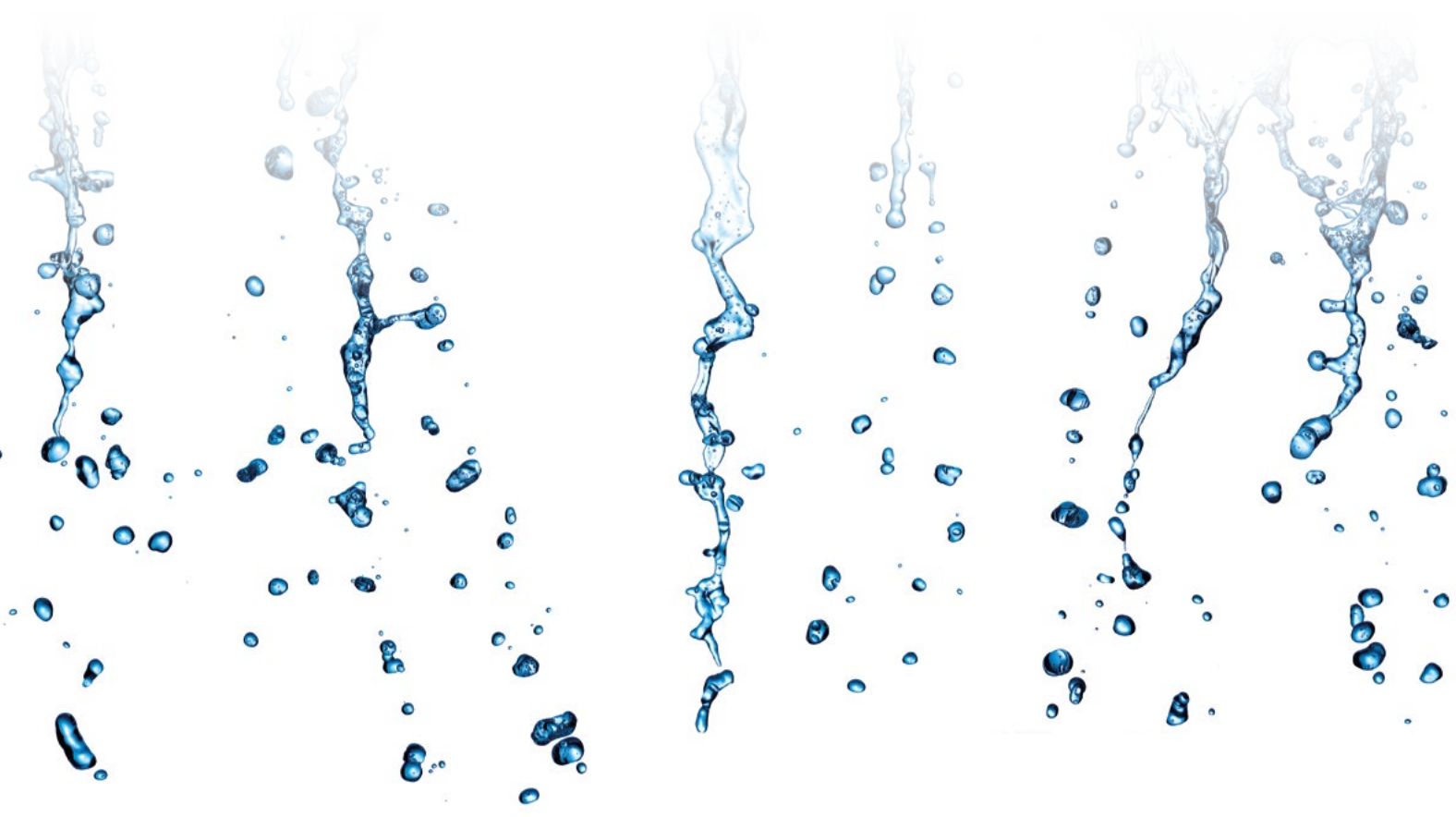
The joint secretariat gratefully acknowledges the funding provided by the Ministry for Solidarity and Health of France and the National Public Health Centre of Hungary, which enabled the development of this publication.





CONTENTS

Acknowledgements	iii
Figures, tables, box	vii
Good practices	vii
Acronyms and abbreviations	viii
Executive summary	ix
1. About this policy brief	1
2. Why does affordability matter?	3
3. What is affordability?	5
4. What policy options are available to ensure affordability?	9
5. Adopting strategic approaches – Policy options and good practices13
6. Implementing water and sanitation policy measures – Options and good practices21
7. Implementing social protection policy measures – Options and good practices29
8. How can affordability measures be financed?35
9. What needs to be done now?37



FIGURES

Figure 1.	Estimated expenditures per capita and as % of GDP in EU countries	6
Figure 2.	Recent progress in addressing affordability concerns in 16 pan-European countries	15
Figure 3.	What affordability indicators developed by ERSAR reveal	17
Figure 4.	Local authorities experimenting with social water pricing in France	18
Figure 5.	Using affordability thresholds to determine social assistance in Lithuania	33

TABLES

Table 1.	Good practices in ensuring affordability from across the pan-European region	x
Table 2.	Variation of the affordability context across 14 pan-European countries	14
Table 3.	Strengths and weaknesses of water and sanitation policy measures to address affordability concerns	22
Table 4.	Strengths and weaknesses of social protection policy measures to address affordability concerns.	30

BOX

Box 1.	Measuring and monitoring affordability	7
---------------	--	---

GOOD PRACTICES

Good Practice 1	Using a rapid assessment to inform policy choices in Armenia	16
Good Practice 2	Applying an affordability indicator in Portugal	17
Good Practice 3	Setting up a national learning process in France	18
Good Practice 4	Enhancing inter-institutional cooperation to improve the implementation of affordability mechanisms in Spain	19
Good Practice 5	Access subsidies in Estonia	24
Good Practice 6	Free water allowances for poor households in Italy	25
Good Practice 7	Social tariffs in Serbia	26
Good Practice 8	Combining different tariff-based measures in Albania	27
Good Practice 9	Flexible payment systems for special groups in Hungary	28
Good Practice 10	General social protection programmes in Latvia	31
Good Practice 11	Social protection programmes targeting water and sanitation services in Romania.	32
Good Practice 12	Using water and sanitation affordability thresholds to target social protection programmes in Lithuania	33

ACRONYMS AND ABBREVIATIONS

3Ts	Tariffs, taxes and transfers
AEAS	Spanish Association of Water Supply and Sanitation
ARERA	Italian Regulatory Authority for Energy, Networks, and the Environment
AWHHE	Armenia Women for Health and Healthy Environment
GLAAS	Global Analysis and Assessment of Sanitation and Drinking Water
ERSAR	Portuguese Water and Waste Services Regulation Authority
EU	European Union
EurEau	European Federation of National Associations of Water Services
GDP	Gross Domestic Product
IBTs	Increasing Block Tariffs
IRC	IRC International Water and Sanitation Centre, the Netherlands
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
OHCHR	Office of the UN High Commissioner for Human Rights
PENSAAR	Portuguese National Strategic Plan for the Water and Sanitation Sector
SDGs	Sustainable Development Goals
UNDEF	United Nations Democracy Fund
UNECE	United Nations Economic Commission for Europe
UNICEF	United Nations Children’s Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WHO/European	World Health Organization Regional Office for Europe
WRA	Albanian Water Regulatory Authority
WSS	Water Supply and Sanitation

EXECUTIVE SUMMARY

Why does affordability matter?

The recognition by the United Nations of the human rights to water (in 2010) and sanitation (in 2015) means that it is a legal obligation for all United Nations Member States to ensure universal access to safe drinking water and sanitation.¹ Achieving universal access represents a major challenge that requires *inter alia* making safe drinking water and sanitation affordable for all. The importance of ensuring affordability of water and sanitation services is recognized in international policy frameworks, such as the Sustainable Development Goals. In the pan-European region, economic and regulatory developments in the water and sanitation sector have pointed to the importance of addressing affordability concerns.

What is affordability?

There is no universally accepted definition of affordability of water and sanitation services. In the human rights framework, water and sanitation services are unaffordable when paying for them would compromise the ability to pay for other essential needs that are guaranteed by human rights such as food, housing, education and health care. In order to operationalize the concept of affordability, several countries, service providers and international organizations have set affordability thresholds, for example, percentage of household income used to pay for water and sanitation services. When using affordability thresholds, it is important to differentiate between macro-affordability (for example, when the analysis is carried out at the country level) and micro-affordability (for example, when the analysis is carried out at low-income households). A more sophisticated approach, spearheaded by UNICEF and WHO,² looks at three determinants of affordability of water and sanitation services: i) the upfront and ongoing costs of water, sanitation and hygiene (WASH) infrastructure and services paid by the household; ii) the overall spending power and time budget of the household; and iii) the competing nature of other (non-WASH related) needs and the spending required to meet those needs.

What policy options are available to ensure affordability?

There is a wide variety of options to address affordability concerns. Some can largely be developed and implemented by the water and sanitation sector, others require leadership of social protection authorities. Water and sanitation policy measures include access to subsidies, tariff measures and payment facilities. Social protection policy measures include general social protection programmes, WASH-specific social protection initiatives, and disconnection bans. Given the spread of responsibilities and capacities, an effective policy response requires strong stakeholder engagement.

1 Throughout this publication, the expression “water and sanitation services” is employed for readability, but it refers to “safe drinking water and sanitation services”.

2 UNICEF and WHO (2021). *The measurement and monitoring of water supply, sanitation and hygiene (WASH) affordability: a missing element of monitoring of Sustainable Development Goal (SDG) targets 6.1 and 6.2*. This publication provides the following definition of economic accessibility: “Water, and water facilities and services, must be affordable for all. The direct and indirect costs and charges associated with securing water must be affordable and must not compromise or threaten the realization of other Covenant rights.”

Affordability measures have different strengths and weaknesses. Criteria to assess them include effectiveness, ease of implementation, sustainability of funding, and coherence with other policy objectives. Across-the-board low tariffs are not an option as they undermine the financial sustainability of services. There is increased concern among water and sanitation experts that volumetric tariff measures are regressive. The use of social tariffs and social protection policy measures requires inter-institutional cooperation and the existence of a “social policy infrastructure”.

What are the good practices in ensuring affordability?

Policymakers and other stakeholders, such as water service providers, are encouraged to adopt a strategic approach to address affordability concerns. Responses to the affordability challenge need to be informed by country-specific situational analyses. Countries in the pan-European region are making progress in developing the building blocks of a strategic response to the affordability challenge. This policy brief includes 12 good practice examples from around the pan-European region, listed in table 1.

Table 1. Good practices in ensuring affordability from across the pan-European region

Policy options	Good practice examples
Adopting strategic approaches	Using a rapid assessment to inform policy choices in Armenia
	Applying an affordability indicator in Portugal
	Setting up a national learning process in France
	Promoting inter-institutional cooperation to improve the response to the affordability challenge in Spain
Implementing water and sanitation policy measures	Access subsidies in Estonia
	Free water allowances for poor households in Italy
	Social tariffs in Serbia
	Combining different tariff-based measures in Albania
	Flexible payment systems for special groups in Hungary
Implementing social protection policy measures	General protection programmes in Latvia
	Social protection programmes targeting water and sanitation services in Romania
	Using water and sanitation affordability thresholds to target social protection programmes in Lithuania

How can affordability be financed?

The sources of financing affordability measures are the same as those of water and sanitation services and programmes more generally (the 3Ts: tariffs, taxes and transfers). Funding mechanisms can combine different sources of funding. Water and sanitation policy measures are generally financed by cross-subsidies from other users. Social protection policy measures are generally financed by the general population through public budgets. Options to finance affordability measures would benefit from improved financial sustainability of the water and sanitation sector.

What needs to be done now?

This policy brief puts forward a 5-point agenda to make water and sanitation affordable in pan-European countries. Its adoption will require leadership from national and local authorities, as well as sustained support from the different actors in WASH and social protection policy communities.

- Recognize that affordability of water and sanitation services is a national policy issue and identify the extent and importance of affordability concerns.
- Recognize the trade-off between different policy objectives, such as affordability, financial sustainability and water conservation, and use it to inform policy choices.
- Adopt a strategic and tailored approach to addressing affordability constraints.
- Enhance the engagement of relevant stakeholders across WASH and social protection policy communities.
- Evaluate past and new efforts to address affordability concerns and promote internal and cross-country learning.





1. ABOUT THIS POLICY BRIEF

Objectives. This document aims to support the efforts of countries in the pan-European region in the progressive realization of the human rights to safe drinking water and sanitation. The specific objectives are: i) to raise the profile of affordability issues among policymakers; ii) to enhance the understanding of how affordability concerns can be addressed; and iii) to inspire and promote further action on ensuring affordability of water and sanitation services at the national and local level.³

Target audience. The primary target audience of this document are government representatives from ministries responsible for water and sanitation services, social protection, and finance; water regulatory authorities; local authorities (municipalities); and providers of water and sanitation services.

Links to previous work under the Protocol on Water and Health. Countries of the pan-European region have a long tradition of working together to address affordability concerns in the framework of the Protocol on Water and Health. So far, that work has taken place mostly as part of the broader work on equitable access to water and sanitation, with notable publications by UNECE and WHO Regional Office for Europe outlined below.

- In 2012, the publication *No One Left Behind* discusses the key issues around affordability, presenting the main options to address affordability and identifying relevant good practices.
- In 2013, the publication *The Equitable Access Score-card* presents a tool to assess equitable access to water and sanitation that includes a framework to assess progress towards ensuring affordability.
- In 2016, the publication *Guidance Note on the Development of Action Plans to Ensure Equitable Access to Water and Sanitation* presents a strategic approach to address affordability concerns as part of a broader effort to ensure equitable access to water and sanitation.
- In 2019, the publication *The Human Rights to Water and Sanitation in Practice* identifies findings and lessons learned about affordability from the work of the Protocol on Water and Health from 2011 to 2019.
- In 2020, the publication *Costing and financing of small-scale water supply and sanitation services* provides guidance to national and subnational policymakers responsible for water and sanitation interventions in defining strategies for the sustainable financing of service provision through small-scale water supply and sanitation systems.

³ Throughout this publication, the expression “water and sanitation services” is used for readability, but it refers to “safe drinking water and sanitation services”. Safe drinking water and sanitation is sometimes shortened as WASH (water, sanitation and hygiene).

Process. This policy brief is the first under the Protocol to focus exclusively on affordability as one of the equity dimensions. It builds and expands on previous work, updates the collection of good practices and incorporates new work carried out by different actors. It has been developed under the guidance of the Expert Group on Equitable Access to Water and Sanitation. Expert Group members endorsed the outline, responded to the UNECE Affordability Questionnaire,⁴ provided good practice examples, and reviewed a full draft of the document.

Structure. This document is organized around three blocks.

- The first block introduces the topic of affordability. It explains why affordability matters, what affordability is, and outlines policy options that are available to ensure affordability (chapters 2, 3 and 4).
- The second block presents good practices on three focus areas: i) adopting strategic approaches; ii) implementing water and sanitation policy measures; and iii) implementing social protection policy measures (chapters 5, 6 and 7).
- The final block concludes with options on how to finance affordability measures, and recommendations of what to do now (chapters 8 and 9).



⁴ To provide input to the 6th meeting of the Expert Group on Equitable Access to Water and Sanitation, the UNECE secretariat requested participants to complete a questionnaire that included two sections on affordability. Technical experts from 14 countries replied to the first section (focused on understanding the context), and technical experts from 16 countries replied to the second section (focused on identifying policy responses). The raw results, which are reported in chapter 5 of this policy brief, offer an initial overview but do not represent a full regional assessment.

2. WHY DOES AFFORDABILITY MATTER?

Ensuring universal access to safe drinking water and sanitation is a legal obligation and a major global challenge. Access to safe drinking water (since 2010) and sanitation (since 2015) have been recognized as human rights by both the United Nations General Assembly and the Human Rights Council.⁵

Making water, sanitation and hygiene affordable for all is required to ensure universal access. The traditional focus on expanding access to safe drinking water and sanitation as rapidly as possible has generally meant favouring public works to serve households in urban areas, which has led to geographical disparities in access to safe drinking water and sanitation, and at the same time it disregards social and economic disparities.⁶ Geographical disparities may disadvantage those living in rural areas where small-scale water supply and sanitation systems typically prevail. In addition, social disparities may lead to gaps in access for vulnerable and marginalized groups (such as homeless persons, people with disabilities, and those living in illegal settlements). Meanwhile, economic disparities may lead to some users being unable to pay the cost of safe drinking water and sanitation services. Where water or sanitation services are available but not affordable, people will not be able to use sufficient quantities of water and to adequately maintain latrines, or they will turn to cheaper, unsafe sources or practices, or will have to compromise on other essential goods and services, impacting on their human rights.

The importance of ensuring the affordability of water and sanitation services is recognized in international policy frameworks. Affordability is one of the normative dimensions of the human rights to water and sanitation.⁷ Target 6.1 of the Sustainable Development Goals (SDGs)⁸ makes explicit reference to affordability, in line with relevant resolutions of the United Nations General Assembly and the Human Rights Council. Ensuring access to safe drinking water and sanitation is therefore a legal obligation for all UN Member States. The world has made some progress, but it is still off track to meet the water and sanitation targets of the SDGs. In 2020, two billion people lacked safely managed water services and 3.6 billion people lacked safely managed sanitation services (WHO/UNICEF, 2021).⁹ In the WHO-Europe region, 76 million people lacked safely managed drinking water services (over 8%), and 279 million people lacked safely managed sanitation services (about 30%)¹⁰ despite SDG target 6.1: “By 2030, achieve universal and equitable access to safe and affordable drinking water for all”. Ensuring affordable water and sanitation for all is one of the three dimensions of equitable access to water and sanitation, as defined under the Protocol on Water and Health.¹¹ The Ostrava Declaration on Environment and Health¹² also emphasizes the need to ensure universal and equitable access to affordable and safely managed WASH services.

5 A brief history of the human rights to safe drinking water and sanitation as well as the text of the resolutions can be found at <https://www.ohchr.org/EN/Issues/WaterAndSanitation/SRWater/Pages/Overview.aspx>.

6 For a comprehensive overview see United Nations (2012). *No One Left Behind*. New York and Geneva: United Nations.

7 The other dimensions are availability, physical accessibility, quality and safety, and acceptability.

8 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

9 WHO and UNICEF (2021). *Progress on household drinking water, sanitation and hygiene 2000–2020: Five years into the SDGs*. Geneva: World Health Organization and the United Nations Children’s Fund.

10 Data extracted from <https://washdata.org> (accessed 19 July 2021).

11 The other two are: reducing geographical disparities and ensuring access for vulnerable and marginalized groups.

12 See the Declaration of the Sixth Ministerial Conference on Environment and Health, as well as the compendium of possible actions to implement the Ostrava Declaration at <https://www.euro.who.int/en/media-centre/events/events/2017/06/sixth-ministerial-conference-on-environment-and-health/documentation/declaration-of-the-sixth-ministerial-conference-on-environment-and-health>.

In the pan-European region, economic and regulatory developments have increased the importance, urgency and opportunity of addressing affordability concerns. The cost of providing safe drinking water and sanitation services is generally increasing, partly driven by environmental protection requirements (e.g. reduced water pollution), the need to adapt to shifting conditions (including climate change), and the need to renew existing assets. An example of recent regulatory developments in the region is the adoption in December 2020 of the new EU Drinking Water Directive (2020/2184),¹³ which requires that European Member States improve or maintain access to water for all, particularly for vulnerable and marginalized groups. It also establishes requirements for the application of risk assessment and risk management of water supply systems to ensure the quality of water destined for human consumption. As reflected in the discussions of the 6th meeting of the Expert Group on Equitable Access to Water and Sanitation under the Protocol on Water and Health,¹⁴ the emergence of national regulatory agencies is bringing new approaches to tariff-setting, and there seems to be an increasing consensus among water sector stakeholders that affordability of water and sanitation services is a critical issue. It is not just a water and sanitation sector issue but a social protection issue with a human rights dimension that requires mobilizing actors and policy instruments beyond the water and sanitation sector.



13 See <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020L2184&from=EN>.

14 See the summary of the 6th meeting of the Expert Group on Equitable Access to Water and Sanitation: https://unece.org/sites/default/files/2021-04/6th%20EG%20on%20Equitable%20Access_Summary_Report_Final.pdf.

3. WHAT IS AFFORDABILITY?

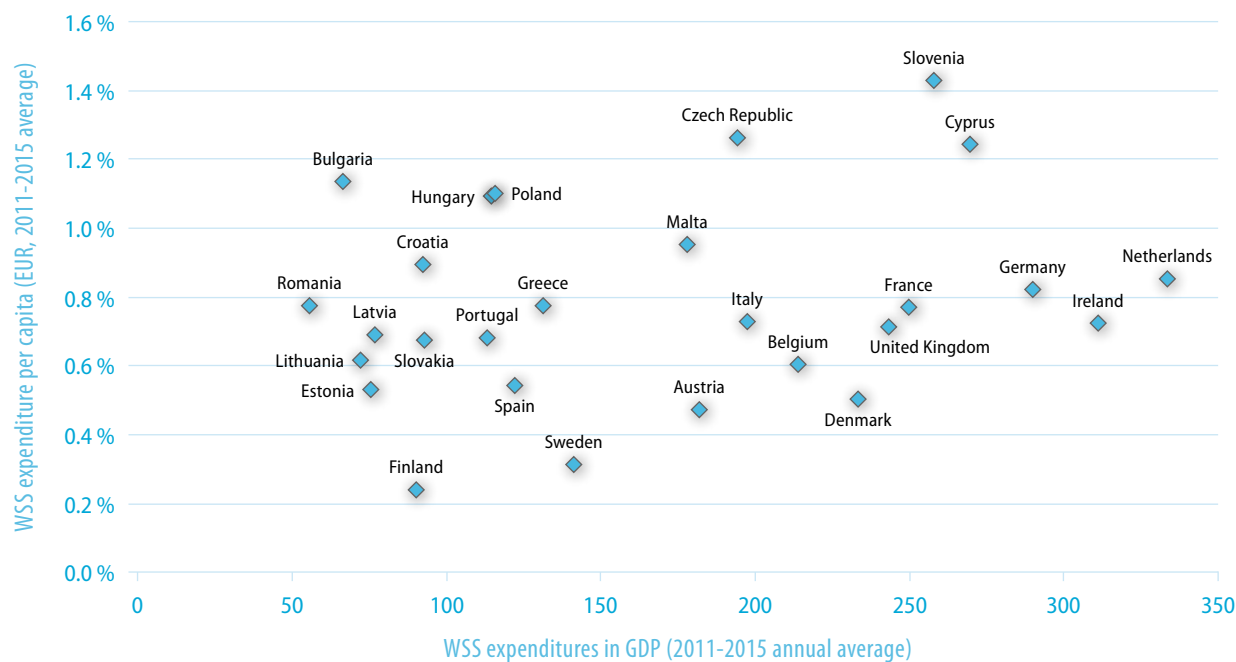
There is no universally accepted definition of affordability of water and sanitation services. The human rights framework requires that the use of water, sanitation and hygiene (WASH) facilities and services be accessible at an affordable price to all people. Water and sanitation services are unaffordable when paying for them would compromise the ability to pay for other essential needs guaranteed by human rights such as food, housing, education and health care. Human rights call for safeguards in the process of setting tariffs and determining subsidies, which should be based on the principles of non-discrimination and equality, transparency, access to information, participation, accountability and sustainability.

In order to operationalize the concept of affordability, several countries, service providers and international organizations have set affordability thresholds.¹⁵ Water and sanitation services are deemed unaffordable when expenditures in water and sanitation services exceed a given percentage of household income (or household expenses). In most cases, the affordability threshold has been set anywhere between 2% and 6% of household income. In addition to the challenge of setting a specific threshold level, one issue with this approach is the need to ensure that the level of service being analysed meets the required national standards.

When using affordability thresholds, it is important to differentiate between macro-affordability and micro-affordability.¹⁶ Macro-affordability refers to a large population group (service area, city, country), whereas micro-affordability refers to the household level. For example, if country X has set the affordability threshold at 4% of average household income and a study confirms that the average household uses only 1.2% of its income to pay for water and sanitation services, we may consider that water and sanitation is affordable at the macro level. However, if the same study also reveals that households in the bottom 10% of the income scale have to use 5.3% of their income to pay for the same water and sanitation services, then there is clearly an affordability issue, in this case at the micro level. Figure 1 shows that macro-affordability is not an issue in EU countries, as most households can afford to pay more for water and sanitation services, but that does not mean that affordability is not an issue for some households in the EU.

15 For a more extended discussion, see *The measurement and monitoring of water supply, sanitation and hygiene (WASH) affordability: a missing element of monitoring of Sustainable Development Goal (SDG) targets 6.1 and 6.2*. New York: UNICEF and WHO, 2021.

16 For a more extended discussion, see *Managing Water for All: An OECD Perspective on Pricing and Financing*. Paris: OECD, 2019.

Figure 1. Estimated expenditures per capita and as % of GDP in EU countries

Note: Expenditure for Finland, Croatia and Sweden are underestimated due to data limitations.

Source: OECD analysis based on EUROSTAT data as reported in Leflaive and Hjort (2020). Addressing the social consequences of tariffs for water supply and sanitation. OECD Environment Working Paper No. 166.

A more sophisticated approach looks at the three determinants of affordability of water and sanitation services. First, is the upfront and ongoing costs of the WASH infrastructure and services paid by the household, including the time cost of accessing WASH services. Second, is the overall spending power and time budget of the household.¹⁷ Third, is the competing nature of different needs and the spending required to meet those needs. It is easier to apply this approach in more developed countries where the cost of a level of service is known and the welfare system guarantees a minimum income level; in lesser developed countries there is a need to calculate the cost of a future level of service. This approach is being developed¹⁸ by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) as part of an effort to improve the monitoring of SDG6 (see box 1).

¹⁷ Households have a limited amount of time and have to decide how to spend it. For example, if members of a household have to collect water from a well or another water source that is not in their home, time will be used that will not be available for other activities, such as generating an income or attending school.

¹⁸ Report accessible at: <https://www.unicef.org/media/97246/file/measurement%20and%20monitoring%20of%20WASH%20affordability.pdf>.

Box 1. Measuring and monitoring affordability

The lack of a universally agreed definition of affordability and of commonly agreed approaches to assessing and monitoring affordability means that little progress has been made in integrating affordability into national and global monitoring of WASH services. To start addressing this issue, in May 2021, UNICEF and WHO published the report *The measurement and monitoring of water supply, sanitation and hygiene (WASH) affordability: a missing element of monitoring of Sustainable Development Goal (SDG) targets 6.1 and 6.2*.

The report reviews existing approaches to measuring and monitoring affordability and, building on a number of case studies, provides several recommendations for future national and global monitoring of WASH affordability. These include: i) reaching a broad consensus on how much households need to spend on different items to meet their essential needs, from which a proposed maximum ratio could be defined for an affordable WASH service; ii) conducting further in-depth country case studies that can contribute to enhanced national policies to make WASH services affordable for all; iii) strengthening datasets and data analyses of income and expenditure surveys, to provide initial affordability assessments in over 50 countries; iv) building and strengthening national and global databases of WASH tariffs and costs; and v) strengthening the use of the UN-Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) survey to collect and analyse policy indicators relevant for affordability assessment.





4. WHAT POLICY OPTIONS ARE AVAILABLE TO ENSURE AFFORDABILITY?

There is a wide variety of options to address affordability concerns. This report groups them into two major categories: *water and sanitation policy measures* and *social protection policy measures*. As we have seen, affordability has three determinants: the expenditure of households for water and sanitation services, the income of households, and the expenditure of households for other basic goods and services. Water and sanitation policy measures have an effect on expenditure in water and sanitation services, whereas social protection policy measures have an effect on the income of households. Measures that affect expenditures in other basic goods or services are outside the scope of this policy brief.

Water and sanitation policy measures include access to subsidies, tariff measures and payment facilities. They include subsidies to pay for the infrastructure costs needed to access services (both centralized and on-site solutions), changes to tariff systems for households (e.g. reductions in the fixed part of the tariff, free water allowances, or increasing block tariffs), cross-subsidies from commercial and industrial users, and social tariffs (provision of preferential tariff rates to certain socioeconomic groups). Flexible payment systems are included in this category, as they enable the reduction of water expenditures during a specific period of time. These policy measures are discussed in chapter 6 of this document.

Social protection policy measures include general social protection programmes, WASH-specific social protection initiatives and disconnection bans. General social protection programmes provide income support to guarantee a minimum income level or to subsidize the consumption of essential goods and services (e.g. electricity, water, sanitation, heating and solid waste management). WASH-specific social protection initiatives include those that top up household income to enable the payment of water and sanitation bills (preventive measures), and those that provide households with additional income to clear debts for non-payment of water and sanitation bills (curative measures). Disconnection bans are included in this category as they are intended as a social protection mechanism. These policy measures are explained in chapter 7 of this document.

Affordability measures have different strengths and weaknesses. Criteria when assessing affordability measures should at least include the following considerations:

- *Effectiveness.* Policy measures may encounter two different problems in terms of reaching their intended population target: mistargeting and leakage. Mistargeting refers to the part of the targeted group (in this case, low-income households) that do not benefit from the policy measure. Leakage refers to the part of the population that was not targeted (in this case, high-income households), but who inadvertently benefit from the policy measure. This is an issue because it results in an unintended misallocation of scarce financial resources.
- *Ease of implementation.* The implementation of different measures has different requirements in terms of enabling legal reforms, maintaining socioeconomic information of households, administrative capacities, or the coordination of different stakeholders. This is partly a function of the policy measure and partly a function of the country context relative to those areas.
- *Sustainability of funding.* Some measures can be financed internally through tariff reform; others will require public subsidies. As suggested from the UNECE Affordability Questionnaire, some pan-European countries may struggle to mobilize the funds they need to pay for affordability measures due to an absence of mechanisms in place.

- *Coherence with other policy objectives.* Different affordability measures may support, undermine or have a neutral effect vis-à-vis other policy objectives such as environmental objectives (water conservation) or financial sustainability objectives.

Establishing tariffs that do not cover the cost of the services for all customers are not an option, as they undermine the financial sustainability of water and sanitation services. In countries where tariffs are lower than cost-covering, affordability concerns are often used as a reason to oppose tariff increases. However, underfunded utilities are prevented from carrying out necessary investments, providing a good service and extending services, which hurts the poorest customers the most and leads to even higher financing needs in the future. Tariff reforms can be designed to ensure the financial sustainability of water and sanitation services while ensuring their affordability by the poorest segments of the populations – often in combination with social policy. The COVID-19 pandemic has prompted some countries to declare a policy of “free water” for a period of time as a quick way to respond to the twin effects of increased consumption (more time spent at home in lockdown, more water used for hygiene) and decreased household income. This is a blunt instrument which could have devastating effects for the sector if maintained in the long term without compensation from public budgets.

There is concern among some water and sanitation experts that volumetric tariff measures are regressive. Increasing block tariffs, which are gaining traction across OECD countries, are designed to discourage profligate use of water based on the assumption that poor households have lower needs than better-off ones. The presentations and discussions at the 6th Meeting of the Expert Group on Equitable Access to Water and Sanitation (24–25 March 2021)¹⁹ revealed that some low-income households may have a higher per capita water consumption as their housing infrastructure and appliances will generally be older and less water-efficient than those of high-income households.²⁰ Thus, tariff reforms that rely on financing affordability measures (such as a reduced fixed part) through higher tariffs in the high consumption blocks may in fact be hurting instead of helping low-income families.

The use of social tariffs and social protection policy measures requires inter-institutional cooperation and the existence of a “social policy infrastructure”. Already in 2012, the publication *No One Left Behind* highlighted the fact that affordability is not just a water issue but a social protection issue that requires incorporating water and sanitation concerns within social policy discussions. The implementation of social tariffs requires information on the socioeconomic characteristics of the households (such as household income, household size or disability status), which water and sanitation service providers are generally not well-equipped to manage (and may not even be legally permitted to do so). The development of WASH-targeted social protection programmes benefits from the cooperation between social protection agencies and water sector actors, i.e. from sharing information to co-financing water solidarity funds. In countries with strong social safety nets, general support programmes run by national authorities might be enough to ensure that water and sanitation services are affordable.

¹⁹ Presentations and summary report of the 6th meeting of the Expert Group on Equitable Access to Water and Sanitation are available at: <https://unece.org/environmental-policy/events/sixth-meeting-expert-group-equitable-access-water-and-sanitation>.

²⁰ See discussion in Xavier Leflaive and Marit Hjort (2020). *Addressing the social consequences of tariffs for water supply and sanitation*. OECD Environment Working Paper No. 166.

Given the spread of responsibilities and capacities, an effective policy response requires strong stakeholder engagement. Ministries in charge of water and sanitation and of social protection are responsible for setting policies. Local authorities may also set policies, collect data, act as water and sanitation sector regulators, and oversee local social protection agencies. Water and sanitation regulators approve tariff structures and levels. Water service providers have information about consumption levels, bill amounts, and bill payment issues. Social protection agencies have information on the socioeconomic characteristics of households and their potential eligibility for support programmes. NGOs working in the water and sanitation area can provide information and perspectives about challenges encountered by households in paying for water and sanitation services, while NGOs working within the field of social protection can provide information and perspectives about social protection needs and the effectiveness of social protection programmes.





5. ADOPTING STRATEGIC APPROACHES – POLICY OPTIONS AND GOOD PRACTICES

Policymakers and other stakeholders are encouraged to adopt a strategic approach to addressing affordability concerns. As previously explained, each of the several policy options to address affordability concerns has both strengths and weaknesses. Ideally, the selection of specific measures follows the careful assessment and consideration of the situation in the country, as well as the strengths and weaknesses of the different measures.

Responses to the affordability challenge need to be informed by country-specific situational analyses. The affordability situation varies largely from country to country, as suggested by the findings of the 12 self-assessments on equitable access carried out across the region in the last decade under the Protocol on Water and Health,²¹ as well as the responses to the UNECE Affordability Questionnaire received from members of the Expert Group on Equitable Access to Water and Sanitation in March–April 2021 (see table 2). While some key variables of the affordability challenge, such as administrative capacity and funding capacity, may be highly correlated to GDP per capita, addressing the affordability challenge requires a fine-grained characterization of the country context. The Equitable Access Score-card²² provides a framework for an initial high-level analysis, but in those jurisdictions where affordability is found to be a topic worthy of urgent policy attention, a more in-depth assessment is required to inform policy responses. In this respect, it is worth considering the following aspects:

- *The extent of affordability concerns* – Which types of users does it affect? How many are they? Are they geographically clustered?
- *The causes of affordability concerns* – Are affordability concerns due to the high cost of service provision in some specific areas? Or are they due to the low-income level of the country, or to a high level of income inequality, or the high cost of living in specific areas, or any other additional causes?
- *The policy objectives* – Is affordability an explicit or implicit objective of water and sanitation sector policy? Is the affordability of essential services in general, or water and sanitation services in particular, a national policy objective? Is the affordability of water and sanitation services an explicit or implicit objective of other sectors' policy? To what extent does policy development in the country adopt a human rights-based approach?
- *The governance environment* – Are responsibilities for addressing WASH affordability concerns clearly identified? Which different public sector agencies have a role to play? What is their current level of coordination? How are stakeholders engaged in the development of water and sanitation sector policy? How are stakeholders involved in social policy development?
- *The administrative capacity* – Are water sector and social sector agencies well equipped to identify and assess affordability concerns and are they able to develop and implement responses?

21 Individual country reports can be found at <https://unece.org/environment-policy/water/areas-work-protocol/equitable-access-water-and-sanitation>.

22 See the publication at <https://unece.org/environment-policy/publications/equitable-access-score-card-supporting-policy-processes-achieve>.

- *The funding context* – What is the cost of existing water and sanitation affordability measures? How are water and sanitation affordability measures currently being funded? Does the country have the financial capacity to achieve its social policy and water policy objectives? What funding instruments are in place? Could those funding instruments be reformed to better deliver on water and sanitation affordability objectives?

Table 2. Variation of the affordability context across 14 pan-European countries

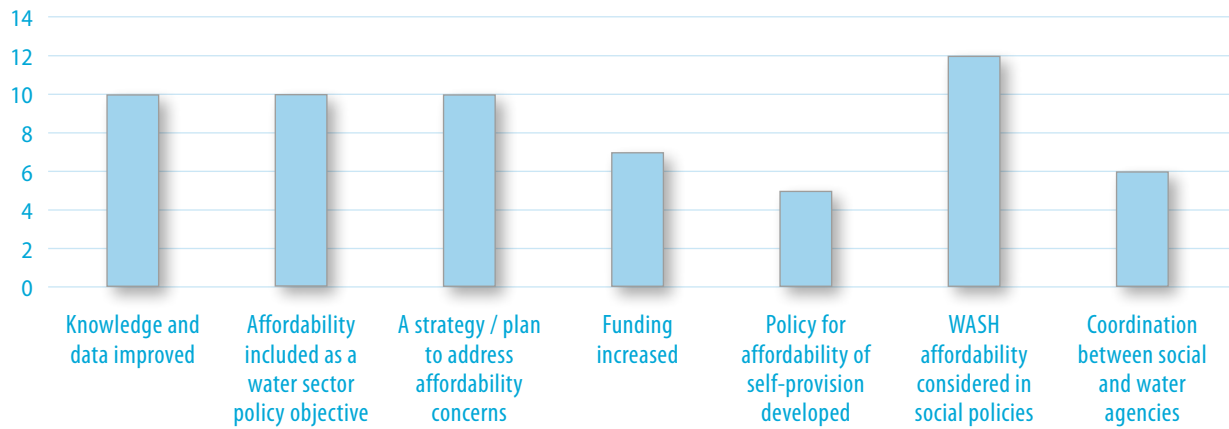
	Agree	Disagree	Can't say
The income distribution in our country is very unequal and as a consequence some part of the population cannot afford to pay for water and sanitation services	8	6	
The income level in our country is generally very low and as a consequence most of the population cannot afford to pay for water and sanitation services	4	10	
The cost of provision of water and sanitation services is very high in some parts of our country	5	9	
We do not have a good understanding of affordability issues in our country	4	10	
Our country does not have the administrative capacity to identify people for which water and sanitation services are not affordable	5	9	
We do not have the financial resources to address this issue because the cost of implementing different policy actions to make water and sanitation affordable to all in our country is too high	5	8	1
Although the cost of implementing different policy actions to make water and sanitation affordable to all in our country is low or moderate, we lack the instruments to mobilize financial resources	7	6	1

Note: Experts representing a total of 14 countries responded to this section of the questionnaire. The countries informally assessed include: Armenia, Azerbaijan, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, North Macedonia, Republic of Moldova, Portugal, Serbia and Slovakia.

Source: Responses to the UNECE Affordability Questionnaire (March–April 2021)

Pan-European countries seem to be making progress in developing the building blocks of a strategic response to the affordability challenge. The responses to the UNECE Affordability Questionnaire (see figure 2) suggest that in the last three years at least half of the countries surveyed have improved their knowledge and data. They have included affordability as a water sector objective, have developed a strategy or plan to address affordability (usually as part of a wider sector plan or strategy), or have considered WASH affordability in social policies. However, less than one third of the countries surveyed have increased funding to address affordability concerns or have improved the coordination between social and water agencies. A more in-depth regional review would be required to validate those results and generalize them to the pan-European region.

Figure 2. Recent progress in addressing affordability concerns in 16 pan-European countries



Note: Experts representing a total of 16 countries responded to this section of the questionnaire. The countries informally assessed include: Armenia, Azerbaijan, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Republic of Moldova, Montenegro, North Macedonia, Portugal, Romania, Serbia and Slovakia.



Good Practice 1 Using a rapid assessment to inform policy choices in Armenia

Armenia completed a self-assessment of equitable access to water and sanitation under the Protocol on Water and Health in 2016. The findings of the self-assessment were instrumental in the development of Armenia's Action Plan on Equitable Access to Water and Sanitation (2018–2020), which was approved in August 2017. The Action Plan was structured around three priority areas of action: i) efficient management to ensure equitable access to water supply and sanitation, including legal and policy frameworks; ii) the reduction of geographical disparities; and iii) the provision of equitable access to water and sanitation for vulnerable and marginalized groups. Affordability was not identified as a priority area of action, partly because there was limited information on this topic at the time. Thus, one of the actions included in the Action Plan was to carry out a study on the affordability of water and sanitation services.

In 2019, with financial support from the United Nations Democracy Fund (UNDEF), a study was carried out by the NGO Armenia Women for Health and Healthy Environment (AWHHE) entitled, "Assessment of the impact of current drinking water and sanitation tariffs on vulnerable and marginalized groups", which was presented for discussion at a national workshop in January 2020. The study reviewed the legal framework, tariff policy, tariff structures (including discounts for special consumer groups), and social protection mechanisms for utility services. One of its findings was that the poorest quintile of the population paid more than 27% of their income in utility services (including but not limited to water supply and sanitation). The study's recommendations include legal reforms, engagement of local governments in the process of providing affordability and access to water and sanitation services, setting social tariffs for vulnerable and marginalized groups (once those groups are defined), and the provision of subsidies by the state. While COVID-19 has slowed down follow-up activities, as of May 2021, AWHHE intends to use the recommendations of the study to inform affordability-related measures in the second Action Plan on Equitable Access to Water and Sanitation, which should be prepared in the coming months.

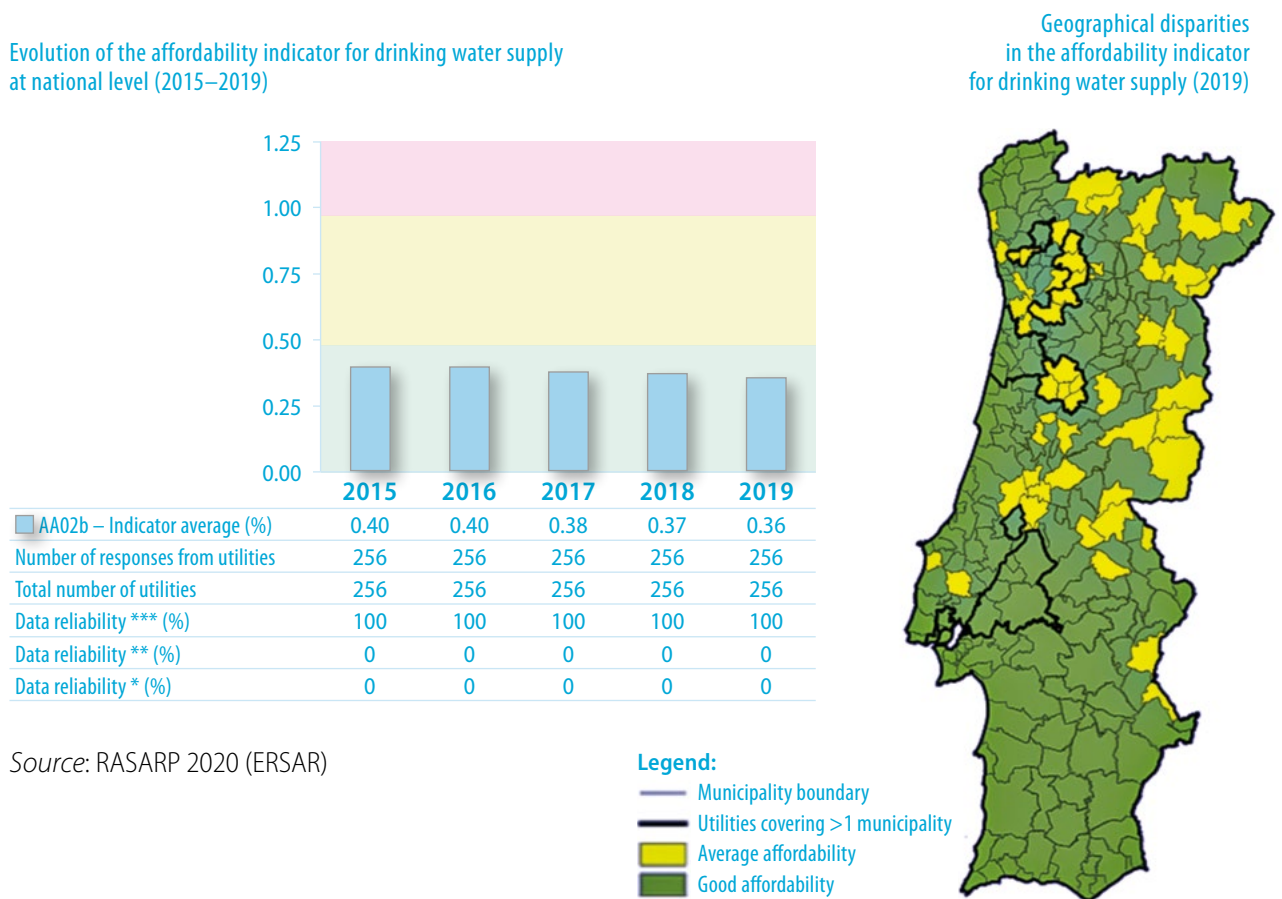


Good Practice 2 Applying an affordability indicator in Portugal

In Portugal, data for the assessment of affordability has been collected since 2007 and, in 2011, the regulatory authority for water and waste services (ERSAR) developed affordability indicators for water, sanitation and solid waste services. The water affordability indicator is defined as the (weighted) average charge for the consumption of 120 m³ per year in a water and sanitation system’s service area divided by the average disposable household income in that service area. Affordability is considered *good* when the average bill for a service represents less than 0.5% of average household income, *average* when it is between 0.5% and 1%, and *poor* when it more than 1% of average household income. When looking at the national level, water provision is classified as having a consistently *good* level of affordability over the last five years, but this masks geographical differences in affordability. A more fine-grained analysis, applying the indicator at the service area level, shows that for several service areas the affordability of water provision is only *average*.

ERSAR has included the affordability indicators in its annual sector report since 2011 (2nd generation of quality-of-service indicators) and it also included them in the National Strategic Plan for the Water and Sanitation Sector for the period 2014–2020 (PENSAAR 2020). The findings of the affordability indicators can be used to focus the attention of service providers, municipalities and ERSAR, particularly as future tariff reforms progressively catch up with the fact that a number of service providers do not yet invoice some of the services or bill them below the cost of provision. The affordability indicator will be revised in 2021 as part of the broader review of ERSAR’s set of sector indicators (4th generation). As part of the indicator review process, ERSAR is assessing the possibility of improving the measurement of household income as it has been found that the average household income data per municipality currently used does not reflect the real affordability situation for a significant number of households.

Figure 3. What affordability indicators developed by ERSAR reveal



Source: RASARP 2020 (ERSAR)

Good Practice 3 Setting up a national learning process in France

Under French law, local authorities are responsible for water supply and sanitation. The Environment Code required local authorities to make water available for a price affordable to all, while the Local Authorities Code required them to ensure the financial sustainability of services and non-discrimination between users. Consequently, local authorities have been unable to develop and implement social tariffs or WASH-specific social protection measures. To help resolve this situation, in 2013, the Parliament passed the Brottes Law, which made it possible to test special pricing measures for some households based on their socioeconomic situation. The testing was carried out in 50 volunteer local authorities (figure 4), each developing a unique set of measures. The evaluation of the experimental measures identified some challenges (such as identifying and reaching all beneficiaries and ensuring the coordination of all relevant stakeholders) and recommended that solutions be adapted to the local context and to the specific conditions of each household. The establishment of multi-stakeholder working groups or online platforms to facilitate data and information-sharing was also recommended.

Following this evaluation, a new law (*la loi Engagement et proximité*) passed in 2019, enabling local authorities to develop and implement social tariffs. Since then, the access to water and sanitation programme of the Ministry of Ecological and Solidarity Transition has supported local authorities to pursue their own ways to promote affordability, including through the launch of a toolbox to help them identify appropriate measures, and by carrying out legal work with other ministries to facilitate access to beneficiaries' data.

Figure 4. Local authorities experimenting with social water pricing in France



Source: DGALN/DEB/EARM1 (November 2021)

Good Practice 4 **Enhancing inter-institutional cooperation to improve the implementation of affordability mechanisms in Spain**

Aware of the economic difficulties of certain households following the financial crisis of 2008, water and sanitation service providers in Spain worked to address affordability concerns and to prevent disconnecting users who could not pay. The decentralized structure of the sector in Spain and the lack of a national regulatory authority resulted in a “let a thousand flowers bloom” approach. The 2018 national study on water supply and sanitation of the Spanish Association of Water Supply and Sanitation (AEAS) shows that 94% of all service providers (and close to 100% of all medium and large service providers) apply social action mechanisms (i.e. affordability measures), benefitting 5.2% of users. The most commonly used affordability measures are social tariffs used in 82% of cases (on their own in 52% of cases and in combination with solidarity funds in 30% of cases). Discounts in the tariff structure are applied to the fixed fee in 76% of cases (with an average discount of 51% of the fee) and to the variable fee in 91% of cases (with an average discount of 64% of the fee). The identification of beneficiaries is the responsibility of the public administration (municipalities or regional governments), with the most common criterion being household income, which was used in 92% of cases, either as a sole criterion (25% of cases) or in combination with other criteria (67% of cases). The cost of affordability measures is funded by service providers in 86% of cases and by municipal budgets in 14% of cases.

In 2014, AEAS commissioned a study to analyse the current situation and to propose initiatives to consolidate and enhance existing practices. The study recommended improving and standardizing affordability policies in the water sector, using household income as a primary criterion for affordability support. The study also recommended increased cooperation between service providers, social protection agencies and other relevant stakeholders to develop and implement affordability measures so that users were only disconnected if they could afford to pay. In addition, the creation of an independent regulator with the authority to guide the design of affordability mechanisms was recommended. Following the recommendations set out in the report, the Spanish Federation of Municipalities and Provinces (FEMP) and AEAS signed a cooperation agreement in 2017. In 2019, the jointly published *Guide to the Implementation of Social Sustainability Mechanisms in the Urban Water Sector* is aimed at municipalities and service providers interested in implementing or improving mechanisms to address affordability concerns.





6. IMPLEMENTING WATER AND SANITATION POLICY MEASURES – OPTIONS AND GOOD PRACTICES

In many countries of the pan-European region, water and sanitation services operate under local responsibility, with utilities (publicly managed or not) usually serving individual towns and cities, and municipalities acting as price regulators. This has meant that in many cases WASH affordability has not been a national concern, and that different approaches to deal with WASH affordability have been developed within the same country. Water and sanitation policy measures to address affordability concerns include access subsidies, tariff systems and flexible payment systems. They are briefly described below, and their potential strengths and weaknesses are analysed in table 3.

- **Access subsidies.** A number of households lack access to safe water and sanitation solutions due to the high cost of access.
 - In areas where the service is provided by a utility, accessing the service may require the payment of a connection charge. Connection subsidies that reduce or eliminate the connection charge can be funded either through cross-subsidies (via higher fixed and/or volumetric charges) or through financial transfers from public budgets.
 - In isolated areas where networked solutions are not economically and/or hygienically feasible, households would need to pay for the setting up of on-site solutions. This cost, which may be fairly high, can be partly or fully subsidized by infrastructure development programmes, usually funded by public budgets.
- **Water and sanitation tariff systems.** Tariff systems generally use a combination of fixed charges and volumetric charges, by which the fixed charge is intended to pay for the costs of maintaining and renovating the infrastructure while the volumetric charge is intended to pay for the cost of operating the service. In principle, options to reduce the burden of the water and sanitation bill for low-income households using the tariff system include:
 - A reduced fixed charge – this may imply that, since the cost of maintaining and renovating the infrastructure would not be covered, the service provider would usually be allowed to charge higher volumetric charges to compensate for the loss of revenue.
 - Free water allowances – an amount of water to cover essential needs is provided free of charge while the rest of the consumption would be charged at (increased) standard rates.
 - Increasing block tariffs (IBTs) – whereby the volumetric part of the tariff is divided in several consumption blocks and each successive block is charged at a higher rate.
 - Cross-subsidies from non-domestic users – whereby the standard tariff rates are reduced for all households and compensated by higher tariff rates for industrial and commercial users.
 - Social tariffs – whereby social groups with specific socioeconomic characteristics, (such as household income, household size, health, disability or age) are charged based on a preferential tariff that is lower than the standard tariff.

- **Flexible payment systems** can help poorer households that are potentially able to pay their bills but are unable to do so under the terms stated by the utilities. For example, many utilities invoice for multi-month periods but households may be unable to pay a large bill when they do not have sufficient savings to pay at a given time. Options include allowing monthly payments instead of standard bi-monthly or quarterly payments, allowing delayed payments without penalties, or introducing pre-payment water metering.

Table 3. Strengths and weaknesses of water and sanitation policy measures to address affordability concerns

Affordability measures	Potential strengths	Potential weaknesses
Connection subsidies (in non-isolated areas)	<ul style="list-style-type: none"> – Effective – most non-poor households would already be connected – Do not require socioeconomic information of users – Potentially self-financed by the utility (through higher tariff charges) 	<ul style="list-style-type: none"> – Mistargeting – poor households that are already connected but still facing affordability issues would not benefit (and would potentially face higher tariffs)
Infrastructure subsidies for isolated areas	<ul style="list-style-type: none"> – Effective – most non-poor households would already have improved infrastructure – Do not require socioeconomic information of users 	<ul style="list-style-type: none"> – Financing requires public subsidies
Increase progressivity of tariff system by reducing or eliminating the fixed part	<ul style="list-style-type: none"> – Do not require socioeconomic information of users – Potentially self-financed by the utility (through higher tariff charges) 	<ul style="list-style-type: none"> – Poor households with high water consumption would face a higher water bill – Leakage – non-poor households with low water consumption would benefit – Undermines financial sustainability, as utilities depend increasingly on fixed revenues given water-efficiency trends



Table 3. Strengths and weaknesses of water and sanitation policy measures to address affordability concerns (continued)

Affordability measures	Potential strengths	Potential weaknesses
Free water allowances	<ul style="list-style-type: none"> – Do not require socioeconomic information of users – Potentially self-financed by the utility (higher tariff charges) 	<ul style="list-style-type: none"> – Leakage – non-poor households benefit from free water allowance
Increasing block tariffs (IBTs)	<ul style="list-style-type: none"> – No information demands on socioeconomic characteristics of users – Self-financing – Provide incentives for users to conserve water 	<ul style="list-style-type: none"> – Mistargeting – poor households may not benefit from lower price blocks – Leakage – non-poor households benefit from lower price blocks
Cross-subsidies between domestic and non-domestic users	<ul style="list-style-type: none"> – No information demands on socioeconomic characteristics of users – Self-financing 	<ul style="list-style-type: none"> – Leakage – non-poor households benefit from lower prices for domestic users – May cause large non-domestic users to self-supply, eroding the financial sustainability of the utility
Social tariffs	<ul style="list-style-type: none"> – Effective (when using household income as a criterion) – Self-financing (if using utility revenues to fund them) 	<ul style="list-style-type: none"> – Leakage – non-poor households may benefit from preferential tariffs (e.g. when using household size as a criterion) – Requires socioeconomic information of users – Reduce the incentive for users to conserve water
Flexible payment systems	<ul style="list-style-type: none"> – Does not require socioeconomic information of users – Low cost (only administrative cost, no financial support provided) 	<ul style="list-style-type: none"> – Mistargeting – for many low-income households, flexible payments alone may not solve their problem



Good Practice 5 Access subsidies in Estonia

In 2018, Estonia started to implement a programme to promote access to safe drinking water and sanitation services. While pipelines have been built in many areas around the country and connection points have been brought to the vicinity of properties, many still rely on septic tanks, collection tanks and wells. The programme is intended to benefit under-served households and to protect the environment while improving the efficiency of existing wastewater treatment plants (some of which do not currently receive sufficient loads). Financial support offered by the programme can be used for: i) the construction of water supply and sewerage pipelines on the property connecting the network to the water connection point of the residence; ii) the construction or reconstruction of a collection tank; and iii) the construction or reconstruction of a self-treatment plant in a residential area in a wastewater collection area with less than 2,000 consumers. When constructing or converting a collection tank, the size of the tank must be at least 5 m³.

Any household whose residence is located in a wastewater collection area approved by the Minister of the Environment can apply for support. Eligibility can be checked online using the address or cadastral identifier of the property. Legal persons (such as apartment associations) are not eligible for support, and in the case of apartment buildings one of the owners would need to apply. In principle, households could apply until January 2023, but by June 2021 the €15.7 million budget allocated to the programme had been depleted. The amount of support that a household will receive is based on the average price of similar construction works. The subsidy rate is 66% of the standardized unit price and can range from €1,132 to €3,824. For example, if connecting a residential building involves building nine metres of water and sewerage pipelines at a cost of €2,722 on average, the amount of support will be €1,796 (66% of €2,722).



Good Practice 6 Free water allowances for poor households in Italy

The water social bonus was introduced by Prime Ministerial decree in October 2016 to be applied uniformly across Italy. This measure aims to reduce the cost of the water service for households experiencing conditions of economic and social hardship by providing a free water allowance of 50 litres per capita per day to cover essential needs. It benefits households that have a water supply contract with a tariff for domestic and active users, or if they have an active condominium water supply. As of 2021, the conditions entitling a family unit to the water social bonus include:

- an income indicator not exceeding €8,265 per year,
- at least four dependent children (constituting a large family) and an income indicator not exceeding €20,000 per year, or
- possession of a Citizenship Income or Citizenship Pension.

Prior to the creation of the water social bonus, municipalities and service providers throughout Italy had different mechanisms in place to ensure the affordability of water and sanitation services. In 2017, following a period of consultation, the Italian Regulatory Authority for Energy, Networks and Environment (ARERA) issued the *Approval of the Integrated Text of Implementation Rules for the Water Social Bonus for Household Users Under Economic Hardship*, which enabled the implementation of the water social bonus from 1 January 2018. Starting from the second regulatory period (2018–2019), the tariff method set by ARERA includes a cost item for assuring a higher amount of social bonus than the amount recognized at national level and extending the number of those who are entitled to the social bonus, according to the terms of access defined by national rules. From 1 January 2020 the social bonus covers the expenditures of wastewater collection and treatment, in addition to the expenditure for drinking water. From 1 January 2021 the right to benefit from the water social bonus was automatically recognized for entitled households, without them having to submit an application.



Good Practice 7 Social tariffs in Serbia

Although Serbia does not have a national-level programme to enhance the affordability of water and sanitation services, it has several mechanisms at the municipal level that contribute towards addressing affordability concerns. Since 1995, the city of Belgrade has progressively developed and updated a system of social protection for its most vulnerable citizens, with the last reform to the programme taking place in 2015. This includes a programme to subsidize the consumption of four utility services (safe drinking water supply, treatment and disposal of rain and wastewater, production and distribution of thermal energy, and removal of household waste) through discounts to the monthly bill invoiced by the single utility providing the four services. The three categories that can benefit from this programme are outlined below.

- Category 1 targets low-income households and low-income pensioners. Low-income households can benefit from a discount ranging from 10% to 30% off the bill, depending on the number of people in the household and the household income. For example, a household with five or more members would receive a discount of 10% if its income is between Serbian dinar (RSD) 38,000–46,000, and a discount of 30% if its income is below RSD 15,000. Retirees receiving the lowest pension and without additional income or properties (beyond their current housing) receive a discount of 30% off the household bill.
- Category 2 targets households affected by wars. Beneficiaries include war veterans, military personnel and civilians disabled in wars, and families of those who have died in wars. They are identified according to different laws and federal, state and local regulations, including the Law on Rights of Veterans, Disabled Veterans and Members of their Families and the Law on the Rights of Civilian Invalids of War. Beneficiaries receive a discount of 30% off the household bill. If the invoiced amount is above RSD 8,000, only the first RSD 8,000 is subsidized.
- Category 3 targets households with members suffering from disabilities or requiring care. They include those receiving benefits under the Law on Social Protection, those suffering a number of physical and mental disabilities, and foster families. Beneficiaries receive a discount of 30% off the household bill. If the invoiced amount is above RSD 8,000, only the first RSD 8,000 is subsidized.



Good Practice 8 Combining different tariff-based measures in Albania

In Albania, local governments are responsible for water and wastewater services, with the Water Regulatory Authority (WRA) responsible for setting tariffs. Water and sanitation services are provided by 57 public utilities, of which 49 do not cover operation and maintenance costs through tariff revenues and are subsidized by the central government. The central government also finances infrastructure development costs. The tariff includes a fixed part which is the same for all customers in the service area of the utility, and a volumetric part which varies for the different categories of service (water supply, wastewater collection, wastewater treatment) and customer (households, commercial, industrial). Increasing block tariffs (IBTs) are used to promote water conservation.

Affordability is one of four criteria included in the tariff-setting methodology used by the WRA. The other criteria include coverage of 100% or more of the operation and maintenance costs, utility performance, and environmental protection. The water and sanitation monthly bill for a family of four (based on an average per capita consumption of 100 litres per day) is not expected to exceed 5% of monthly average expenditures. This is calculated using data from the national statistics institute (INSTAT) on the distribution of family consumption expenditure (which is disaggregated by deciles for each region in Albania) and excludes the top decile (of wealthiest families).

To promote affordability, the WRA has developed several tariff-based measures. It has agreed that the fixed tariff will not cover more than 30% of operation and maintenance costs. The WRA allows the volumetric part of the tariff to vary across customer types to enable cross-subsidization (with the limit that the volumetric tariff for other types of customers cannot be higher than twice the tariff for households). It is foreseen to include in the tariff-setting methodology a free allowance of 50 litres per capita per day for customers classified as needing social help or who have disabilities.



Good Practice 9 Flexible payment systems for special groups in Hungary

In its Water Utility Act of 2011, Hungary defined two population groups eligible for special treatment: protected consumers and consumers living with disabilities. The details of eligibility and rules of procedure were put in place in 2013 through a government decree implementing the Act. Protected consumers are defined by their social status (either low income or other vulnerability, such as caring for people with disabilities or chronically ill family members, or foster parents). Consumers with disabilities include people with mental or physical incapacities, impaired vision, and anyone whose life or health would be directly at risk by being disconnected from water utility services.

Protected consumers are registered by the water utility operators. They can apply for deferred payment of water tariffs by 60 days, or 90 days in special cases. If they are behind with their payments, they are also eligible to pay their debt in instalments for up to 6 months. None of the above incur any penalties or extra fees. Consumers should be informed of these options in writing by their water service provider in simple, easy to understand terms. Both benefits can be used once in a 12-month period.

Consumers with disabilities are eligible to have their meter water read on a monthly basis by the water operator and they can pay their bill on site in cash; other consumers self-report their consumption and water meters are read only once a year. Other assistance, such as a more thorough explanation of the bill, should be provided if needed.

Water operators can determine further benefits for protected consumers. Special rules should be included in their code of operation. No additional fees can be charged to the protected consumers for extra services. Any cost incurred by the above regulation is covered by the water utility operator; there is no earmarked government budget allocated for this purpose. Information on the rights of protected consumers and how they can register is available on the website of every water service provider. The rules apply to both drinking water and sanitation services.



7. IMPLEMENTING SOCIAL PROTECTION POLICY MEASURES – OPTIONS AND GOOD PRACTICES

While not universal, most countries in the pan-European region have in place social protection programmes that support low-income households through financial transfers, which may be locally or nationally managed. These are different from social tariffs (see chapter 6). Social tariffs modify the tariff structure – a beneficiary household pays a different tariff rate than a general household. Social protection policy measures do not modify the tariff structure – a beneficiary household pays the same tariff rates as the general household. Their potential strengths and weaknesses are briefly analysed in table 4.

- **General social protection programmes**, such as unemployment benefits or a universal basic income scheme, guarantee a basic level income, which is intended to pay for basic goods and services, including water and sanitation. Some social protection programmes are designed to support the consumption of a bundle of basic services, such as electricity, heating, solid waste management, and water and sanitation.
- **Social protection programmes** that specifically target water and sanitation can be divided between preventive measures and curative measures.
 - “**Preventive measures**” aim to “prevent” users from falling behind in their payments (and accumulating water debt). They can be implemented through vouchers, direct transfers to the user, or direct transfers to the utilities.
 - “**Curative measures**” aim to “cure” the debt problem by providing debt relief. As is the case with preventive measures, curative measures are often funded by a “water solidarity fund”, which in turn can be fed from general taxation, from water-sector revenues, or from a combination of both.
- **Disconnection bans** are used in some countries as a social protection policy measure to ensure that no one loses access to water and sanitation services due to their inability to pay.



Table 4. Strengths and weaknesses of social protection policy measures to address affordability concerns

Affordability measures	Potential strengths	Potential weaknesses
General social protection programmes	<ul style="list-style-type: none"> – Generally effective, although risk of leakage and mistargeting, depending on criteria to benefit – Stable funding from public budgets 	<ul style="list-style-type: none"> – May not address all WASH affordability concerns (e.g. connection costs) – Require socioeconomic information of users
WASH-specific preventive measures	<ul style="list-style-type: none"> – Low risk of leakage – Possibility of combining funding from sector revenues and public budgets 	<ul style="list-style-type: none"> – Require socioeconomic information of users
WASH-specific curative measures	<ul style="list-style-type: none"> – Low risk of leakage – Do not require socioeconomic information of users (beyond the fact that they are in debt with the service provider) – Possibility of combining funding from sector revenues and public budgets 	<ul style="list-style-type: none"> – Risk of mistargeting – poor households that are reluctant to incur debt will not benefit – They may encourage non-payment
Disconnection bans	<ul style="list-style-type: none"> – Do not require socioeconomic information of users – Can be designed to allow for a limited volume of water and lower pressure to counterbalance some of its weaknesses 	<ul style="list-style-type: none"> – They may encourage non-payment and undermine environmental and financial sustainability goals – Risk of unfunded mandate for service providers



Good Practice 10 General social protection programmes in Latvia

In December 2020, Latvia issued a national regulation to strengthen its system of social protection for poor and low-income households. The regulation set out the procedures for: i) determining the status of the poor and low-income household; ii) assessing the material situation of households; iii) calculating, granting and paying the guaranteed minimum income benefit; and iv) calculating, granting and paying the housing benefit. Since 1 January 2021, Latvian households are guaranteed a minimum income of €109 per month for the first person in the household and €76 for additional members of the household. The income benefit is paid monthly.

Since 1 January 2021, Latvian households are also entitled to a housing benefit when their actual income or expenditure is below a minimum income threshold. The regulation sets a minimum income threshold of €272 for the first person in the household and €190 for additional members of the household, but it also allows local administrations to increase those minimum thresholds to €436 and €305, respectively. The calculation of the housing benefit takes into account expenses in rent, heating, solid fuels, gas, electricity, cold and hot water, sewerage, and other services included in the rental contract or utility invoices, such as waste removal, energy efficiency improvements, real estate and insurance. If the dwelling has water meters, eligible expenses for cold water, hot water and sewerage are limited to 6m³ per month per person in the household, of which a maximum of 3m³ of hot water.



Good Practice 11 Social protection programmes targeting water and sanitation services in Romania

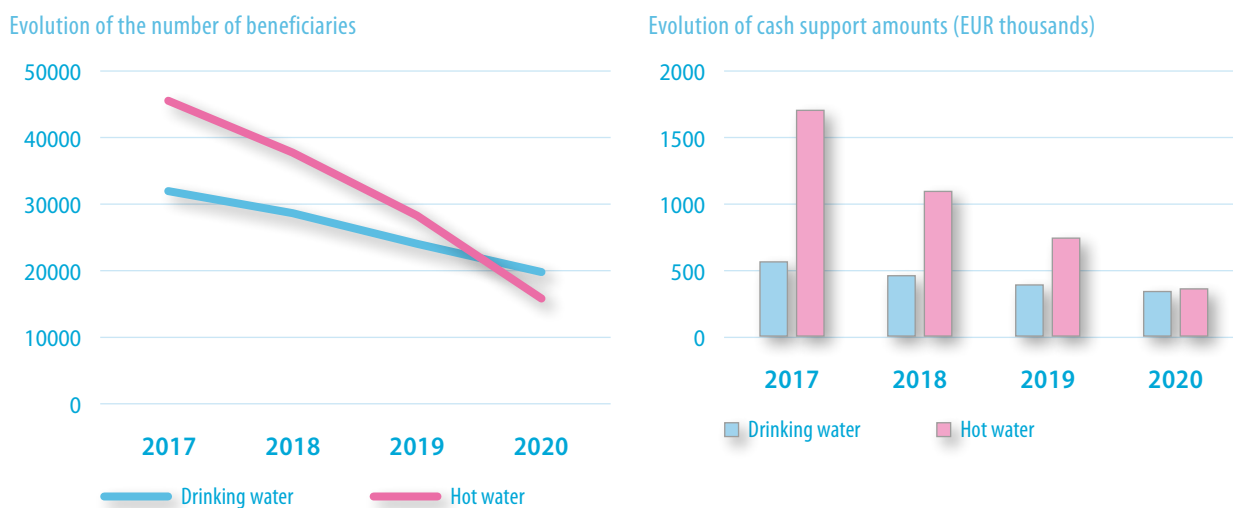
In 2018, Romania modified its Law on Water Supply and Sewerage Services to increase the role of local public administrations in funding affordability measures. The law mandates local public administrations to subsidize the use of water and sanitation services (within a limit of 75 litres per capita per day) for households with a per capita income below the national minimum gross salary. The local council is responsible for establishing the conditions to receive the subsidies, the size of the subsidies, and how the subsidies will be paid. They should cover at least 50% of the water and sanitation bill (within the consumption limit). The subsidies are requested by the households and approved by the mayor, showing up as a discount in the water bill. According to information from the National Regulatory Authority for Public Utilities Community Services (ANRSC), in 2020, this provision was applied in Alexandria Municipality (Teleorman County), Buzău Municipality (Buzău County), Baia Mare Municipality (Maramureş County), Slatina Municipality and Caracal Municipality (Olt County), and Şotrile rural community (Prahova County). The 2018 legal reform also mandates using local budgetary resources to subsidize the connection to the water supply and sewerage system for households with a per capita income below the national minimum gross salary.



Good Practice 12 Using water and sanitation affordability thresholds to target social protection programmes in Lithuania

Increasing the affordability and efficiency of the water supply and sanitation management services is one of the objectives of the National Progress Plan 2021–2030. Lithuania has had an affordability threshold since 2007 when the Law on Drinking Water Supply and Wastewater Management (approved in 2007 and reformed in 2021) stipulated that the amount paid by consumers for drinking water and wastewater treatment services cannot exceed 4% of the average monthly household income. The National Energy Regulatory Council is obliged by law to monitor this indicator, which has never been exceeded. Lithuania has in place general and WASH-specific social support programmes. The Law on Cash Social Assistance for Poor Residents (approved in 2003 and reformed in 2021) determines the principles of social assistance and sources of financing, as well as the amount and conditions for receiving social assistance. Households spending more than 2% of their income on drinking water services or more than 5% of their income on hot water services are entitled to receive cash support to help pay for those services.

Figure 5. Using affordability thresholds to determine social assistance in Lithuania



Source: Developed by the author based on data provided by Lithuanian authorities





8. HOW CAN AFFORDABILITY MEASURES BE FINANCED?

Addressing affordability concerns does not need to be expensive. We do not have a good understanding of the costs incurred to ensure affordability of water and sanitation services, partly due to scant information on the cost of measures and partly due to the extent to which those measures are achieving the objective of ensuring affordability. The data from Spain, reported in Good Practice 4, suggests that the cost of the affordability measures is about 3–4% of the water and sanitation sector's revenues. The data from Lithuania, reported in Good Practice 12, indicates that the cost of the affordability measures is less than 0.01% of GDP. In countries that are expanding or renovating their water and sanitation infrastructure, with investment programmes running in the hundreds of million euros, well-targeted affordability measures are expected to represent a small part of the total sector budget.

The sources of financing for WASH-affordability measures are the same as those of general water and sanitation programmes: the 3Ts. The 3Ts (tariffs, taxes and transfers) tell us who effectively pays for the cost of implementing the policy measures.²³ This could be the water and sanitation users through service **tariffs**, direct financial contributions such as investments in on-site wastewater treatment, or in terms of time, for example, in collecting water from public taps. It could also be the citizens of the municipality or the country through payments of local and national **taxes**, such as income tax or property tax, and which represent an income for public budgets. Payers could also be the citizens of countries with development cooperation programmes (an instrument to **transfer** financial resources to beneficiary countries), or philanthropists whose donations transfer financial resources to beneficiaries.

Funding mechanisms can combine different sources of funding. For example, some countries or municipalities have in place a water solidarity fund which is then used to pay for preventive or curative measures. The financial resources of the water solidarity fund could come from contributions from the local authority budget ("taxes"), from contributions from the service provider budget ("tariffs"), from donations from development partners or private citizens and businesses ("transfers"), or from a combination of those sources.

Water and sanitation policy measures are generally financed by cross-subsidies from other users. This is most obvious in the case of cross-subsidies from industrial and commercial users (higher tariff) to households (lower tariffs). It is also the case when measures (such as a reduction in the fixed part of the tariff, zero-tariff blocks, connection subsidies or social tariffs) are expected to be funded by the income of the utility, i.e. without contributions from public budgets. Flexible payment systems have a limited cost of implementation, which is normally assumed by the service providers. Infrastructure subsidies to pay for on-site solutions in isolated areas are generally financed by public budgets (often with financial contributions from development partners in lower income countries).

²³ For a more extended discussion of the 3Ts concept, see *Managing Water for All: An OECD Perspective on Pricing and Financing*. Paris: OECD, 2019. For a useful discussion that brings together the costing and financing of water sanitation services, see *Costing and financing of small-scale water supply and sanitation services*. Copenhagen: WHO Regional Office for Europe and UNECE, 2020.



Social protection policy measures are generally financed by the general population through public budgets. This is clearly the case of general social protection programmes, which are financed by national or local public budgets. There are examples of some WASH-specific social protection programmes being co-financed by financial contributions from water and sanitation service providers (and thus ultimately by water and sanitation users) usually through a contribution to a housing or water solidarity fund. Disconnection bans lead to a loss of revenue for service providers, which if uncompensated by public budgets, is effectively paid for by water and sanitation users by bigger bills.

Options to finance affordability measures would benefit from improved financial sustainability of the water and sanitation sector. For the last decade, increasing regulatory demands in terms of environmental and climate objectives in areas such as improving wastewater treatment, reducing greenhouse emissions or increasing climate resilience, as well as the ongoing depopulation of rural areas, have led to increases in the cost of providing water and sanitation services, sometimes significantly. Improved operational efficiency in the water and sanitation sector (to lower the costs of provision), and the application of the polluter pays principle (so that costs generated by other sectors do not translate into bigger bills for users of water and sanitation services) would reduce affordability concerns and increase the ability to finance affordability measures through cross-subsidies from other users.

9. WHAT NEEDS TO BE DONE NOW?

Recognize that affordability of water and sanitation services is a national policy issue and identify the extent and importance of affordability concerns. In some high-income countries there is a perception that equitable access to water and sanitation in general, and affordability of services in particular, are no longer relevant. While they may affect a very low proportion of the population, a human rights approach requires that their needs are also considered. In some low-income countries there is a perception that as a large majority of the population has a low income, affordability affects all users. This approach prevents the development of targeted solutions to address the worst cases. Affordability of water and sanitation services should be explicitly included in water and sanitation sector strategies, plans and programmes. Furthermore, it should also be recognized as a social protection issue that goes beyond issues specific to the water and sanitation sector.



Recognize the trade-off between different policy objectives and use it to inform policy choices.

When regulating the pricing of water and sanitation services, sector authorities are confronted with the need to ensure the financial sustainability of service provision, the affordability of water and sanitation services, and the environmental sustainability of water consumption and wastewater management. The trade-offs between those objectives and achieving a balanced response is likely to require a policy package that combines different measures. The tension between affordability and financial sustainability can be resolved. For example, recent joint work by OECD and the European Commission²⁴ shows that certain groups of people in some countries face unaffordable water bills, while many other groups of people in most countries could pay more.

Adopt a strategic and tailored approach to addressing affordability constraints. There is no one and only solution to address affordability constraints. Many countries across the pan-European region have developed and implemented individual affordability measures. However, it is unclear to what extent the different options were assessed ex-ante, and which criteria were used to select them. Responses to affordability concerns shall be a function of policy priorities, income level and distribution, cost of service provision, the governance environment, administrative capacity, and the financial context. Potential measures should be assessed according to their effectiveness, ease of implementation, financial sustainability, and impact on other policy objectives. Policy packages combining different measures can be developed and implemented to effectively achieve affordability objectives while keeping programme costs low and minimizing negative impacts on other policy objectives.

Enhance the engagement of relevant stakeholders across the WASH and social protection policy communities. Ensuring the affordability of water and sanitation services requires contributions from ministries in charge of water and sanitation and social protection, municipalities, water and sanitation service providers, social protection agencies, civil society organizations who advocate for users of water and sanitation services, and civil society organizations advocating for social justice and who are engaged in implementing social protection programmes. There is, in many cases, scope to increase the level of engagement of all those stakeholders; ways will vary from country to country and may range from invitations to participate in “knowledge and data-sharing” online platforms to formal roles in policy consultation processes.

Evaluate past and new efforts to address affordability concerns and promote internal and cross-country learning. There is an increasing concern among sector experts that traditional sector-based policy instruments, such as IBTs, may in fact be regressive. At the same time, there is limited understanding of the effectiveness (and other dimensions) of the social tariffs and WASH-specific social development programmes that countries, whether at national or local levels, are currently using to address affordability concerns. There is a large scope for the water and sanitation and social protection policy communities to set up learning processes and share lessons learned, within and across countries.

24 OECD (2020). *Financing Water Supply, Sanitation and Flood Protection: Challenges in EU Member States and Policy Options*. OECD Studies on Water. Paris: OECD Publishing. See <https://doi.org/10.1787/6893cdac-en>.



Making water and sanitation affordable for all

Policy options and good practices to ensure the affordability of safe drinking water and sanitation services in the pan-European region

The Protocol on Water and Health specifies that in pursuing the aims of providing access to drinking water and the provision of sanitation for all, special consideration should be paid to ensure equitable access to these services for all members of the population.

This policy brief aims to support the efforts of countries in the pan-European region in the progressive realization of the human rights to safe drinking water and sanitation. Specifically, it intends to raise the profile of affordability issues among policymakers, enhance the understanding of how affordability concerns can be addressed, and inspire and promote further action on ensuring affordable water and sanitation services.

The policy brief reflects on why affordability matters, how affordability can be defined, what policy and social protection options and measures are available to ensure affordability. It also describes the good practices in implementing them and explains how affordability measures can be financed, as well as the current needs and way forward at the regional level.

Since 2011, several guidance documents and tools have been developed under the Protocol to help countries better understand, assess and address the challenges of ensuring equitable access to water and sanitation. Consequently, several countries in the pan-European region have taken concrete action towards more equitable access to water and sanitation services.

This policy brief is the first under the Protocol to focus exclusively on affordability. It builds and expands on previous work, collects new good practices and showcases the work of different actors. It has been developed under the guidance of the Expert Group on Equitable Access to Water and Sanitation under the Protocol.

It is intended for government representatives from ministries responsible for water and sanitation services, social protection, and finance; water regulatory authorities; local authorities; and providers of water and sanitation services.

Information Service
United Nations Economic Commission for Europe

Palais des Nations
CH - 1211 Geneva 10, Switzerland
Telephone: +41(0)22 917 12 34
E-mail: unece_info@un.org
Website: <http://www.unece.org>