EUREAU

Methodological guide on Tariffs, Taxes and Transfers in the European Water Sector

EUREAU contribution to the European Regional Process towards the 6th World Water Forum

Final Report for the WWF6 TSG7.2

under the priority target to Improve European drinking Water and Sanitation Services

15.12.2011

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About the Ecologic Institute

The Ecologic Institute is a private not-for-profit think tank for applied environmental research, policy analysis and consultancy with offices in Berlin, Brussels, and Washington DC. An independent, non-partisan body, the Ecologic Institute is dedicated to bringing fresh ideas to environmental policies and sustainable development. The Ecologic Institute's work programme focuses on obtaining practical results. It covers the entire spectrum of environmental issues, including the integration of environmental concerns into other policy fields. Founded in 1995, the Ecologic Institute is a partner in the network of Institutes for European Environmental Policy. The Ecologic Institute acts in the public interest; donations are tax-deductible.

Foreword

Water and waste water service providers in Europe have a common aim: To provide safe, reliable and sustainable water supplies and waste water services. There are many different models which set out to achieve this, each of them reflecting relevant local geographical, cultural and economic factors.

Delivering our vision in future will require operators to meet new challenges, including scarcity, affordability and environmental challenges such as climate change. These factors, among others, will require water and waste water service providers to make even better use of limited financial resources in order to ensure that the necessary funding and investment is secured for a sustainable water supply for present and future generations.

The 3Ts framework developed by the OECD represents a powerful tool in unlocking our understanding of the sources of the funds which underpin this sustainable future. The 3Ts framework aims to disentangle the contributions made by Tariffs, Taxes and Transfers. The underlying objective is to distinguish between sources of direct funding by end users, indirect funding from governments or their agencies, funding from private sources of finance and, as we strive towards full cost recovery, the extent to which funding is derived from the environment. The report does not aim to identify the circumstances in which different types of funding should be used, but better understanding of the accumulation of these funds will enable us to make assessments about their sustainability within the local context.

It is with great pleasure that EUREAU (The European Federation of National Associations of water and waste water services) presents this report, authored by Ecologic Institute with the sponsorship of DANVA, as a contribution to the European Regional Process towards the 6th World Water Forum. For the first time, this report seeks to explain how the 3Ts analysis can be applied in a variety of national and institutional contexts.

We hope that this demonstration will act as a significant spur to a broader understanding and adoption of the 3Ts approach and that, in time, this framework will provide us all with a useful tool for stakeholder consultations and strategic financial planning in this most vital infrastructure sector. Our work does not stop with this report. EUREAU will take this report further, and continue work to apply the 3T concept in practice with the aim to achieve a higher degree of transparency in financing of the water sector. We encourage all stakeholders to contribute to the application of this toolkit, and look forward to the publication of further case studies on the 3T framework in preparation for the 6th World Water Forum and beyond.

Carl-Emil Larsen (DANVA) – President of EUREAU

Table of Contents

Rationale: 3Ts within Sustainable Financial Planning

This methodological guide supports EUREAU's contribution to sustainable financial solutions for the water sector within the context of the 2012 World Water Forum in Marseille through the promotion of the 3Ts approach developed by the Organisation for Economic Cooperation and Development (OECD).

The "3Ts"

The 3Ts concept was developed by the OECD Horizontal Water Programme to describe and categorise the three ultimate sources of financial investment for the water sector: **T**axes, **T**ariffs and **T**ransfers (where transfers are primarily official development assistance).

Developing a financially sustainable basis for the water sector requires establishing the appropriate balance and relationship between the 3Ts. The aim of this methodological guide is to assist decision makers by promoting and explaining the distinctions between the 3Ts and other forms of finance such as loans, bonds, or equity. Unlike the 3Ts, these need to be repaid or provide a return. Thus, they may serve as an intermediate solution in order to meet short term budgetary needs, whereas the 3Ts are essentially the ultimate sources of finance which provide the future cash flows to fulfil budgetary requirements.

Background: Strategic Financial Planning

In the coming years, countries at all stages of development will need to raise significant amounts of finance to develop, modernise, maintain, and operate their water supply and sanitation (WSS) systems. This is because they will need to comply with new EU legislation (for more information see Annex I) or modernise existing infrastructure. Sustainable financing for the WSS sector has been a key obstacle to achieving the WSS-related Millennium Development Goals (MDGs) since the WSS sector is chronically underfunded in many developing countries. However, even industrialised countries face considerable financial burdens given the need to maintain and modernise existing systems. As a result, the OECD argues in favour of national or regional strategic financial planning (SFP). This approach is intended to provide the groundwork for a solid financial base to ensure sustainable development and continued functioning of water services.

SFP entails taking a long-term perspective of the financial needs of the sector, the factors affecting them, the main sources of funding and the balance between them, and how needs and potential resources can be reconciled. SFP is aimed at ensuring that a national water policy is realistic and that finance is available to implement it. To achieve this objective, SFP envisions a national policy dialogue, a process of financial modelling to assess the financing gaps and ways to close it, and, as an output, a plan to be used by policy makers (OECD 2009a, 52[1]). This plan should outline how to manage costs, increase the supply of finance, and allocate finance between competing sector claimants.

The 3Ts concept primarily addresses the second of this last set of elements – an assessment of the financing of the WSS systems. It has been developed to describe and

[1] OECD. 2009a. Strategic Financial Planning for Water Supply and Sanitation. Organization for Economic Co-operation and Development.

categorise the three ultimate financial sources of investment for the water sector. As such, the 3Ts method refers to accounting, raising, and balancing finance in the form of tariffs (user fees), taxes (subsidies), and transfers (such as official development assistance (ODA), or, in the case of Europe, funds from the European Union (EU)). The SFP process is intended to provide answers on the right balance among the 3Ts, which collectively make up the basis for sustainable cost recovery (SCR). SCR entails securing future cash flows from a combination of the 3Ts and using this revenue stream as the basis for attracting and compensating repayable market-based sources of finance—such as loans, bonds, and/or equity—where this is necessary to bridge financing gaps (OECD 2009a, 12). It is important to note that the OECD's version of SCR is not concerned with full cost recovery based on tariffs alone, as this might place unreasonable burdens on the poorest consumers (OECD 2009b, 13[2]).

The need for SFP is particularly apparent in developing countries. However, even in transition and OECD countries WSS financing systems, models, and strategies are straining to deal with current and future demands. Concerns surround their sustainability and ability to deal with the significant and growing backlog of modernising and replacing ageing infrastructure and coping with the costs of rising expectations, growing environmental concerns, and new regulatory obligations. Many OECD countries hide costs by deferring maintenance and replacements, and subsidies are not always transparent, making the degree of full cost recovery difficult to ascertain (OECD 2009a, 61).

It is as a response to this set of challenges in developing, transition and developed countries that the 3Ts concept must be understood. As a conceptual approach to more clearly account for and understand existing and potential financial flows to the WSS sector, it is intended to provide transparency and facilitate SFP. However, the importance of the 3Ts as a concept should not be overstated; it merely represents a classification to analyse financial flows. This then flows into a policy dialogue on how to reconcile the WSS sector's financial needs with its revenue sources, cost reduction opportunities, and opportunities for tapping into commercial funding sources. Similarly, SFP is not in itself sufficient to implement water infrastructure; it must be accompanied by good WSS governance (OECD 2009a, 11).

Relevance of the methodological guide

This manual takes an initial step to apply the OECD's 3T methodology into practice and is therefore a *first effort* to present this type of information to decision makers in a more accessible format. Despite these challenges, this report seeks to provide a solid basis for additional discussion, research, and investigation into the 3Ts methodology and its practical application by water and wastewater utilities.

The specific rationale of this work on the 3Ts aims to promote the method:

- As a concrete contribution to improved transparency in the financing of water services and to facilitate the reporting obligations on the recovery of the costs of water services (which is requested for example as part of the reporting obligations under the EC Water Framework Directive);

[2] ———. 2009b. Managing Water for All: An OECD Perspective on Pricing and Financing - Key Messages for Policy Makers. Organization for Economic Co-operation and Development.

- As a useful diagnostic and decision-making tool, and also a tool for the promotion of policy dialogue processes and strategic financial planning of water services;
- As a framework for publishing information and thus streamlining financial information—this would greatly increase transparency in reporting sources of revenue of the water sector and facilitating cross-country comparisons.
- As a catalyst for dialogue among European institutions (i.e., European Investment Bank, DG Environment) and global ones (i.e., OECD).
- As a means for agreeing on water- and sanitation-related investment targets, and how they will be achieved. The sector is currently challenged as it faces increasing investment requirements driven by the need to adapt to climate change, comply with stringent water policy targets and the required modernisation of obsolete infrastructure to achieve higher resource efficiency in its operations.
- As a means to raise general awareness among European utilities and policymakers of the financing issues that have been emerging in the last 5 to 10 years due to the work with benchmarking on both national and international levels.

This manual asserts that the 3T methodology is a highly relevant tool for water and wastewater utilities in the European Community and that utilities seeking to overcome challenges relating to financing require new and improved methods as well as assistance in applying these methods. As these challenges are often common, a highly developed and efficient approach is in the shared interest of water and wastewater utilities in the Community and is thus pursued as a common objective by EUREAU and its members.

Objectives of the methodological guide

This manual develops a methodological practical guide to establish a consistent procedure tailored to end-users for the structuring of financial data based on the 3Ts methodology established by the OECD. In order to provide concrete examples and illustrations, the manual applies the elaborated 3Ts methodology using a quantitative analysis of selected European Utilities at varying geographical and administrative levels (municipality/region/country). The ultimate objective of the manual is the development and promotion of the 3Ts as a key decision-making tool in the financial planning of water services and as a tool to be used in various publications, foremost in EUREAU publications.

Methodology (Procedure)

This practical manual is intended to guide the reader through the process of identifying the correct sources of the 3Ts. It recommends ways to aggregate the information to develop the 3Ts at the utility level to the municipal, regional, or national level. Examples extracted from the case studies presented in Annex II are employed throughout this manual to illustrate more clearly how to apply this methodology. The final goal of the manual is to aid the development of a strategic financial analysis by the authority responsible for the service.

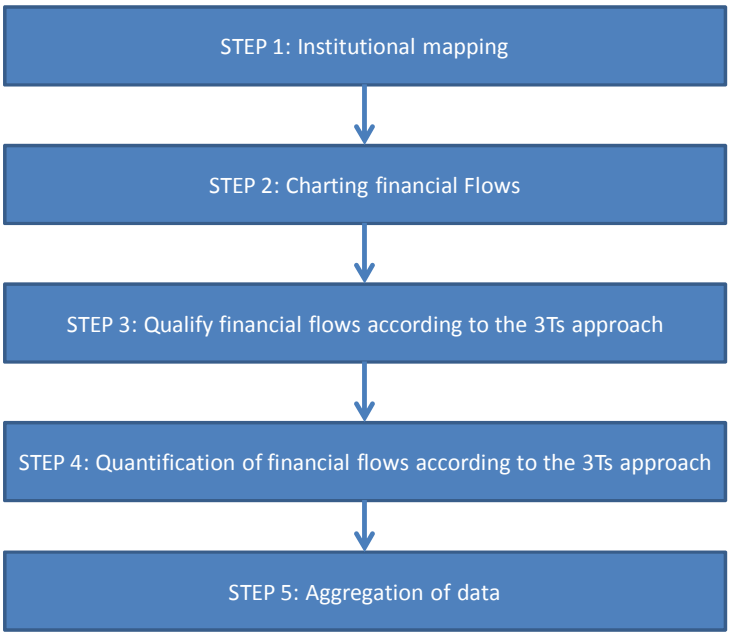
This manual is intended to be a policy tool, to be applied for water utilities as a whole (operators and entities who own the assets). The manual aims to explain the concept of the 3Ts and the breakdown between each “T” in order to ensure some form of comparability of money flows in different countries and to promote a common language to avoid misconceptions.

Case studies have been undertaken to better understand the different sources of finance to the water sector across Europe at different scales. The financial accounts of the selected institutions were scrutinised to create a break-down of revenues of water and waste water utilities according to the 3Ts method. The analysis is done at the national level and for a sample of cities/water utilities where data is available.

A total of eight case studies were performed; individual syntheses for the following cases studies were prepared and are presented in Annex II of this manual:

1) Germany (DE) – Case Study: Berliner Wasserbetriebe (Berlin)
2) Spain (ES) – Case Study (Agbar/Aigües de) City of Barcelona (Barcelona)
3) France (FR) – Case Study Brest Métropole Océane (Bretagne)
4) Holland (NL) – Case Study Vitens
5) United Kingdom (UK) – Case study: Bristol Water
6) Poland (PL) – Case study: Wodociagi Warszawskie
7) Denmark (DK) – Case study: Vand Center Syd
8) Italy (IT) – Case study: Publiacqua

Several steps are required to determine the 3Ts at the national, municipal, regional, and local level across EUREAU members. This tiered approach is designed to harmonise the method used for the 3Ts across different levels as well as across different countries. The following sequential steps are recommended in this manual for the practical application of sustainable financial planning using the OECD’s 3Ts approach:

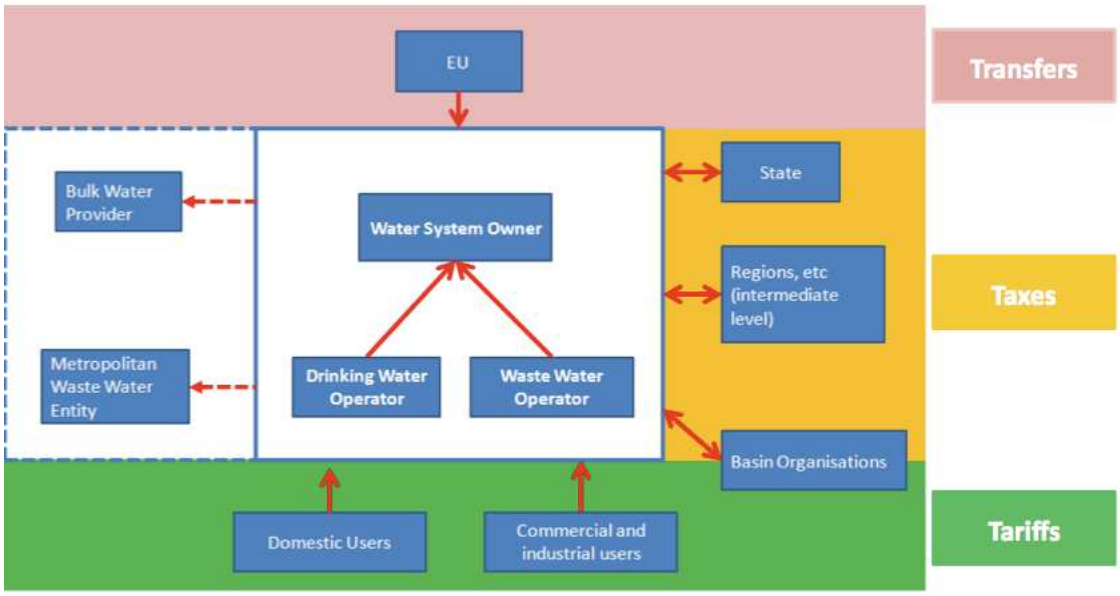

STEP 1: Institutional mapping
STEP 2: Charting financial Flows
STEP 3: Qualify financial flows according to the 3Ts approach
STEP 4: Quantification of financial flows according to the 3Ts approach
STEP 5: Aggregation of data

STEP 1: Institutional mapping

- Important for SFP at the local and national level
- Including the distinction between the different types of publicly and privately managed utilities – see proposed graphs.

As a first step to the application of the 3Ts approach, it is first required to map the institutional setting for water services. The objective of this step is to gain a complete picture of the water and wastewater sector and identify all relevant players in order to assess their revenue structure (3Ts) correctly in the following steps. Depending on the interests surrounding the strategic financial analysis, this can be done at the national and local level. As an example, graph 1 provides a practical illustration of this step at the local level:

Graph 1.STEP 1: Institutional mapping – Water services at the <u>local</u> level. Source: own elaboration



Before starting to search for data, several questions need to be answered and taken into account in the following process in order to typify the types of services provided and the level of the analysis according to step 1 – institutional mapping:

1. How is WWS managed? Is the water and wastewater service fully privatised, i.e., does the operator own and manage all assets required for its service? Is it operated on the basis of a private management contract (distinct legal entity) or managed by a public authority with the infrastructure being owned or operated by a third party?
    - Rationale: To gain a complete picture of the water and wastewater sector, all relevant players need to be identified to assess their revenue structure (3Ts) correctly. This step is relevant for the completion of the next steps of the methodology outlined in this manual.

Table 1 – Initial identification of relevant players in the WWS sector. Source: own elaboration.

Step 1	Step 2	Step 3
Who is the owner of the infrastructure?	Who is the owner of the water system?	A
		B
		C
	Who is the owner of the wastewater system?	A
		B
		C
Who operates the services?	Who operates the water service?	A
		B
		C
	Who operates the wastewater service?	A
		B
		C

Key: A=Public entity; B=Private entity; C=Special contract

2. If the WWS is public, how are the finances structured?
    a. Rationale: Public entities may be managed as a corporation, such as Vand Center Syd in Denmark, or at the municipal level, such as by the "communes" in France. The latter may be required to transfer all their revenue to public coffers and receive money from different governmental sources. It is important to understand this financing structure in order to divide the revenue according to the 3Ts methodology. This is also relevant to help determine data sources; for example, public budgets may be more likely to include information regarding publicly owned utilities.
3. Does the identified utility engage in both the water and wastewater sector?
    a. Rationale: To identify differences regarding, e.g. the financial sustainability in these sectors and to make international comparisons by increasing the transparency of these operations, it is advisable to split the financial information of these activities when applying the 3Ts methodology.
4. Does the identified utility engage in activities going beyond water and wastewater services in the identified country and/ or outside of this identified country?

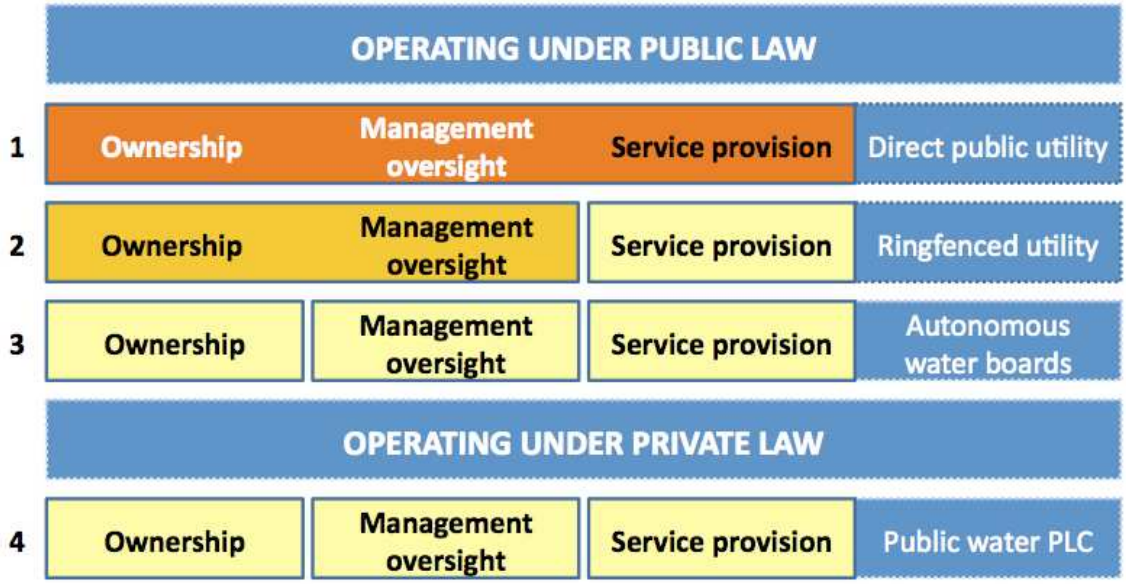
a. Rationale: In an increasingly globalised world, many water and wastewater utilities expand their services to other sectors, such as consulting, or to other geographical regions, such as Suez, Agbar, Veolia, etc. To provide a coherent picture of the financial situation of the WWS in one country, the financial information has to be filtered to reflect the WSS's activities only in the considered country.

How to distinguish between publicly and privately managed water utilities

Graphs 2 and 3 illustrate a scheme to classify WSS utilities according to their public or private nature. Graph 2 illustrates a typology of publicly managed utilities. This chart shows how the three basic functions of a utility (ownership, management oversight, and service provision) are merged or separated, depending on the legal nature of a public utility. The main distinction is between:

- types 1 and 2, which include "direct public management utilities", and
- types 3 and 4, which include "publicly owned utilities."

Graph 2 Step 1 - Typology of publicly managed utilities. Source: UNESCO-IHE. Available on: http://www.suez-environnement.com/brochure-uglc/.



Graph 3 outlines a method to typify privately managed water utilities. In this respect, the classification can be broadly divided into:

- Public private partnerships included in types A, B, C and D.
- Private ownership and operation included in type E. In concession contracts, the new works funded by the private operator are amortized in its accounts, but return to the public authority at the termination of the contract.

Graph 3.Step 1: Typology of privately managed utilities. Source: Adapted from a World Bank document. Available on: http://www.suez-environnement.com/brochure-uglc/.

	Asset Ownership	Operation & Maintenance responsability	Capital Investment	Commercial Risk	Term
A – Management Contracts	Public	Public / Private	Public	Public	3 – 5 year contract
B – Operation & Maintenance Contracts	Public	Private	Public	Public	8 – 15 year contract
C – Lease / Affermage Contracts	Public	Private	Public	Private / Public	8 – 15 year contract
D – Concession Contracts	Private / Public	Private	Private	Private / Public	20 – 25 year contract
E –Private Utilities	Private	Private	Private	Private	Indefinite (licence)

STEP 2: Charting financial flows

- This step can be included with the institutional mapping graphs illustrated in Step 1 above.

The objective of this second step is to provide a broad overview of the finances and administration for the case study area of interest for the SFP analysis. Financial flows in the water sector are linked with the relevant actors identified in step 1. This step illustrates the interaction and cash flows (outlining their order of magnitude) between the bodies responsible for the provision and administration of water and waste water services in the case study area of interest.

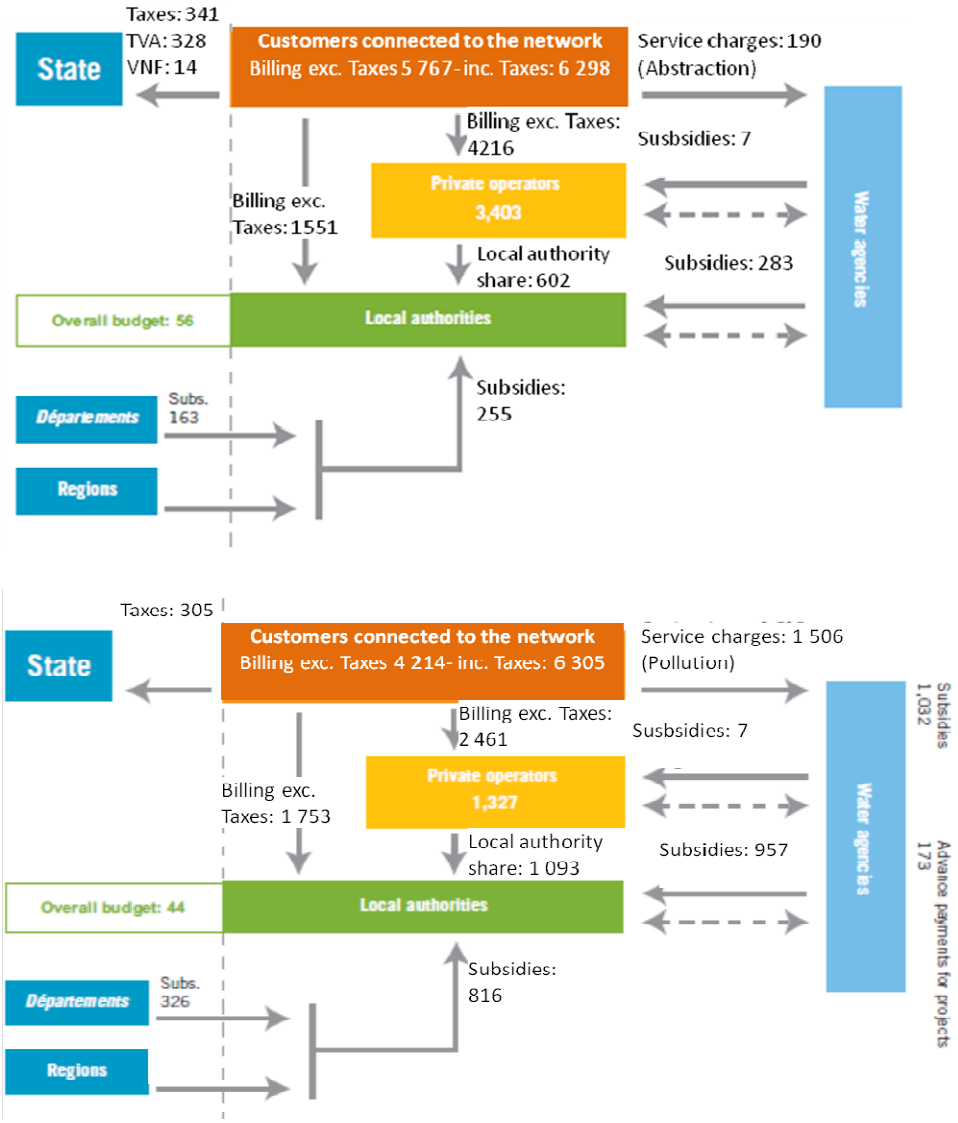
As an example of steps 1 and 2, the provision of drinking water and waste water services in France falls under the competence of the municipalities. The municipal “communes” are the main actor and either manage water and waste water services directly, set up public companies, or contract out the services to private companies. There are six companies in France that handle the majority of these contracts. The 2010 Annual Report of the French National Water Association (FP2E) indicates that only 29% of water delivery services and 44% of wastewater services are through public operators.

In France, revenues collected from customers connected to the network are distributed amongst the State, the local authority or the private operators, and service charges for abstraction from the water agencies. These different players then share and allocate the revenues among themselves as appropriate. Other players involved are the “départements” and regions, both for investments and operations.

At the national level, there is available information in France which would allow mapping the fund flows for 2008 presented in the Annual Report of the French National Water Association

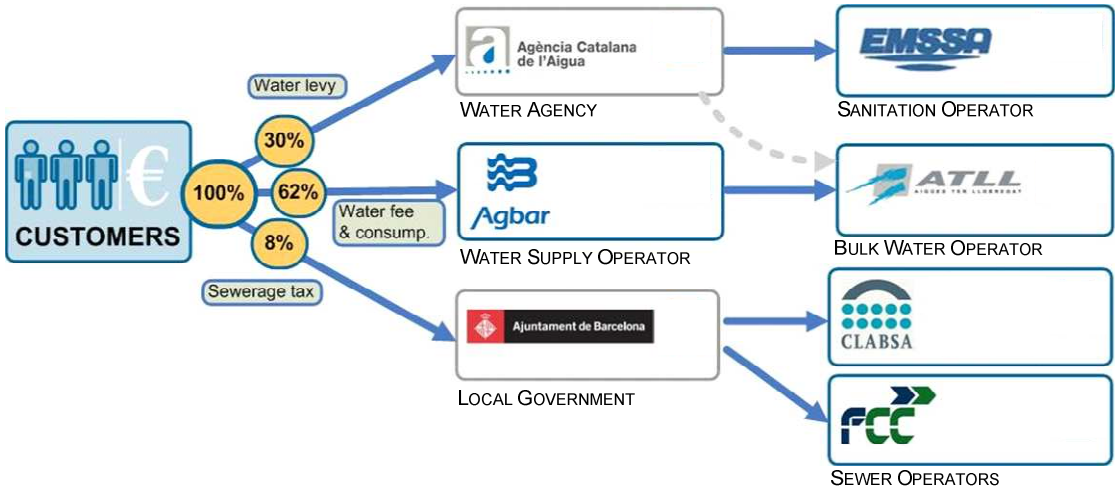
(FP2E) for both water and waste water services. See graph 4 below as an example of step 2 of this manual.

Graph 4. Charts on financial flows: water (top) and wastewater (bottom) service (2008, in millions of Euros). Source: BIPE/FP2E 2010, 34.



Graph 5 offers a similar example at the local level of the Metropolitan Area of Barcelona. Here, the financial flows are portrayed as originating from consumption fees as well as taxes and levies and continuing through the intricate network of entities that are involved at the different stages of the water cycle. The proper understanding of how these different actors relate to each other, including their status as public, private, or joint entities, is crucial to assure the correct application of the 3Ts methodology.

Graph 5. Financial flow chart of the tariffs collected (water supply and sanitation) in the case of the Metropolitan Area of Barcelona. Source: CETaqua, 2009.



Note: The percentage shows the proportion of the total income collected from water users (data of 2009) that corresponds to each agent.

STEP 3: Qualify the financial flows according to the 3Ts approach

This step is related with the identification of financial flows according to the 3Ts approach. This step provides a practical definition of Tariffs, Taxes and Transfers according to the OECD approach and outlines relevant revenue typologies for their subsequent quantification in step 4.

Identification of <u>Tariffs</u>

- "Tariffs" are defined as user fees or contributions.
- Service providers can levy such fees for providing access to a service (connection charges) and for delivering the service (either a flat charge, a volumetric one, or a combination of both). Additional fees can be derived from meter rentals, penalties, etc.
- The box below outlines the revenue entries relevant to tariffs.

1) Users' moneys or "Tariffs" (revenues from service users)
    a. Revenues of the operators from service provision (∑water and sanitation bills – taxes or charges).
    b. Revenue of infrastructure owners (mainly public; relevant only if reinvested in the water sector).

Identification of <u>Taxes</u>

- "Taxes" refer to funds raised by national/regional/local governments through the tax base, which are subsequently diverted to the WSS sector.
- In general, these are known as subsidies.
- The OECD defines subsidies in this context as "a fiscal transfer to an organisation, or to specific users or services, in a situation where the provider has a degree of operational autonomy, commercial orientation, and financial transparency – in short, where the service is normally expected to recover its costs, however they are defined".
- While subsidies or grants are the most visible form of tax funds directed to the WSS sector, "hidden" forms of subsidies may include tax rebates, soft loans (i.e., at a subsidised interest rate), transfers from local government housing taxes, donations, subsidised services (e.g., electricity), or "dormant" equity investments.
- The box below outlines a non-exhaustive list of the possible revenue entries relevant to taxes.

2) National taxpayers' moneys or "Taxes" (subsidies, grants); cash from (non-foreign) public budgets

   a. Subsidies to local or national water operators. The following lists a number of potential hidden subsidies:

      i. tax rebates, tax holidays
      ii. soft loans (i.e. at a subsidised interest rate),
      iii. transfers from local government housing taxes,
      iv. donations, and debt forgiveness
      v. subsidised services (e.g. electricity) and prices.
      vi. "dormant" equity investments
      vii. coverage of the operator's financing gap

   b. Subsidies to infrastructure owners (including soft loans / concessionary conditions for investment

Identification of <u>Transfers</u>

- "Transfers" are payments that come from foreign sources, official development assistance (ODA), and private philanthropic contributions.
- ODA comes in the form of grants although loans in the WSS sector normally make up around half of the total amount extended. While grants are a true transfer, loans are not. However, some loans are concessionary; they carry subsidised interest rates or a grace period.
- The OECD does not specifically address EU funds in its typology. Ultimately, these could conceivably enter either into the Tax or the Transfer category. For the development of this manual, we define EU transfers to be allocated to the category "transfers" rather than "taxes," as the EU funds are transferred across national boundaries

- The box below outlines the revenue entries relevant to transfers.

3) Foreign taxpayers' moneys or "Transfers" : cash in aid from foreign sources

   a. Official development assistance - ODA (e.g. Subsidies from foreign sources, grants and soft loans),

   b. Budget support from foreign sources (e.g. debt forgiving)

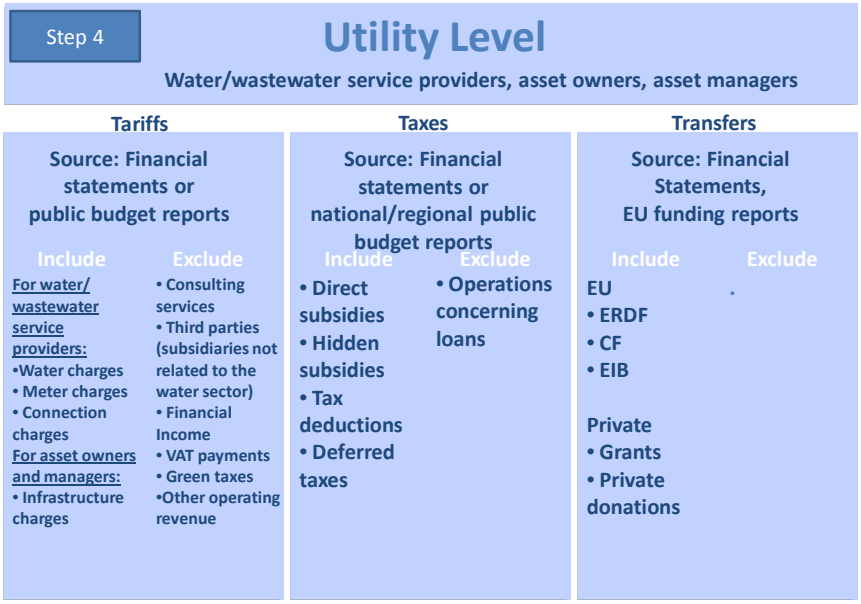
   c. Philanthropic donations through NGOs, charities, foundations

   d. EU Subsidies-Transfers

STEP 4: Quantification of financial flows

- Only those financial categories that are above 1% of total revenue need to be quantified.
- This step provides a practical guidance for collection of information at the utility level (important for aggregation at municipal/regional and national level[3] in Step 5).
- To provide a complete picture and to increase the relevance for strategic financial planning, please identify the 3Ts for the **past five years**.

Graph 6. Identification of financial flows for water and wastewater service providers, asset owners and asset managers. Source: own elaboration.



[3] The utility level refers to the lower scale of the water system. It is included here to outline the situation of each single utility in the case where several of these provide water services in the same city. In the specific case where a single utility covers an entire city, the Utility level and the Municipal level are the same.

The following classification of the 3Ts, distilled from case studies assessed in advance of the development of this practical guidance, shall further clarify the identification of the 3Ts for their use.

Tariffs

- Tariffs are exclusively comprised of the revenue that the water utilities make from providing water and wastewater services to their customers.
- These values can be found in the *Profit and Loss Accounts*[4] of each utility's financial statements or through public accounts if managed by a public department. While the consolidated Profit and Loss Account usually refers to revenue, this item is further defined (and disaggregated) in the notes accompanying the Profit and Loss Account. Only the revenues made from water and wastewater services should be included in the Tariff category. These revenues can include items such as "supply of drinking water" and "standing charges".
- Charges which are collected by the entity, but passed on to the public authorities without counting as revenue to the entity are not to be included in the Tariff category. In the Profit and Loss Accounts, these charges (and also VAT) are not included. In public budgets these charges may have to be excluded for the 3T methodology.
- If possible, revenues shall be split into revenues from the water and wastewater services. The items listed in this category shall be noted separately as sub-categories of tariffs in the 3Ts table.
- The items contained in the category "other revenues" shall not be included in the 3Ts method. It is important to highlight that revenues made from WWS may not reflect other revenues that the utility is making via, e.g., consulting or financial activities. Although these revenues also contribute to the financial sustainability of the utility, they do not form part of the 3Ts analysis since the 3Ts are concerned only with income generated from water operations.

Examples of relevant items found in the financial reports of the entities that can be used to define tariffs according to the 3Ts method. Source: own elaboration based on the entities' Profit and Loss accounts.

Country	Company	Financial items included	Financial items not included
France	Brest MétropoleOcéane	• Mitigation costs • Sales of manufactured products services • Other current management products	

[4] While the cash flow statement illustrates the current flows of cash in a given accounting period, our case study analysis showed that the items are not disaggregated enough to identify the cash flows from solely the water and wastewater services. As such, the Profit and Loss Accounts were chosen as alternative. It needs to be stated, that these values may differ slightly, as the cash flow statement depicts the actual cash flows of an accounting period, while the Profit and Loss Account also includes revenue made in an accounting period which may not have arrived yet as a cash flow at the end of an accounting period.

Germany	Berliner Wasserbetriebe	• Water sales • Drainage services, • House service connections	• Financial income (interest, etc.) • Other operating revenue (including liquidation of special items, revenues from previous periods due to the liquidation of specific debt provisions no longer required)
United Kingdom	Bristol water	• Net cash inflow from operating activities	
Netherlands	Vitens	• Revenue from the supply of drinking water • Standing charges • Income from changes to service addresses and collection • Income from connections • Income from fire hydrants and sprinklers	• Income from work for third parties • Income from rental and lease • Free-rider compensation (payments for providing invoicing services for third parties) • Income from analyses and consultancy • Other income (services rendered to Vitens-EvidesInternational B.V, Evides N.V. and StichtingAansluitingen NL and other incidental income) • Financial income
Denmark	Vand Center Syd	• M^3 charges • Meter charges • Connection charges • Non-recurring income for investment	• Income from subsidiary (consulting services) • Financial income (interest revenues)

Taxes

- As stated above, taxes can be seen as subsidies to the water utility.
- This includes national taxpayers' moneys or subsidies, grants or cash from other domestic public budgets.
- In certain cases this information can be found in the profit and loss accounts, for example, under the item "liquidation of construction subsidies" as in the BWB in Germany. However, if the subsidies are less apparent, such as tax rebates, they may not be listed explicitly. In the case of publicly owned companies, their status may relieve them from corporate law and thus corporate tax. This is an important item to identify as it should be then included as a subsidy. The tax category for the 3T's would amount then to the average corporate tax paid in the country, only this time in favour of the entity.
- The taxes category should be subdivided into different levels of subsidies according to possible sources of financing: sources of subsidies often come from different governing bodies in the country (national, regional and local authorities) and water agencies or river basin authorities with a role in the management of charging mechanisms and financing instruments for the water sector.
- It is important to try and identify any hidden national subsidies. The following items should be identified and included under the tax category:
    - tax rebates or tax holidays

- soft loans (e.g., at a subsidised interest rate),
- transfers from local government housing taxes,
- donations and debt forgiveness,
- subsidised services (e.g., electricity) and prices,
- "dormant" equity investments,
- and coverage of the operator's financing gap through guarantee arrangements or similar measures.

Examples of relevant items found in the financial reports of the entities that can be used to define taxes according to the 3Ts method. Source: own elaboration based on the entities' Profit and Loss accounts.

Country	Company	Financial items included in the taxes category
France	Brest MétropoleOcéane	• Operating subsidy • Equipment grant from Agence de l'Eau, • Other equipment grant
Germany	Berliner Wasserbetriebe	• Liquidation of construction subsidies
Spain	City of Barcelona/Agbar/Aigües de Barcelona	• Subsidies in the form of investment and infrastructure projects • Transfers from national entities (e.g., Ministerio de Medio Ambiente y Medio Rural y Marino, Agencia Catalana del Agua) • Reinvestment tax credit (case of Agbar)
Poland	WodociagiWarszawskie	• Subsidies (unclear if category refers only to national sourced funds)

Transfers

- Transfers include any cash from (foreign) public budgets.
- Similarly as with the category of "taxes", information may be stated in the Profit and Loss accounts, in the balance sheet or in the cash flow statement. The most reliable way to access this information is to request these figures directly from the water utility.
- Additionally, taxes and transfers may be identified when assessing national budgets. However, in many cases, it is difficult to identify what certain taxes and transfers are spent on. The same applies to loans from investment banks (e.g., EIB). As introduced in the background section, the EIB grants loans to the water sector in Europe to support capital investment. As the Bank sponsors up to a total of 50% of the project, there is very often another 50% which has to come from other loans and in some cases from EU/national subsidies.

Examples of relevant items found in the financial reports of the entities that can be used to define transfers according to the 3Ts method. Source: own elaboration.

Country	Company	Financial items included in the transfer category
Spain	City of Barcelona/Agbar/Aigües de Barcelona	• EU grants: Cohesion Funds, ERDF.
Poland	Wodociagi Warszawskie	• Wodociagi Warszawskie receives transfers from the Cohesion Funds. The amount might be included under the position 'Other operating revenue' in the profit and loss account, although this cannot be said with certainty.

3Ts Table – Recommendation for visual presentation for Step 4

To harmonise the visual presentation of the 3T categorisation and to increase transparency, data on the 3Ts for an individual entity can be presented in the following format (the example of Vand Center Syd, Odense, Denmark is used as an illustration):

	2010			2009 (2)			2008 (2)		
(tkr.)	Water services	Wastewater services	Total Services	Water services	Wastewater services	Total Services	Water services	Wastewater services	Total Services
Revenue	92,579	255,495	348,388	77,981	252,294	338,963	84,607	228,557	320,275
Tariff (1)	**89,136**	**252,052**	**341,188**	**77.981**	**252,294**	**330,275**	**84.607**	**228,557**	**313,164**
M^3	60,748	230,639	291,387	51.616	218.071	269.687	55.417	199.007	254.424
Connection fee	4,340	13,950	18,290	2.503	16.503	19.006	5.318	18.658	23.976
Meter fee	24,048		24,048	23.862		23.862	23.872		23.872
Non-recurring income for investment (3)	n/a	7,463	7,463	n/a	17.720	17.720	n/a	10.892	10.892
Taxes	**0**	**0**	**0**						
Transfers	**0**	**0**	**0**						

(1) Tariffs excluding VAT and green charges; Tariffs include m^3 charges, connection fee, meter fee and non-recurring income for investments, the remaining revenue items, i.e. Income Subsidiary and Other financial income (interest income) are not included.

(2) Subsidiary was separated from water and wastewater operations in 2010

(3) Odense Municipality pays each year 8 % of investment in infrastructural facilities at the Wastewater utility (8 % is maximum according to The Sewage Payment Act) . The amount is a part of the financing of investments to be carried out extra to receive rainwater. The amount is a non-recurring income in the income statement

STEP 5: Aggregation of data

Two levels of data aggregation are relevant for SFP:

- Step A: Municipality (Regional) level
- Step B: National level

Step 5.A: Method for data aggregation at the local (municipality/regional) level

Tariffs

- Data aggregation of tariffs can be performed under the 3Ts method building up from the utility, asset owner, and asset management level (depending on the structural particularities) of the municipality/ region (depending on the geographical level at which the aggregation exercise is performed).
- In practical terms this means undertaking a survey of revenues for all related water and wastewater utilities, asset managers, and owners in the municipality/region. In cases where the number of entities is too large, the exercise can be simplified by focusing on the most relevant entities in terms of the proportion of the total revenue they hold.
- The exercise needs to include all entities regardless of whether they are privately or publicly owned. The process can be broken down into the following steps:
    - Step 1: Identification of all relevant parties.
    - Step 2: Aggregation of revenues for each entity (water and wastewater service operators, asset owners and managers)
        - Charges which are collected by the entity, but passed on to the government without counting as revenue to the entity are not included. In the profit and loss accounts, these charges (and also VAT) are not included. In public budgets these charges may have to be excluded for the 3Ts methodology.

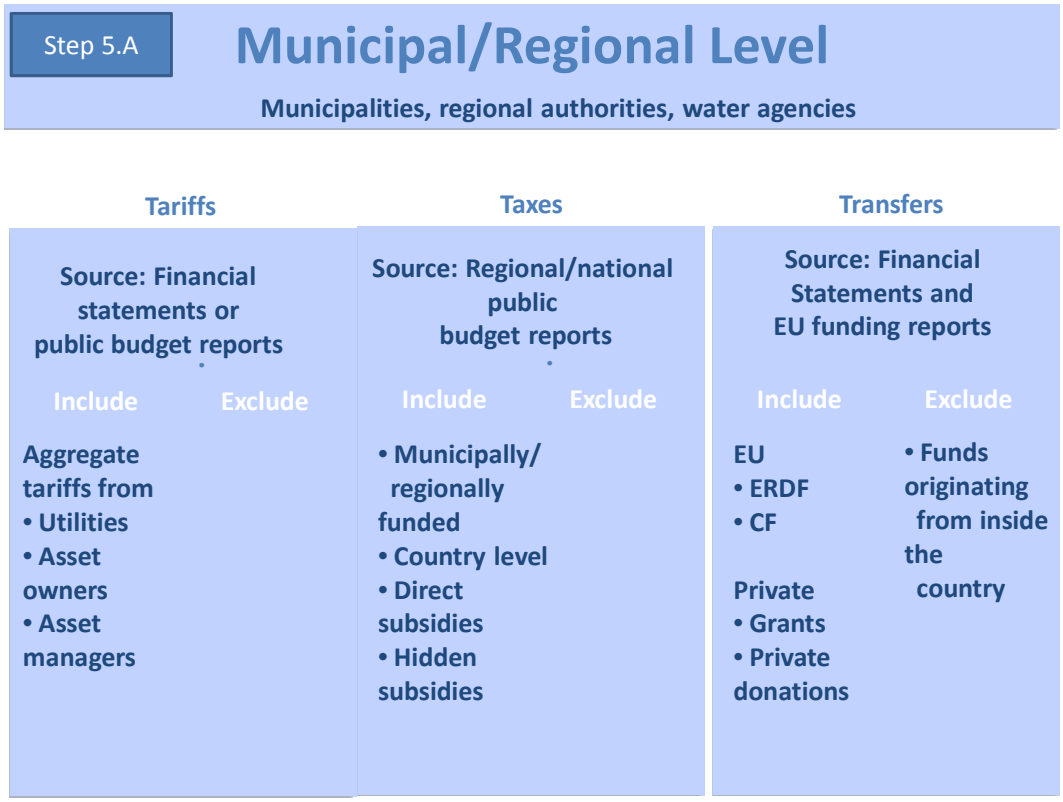
Taxes

- Taxes at the municipal or regional level can either be aggregated from the local level (see Step 4) or be identified from aggregated reports, such as the public budget of municipalities or regions and of the public budget at country level.
- Tax revenues (i.e., subsidies) can come from the central, regional, or municipal government and should only be accounted for once (for example the central or regional government may make funds available to local water utility through the municipal budgets).
- Loans from national investment banks need to be carefully treated. Whilst loans per se are not considered a source of finance under the 3T method, subsidised interest rates need to be accounted for. In practice, this would represent an estimation of the difference between the market interest rate and that of the subsidised loan.

Transfers

- Transfers at the municipal or regional level include EU funds, other foreign aid or private aid (such as from donations through NGOs, charities, foundations, etc.) that are explicitly diverted or directly allocated to finance investment projects in the water sector.
- In Europe, this category mainly includes EU regional support mechanisms such as the Cohesion and Regional Development Funds.
- Subsidised interest rates from international investment banks (such as EIB) should be included in this category. Similarly to taxes, these transfers can either be aggregated from the local level (see Step 4) or be identified from public reports, such as EU budgets and annual reports.
- Additional survey on the private transfers needs to be made for all entities.

Graph 7. Guidance for aggregation of data at the municipal and regional level (Step 5.A). Source: own elaboration.



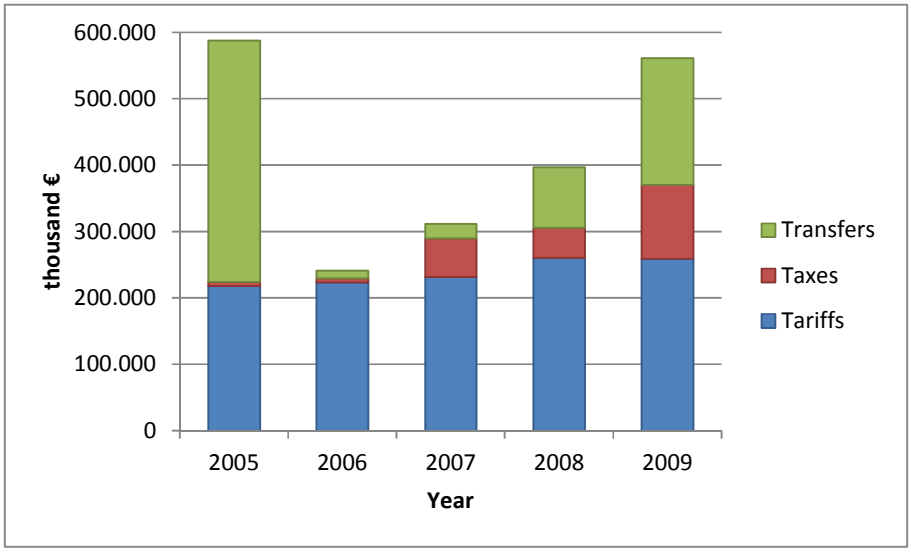
3Ts Table – Recommendation for visual presentation for Step 5.A. Example for the city (metropolitan area) of Barcelona (thousand €). See Annex II for further information.

	2005	2006	2007	2008	2009
INCOME	587,907	241,233	311,836	396,676	561,232
Tariffs	**218,119**	**223,101**	**231,622**	**260,284**	**259,043**

Agbar[1]	*127,705*	*130,533*	*143,113*	*167,360*	*162,857*
ACA[2]	*74,264*	*75,850*	*71,256*	*76,261*	*79,505*
Barcelona City Council[3]	*16,150*	*16,718*	*17,253*	*16,663*	*16,681*
Taxes	**6,188**	**6,567**	**58,435**	**45,269**	**111,696**
Agbar[4]	*6,188*	*6,567*	*25,850*	*15,099*	*n/a*
ACA	*0*	*0*	*30,261*[5]	*30,112*[6]	*83,565*[7]
Barcelona City Council[8]	*0*	*0*	*2,324*	*58*	*28,131*
Transfers	**363,600**	**11,565**	**21,779**	**91,123**	**190,493**
Agbar	*0*	*0*	*0*	*0*	*0*
ACA	*363,600*	*11,565*[9]	*14,436*[10]	*83,780*	*183,150*
Barcelona City Council[11]	*n/a*	*n/a*	*7,343*	*7,343*	*7,343*

In the case that data are available for various years, the development of a bar chart may be useful to illustrate trends on the evolution of the 3Ts over time.

Graph 8. 3Ts for the metropolitan area of Barcelona. Source: own elaboration.



Step 5.B: Guidance for aggregation at the national level

Tariffs

- Data aggregation on tariffs can be performed under the 3Ts method building up from the utility, asset owner, and asset management level (depending on the structural particularities) of the municipality/ region (depending on the geographical level at which the aggregation exercise is performed).
- In practical terms this means undertaking a survey on revenues for all related water and wastewater utilities, asset managers, and owners in the municipality/region.
- The exercise needs to include all entities regardless of whether they are privately or publicly owned. The process can be broken down into the following steps:
    - **Step 1: Identification of all relevant parties.**
    - **Step 2: Aggregation of revenues for each entity** (water and wastewater service operators, asset owners, and managers).
        - Charges which are collected by the entity, but passed on to the government without counting as revenue to the entity are not included. In the profit and loss accounts, these charges (and also VAT) are not included. In public budgets these charges may have to be excluded for consistency with the 3Ts methodology.

Taxes

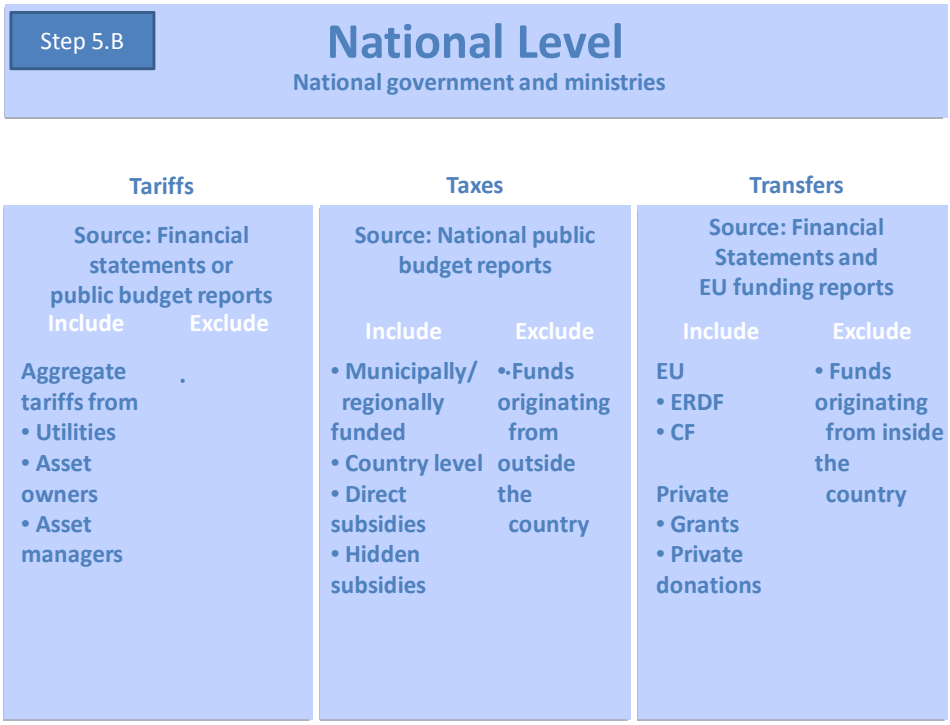
- Taxes at the national level can either be aggregated from the local level (see Step 4) or the municipal/ regional level (Step 5.A) or be identified from aggregated reports, such as the national budget.
- Tax revenues (i.e., subsidies) can come from the central, regional, or municipal government and should only be accounted for once (for example, the central or regional government may make funds available to local water utility through the municipal budgets).
- Loans from national investment banks need to be carefully treated. Whilst loans per se are not considered a source of finance under the 3T method, subsidised interest rates need to be accounted for. See step A for more details on hidden subsidies.

Transfers

- Transfers at the national level include EU funds or other foreign aid or private aid (such as donations through NGOs, charities, foundations, etc.) that are explicitly diverted or directly allocated to finance investment projects in the water sector.
- In Europe, this category mainly includes EU regional support mechanisms such as Cohesion (CF) and Regional Development Funds (ERDF).
- In addition, subsidised interest rates from international investment banks (such as EIB) should be included in this category.
- Similarly to taxes, these transfers can either be aggregated from the local level (see Step 4), the municipal/ regional level (see Step 5.A) or be identified from public reports, such as EU budgets and annual reports.

- An additional survey on the private transfers to the sector needs to be made for all entities.

Graph 9. Guidance for aggregation of data at the national level (Step 5.B). Source: own elaboration.



3Ts Table – Recommendation for visual presentation for Step 5.B

Application of the 3Ts approach to the fund flows: public water and wastewater services in France (2006/08 in millions of Euros)

	2006			2008		
	Water supply	Wastewater	Sum	Water supply	Wastewater	Sum
Tariffs (exc. Charges)[1]	6373	3373	9746	5767	4214	9981
Private operators (exc charges)	*3403*	*1327*	*4730*	*4216*	*2461*	6677
Local authorities	*2970*	*2045*	*5015*	*1551*	*1753*	3304
Taxes	281	1455	1736	545	1780	2325
From departments and regions to local authorities	*163*	*423*	*586*	*255*	*816*	1071
From water agencies to local authorities	*107*	*1027*	*1134*	*283*	*957*	1240
From water agencies to private operators	*11*	*5*	*16*	*7*	*7*	14
Transfers[2]	0	0	0	0	0	0

[1] Charges: Abstraction charge to water agencies, general taxes (inc. TVA and VNF) amount to €612 Million for water supply. For wastewater companies, state taxes accounted to €252 Million and pollution service charges to €1212 Million respectively.

[2] The FP2E study reports advanced payments for projects which account for €30 and €173 Million for water supply and wastewater sector respectively. This item is related with loans or grants. If EU money is involved is a transfer or if it is a loan from a Bank outside France. It would be necessary to include in this category an assessment of the difference between the conditions of the soft loan (if any) and market rate competitive interest rates.

Glossary

Modified from 3 ISO Standards: Activities relating to drinking water and wastewater services.

Operator — A person or organisation performing day-to-day processes and activities necessary for the provision of the service

NOTE 1 There can be one or several operators for a given water utility, e.g., distinct operators for installations operation, billing, and recovering service. Their missions are determined by the responsible body. An operator may subcontract some of its operations to other contractors if allowed to do so by the responsible body.

NOTE 2 The operator(s) can be legally distinct, or not, from the responsible body. They can be public or private. Examples where responsible body and operator are not legally distinct: a technical department in a municipality or a specific division of a regional authority. Examples of legally distinct entities: a public organisation, a private corporate company, a small contractor, an NGO, or a cooperative.

NOTE 3 In the context of this International Standard, an "operator" is not a person employed within an organisation to operate a piece of equipment or process.

Process — A set of interrelated or interacting activities which transforms inputs into outputs

Relevant authority — A public body entitled to set general policies, plans, or requirements or to check compliance with these rules, concerning all the water utilities included in its area of jurisdiction

EXAMPLES: National, regional, or local governments, public agencies, and regulators.

NOTE For a given water utility, there can be several relevant authorities that have jurisdiction in different domains.

Responsible body — A body that has the overall legal responsibility for providing drinking water or wastewater services for a given geographic area

EXAMPLE: A local or municipal government (i.e., for a village, town, or city), a regional government, a national or federal government through a specified agency, or a private company.

NOTE 1 The responsible body can be public or private.

NOTE 2 The responsible body acts within a framework of law and governance established by the relevant authorities; it generally establishes the strategy, the specific policies adapted to the characteristics of its area of responsibility, and the general organisation of the relevant water utility.

NOTE 3 The responsible body can operate the water utility directly with its own means through an internal operator [direct or internal management or "in house"] or entrust one or several operators for the operations ("outsourced" or contracted management).

Service — The result of a process

Service is the result of at least one activity necessarily performed at the interface between the provider of the service and, in the first place, its user and, in the second place, a stakeholder. Service is generally intangible. Provision of a service can involve for example the following:

- activity performed on a tangible product supplied by the user, e.g. wastewater,
- activity performed on an intangible product coming from the user, e.g. processing new connection requests,
- delivery of an intangible product, e.g. delivery of information,
- creation of ambience for the user, e.g. reception offices.

Service — Establishment of an accord between the registered user and the water utility on the

agreement — conditions of service provisions

EXAMPLE A contract

NOTE It may be implicit or explicit.

Subsidy — A fiscal transfer to an organisation, or to specific users or services, in a situation where the provider has a degree of operational autonomy, commercial orientation, and financial transparency—in short, where the service is normally expected to recover its costs, however they are defined (OECD)

Tariff — Structured, publicly available elements permitting calculation of the price paid for a product or service

EXAMPLE Flat (uniform) tariff for a cubic metre of drinking water, blocks with progressive or decreasing prices, prices of connections depending on the pipe diameter.

The OECD's 3Ts approach defines tariffs as user fees or contributions. Service providers can levy such fees for providing access to a service (connection charges) and for delivering the service (either a flat charge, a volumetric one, or a combination of both). Additional—although often minor—fees can be derived from meter rentals, penalties, etc.

Tax — In financial terms: a charge against a citizen's person or property or activity for the support of government

In the 3Ts language, taxes refer to funds raised by national/regional/local governments through the tax base, which are subsequently diverted to the WSS sector. In general, these are known as subsidies.

NOTE 1: While subsidies or grants are the most visible form of tax funds directed to the WSS sector, "hidden" forms of subsidies may include tax rebates, soft loans (i.e., at a subsidised interest rate), transfers from local government housing taxes, donations, subsidised services (e.g., electricity), or "dormant" equity investments. Due to the decentralised nature of WSS service planning, provision, monitoring, and governance.

Transfer — Payments from foreign (public/private) budgets, which effectively means ODA, but also include private philanthropic contributions. Under the 3Ts method, foreign subsidies are categorised as transfers.

NOTE 1: The OECD does not specifically address EU funds in its typology. For the purposes of this manual, the "foreign" character of the funding source would make EU funds a transfer.

Water utility — Whole set of organisation, processes, activities, means, and resources necessary for abstracting, treating, distributing, or supplying drinking water, for collecting, treating, and disposing of wastewater, and for providing the associated services

NOTE 1 Some key features for a water utility are:

- its mission to provide drinking water services, wastewater services, or both,;
- its physical area of responsibility and the population within this area;
- its responsible body;
- the general organisation with the function of operator being carried out by the responsible body, or by legally distinct operator(s);
- and the type of physical systems used to provide the services, with various degrees of centralisation.

NOTE 2 Drinking water utility addresses a utility dealing only with drinking water; wastewater utility addresses a utility dealing only with wastewater.

NOTE 3 When it is not necessary or it is difficult to make a distinction between responsible body and operator, the term "water utility" covers both.

Annex I – European Institutions and Sources of Finance for the Water Sector

This section offers an overview of the EU institutions and policies that directly support the water industry or have a stake in the management of the drinking water supply and wastewater sector in Europe. These policies and associated funding mechanisms are relevant 1) to put in perspective the objective of strategic financial planning for the water sector; 2) to identify sources of transfers, as one of the 3Ts used in the OECD methodology; and 3) to understand the proposed aggregation methodology of sources of financing for the EU water sector at the national level presented in section 5.

EU legislation

Relevant EU legislation for the water services sector in Europe includes the EU Water Framework Directive (WFD) (2000/60/EC) and related Directives, such as those on Urban Wastewater Treatment (91/271/EEC), Drinking Water (98/83/EC), and Bathing Water Quality (76/160/EEC).

Arguably the most relevant piece of European water legislation is the WFD—integrated river basin management for Europe. It requires all inland and coastal waters to reach “good” status by 2015. The Directive establishes river basin authorities for which demanding environmental objectives will be set, including ecological targets for surface waters. The WFD came into force in the year 2000 and sets out a timetable both for initial transposition into the laws of the Member States and thereafter for the implementation of its requirements. In addition, it sets conditions for reporting requirements in the application of full cost recovery of water services for the achievement of suitable uses of water resources across the EU.

Because of the implementation of EU Directives, the water sector will be challenged further in the future by compliance with more stringent EU standards. As an implication for the European water sector, it is likely that substantially higher funding will be needed to increase tertiary treatment, to reduce the frequency of storm overflows and the impact of abstractions on low flows in rivers, and to achieve increased operational efficiencies consistent with the health and safety standards (EIB, 2008). Furthermore, the Directive’s introduction of incentives for more efficient water use may also encourage higher levels of customer metering.

In addition, environmental challenges in Europe are expected to be exacerbated by climate change. This will also include calls for investments in water-related infrastructure, ranging from resilience infrastructure to alternative plans, technologies, and services to adapt to climate change-related impacts. Furthermore, the projected expenditures on water and wastewater services are expected to increase substantially by 2015 and 2025 (OECD, 2006:313) due to the rehabilitation and maintenance of water supply and sanitation infrastructure in EU Member States (OECD, 2009).

EU sources of financing and lending for the water sector

The purpose of EU regional policy is to reduce the significant economic, social, and territorial disparities that still exist between Europe's regions. Regional policy is worth €347 billion

between 2007 and 2013. The funds are mainly targeted towards economic growth and job creation in these areas, by, for example, improving transport links to remote regions, boosting small and medium-sized enterprises in disadvantaged areas, investing in a cleaner environment, and improving education and job skills.

The three cohesion instruments employed by the Commission are: the European Regional Development Fund (ERDF), the European Social Fund (ESF), and the Cohesion Fund.

The **European Regional Development Fund** (ERDF) fields of intervention include the promotion of public and private investments that help reduce regional disparities across the EU. The ERDF supports programmes addressing regional development, economic change, enhanced competitiveness, and territorial cooperation throughout the EU. Funding priorities include research, innovation, environmental protection, and risk prevention, while infrastructure investment retains an important role, especially in the least developed regions.

The **European Social Fund** (ESF) is implemented in line with the European Employment Strategy and focuses on four key areas: increasing adaptability of workers and enterprises, enhancing access to employment and participation in the labour market, reinforcing social inclusion by combating discrimination and facilitating access to the labour market for disadvantaged people, and promoting partnership for reform in the fields of employment and inclusion.

The **Cohesion Fund (CF)** contributes to interventions in the field of the environment and trans-European transport networks. It applies to Member States with a Gross National Income (GNI) of less than 90% of the Community average, meaning it covers the new Member States as well as Greece and Portugal. Spain is also eligible for the Cohesion Fund on a transitional basis. The Fund contributes alongside the ERDF to multi-annual investment programmes managed in a decentralised way, rather than being subject to individual project approval by the Commission.

The construction costs of water supply and waste water systems are eligible for assistance under the Cohesion Policy from the European Regional Development Fund (ERDF) and the Cohesion Fund (CF), varying from 25% to 85% of eligible expenditure, and, in the period 2000-2006, such support totalled €4.05 billion, with four Member States (Greece, Italy, Portugal and Spain) accounting for nearly 90% of all the funding.[5]

The European Investment Bank

In support of the EC Regional and Environment policies, the European Investment Bank (EIB) can use the various EU funds and instruments (subsidies and grants) for leveraging budgetary funds through EIB financing. As a non-profit, policy-driven public bank, interest rates are based on the EIB's borrowing cost with a small margin to cover administrative expenses and other costs. The EIB lends to public and private utility companies, national and local authorities, or can finance individual projects directly. It can lend up to 50% of the investment costs of individual projects, but financing may be combined with EU grants depending on the scope and definition of the individual project. However, its lending makes

[5] From http://www.publications.parliament.uk/pa/cm201011/cmselect/cmeuleg/428-xiii/42816.htm

up on average 30% of the total cost of water projects, split more or less equally between public and private sector borrowers.

The EIB has been the largest source of loan finance to the global water sector to date compared with other international financial institutions. In the five-year period 2005 to 2009, EIB direct lending for water-related projects, excluding hydropower and irrigation, was almost EUR 15bn for a total of 126 major water supply and sanitation projects. Of this, 90% was in the EU-27, making the EIB the biggest lender to the water sector within the EU. The Bank has significantly increased its support for the sector from an average of EUR 1.6bn annually in the ten-year period 1996 to 2005 to EUR 2.9bn on average for the past five years.

The financial services offered by the EIB for the water sector range from small to large projects. As an example of larger project, individual (or direct) loans are long-term loans, running from approximately 3 to 20 years (depending on the economic life of the assets to be financed), with advantageous fixed or revisable fixed and convertible rates, with neither commitment nor non-utilisation fees, and secured by a bank or banking syndicate, a financial institution, or a large diversified parent company with a good credit rating. EIB loans are meant to fund capital investment projects or programmes exceeding EUR 25m on a long-term basis (multi-scheme operations with a common promoter, objective, or sector, such as sectoral infrastructure programmes or multisectoral municipal programmes).

Examples of the types of projects financed by the EIB include a EUR 160m loan in 2007 with Aigues Ter Llobregat for various investments (including a desalination plant) to improve the quality and the security of supply of drinking water in the Barcelona region in Spain. As another example, the EIB lent EUR 15.3m to the City of Plzeň in the Czech Republic to support its 5-year municipal investment programme for water and wastewater facilities, including the refurbishment and extension of drinking water networks and reservoirs, the construction of drainage and storm water retention facilities, and the upgrading of a treatment plant and extension of sewer networks. The project will improve water and wastewater services for Plzeň's 170,000 inhabitants.

A total of EUR 9.1bn was lent to the water sector at country level through EIB individual loans for water supply and sanitation projects in the EU and the EFTA countries from 2003 to 2007 (EIB, 2008).

Annex II – Case Studies

Germany

In Germany, the federal government is in charge of establishing the legal framework and for national water service tasks. The Ministry of the Economy is responsible for water provision and the water industry. The 16 *Land* (state) governments are responsible for the regulation of water services in their territories, and issue *Land*-level water laws. The organisation and implementation of water services are traditionally the remit of municipalities. To this end, they can levy fees.

- Water services: In nine out of 16 *Länder*, responsibility for the water supply remains with the municipalities, even if the operational business is transferred to a third party. In the remaining seven *Länder*, the water supply is an optional task of the municipalities, which allows for the transfer of the operational business and legal responsibility to a third party. The public water supply is provided by 6,211 companies, of which 4,833 are companies that extract their own water for industrial purposes. Only 1,300 of approximately 6,400 water supply utilities in Germany are listed in the statistical database of the German Association of Energy and Water Industries (BDEW).

- Wastewater services: Wastewater treatment is a sovereign task of municipalities for which the responsibility cannot be transferred. Still, private utilities do play a role in wastewater disposal, but they are mainly active in the operations side by means of management or operator contracts. In total, there are more than 6,900 wastewater disposal utilities in Germany. BDEW statistics cover only 900 of the most relevant utilities.

- Tariffs: The local tax laws (KAG) of the *Länder* legally bind utilities to adhere to the cost recovery principle and sets forth a prohibition on cost overruns for setting tariffs. However, municipal codes usually allow for limited profits to maintain the municipalities' ability to invest.

- Taxes: No subsidies flow from the federal budget to the mostly municipally or state-owned water companies. No information is available on potential subsidies from the *Länder* and municipalities; this information is not collected by the ministry of finance. Soft loans are granted to companies in Germany as well; however, available data is outdated and comprehensive statistics are no longer kept on this matter

- Transfers: The most important European funding source in the water sector is the European Regional Development Fund, which targets regional inequalities.

Case study: Berliner Wasserbetriebe (BWB)

The BWB, or Berlin Water Works, is the core of the Berlinwasser Group and represents the largest freshwater and sanitation provider in Germany. The company serves the 3.4 million inhabitants, as well as its businesses and also a number of municipalities in the surrounding

Land of Brandenburg. BWB is a public-private company controlled by a holding group, wherein the Federal State of Berlin holds 50,1% and the French company Veolia and the German company RWE jointly hold the remaining 49,9%. BWB must comply with the requirements of both public and private reporting.

The table below presents the funding structure according to the 3Ts methodology for the BWB for the years 2006 to 2010. Figures were taken from the BWB Annual Reports for the corresponding years. The total income is here defined as the sum of the taxes, tariffs, and transfers.

Four revenue lines were included in the ''tariffs'' category: water sales (*Wasserverkauf)*, drainage services (*Entwässerungsleistungen*), house service connections *(Hausanschlüsse*), and liquidation of construction grants recorded as liabilities (*Auflösung passivierter Baukostenzuschüsse*). With regard to taxes, the receipt of investment subsidies (Investitionszulagen) are listed as part of the item "other operating income". While it can be assumed that these investment subsidies are received from the city of Berlin, no further breakdown of the income is provided. Upon contacting BWB, it was stated that this information could not be made public in the current climate, which is marked by criticism towards the performance and partial privatisation of BWB. No revenues were identified as pertaining to the ''transfers'' category.

3 T's classification for Berliner Wasserbetriebe (thousand €)

	2006 Combined	**2007 Combined**	**2008 Combined**	**2009 Combined**	**2010 Combined**	**2010 Water Supply**	**2010 Wastewater / Drainage**
Total income as reported in the financial statement	1,258,049	1,322,349	1,302,589	1,325,428	1,337,793	508,468	857,025
Tariffs	**1,123,951**	**1,117,184**	**1,168,111**	**1,183,137**	**1,194,250**	**429,307**	**752,103**
Water sales	*424,033*	*396,219*	*415,834*	*418,317*	*422,328*	422,328	
Drainage services	*679,694*	*699,438*	*730,637*	*743,379*	*746,965*		746,965
House service connections	*9,797*	*10,393*	*9,861*	*9,141*	*12,117*	6,979	5,137
Liquidation of construction grants recorded as liabilities(1)	10,426	11,132	11,779	12,299	12,838	n/a	n/a
Taxes							
Regional (1)	Unknown (Information withheld by BWB)						
State							
Transfers	**0**	**0**	**0**	**0**	**0**	0	**0**
EU							

(1) Investment subsidies (Investitionszulagen) listed as sub-category under Other Operating Income.

Spain

In Spain, due to the low level of centralisation of the country's structure, no single organisation manages water services at the national or regional level. Instead, the structure is rather complex, involving a number of actors at different levels. Here, both the national government and the autonomous communities are involved in the development and enforcement of water policy and regulation (through national ministries and regional agencies and/or river basin authorities) while the lowest level of government (i.e., the municipalities) is ultimately responsible for the administration of water services to the end user. This means each one of the 8,116 municipalities of the country has the competence to provide the water services in its area of jurisdiction. Municipalities have the choice to manage such services individually within their boundaries or to organise themselves into Local Water Entities (ELA)[6] which run the water services in an integrated area covering a number of municipalities. Additionally, water services may be provided through public, private, or joint companies (public-private partnerships).[7] The combination of all the factors mentioned above has led to the existence of a substantial number of water service administrators in Spain. For instance, the Spanish Association for Water Supply and Sanitation (AEAS)—a non-profit association of public and private entities and stakeholders that promotes the development of various aspects of urban water supply and sanitation services—is integrated by 330 members of which 135 are water supply and/or sanitation administrators providing services to over 35 million people in more than 1,700 municipalities.[8]

- Tariffs: Tariff regulation is another subject involving various actors, namely the Committee of Prices, municipalities, and operators. The mission of the Committee of Prices (entity dependent on the autonomous communities) is to control prices for regulated services, inter alia water supply and sanitation. Tariff proposals are presented by operators to the municipalities, who in turn review, approve, or modify them before finally presenting them to the committee. In Spain, tariffs are the element used to cover the costs incurred in the water supply and sanitation services, while infrastructure is financed with public and/or private funds. Generally, the tariff structure across Spain is set on a binomial basis, where the consumer has to pay a fixed yearly amount and a variable figure that depends on consumption levels. This tariff includes supply (extraction, treatment, distribution, etc.) and sanitation (collection and treatment) costs.

- Taxes: Public companies and PPPs have been found to receive subsidies from the administration of the respective autonomous communities and the municipalities and, as expected, to be exempt from tax contribution. Subsidies come mostly in the form of investment in infrastructure projects and transfers that may originate at the national or regional levels of government and find their way to the utilities and infrastructure owners through municipalities or local water entities. On the other hand, financial aid

[6]According to the definition by the Catalan Water Agency (ACA), a local entity or group of entities which have the legal status and capacity to manage the water supply and wastewater treatment systems of the municipalities under their representation.

[7]In a joint company model the management and control of the different phases of the water cycle are shared between a private entity and the corresponding municipality.

[8]http://www.aeas.es/

provided to private companies in the form of tax exemptions, soft grants, or similar mechanisms has not been clearly identified by our investigations. Here, only a special form of tax credit is considered. The tax credit is received under the conditions to reinvest the funds and retain the assets obtained through this investment for a certain period of time. Private companies may also benefit from their participation in PPPs when the partnership is accredited with a subsidy.

- Transfers: Spain has since long been a beneficiary of EU Community funds like the Cohesion Fund and the European Regional Development Fund (ERDF). For instance, between 2000 and 2006 EUR 11.16 bn (60% of the overall total for the period) from cohesion funds were granted to Spain (as mentioned earlier, a good proportion of this sum was dedicated to water supply and wastewater projects).[9] In the same period, grants from the ERDF to Spain accounted for over EUR 1.13 bn for investment in the field of wastewater, while EUR 1.21 bn were awarded for use in the water supply area.[10]

Case study: Water supply and sanitation services in the city of Barcelona

In order to understand the complex structure of the water sector in the city of Barcelona, an approach which outlines each phase of the integrated water cycle and the actors involved in them is appropriate. This study briefly describes the entities involved in WSS services in Barcelona from the catchment level to the retrieval and treatment of wastewater.

At the catchment level, the Catalan Water Agency (ACA) is the entity with legal competences over the water reservoirs and the desalination plant which supply the city of Barcelona. The ACA is a public company of the Government of Catalonia in charge of executing regional water policy and regulation. It also owns and operates the five reservoirs supplying Barcelona with water and invests in infrastructure and operations in other phases of the water cycle.

Extraction, treatment, and upstream distribution of the water supplied to the city of Barcelona is managed by two companies, AigüesTerLlobregat (ATLL) and Aigües de Barcelona (Agbar). ATLL is a public company owned by ACA and its main business is to supply potable water to downstream operators; its reach extends to a total of 88 municipalities. On the other hand, Agbar is a private company whose main activities include the supply of integrated water cycle services to both public and private entities and individuals for industrial and residential use.[11] For the purposes of this study, it is important to clarify that in the specific case of the city of Barcelona, Agbar is responsible only for the production and distribution of water to end users, while the sanitation services are provided by other entities (see below).Of the water production facilities which supply the Metropolitan Area of Barcelona, two water treatment plants are owned and operated by ATLL, while a third one is owned and operated by Agbar. The desalination plant that has operated since 2009 is owned by ATLL but operated by a consortium that includes Agbar and other companies.

[9] http://www.acuamed.es/fondos_europeos.asp

[10] ADE (2009)

[11] Agbar, Annual Report 2010

Downstream services (excluding urban sewerage and drainage) in the metropolitan area of Barcelona are regulated by the Metropolitan Entity of Environment (EMA), the environmental chapter of the Community of the Metropolitan Area of Barcelona. The EMA functions as a local water entity for the 33 municipalities integrating the community and has full competences in the administration of water supply services and partial competences in sanitation services[12] in the area in addition to a supervisory role on the use and maintenance of existing infrastructure. To fulfil its duties, the EMA delegates part of the water cycle service provision to private, public, and joint entities and coordinates funding and investment coming from the various levels of government. For instance, in the city of Barcelona, Agbar holds the concession from EMA to provide water supply services to end users.

Urban sewerage and drainage services for the collection of waste water in the city of Barcelona, including infrastructure investments, are the responsibility of the local government, i.e., the Barcelona City Council. In similarity to the aforementioned concession given by the EMA to Agbar, the city council has established concession contracts with Clavegueram de Barcelona (CLABSA) for the planning and development of the drainage and sewer system and with Fomento de Construcciones y Contratas (FCC) for the cleaning and maintenance of the same. CLABSA is a public-private partnership among whose stakeholders rank Agbar and the Barcelona City Council. Its main business is the planning, control, and technical exploitation of the urban sewerage and drainage system.[13] FCC is a private company which provides a diversified palette of public services including water and environmental services, renewable energy, and construction.[14]

Lastly, waste water treatment responsibilities belonged originally to ACA, who, in the case of the Metropolitan Area of Barcelona, granted their administration to EMA. Through its public company EmpresaMetropolitana de Sanejament (EMSSA), the EMA provides wastewater sanitation services to the metropolitan area of Barcelona. The main activity of EMSSA is the management of 7 wastewater treatment plants owned by EMA. Since no revenues are generated from these services, funding flows in the same way as the responsibilities, i.e., from ACA, through EMA, to EMSSA.

In constructing the 3Ts for the city of Barcelona, an important consideration must be made regarding the companies described above. Funds related exclusively to WSS services originate mainly from the end user's tax and tariff payments together with financing from the National Government and the EU. These funds flow mainly through the ACA (income in the form of levies and financing from the national budget, expenses in the form of compensations to EMSSA, and investments in ATLL), Agbar (income in the form of fees and expenses in the form of payments to ATLL), and the Barcelona City Council (income in the form of taxes, financing from the regional budget; expenses in the form of payments to CLABSA and FCC), and thus the focus of the 3Ts exercise should centre only on these 3 entities, as described below.

Agbar's revenue was taken from the financial reports documenting the company's activities exclusively in the water sector of the metropolitan area of Barcelona. Due to the unavailability of disaggregated values, the figures belonging to the city of Barcelona are approximations based on the proportion of the population of the city of Barcelona relative to that of the

[12]Competences on urban sewerage and drainage services belong to the local administration.

[13]www.clabsa.es

[14]www.fcc.es

metropolitan area. As such, the calculated revenues were included in the ''tariffs'' category. The only figures considered for the ''taxes'' category belong to a special tax credit denominated 'reinvestment tax credit'. No revenues were identified as pertaining to the ''transfers'' category.

The figures used for the "tariffs" section of ACA are based on the income originating from the charge of a 'Water Cycle Levy' (Cànon del cicle de l'aigua)[15]and were extracted from the annual budget reports of the Catalan Government. Given that the figures were only available for the regional level, a proportional approximation similar to that performed for Agbar was calculated to obtain the data for the city of Barcelona. "Taxes" for ACA's activities related exclusively to the city of Barcelona were extrapolated from the capital transfer figures under the categories denominated 'From the Public State Sector' and 'From Local Councils' found in the annual report of the Catalan Government. The same procedure was followed for the "Transfers" figures of 2006 and 2007, considering the capital transfers classified as 'Transfers from the EU' and 'Other Foreign Transfers' in the respective years' annual reports. The information for the other 3 years was facilitated by representatives of the agency.

Finally, the 3T's for the Barcelona City Council were also obtained. The "Tariffs" category was identified as the income from the 'Sewerage Tax' and extracted from the council's budget reports. The "Taxes" section was considered as the difference between expenses (including investment) and income (sewerage tax). Here, a loss is assumed to indicate increased investment or operating expenses which must then be covered through public funding. In the case of "Transfers", information was not readily available. The figures included in the table were extracted from the latest annual reports of one of the council's subsidiaries, which outline the approval of 51.4 million EUR from the EU (ERDF) for the years between 2007 and 2013 to be used mainly on infrastructure projects.

The table below presents the funding structure according to the 3Ts methodology for these 3 entities for the years 2005-2009. As mentioned above, figures were taken mainly from the companies' published financial statements or annual budget reports and, where necessary due to lack of disaggregated information, figures were approximated based on population proportions.

3T's classification for the city of Barcelona (thousand €)

	2005	2006	2007	2008	2009
INCOME	587,907	241,233	311,836	396,676	561,232
Tariffs	**218,119**	**223,101**	**231,622**	**260,284**	**259,043**
Agbar[(1)]	*127,705*	*130,533*	*143,113*	*167,360*	*162,857*
ACA[(2)]	*74,264*	*75,850*	*71,256*	*76,261*	*79,505*
Barcelona City Council[(3)]	*16,150*	*16,718*	*17,253*	*16,663*	*16,681*
Taxes	**6,188**	**6,567**	**58,435**	**45,269**	**111,696**
Agbar[(4)]	*6,188*	*6,567*	*25,850*	*15,099*	*n/a*
ACA	*0*	*0*	*30,261[(5)]*	*30,112[(6)]*	*83,565[(7)]*

[15] For more information please visit: http://aca-web.gencat.cat/aca/appmanager/aca/aca/

Barcelona City Council[8]	*0*	*0*	*2,324*	*58*	*28,131*
Transfers	**363,600**	**11,565**	**21,779**	**91,123**	**190,493**
Agbar	*0*	*0*	*0*	*0*	*0*
ACA	*363,600*	*11,565*[9]	*14,436*[10]	*83,780*	*183,150*
Barcelona City Council[11]	*n/a*	*n/a*	*7,343*	*7,343*	*7,343*

[1] Proportional approximation for the city of Barcelona extrapolated from the revenue figures for the metropolitan area of Barcelona found in Agbar's annual reports. Proportion based on population figures.

[2] Proportional approximation for the city of Barcelona extrapolated from the income from the '*Water Cycle Levy*' (Cànon del cicle de l'aigua) found in the annual report of the Catalan Government. Proportion based on population figures.

[3] Income from the 'Sewerage Tax' found in the budget reports of the Barcelona City Council.

[4] Proportional approximation for the city of Barcelona extrapolated from the '*Tax Credits*' figures for the metropolitan area of Barcelona found in Agbar's annual report for 2008. Proportion based on population figures.

[5,6,7] Proportional approximation for the city of Barcelona extrapolated from the capital transfer figures '*From the Public State Sector*' and '*From Local Councils*' found in the annual report of the Catalan Government. Proportion based on population figures.

[8] Calculated based on the difference between expenses (including investment) and income. When the former is greater than the latter, the loss is assumed to be covered through government funding.

[9] Proportional approximation for the city of Barcelona extrapolated from the capital transfer figures '*Transfers from the EU*' and '*Other Foreign Transfers*' found in the annual report of the Catalan Government. Proportion based on population figures.

[10] Proportional approximation for the city of Barcelona extrapolated from the capital transfer figures '*Transfers from the EU*' found in the annual report of the Catalan Government. Proportion based on population figures.

[11] Yearly figures calculated based on an even distribution of 51.4 million EUR from EU funding for the period 2007-2013.

France

In France, the provision of drinking water and wastewater services falls under the competence of the municipalities. The municipal "communes" are the principle actor, and either manage water and wastewater services directly, set up public companies, or contract out the services to private companies. There are six principle companies which handle the majority of these contracts. The 2010 Annual Report of the French National Water Association (FP2E) indicates that only 29% of water delivery services and 44% of wastewater services are through public operators.

Bills collected from customers connected to the network are distributed amongst the State as taxes, the local authority or the private operators, and service charges for abstraction from the water agencies. These different players then transfer the revenues among themselves as appropriate. Other players involved are the *départements* and regions, both for investments and operations.

At the national level, there is information available in France which would allow a translation to the 3Ts method of the fund flows for 2006 and 2008 presented in the Annual Report of the French National Water Association (FP2E) for 1) water and wastewater services, 2) water service, and 3) wastewater service. See table below.

Application of the 3Ts approach to the fund flows: public water and wastewater services in France (2006/08 in millions of Euros)

	2006			2008		
	Water supply	Wastewater	Sum	Water supply	Wastewater	Sum
Tariffs (exc. Charges)[1]	6373	3373	9746	5767	4214	9981
Private operators (exc. charges)	*3403*	*1327*	*4730*	*4216*	*2461*	6677
Local authorities	*2970*	*2045*	*5015*	*1551*	*1753*	3304
Taxes	281	1455	1736	545	1780	2325
From departments and regions to local authorities	*163*	*423*	*586*	*255*	*816*	1071
From water agencies to local authorities	*107*	*1027*	*1134*	*283*	*957*	1240
From water agencies to private operators	*11*	*5*	*16*	*7*	*7*	14
Transfers[2]	0	0	0	0	0	0

1 Charges: Abstraction charge to water agencies and general taxes (inc. TVA and VNF) amount to €612 Million for water supply. For wastewater companies, state taxes accounted to €252 Million and pollution service charges to €1212 Million respectively.

2 The FP2E study reports advanced payments for projects which account for € 30 and € 173 Million for water supply and wastewater sector respectively. This item is related with loans or grants. If EU money is involved is a transfer or if it is a loan from a Bank outside France. It would be necessary to include in this category an assessment of the difference between the conditions of the soft loan (if any) and market rate competitive interest rates.

For the application of the 3Ts method, taxes and services charges collected by the central government (this constitutes the value-added tax (VAT) and VNF (French waterways) tax which are paid to the state and the public corporation Voies Navigables de France, which is responsible for French waterways) need to be excluded from the tariffs (revenues) category. Tariffs should then only include revenues from water bills paid by customers to the local authorities and private operators. It is important to note that in France private operators transfer approximately 30% of the billings they collect to their local authority clients (EUR 2,022m out of EUR 6,753m in 2006) in our opinion this is a tariff which is available to the local water authorities to invest in publicly owned water companies that are the infrastructure owners.

In terms of taxes under the 3Ts, the *départements* and region granted local authorities subsidies of EUR 586m in 2006. In addition, the water agencies receive two kinds of service charge based on the scales and rates set for each of the six major catchment areas: the water abstraction charge and the pollution combat charge. These sums are ploughed back into the water and wastewater fund flows through investment assistance. In the FP2E report these figures are included as subsidies, and they therefore have been incorporated into the

taxes category in the table shown above. This is a plausible categorisation as long as the water agency manages the distribution of these funds and decides unilaterally where to finance investment. Under these circumstances, this item is treated in this methodological guide as a tax (subsidy) according to the 3Ts method.

Case study: The city of Brest Métropole Océane (BMO)

BMO operates both water and waste water services. It encompasses 8 "communes" or municipalities located in Bretagne with a total of 210,000 inhabitants. It should be noted that in 2012, Brest MétropoleOcéane will be contracting Véolia to operate its water services.

The BMO Budget incorporates different budget lines into broad categories which are not necessarily in sync or compatible with the 3Ts terminology. For instance, the total for operating revenues includes subsidies, some direct tariffs are referred to as taxes, and some forms of capital revenues (cash reserves, transfers from other areas, TVA (sales tax) refunds) may not be easily categorised. The table below presents the funding structure according to the 3Ts methodology for BMO for the year 2010. Figures were taken from the BMO budget of the corresponding year. The table takes elements from the operating and capital revenues which meet 3Ts criteria and compares total revenues with those provided in the Brest Métropole Océane budget.

Three revenue lines were included in the "Tariffs" category: mitigation costs, sales of manufactured products, and other current management products. Four revenue lines were included in the "Taxes" category: operating subsidy, equipment grants from the Water Agency, equipment grants from the *département*, and equipment grants from the municipal "communes". No revenues were identified as pertaining to the "Transfers" category. The sum of the taxes and tariffs do not add up to the total reported revenue; in fact, they make up only 18.2% of the total revenues. This disparity corresponds in large part to debts and loans but also, amounting to a much smaller sum, to depreciation, various funds and reserves, the sale or extraordinary products, and fixed assets under construction.

3T's classification for Brest MétropoleOcéane Water, Waste Water, and Combined Budget for the year 2010

	Water Services	Wastewater Services	Combined Services
2010			
Revenues from 3Ts (T= a+b+c)	4806130	7880742	12686872
Tariffs (a)	4223057	6847324	11070381
ventes de produitsfabriquésprestations… - sales of manufactured products services ...	3553709	6455202	10008911
autres produits de gestion courante - other current management products	424348	392122	816470
Taxes (b)	583073	1033418	1616491
subvention d'exploitation – operating subsidy	10		10
subvention équipement État- Agence de l'Eau – equipment grants of Agence de l'Eau (1)	418869	1033418	1452287

subvention d'équipement-Département – equipment grants Department (2)	2986		2986
subvention d'équipement-Communes - equipment – equipment grant Communes (3)	151218		151218
subventions d'investissement - Investment grants (1+2+3)	573073	1033418	1606491
Transfers (c)	0	0	0
Expenditures	34098381	41073453	75171834
Operating [1]	2753846	7472415	10226261
Capital[2]	27563901	30501076	58064977
Total reported revenues (d)	30646605	39060377	69706982
reported operating revenues	4665278	8367000	13032278
reported capital revenues	25981327	3749000	29730327
Total reported revenues-expenditure	-3451776	-2013076	-5464852
Revenues excluding 3Ts (d-T)	25840475	31179635	57020110
Revenue lines not included in the 3Ts	30282777	23180028	53462805
Emprunts et dettes assimilées - Loans and debt	24882000	21467750	
Empruntseu Euro- Debt in Euro	6882000	10300000	
Operations afférentes a l'emprunt- Operations concerning loans	11000000	7000000	
Operations afferents à l'option tirage sur ligne trésorerie- Operations concerning	7000000	3000000	
Autresdettes- Other debts		1167750	
Dotations, fonds divers et réserves - Depreciation, various funds, and reserves	1613141	313429	
Autres immobilisations financières- other fixed assets	3787636		
Créance sur transfer de droits à déduction de TVA-	3787636		
Produitsexceptionnels – Extraordinary products		1145000	
Immobilisation en cours- Fixed assets under construction		253849	

The Netherlands

In the Netherlands, the national government is responsible for creating the framing conditions (laws and policies) and for monitoring the water sector. The water boards together with the Department of Public Works and Water Management are responsible for the quality and quantity of regional water in the Netherlands. The water boards monitor physical water levels in their region and discharge water if necessary. They also treat wastewater, control the quality of surface water and physically maintain waterways and canals. Water companies and water boards work together in some regions, as both benefit from clean ground, clean rivers and canals. The umbrella organisation of the water boards is the Association of Dutch Water Boards (Unie van Waterschappen).

A total of ten water companies produce and distribute drinking water in the Netherlands. In addition to these ten water companies, the water transport company Rijnkennemerland (WRK) and the water extraction company BrabantseBiesbosch (WBB) are active in delivering raw water to drinking water companies and to industry. With the exception of Waternet (Foundation), the water companies are public companies owned by municipalities and provinces.

Municipalities are responsible for collecting and discharging wastewater via the sewer system and the laying out of the urban and surrounding areas.

- Taxes, tariffs, and transfers: The Dutch drinking water sector does not receive any transfers or taxes – all costs incurred by the water companies, including capital costs, are covered by tariffs. The Dutch wastewater sector, however, mainly receives subsidies from the Dutch government. The origin of these payments is not clear. Additionally, the water boards (waterschappen) received EU funding but only to a little extent – in total the transfers in the wastewater sector between 2001 and 2007 added up to an average of EUR 231m per year.

Case study: Vitens

Vitens N.V. is the largest drinking water company in the Netherlands and supplies the provinces of Friesland, Overijssel, Flevoland, Gelderland and Utrecht, as well as a number of municipalities in Noord-Holland and Drenthe.

Table below presents the funding structure according to the 3Ts methodology for Vitens for the years 2006 to 2010. Figures were taken from Vitens' financial reports from the corresponding years. The table takes revenue lines from the report and assigns them to one of the 3Ts categories.

As expected, no revenue lines pertaining to taxes or transfers were identified. All revenues pertain to the ''tariffs'' category. These revenue lines are: supply of drinking water and Standing charges. Other types of revenues were identified but not were included in the table . The revenues from the 3Ts makes up 85% of total operating income from business activities (in 2010).

3T's classification forVitens (mil €)

	2006	2007	2008	2009	2010
Total income as reported in financial statement		457.2	450.3	**445.9**	**453.6**
Tariffs (1)		437.8	429.4	424.1	424.9
Taxes		0	0	0	0
Federal		0	0	0	0
State		0	0	0	0
Transfers		0	0	0	0

(1) Includes revenues from supply of drinking water and standing charges, income from changes to service addresses and collection, income from connections and income from fire hydrants and sprinklers; further revenue is available (see "other operating income" and "financial income")

UK

The UK water industry consists of 12 water and sewerage service providers and 14 water suppliers. In England and Wales the companies are privately owned. Scotland has a single water and sewage service provider, Scottish Water which is publically owned but relies upon private companies for the delivery of many services.

To finance the water sector, a proportion of the household water bill in the UK pays to support capital investment. This includes costs for essential work to maintain and improve water quality and infrastructure, but also costs to develop resources to meet growing water demand in the UK. In England and Wales the Water Services Regulatory Authority (Ofwat) is the body assigned to protect customers' interests and ensure that the water companies finance and carry out their functions properly. Ofwat carries out price reviews of the water industry in England and Wales every five years. At each price review, the regulator determines an appropriate cost of capital for the industry. This is the return to investors for providing the finance that is needed to pay for capital investment. Additional finances may also be available through support from the EU. The European Fund for Regional Development (EFRD) provided the UK approximately EUR 43,404,298 for wastewater activities and EUR 80,309,721 of funds to water supply activities. It also received an additional EUR 9,373,000 in funds dedicated to water through mixed environmental funds through the EFRD

Case Study: Bristol Water

Bristol Water[16] provides only water services. The company is part of the Spanish Grupo Agbar. It supplies 235 megalitres per day (2009/10) of drinking water to over 1 million customers in a 2,400 km^2 area centred on Bristol,

Accounting convention: The accounts of the company are prepared under the historical cost convention and in accordance with applicable accounting standards in the United Kingdom (UK GAAP) and with the provisions of the Companies Act 2006, except for the treatment of certain capital contributions.

The funding structure according to the 3Ts methodology for Bristol Water years 2009 and 2010 is presented below. Figures were taken from the company's annual report for the corresponding years. Values for the 3T classification are taken from the profit and loss accounts, as to reflect the potential cost recovery in a given year and as to reflect the amortized investment costs.

One revenue line was identified as pertaining to the ''tariffs'' category: net cash inflow from operating activities. No revenue lines were identified as pertaining to the ''taxes'' or the ''transfers'' categories. The tariffs make up 48% of total turnover (revenue) for the year 2010.

The total revenue for water for Bristol Water in 2010 was EUR 99,7m and is derived from water services and related activities. As reported in Bristol Waters' 2010 Annual Report, "turnover comprises charges to and accrued income from customers for water and other services, exclusive of VAT." Therefore, this is attributed to charges from customers and is included as the tariff in the 3Ts methodology.

[16]Source: Bristol Water, 2010 Annual Report, http://www.bristolwater.co.uk/pdf/aboutUs/companyReports/bwAnnualReport10.pdf

3T's classification for Bristol Water

£m	2009	2010
Income		
Tariffs (1)	96.7	99.7
Taxes	0	0
Transfers	0	0

(1) Derived from water supply and related activities (charges to customers).

Poland

Most Polish waterworks are small utilities with income below 1 million PLN/year. There are 1365 water and sewage companies. Many of the companies operating in water and wastewater are assembled under the Economic Chamber Polish Waterworks (Izba Gospodarcza Wodociagi Polskie), a nation-wide organisation for territorial self-governments created in 1992 (it comprises approximately 450 companies from the water sector).Private ownership of water companies is not common and Public Private Partnerships have so far not been popular, but are recently increasingly considered as an option to cover necessary investment.

Water supply and wastewater treatment institutions and companies in Poland seem to take most of their income from tariffs. According to law, waterworks in Poland have to operate on income from tariffs and the responsibility for setting them lies with the water companies, subject to approval from the local municipal councils. Water companies determine their tariffs yearly, based on customer income, volumetric pricing and their long-term investment plan. Poland uses a pricing system based on volumetric pricing, without fixed charges. Income from tariffs should cover costs concerning water intake, treatment, distribution and infrastructure development.

There exists other sources of funding for water and wastewater infrastructure. These include municipal funds, the National and Regional Funds for Environmental Protection and Water Management, commercial banks, investment funds and foreign donor assistance. The National Fund for Environmental Protection and Water Management[17] (Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodnej) was established in 1989 and functions as a basis for the Polish system of financing environmental protection. It is difficult to separate the funds administered by the National Fund for Environmental Protection and Water Management according to the 3Ts, because it manages both funds collected from fees, penalties and permits nationally, as well as those stemming from the EU (considered transfers under the 3Ts approach). The revenue from penalties is collected and distributed to the National and Regional Funds for Environmental Protection and Water Management. All charges and fines

[17] Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodne. Accessed at: http://www.nfosigw.gov.pl/en/nfosigw/

must be earmarked for investments and expenditures to reduce pollution and protect the environment, for example through reducing wastewater discharges.

An important source of funding for the water and wastewater infrastructure in Poland is foreign donor assistance. One source is the European Bank for Reconstruction and Development (EBRD), which has a specific programme for municipal and environmental infrastructure investment. In 1999 only 25% of investment in the water and wastewater sector was financed from the utilities' own resources, while the remaining investment came from the National and Regional Funds for Environmental Protection and Water Management (it is unclear how much of this was non-national). During the accession period, the EU provided ISPA funds, to help accession countries attain EU standards. Between 2000 and 2006 Poland received approximately EUR 300m each year.

Since Poland's accession to the EU in May 2004, investments in the environmental sector received a boost through EU funding mechanisms that aimed at helping Poland to bridge the gap from national requirements to the high standards of EU Directives. Finally, companies can direct themselves towards the Ministry of Regional Development to ensure additional financial resources for activities within the Priority I of the Operational Programme for Infrastructure and Environment. The Regional Funds for Environmental Protection and Water Management[18] (Wojewódzkie Fundusze OchronyŚrodowiska i Gospodarki Wodnej) offer funding of up to 80% of project costs for projects relating to environmental protection and water management.

Case Study: Wodociagi Warszawskie

Wodociagi Warszawskie (MPWiK SA) is the municipal water and sewage company of the City of Warsaw since 1886. The company carries out large investment projects to improve water and sewage of the city. In 2010, MPWiK SA completed a strategic project aimed at improving the quality of the water supplied to its residents and reducing the amount of untreated sewage discharge. The investment was mostly covered through the Cohesion Fund (60% which amounts to EUR 110 701 620).

3 T's classification for Wodociagi Warszawskie

In thousands PLN	2006	2007	2008	2009
Income				
Tariffs (1)	605041	631322	749425	833193
Taxes (2)	n.a.	n.a.	1703	4617
Transfers (3)	4184	6284	9490	64787

1) 'Net revenues on sales and sale equivalents'. Further revenue is available under other operating income, which includes 'Revenue of sale of non-financial non current assets', 'Subsidies' (classified as Taxes under the 3Ts method) and 'Other operating revenue'. The latter is likely to include some transfers from EU money, but it is unclear to what extent and thus the figure has not been included in the 3Ts approach.

[18] Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodne. Accessed at: http://www.nfosigw.gov.pl/wfosigw/dane-kontaktowe/

(2) Only available for 2008 and 2009. This figure stems from the section 'Other operating revenue' and appears as 'Dotacje / Subsidies' on the Income statement / Profit and Loss accounts

(3) From Cohesion Fund: this figure is not included in the Income statement / Profit and Loss accounts but from an external source (see case study in the Annex).

The total revenue of the Wodociagi Warszawskie from water and wastewater provision and services as reported in the Income Statement / Profit and Loss accounts, amounts to PLN 927,163m, which includes 'Net revenue on sales', 'Other operating revenue' and 'Financial income'. Revenue as calculated with the 3Ts approach amounts to PLN 837,810m, which excludes 'Financial income' as well as 'Other operating revenue', except for the position of 'Subsidies' which is classified under 'Taxes' according to the 3Ts approach. The discrepancy of PLN 89.353m comes from subtracting the lines selected as relevant according to the 3Ts approach from the total income as stated in the Income Statement / Profit and Loss accounts.

Denmark

In Denmark, around 2,700 utilities supply water to 5.5 million consumers, with 80 municipally owned water utilities supplying 2/3 of the Danish population. This decentralized structure arose due to the traditional user-ownership structures in the sector and the availability of groundwater as a resource which requires only little treatment of water. The sewage network and sewage treatment plants are owned by the 98 municipalities; in some cases there are inter-municipal partnerships. The wastewater sector is thus less decentralized than the drinking water sector (Moll Sørensen, 2010).

The municipalities are responsible for use and protection of water resources, (incl. abstraction permits) and for monitoring of water quality (incl. authorisation to discharge wastewater). Municipalities are also responsible for the overall planning of water supply and wastewater infrastructure and to ensure the compliance with laws and regulations. Water utilities can be either public or private in Denmark. Private operators, which are owned and run by consumer cooperatives and are not-for-profit companies, mostly supply villages, while public operators, which are owned by municipalities, usually supply more densely populated areas. Water utilities (sewage networks and wastewater treatment plants) are with minor exceptions owned solely by local authorities (EUREAU, 2008).

With the goal to incentivize efficiency and consolidation in the Danish water sector, a water sector reform was passed in 2009. The reform entailed that municipally owned entities after January 2010 are mandatory organised as public limited companies or in a few cases like inter-municipal partnerships. The reform also introduced a new regulatory authority with the aim to set price ceilings (centralized) and perform benchmarking exercises (Moll Sørensen, 2010). This economic regulator is called "Forsyningssekretariatet" – The utility secretariat. From 2011 onwards, the tariffs are set by the water companies (and approved by the municipalities) according to the Water Sector Act and the cap set by "The utility secretariat".

The tariffs for water and wastewater services cover the full costs (including investment costs) of the operators. For drinking water services, consumers pay a onetime connection charge and subsequently a yearly composite fee (part variable and part fixed). For wastewater services, a onetime connection fee and a subsequent variable fee are always paid. In some cases a fixed fee is also charged.

In addition, green taxes are charged to the utilities for both services and passed on to the consumer's bill. These green taxes vary with the volume of water consumed and the degree of treatment of wastewater. Consumers also pay VAT on the services used.

All in all, the service bill for consumers in 2009 consisted of 22% paid for drinking water services, 48% paid for wastewater services and 30% were transferred to the Danish State. (DANVA, 2010)

Municipalities pay a maximum of 8% of the investment costs for wastewater facilities annually (The Sewage Payment Act) for the discharge and treatment of water from roads. This amount is to be seen as a tariff within the utilities' revenue streams, as it is paid for the discharge of water, where the road authority (the Municipality) is equal to other customers.

Case Study of Vand Center Syd (VCS)

VCS is the third largest water and wastewater services company in Denmark, with its headquarters located in the city of Odense since 1853. VCS's main operational activities include the abstraction, treatment and distribution of water, as well as the removal, treatment and disposal of wastewater. In addition to these water and wastewater services, VCS engages in activities relating to water resource protection, recipient protection, hydro-geological surveying, the establishment of well-fields, leakage detection and network modelling, pipeline registration and rehabilitation. VCS further offers consultancy services and hands-on training programmes in leakage detection, NRW reduction, energy optimisation and CO2 reduction as well as process optimisation and capacity building nationally and internationally.

In 2010, VCS supplied 155,000 people with 9,100 million litres of water via 1,014 km of pipelines and treated 28,300 million litres of wastewater via 1,437km of sewers.

3Ts classification for Vand Center Syd

	2010			2009 (2)			2008 (2)		
(tkr.)	Water services	Waste-water services	Total Services	Water services	Waste-water services	Total Services	Water services	Waste-water services	Total Services
Revenue	92,579	255,495	348,388	77,981	252,294	338,963	84,607	228,557	320,275
Tariffs (1)	**89,136**	**252,052**	**341,188**	**77.981**	**252,294**	**330,275**	**84.607**	**228,557**	**313,164**
M^3	60,748	230,639	291,387	51.616	218.071	269.687	55.417	199.007	254.424
Connection fee	4,340	13,950	18,290	2.503	16.503	19.006	5.318	18.658	23.976
Meter fee	24,048		24,048	23.862		23.862	23.872		23.872
Non-recurring income for investment (3)	n/a	7,463	7,463	n/a	17.720	17.720	n/a	10.892	10.892
Taxes	**0**	**0**	**0**						
Transfers	**0**	**0**	**0**						

(1) Tariffs excluding VAT and green charges; Tariffs include m^3 charges, connection fee, meter fee and non-recurring

income for investments, the remaining revenue items, i.e. Income Subsidiary and Other financial income (interest income) are not included.

(2) Subsidiary was separated from water and wastewater operations in 2010

(3) Odense Municipality pays each year 8% of investment in infrastructural facilities at the Wastewater utility (8 % is maximum according to The Sewage Payment Act) . The amount is a part of the financing of investments to be carried out extra to receive rainwater. The amount is a non-recurring income in the income statement

The total revenue (as reported in the financial report) in 2010 for water and wastewater is KR 348,388,000, while the revenue as calculated with the 3Ts approach is KR 341,188,000. The discrepancy of KR 7,200,000 originates from the selection process when attributing the various revenue lines in the financial statement to each of the 3Ts. The revenue streams covered in the discrepancy include the items Income from subsidiary (consulting services), and Financial income (interest revenues). These revenue streams do not directly relate to tariffs, taxes or transfers.

Italy[19]

The Italian water sector has been substantially transformed by the recent legislative decrees in 1994 (Decree n. 36; "Galli Law") and in 2006 (Decree n. 152; "Environmental Law").

To date, municipalities own water networks and water facilities and manage integrative water services via *Territorial Authorities*. The "Galli Law" introduced the integrated management of water services, i.e. the whole water cycle needs to be managed in an integrated manner.[20] It further introduced the idea of *Optimal Territoral Units,* i.e. the agglomeration of municipalities to units according to hydrographic basins or sub-basins, adequacy of management size and unitary management of operations. As such, 8,000 public and private water management entities were transformed into 92 territoral units, headed by *Terratorial Authorities,* which considerably increased economies of scale and scope.

The Territorial Authorities prepare and update the "Territorial Plan" that includes the programme of infrastructural actions which identifies extraordinary maintenances and new infrastructure needs and considers the actions identified in the River Basin Management Plans. Further, they draft the economic and financial plan, which includes the annual management and investment expenditures, public funding, as well as the management and organisational structure. In addition they determine the water tariff in accordance with a decree issued by the Ministry of the Environment on "Standard Methods for the Determination of Tariffs". According to this decree, tariffs have to recover operation and maintenance costs, as well as capital costs and cover costs related to safeguarding zone management (compliance with WFD, Art 9). As the "Galli Law" further introduced the separation of controlling and supervisory functions from business and management functions. As such, the Terratorial Authorities are assigned controlling and management

[19] This case study has been kindly provided by Lucia Fiumi on behalf of Gaia Checcucci (The Arno River Basin Authority - International Relations Office) and has been edited by Ecologic Institute to fit the standardized presentation of case studies.

[20] The water cycle includes: water abstraction, water supply, drinking water treatment and distribution, wastewater collection and treatment.

functions and they contract out water services to operators (including the drafting of the contract and allocating the services).

Most recent legal changes will result in the establishment of a National Agency for regulation and supervision of the water sector, which is legally independent from the government. This agency will also take over the functions from the Ministry of Environment related to the setting of tariffs.

The Italian water and wastewater sector receives transfers from the European Regional Development Fund (mostly as regards to Southern regions and the Islands) and from the Cohesion Fund. In addition, support is received from State and regional funds to finance specific infrastructure projects via institutional agreements and Memoranda of Understanding.

Case Study: Publiacqua

Publiacqua manages the integrated water service, i.e. abstraction, treatment and distribution of water as well as removal and treatment of wastewater, in the Optimal Territorial Unit n. 3 Medium Valdarno. This area comprises the four Provinces of Florence, Prato, Pistoia, Arezzo and 49 Municipalities located in Tuscany and supplies a total of 1,277,000 inhabitants. The most important economic activities of the Tuscan Region are located in this area.

Publiacqua was established in Florence in 2000 by the Municipalities. It is a PPP where the private company was selected via a public invitation to tender.

3T's classification for Publiacqua (€)

	2010		
	Water Services	Wastewater Services	Combined Services
Total income as reported in financial statement	96,421,211	78,384,747	174,805,958
Tariffs (1)	94,340,095	75,819,487	170,159,582
Taxes (2)	2,081,116	2,565,259	4,646,375
Revenue Grants	54.240	41.760	96.000
Investment Grants (Plants)	2.026.876	2.523.499	4.550.375
Federal	n/a	n/a	n/a
State	n/a	n/a	n/a
Transfers	n/a	n/a	n/a

(1) Includes revenues from integrative water services ("other operating income" is excluded amounting to water services)

(2) It is uncertain whether these grants are part of taxes or transfers or a combination of both – in this case study they are categorized as taxes.

Further considerations from the case studies

An important item to consider for the development of a manual for the application of the 3Ts method is that some portions of the reported total revenue cannot be included in the 3Ts categories. Additional sources of funding are available but were not included as pertaining to either of the 3Ts category or were not identified at all either because they are aggregated in other types of activities (for example in the case where the provision of water services is not the entity's only source of revenue). Financial statements for each of the case studies do not follow the same method or reporting rules. As a result this section highlights that income streams, amongst other elements, are defined differently across the case studies. The proportion of each of the 3Ts categories in the total funding scheme for each case study has been nonetheless identified. The information below provides a summary of the rationale for the selection of the revenue lines included in each of the 3Ts categories and those revenues lines that were excluded for each of the case studies.

In France the revenues for Brest MetropoleOcéan not included in the 3Ts represent some 82% of total revenues and correspond in large part to debts and loans but also, amounting to a much smaller sum, to depreciation, various funds and reserves, sale or extraordinary products, and fixed assets under construction.

In Germany, the revenues for Berliner Wasserbetriebe included in the 3Ts represent 89% of total revenues. The discrepancy of EUR 134,097,332 originates from the selection process when attributing the various revenue lines in the financial statement to each of the 3Ts. The revenue streams covered in the discrepancy include the items "Other own work capitalised", "Other operating revenue" (including liquidation of special items, revenues from previous periods due to the liquidation of specific debt provisions no longer required). These revenue streams do not directly relate to tariffs, taxes or transfers, or cannot be discerned from non-relevant items, such as the investment subsidies which are included under "other operating income".

In the UK, the total revenue for water for Bristol Water in 2010 was EUR 99,7m and is derived from water services and related activities. As reported in Bristol Waters 2010 Annual Report "turnover comprises charges to and accrued income from customers for water and other services, exclusive of VAT." Therefore, this is attributed to charges from customers and is included as the tariff in the 3Ts methodology.

In Spain, the income from operations of the four WSS entities in Barcelona as reported in their financial statements for year 2009 ads up to a total of EUR 2,031 m. In two cases the 3Ts represent the total income and in the other two they come up to 99% of it. The discrepancies belong mainly to the exclusion of financial income and income from construction operations and equipment sales.

In the Netherlands, the revenues covered by the 3Ts represent some 94% of the total revenues. The discrepancy of EUR 28,7 m originates from the selection process when attributing the various revenue lines in the financial statement to each of the 3Ts. The revenue streams covered in the discrepancy include the items Income from work for third parties, Income from rental and lease, Free-rider compensation (payments for providing invoicing services for third parties), Income from analyses and consultancy, Other income (services rendered to Vitens-Evides International B.V., Evides N.V. and StichtingAansluitingen NL and other incidental income) and Financial Income. These revenue streams do not directly relate to tariffs, taxes or transfers.

In Poland, the revenues covered by the 3Ts represent close to 98% of the total revenue. The revenue lines that were excluded are ‘Financial income’ as well as ‘Other operating revenue’, except for the position of ‘Subsidies’ which is classified under ‘Taxes’ according to the 3Ts approach. The discrepancy of PLN 89,353 m comes from subtracting the lines selected as relevant according to the 3Ts approach from the total income as stated in the Income Statement / Profit and Loss accounts.

Finally, in Denmark, the revenues for Vand Center Syd covered by the 3Ts represent close to 98% of the total revenues (as reported in the financial report). The discrepancy of KR 7,200,000 originates from the selection process when attributing the various revenue lines in the financial statement to each of the 3Ts. The revenue streams covered in the discrepancy include the items Income from subsidiary (consulting services), and Financial income (interest revenues). These revenue streams do not directly relate to tariffs, taxes or transfers.

About the OECD

The Organisation for Economic Cooperation and Development's (OECD) mission is to promote policies that will improve the economic and social wellbeing of people around the world. The OECD's origins date back to 1960, when several European countries plus the United States and Canada joined forces to create an organisation dedicated to global development. Today, the organisation has 34 member countries and works closely with more than another 100 non-member countries.

The Organisation's goal is to build a stronger, cleaner, fairer world. The OECD provides a forum in which governments can work together to share experiences and seek solutions to common problems and works with governments to examine what drives economic, social and environmental change.

In the management of water resources including drinking water supply and sanitation, the OECD is continuing its strong commitment to providing policy guidance on improving water policy through its work on the economic, institutional and policy responses to the water challenge. Namely, that better water management is needed to meet current human needs, sustain economic activities, and achieve environmental goals. In this respect, the OECD provides a forum for the exchange of country experiences and the identification of good practices, and helps to improve the information base for meeting the water challenge. The last few years has seen the release of a number of major reports including *Managing Water for All: An OECD Perspective on Pricing and Financing*, *Private Sector Participation in Water infrastructure: OECD Checklist for Public Action, Pricing Water Resources and Water and Sanitation Services*, *Innovative Financing Mechanisms for the Water Sector*, and *Sustainable Management of Water Resources in Agriculture*. These have served to provide policy insights across a range of challenging economic and policy perspectives in the water sector.

About EUREAU

EUREAU was founded in Brussels in 1975 by the six founding countries of the European Union as a union of national associations of drinking water suppliers.

In the beginning, its main focus was on technical issues and in particular standardisation. Over the years, the scope of EUREAU's activities expanded along with the expansion of the EU institutions and their increasing powers. A milestone in this process was the introduction of the co-decision procedure which has given the European Parliament the power to stop new legislation. The EU attention to stakeholders' engagement as a matter of good governance has also strengthened the legitimacy and role of EUREAU as representative body. In 1998, EUREAU merged with the European Waste Water Group and became the European Federation of National Associations of Water and Waste Water Services.

Over time, EUREAU has progressively enlarged by the adhesion of associations of countries which joined the European Community. Also, the associations of countries member of the European Free Trade Association became members of EUREAU. The status of observer was granted to representative associations of countries in accession negotiations with the European Union. Nowadays, membership covers:

- 25 out of the 27 EU member countries (All but Latvia and Slovenia)
- 3 EFTA countries (Iceland, Norway and Switzerland)
- 1 Accession countries (Croatia)

Today EUREAU is the voice of Europe's drinking water and wastewater service operators which collectively provide water services to more than 400 Million people and reflect the full diversity of the European water service industry across Europe.