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Éditeur responsable : A. VERSONNEN

B-1000 Bruxelles – 44 rue de Louvain

Statistics Belgium

Belgian Water Statistics
Improvements of data flows

Final project report to Eurostat

September 2008

Eurostat Grant Agreement 71301.2006.002-2006.465
Period 01-2007 to 06-2008
Theme: Environment Statistics

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Version 1.1

FOREWORD

The world-wide environmental data collection, established in 1980 by OECD, is since 1990 undertaken jointly by OECD and Eurostat in the so-called "Joint Questionnaire". It provides basic data allowing international comparison of the state of the environment on various themes. Water is one of the main issues, addressed in the "Joint Questionnaire on Inland Waters" (JQ-IWA) and is the subject of this report. Belgium contributes to the JQ-IWA since the beginning but started with a low rate of response. In the last decennia significant advancement was obtained thanks to increased coordination between and within the three Regions of Belgium but further improvement is still required.

In order to amend the Belgian response to the JQ-IWA, a special grant was allocated by Eurostat to Statistics Belgium, the official national statistical institute for Belgium, which belongs to the Directorate-General of Statistics and Economical Information, a division of the Federal Public Service (FPS)

This reports deals with the actions that were undertaken during the period 01/2007-08/2008 and within the Eurostat Grant 71301.2006.002-2006.465. It is obviously first addressed to Eurostat but also to the people involved in the process of providing a Belgian answer to the Joint Questionnaire on Inland Waters.

After a short description of the JQ-IWA content, the environmental data collection is briefly recalled within the Belgian context. The state of the Belgian response to the JQ-IWA is presented. Weaknesses of the questionnaire responses are evaluated as well as possible fields of action proposed. Other actions are more developed and described in the report.

They contribute modestly to a global improvement of the Belgian response besides the main efforts realised by regional institutions competent for the water issues.

The opinions expressed in this report are under the responsibility of the authors. They do not necessarily reflect the official views of Statistics Belgium.

ACKNOWLEDGEMENT

The authors are indebted to the regional delegates of the Joint Questionnaire on Inland Waters, which are providing the regional answers. Without their involvement in this work it wouldn't be possible to make a Belgian answer. In this cooperation, we are particularly grateful to Vincent Brahy, Rudy Vannevel and Sandrine Davesne for the information they provided and their significant efforts done to improve the regional data.

Herlinde Vanhoutte and Jan Voet are thanked for their information concerning the Belgian coordination on environmental data in Belgium (CCIEP and BEIS).

We used Belgaqua data on water supply and we are grateful to Christian Legros and Cédric Prevedello who provided us this precious data and complementary information.

We would like to thank the Royal Meteorological Institute of Belgium for providing us the source data needed to calculate the meteorogical parameters.

We are grateful to our colleagues who helped us in realising this work and in particular in some specific tasks. The database interfaces were developed by Christophe Arickx, the GIS applications and the SAS iterative program required for the water balance calculation, were performed by respectively Pierre Jamagne and Robert Milano. Damien Miel provided the water supply data of the NIS survey, Corinne Lacroix dwelling data from the population censuses and Pieter Dewitte specific responses to the census 2001.

SUMMARY

An overview of the weaknesses of the Joint Questionnaire OECD-Eurostat on Inland water is made by Statistics Belgium aiming at improving the general answer for Belgium. Possible fields of actions are proposed. Some of them are undertaken at statistics Belgium and concern four main issues. Meteoric data is used to improve the calculation of the water resources. Public Water Supply data are evaluated from various sources. Data from the population censuses are used to evaluate the percentage of the population connected to public water supply and to assess the percentage of the population connected to the urban waste water collecting system and to various treatment systems.

All joint questionnaire questions are structured in a database developed at Statistics Belgium and a link with data processes is proposed. Further cooperation with the Regions, which are the main data contributors, is encouraged and coordination is further recommended.

KEYWORDS

Water statistics, water resources, surface water, groundwater, water abstraction, public water supply, waste water treatment, sludge, treatment plant,

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1 INTRODUCTION

1.1 The Joint-Questionnaire of Inland Water (JQ-IWA)

1.1.1 Account of the Joint Questionnaire on Inland Waters

The Joint Questionnaire of OECD/Eurostat, section inland water (JQ-IWA) is, as indicated in the name, a questionnaire held in close cooperation by OECD and Eurostat. It originates from the environmental data questionnaire that OECD launched in 1980 and sent out to the participating countries every 2 years. Eurostat joined the exercise in 1988. The environmental questionnaire with its first eight themes including inland water was then slightly and progressively amended. The questionnaire had indeed to take account for specificities of European Union (EU) or non EU countries. For European countries it was e.g. necessary to provide additional data helping in the following up of the implementation of European Directives. At the same time the questionnaire had to maintain comparable basic data used to establish reliable indicators of the state of the environment for all of these countries.
These data collection is organised jointly by OECD and Eurostat and at a biannual schedule. Recent years, themes of the questionnaire are being reduced by transferring them to other international data collections organisations. In 2008, Inland Water is still a section of the Joint Questionnaire together with the Environmental Protection expenditure and Revenues.
For the two last exercises (2006 and 2008) Eurostat has send the questionnaire to the EU countries. The answers from the EU countries are/have to be sent back to Eurostat, which transmits them to OECD.

1.1.2 Content of the JQ-IWA and main themes

The Joint-Questionnaire on Inland Waters comprises currently 12 tables (i.e. in the exercises of 2006 and 2008, mentioned further as JQ06-IWA, JQ08-IWA). It covers various themes related to the natural and anthropogenic hydrologic cycles and their interactions. In particular the topics that are covered are the natural freshwater resources, the abstraction of water for the various human activities, the actual use and consumption of water by human activities, the population that is served by water distribution and by water treatment systems, the treatment of waste water and the final emissions of substances into surface water. About 700 variables are recorded combining physical to societal and economic information.

A detailed description of these tables, their variables and proposals of methodologies to apply when filling in the questionnaire are provided in the Data Collection Manual 2.1 by Nagy *et al*. (2007).

The series of the JQ-IWA tables is given in following Table 1 and the complete list of the variables can be found in the Belgian answer of JQ06-IWA, provided in Annex 1.

Table 1: List of tables of the Joint Questionnaire on Inland Waters (JQ06-IWA)

Table	Table title	Main theme
Table 1	Freshwater resources	Natural hydrologic cycle
Table 1a_IF	Actual external inflow from neighbouring territories	
Table 1a_OF	Actual outflow to neighbouring territories	
Table 2.1	Annual freshwater abstraction by source	Abstraction and use of water by the human activities
Table 2.2	Other sources of water	
Table 3.1	Water use by supply category	
Table 3.2	Water use by industrial activities	
Summary table	Water use balance	Interaction between natural and anthropogenic hydrologic cycles
Table 4	National population connected to waste water treatment plants	Waste water treatment: population served, treatment capacities, production and disposal of sludge and emissions of substances into the surface water
Table 5	Treatment capacity of waste water treatment plants, in terms of BOD	
Table 6	Sewage sludge production and disposal	
Table 7	Generation and discharge of waste water	

1.2 Belgian legal framework of the environmental data flows

In order to situate the data flow and the various actors in the collection of data it is worth to consider Belgium in its legal framework. We first briefly remember, in this section: the Belgian constitution, the statistical law and several agreements that set the context in which data collection occurs. Finally the organisation of data collection for the JQ-IWA is situated in this context

Belgium is a federal state and the competence regarding environmental themes (including water) is spread over various official institutions. Given the complexity in the organisation of their responsibilities, several laws and agreements have been installed.

1.2.1 Belgian constitution

Belgium has becoming a federal structure since the late eighties, and comprises several governing bodies. It is currently composed of the Federal State, the three Communities (the Flemish Community, the French Community and the German-speaking Community) and three Regions (the Flemish Region, the Brussels-Capital Region[1] and the Walloon Region).

The Federal State, Communities and Regions, act all at the same level of governance of the country with overlapping geographic areas but they share different responsibilities (see Figure 1). They are represented by 5 governments; the Flemish Region and the Flemish Community being merged into one.

[1] Note that the Brussels-Capital Region was created later then the two other Regions

The country is furthermore made-up of 10 Provinces (Antwerp, Flemish Brabant, Walloon Brabant, West Flanders, East Flanders, Hainaut, Liège, Limburg, Luxembourg, Namur) and 589 Communes, distributed among the three Regions representing middle and lower-level of governance.

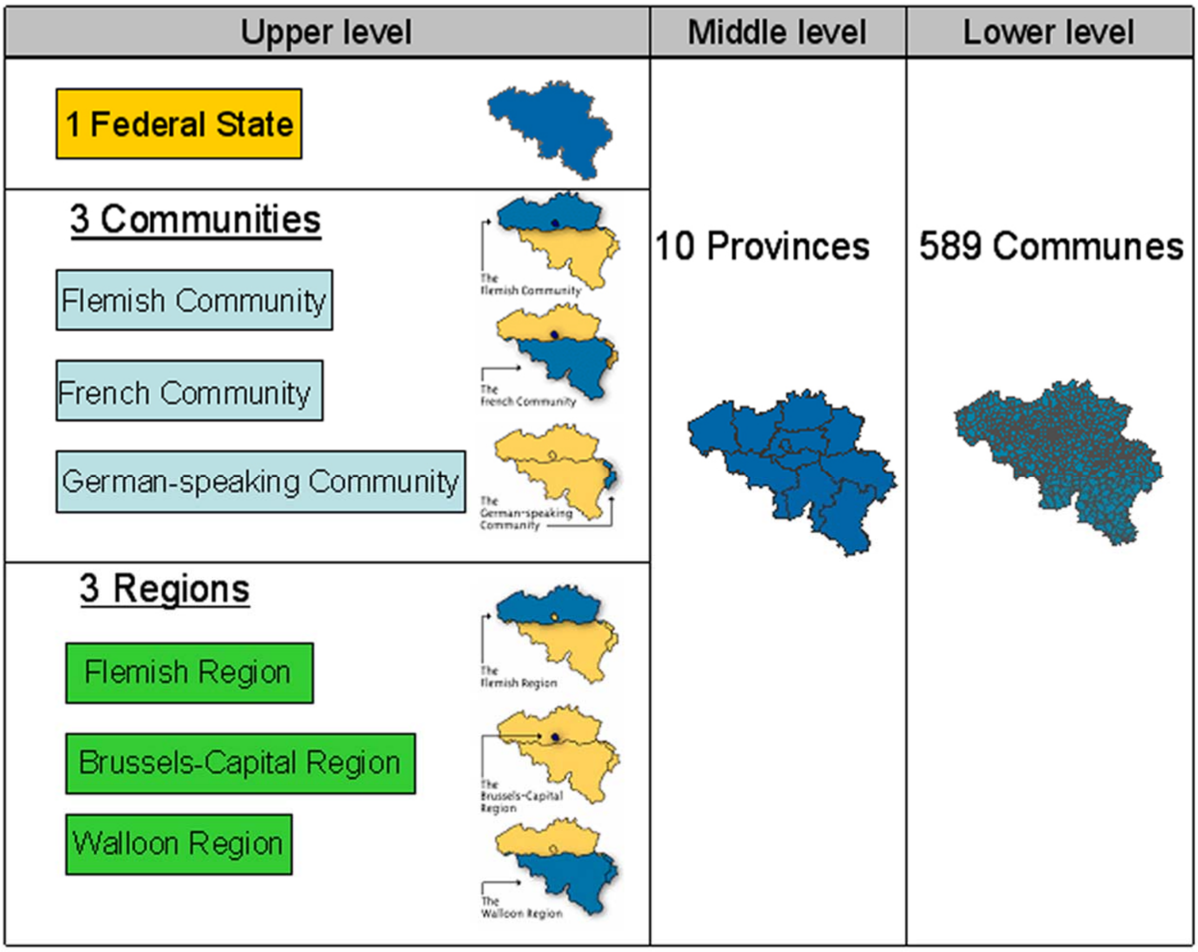

Figure 1: Structure and decision levels of Belgium (inspired from the Brussels and Belgian government internet portals)

The **Federal State** has responsibilities concerning all Belgian citizens and the competence of foreign affairs, national defence, justice, finance, social security and a major share of public health and domestic affairs. It also represents the country within the European Union.
Concerning water issues, it is responsible for the Belgian territorial waters in the North Sea and for representing the country within the water policies at the international level.

Language, culture and education are the matter of the **Communities**. Communities are obviously not concerned by the water issues, except through the education programmes.

Finally, the **Regions** are responsible for most of the territorial matters as employment and environment. Almost all water issues are therefore within their competences except the marine water protection and the international representation[2]

To summarize, in the case of water issues, almost all the responsibilities are at the Regions but the federal state also plays a role. This can easily be illustrated by following a drop of water in the natural and anthropogenic cycle and identifying the administration competent for collecting the data and making the policies (see Figure 2 adapted from the JQ-IWA form).

"Story of a drop of water"
When the drop of water is in the sky it is federal (meteorology).
When it falls on the ground or rivers, it turns regional.
When it goes to the North Sea, it turns again federal, unless on the coast where it is still regional.
When it goes into the ground, it can be federal (geologically) or regional (as a resource)
When extracted, it engenders taxes to the regional governments
As a product, it turns federal
Wastewater and sewages are municipal or regional
Waterways are mainly regional or federal
Cooling water is federal
A water calamity is federal

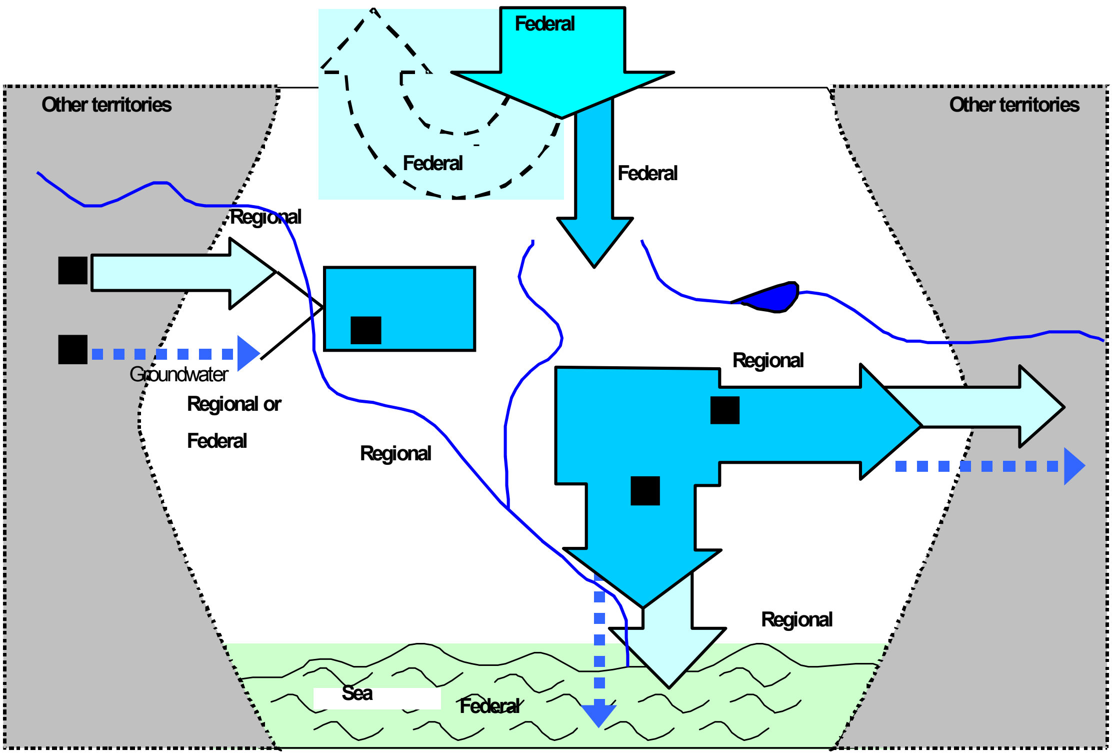

Figure 2: The water cycle adapted to the Belgian situation of shared responsibilities (adapted from Margat in JQ-IWA scheme)

[2] Art. 107quater of the Belgian Constitution or art. 6 of the Special Laws on Institutional Reforms of 8 August 1980

1.2.2 The Statistical Law and Official Statistics of Belgium (NIS)

Public statistics are submitted to a federal competence under the Statistical Law[3]. It essentially stresses on various principles that have to be satisfied when producing and using statistics. Among those principles, impartiality, objectivity and professional independence and confidentiality are the main issues.

The law stipulates e.g. that statistics must be produced and disseminated respecting scientific independence. They must be objective and conducted on a professional and transparent manner. The institution that produces the statistics must be professionally independent from other departments and political bodies, regulatory and administrative institutions as well as from private sector operators. They must ensure confidentiality of the data using e.g. anonymisation, encryption and perturbation methods and only publish aggregated data.

Statistics Belgium is presented in the Statistic Law as the main official national statistical institute operating independently, together with the Institute of National Accounts which is constituted by Statistics Belgium, the statistical Division of the National Bank, and the accounts division of the Federal Planning office.

Regional institutes may also play a role in statistics but those are not covered by the statistical law and the regulation 322/97. Moreover a scientific network of experts (including regions, administrations, administrative simplification agency, professional federations and universities) exists.

In the Statistic Law a High Council of Statistics is mentioned and defined as an advisory body which has a mission to contribute to the quality of the Belgian official statistic. It has representatives of the scientific community, socio-economic circles and federal, regional and community administrations. Any new proposal of Royal Decrees needs the methodological advice of the High Council of Statistics. The High Council of Statistics is organized with an executive body and leads different working groups.

Given this complexity of responsibilities a Coordination Committee is created in the Law of 22 March 2006 aiming to coordinate the statistics that are produced by the various institutes. The regions have the tendency to produce their own surveys and statistics for their own government, with some times multiplied burden on the respondents. In the future, this coordination body could also facilitate an optimal exchange of microdata between registers, administrations and producers of official statistics as explained by Lemaire et al. (2007) in their peer review of Statistics Belgium.

Statistics Belgium, belonging to the federal state[4], essentially collects, processes and publishes information related to household, industry and services. Statistics Belgium has the monopoly of statistical secret and on the power to oblige respondents to answer statistical (only) surveys. The information collected for statistical purpose is mostly coming from direct surveys or by consultation of various administration files made available (see Figure 3).

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[3] Statistical Law of 4 July 1962, modified by the law of the 1st of August 1985, the law of 1st of March 1998, the Law of 22nd of March 2006 and the Law of 1/08/2006.

[4] Statistical Belgium operates as Directorate General of Statistics and Economic Information, within the Federal Public Service (FPS) Economy, SMEs, Self-employed and Energy. We call it also **NIS**/INS to simplify

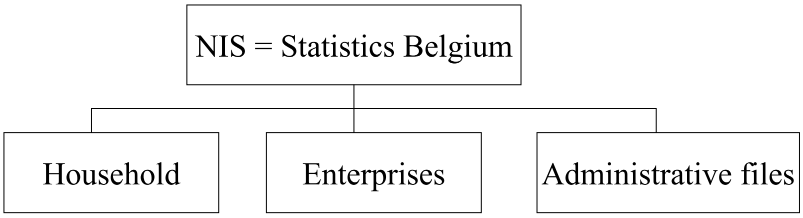


Figure 3: Main official data sources of Statistics Belgium

1.2.3 Belgian representation at the EU for statistical policy

Belgium is represented by the (federal) Minister responsible for Statistics Belgium and the Institute for national Accounts. Traditionally, this is the Minister of economic affairs.

The representative for the Comitology (Statistical Programme Committee) is the Director General of statistics Belgium and the president of the Institute for National Accounts for dedicated matters.

Statistics Belgium and the Institute for National Accounts are the Belgian members of the European statistical System (following Regulation 322/97).

1.2.4 Belgian representation at the EU for environmental policy

The Cooperation agreement of 8 March 1994 regulates the representation of Belgium for the *environmental* (not statistical) matters in the Council of Ministers of the European Union. Only one Minister may represent the Member State and in the case of Belgium this position concerning the environmental matters is held by the federal Minister of Foreign affairs accompanied in turn every 6 months by one of the different regional ministers for the environment. The coordination in preparing the Belgian position for the Council of Minister of EU is ensured by the Federal Ministry of Environment.

1.2.5 The Belgian representation for shared competences and ICE

In case of international environmental treaties that fall under competences shared by the Regions and/or the Federal government (for example economy and environment), it is necessary to agree on a commune decision. A Permanent Consultative Body is created at the Federal level by the Cooperation Agreement of 8 March 1994. The aim of this body is to coordinate the responsibility of each authority

The Framework Agreement of 30 June 1994 regulates the Belgian representation at international organisations of which the activities fall under shared competences. The agreement provides a list of the international organisations of which activities fall under shared competences with a.o. the Council of Europe, OECD, UNO, UNEP, FAO, WHO etc. Eurostat is not officially concerned (legislation, execution of obligations) but a consultation with environmental administrations is foreseen for preparatory works.

The Interministerial Conference on the Environment (ICE) is also created, bringing the four Belgian *environmental* Ministers together and controlling the activities of the permanent working groups. The statistical minister could be consulted in preparatory phases if relevant.

1.2.6 The International Environmental Policy and the CCIEP

In this extremely complex structure related to the international environmental policy, the Co-ordinating **Committee for International Environmental Policy (CCIEP)**[5] has been created in the Cooperation Agreement of 5 April 1995. Under the control of the ICE and the Federal Minister for Environment, the CCIEP is composed of representatives of all federal and regional administrations that play directly or indirectly a role in the environmental policy.

The CCIEP has to prepare the position that the Belgian delegations present at international conferences, to international organisations and during Ministerial conferences. It fixes the composition of these Belgian delegations. It organises the consultation processes and ensure coherences in the actions to take in the framework of international recommendations and decisions. CCIEP also organises the data collections required by the international organisations as well as Belgian reporting processes when required (see CCIEP, 2007 and link on the electronic portal of FPS Public Health, Food Chain Safety and Environment).

In the rules of procedures established by the CCIEP various groups are created. A **Steering Group (SG)**[6]**,** with various experts, provides the necessary advices in the decision-making[7]. Specific working groups of experts are created on specific themes (see the member list of the SG water in Annex 2.1 after Vanhoutte, person. comm). According to the Rules of Procedure of the Agreement[8], a **Steering Group of Environmental Data**[9] is also created. This working group of experts plays essentially a role of coordination of the various thematic groups. It acts also as a link or filter between the CCPIE and the thematic groups. The functioning of the Steering Group of Environmental Data within the CCIEP is schematized in Figure 4.

The organization of the CCIEP and its various experts, working groups and environmental data group is confusing and not transparent for outsiders of the CCIEP. Regarding the collection of water data, we can conclude that CCIEP represents somewhat the political-administrative network and has the competence to coordinate and organize the Belgian position.

[5] CCPIE: Comité de coordination de la Politique internationale de l'environnement-CCIM : Coordinatiecomité International Milieubeleid
[6] GD: Groupe Directeur – SG: Stuurgroep
[7] See art.8 and art.16 of the Cooperation Agreement of 5 April 1995 and art.16 of the Rules of Procedure of the Agreement
[8] See art.15 of the Rules of Procedure
[9] CDDE: Groupe Directeur des Données de l'Environnement – SG Milieugevens: Stuurgroep Milieugegevens

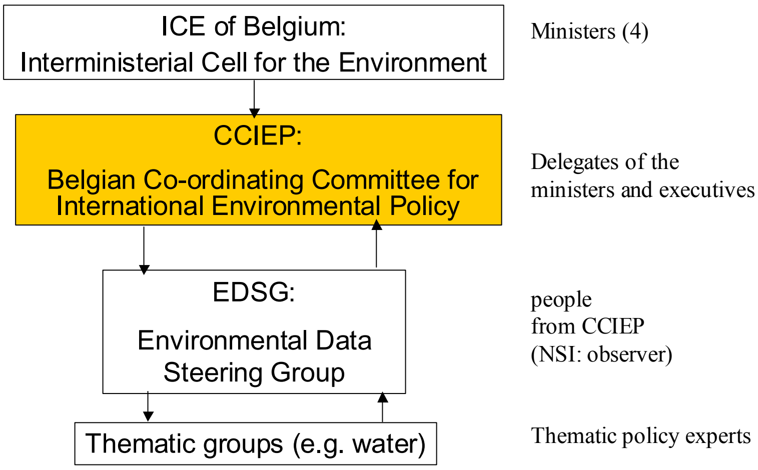


Figure 4 : Working procedure of the Belgian Environmental Data Expert network

1.2.7 The Belgian National Focal Point of EEA - IRCEL-CELINE

Besides the official network on international environmental policies represented by CCIEP, the Belgian Interregional Environment Agency (IRCEL-CELINE)[10] was installed by the three Regions of Belgium. It is regulated by 3 Cooperation Agreements in 1994 and 1995.

Its **first mission** is to ensure monitoring of the atmospheric emission and to structure the data related to air[11].

A **second mission** of IRCEL-CELINE, more relevant for the water statistics, is the coordination and transmission of the environment data required by the European Environmental Agency (EEA)[12]. IRCEL-CELINE represents the Belgian National Focal Point for the Agency and the EIONET i.e. the European Environment Information and Observation NETwork that has been launched by the Agency (see Figure 5). In this framework IRCEL-CELINE has developed a network of experts organised in mainly three to four subdivisions according to which decision-body they belong to i.e. the three Regions and in a lesser extent the Federal State. Other categories are taken into account as the theme of the environment they are dealing with.

[10] CELINE : Cellule Interrégionale de l'Environnement – IRCEL: Intergewestelijke Cel voor het Leefmilieu

[11] Cooperation Agreement of 18 May 1994 between the three Regions modified by the Cooperation Agreement of 21 December 1995 between the three Regions and the Federal State (1)

[12] Cooperation Agreement of 21 December 1995 (2)

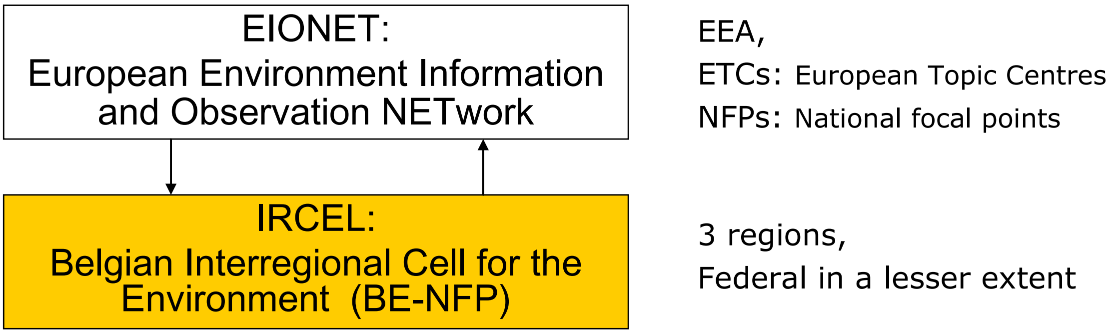


Figure 5 : Questions from the European Environment Agency to the IRCEL-NFP

IRCEL-CELINE utilises an extranet tool of communication of CIRCA type, which is well spread within the administrations of the European Commission and Agency. This tool allows transmission of information and data on a very efficient way from EEA and the EIONET to its members. The National Focal Point is also used to participate in the general assessments organised at EEA (e.g. the State of the Environment).

This second mission of IRCEL-CELINE runs essentially in a non–obligatory context but many interactions exist with the other information streams and e.g. the expert groups operating within the CCIEP.

1.2.8 The Belgian Environmental Information System - BEIS

Various flows for international environmental data and information requests exit thus officially (i.e. regulated by law or agreements): the official statistical flow of NIS, the politico-administrative flow of CCIEP and the non-obligatory flow of IRCEL. All of them have formally their areas of expertises and competences but in practice there are overlapping; experts are shared within these structures and there is substantial need on cooperation and optimization of the efforts.

An informal information system has progressively grown within this landscape. The **Belgian Environmental Information System (BEIS) for International Reporting and Information Flows** has developed and combines the advantages of each formal separated system. It extends the groups of experts (from CCIEP, BE-EIONET, NIS); it makes use of the coordination tool provided by the Steering Group of Environmental Data of CCIEP (also extended) and it is based on the efficient network of data and information transfer between the experts of IRCEL (using CIRCA tool). NIS can also better find its place within this informal system, which does not require automatically validations by Ministers, and may therefore participate more actively to statistical working groups. The current (informal) system of organizing environmental data delivery to international organizations is mapped in Figure 6.
Since 2005, this system allows sharing transparently all officious data between Belgian experts (currently some 250 members), with the aim helping to coordinate all (non mandatory) data requests, reuse existing data and even help to prepare official answers. The main person behind this system is Jan Voet[13]. Table 2 shows an example of coordination board used within BEIS to follow the activities and answers from different federal entities to

[13] Jan Voet and Francis Brancart share coordination responsibility within the CCIEP and Jan Voet and Stéphanie Lange are the contact people of the IRCEL dataflow system.

international organizations. A list of the water experts registered in BEIS is provided in Annex 2.2.

BEIS does not foresee a large participation from the research areas, which would probably make the management too heavy. However it would be worth to consider some bridge with other more scientific networks.

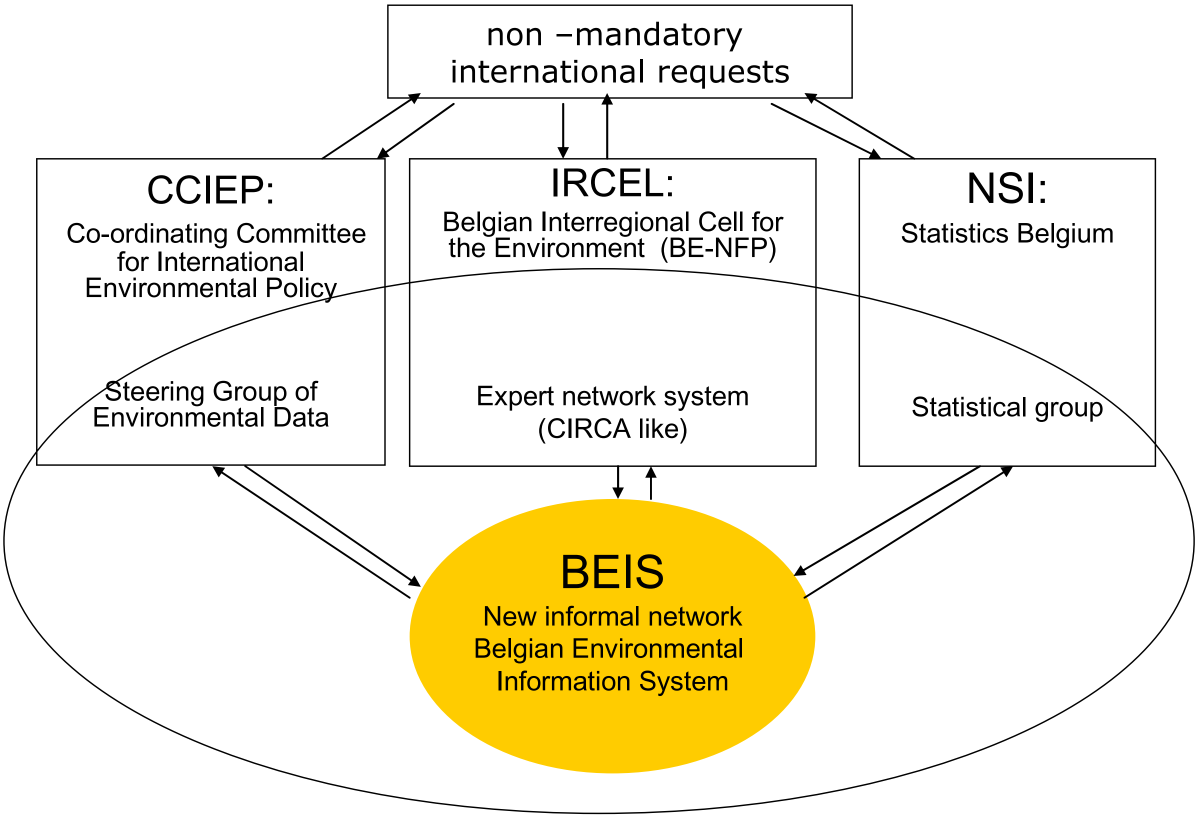


Figure 6 : The Belgian Environmental Information System (BEIS) and its informal organisation

1.2.9 The JQ-IWA within the statistical and international environmental framework

When a new release of the Joint Questionnaire on Inland Water is launched, Eurostat send it to the national institutes of the country members and to any contact person they know being involved with the process of filling in.

From that moment, it is put in the BEIS by the Belgian experts. Given that most of the required data is being collected at the regional administrations, which are competent for most of the environmental issues, a large participation is asked to the regional delegates. These delegates are mostly already involved with other international matters as e.g. the state of the environment or data collection for EIONET. NIS consolidates the regional responses mainly by summing the various regional figures when all of them are available. It evaluates the regional responses for coherence as far as possible and adds information for what concerns the federal issues. For missing data or suspicious data, NIS search for other figures or applies other techniques to enhance the response. If no data is available, the field in the JQ-IWA form is indicated as non available for Belgium.

Table 2: Example of coordination board for answering data requests inside BEIS shared EEA-NFP, NIS and CCIEP networks

Nummer	Onderwerp	Organisatie	Thema	Type	BEIS In	BEIS Uit	BEIS mededeling	Einddatum	VLA	WAL
2006007	Submission by Belgium under Decision 280/2004/EC	DGENV	AIR	DATA INFORMATION	16/01/2006	16/01/2006		16/01/2006	15/01/2006	15/01/2006
2006021	EEA questionnaire on Climate Change Indicators	EEA	AIR	DATA INFORMATION	17/02/2006	20/02/2006		17/03/2006	6/03/2006	
2006026	EEA - Nomination NRC Communication	EEA	COMMUNICATION	DATA INFORMATION	10/03/2006	10/03/2006		20/04/2006	4/04/2006	4/04/2006
2006027	EEA - Publication Plan 2006	EEA	COMMUNICATION	DATA INFORMATION	14/03/2006	15/03/2006	15/03/2006	28/03/2006	27/03/2006	3/04/2006
2006028	EEA - EIONET Priority Data Flows 2006 - CDDA 2006	EEA	BIODIVERSITY	DATA INFORMATION	16/03/2006	17/03/2006	17/03/2006	15/06/2006	30/06/2006	9/06/2006
2006046	UNEP - Review of Country Profile Website	UNEP	CROSS-CUTTING	DATA INFORMATION	20/04/2006	20/04/2006		31/05/2006		
2006047	OECD - Workshop Material Flow - 16-17/05/2006 in Rome - COUNTRY CONTRIBUTIONS	OECD	MATERIAL FLOWS	DATA INFORMATION	27/04/2006	28/04/2006		10/05/2006	4/05/2006	
2006049	EEA - EIONET Priority Data Flows 2006 - Ozone exceedances 2006	EEA	AIR	DATA INFORMATION	5/05/2006	5/05/2006		31/10/2006		
2006054	EEA - NFP Questionnaire 2006	EEA	CROSS-CUTTING	DATA INFORMATION	22/05/2006	29/05/2006		30/06/2006	x	x
2006055	EEA - Questionnaire on impacts of climate change on water resources and adaptation strategies in Europe	EEA	WATER	DATA INFORMATION	18/05/2006	29/05/2006	14/07/2006	31/07/2006	28/07/2006	
2006059	EEA - EIONET Priority data flows - EoI 2006 - Air quality	EEA	AIR	DATA INFORMATION	2/06/2006	2/06/2006		1/10/2006		
2006060	EEA Study - Evaluation of existing waste policies to achieve waste prevention & increased recycling	EEA	WASTE	DATA INFORMATION	6/06/2006	6/06/2006		30/06/2006	13/06/2006	
2006061	EEA - Action list EIONET/NFP meeting 23-24/05/2006	EEA	CROSS-CUTTING	DATA INFORMATION	9/06/2006	9/06/2006		30/06/2006		
2006062	EEA - Questionnaire to quantify environmental constraints of wind energy use	EEA	ENERGY	DATA INFORMATION	9/06/2006	12/06/2006		5/07/2006		
2006065	EMEP-LRTAP Data Flow	EEA	AIR	DATA INFORMATION	1/01/2006	X		15/02/2006	x	x
2006066	UNFCCC data Flow	EEA	AIR	DATA INFORMATION	1/01/2006	X		15/04/2006	x	x
2006077	EIONET Priority data flows 2006 - TE-2 Contaminated sites	EEA	TERRESTRIAL	DATA INFORMATION	19/07/2006	27/07/2006		30/09/2006	26/09/2006	
2006078	EIONET-WATER Data Request (EWN) 2006 - Rivers	EEA	WATER	DATA INFORMATION	1/08/2006	3/08/2006		31/10/2006	27/10/2006	27/10/2006
2006079	EIONET-WATER Data Request (EWN) 2006 - Lakes	EEA	WATER	DATA INFORMATION	1/08/2006	3/08/2006		31/10/2006	27/10/2006	
2006080	EIONET-WATER Data Request (EWN) 2006 - Water Quantity and Use	EEA	WATER	DATA INFORMATION	1/08/2006	3/08/2006		31/10/2006	20/10/2006	27/10/2006
2006081	EIONET-WATER Data Request (EWN) 2006 - Groundwater	EEA	WATER	DATA INFORMATION	1/08/2006	3/08/2006		31/10/2006	20/10/2006	18/10/2006
2006082	EIONET-WATER Data Request (EWN) 2006 - Marine and Coastal Environment	EEA	WATER	DATA INFORMATION	1/08/2006	3/08/2006		31/10/2006	27/10/2006	
2006093	Questionnaire for annual reporting on ambient air quality (2004/461/EC) and EIONET Priority data flows 2006 - Annual ozone data	EEA	AIR	DATA INFORMATION	7/09/2006	7/09/2006		30/09/2006		

An overview of the four main contributors and their current delegates is provided in Table 3. It reflects roughly the situation for the exercises 2006 and 2008

The coordination of this procedure is informally decided within the Steering Group of Environmental Data, which meets every month to revise the non-mandatory international data requests. The added value of this procedure for NIS is that the data collection process occurs closer to the data sources and the regional experts although NIS doesn't have access to the databases. The counterpart of this is a risk of reduced independence or reduced neutrality. However, this would only happen if the process would follow the strict path of the CCIEP process, which is not the case. NIS and other participants are aware on this and NIS could always decide, if political influence had occurred, to publish its own estimates, non-validated by the Regions. Up to now there hasn't been such a situation for the JQ-IWA and the cooperation is optimized within the BEIS.

Table 3 : Contributors to the JQ-IWA

Administrative level	**Acronym**	**Name of the institution and department/service**	**Delegated people** (situation on 08/2008)
Brussels	IBGE-BIM	Institut Bruxellois pour la Gestion de l'Environnement - Brussels Instituut voor Milieu beheer	Sandrine DAVESNE
Wallonia	DGRNE	Direction Générale Des Ressources Naturelles et de l'Environnement du Ministère de la Région Wallonne, Cellule Etat de l'Environnement Wallon (CEEW), Direction de la coordination de l'nvrionnement (DCE)	Vincent BRAHY Stéphanie Lange
Flanders	VMM	Vlaamse Milieumaatschappij (afdeling rapportering water, internationale rapportering water)	Rudy Vannevel (Greet Devriese)
Federal	INS/**NIS**/NSI	Statistics Belgium[4], department territoy	Bruno Kestemont Isabelle Wemaere Lies Janssen

1.3 Belgian state of response of JQ-IWA

Before some collaboration in 1998 between NIS and CCIEP, the answer rate of Belgium was very low, near to zero percent because the probability to get the answers from the three Regions for a specific parameter was low.

Cooperation improved in 1998 mainly thanks to the work of Gommers and Vermoesen, who established a list of available data regarding the whole collection of environmental data asked by the Joint-questionnaire questionnaire (Gommers and Vermoesen, 2000). Regional answers were improved but the Belgian data remained limited. Nevertheless it was the starting point for an increasing incentive from the Regions to collaborate and to try to cover data gaps where another Region was able to answer. With BEIS in 2006, the answer rate increased a lot. This was mainly due to a big improvement of Brussels answer. This evolution and improvement of the Belgian answer can be illustrated by Figure 7, where the rates of response of Tables 1, 2.1 and 3.1 of the JQ-WA are plotted versus the exercises years from 1998 to 2006.

Note, however, that the overall value, as shown in Table 4, is lower because all tables are not systematically completed. The better results are indeed obtained for the tables about water resources (1), water abstraction (2.1 & 2.2), water use (3.1) and the population connected to various treatment plants (4).

This does not mean that the regional answer is that low. On the contrary improvement of the response is more visible in the regional answers. However the higher responses are not necessarily located in the same year, table or variable, which therefore do not necessarily lead to a Belgian figure. This disparity in the answer is illustrated in the 3D diagrams of Figure 8.

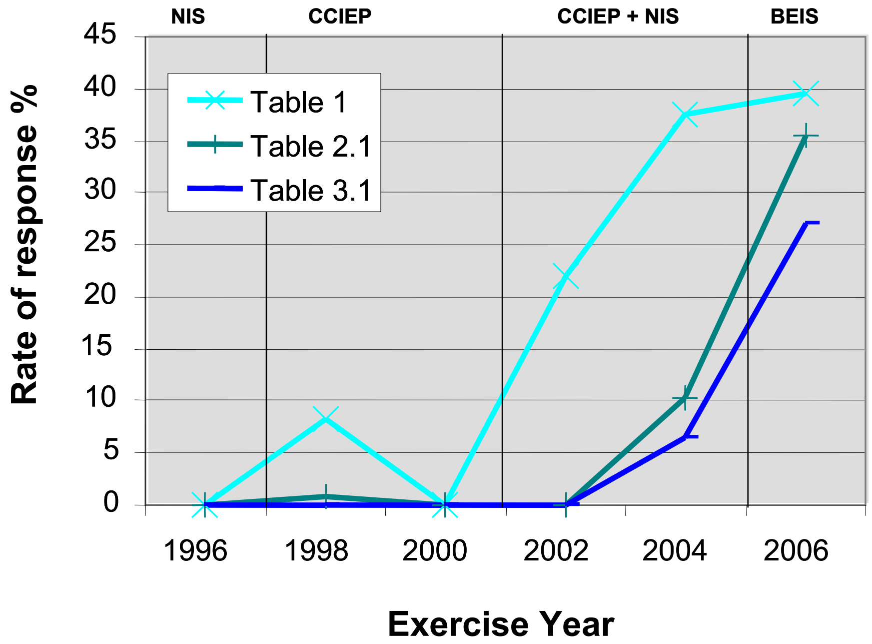


Figure 7: Rate of the Belgian Response to some tables of the JQ-IWA from 1996 to 2006

Table 4: Rate of the Belgian Response to all tables of JQ-IWA exercise 2006

TABLE		DATACOUNT	NR OF DATA PER TABLE	%
1	Freshwater resources	108	228	47%
1a_IF	Actual external inflow from neighbouring territories	60	76	79%
1a_OF	Actual outflow to neighbouring territories	40	76	53%
2.1	Annual freshwater abstraction by source	229	522	44%
2.2	Other sources of water	198	324	61%
3.1	Water use by supply category	150	504	30%
3.2	Water use by industrial activities	13	180	7%
Summary	Water use balance	71	360	20%
4	National population connected to waste water treatment plants	81	216	38%
5	Treatment capacity of waste water treatment plants, in terms of BOD	151	792	19%
6	Sewage sludge production and disposal	10	612	2%
7	Generation and discharge of waste water	757	9,450	8%
All	**Overall account Data count** (excluding table 7):	**1,111**	**3,890**	**29%**
All	**Overall account Data count** (including table 7):	**1,868**	**13,340**	**14%**

The rate of response is of course not the only criteria to evaluate the state of the Belgium response to the Joint-Questionnaire on Inland Water. One has to ensure that data are reliable and coherent, which is much more difficult to investigate.

In the next chapters a series of weaknesses are identified. Possible improvements are stated indicating and describing actions that were undertaken. Specific actions are provided with more details in chapter 3.

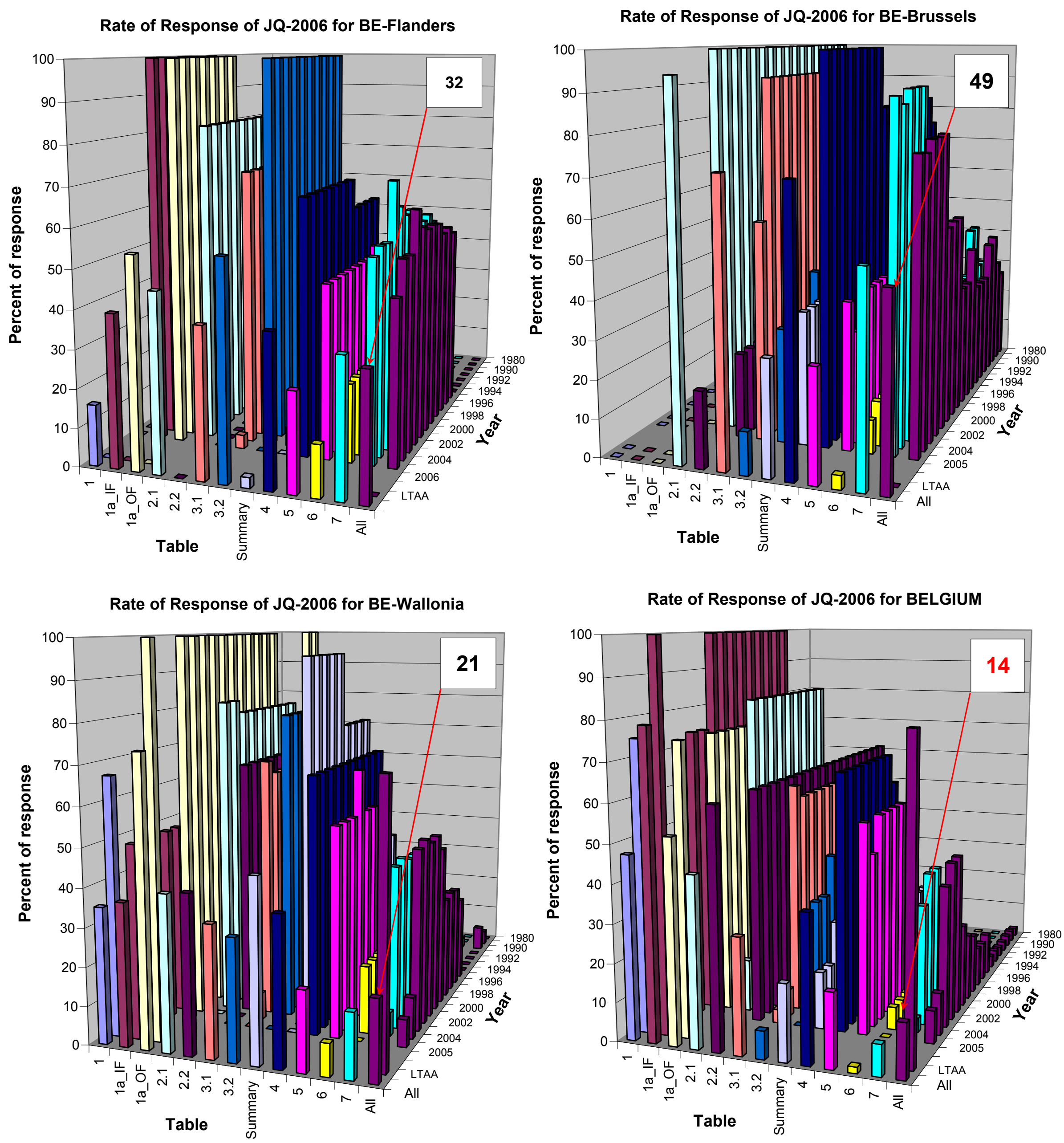


Figure 8: Rate of the Response by table and by year of the JQ06-IWA

2 WEAKNESSES OF THE BELGIAN ANSWER TO JQ-IWA AND POSSIBLE FIELDS OF ACTION TO IMPROVE IT

In the following sections various points of weakness are identified. Weaknesses relevant for the global answer are pointed and difficulties related to specific variables or groups of variables are listed. In both cases it is mentioned if some action was undertaken or not. Improvements that require more information are detailed in the next chapter.

Note that the field of actions of NIS to improve the data was limited given that NIS has no access to most of the data and that little information is available from the JQ-IWA on how the data is processed.

2.1 Global answer weaknesses and remarks

2.1.1 The Belgian complex shared responsibilities

As explained in section 1.2, the complexity of Belgian government and share of responsibilities make it difficult to locate the expertise and concentrate the efforts and resources in an efficient way.

Regarding a specific question, if a responsibility is not devoted to one clearly identified group of experts the chance that these experts receive the appropriate resources to perform the task is low. Also finding both expertise and responsibility for a given question can be a hard task knowing that regional and federal administrations may be organised and function very differently. There is no obligation to follow the same line.

To provide a consolidated Belgian answer for the JQ-IWA, NIS necessitates an answer from each of the three Regions and more background on these answers. This increases the risk of missing data or delivering poor-quality data. This is probably one of the main obstacles for achieving high quality and exhaustive response to the JQ-IWA.

However this is a typical problem for the Belgian administrative organisation and, as seen in section 1.2, several structures are installed to organise the work and an informal procedure is applied for JQ-IWA.

At this stage one can say that the response has increased the recent years (see section 1.3), being the result of the closer cooperation between NIS and CCIEP, the work carried on by Gomers and Vermoesen (2000) on the identification of data sources and the informal efficient system of BEIS.

No remarkable actions were undertaken in this field during this GRANT project except that the existing BEIS structure was used and exchanges were encouraged with the identified regional delegates, organising meeting, discussing specific issues of the questionnaire and identifying discrepancies. This kind of communication and/or coordination is essential to ensure continuation and success in completing the questionnaire.

2.1.2 Unknown existing data and expertises

Some questions have poor or missing answers and could maybe be solved if one had a better awareness on the existing data and the existing expertise. This difficulty to be aware on the available data and expertise is certainly the case at the level of NIS which is far from the sources of most of the water data. It can also be an obstacle within the regional bodies where knowledge and information is scattered amongst various institutes. Better information on available data is needed and access to the data sources should be implemented for the data collectors. Expertises should be inventoried also from the scientific research areas as well as interaction encouraged. There are indeed numerous universities, research institutions or other organisations performing water related research activities.
Efforts are undertaken within each regional administration and are progressively visible but they need to be supported. This was out of scope of this project but we would like to encourage any steps in this direction. For instance, an interesting initiative to highlight is the series of conferences on water organised jointly by the Integrated Water Policy Committee of Flanders (CIW), the Flemish Institutions and Universities to optimize the interactions between the scientifics, the data owners and the water managers. Also the same organisers started a website with inventory of institutes that can provide monitoring data and expertise (see CIW website[14]).

It should be worth to enlarge this policy-scientific network and improve links with the BEIS-water

The question of providing access to databases is crucial and needs to be further debated.

2.1.3 The numerous international questionnaires with redundancies and/or discrepancies

Eurostat, DG-ENV, JRC, EEA, OECD, FAO, UN are some of the many organisations asking environmental data. Efforts are made from the international organisations within the EU as the DG-ENV, Eurostat, JRC and EEA to harmonize and join their efforts in the data collection on a (cost)–efficient way. A water information system for water (WISE) is implemented and helps centralising access to data and information.

It is strongly recommended that the same exercise should be done at the country level in parallel to optimize the efforts and to further provide coherent responses for Belgium.

An application is developed at VMM, within the Flemish administration, to optimize the data collection within the numerous reporting exercises asked by EU or other official institutions (Vannevel and Devriese, 2008). Other efforts are done within the Walloon Region as e.g. establishing an inventory of the international requests and sources (Lange, 2007).
BEIS provides an efficient communication tool.
These efforts should be further encouraged to extend over their regional area of action.

[14] http://www.ciwvlaanderen.be/watersysteemkennis/informatiebronnen

2.1.4 Meaning and interpretation of the numerous variables of the JQ-IWA

As seen in sections 1.1.2 and 1.3, the JQ-IWA of 2006 counts more than 13 000 figures (about 755 variables spread over 18 years)
The variables are organised in themes and differ regarding various dimensions to consider. Given the complexity of the environment, it is not always straightforward to provide a clear unequivocal physical definition of a variable. Moreover, even if the definition is rather unambiguous it is not always possible to provide an exact and non refutable answer to the question. This can be the case when the parameter in question is difficult to measure or to obtain. Proxies or approximations are applied and consequently a large number of responses are possible for a single question on a given year and for a given Region. This increases the range of interpretation and generates large uncertainties when calculating country figures. This leads to less reliable data and side-effects when comparing country responses with each others.

Among others we can mention the abstracted water that can include or not include rain water; the losses of water, which can be related to total abstracted volumes or only to public supply volumes. The losses can also be limited to losses on the network or can include also non registered volumes, etc..

The action of NIS was to identify as best as possible all the JQ-IWA variables, using the provided definitions and to understand them as much as possible according to the natural or anthropogenic cycle in a first step.

In a second step, all answers to the JQ-IWA questions should be evaluated and distinction should be made between the non refutable data or "hard" data (e.g. an accurate measurement) and the other types of data as proxy data, rough approximation data or very poor quality data etc. The footnotes foreseen in the JQ-IWA can be an indication for this distinction.

To keep track of this information it is therefore important to analyse and process these data through a database system. These developments were done during this project and are further detailed in section 3.2.

2.1.5 « Life cycle » of a figure

Because of the possible variants in answering the questions (see previous section), there are also possible differences in the figures according to the version of the response or JQ-IWA exercise. A definition can indeed be improved with time eliminating ambiguities in the answers. Errors can be corrected or proxies replaced by "hard" data i.e. real measurements or by other approximations, etc.

Experience shows that a figure submitted in national or international reports can lead its own life. It can reappear, be re-used at international or country level without having precise information on its source and its reliability. On this way, a figure circulates in the questionnaire cycles being repeatedly re-injected from the country to the international level. This should not present a problem for any well-validated and therefore non refutable data but it can be hindering for other types of data.

Regarding this problem, retraceability of the data is considered as an important issue for NIS and has to be addressed mainly at the country level. Each figure should preferably be retraceable by having at least an identifier that allows backtracking to the source database and to responsible experts. More information on its quality and used method of determination should be made available.
A minimum of this information should also accompany the "travelling" data.

In the database development at NIS, it was recommended to take account for this retraceability. This is further explained in section 3.2.

2.1.6 Layout and JQ-IWA filling procedure

The Excel spreadsheets provide probably the best overview of the numerous data asked by the questionnaire. MS Excel is also one of the most accessible software to all potential contributors. However given the numerous data spread over the different sheets it is not easy to make aggregation of data from various sources and still have a good track on any manipulation done on the data of the Excel sheets.

A systematic transfer of the data in another environment is therefore recommended to better control the data. Eurostat uses one single application written in Visual Basic called Excel Reader/Writer to exchange information with the Envstat database. The Reader application reads the filled questionnaire and introduces the data within the database while the Writer extracts the information of the database and writes it in the questionnaire. The Envstat database uses the multidimensional database Oracle Express (Descanvelle, pers. com, 21-11-2007).

This application has unfortunately been developed only for internal use at Eurostat and could not be transposed as such at NIS or other contributors. A simplified and custom-built application was therefore developed at NIS in order to easily read the JQ-IWA Excel forms provided by the Regions and to transfer them in a second step in an Access database.
This is further explained in section 3.2.

2.2 Weaknesses and remarks related to specific variables

2.2.1 Belgian Meteoric data (P and ETR)

Precipitation (P), asked in Table 1 of the JQ-IWA, is a rather common measurement but data are not always available for the Regions. The official source of this data in Belgium is the Royal Meteoric Institute (IRM/KMI/RMI) although other networks of meteoric stations exist. NIS proposes since several years a value of precipitation on spatial average performed at RMI. These data are not available during the last years, due to a lack of resources at the RMI itself. Efforts were concentrated to restart cooperation with RIM in order to recalculate a Belgian value. This is further explained in section 3.3.1.

Actual evapotranspiration (ETR) is a more complex parameter that requires at the base numerous variable data. The amount of water that evaporates is a function of the net radiation, temperature of the surface and air, wind speed but is also dependent on the characteristics of the vegetation covering the land, the availability of water from the precipitation and/or from the soil. It is mostly determined in two steps. A first step consists in determining the maximum possible evaporation under given meteorological conditions and a given land cover. The second step consists in estimating the actual evapotranspiration given the availability of water.
As for the data on precipitation, NIS data provider is the Belgian Royal Meteoric Institute (IRM/KMI/RMI), which calculates detailed evapotranspiration with a hydrological model based on the Penman equation (Bultot *et al.*, 1983). Ad hoc calculations of actual evapotranspiration (ETR) have been carried on in the past on specific watershed but are not performed anymore. The calculation of ETP is also performed with a delay of about 2 years and no weighted spatial averages were available for Belgium since 2003.

Many efforts are done in various research institutes or universities to evaluate more accurately ETR as it is an essential term in the water balance. Cooperation is undertaken with the regional administration. However no aggregation of ETR values at Belgium level is possible and there is obviously disparity in the data and used methods.
We strongly recommend increasing cooperation with the research area and the Royal Meteorological Institute that should have the required resources and competences in this domain. A coordination of the efforts is essential.

In the meanwhile estimates are used. NIS proposed up to now estimation of the ETR based on the empirical formula of Turc (1954) as documented by Shaw (1994). However it is only a rough approximation. Given that IRM still calculates accurate data of ETP from its numerous meteoric stations, NIS resumed cooperation with IRM to propose figures that are more representative for Belgium. This is further explained in section 3.3.2.

2.2.2 In- and outflow of freshwater from and to neighbour territories

The variables on inflow and outflow of fresh water from and to neighbouring territories including the North Sea concern the surface waters through the river network as well as the groundwater flows. The latter can hardly be monitored and the Belgian figures on external inflow and outflow do not include this contribution. **The groundwater component** should be estimated by means of aquifer modelling. The groundwater contribution constitutes an issue that probably has to be addressed to the applied research area, in cooperation with the regional administrations.

Another aspect that must to be considered with care is that data are provided from the Regions and one has to be sure that no double counting occur when summing the **transfers from one Region to another Region**.

An example of it is illustrated in Figure 9 by extracting the data of 2002 from the regional answer on JQ06-IWA. This data has not yet been checked and it is asked to consider it with care.

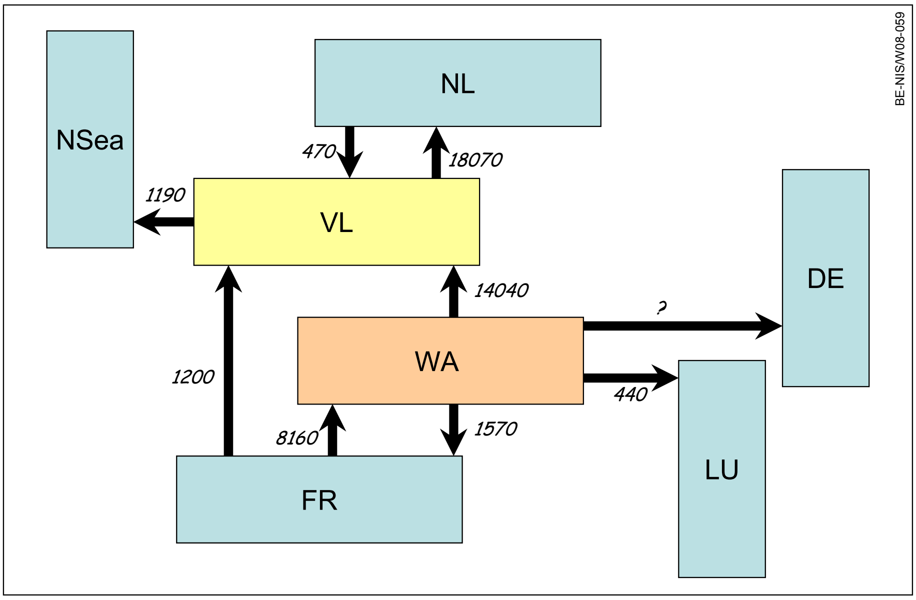


Figure 9: Transfer of freshwater through the river system between the Regions and neighbour countries derived from the regional answers to the JQ-IWA for year 2002

No solutions were developed during this Grant. It is asked to the Regions, which provides the data to NIS to be more explicit concerning the in- and outflow contributions (surface and/or not groundwater) so that better overview of the transfers can be drawn and checked before consolidation of the regional table 1, 1a_IF and 1a_OF.

Finally all recorded data do not match exactly in and outflow according to the administrative borders. The river in and outflows are based on monitoring points that are located on the main rivers as much as possible near to the border.

The "border mismatch"

When the monitoring point is not coinciding with the administration border the area upstream to this point and the border can contribute to the discharge in the river.This contribution could be evaluated on the basis of the proportion of the area to the total **cacthment** area of the monitoring point. It should then be subtracted from the monitored inflow or outflow volume.

The "catchment mismatch"

Moreover areas between the main monitored rivers may be drained by small rivers into or out of the territory. In those cases no discharge rate is known if no monitoring data are available and it makes the estimation a little more complicated. Volumes are maybe negligible as suggested by Vereecke (pers. com. 07-2008) regarding the aggregation asked for JQ-IWA and Flanders does not apply corrections for both types of mismatches.
Wallonia applies some correction but further information has to be gathered on this issue.

Anyway hydrological modelling could help in estimating these amounts and could be considered for more detailed evaluations.

2.2.3 Aquifer recharge and groundwater available for annual abstraction

The **aquifer recharge** also called infiltration is a parameter that by definition is difficult to estimate. It cannot be measured as such, except in experimental small areas, using a lot of instrumentation. It is mostly derived from water balance studies at the watershed area, by means of modelling. It is closely linked to the precipitation and actual evapotranspiration and as well as run-off and hypodermic flow. It depends on a series of site specific factors such as soil texture, topography and land cover.
This parameter is almost missing from all Belgian answers to the questionnaire. One value was proposed in earlier responses but requires deeper verification.

In this area, we expect more results in the future from research programmes commissioned by the Regions. An example of it is the PIRENE project[15], an integrated programme on environment and water research of the Walloon Region. Various hydrological models have been developed within this project and should deliver new data.

While expecting improvement a first rough estimate was done by NIS using coefficients of ratio of infiltration with respect to the precipitation for respectively Flanders + Brussels and Wallonia, based on literature studies. This is further explained in section 3.4.

Data on **aquifer recharge minus the ecological discharge** are not available for Belgium. Recharge is already difficult to estimate and the ecological discharge is quite a subjective concept. As defined in JQ-IWA ecological discharge is the minimum flow required to achieve ecological quality objectives for associated surface water. These objectives have therefore first to be defined for the given area. The most obvious objective is to maintain the natural condition as it is but in many cases the present environment is already disturbed by man activities and one has to find a compromise between the human activities and ecological purposes.

This concept has not been deepened (the question has also been omitted in the new release of the JQ-IWA)

Groundwater available for annual abstraction is for the same reasons (see previous alinea) not available for Belgium. As explained in the manual of data collection 2.1 by Nagy *et al*. (2007), the recharge of the aquifer is the theoretical maximum value. One first has to subtract the ecological discharge. Secondly one has to take account for restrictions for economic or technical reasons.
The concept is delicate knowing that several aquifer layers may be staked and that therefore the infiltration minus ecological discharge is not available in its totality for the all aquifers.
For the Belgian situation, one certainly has to keep in mind that because of the over-exploitation on some deep aquifers (e.g. the Sokkel in Flanders or the Carboniferous Limestone in Wallonia) additional restrictions are taken to allow those aquifers to recover. This figure necessitates a thorough evaluation of each water body, which is probably being investigated by the Regions within the Water Framework Directive (WFD). This has to be further analysed.

[15] PIRENE: Programme intégré de recherché en environnement
(see also http://www.icedd.be/pirene/pages/bacttx01.htm)

2.2.4 Regular freshwater resources 95 per cent time

According to the definition of the JQ-IWA and according to the Manual (Nagy *et al*., 2007), the regular fresh water resources 95 per cent time is the surface flow and groundwater available for abstraction, which can be depended on for human activities in 95% of the years (exceeded in 19 out of 20 years).
It has to be based on 20 consecutive years of observation. Because of the missing data on groundwater available for abstraction it cannot be answered for Belgium at this stage.

2.2.5 Freshwater abstraction by source and by sectors

Most of the data on abstraction are available except for the returned water and consequently the net abstraction.
The returned water, i.e. the water that is returned to the freshwater without use, should mainly be deduced from the mining and construction sector. This data is not available except for Brussels. It is however likely that when values are not available for these sectors, the abstraction has not been registered. This point needs further clarification.
Because of missing figures on returned water, net abstraction, which is the water gross abstraction minus returned water, is not calculated. One might consider the proportion of returned water as negligible according to previous remark.

A main question to face is **the method used to estimate the abstraction by sectors**
For Brussels, the volumes are provided by the Administration of Infrastructures and Traffic (AED) of the Ministry of Brussels Capital Region (RBC-BHG). The link with the sectors is made by cross-reference with the taxation database, which collects sector information for each of the water user.
For Wallonia a similar procedure is followed by cross-referencing the volume data with the taxation database SESAME or by using directly the SESAME database.
We assume that Flanders also extracts the sector information from the taxation database.

Figures on **public water supply (PWS)** are available for the three Regions only from 1999 to 2003 in JQ06-IWA. The sums of the volumes abstracted seem too low before 2001 and too high after 2001 (see Table 5). Other values are proposed and are based on the water survey conducted by NIS. Another source of data collected by Belgaqua was investigated as well. Both investigations are further described in section 3.5.

Note also that a part of abstracted water has **unknown source,** due to what we interpreted in JQ06-IWA as transfers of water between companies for which no distinction on source is made. This information necessitated required annotations. This point is also further discussed in section 3.5.

Table 5: Volumes of water abstracted by the Public Supply (in Mm³) as introduced in JQ06-IWA (being reviewed)

Year	BE from NIS-survey	FL	WA	BR	Σ Regions
1985				3.074	
1990				3.074	
1995	763.370	*0.0*	401.900	2.312	
1996	793.252	*0.0*	398.163	2.415	
1997	874.421	*0.0*	401.781	2.224	
1998	804.472	*0.0*	392.850	2.156	
1999	810.100	152.108	397.973	2.262	552.342
2000	809.520	152.387	397.491	2.277	552.155
2001	818.348	480.359	369.993	2.258	852.610
2002	803.238	517.291	393.043	2.502	912.836
2003	828.699	526.110	400.773	2.634	929.516
2004	813.141	529.137		2.420	
2005	811.056			2.260	

BE: Begium; **FL**: Flanders; **WA:** Wallonia; **BR:** Brussels Capital

2.2.6 Other sources of water for abstraction

Although there was not always a Belgian figure for the questions of Table 2 of the JQ06-IWA, there are obviously no known **marine or brackish water abstractions**. Neither is **water desalinated**. There are no volumes of water that are known to be **reused** presently. This item has however to be followed as marine or brackish water could become interesting in future and reusing water should be encouraged for a more efficient use of water.
Another surely increasing source of water is provided by **rain water**. Rain water use is more and more promoted by the administrations and first figures become available. These volumes are to be added to the abstracted volume of surface water in the present releases of JQ-IWA, but annotations on it are strongly recommended. One assumes therefore that rain water use is also included in the data pertaining to uses of self-supply water collected in Table 3.1 and Table 3.2 of the JQ-IWA.

The amount of **water imported** from outside the Belgian territory is considered as negligible
- a value of about 0,3 Mm³/year was mentioned for the Walloon Region in 2003, coming from Germany and France (Prevedello, 2006);
- a small amount can also originate from the Netherlands and France towards Flanders and is also negligible (AMINAL, 2002)

2.2.7 Freshwater use by source and by sectors

The first question of Table 3.1 of JQ-IWA, regarding the **population percentage connected to public water supply (PWS),** is a non-trivial question contrary to what one might think.
Information is provided by the number of connections to the PWS on the one hand and on the other hand it has to be linked to the number of dwelling and the people belonging to the dwellings. In general, however, one deals with high percentages that are above the 95 % since 2000. This issue is being analysed by NIS from sources as the population census but needs further investigations.

The **use of water from the public water supply (PWS)** should rather be well known based on the detailed databases managed by the water companies. However information was not always available at all regional administrations and all questions asked by JQ-IWA are not necessarily collected at the company.

Accurate data on **PWS use by sectors** are provided by VIVAQUA (the main water distribution company for Brussels) and IBDE to the Brussels administration. All water consumers are already classified with a NACE code in the database of the water distribution company (Davesne, personal communication; IBGE-BIM) and allow good sectorial analyses.

For Wallonia it is less obvious if the various sectors can be distinguished from the PWS databases. The information is rather to be found in the SESAME taxation database, which collects information on the economic sector of the water consumer. The domestic sector is calculated by subtracting the volumes of water used by the industrials and by the agriculture - breeding sector to the total PWS used volume (figures provided by Belgaqua).

The water consumption in Flanders is derived from the database of Environmental Taxes on waste water owned by VMM. There is no link with the activity sector code in the database.

A general remark is that the total volume of public water used (UPS) introduced in JQ06-IWA seems too low compared to the volume abstracted by the Public Supply, as a consequence of too low regional values except for Brussels (see Table 6). It is mostly not filled in by Flanders but an estimator can be made, by summing the user sectors.

A delicate point is also that substantial **transfers of water for public supply** occur from Wallonia to Brussels and to Flanders and that they are maybe not well taken into account (see Table 5 and Table 6). This has to be further checked to avoid double counting or missing volumes, in close cooperation with the Regions. We strongly recommend as for the in- and outflow (see section 2.2.2) that Regions provide additional information on it. Information received by Belgaqua might help in the evaluation, as further explained in section 3.5.

Table 6: Used water volumes (in Mm³) from the public supply (UPS) as introduced in JQ06-IWA (being reviewed)

Year	Use sector	BE by NIS	FL	WA	BR	Σ Regions
1985	Agriculture					
	Industry					
	Domestic					
	Total			112.345		
1995	Agriculture	16.009	8.561	7.443	0.004	16.009
	Industry	102.300	75.886	22.606	2.405	100.897
	Domestic	240.966	53.128	132.544	55.294	240.966
	Total	419.147		221.946	58.222	
2000	Agriculture	13.463	7.337	6.126	0.001	13.463
	Industry	104.988	81.968	20.428	1.772	104.168
	Domestic	247.922	50.604	141.395	55.923	247.922
	Total	412.474		213.496	58.248	
2001	Agriculture	11.919	6.124	5.794	0.001	11.919
	Industry	102.290	78.907	20.748	1.783	101.438
	Domestic	238.284	45.625	135.930	56.729	238.284
	Total	402.912		212.318	59.058	
2002	Agriculture	11.776	6.129	5.645	0.002	11.776
	Industry	97.705	76.172	18.782	1.845	96.799
	Domestic	240.336	47.054	136.524	56.759	240.336
	Total	400.575		210.791	59.525	
2003	Agriculture	11.744	6.110	5.631	0.003	11.744
	Industry	99.028	76.939	19.312	2.049	98.300
	Domestic	245.274	48.372	139.125	57.777	245.274
	Total	411.397		218.434	60.813	
2004	Agriculture		6.481		0.002	6.483
	Industry		78.403		1.995	80.398
	Domestic		53.774		57.434	111.208
	Total	427.415		226.791	60.564	

BE: Begium; **FL**: Flanders; **WA:** Wallonia; **BR:** Brussels Capital

A delicate point is also that substantial **transfers of water for public supply** occur from Wallonia to Brussels and to Flanders and that they are maybe not well taken into account (see Table 5 and Table 6). This has to be further checked to avoid double counting or missing volumes, in close cooperation with the Regions. We strongly recommend as for the in- and outflow (see section 2.2.2) that Regions provide additional information on it. Information received by Belgaqua might help in the evaluation, as further explained in section 3.5.

The **mixed and changing sectors** present an additional complexity that each Region has to face. For the mixed sectors, Brussels attributes the sector of the biggest consumer, which diminishes the uncertainty. Unlike the mixed sectors, changing sectors is a more cumbersome problem (Davesne, pers.comm). More resources are indeed needed to closely follow the economic sector evolution and to update all concerned databases. In that domain, cooperation between the federal administration and the Regions would be profitable.

The **use of water from self supply** is more or less the sum of surface and groundwater abstraction excluding the PWS, except if non–negligible losses occur. It follows therefore the same procedure as for these abstractions and same remarks can be done concerning the sector discrimination (see Section 2.2.5)

We assume that the use of rain-water has to be included in all use sectors given that they have to be included in the abstraction of surface water.

The losses of water cover, by definition, the public water supply losses and the self-supply losses, however there are typically pertaining to the distribution part of the water. This information was not always available for all Regions and could not a priori be deduced from the comparison of total use against the total abstraction for Flanders and therefore for Belgium. One of the possible difficulties is the confusion accompanying the large amount of water that transfers from Wallonia to Flanders, the uncertainties regarding the Flemish database on the water uses and the large amount of water that are used for cooling purpose. More efforts have to be done to solve this apparently inextricable situation. Solutions are explored in the analyses of the PWS data as described in section 3.5.

2.2.8 Data interpretation for specific indicators

The water stress i.e. the percentage of abstraction versus the available resources (see section 3.7 for more details), is abnormally high because of the over-estimated water abstraction in comparison with the estimated total water resources.

This is mainly because of the large amount of water abstracted in Belgium for water cooling industry. The main part of this abstracted water is however almost directly released in the surface water. It is true that, as foreseen in the JQ, these volumes of water cannot be considered as un-used water. **Water used for cooling** has obviously undergone an increase of temperature. Very small changes can consequently have occurred in the ionic balance of the composition of the abstracted water. Local temperature perturbations where the water has been released in the surface network can also be expected with their consequences for the biosphere and has therefore to be monitored. Nevertheless for what concerns the water resources, the global quality of the re-injected water regarding the abstracted water is maintained and these important volumes of water should therefore not be considered as actual consumed water.

It is therefore strongly recommended to:
- first, evaluate the amount of **cooling water that is discharged**, which is in addition required in the summary table of JQ-IWA
- second, propose a better indicator than the one that is used up to now, i.e. one that subtracts the re-injected cooling-water volumes from the abstracted volumes.

More details on the water resources indicators are provided in section 3.7.

2.2.9 Sewerage system and treatment plants

NIS did not perform a deep evaluation of the figures provided in the tables related to the waste water and its treatment (T4 to 7). A general check of the data was done however to look for consistency regarding the waste water treatment circuit scheme. It is nevertheless worth mentioning main difficulties encountered by the Regions when completing the data.

A first important point is to well distinguish the various flows in volumes or emitted loads within the complex circuit of multiple coexisting collecting and treatment systems. Figure 10 illustrates this complex circuit and can be used to identify most of the potential paths of the waste water.

An essential distinction has to be done between the generated waste from the source, which downstream the circuit will mostly undergo a series of treatments, and the discharged waste, which goes back into the natural environment after it has undergone a series of treatments. Both types of data are found in the same table and must be completed with meticulous care.

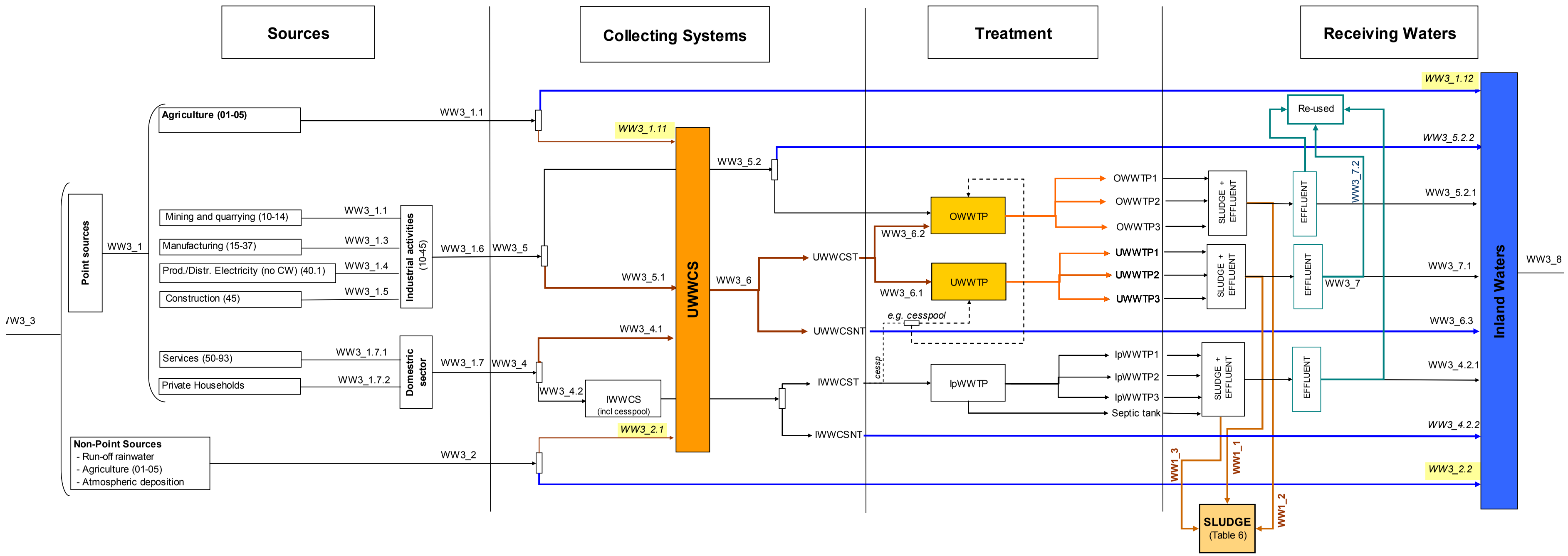
Evaluating the percentage of the population connected to the urban waste water collecting system and to the treatment system is not that easy in some Regions. One can assume that all population located along the sewage system is automatically connected but in some areas this can lead to overestimations. As explained by the Walloon Region, it is a delicate point, which may be solved by conducting specific surveys. Several independent treatment types can also exist at a same location and it is not always obvious which one is really in use. However, we presume that the system with the higher degree of treatment is the one that is used and furthermore only a low percentage of the population is concerned by this possible uncertainty.

NIS tried to investigate results of the population censuses in order to collect some more information on the population connected to these various types of waste water collection or treatment systems. This is further explained in section 3.6. See also Figure 11 to locate the possible connections of the population within the waste water circuit and their link with questions of Table 4 of JQ08-IWA.

Volumes and loads from the individual treatments and or industrial treatment are hard to evaluate.

Finally, a typical difficulty is presented by transfers of waste water or sludge between Regions. Brussels treats indeed waste water volumes provided by the Flemish Region and parts of sludge are exported. Identifying these volumes seems a very hard task.

Again, as for the other main issues cooperation is recommended between the Regions.



Legend:

WWx_x.xx: various paths of a substance or of the waste water within the waste water circuit (codes used in the JQ08-IWA Table 7; Table 6 for the sludge)

Note that italic codes are not used in JQ08-IWA and that those with yellow background have been created; for own purposes

UWWCS: Urban Waste Water Collecting System
IWWCS: Independant Waste Water Collecting System
UWWCST: Urban Waste Water Collecting System with Treatment
UWWCSNT: Urban Waste Water Collecting System without Treatment
IWWCST: Independant Waste Water Collecting System with Treatment
IWWCSNT: Independant Waste Water Collecting System without Treatment

UWWTP: Urban Waste Water Treatment Plant
OWWTP: Other Waste Water Treatment Plant including Industrial Waste Water Treatment Plant
IpWWTP: Independant Waste Water Treatment Plant
WWTP1, WWTP2, WWTP3: Waste Water Treatment Plant of Primary, Secondary or Tertiary type

BE-NIS/W08-067

Figure 10: Waste water circuit and identification of the questions of Table 7 (+ Table 6) of JQ08-IWA through the path codes
(modified from JQ06-IWA)

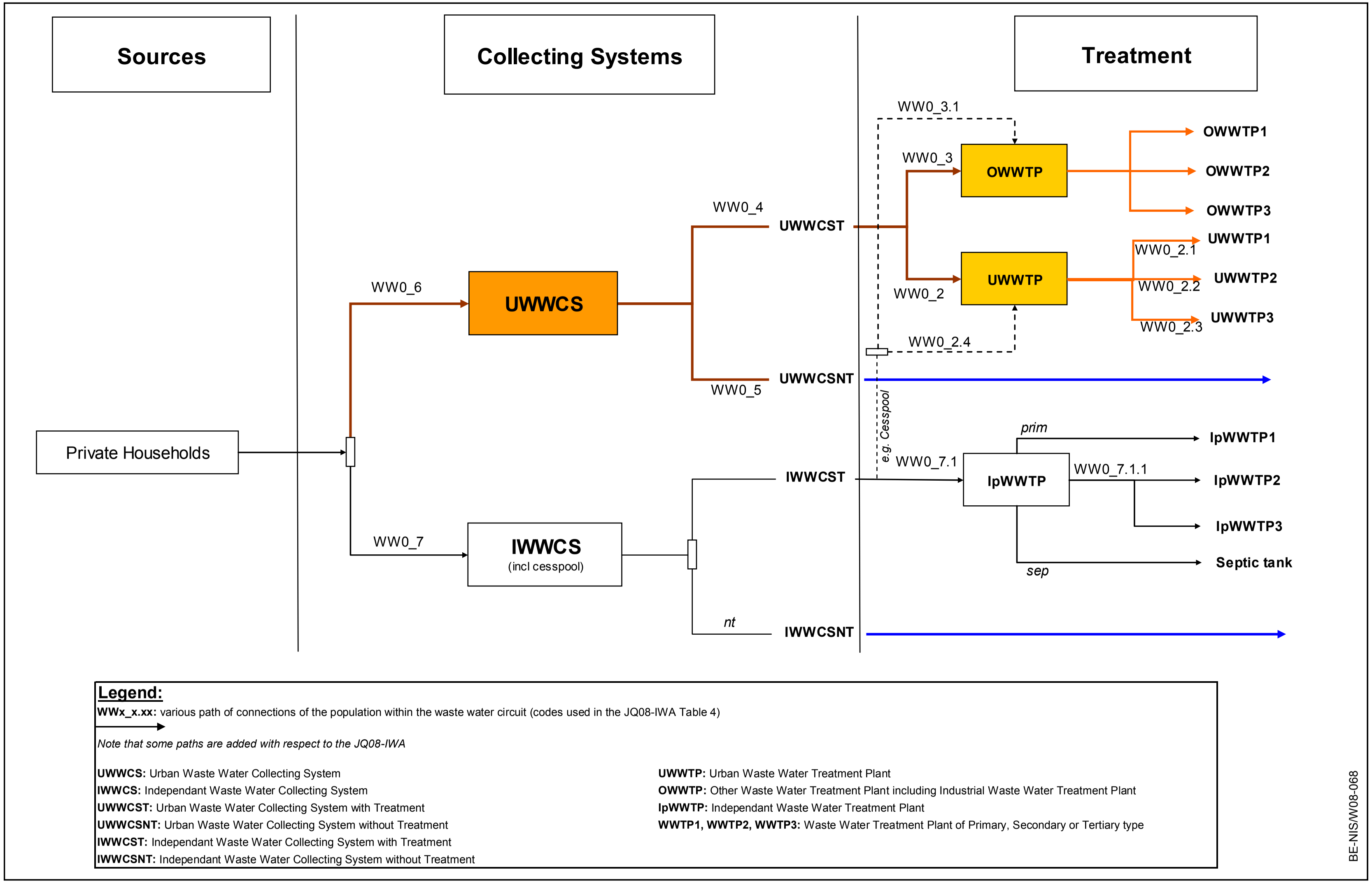


Figure 11: **Possible connections of the population within the waste water circuit and identification of the questions of Table 4 of the JQ08-IWA**

3 SPECIFIC SOLUTIONS DEVELOPED WITHIN THIS GRANT

Following sections provide specific tasks that NIS has performed in its limited field of possible actions.

3.1 Coordination within the existing formal and informal networks

No specific changes occurred in the procedure followed to filling in the JQ-IWA, described in section 1.2.9 but we want to stress that NIS work is carried out with respect to the informal BEIS system.

Coordination was a little emphasised during the period 2007 2008, thanks to the availability of NIS resources (through this Eurostat Grant). Besides the increased electronic mailing two technical meetings were organised at NIS and helped exchanging information. Although the access to source information remains limited, we are convinced that following the project more closely provides incentives to all contributors. One should recall that JQ-IWA is not a priority in comparison with the many other efforts asked to the various administrative services and which may be mandatory. Encountered problems can be more discussed; solutions transmitted and evaluated; tasks within the regional and federal administration better shared, efforts optimized, etc.

The BEIS system including its interaction with the Steering Group of Environmental Data, as explained in section 1.2.8, is therefore much appreciated. We recommend however increased coordinated cooperation between the water experts. An expert group on water exists at the steering level of the CCIEP ensuring the needed cooperation in the water policies. The group is probably consulted in the framework of other international reporting. More interaction is advisable between the JQ-IWA and this group and the constitution of a specific working group on water should be recommended.

Whatever the focal point from which the coordination is organised (which expert, which institute) the coordination is essential and has to be transparent for all.

3.2 Database development

In chapter 2, the difficulty to manipulate, track and verify data in order to finally consolidate if for the JQ-IWA, has frequently been highlighted.

Many files are available at NIS, corresponding to various exercises of the questionnaire. Several releases of a given exercise of the JQ-IWA exist when revision or corrections have been applied. These data, at their turn, are related to each of the regional answers. Various relationships are built on it to provide a federal consolidation. In other words a large amount of data has to be managed.

We therefore developed a simple database called "**NIS-Water**", so that each of this data could be stored on a structured way, having various auxiliary data to retrace as much as possible all figures of the JQ-IWA as well as their accompanying information.

Four types of tables have been built (see details on the NIS-Water database table definitions in Annex 3).

3.2.1 Definition Tables

These tables includes the **definitions** of all variables required in the questionnaire of exercise 2006 and 2008 (JQ06-IWA, JQ08-IWA) as they are presented in the forms. Information coming from the definitions of the forms or the manual (Nagy *et al*., 2007) are added when needed. Further linked to extended definitions or advices in the methodology are foreseen.
Additional variables, not asked but essential in the collection of the data required for JQ-IWA are also included as e.g. a subdivision according to an activity sector or some additional waste water treatment paths that have to be included when aggregating data.

Besides the **definition** (field: "Variable basic name") of the variable a new identifier is created for the NIS-Water database (field: "VarNIScode"). Except the three first letters of the variable code, related to the subtheme of the water statistic, it uses sequential numbering.
A second field (field: "VarIwecode") is created with some self-made nomenclature, based on the symbols used in the JQ-IWA scheme (e.g. natural water cycle) and commonly used in the hydrological world (ex: P for precipitation, IF for internal flow ….)

Various **dimensional fields** are used as the geographic domain, the units, the type of period considered for the data, the type of data (absolute or coefficients…), and the economic activity etc. Prevailing nomenclatures are used if available as e.g. the REFNIS codes for the geographic domain and NACE codes for the economic activity. Also the ISTI codes are used for the economical activities as they provide more variants in aggregations of NACE.

A **link with the JQ-IWA** is foreseen in several ways
The field code of the JQ-IWA, which are stored in the hidden columns of the forms are concatenated and used (field: "VarJQcode"). They represent the most robust link with the questionnaire. These unique codes are indeed used in the Envstat database and should not change with time (Descanvelle, pers. com. 11-2007; Forster, pers. com. 04-2008). Very exceptionally, in case of missing code, new codes have been built by NIS, following the same logic as Eurostat and after consulting Eurostat.
A second link with the JQ-IWA is made by indicating the name of the Table and the position (row number) within the data range (Field: "Table_row JQ08"). This link is less robust as the questions can move in the form and has therefore to be reviewed at each exercise but it has an important role to play for data transfer as explained below.

Two other fields are provided with, when possible, **basic relationships between the variables**. This relationship is in the form of an equation, which can be used as default to obtain other variables. Two examples of relationships are provided in Table 7.

Example 1:
The outflow into neighbouring territories is the sum of all outflows into each of the neighbouring countries

Example 2:
The total fresh water resources are the sum of the internal flow and the actual external inflow.

Table 7: Example of default relationship between some variable of the JQ-IWA

VarNIScode	VarIWecode	VarJQcode	Variable basic name	Table_row JQ08	Formula with symbols
WaR-010	Ot_BE	FR_5.2	Actual outflow into neighbouring territories of Belgium, total of a year in Mm³	JQ-IWA-T1_07	Ot_BE = $\sum$ OtoCountry$_i$_BE
WaR-011	Res_in_BE	FR_6	Total fresh water resources of Belgium, total of a year in Mm³	JQ-IWA-T1_08	Res_in_BE = IF_BE + EI_BE

The variables are distributed amongst four main tables according to four main sub-themes as presented in Table 8. Their relationships are illustrated in Figure 12.

Table 8: Themes of the NIS-Water database related to the tables of the JQ-IWA

Table name in NIS-Water database	Main sub-theme	Tables of the JQ-IWA
WaRes-def	Water Resources	1, 1a-IF, 1a-OF
WaUse-def	Water Use (including waste water treatment, related issues)	2.1, 2.2, 3.1, 3.2, Summary Table, 4, 5, 6, 7
Pop-def	Population data	
Area-def	Land areas data	

3.2.2 Data Tables

The answers to the questionnaires i.e. the values of the various variables are stored in the data tables. These tables foresee several complementary fields.
First, the “value” field contains the numeric value of the question at a given timestamp for a given period, second the “Time” specifies the time to which the value corresponds. Another date field “VersionDate” yields the date when the value has been generated and is, mostly the date of the questionnaire reply. A “Flag” field, inspired from the ENVSTAT database, comprises text as e.g. “n.a.” when the data is not available; “e” when it is estimated, “p” when it is provisional etc. (see details in Annex 3.2).
An additional field “Status” mentions if the value has to be revised or not
The “Sce” mentions the source of the information for NIS. The answer:”JQ06-VMM” stands e.g. for the joint-questionnaire filled by VMM. A link to a list of sources as VMM is foreseen as an auxiliary Table.
Another essential field is the “data flow”. It provides the information on how the data was obtained, not really on the source but on the used process.

If the default formula of the definition table is used, as described in previous section "D" will be mentioned if not, another code is used, which refers to a process flow Table "DataProFlow" (see Figure 12 for the relationship).

3.2.3 Process flow Tables

The process flow table is constructed with a serial identification code having prefixes referring to the concerned geographic domain and to the themes of the data, respectively water resources, water use, population and territorial surfaces.

A field "Data process flow" provides a description of the method that has been applied to obtain the final figure and is, in a first step, essentially based on the footnote accompanying the figures in the JQ-IWA forms. Information is added as far as it is available, from reports, personal communications, etc. and a link is to foresee to document files.

The field "ProcessPlace" mentions the place where the data process has been carried out and "External Source" the name of the data source, according to the process place.

Links from this Process flow table should be foreseen to other information tables if they are available at the Regions.
The purpose of the process flow table at the long term is to be able to retrace for any figure of the database (and thus the JQ-IWA) all the required additional information on it i.e.:, which institute has delivered the data; from which data source the figure is coming from and which process it has undergone. Although this data might be seen as an auxiliary data, we consider it as essential to ensure an optimal, reliable and reproducible data collection.

It is currently only filled in with scarce information provided from the footnotes but one could consider joining efforts between the contributors to complete it on a more organized and systematic way.

This database development has thus to be pursued. It is also susceptible to be reviewed inside NIS according to standards that will have to be applied if/when it will be introduced in the data warehouse system in development at NIS.

Having all these variables filled in the database, NIS would be better equipped to evaluate entering data and to process it using various applications. The database offers the possibility to track any required information over the years, according to the geographic domain, the version of the data and to trace back complementary information on the source, quality and method applied to obtain the data. However the tables of the database have first to be filled in and the information to introduce must be somewhere available!

Two examples of extraction of process-flow information are provided in Annexes 3.3 and 3.4, for respectively the BOD generated by the domestic sector and the percent of the population connected to the Urban Waste Water Treatment. In both cases several annotations were provided by the Region describing the encountered difficulties and the used approximations.

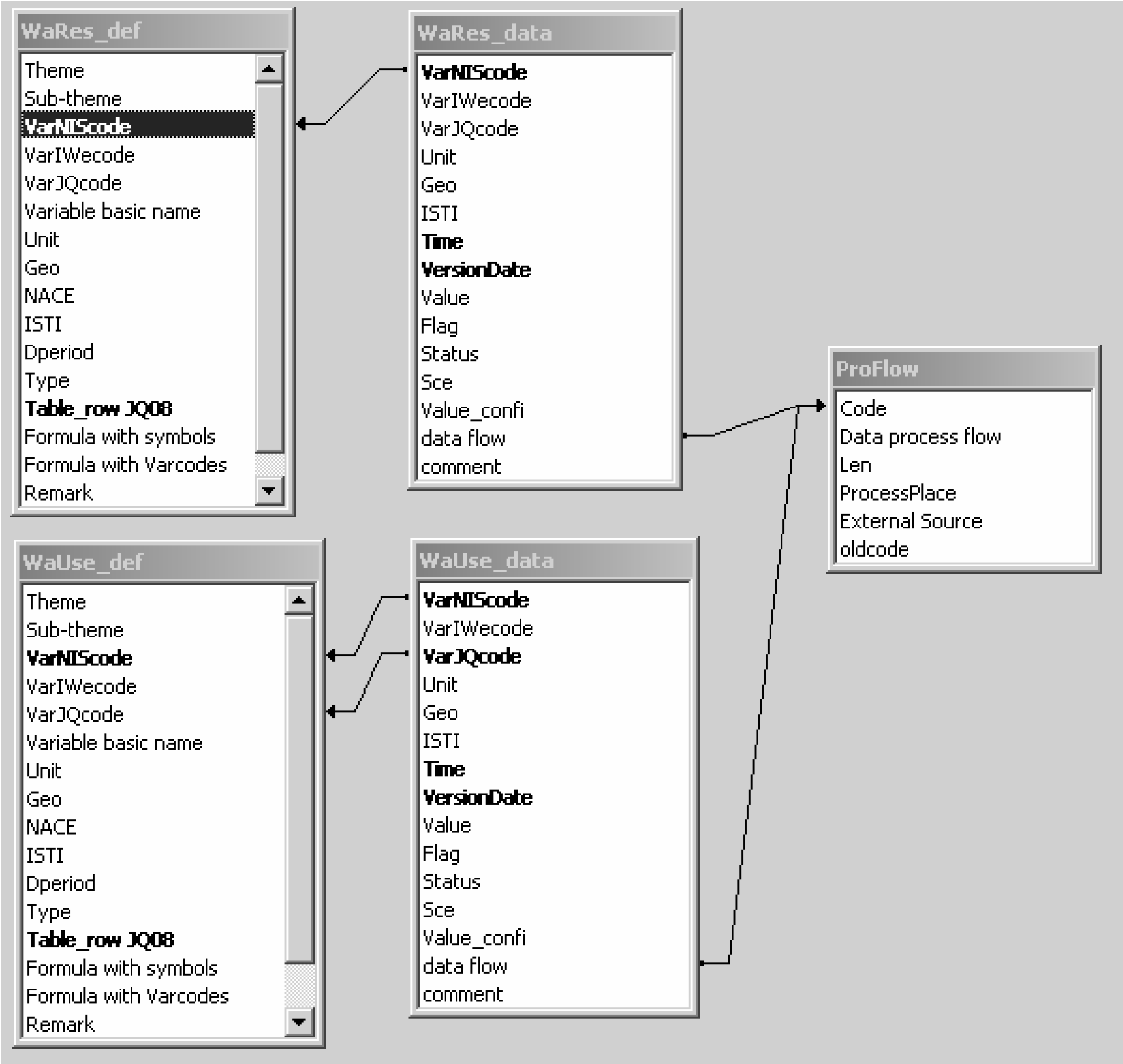


Figure 12: Structure of the database NIS-Water

3.2.4 Extracting data from the JQ-IWA forms

As explained in section 2.1.6, a simple and custom-built application was developed at NIS in order to easily read the JQ-IWA Excel forms provided by the Regions and to transfer all the available data from the Regions and from Belgium in the NIS-Water database.
This application is written in Visual Basic For Application (VBA) and called **"BENIS_JQIWA_Reader[16]"** The program, running in MS Excel, uses the definition tables described in section 3.2.1 and makes the link with the VarJQcode. More details can be found in Arickx (2008)

It allows filling in the fields concerning value, time and flag in a structured and automatic way. Other fields are filled in manually as e.g. the version, the source of the data and the content of the footnotes that are spread in various tables, after verification.

[16] **BENIS_JQIWA_Reader:** VBA program developed at NIS-Belgium for the transfer of water statistical data from the Joint Questionnaire on Inland Waters to a structured input file for a database of NIS-Water type.

3.2.5 Writing data to the JQ-IWA

No specific application was yet developed but simple queries can be applied.
Data is mainly extract by linking queries to the field "Table_row JQ08" of the definition table and by applying a pivot table in order to get a similar display layout as in the JQ-IWA.

3.3 Calculation of precipitation and actual evapotranspiration

As explained in section 2.2.1, new calculations of precipitation (P) and actual evapotranspiration (ETR) were needed. Improvements can be expected from the closer cooperation between the regional administrations, research areas and the IRM. In the meantime, awaiting the first results, NIS has calculated aggregated values for Belgium following a method that is explained hereafter.
Various steps are described following one another in the next sections. A global view of the whole process is illustrated in the flow diagram provided in Annex 4.1.

3.3.1 Precipitation P

The precipitation is based on spatial average of the annual precipitation calculated for 17 stations distributed over the country. Daily data in mm have been provided by IRM for the period 1980 to 2007 for each of the stations. The stations are listed in Table 9 and located on the map in Figure 13.

The spatial average was weighted using de classical method of Thiessen polygons or polygons of influence on the measurement point. This could easily be performed with the Geographic Information System software of ArcGIS (release 9.2). The resulting 17 polygons are illustrated in Figure 14.

Note that more stations were originally foreseen but some of them have been eliminated due to too large gaps in the data series.

Resulting values of annual P in mm are provided in Table 10 for the period 1980 to 2007 and compared to values that were previously calculated by IRM, based on some 260 stations. The resulting annual precipitation values are provided by polygons in Annex 4.2. The same comparison is plotted in Figure 14 and four maps of the P values for each polygon are provided for 1980, 1990, 2005 and 2007 in Figure 15.

Table 9: List of the precipitation measurement points

N	Name	Commune	nrr	altitude (m)	P-code
1	Koksijde	Koksijde	103	5	2
2	Deurne(Rlw)	Antwerpen	502	10	1
3	Oudenaarde	Oudenaarde	1402	14	1
4	Eeklo	Eeklo	700	8	2
5	Essen	Essen	1909	14	1
6	Lommel	Lommel	2602	44	1
7	Uccle-Ukkel (Ferme)	Uccle	2900	100	1
	Ernage-Gembloux	Gembloux	3100	157	4
8	Bierset	Grace Hollogne	3601	191	1
9	Gosselies	Charleroi	4204	187	1
10	Wasmuel	Quaregnon	4001	25	1
11	Florennes	Florennes	4603	277	1
12	Dourbes (Aws)	Viroinval	4704	233	1
13	Ciney	Ciney	5105	240	1
14	Stavelot	Stavelot	5603	320	2
15	Chimay Forges	Chimay	6300	318	1
16	Saint-Hubert	Saint-Hubert	6304	556	1
	Lacuisine	Florenville	6701	298	4
17	Arlon (Gare)	Arlon	6804	400	1
	Godarville	Chapelle-Lez-Herlaimont	4203	138	5

nrr: IRM reference number of the P station

P-code number with various meaning regarding the use of the station during the exercise of 2008;

2: data are incomplete but can be used with estimates,

3: data are incomplete and will be used to estimate missing values elsewhere

4: data are incomplete and will not be used at all

5: data will be used in the future.

Godarville will replace Wasmuel as Wasmuel is closed from 12/2007.

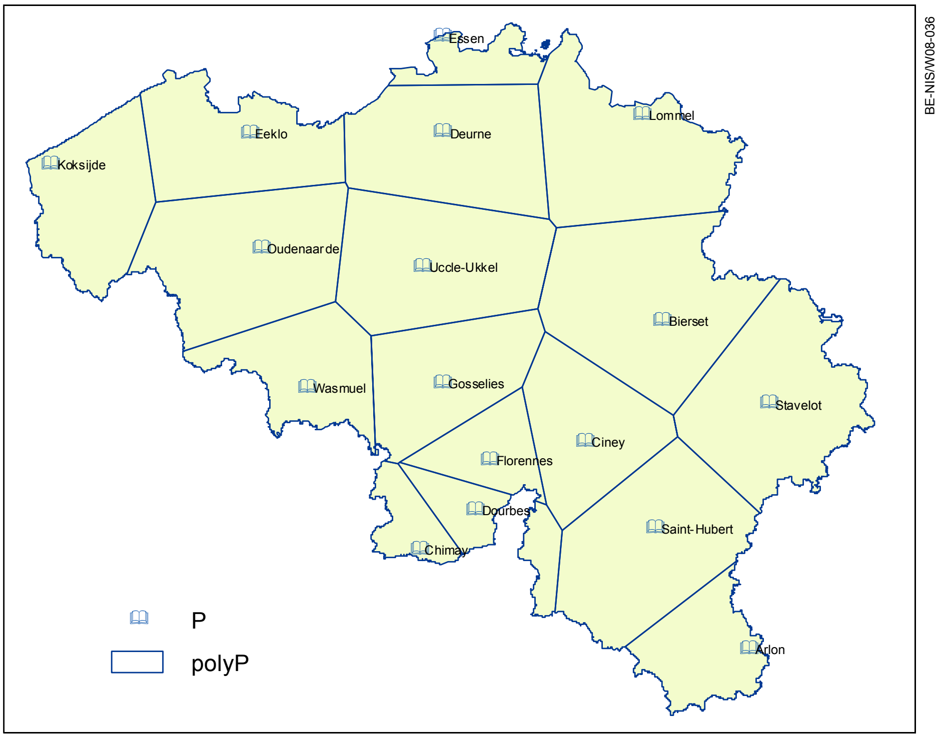


Figure 13: Schematic map of Belgium with location of the precipitation measurement points and corresponding Thiessen's polygons

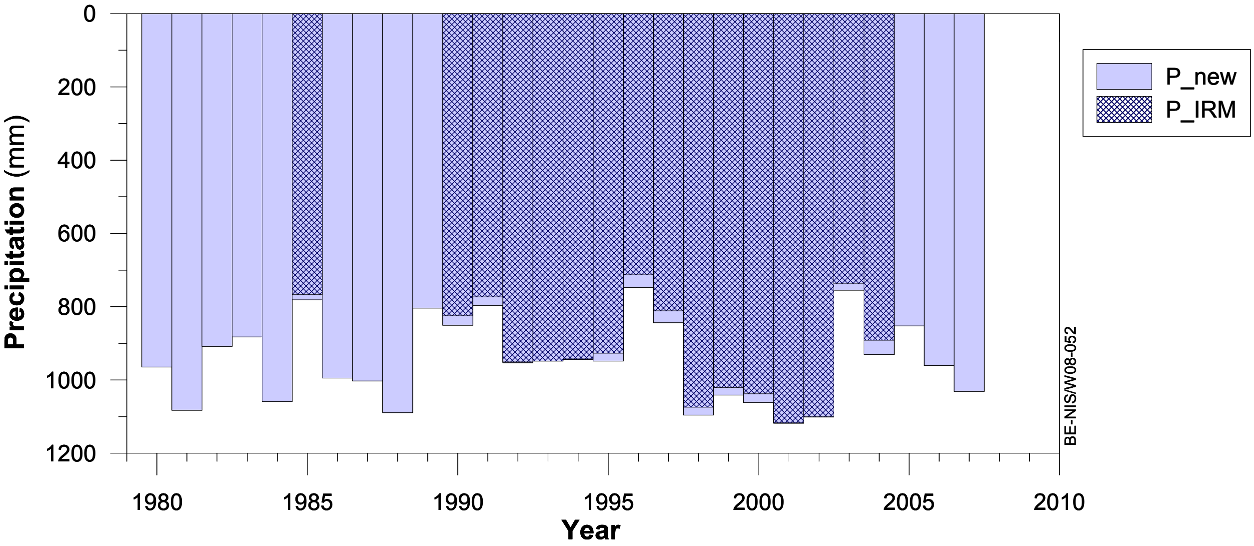


Figure 14: Weighted spatial average of the precipitation for Belgium from 1980 to 2007
P_IRM: values calculated previously by IRM
P_new: new values calculated with 17 polygons with IRM data

Table 10: Weighted spatial average of the precipitation for Belgium from 1980 to 2010 compared to previously calculated values

Year	P_IRM (mm)	P_New (mm)	Dif (%)	Year	P_IRM (mm)	P_New (mm)	Dif (%)
1980		964.6		1994	944.0	942.6	-0.2%
1981		1083.1		1995	927.0	948.6	2.3%
1982		908.2		1996	712.9	747.4	4.8%
1983		882.7		1997	811.3	843.7	4.0%
1984		1059.3		1998	1074.6	1096.1	2.0%
1985	767.0	781.3	1.9%	1999	1020.5	1041.1	2.0%
1986		995.1		2000	1037.8	1061.2	2.3%
1987		1002.7		2001	1118.1	1116.8	-0.1%
1988		1089.4		2002	1100.6	1100.6	-0.001%
1989		803.8		2003	737.3	754.7	2.4%
1990	823.3	850.5	3.3%	2004	891.9	930.6	4.3%
1991	773.2	796.4	3.0%	2005		852.6	
1992	950.6	952.6	0.2%	2006		960.6	
1993	948.5	948.4	0.0%	2007		1031.1	
				LTAA	914.9	948.06	3.6%

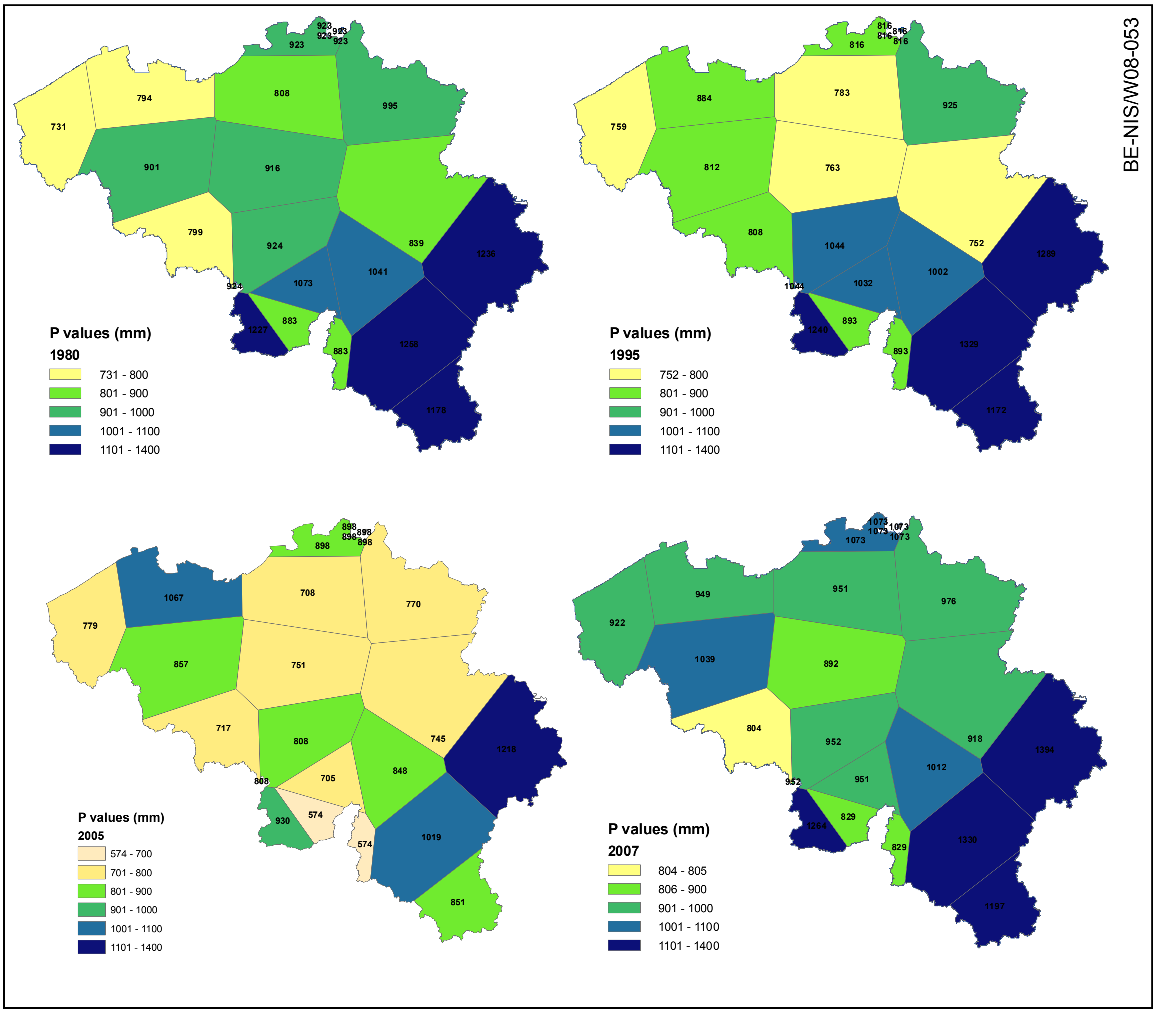


Figure 15: Map of annual P values for 1980, 1990, 2005 and 2007 (mm) for 17 polygons

Differences are rather low in the order of 2 to 5 %. The calculation methods based on the weighted polygons with a resolution of about 2000 km² (500 to 3000 km²) can therefore be considered as reliable for the estimating the P value of Belgium.
At the exception of the meteoric station of Wasmuel, which has been closed at the end of 2007, almost the same weighted coefficient can be used for further calculations and the same set of stations could be used if necessary for regional aggregations.

3.3.2 Actual evapotranspiration ETR

Estimations based on Turc's empiric formula

As explained in section 2.2.1, actual evapotranspiration was previously calculated using the empirical formula of Turc (1955), described in Shaw (1994). It is based on annual values of temperature and precipitation as follows:

$$ETR = \frac{P}{\sqrt{(0.9) + \left(\frac{P}{E_0}\right)^2}}$$

ETR, and P are respectively, the annual values of actual evapotranspiration and precipitation and E_0 is the maximum possible evapotranspiration estimated with the following formula:

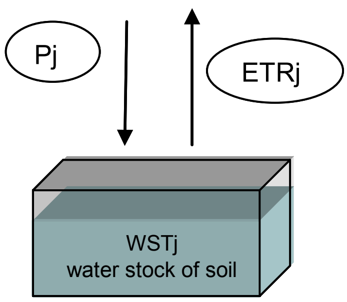
$$E_0 = 300 + 25T + 0.05T^3$$

Temperature values for the calculation were taken from the meteoric station of Uccle-Ukkel, which was assumed to be representative of Belgium and P was the aggregated value of Belgium provided by IRM.

Calculation with water balance model and land covers

A second series of calculations has been performed by running a water balance model using accurate daily values of the P and ETP according land covers.

The principle of the model is rather simple and illustrated in Figure 16.



Land cover	ETP	WSTmax (mm)
Water	ETPwater	∞
Impervious	ETPwater	0
Others Land	ETPLand	200

Figure 16: Scheme of the water balance model and values used for the water stock

One considers an available amount of water in the soil, called water stock (WST) and an available amount of water in the precipitation P and assumes that the potential evapotranspiration will be totally satisfied if the total amount of water is sufficient. If not only the available amount of water will evaporate. This leads to the actual evapotranspiration and varying stock of water depending on the fact that the water had to be drawn from it or not. A more detailed process is illustrated in following diagram Figure 17.

In our calculation a stock of about 200 mm was taken, which is assumed to correspond to an average water volume content of the Belgian soils. It has to be seen as a first approximation. In the case of evaporation on a water body the actual evapotranspiration is equal to potential evapotranspiration as in a situation where the WST would be infinite. We added a variant case for the areas with impervious land cover, which are becoming more significant in Belgium and obviously behaves differently. It this case we assume that potential evapotranspiration is equal to the one of free water but that there is no soil water stock, i.e. WST = 0.

A small routine was developed with SAS software to perform this water balance calculation at a daily step for long series of couples of P and ETP from 1980 to 2005. The list of couples of P and ETP was based on the available P and ETP and provided by the intersection of their respective areas of influences.

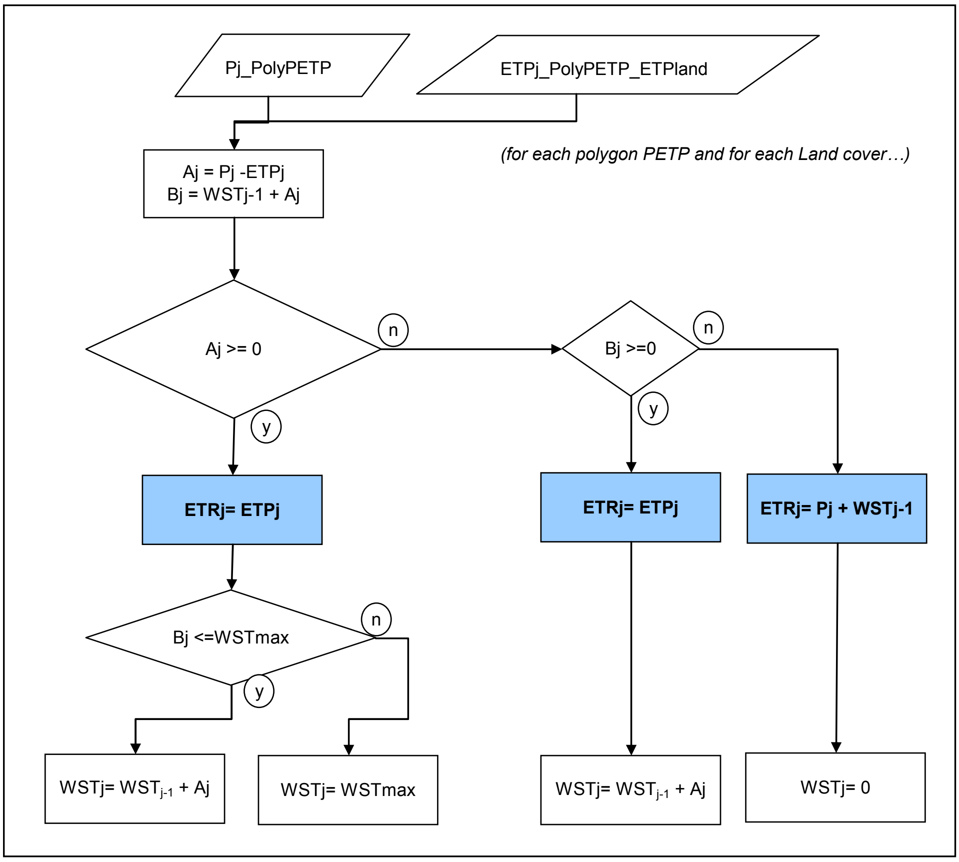


Figure 17: Iterative process used to calculate the actual evapotranspiration (ETR). **P**: precipitation; **PolyPETP**: name of the polygon (influence area of a given P and ETP); **ETPland**: potential evapotranspiration of a given land cover; **WST**: water stock of the soil

The P data is the same as the one used for the calculation of the precipitation (see previous section).

The ETP values are daily values from 1980 to 2005, provided by IRM for four types of land cover. They are spread over 10 meteoric stations in Belgium. These meteoric stations are illustrated in Figure 18 and the list is provided in Table 11. Note, that as for the precipitation one station was finally not used, because of too many missing data.

The calculation method of ETP used by IRM is of Penman type. It takes the net radiation, air and surface temperature, wind and vegetation characteristics into account (Bultot *et al.*, 1983). The four considered land covers are free water, grass, broadleaved trees and needle leaved tree.

Table 11: List of the measurement points for ETP calculation

N	Name	Commune	ntt	Altitude (mm)	ETP
1	Koksijde	Koksijde	102	5	1
2	Melle (Auto)	Melle	481	12	1
3	Uccle-Ukkel (Ferme)	Uccle	904	100	1
4	Ernage-Gembloux	Gembloux	1009	157	1
5	Bierset	Grace Hollogne	1108	191	1
6	Florennes	Florennes	1302	277	1
7	Dourbes (Aws)	Viroinval	1303	233	1
	Rochefort	Rochefort	1405	193	4
8	Chimay Forges	Chimay	1705	318	1
9	Saint-Hubert	Saint-Hubert	1708	556	1
10	Lacuisine	Florenville	1801	298	1

N: number of station within the ETR calculation for Belgium, exercise 2008
ntt: IRM reference number of the ETP station
ETP-code: number with various meaning regarding the use of the station in exercise 2008
1: used
4: incomplete station not used

The intersection of the two series of polygons (P and ETP) leads to 34 polygons of combined P and ETP stations as presented in Figure 19. We call them PETP polygons.

Note that very small areas on the intersections of the polygons have been manually merged to the next major polygon.

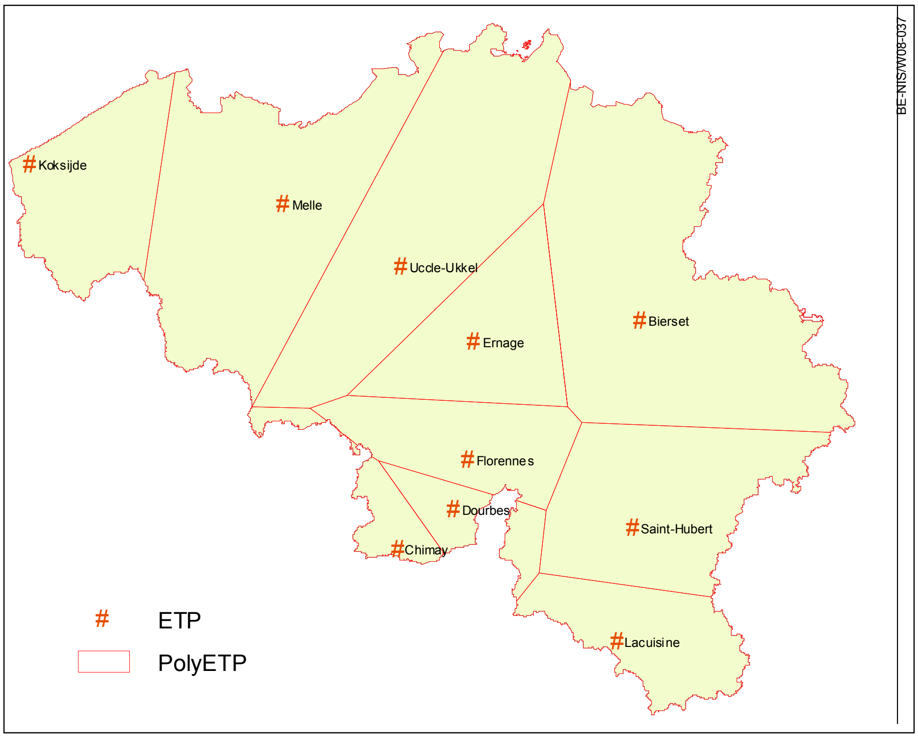


Figure 18: Schematic map of Belgium with location of the measurement points for potential evapotranspiration calculation and their corresponding Thiessen polygons

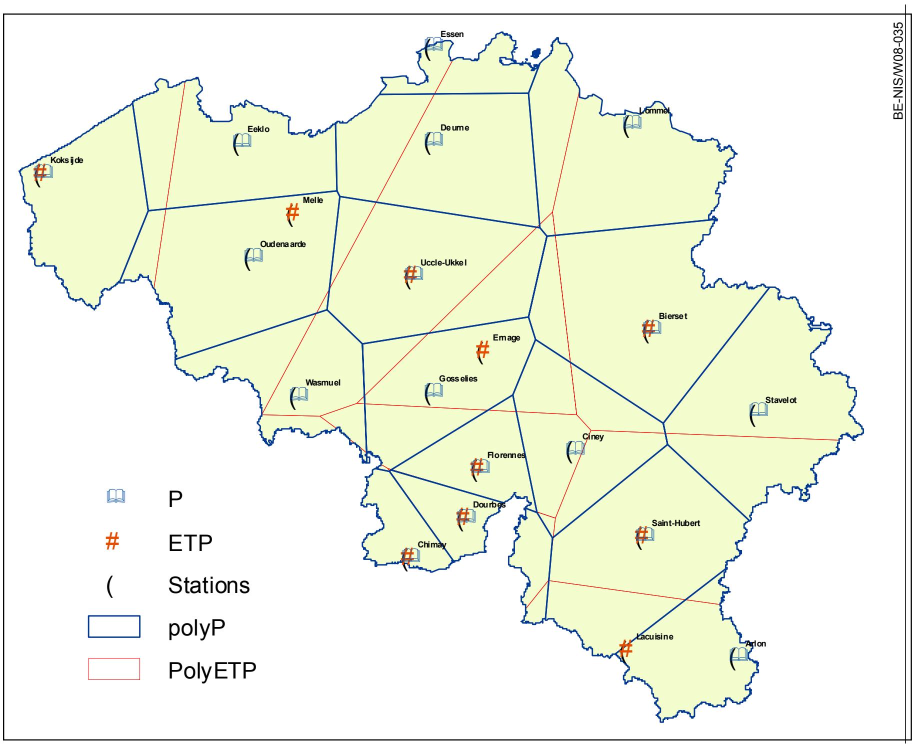


Figure 19: Intersection of the two series of polygons (P & ETP) ending in 34 PETP-polygons.

The land cover areas, needed for the ETR calculation, have been estimated, based on two sources of information, the cadastre data being available at NIS and the "Corine" land cover database from the EEA (2000).

The cadastre database provides indeed accurate information on built-up lands, connected areas and total areas by commune. Other non urban areas were considered as less reliable.
From the built-up information, coefficients of real built surfaces were determined by categories of built up (Hosten, pers. com.) and allowed a global estimation of an actual impervious surface. We call this land cover "impervious".

From the "Corine" land cover database (CLC) information could be extracted by commune on the respective proportions of water bodies (free water), broadleaved tree areas and needle leaved trees areas. We call them respectively "water", "broadleaved" and "needleleaved"

The remaining surface of each commune after subtracting from the total area, the "impervious", "water", "broadleaved" and "needleleaved" areas is assumed to be the cover "grass". More detail on the method and calculation can be found in Kestemont (2008).

With this simplified model we ended with 5 representative land classes for the determination of ETR calculated for each of the 589 communes of Belgium. We call the land class proportions by commune CS-ETPLandvsREFNIS.

Having the ETP land covers by commune on one hand and the P and ETP for each of the 34 polygons on the other hand it was necessary to perform a final intersection to know which land proportions are present for each polygon[17].

[17] Note that if we would need the information by commune, we would search for which of the 34 polygons of P and ETP is representative of the commune.

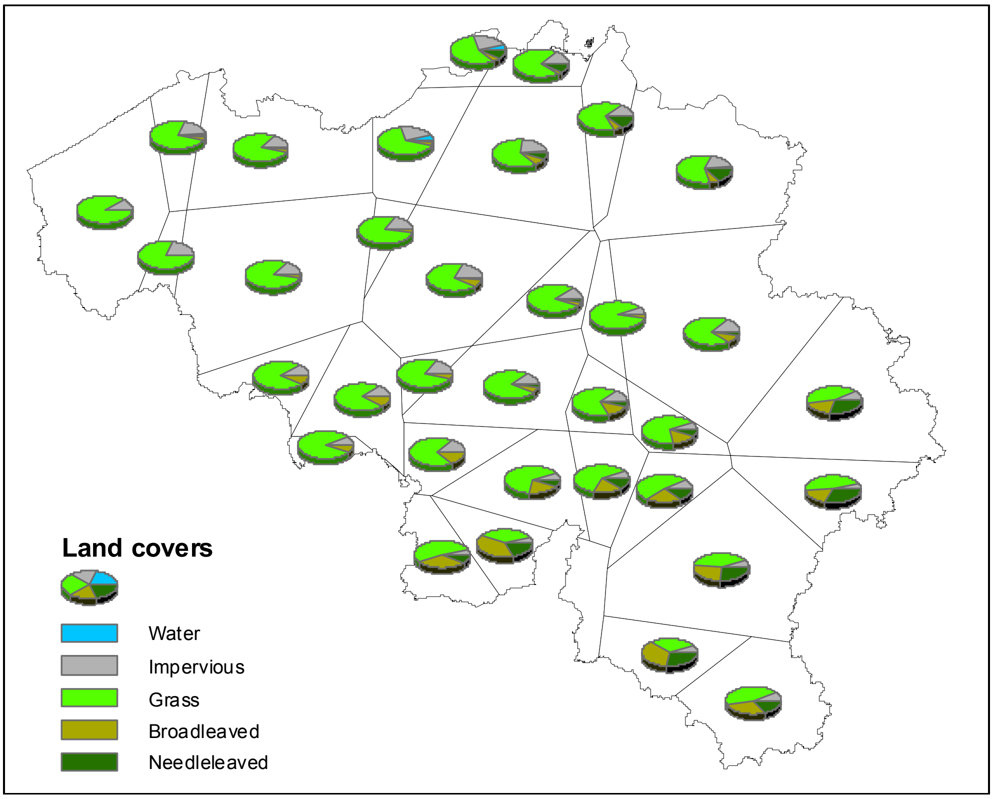


Figure 20: Proportion of land covers used for the ETR calculation (the communal values are aggregated by PETPpolygon for the visibility of the Figure).

An illustration of the results is provided in Figure 20 by plotting the proportion of land covers aggregated by PETP-polygons.

Having this intersection performed, we ended with a series of 907 polygons with uncut communes and parts of communes. A coefficient of the proportion of commune by PETP-polygon was calculated (CS-REFNISvsPolyPETP) and the proportion of land covers by polygons is therefore a linear combination (LC) of these coefficients with the land class proportions by commune CS-ETPLandvsREFNIS.

CS-ETPLandvsPolyPETP = LC of CS-ETPLandvsREFNIS and CS-REFNISvsPolyPETP

Knowing the weight of the PETPpolygons versus the Belgian territory it is therefore possible to calculate the spatial average value of ETR for the country.

Resulting values of annual ETR in mm are provided in Table 12 for the period 1980 to 2005 and compared to values that were previously calculated with the formula of Turc and by using the previous values of P of Belgium by IRM ($ETR_{Turc}1$). Detailed ETR values by polygons are provided in Annex 4.3. Other comparisons are made with variants on the Turc's ETR i.e. with the new P values instead of the IRM P values of Belgium ($ETR_{Turc}2$) or by using the P values of Uccle assuming they are representative of Belgium. ($ETR_{Turc}3$). The same comparison is plotted in Figure 21 and four maps of the ETR values by polygons are provided for 1980, 1990, 2000 and 2005 in Figure 22.

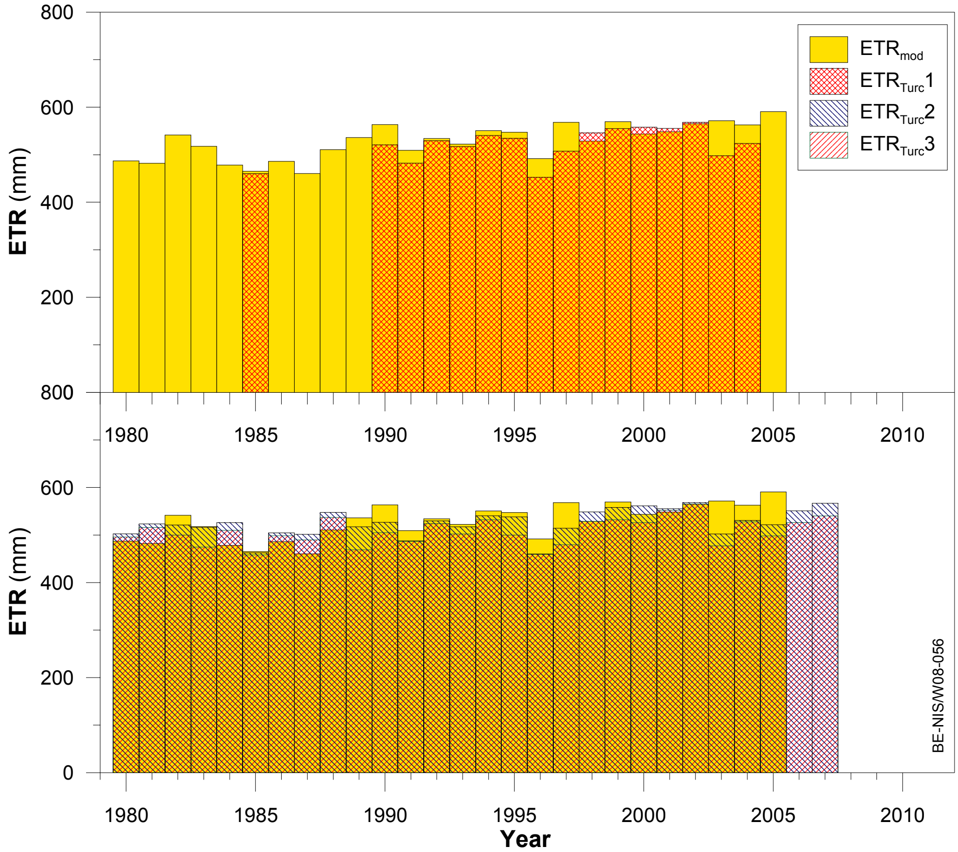


Figure 21: Comparison of the ETR results

From this first comparison we can conclude that using the formula of Turc provides a rather good estimation of the ETR in Belgium but it is recommended to use P values representative of Belgium. P values of Uccle are generally lower than the representative P of Belgium with a difference of about 10 % (max 20 %), which leads to a globally underestimation in the calculation ETR of about 5 %, however differences can reach 20 % as well.

The ETR calculated with the model is slightly different than the ETR values obtained with the Turc formula with differences mainly less than 5 % but they can vary between – 10 % and + 14 % according to the year.

The advantage of the ETR calculated with the model is that it is more sensitive to climate variation as it takes more factors into account. The ETR calculation is also more accurate using land covers at the scale of the commune and meteoric data at the scale of some 2000 km³. The model can also be applied to provide first approximation of the ETR by commune or Region. New data on land cover can easily be re-injected in the process. This might be recommended if more accurate data is available on the land cover and if one would take the evolution of the land cover into account.

Table 12: Comparison of the ETR values

Year	$ETR_{Turc}1$ with P_{BE}_IRM (mm)	$ETR_{Turc}2$ with P_{BE}_new (mm)	$ETR_{Turc}3$ with P_{Uccle} (mm)	ETR_{mod} (mm)	Difference vs $ETR_{Turc}1$ (%)	Difference vs $ETR_{Turc}3$ (%)
1980		502.6	496.0	487.01	-3.1%	-1.8%
1981		523.3	516.0	481.83	-7.9%	-6.6%
1982		521.0	500.0	541.32	3.9%	8.3%
1983		516.2	474.5	517.81	0.3%	9.1%
1984		526.2	509.8	478.27	-9.1%	-6.2%
1985		462.7	458.1	465.10	0.5%	1.5%
1986		504.6	498.5	485.88	-3.7%	-2.5%
1987		501.6	489.6	460.43	-8.2%	-6.0%
1988		547.7	537.1	510.71	-6.8%	-4.9%
1989		517.1	468.9	535.98	3.6%	14.3%
1990		526.6	504.9	563.46	7.0%	11.6%
1991	482.5	487.4	486.9	509.05	4.4%	4.6%
1992	529.4	529.7	523.9	534.12	0.8%	2.0%
1993	517.2	517.2	502.3	522.30	1.0%	4.0%
1994	540.7	540.4	531.9	550.87	1.9%	3.6%
1995	534.4	538.0	500.1	547.27	1.7%	9.4%
1996	452.5	460.1	459.5	491.92	6.9%	7.1%
1997	507.7	514.5	479.7	568.17	10.4%	18.4%
1998	546.0	548.5	528.8	528.55	-3.6%	0.0%
1999	554.9	557.8	532.2	569.57	2.1%	7.0%
2000	558.0	561.2	526.0	543.29	-3.2%	3.3%
2001	555.5	555.3	552.1	548.20	-1.3%	-0.7%
2002	568.0	568.0	565.1	565.15	-0.5%	0.0%
2003	497.6	502.3	477.2	571.65	13.8%	19.8%
2004	523.9	530.6	527.7	562.63	6.0%	6.6%
2005	n.a.	521.5	498.1	590.70	13.3%	18.6%
2006	n.a.	551.1	526.4			
2007	n.a.	566.8	540.1			
LTAA	526.3	525.0	507.6	528.1	1.2%	4.6%

ETR_Turc: calculation with the Turc formula using T of Uccle
with **1:** P for Belgium by IRM; **2:** new P for Belgium; **3:** P of Uccle
ETR_{mod}: calculation with water balance model and landcovers
LTAA: long term annual average

This proposed ETR calculation remains of course a first approximation given the various assumptions that were done during the process. We recommend further investigation, expecting future developments from the side of IRM and from other research area.

In the project called LSA-SAF, currently running at IRM, a methodology is being developed to estimate the evapotranspiration. It uses satellite data together with ground data to provide nearly real time data on various meteorical variables (Gellens-Meulenberghs, pers.comm.). It will probably deliver interesting information in the future but needs some further developments.

Nevertheless the current data proposed in this report can constitute a good response to the JQ-IWA question in the meantime.

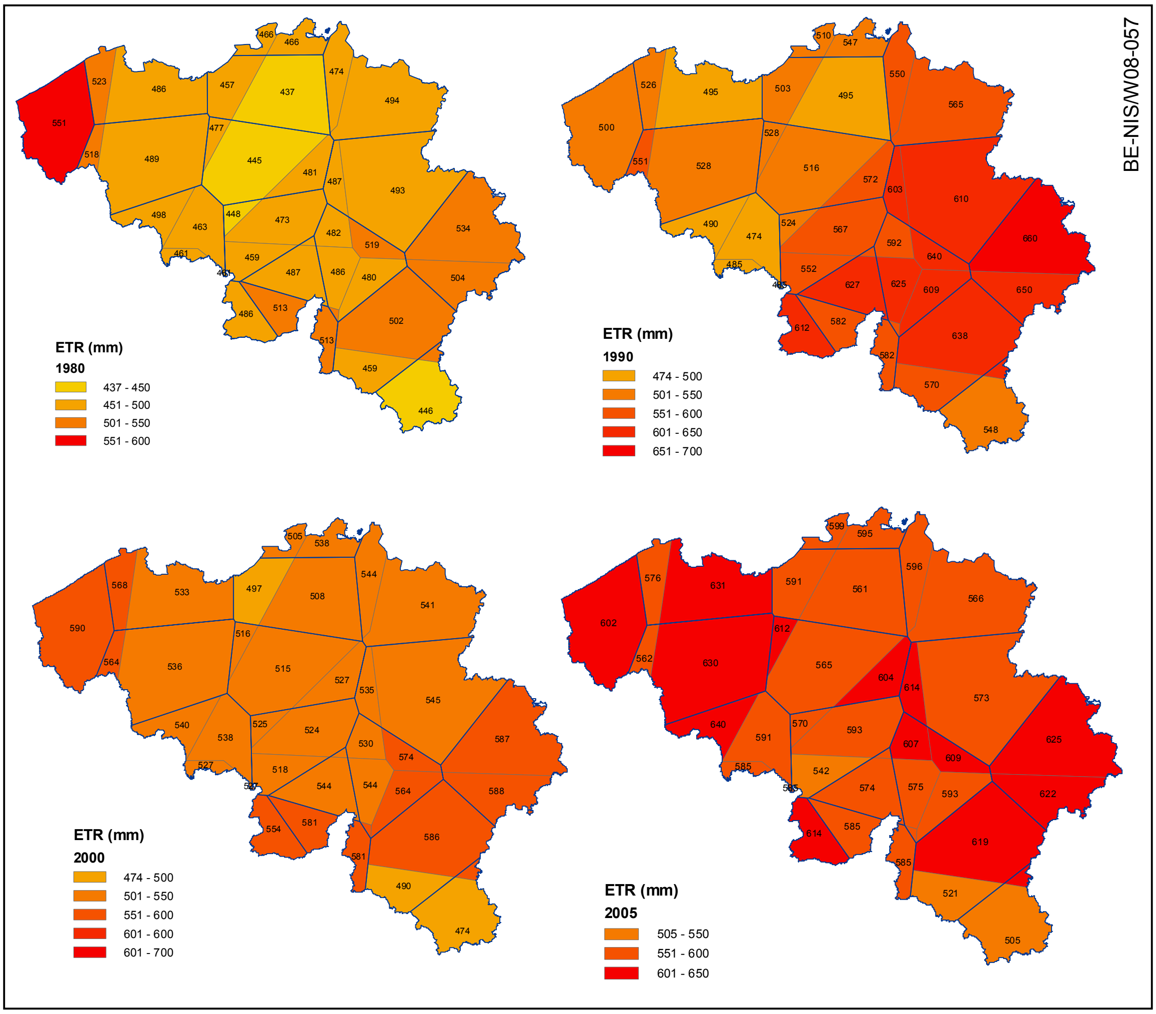


Figure 22: Map of annual ETR values for 1980, 1990, 2000 and 2005 (mm) calculated for 34 polygons with a water balance model and land covers

3.4 Aquifer recharge data

An evaluation of the recharge in Flanders has been performed for the VMM (formerly AMINAL) by the Free University of Brussels (VUB). The authors, (Meyus *et al.*, 2004 and Batelaan *et al.,* 2007), calculate the recharge by means of a home-developed model (WetSpass) with high spatial resolution. The model uses meteoric data and numerous spatial properties as e.g. land cover, soil structure and topography. The study provides therefore accurate values of aquifer recharge according to any geographic position in Flanders. The temporal dimension is not investigated, although one could expect that varying precipitation and actual evapotranspiration influences the resulting infiltration.
In the framework of the JQ-IWA answer, one can use the global value of the terms of the balance provided in this study for Flanders to derive the coefficient "ratio of infiltration with respect to the precipitation". This coefficient is estimated to be 29.4 %.

This coefficient can then be applied to the areas of Flanders and Brussels, assuming that Brussels has similarly characteristics to Flanders regarding the recharge.

For the Wallonia, a study called PIRENE was commissioned by the Walloon government to evaluate the terms of the water balance. The hydrology and agriculture unit of the faculty of Gembloux (FUSAGx) participated to the programme by using their model called EPICgrid. They propose pluri-annual average values (period 1970 to 2000) of the water balance terms for almost all catchments of Wallonia (Dautrebande *et al.*, 2004). The spatial variation between the various catchments is enhanced in this study.

NIS calculated a spatial weighted average for Wallonia of about 13.4%, based on these results. As can be expected, the coefficient is smaller than in Flanders because of a globally more hilly landscape and less pervious soil surfaces.

Finally, a weighted average of these two coefficients leads to an approximate ratio of about 20 % of the precipitations that recharge the Belgian aquifers.

The used method is very rough although it is based on detailed studies. We recommend updating this information with more accurate data when available.

3.5 Public water supply data

3.5.1 NIS's water survey

NIS collects direct information from the distribution sector through the water survey, which is conducted by NIS since 1946 and regulated by Ministerial Decree[18].
This Survey is a part of the industrial survey, which is conducted at the monthly schedule. It is addressed to all companies of the water production sector (i.e. NACE 41).
Table 13 summarizes the questions of interest for the water statistics. A copy of the form is provided in Annex 5.

Table 13: List of water variables from the NIS survey on public water supply

Question	**VarIWeCode** (see section 3.2)
Groundwater volumes pumped	AGWbyPS
Surface water volumes treated	ASWbyPS
Water volumes received from other companies	APSin
Water volumes provided to other companies	APSout
Water lost	PSL
Number of connections	ConnPS

Although this survey exists since more than 50 years only aggregated data from 1993 and microdata from 1998 are available in the DBRIS database system of NIS. By moving all ICT of NIS to a central part within the FPS Economy Ministry, the access to older data requires introducing requests through lasting procedures, which might even not be seen as a priority. Fortunately one can still find some old collections of statistics in the cellar of NIS!
An overview of the abstraction of freshwater for public supply for the last half century can therefore be plotted (see Figure 23).

[18] Ministerial Decree of 21 May of 1946 on the conduction of the monthly statistic in the water production industry, modified by Ministerial Decree of 15 December 1998 (see OJ 01/01/1999).

The investigated data provides reliable information on the total volume of water abstracted. A questionable point is the difference between received and provided water i.e. imported minus exported volumes. The net value of imported water for all water supply companies together is, according to the results of the water survey about 70 M m³/year although there are no significant volumes of water imported from outside Belgium. These volumes have been considered as additional water coming from unknown sector and unknown source in JQ06-IWA, which makes that total abstracted water, is higher than the sum of the surface and groundwater abstractions. This will probably be reviewed downwards in the next exercises but has to be further investigated.

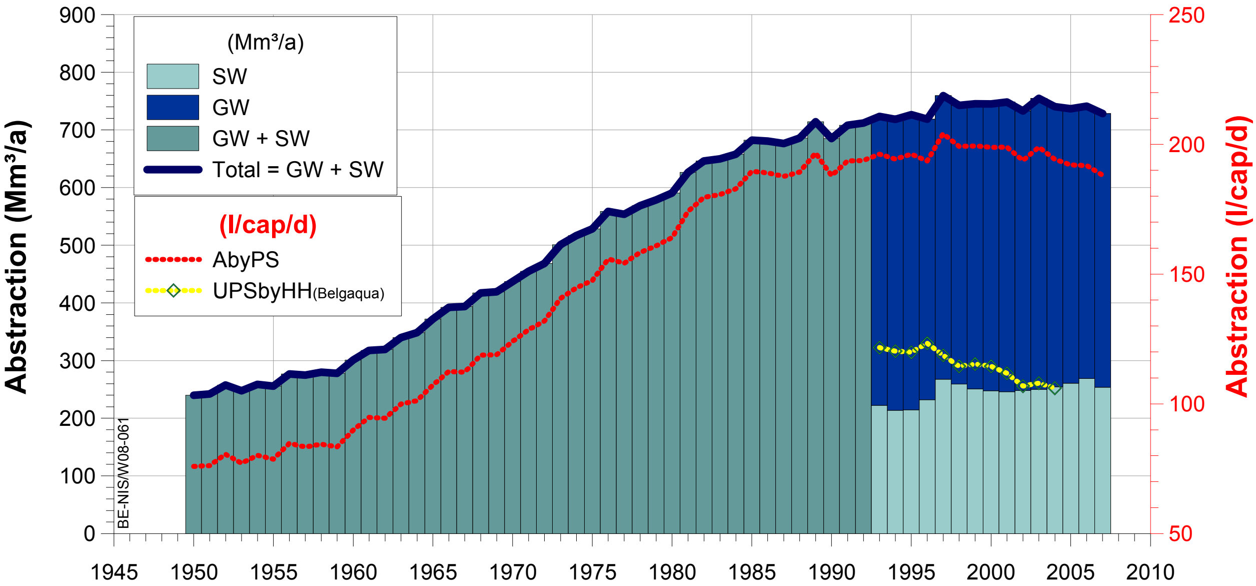


Figure 23: Evolution of the public water supply since the last half-century
SW: Surface water, **GW**: Groundwater, **AbyPS**: Abstraction by the Water Supply sector, **UPSbyHH**: Use of Public Supply water by the Households estimated by Belgaqua (after Legros, pers. comm.)

Losses of water on the public water network can be evaluated from this NIS survey and is about 12 %. The number of connections has reached 4.3 millions in 2007 and is still slightly increasing.

3.5.2 Belgaqua's survey

Belgaqua is a non-profit-making federation, merge of the 3 main regional water supply associations: AQUABRU (BR), AQUAWAL (WA) and SVW (FL), representing about 38 water supply and waste water treatment companies and by this respectively almost the whole distribution sector and the total waste water treatment sector within in Belgium. The non-affiliated water supply operators, which are about 40, represent about only 1% of the distributed water (Legros, pers. comm.).

The role of Belgaqua is to provide information to both suppliers and end-users and encourages the realization of specific scientific or technical studies. The Federation is also member of various International associations as a.o. the International Water Association

(IWA) and the European Union of National Associations of Water Suppliers and Waste Water Services (EUREAU).

Belgaqua and its regional associations collects various water figures from its members and in a lesser extent from the non members, in order to provide a Belgian overview of the water distribution and the water prices, which allows comparison with other countries within the IWA or EUREAU. The survey is carried on a yearly basis and concerns the past year. Results are almost obtained at a regional level around September and consolidated at the Belgian level in November-December.

Table 14: List of water variables collected by Belgaqua

Question	VarIWeCode (see section 3.2)
• Abstracted groundwater	AGWbyPS
• Abstracted surface water	ASWbyPS
• Water received from other companies	APSin
• Water provided to other companies	APSout
• Volume delivered to "small consumers" (variable criteria 200 – 500 m³/y or other)	
• Volume delivered to "large consumers"	
• Non registered (not accounted for) volume of water	
• Average daily distribution rate	
• Number of connections to the water distribution network (or number of water meters)	ConnPS
• Length of the distribution network	
• Numbers of employees	
• Water price/tariff structure	

A further interesting point from Belgaqua's survey is that information is collected concerning the consumption that can therefore be compared to the total use of public supply water asked in the JQ-IWA (see Table 15 in next section). Belgaqua makes a distinction between large and small consumptions. The small consumptions are further used by Belgaqua to evaluate the household consumption per inhabitant and per day by subtracting the proportion related to the small enterprises. Results are presented in Figure 23. Information is also gathered on the non registered volumes of water. These non-registered volumes comprises the losses on the supply network but also the volumes that are used for maintenance, public road cleaning, communal services, fire hydrants, etc.. They represent some 20 % of the total abstractions (Legros, pers. comm.)

3.5.3 Comparison of the water supply figures

A comparison of data from both surveys on water supply was possible thanks to data provided by Legros (pers. comm.) and is summarized in Table 15.

NIS has nearly twice as much individual responses than Belgaqua but this might be due to the many merges and associations that occur in the sector. The collection of data is maybe maintained according to the previous identifiers at NIS but this has to be further investigated. Anyway the water distribution is ensured by some main distribution companies, which are obviously comparable in both surveys (see the overview maps of the water supply companies in Flanders and Wallonia, after SVW and SWDE in Annex 5). The total figures on water abstraction from both surveys are comparable with a difference of only 4 % for 2006.

Differences are more significant when looking at the volumes transferred between companies. NIS counts some 40 millions of m³ more water than Belgaqua and this difference is also responsible for the difference between the total volumes proposed as final net volumes supplied. In both cases these volumes have to been seen as apparent imports of water rather than actual imports. They are certainly overestimated and especially in the case of the NIS survey. From this comparison it appears more obviously that these volumes of imported water correspond to side-effects in the totals from missing data in the individual responses. Currently only small volumes of water are imported from the Netherlands. It is therefore preferable to consider them currently as negligible as long as accurate data are not available.

Thanks to the collection of consumption data by Belgaqua a comparison is possible with figures provided by the Regions. It confirms the underestimations of the consumption of public supply water in Belgium by at least 40 %. We suspect that these volumes correspond to water transfer to Flanders that has not been taken into account in the total used water in Flanders. This has to be checked with the Regions.

Table 15: Preliminary comparison of water supply data for year 2006

Description variable	**NIS survey** 10^9 **m³**	**NIS** Σ **regions** 10^9 **m³**	**Belgaqua** 10^9 **m³**	**NIS-Belgaqua** 10^9 **m³**	**Comparison** %	**VarlWeCode** (see section 3.2)
Number of **connections** to the public water supply **[10⁹]**	4.297		4.139	0.158	**3.7%**	PSconn
Number of companies with registred volumes **[-]**	180		75 (59)			
Gross abstraction of fresh **groundwater** by public water supply (PWS) companies	472.055		466.057	5.998	**1.3%**	AGWbyPS
Gross abstraction of fresh **surface** water by public water supply (PWS) companies	269.064		272.318	-3.254	**-1.2%**	ASWbyPS
Gross abstraction of fresh **surface and groundwater** by public water supply (PWS) companies	741.119		738.044	3.075	**0.4%**	AWbyPS
Gross **abstractions** of fresh surface and groundwater **received (bougth)** by public water supply companies from other companies	238.963		271.250	-32.287	**-13.5%**	APSin
Gross **abstractions** of fresh surface and groundwater **provided** by public water supply companies **to** other companies	171.938		252.516	-80.578	**-46.9%**	APSout
Difference water received from other companies minus water provided by the public water supply companies to other companies[a]	67.025		18.734	48.291	**72.0%**	PSinN_BE
(Apparent)[a] net volume available on the public network i.e. total of water abstracted and received from other companies minus water provided to other companies by the public water supply companies	*805.050*		*757.080*	47.970	**6.0%**	PSN
Water availabble for the end user from the public water supply companies (net volume available minus losses)	712.935					PSAvE
Public water supply (PWS) used by **Domestic sector,** including the Households and the services UPSbyO (NACE 50-93)		0.0002				UPSbyDo
Public water supply **(PWS) used by** Domestic sector for **Private households** (small consumers)			391.299			UPSbyHH?
Public water supply **(PWS) used by Industry** sector (large consumers)		98.300	207.352	-109.052	**-110.9%**	UPSbyind?
Total registred consumed water			598.651			UPSby(HH+ind)?
Public water **non registred**			144.552			NonRegist UPS
Losses from the public water supply	95.157					PSL
			-13.877			PSN - Uby(HH+ind)

Data are provided for indication and have to be taken with care

a: the net import is overestimated and related to missing data from the individual answers. It bo be rather low. As a consequence, the net volume abstracted is is also overestimated

3.6 Population percentages regarding water supply, sewage disposal and treatment

As explained in section 2.2.7 and 2.2.9, evaluating the percentage of population that is connected to public water supply or to any waste water collecting system and water treatment type is not that easy.

One might consider that for Belgium, the public water supply is generally well-spread among the population reaching currently (2008) values close to the 100 %. Although, a non negligible percentage of the population have water supply from their own well and exceptionally, some households may exclusively use water from this self supply.

Concerning the waste water collecting system and the treatment of the waste water, again one can consider that the urban waste water collecting system followed by the urban waste water treatment plant is the prevailing waste-water flow but some areas may be less served and in these situations, people may use various alternative treatments. The landscape of the waste water flow is fast evolving and it is really difficult to obtain accurate data on it.

We tried to investigate data from the population census that is conducted by NIS nearly every 10 years, knowing that some of the questions are related to the accommodations of the households and the comfort within the dwellings.

A substantial list of questions is asked to the population through these censuses. Questions that might be used for our purpose on water supply and sewage disposal are listed in Table 16 for the censuses of 1981, 1991 and 2001.

Table 16: Questions related to water supply and sewage disposal from the population censuses 1981, 1991 and 2001

Question headings	Question Code1	Question Code2
Census 1981		
Drinking water suppy (exclusive answers)	11	
The households uses **public water supply inside the dwelling**	11	1
The households uses **public water supply inside the accommodation** in which the dwelling is situated	11	2
The households uses **public water supply situated outside the accommodation**	11	3
The households uses water from a **well equipped with an electrical hydrophore unit** (pump)	11	4
The households uses water from a **well without electrical hydrophore unit** (without pump)	11	5
The households uses water from a **public fountain**	11	6
Rain water cistern	12	
The dwelling **has a rain water cistern**	12	7
The dwelling **has no rain water cistern**	12	8
Census 1991		
Drinking water suppy	6	
The households has **public water supply inside the dwelling**	6	J
The households has water supply from a **well equipped with an electrical hydrophore unit** (pump)	6	K
The households has **water supply outside the accommodation**	6	L
Sewage disposal	7	
The dwelling is connected to the **urban waste water collecting system**	7	M
The dwelling has **its own sewage disposal (septic tank, drainage well)**	7	N
The dwelling **is not connected** to the urban waste water collecting system **and has no own sewage disposal system (septic tank, drainage well)**	7	O
Census 2001		
Rain water cistern	15	
The dwelling **has a rain water cistern**	15	2
Sewage disposal	13	
The dwelling is connected to the **urban waste water collecting system**	13	1
The dwelling has **its own waste water treatement plant (equivalent independant WWTP)**	13	2
The dwelling has **a septic tank**	13	3
The dwelling has **drainage well**	13	4

Note that from one survey to the other one the questions are not the same. Some questions were added but others were eliminated. Questions are also entitled differently, which makes the interpretation delicate. In the census 1981 the answers to the sub-questions on water supply was exclusive, which makes the assumption on the effective use of a given supply easier. In the other censuses exclusive answers were not foreseen and makes that e.g. for the sewage disposal uncertainties exists on the effective use of one system against another system.

One can however make first assumptions as:

- people having answered that they are connected to the public sewage disposal (equivalent UWWCS) are effectively using it.
- people having answered that they are not connected to UWWCS and having their own waste water treatment plant (with or without additional septic tank) are preferentially using the waste water treatment plant.

The question on the drainage well[19] is not clear because it should be normally associated with an upstream treatment. A missing question might be "Is the dwelling uses a cesspool?", i.e. a watertight tank from which the waste has to be collected and transported to e.g. an Urban Waste Water Treatment Plant (UWWTP) as defined by Nagy *et al.* (2007). The septic tank might have been erroneously filled in by some people that actually use a cesspool instead of septic tank. It is therefore not possible to evaluate its use in Belgium form the census of the population.

All data of the census are not directly available in a usable format. There is indeed a huge amount of micro data from the censuses, which cannot be systematically processed in the numerous possible queries that could deliver useful information. However, many tables of results exist and were published. Others are not published but may be available at NIS.

We tried to use as much as possible the available results tables and asked exceptionally a specific query in the case of census 2001 to receive exclusive answers to the question on sewage disposal.

Results are provided inTable 17, Table 18 and Table 19 for respectively censuses of 1981, 1991 and 2001.

Results on the percentage of population connected to the public water supply (PWS), urban waste-water collecting system (UWWCS) and having a rain-water cistern (RW cistern) are illustrated in Figure 24.

Given the fast evolving of the sewage disposal treatment, interpolation between the censuses without any other information from the field is quite speculative. It is recommended to use regularly updated data for that purpose but census data could be used to verify and/or calibrate the data obtained from other sources.

[19] Drainage well : "puits perdu" in French

Table 17: Percentages of the population related to water supply and rain water cistern after census 1981

Question headings	Question Code1	Question Code2	% pop BE	% pop FL	% pop WA	% pop BR
Drinking water suppy (exclusive answers)	11					
The households uses **public water supply inside the dwelling**	11	1	93.65%	89.83%	98.75%	99.48%
The households uses **public water supply inside the accommodation** in which the dwelling is situated	11	2	0.09%	0.04%	0.10%	0.36%
The households uses **public water supply situated outside the accommodation**	11	3	0.16%	0.19%	0.14%	0.07%
Total connected to public water supply **(PWS)**			93.91%	90.06%	99.00%	99.92%
The households uses water from a **well equipped with an electrical hydrophore unit** (pump)	11	4	4.99%	8.14%	0.82%	0.07%
The households uses water from a **well without electrical hydrophore unit** (without pump)	11	5	1.03%	1.71%	0.13%	0.01%
The households uses water from a **public fountain**	11	6	0.07%	0.09%	0.06%	0.01%
Rain-water cistern	12					
The dwelling **has a rain-water cistern**	12	7	42.67%	45.75%	43.78%	19.46%
The dwelling **has no rain-water cistern**	12	8	57.33%	54.25%	56.22%	80.54%

BE: Belgium; **FL**: Flanders; **WA**: Wallonia; **BR**: Brussels Capital

Table 18: Percentages of the population related to water supply and sewage disposal after census 1991

Question headings	Question Code1	Question Code2	% pop BE	% pop FL	% pop WA	% pop BR
Drinking water suppy	6					
The households has **public water supply inside the dwelling**	6	J	96.02%	93.98%	98.85%	99.26%
The households has water supply from a **well equipped with an electrical hydrophore unit** (pump)	6	K	3.68%	5.64%	0.99%	0.52%
The households has **water supply outside the accommodation**	6	L	0.29%	0.38%	0.16%	0.21%
Sewage disposal	7					
The dwelling is connected to the **urban waste water collecting system**	7	M	**82.45%**	82.57%	77.97%	98.16%
The dwelling has **its own sewage disposal (septic tank, drainage well)**	7	N	16.45%	16.17%	21.02%	1.51%
The dwelling has **a sewage disposal**	7		98.90%	98.73%	99.00%	99.68%
The dwelling **is not connected** to the urban waste water collecting system **and has no own sewage disposal system (septic tank, drainage well)**	7	O	1.10%	1.27%	1.00%	0.32%

BE: Belgium; **FL**: Flanders; **WA**: Wallonia; **BR**: Brussels Capital

Table 19: Percentages of the population related to rain water and sewage disposal after census 2001

Question headings	Question Code1	Question Code2	% pop BE	% pop FL	% pop WA	% pop BR
Rain-water cistern	15					
The dwelling **has a rain-water cistern**	15	2	38.21%	44.93%	32.65%	11.54%
The dwelling **has no rain-water cistern**	15	2	61.79%	55.07%	67.35%	88.46%
Sewage disposal	13					
The dwelling is connected to the **urban waste water collecting system (UWWCS)**	13	1	**90.03%**	91.32%	85.53%	98.88%
The dwelling has is not connected to UWWCS and has **its own sewage disposal (independant WWTP,septic tank, drainage well)**	13		8.69%	7.45%	12.85%	0.78%
The dwelling is not connected to UWWCS and has **its own waste water treatement plant**	13	2	1.01%	0.37%	2.41%	0.15%
The dwelling is not connected to UWWCS and has **a septic tank**	13	3	7.68%	7.08%	10.44%	0.63%
The dwelling is not connected to UWWCS and has **a drainage well**	13	4				
The dwelling has **a sewage disposal**	13		98.71%	98.77%	98.38%	99.66%
The dwelling has **no sewage disposal** (but may have a drainage well)	13		1.29%	1.23%	1.62%	0.34%

BE: Belgium; **FL**: Flanders; **WA**: Wallonia; **BR**: Brussels Capital

Answers to questions 13-1, 13-2 and 13-3 have been processed exclusively; answers to question 13-4 (drainage well) are not exclusive

All people connected to the UWWCS are assumed to use this type of sewage disposal

The people not conected to UWWCS and having a waste treatment plant are assumed to use it even if another disposal is available

From the people having no sewage disposal, 20 to 50 % of them have a drainage well

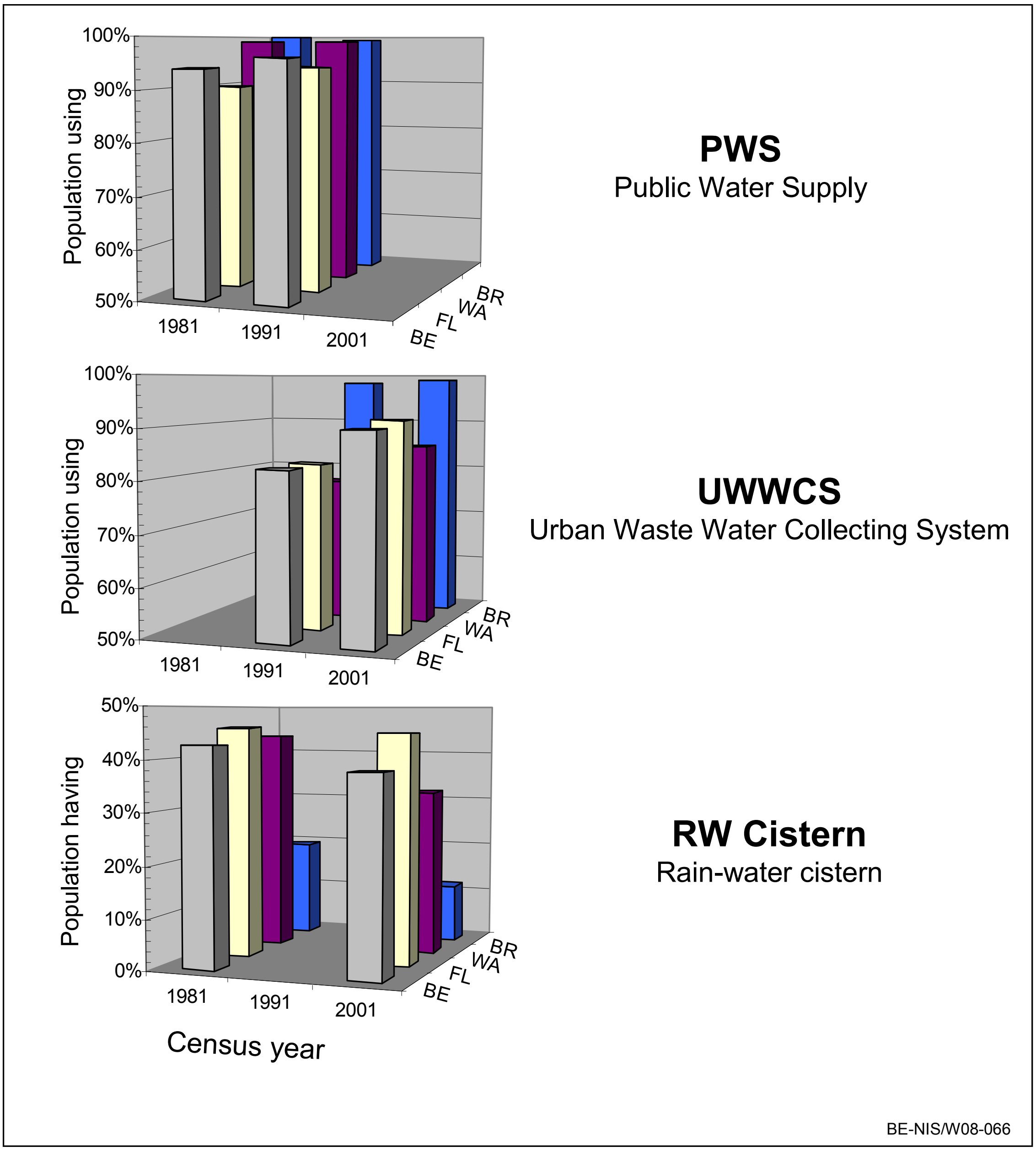


Figure 24: Percentage of the population served by public water supply, using the urban waste water collecting system and having a rain-water cistern according to the three last population censuses.
(**BE**: Belgium, **FL**: Flanders, **WA**: Wallonia, **BR**: Brussels Capital)

A first comparison between census data and data from other sources is anyway essential to evaluate the data.

Concerning the connections to PWS, percentages are close to the current percentages obtained from the regional answers on the JQ06-IWA and proportions are respected. See Table 20 for comparison between census 1991 and JQ06-IWA answers for year 2001[20].

[20] No data on PWS connected population were available for 1991 in the JQ06-IWA and no questions on PWS were asked in census 2001, considering that from that time the percentages of population connected to PWS were close to 100 %.

Table 20: Comparison of census and regional data for the percentage of population connected to the public water supply

Var	year	BE	FL	WA	BR
Census	1991	96.0%	94.0%	98.9%	99.3%
JQ06-IWA	2001	96.6%	94.8%	98.9%	99.9%

BE: Belgium; **FL**: Flanders; **WA**: Wallonia; **BR**: Brussels Capital

The percentages of the population connected to the UWWCS are by contrast, systematically higher from the census data. Differences are about 10 to 20 % (see Table 21). These differences must therefore further be checked with the Regions.

Table 21: Comparison of census and regional data for the percentage of population connected to the urban waste-water collecting system

Var	year	BE	FL	WA	BR
Census	2001	90.0%	91.3%	85.5%	98.9%
JQ06-IWA	2001	81.3%	84.6%	75.7%	80.7%

BE: Belgium; **FL**: Flanders; **WA**: Wallonia; **BR**: Brussels Capital

One can conclude that the censuses yields precious data that deserve deeper investigations to use it optimally. Questions should be asked on a non ambiguous way, avoiding overlapping in the answers. Additional questions are needed (as e.g. the use of a cesspool) to better cover the various types of sewage disposal and treatment. This information can certainly be seen as complementary to the data collected by the Regions.

One has to be aware also that the exhaustive population censuses that have been carried out up to now in Belgium, on a decade schedule, will not be pursued the same way. For the next exercise in 2011, called micro census, data will be extracted from available administrative files as the cadastre and the national register of the population. Small surveys with limited population samples might be foreseen to complement the information but are still to be defined. In these future exercises special attention should certainly be devoted to keep or to enhance the information on the water supply (PWS, self supply, and or rain water) and the sewage disposal system used by the population (UWWCS, septic tank, cesspool, IpWWTP, etc.).

3.7 Water resource indicators stress and water index

As explained in the introduction (see section 1.1.1), the Joint Questionnaire on Inland Waters (JQ-IWA) is also further exploited by OECD in order to estimate various indicators. These indicators have to be, by definition representative of the countries and should therefore allow comparisons and drawing conclusions on water policies and environmental performances (OECD, 2007).

Among the other water indicators, the water stress and water index are generally used throughout the world (Raskin *et al.*, 1997; OECD, 2007; EEA, 2005) and are related to the quantitative aspects of the freshwater resources.

They provide a rather good comparable indication on the efficient use of water, its sustainability and its environmental and socio-economic consequences (OECD, 2007). It can help encouraging a more rational use of water and help developing technologies for better recycling water.

Intensity of use per capita [A/nb inhab]
The intensity of use per capita applied by OECD (2007), is based on the gross abstractions of freshwater (total abstractions/number of inhabitants)

Water stress versus total resources [WS-1 = A/Res_in]
The water stress by OECD (2007) is estimated by expressing the gross abstractions of freshwater as the % of total available renewable freshwater resources (***Res_in***) i.e. the Internal Flow **(IF),** which corresponds to the precipitation minus the actual evapotranpiration, and the External Inflow from neighbouring countries **(EI).**

Water stress versus internal flow [WS-2 = A/IF]
A variant on it is the gross abstractions of freshwater as the % of total Internal Flow **(IF)**

Water exploitation Index [WEI = LTAA(A)/LTAA(Res_in)]
A very similar index is the Water Exploitation Index (WEI) used by EEA. The WEI is the withdrawal ratio, defined as the mean annual total abstractions of freshwater divided by the mean annual freshwater resources expressed as the % of total available renewable freshwater resources (including inflows from neighbouring countries) (Raskin *et al.*, 1997; EEA, 2005). So, in contrast with the water stress by OECD, values are long term averages (preferably on about 20 years). Figures are mostly derived from the JQ-IWA.

For both water stress and WEI indicators, thresholds are defined, which distinguishes non-stressed from stressed countries. Reaching a ratio superior to 40% constitutes in both cases a severe stress on available resources. The 20 % represents a warning for the WEI and is considered as medium to high stress in case of the water stress of OECD.

An overview of these indicators calculated for Belgium, are illustrated in
Figure 25.

The values of water stress (WS-1) and (WS-2) calculated for Belgium for the period 1995 to 2005 are respectively ranging from 40 to 120 % (average = 66 %) and from 23 to 63 % (average 39 %). The corresponding WEI (calculated on only 9 years) is about 35 %. Considering these high figures one might conclude that freshwater resources in Belgium are under severe stress and that Belgium is one of the most vulnerable European country regarding water resources. However these figures and their interpretations have to be taken with the necessary precaution. Belgium freshwater resources are not in severe stress as might suggest the indicator. While Belgium abstracts obviously high volumes of water it returns nearly 80 % of it in surface waters. Substantial volumes of water are abstracted for cooling purposes and are indeed responsible for the calculated high water stress.

Variants of water stress indicators are therefore proposed for comparison by using the abstraction volumes (A) minus the cooling water volumes (CW) i.e.:

- WS-1b = (A-CW)/IF
- WS-2b = (A-CW)/Res_in.

This leads to values of WS-1b and WS-2b in the order of respectively 15 and 8% and if WEI was adapted on the same way it would be 7 % (see
Figure 25).

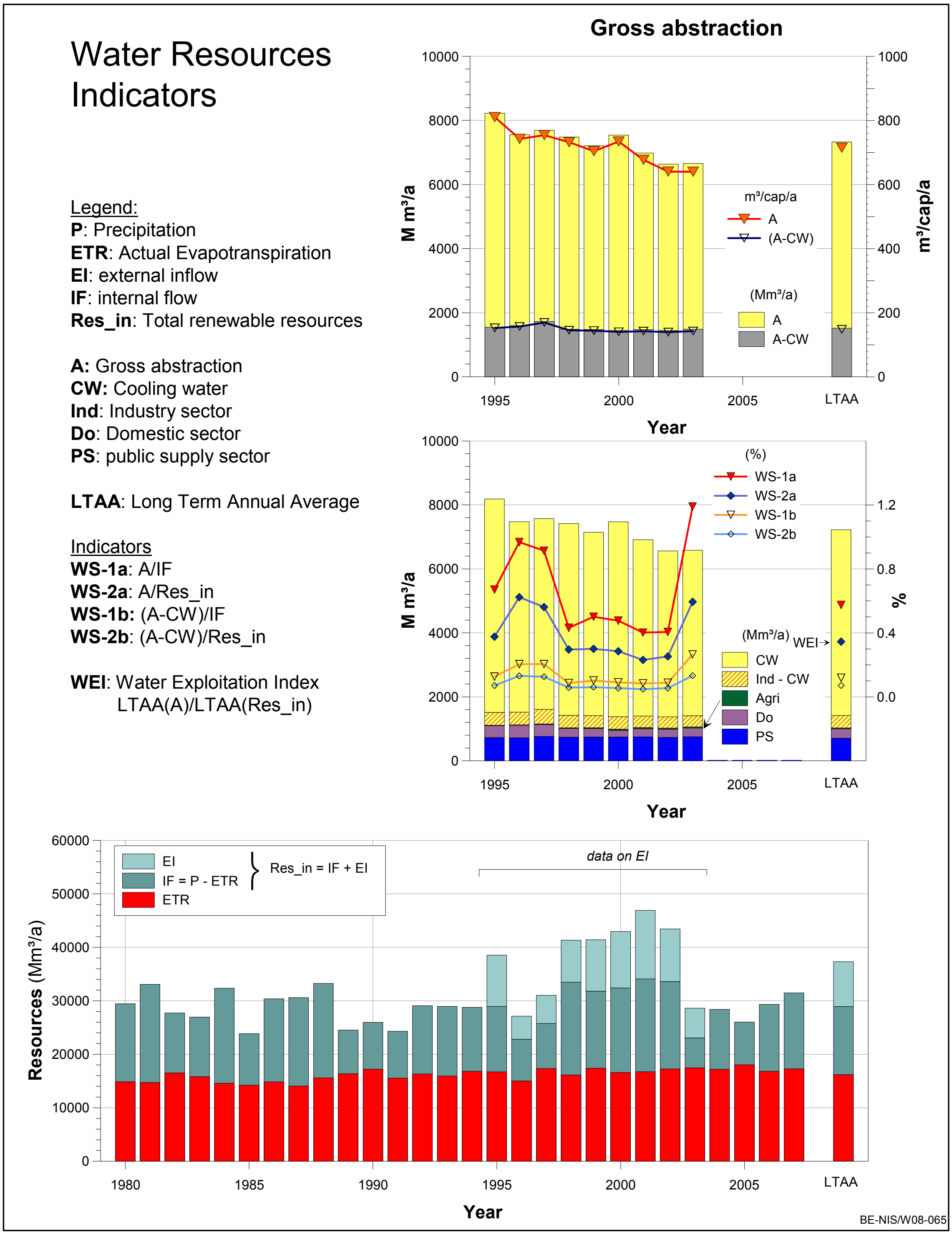


Figure 25: Overview of the water resources indicators for Belgium

4 BASIC DATA SOURCES

An overview of the basic data sources is provided in Table 22 and is based on footnotes of the JQ-IWA as well as on personal communications from the regional delegates.

This list should be more detailed resulting from a closer cooperation with the Regions.
We strongly recommend linking the information on the data sources with the database of the water statistics and making it available for regular updating by the Regions.

Table 22: Overview of the common databases used for the questionnaire by the four main contributors

Table of JQ-IWA	Theme	FL	WA	BR	NIS
T1	Meteoric data	IRM and HIC ?	(IRM)	(IRM)	IRM
T1a_IF, T1a_OF	External inflow and outflow	HIC	WACONDAH	AED: Brussels Administration of Infrastructures and Traffic	Regions
T2.1	Abstracted Surface volumes by sector	AWZ	SESAME fiscal database of DGRNE		Regions
T2.1	Abstracted Surface volumes by PS	AWZ	SESAME fiscal database of DGRNE		NIS
T2.1	Abstracted Groundwater by sector	groundwater licences database VMM[a] PWS companies; “Environmental taxes on waste water”	DIX-SOUS database of DGRNE cross-referenced with SESAME for sectors	VIVAQUA	Regions
T2.1	Abstracted Groundwater by PS	groundwater licences database VMM[a]	DIX-SOUS database of DGRNE cross-referenced with SESAME for sectors	AED: Brussels Administration of Infrastructures and Traffic cross-referenced with taxation database for sectors	Regions
T3.1, T3.2	Used by sector	PWS companies; “Environmental taxes on waste water”	SESAME fiscal database of DGRNE	IBDE	Regions
T4, T5,T6,T7	Water Treatment	VMM	Databases on sewerage and WWTP of the SPGE	Databases on waste water treatment plants (owned by AED ?)	Regions

5 CONCLUSIONS

The collection of data on inland waters for the joint–questionnaire of OECD and Eurostat (JQ-IWA) occurs on a voluntary basis in Belgium and tasks are distributed amongst the three Regions of Belgium and Statistics Belgium (NIS), at the federal level, to prepare a Belgian answer.

The main work in collecting the data is performed at the regional level, the Regions being competent for almost all water issues asked in the joint questionnaire. The role of NIS is situated in the aggregation of regional figures and some coordination of the answer although the latest implies the necessary investment from NIS and second recognition of this role from all parties involved in the process.

There is no strict legal framework in which the JQ-IWA procedure occurs and the Belgian policy context is very complex but the JQ-IWA benefits on an informal way from the Belgian Information System (BEIS) and the Environmental Data Steering Group, which was installed within the Coordination Committee for International Environment Policy. Enhanced interaction is recommended and the creation of a working group on water advisable.

Statistics Belgium has no access to most of the data and these data are also scattered within the Regions amongst various institutes. Given the numerous questions and the various themes covered by the questionnaire, providing a good answer requires many efforts from the contributors.

The field of actions to improve data are limited at Statistics Belgium but during this project sponsored by Eurostat, several tasks have been carried out.
The regional answers have been examined and missing or poor data responses, which do not allow reliable aggregation at the Belgian level, have been highlighted. Difficulties have been reviewed. Among others, a general remark is made on the volumes of water or waste water transferred between the Regions, which need additional check. For some other points possible leads are proposed.

Issues, where NIS could play a role have been further investigated. Three main sources of data that can serve to complement the regional answers are identified and exploited to provide better figures.

The meteoric data available at IRM was used to recalculate the precipitation and the actual evapotranspiration and a new method was tested for ETR providing satisfactory and interesting results.

Water supply was evaluated from two surveys: the official survey on water conducted by statistics Belgium and the survey that the Belgian water company association Belgaqua conducts on a voluntary base with its members. Both provide reliable and comparable data on the gross abstractions, which therefore can be used as reference for the JQ-IWA. Other parameters provide interesting information. Differences are highlighted between them and have to be further investigated. Belgaqua collects and process data on total consumption of public supply water, which appear to be worth considering in JQ-IWA.

The sector analysis appears to be a complex analysis in a context of fast changing economical sectors. In the following-up of these sectors one could envisage some cooperation between regional and federal level. Some of the NIS surveys could be adapted to better cover the required information as e.g. the use of water by all enterprises through e.g. the survey on products of PRODCOM or the Structural Business Survey (SBS) but this necessitates more reflection and evaluation from the contributors of these surveys.

Data from the population censuses were also analysed in order to extract information on how the population is served regarding water supply, sewage disposal and waste water treatment. The censuses present a valuable source of information but questions need to be more precise. Furthermore the substitution of the former population censuses by a micro census planned from the next exercise in 2011 leads us to ask devoting sufficient attention to the water supply and waste-water issues.

A significant work has been performed by introducing all variables of the questionnaire in a structured database. A small application was developed to ease the extraction of data from the questionnaire forms. Several fields are added to facilitate backtracking of information. The focus is put on the process flow that needs to be documented on a systematic way. Manipulations of the numerous data of the questionnaire are improved and calculating Belgian figures can now be done on a more transparent way. However, the database needs further development and to be regularly fed with information and data.

Several analyses are made easier. An example is the calculation of water resource indicators as the water stress. This indicator deserves also special attention regarding its interpretation at international level. Variants of the water stress are proposed for indicative purposes.

Finally we want to stress on the efforts that have been accomplished by the Regions, which are already visible in their increased responses rate. Further support of any actions that can help to amend the response at the regional level is a prerequisite. We recommend cross-border initiatives with allocated resources, at the regional and federal level, which could optimize the efforts done by all parties involved in this water data collection. The coordination of the regional and the country responses is essential and merits receiving more attention and the necessary resources to function optimally.

6 LESSONS LEARNED

During the period January 2007 to June 2008, Statistics Belgium (NIS) could concentrate efforts on improving the Belgian response to the Joint Questionnaire on Inland Waters of OECD and Eurostat. (JQ-IWA) thanks to the Grant allocated by Eurostat. Various tasks have been carried out but they could not deal with the whole spectrum of questions covered by the questionnaire. Various difficulties were encountered indeed.

First, the Joint-Questionnaire is filled in on a voluntary basis by all contributors. In this context, it might be more difficult to allocate the human resource necessary to carry out the data collection on a sustainable way. NIS needed therefore in the framework of this project an additional person that could engross the questionnaire to evaluate it and propose improvements on the specific water issues. It is obvious that critical resources stress occurs within all three Regions as well and we are grateful to the high degree of expertise and personal commitment of the persons involved. This situation is from our point of view very unsafe: a defection of one partner in the chain for one individual parameter can compromise the overall result and lead to a discouragement of all other partners. In this context, a legal basis for some priority data flows could help sustain water statistics quantity and quality.

Second, the substantial list of questions covered by the questionnaire implies that a minimum of time is spent before the involved persons can be operational. In other words more time and human resources may be necessary than expected in the “expertise building” phase. The cumulative cost/benefits over time might be reduced by a legal basis, through the stabilisation of shared expertise, standards and processes.

The complexity in the Belgian structure but also within the repartition of the tasks amongst multiple institutions at regional level is a real obstacle to find the information. Even more, this can lead to diminish the availability of information because of the dilution of responsibilities. The meteorological institute e.g. closed its hydrological unit by an evident lack of resources. On the other hand, the Convention of Aarhus that promotes public communication of environmental issues makes that more of this information can be found on internet from which we benefit but this might not be the unique way of working. Resources are not optimally and cost-efficiently used in this context. Coordination is a prerequisite. A working group of water statistics experts, working closer with the existing various networks in the water issues could help in having a better overview of the needs and shortcoming. More efforts should be devoted with the various water actors and resources should be allocated to projects joined by all contributors. The question of having access to databases has to be further debated and explored.

ACRONYMS AND ABBREVIATIONS

A: Abstractions

Agr: Agricultural sector

AED: Administration de l'Equipement et des Déplacements

BCR: Brussels Capital Region (BCR-BHG)

BEIS: Belgian Environmental Information System (BEIS) for International Reporting and Information Flows

BOD: Biochemical Oxygen Demand

CIRCA: Communication & Information Ressource Centre Administrator

CCIEP: Coordination Committee for International Environment Policy (CCPIE/CCIM)

C.I.W.: Coördinatiecommissie Integraal Waterbelied (Integrated Water Policy Committee of Flanders)

CW: Cooling Water

DBRIS: Database des Redevables de l'Information Statistique (Business register system being progressively replaced by the datawarehouse)

Do: Domestic sector

EEA: European Environment Agency

ETR: Actual evapotranspiration (equivalent of ET)

SBS: Annual Structural Businesses Survey of enterprises (ESE: Enquête structurelle des entreprises)

EUREAU: European Union of National Associations of Water Suppliers and Waste Water Services

HH: Households

IBGE-BIM: Institut Bruxellois pour la Gestion de l'Environnement - Brussels Instituut voor Milieu beheer

ICE: Inter-ministerial Conference for the Environment

Ind: Industrial sector

IpWWTP: Independent Waste Water Treatment

IWWCS: Independent Waste Water Collecting System
IWWCST: Independent Waste Water Collecting System with Treatment

IWWCSNT: Independent Waste Water Collecting System without Treatment

IRCEL-CELINE: Belgian Interregional Environment Agency

ISTI: Industrial Short Term Indicators. Economic sector codes used at NIS for industry and construction based on NACE sectors and providing aggregations of NACE.

IWA: International Water Association

JQ-IWA: Joint Questionnaire OECD-Eurostat on Inland Waters

JQ06-IWA: Exercise 2006 of the Joint Questionnaire OECD-Eurostat on Inland Waters

JQ08-IWA: Exercise 2008 of the Joint Questionnaire OECD-Eurostat on Inland Waters

NACE: European statistical classification of economic activities

NIS: National Institute for Statistics. Former name for the Directorate-General of Statistics and Economical Information (DGSEI), a division of the Federal Public Service (FPS) Economy, SMEs, Self-employed and Energy

NUTS: Nomenclature of Territorial Units for Statistics

OECD: Organisation for economic co-operation and development

OSTC: Federal Office for Scientific, Technical and Cultural Affairs

PIRENE: Programme intégré de recherche en environnement

P: Precipitations

PRODCOM: Monthly Production Survey

PWS: Public Water Supply (also PS)

REFNIS: Nomenclature related to the geographical and administrative subdivisions in Belgium (Regions, Provinces, Communes etc.), prevailing at Statistics Belgium and compatible with the NUTS

RW: Rain water

SPGE: Société publique de Gestion de l'eau

SGED: Steering Group of Environmental Data (GDDE-SG Milieugevens)

SS: Self supply

SVW: Samenwerking Vlaams Brabant

UNEP: United Nations Environment Programme

UWWCS: Urban Waste Water Collecting System

UWWTP: Urban Waste Water Treatment Plant

VBA: Visual Basic For Application

WISE: Water Information System for Europe

WEI: Water Exploitation Index

WFD: Water Framework Directive

WS: Water Stress

WHO: World Health Organization

WST: Water stock used in the actual evapotranspiration calculations

REFERENCES

Arickx C. (2008) BENIS_JQ-IWA_Reader. VBA programme developed for the transfer of water statistical data from the Joint Questionnaire on Inland Waters to a structured input file.

AMINAL (2002) Watergebruik in Vlaanderen. Huidige situatie.

Battelaan O., Meyus Y., and De Smedt F. (2007) De groundwatervoeding van Vlaanderen in *Proceedings of Congres watersysteemkennis 2006-2007*, *Water* **28,** 64-71, Belgium

Belgaqua (2001) Aperçu des structures de gestion du secteur de l'eau potable en Belgique. Mise à jour 2001.
Available at following link:
http://www.belgaqua.be/document/Structures.pdf

Bultot F., Coppens A. and Dupriez G. L. (1983) Estimation de l'évapotranspiration potentielle en Belgique (procédure révisée). Pub. IRM, Série A, N°85, Uccle-Bruxelles, 28 pp

CCIEP (2007) CCIEP A unique voice on the international environment. Brochure of FPS Public Health, Food Chain Safety and Environment
Available at following link:
https://portal.health.fgov.be/pls/portal/docs/PAGE/INTERNET_PG/HOMEPAGE_MENU/MILIEU1_MENU/INTERNATIONAL9_MENU/CCPIE1_MENU/CCPIE1_DOCS/MT3886_BRO_E_0.PDF

Dautrebande S. and Sohier C. (2004) Modélisation hydrologique des sols et des pratiques agricoles en Région wallonne. (Sous-bassins de la Meuse et de l'Escaut). Rapport final (Mars 2001 – Octobre 2004), Faculté Universitaire des Sciences Agronomiques de Gembloux (FUSAGx), Gembloux, Belgium

Davesne S. (2008) Personal communication on water Use in the Region Capital Brussels during Belgian cooperation meeting for JQ-IWA of 25-06-2008

Descanvelle G. (2007) Personal communication of 11-2007 on Envstat and the Excel Reader/writer used at Eurostat

Forster J. (2008) Personal communication of 04-2008 on the code used in the Envstat related to the JQ-IWA

Gellens-Meulenberghs F. (2008) Personal communication of 04-2008 on the LSA-SAF project running in the framework of EUMETSAT

Gommers L. and Vermoesen F. (2000) Environmental data compendium for Belgium: description of the data sources available for Belgium and the Brussels, Flemish and Walloon Regions: air, Inland waters, marine environment, land, forest, wildlife, waste and noise
Federal Office for Scientific, technical and Cultural Affairs report **D/2000/1191/21**, Brussels Belgium

Hosten F. (2008) Personal communication on actual built surfaces after Cadaster data 04-2008

IBGE-BIM (2008) Volet III-1 : Gestion durable des ressources. EAU in Rapport sur l'Etat de l'environnement en Région de Bruxelles-Capitale (2003-2006), Brussels, Belgium
Available at following link:
http://documentation.bruxellesenvironnement.be/documents/EE2006FR_volet3_eau.PDF

Kestemont B. (2008) Calculation of water relevant surfaces. Internal NIS document 15-5-2008

Lange S. (2007) 'Mise à jour des données environnementales de la Région wallonne dans les principales bases de données internationales. ULg Report to the Wallon Region

Legros C. and Prevedello C. Personal communication on Belgaqua's activities on 5-06-2008

Lemaire M., Bruinooge G., Schäfer G. (2007) Peer review on the implementation of the European Statistics Code of Practice
Available at following link:
http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/PEER_REVIEW_BE_2007/EN/PEER_REVIEW_BE_2007-EN.PDF

Meyus Y., Adyns D., Woldeamlak S.T., Batelaan O., De Smedt F. (2004): Opbouw van een Vlaams Grondwatervoedingsmodel, Vlaams Grondwater Model, Eindrapport, Vrije Universiteit Brussel Vakgroep Hydrologie en Waterbouwkunde, Brussels, Belgium

Nagy M., Lenz K., Windhofer G., Fürst J., Fribourg-Blanc B. (2007) Data Collection Manuel for the OECD/Eurostat Joint Questionnaire on inland waters Tables 1-7.
Available at following link:
http://circa.europa.eu/Public/irc/dsis/envirmeet/library?l=/meeting_archives_1/meetings_2007_archive/statistics_09-10102007/eurostat_statistics/_EN_1.0_&a=d

OECD (2007) key environmental indicators

Prevedello C. (2006) L'utilisation de l'eau de distribution en Région Wallonne. Scientific report of AQUAWAL for the Walloon Region

Raskin, P., Gleick, P.H., Kirshen, P., Pontius, R. G. Jr and Strzepek, K. ,1997. Comprehensive assessment of the freshwater resources of the world. Stockholm Environmental Institute, Sweden. Document prepared for UN Commission for Sustainable Development 5th Session 1997
Information on it found on EEA website:
http://ims.eionet.europa.eu/IMS/ISpecs/ISpecification20041007131848/full_spec#Definition

Shaw E.M. (1994) Hydrology in practice. Third edition 1994, NY; USA, pp592

Turc, L. (1955). "Le bilan d'eau sols. Relation entre les precipitation, L'évaporation et l'écoulement." Ann Agron., 6: 5-131.

Vanhoutte H. (2008) Personal communication of 08-2008 on CCIEP and Steering Group Water

Vannevel R. and Devriese G. (2008) INTRA-DEM toepassing - International Integrated Reporting Application – Data Demand. Presented during meeting of 25/06/2008 at statistics Belgium

Vereecke H. (2008) Personal Communication on external inflow and outflows during Belgian cooperation meeting for JQ-IWA of 25-06-2008

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Annex 1

Belgian Answer to the Joint Questionnaire
OECD-EUROSTAT, exercise 2006

ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT

OECD OCDE

ORGANISATION DE COOPÉRATION ET
DE DÉVELOPPEMENT ÉCONOMIQUES

Environment Directorate
Direction de l'environnement

Environment Policy Committee
Comité des Politiques d'Environnement

Working Group on the State of the Environment
Sous-Groupe sur l'état de l'environnement

STATISTICAL OFFICE OF THE
EUROPEAN COMMUNITIES

eurostat

OFFICE STATISTIQUE DES
COMMUNAUTÉS EUROPÉENNES

Directorate E: agriculture and environment statistics ; statistical cooperation
Direction E : Agriculture et statistiques de l'environnement; coopération statistique

Unit E-3: Environment Statistics
Unité E-3 : Statistiques de l'Environnement

Working Group "Statistics of the Environment"
Groupe de travail "Statistiques de l'environnement"

2006
QUESTIONNAIRE

INLAND WATERS / EAUX INTÉRIEURES

to be returned before:
à retourner avant:
31.12.2006

original file:
BEL_IWA_061001_v0_all.xls
taken from the circa website of Eurostat:
http://circa.europa.eu/Members/irc/dsis/envir/library?l=/joint_questionnaire_4/jointsquestionnaires2004/belgium/inland_water/jq_2006_iwa_bel&vm=detailed&sb=Title
File of Joint questionnaire of Eurostat and OECD for Inland Water
for 2006 i.e. JQ-IWA-2006
The file was pre-filled by Eurostat
All data was replaced by NIS Belgium based on the regional files.
Most of the results are sums of regional answers unless specified.
Non available data at at least 1 region and without other information source is indicated by "n.a."
contact person is:
Isabelle Wemaere
isabelle.wemaere@economie.fgov.be

sheet "7-corr080508" includes corrections asked by Estat
see e-mail of 18/04/2008

INLAND WATERS

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*** Yellow highlights in tables refer to priority data.**

The numbers in the labels refer to the "List of Definitions" (i.e. the sheet of this workbook, named "DEF"). Please consult these definitions before filling in the questionnaire.

= Core table
= Complementary table
= Specific to European countries

I. GENERAL COMMENTS

This section of the questionnaire has had the benefit of close co-operation with the United Nations Economic Commission for Europe (UN-ECE) in Geneva. The ECE's definitions and classifications used until JQ 2000 have been adapted and/or modified in the process of revision of the JQ2002 by a Eurostat/OECD task force set up for this purpose. The JQ aims at taking stock of available water resources in Member countries, and at showing the changes in water use.

The data collected will be used to develop information that will help reveal what efforts are being made or have to be made to restore and maintain water availability of appropriate quality for specific uses in Member countries. They also contribute to ongoing work on environmental indicators.

This questionnaire collects the most relevant data in the framework of ongoing statistical work. It also collects complementary and/or more detailed information that was previously included in the Addendum "Inland Waters" .

The main subjects dealt with in this section concern:

* Water resources, withdrawal and use;
* Waste water treatment (population connected to a treatment plant, capacity of treatment stations);
* Production and disposal of sewage sludge;
* Discharge of waste water into the environment;
* Quality of rivers and lakes. (To be pre-filled by the EEA)

Other important topics are dealt with only slightly or not at all in this questionnaire. These are mainly topics on which few data are as yet available and where the statistical treatment requires a more long-term effort. They include:

* the biological quality of rivers and lakes;
* the non-point sources of pollution;
* the use and quality of groundwater (water tables);
* the quality of drinking water;
* wetlands and their role in the water cycle;
* the other uses of water (leisure activities, transport, wildlife, etc.).

In general, other international data sources are used as and when possible, and insofar as that meets the needs and aims of this inquiry.

II. SPECIFIC COMMENTS ON TABLES

As countries prepare their responses to these tables, it would be extremely helpful if each would prepare, where necessary, a brief analysis of their data. If data is available on this or more detailed levels in any publication, please refer to the appropriate documents or provide copies of relevant pages.

Even when complete data is not available, countries are encouraged to submit partial data. For some tables, the data requested might not be easily available within statistical offices. For these cases you are kindly requested to consult other institutions such as hydrological institutes or environmental agencies or national experts.

See also notes below tables.

Most definitions are extracted from: the ECE standard classification of water use (CES/636) and Systems of Water Statistics in the ECE Region (ECE/Water/43).
Numbers refer to references in questionnaire tables.

1 **PRECIPITATION**

Total volume of atmospheric wet precipitation (rain, snow, hail, ...). Precipitation is usually measured by meteorological or hydrological institutes

2 **ACTUAL EVAPOTRANSPIRATION**

Total volume of evaporation from the ground, wetlands and natural water bodies and transpiration of plants. According the definition of this concept in Hydrology, the evapotranspiration generated by all human interventions is excluded, except unirrigated agriculture and forestry. The 'actual evapotranspiration' is calculated using different types of mathematical models, ranging from very simple algorithms (Budyko, Turn Pyke, etc) to schemes that represent the hydrological cycle in detail. Please do not report potential evapotranspiration which is "the maximum quantity of water capable of being evaporated in a given climate from a continuous stretch of vegetation covering the whole ground and well supplied with water.

AVERAGE LONG-TERM ACTUAL EVAPOTRANSPIRATION

The average of actual evapotranspiration over a long period, normally 20 consecutive years or more.

3 **INTERNAL FLOW**

Total volume of river run-off and groundwater generated, in natural conditions, exclusively by precipitation into a territory. The internal flow is equal to precipitation less actual evapotranspiration and can be calculated or measured. If the river run-off and groundwater generation are measured separately, transfers between surface and groundwater should be netted out to avoid double counting.

4 **ACTUAL EXTERNAL INFLOW**

Total volume of actual flow of rivers and groundwater, coming from neighbouring territories. Data measured

AVERAGE LONG-TERM ACTUAL EXTERNAL INFLOW INTO A TERRITORY

The average of the actual external inflow of rivers and groundwater into a TERRITORY, averaged over a period of at least 20 consecutive years.

5 **TOTAL ACTUAL OUTFLOW**

Actual outflow of rivers and groundwater into the sea plus actual outflow into neighbouring territories. Data measured

6 **ACTUAL OUTFLOW INTO THE SEA**

The total volume of actual outflow of rivers and groundwater into the sea.

7 **ACTUAL OUTFLOW INTO NEIGHBOURING TERRITORIES**

The total volume of actual outflow of rivers and groundwater into neighbouring territories

AVERAGE LONG-TERM ACTUAL OUTFLOW

The total volume of the actual outflow of rivers and groundwater from a territory, annual data averaged over a period of at least 20 consecutive years.

8 **TOTAL FRESH RESOURCES**

Internal flow plus actual external inflow.

9 **RECHARGE**

Total volume of water added from outside to the zone of saturation of an aquifer.

10 **GROUNDWATER AVAILABLE FOR ANNUAL ABSTRACTION**

Recharge less the long term annual average rate of flow required to achieve ecological quality objectives for associated surface water. It takes account of the ecological restrictions imposed to groundwater exploitability, nevertheless other restrictions based on economic and technical criteria could also be taken into account in terms of accessibility, productivity and maximum production cost deemed acceptable by developers. The theoretical maximum of groundwater available is the recharge.

11 **ECOLOGICAL DISCHARGE**

The minimum flow required to achieve ecological quality objectives for associated surface water. The value of this flow varies among countries.

12 REGULAR FRESHWATER RESOURCES 95 PER CENT OF TIME

Portion of the total freshwater resource that can be depended on for annual water development during 19 out of 20 consecutive years, or at least 95 per cent of the years included in longer consecutive periods. This item yields information about the average annual long-term availability of freshwater for use in human activities.

13 LONG TERM ANNUAL AVERAGE (LTAA)

The minimum period of calculation for the LTAA is 20 years

14 (FRESH) SURFACE WATER

Water which flows over, or rests on the surface of a land mass, natural watercourses such as rivers, streams, brooks, lakes, etc., as well as artificial watercourses such as irrigation, industrial and navigation canals, drainage systems and artificial reservoirs. For purposes of this questionnaire, bank filtration is included under (fresh) surface water. Sea-water, and transitional waters, such as brackish swamps, lagoons and estuarine areas are not considered surface water and so are included under NON FRESHWATER SOURCES.

NACE and ISIC CODES

An overview of the NACE_ISIC CODES for the Inland Water Section of the questionnaire can be found on the CIRCA Interest Group **"Environment Statistics Joint Questionnaire"**, under the **LIBRARY** subsections:

- ☐ **EUROSTAT/OECD JOINT QUESTIONNAIRE**
  - ☐ **JOINT QUESTIONNAIRE - Explanations**
    - ☐ **2006 JQ**
      - ☐ **NACE CODES**

http://forum.europa.eu.int/Members/irc/dsis/envir/library?l=/joint_questionnaire_4/jointsquestionnaires2004_2/2006_jq/nace_codes&vm=detailed&sb=Title

INLAND WATERS

TABLE 1: Freshwater resources (a)

Country BE **Belgium** **Contact:**

(mio m³)	LTAA	2005	2004	2003	2002	2001	2000	1999	1998	1997
Precipitation (1)	28,231.48 c)	n.a.	27,227.86 a)	22,508.24 a)	33,599.04 a)	34,133.28 a)	31,681.89 a)	31,153.75 a)	32,805.31 a)	24,767.31 a)
Actual evapotranspiration (2)	16,055.00 c)	n.a.	15,992.18 b)	15,189.48 b)	17,338.40 b)	16,957.39 b)	17,035.45 b)	16,939.23 b)	16,667.90 b)	15,498.26 b)
Internal Flow (b) (3)	12,176.48 q)	n.a.	11,235.68 q)	7,318.76 q)	16,260.64 q)	17,175.89 q)	14,646.44 q)	14,214.52 q)	16,137.42 q)	9,269.05 q)
Actual external inflow (4)	8,388.21 e)	n.a.	n.a.	5,596.62 q)	9,835.44 q)	12,818.57 q)	10,568.53 q)	9,618.69 q)	7,889.80 q)	5,275.26 q)
Total actual outflow (5)	16,302.43 q)	10,290.14 q)i)	10,675.27 q)i)	12,494.68 q)	21,259.25 q)	22,830.68 q)	18,901.82 q)	18,386.72 q)	17,578.47 q)	14,398.82 q)
of which: into the sea (6)	807.73 g)	415.97	490.00	658.49	1,185.50	1,310.85	979.09	1,012.16	949.00	454.00
of which: into neighbouring territories (7)	15,494.70 g)	9,874.17 q)i)	10,185.27 q)i)	11,836.19 q)	20,073.75 q)	21,519.83 q)	17,922.73 q)	17,374.56 q)	16,629.47 q)	13,944.82 q)
TOTAL FRESHWATER RESOURCES (8)	20,564.69 q)	n.a.	n.a.	12,915.39 q)	26,096.07 q)	29,994.46 q)	25,214.96 q)	23,833.22 q)	24,027.22 q)	14,544.31 q)
Recharge into the Aquifer (9)	6,000.00 r)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Recharge minus ecological discharge	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Groundwater available for annual abstraction (c) (10)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Regular freshwater resources 95 per cent time (12)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES →

a) Thyssen method of spatialisation; value for 1990 and 1985 estimated by extrapolation

b) Following TURC, L., 1954 et 1955. 'Le bilan d'eau-sols. Relation entre Les précipitations, l'évaporation et l'écoulement'. Ann. Agro., 5, 491-596 et 6, 5-131; value for 1990 and 1985 based on estimated P

c) Average 1990-2004 over 15 years

h) data 1994

e) average 1995-2003 over 9 years

f) Contains estimates

g) Average 1995-2005 over 11 years

i) data is suspected to be too low

q) calculated

r) very rough estimation based on literature data over the period 2000-2006, note that recharge includes an non negligible part of water that provides base flow in the rive

INLAND WATERS

Country **BE** **Belgium**

(mio m³)	1996	1995	1994	1993	1992	1991	1990	1985	1980
Precipitation (1)	21,763.36 a)	28,299.39 a)	28,818.37 a)	28,955.74 a)	29,019.85 a)	23,604.20 a)	25,134.60 a)	23,415.73 a)	n.a.
Actual evapotranspiration (2)	13,813.34 b)	16,314.18 b)	16,506.23 b)	15,789.18 b)	16,161.04 b)	14,729.46 b)	15,892.00 b)	14,041.71 b)	n.a.
Internal Flow (b) (3)	7,950.02 q)	11,985.21 q)	12,312.14 q)	13,166.56 q)	12,176.48 q)	12,176.48 q)	12,176.48 q)	12,176.48 q)	n.a.
Actual external inflow (4)	4,307.00 q)	9,584.00 q)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total actual outflow (5)	14,220.50 q)	18,290.40 q)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: into the sea (6)	538.00	892.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: into neighbouring territories (7)	13,682.50 q)	17,398.40 q)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL FRESHWATER RESOURCES (8)	12,257.02 q)	21,569.21 q)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Recharge into the Aquifer (9)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Recharge minus ecological discharge	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Groundwater available for annual abstraction (c) (10)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Regular freshwater resources 95 per cent time (12)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES ➔

ivers and is therefore counted with the total actual outflc

INLAND WATERS

TABLE 1: Freshwater resources (a)

Explanatory notes:

(a) This table aims at taking stock of Freshwater resources available on the national territory, and of the different flows (inflow and outflow) of which they are composed. The concept of renewable resources excludes by definition the non-renewable resources offered by the potential use of water reserves (essentially ground water).

(b) Should include both surface and underground flows

(c) Same as recharge minus ecological discharge if no other restrictions are considered

- The data for Table 1, 1a_IF and 1a_OF are for the main part derived from hydrological data.

- In order to avoid double-counting while computing regional totals, a breakdown of inflows and outflows by neighbouring territory would be very useful. This breakdown can be entered in worksheet "1a_IF" for the data concerning inflow and in worksheet "1a_OF" for the data concerning outflow.

- Please specify for each type of flow the calculation method used (estimates and measurements), and the reference period covered to calculate long term annual averages (this period should be long enough to build a relatively stable average)

Flow	***Calculation methods***	***Reference period***
* Precipitation	Spatial precipitations, Thiessen method (calculated by Royal Meteorological Institute)	
* Actual Evapotranspiration	E = P/(0,9+(P/L)^2)^0,5, where L= 0,05*tt^3 + 25*tt+300 where tt= annual mean temperature (at Uccle station). Following TURC, L., 1954 et 1955. 'Le bilan d'eau-sols. Relation entre Les précipitations, l'évaporation et l'écoulement'. Ann. Agro., 5, 491-596 et 6, 5-131	
* Internal flow	Precipitation - actual evapotranspiration	
* Actual external inflow	sum of the actual external inflow from neighbouring territories (see Table 1a_IF); concerns essentially surface water	
* Total actual outflow	sum of the actual outflow to neighbouring territories (see Table 1a_OF) + actual outflow to the sea (see Table 1); concerns essentially surface water	

INLAND WATERS

TABLE 1a: Actual external inflow from neighbouring territories

Country: BE **Belgium**

Contact: Isabelle Wemaere

(mio m³)	LTAA	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995
Actual external inflow from neighbouring territories (4)												
Austria												
Belgium												
Denmark												
Finland												
France	7,711.37 a)f)	7,668.30 f)	4,688.85 f)	5,155.12 f)	9,362.40 f)	12,377.07 f)	10,190.10 f)	9,271.79 f)	7,511.37 f)	5,018.04 f)	4,171.00 f)	9,411.00
Germany	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00
Greece												
Iceland												
Ireland												
Italy												
Luxembourg	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00
Netherlands	336.22 b)f)	n.a. f)	n.a. f)	441.50 f)	473.04 f)	441.50 f)	378.43 f)	346.90 f)	378.43 f)	257.22 f)	136.00 f)	173.00
Norway												
Portugal												
Spain												
Sweden												
Switzerland												
United Kingdom												
Cyprus												
Malta												
Albania												
Bosnia and Herzegovina												
Bulgaria												
Belarus												
Czech Republic												
Estonia												
Hungary												
Latvia												
Lithuania												
The former Yugoslav Republic of Macedonia												
Moldova, Republic of												
Poland												
Romania												
Russian Federation												
Croatia												
Slovakia												
Slovenia												
Turkey												
Ukraine												
Yugoslavia												

INLAND WATERS

Country: **BE** **Belgium**

(mio m³)		1994	1993	1992	1991	1990	1985	1980
Actual external inflow from neighbouring territories (4)								
Austria								
Belgium								
Denmark								
Finland								
France	f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)
Germany	f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)
Greece								
Iceland								
Ireland								
Italy								
Luxembourg	f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)	0.00 f)
Netherlands	f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)	n.a. f)
Norway								
Portugal								
Spain								
Sweden								
Switzerland								
United Kingdom								
Cyprus								
Malta								
Albania								
Bosnia and Herzegovina								
Bulgaria								
Belarus								
Czech Republic								
Estonia								
Hungary								
Latvia								
Lithuania								
The former Yugoslav Republic of Macedonia								
Moldova, Republic of								
Poland								
Romania								
Russian Federation								
Croatia								
Slovakia								
Slovenia								
Turkey								
Ukraine								
Yugoslavia								

INLAND WATERS	TABLE 1a: Actual external inflow from neighbouring territories
Country: BE Belgium	Contact: Isabelle Wemaere

YOUR FOOTNOTES ➔

a) average from 1995 to 2005 over 11 years

b) average from 1998 to 2003 over 9 years

f) surface water only

INLAND WATERS

Country: **BE** **Belgium**

~~YOUR FOOTNOTES~~ ➔

INLAND WATERS

TABLE 1a: Actual outflow to neighbouring territories

Territory: BE Belgium

Contact: Isabelle Wemaere

(mio m³)	LTAA	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Actual outflow to neighbouring territories (7)											
Austria											
Belgium											
Denmark											
Finland											
France	1,234.95 c)f)	1,272.65 f)	927.40 f)	814.07 f)	1,563.22 f)	1,744.66 f)	1,574.65 f)	1,448.11 f)	1,458.38 f)	920.35 f)	741.13
Germany	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a.
Greece											
Iceland											
Ireland											
Italy											
Luxembourg	363.59 d)f)	395.65 f)	338.14 f)	304.85 f)	442.24 f)	442.59 f)	390.39 f)	403.54 f)	447.77 f)	329.05 f)	162.00
Netherlands	13,842.54 e)f)	8,205.88 b)f)	8,919.72 b)f)	10,717.27 f)	18,068.29 f)	19,332.58 f)	15,957.70 f)	15,522.91 f)	14,723.31 f)	12,695.42 f)	12,779.37
Norway											
Portugal											
Spain											
Sweden											
Switzerland											
United Kingdom											
Cyprus											
Malta											
Albania											
Bosnia and Herzegovina											
Bulgaria											
Belarus											
Czech Republic											
Estonia											
Hungary											
Latvia											
Lithuania											
The former Yugoslav Republic of Macedonia											
Moldova, Republic of											
Poland											
Romania											
Russian Federation											
Croatia											
Slovakia											
Slovenia											
Turkey											
Ukraine											
Yugoslavia											

INLAND WATERS

Territory: BE Belgium

(mio m³)		1995	1994	1993	1992	1991	1990	1985	1980
Actual outflow to neighbouring territories (7)									
Austria									
Belgium									
Denmark									
Finland									
France	f)	1,669.90 f)	n.a.	n.a.	n.a.	n.a.	982.09 f)	937.72 f)	n.a.
Germany	a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)	n.a. a)
Greece									
Iceland									
Ireland									
Italy									
Luxembourg	f)	383.00 f)	n.a.	n.a.	n.a.	n.a.	354.95 f)	332.56 f)	n.a.
Netherlands	f)	15,345.50 f)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Norway									
Portugal									
Spain									
Sweden									
Switzerland									
United Kingdom									
Cyprus									
Malta									
Albania									
Bosnia and Herzegovina									
Bulgaria									
Belarus									
Czech Republic									
Estonia									
Hungary									
Latvia									
Lithuania									
The former Yugoslav Republic of Macedonia									
Moldova, Republic of									
Poland									
Romania									
Russian Federation									
Croatia									
Slovakia									
Slovenia									
Turkey									
Ukraine									
Yugoslavia									

INLAND WATERS

TABLE 1a: Actual outflow to neighbouring territories

Territory: **BE** **Belgium**

Contact: Isabelle Wemaere

(mio m³)	LTAA	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996

YOUR FOOTNOTES ➔

a) water quantity flowing to Germany is not available but is probably very low

b) water quantity flowing to The Netherlands could be under-estimated

c) average from 1985 to 2005 over 13 years

d) average from 1985 to 2005 over 13 years

e) average from 1995 to 2005 over 11 years

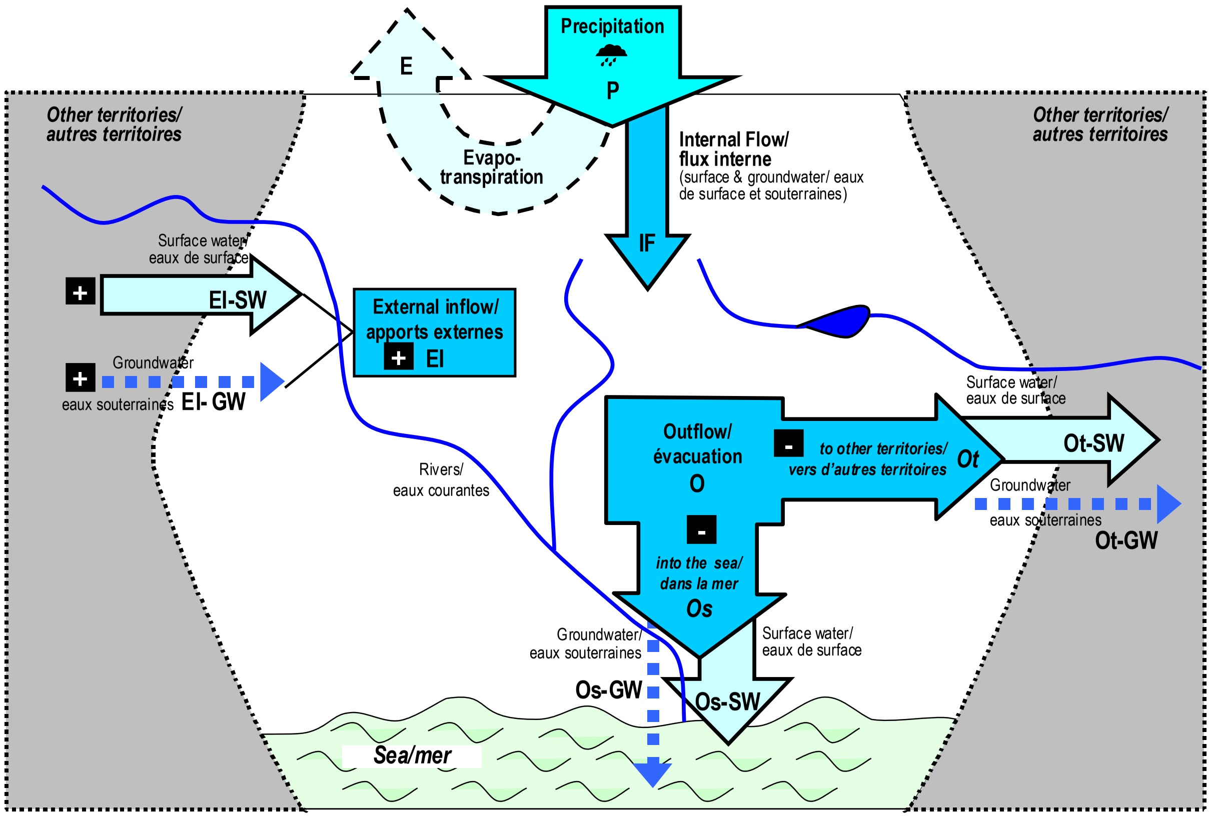
f) surface water only

INLAND WATERS

Territory: BE Belgium

(mio m³)	1995	1994	1993	1992	1991	1990	1985	1980
YOUR FOOTNOTES →								

Simplified hydrological cycle



Legend

....	Boundary
P	Precipitation
E	Actual evapotranspiration
IF	Internal flow

INFLOW

From other territories

+ EI	Actual external inflow
+ EI-SW	Surface water external inflow
+EI-GW	Ground water external inflow

OUTFLOW

Into other territories or the sea

- O	Total actual outflow
of which:	
- Ot	Actual outflow to other territories
- O-SW	Surface water
- O-GW	Ground water
- Os	Actual outflow to the sea
- O-SW	Surface water
- O-GW	Ground water

Note:
In an average year, with no changes in water stocks (and prior to exports/imports and water consumption):
P = E+IF
IF +EI = Os+Ot

INLAND WATERS

TABLE 2.1: Annual freshwater abstraction by source

Territory: BE Belgium

Contact: Isabelle Wemaere

(mio m³)

	ISIC/NACE	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Fresh surface water (14)											
Total gross abstraction (19)		n.a.	n.a.	5,935.73	5,939.51	6,267.09	6,833.09	6,505.85	6,795.39	6,928.83	6,765.35
of which: (a)											
* Public water supply (23)	(41)	260.71 a)	254.37 a)	250.02 a)	248.15 a)	246.07 a)	247.47 a)	251.08 a)	259.13 a)	267.68 a)	231.94 a)
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	3.43	3.30	3.33	3.26	3.52	3.41	3.44	3.66
of which: Irrigation (27)		n.a.	n.a.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	n.a.	n.a.	1,148.05	1,129.42	1,151.72	1,293.76	1,344.28	1,383.24	1,327.89	1,426.75
of which: industry-cooling (28)		n.a.	n.a.	874.67	857.00	867.75	989.35	1,050.09	1,074.19	955.38	1,105.01
* Production of electricity (cooling) (28)	(40.1)	n.a.	n.a.	4,285.85	4,323.51	4,636.33	5,096.06	4,673.49	4,905.75	4,987.58	4,822.25
* Other activities (b)	(50-93)	n.a.	n.a.	248.37	235.12	229.64	192.53	233.49	243.86	342.24	280.75
* Households		n.a.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fresh ground water (15)											
Total gross abstraction (19)		n.a.	n.a.	639.75	618.58	640.12	640.00	640.96	622.45	645.83	711.67
of which: (a)											
* Public water supply (23)	(41)	476.10 a)	486.16 a)	504.73 a)	484.40 a)	502.39 a)	497.47 a)	494.10 a)	483.42 a)	491.74 a)	486.82 a)
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	35.45	34.90	33.91	32.27	27.34	14.44	12.37	11.05
of which: Irrigation (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	n.a.	n.a.	83.59	83.11	84.77	90.06	90.09	95.70	104.48	99.60
of which: industry-cooling (28)		n.a.	n.a.	8.44	6.70	7.10	8.00	9.83	13.76	17.76	24.50
* Production of electricity (cooling) (28)	(40.1)	n.a.	n.a.	1.15	1.13	1.49	1.67	1.75	2.63	2.41	3.70
* Other activities (b)	(50-93)	n.a.	n.a.	14.66	14.88	17.37	18.39	27.53	26.21	34.78	110.45
* Households		n.a.	n.a.	0.18	0.16	0.19	0.14	0.16	0.05	0.04	0.06
Total surface and ground water											
Total gross abstraction (19)		n.a.	n.a.	6,653.94	6,633.41	6,982.41	7,537.67	7,211.74	7,479.75	7,689.66	7,551.51
of which: (a)											
* Public water supply (23)	(41)	811.06 a)	813.14 a)	828.70 a)	803.24 a)	818.35 a)	809.52 a)	810.10 a)	804.47 a)	874.42 a)	793.25 a)
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	38.88	38.20	37.23	35.53	30.86	17.84	15.81	14.71
of which: Irrigation (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	n.a.	n.a.	1,231.63	1,212.54	1,236.49	1,383.82	1,434.36	1,478.94	1,432.37	1,526.35
of which: industry-cooling (28)		n.a.	n.a.	883.11	863.70	874.85	997.35	1,059.92	1,087.95	973.14	1,129.52
* Production of electricity (cooling) (28)	(401)	n.a.	n.a.	4,287.00	4,324.64	4,637.82	5,097.73	4,675.24	4,908.38	4,989.99	4,825.94
* Other activities (b)	(50-93)	n.a.	n.a.	263.03	250.00	247.01	210.93	261.02	270.06	377.02	391.20
* Households		n.a.	n.a.	4.69	4.80	5.50	0.14	0.16	0.05	0.05	0.06
* Returned water (before use or without use) (29)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net abstraction (20)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES ➔

a) The water substracted by the water supply sector is the only one which is not calculated directly from the regions, It is based on NIS surveys, which provides somew of the individual contribution of surface and groundwater. This is due to the fact that the origin (surface or ground) of a certain amount of water is not known. This amou :74.24;72.61;73.94;70.68;69.89;64.58;64.93;61.91;115.00;74.49;36.81;35.52;33.31

INLAND WATERS

Territory: BE Belgium

(mio m³)

	ISIC/NACE	1995	1994	1993	1992	1991	1990	1985	1980
Fresh surface water (14)									
Total gross abstraction (19)		7,499.58	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: (a)									
* Public water supply (23)	(41)	214.61 a)	213.70 a)	222.16 a)	n.a.	n.a.	n.a.	n.a.	n.a.
* Agriculture, forestry, fishing	(01-05)	3.33	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Irrigation (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	1,478.34	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: industry-cooling (28)		1,163.23	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production of electricity (cooling) (28)	(40.1)	5,460.30	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Other activities (b)	(50-93)	343.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Households		0.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Fresh ground water (15)									
Total gross abstraction (19)		684.78	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: (a)									
* Public water supply (23)	(41)	511.95 a)	504.79 a)	501.25 a)	n.a.	n.a.	n.a.	n.a.	n.a.
* Agriculture, forestry, fishing	(01-05)	9.18	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Irrigation (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	96.91	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: industry-cooling (28)		13.65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production of electricity (cooling) (28)	(40.1)	35.31	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Other activities (b)	(50-93)	31.37	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Households		0.07	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total surface and ground water									
Total gross abstraction (19)		8,221.17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: (a)									
* Public water supply (23)	(41)	763.37 a)	754.00 a)	756.72 a)	n.a.	n.a.	n.a.	n.a.	n.a.
* Agriculture, forestry, fishing	(01-05)	12.51	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Irrigation (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	1,575.24	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: industry-cooling (28)		1,176.88	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production of electricity (cooling) (28)	(401)	5,495.60	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Other activities (b)	(50-93)	374.37	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Households		0.07	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Returned water (before use or without use) (29)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net abstraction (20)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES →

This amount is given hereafter, respectively for the years 2005 back to 199

INLAND WATERS

TABLE 2.2: Other sources of water

Territory: BE **Belgium** (mio m³)

Contact: Isabelle Wemaere

	ISIC/NACE	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Non freshwater sources (16)											
(Marine and brackish water)											
Total gross abstraction (a) (19)		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Agriculture, forestry, fishing	(01-05)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
of which: Irrigation (27)		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Manufacturing industry	(15-37)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
of which: industry-cooling (28)		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Production of electricity (cooling) (28)	(40.1)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Other activities (b)	(50-93)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
Desalinated water (17)											
Total		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Public water supply (23)	(41)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Other activities (b)	(50-93)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
Reused water (31)											
Total		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Irrigation (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: industry-cooling (28)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production of electricity (cooling) (28)	(40.1)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Other activities (b)	(50-93)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Imports of water (33)											
Total		0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*

YOUR FOOTNOTES ➔

a) Up to now there is not brackish or saline water used in Belgium

b) The amount of water imported from outside the Belgian territory is considered as negligible

- a value of about 0,3 Mm³/year was ever mentionned for the Walloon region in 2003, coming from Germany and France (DGNRE report, 2006);

- a small amount can also originate from the Netherlands and France towards Flanders and is also negligible (VMM report, 2002)

INLAND WATERS

Territory: BE **Belgium**

(mio m³)

	ISIC/NACE	1995	1994	1993	1992	1991	1990	1985	1980
Non freshwater sources (16)									
(Marine and brackish water)									
Total gross abstraction (a) (19)		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Agriculture, forestry, fishing	(01-05)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
of which: Irrigation (27)		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Manufacturing industry	(15-37)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
of which: industry-cooling (28)		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Production of electricity (cooling) (28)	(40.1)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Other activities (b)	(50-93)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
Desalinated water (17)									
Total		0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Public water supply (23)	(41)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
* Other activities (b)	(50-93)	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*	0.00 *a)*
Reused water (31)									
Total		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Irrigation (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Manufacturing industry	(15-37)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: industry-cooling (28)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production of electricity (cooling) (28)	(40.1)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Other activities (b)	(50-93)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Imports of water (33)									
Total		0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*

YOUR FOOTNOTES →

INLAND WATERS	TABLE 2.1: Annual freshwater abstraction by source TABLE 2.2: Other sources of water

Explanatory notes:

(a) Water abstractions are broken down by selected activity categories according to the ISIC (Rev. 3) and NACE classifications.

(b) "Other activities" refers to self abstraction of categories not elsewhere specified, e.g. transport, services, etc. Please specify the activity if there is any large abstraction in this category.

INLAND WATERS

Table 3.1: Water use by supply category

Territory: BE Belgium (mio m³)

Contact: Isabelle Wemaere

	ISIC/NACE	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Public water supply (23).											
Population connected to public water supply (%)		97.61	96.56	96.67	96.38	96.60	95.29	94.49	94.25	92.01	84.56
TOTAL		n.a.	427.42	411.40	400.58	402.91	412.47	409.58	414.79	415.33	416.75
of which used by:											
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	11.74	11.78	11.92	13.46	13.61	15.70	15.21	16.74
* All industrial activities	(10-45)	n.a.	n.a.	99.03	97.70	102.29	104.99	106.69	101.18	101.64	100.01
-Total manufacturing industries	(15-37)	n.a.	n.a.	96.45	94.69	99.16	101.80	103.35	101.69	101.85	96.64
of which for cooling purposes		n.a.	n.a.	15.04	14.76	15.00	15.41	16.27	15.40	16.79	15.21
-Production and distribution of electricity	(40.1)	n.a.	n.a.	1.27	1.58	1.83	1.94	2.09	1.90	2.98	3.50
of which for cooling purposes		n.a.	n.a.	0.46	0.46	0.43	0.38	0.60	0.57	0.56	0.79
* Domestic sector		n.a.	n.a.	245.27	240.34	238.28	247.92	249.14	242.01	238.54	241.58
-households		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-other activities	(50-93)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Self supply (24)											
TOTAL		n.a.	n.a.	5,960.31	6,032.47	6,271.23	6,817.32	6,502.23	6,749.07	6,913.22	6,961.58
of which used by:											
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	40.50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for : Irrigation purposes (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* All industrial activities	(10-45)	n.a.	n.a.	5,651.44	5,728.70	5,975.68	6,562.56	6,198.03	6,454.19	6,495.12	6,543.24
-Total manufacturing industries	(15-37)	n.a.	n.a.	1,268.91	1,230.39	1,252.32	1,400.68	1,452.70	1,498.16	1,444.15	1,537.37
of which for cooling purposes		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-Production and distribution of electricity	(40.1)	n.a.	n.a.	4,287.46	4,392.11	4,637.82	5,097.76	4,675.24	4,908.38	5,007.94	4,943.94
of which for cooling purposes		n.a.	n.a.	4,017.48	4,293.10	4,538.19	4,991.98	4,562.29	4,799.40	4,885.54	4,835.98
* Domestic sector		n.a.	n.a.	268.37	255.10	252.43	215.14	269.06	272.82	400.17	402.37
-households		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-other activities	(50-93)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other supply (25)											
TOTAL		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which used to:											
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for : Irrigation purposes (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Losses during transport (32)											
TOTAL		n.a. *a)*	n.a. *a)*	282.23 *a)*	200.37 *a)*	308.27 *a)*	307.88 *a)*	299.92 *a)*	315.89 *a)*	361.11 *a)*	173.19
Evaporation losses		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Leakage		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES →

a) Losses are calculated from the difference between abstraction and use of (PWS + SS). It corresponds to about 2 to 5 % of the abstracted volume. This deduced ,
subjected to environmental taxes and based on the user information. A percentage of losses is estimated to be around 10 % considering the water supply figures.

INLAND WATERS

Territory: **BE** **Belgium**

(mio m³)

	ISIC/NACE	1995	1994	1993	1992	1991	1990	1985	1980
Public water supply (23).									
Population connected to public water supply (%)		81.48	76.69	79.47	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL		419.15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which used by:									
* Agriculture, forestry, fishing	(01-05)	16.01	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* All industrial activities	(10-45)	102.30	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-Total manufacturing industries	(15-37)	95.17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for cooling purposes		15.66	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-Production and distribution of electricity	(40.1)	2.33	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for cooling purposes		0.76	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Domestic sector		240.97	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-households		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-other activities	(50-93)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Self supply (24)									
TOTAL		7,555.14	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which used by:									
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for : Irrigation purposes (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* All industrial activities	(10-45)	7,149.66	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-Total manufacturing industries	(15-37)	1,588.50	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for cooling purposes		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-Production and distribution of electricity	(40.1)	5,495.65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for cooling purposes		5,389.63	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Domestic sector		391.95	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-households		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
-other activities	(50-93)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other supply (25)									
TOTAL		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which used to:									
* Agriculture, forestry, fishing	(01-05)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which for : Irrigation purposes (27)		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Losses during transport (32)									
TOTAL	*a)*	246.88 *a)*	n.a. *a)*	n.a. *a)*	n.a. *a)*	n.a. *a)*	n.a. *a)*	n.a. *a)*	n.a. *a)*
Evaporation losses		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Leakage		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

rresponds to about 2 to 5 % of the abstracted volume. This deduced proportion of losses is probably underestimated because of an underestimation of the abstracted volume, which is ,in some cases, o ybased on the volu

YOUR FOOTNOTES →

INLAND WATERS

TABLE 3.2: Water use by industrial activities

Territory: **BE2** **BELGIUM**

Contact: Isabelle Wemaere

(mio m³)

	ISIC/NACE	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995
Public water supply (23)												
Total manufacturing industry	(15-37)	n.a.	n.a.	96.45	94.69	99.16	101.80	103.35	101.69	101.85	96.64	95.17
of which used by:												
- food processing industry	(15)	n.a.	n.a.	20.96	19.45	20.04	19.28	18.98	19.45	19.26	18.19	16.94
- basic metals	(27)	n.a.	n.a.	3.20	2.73	3.02	4.18	4.86	4.61	4.47	4.37	4.49
- transport equipment	(35)	n.a.	n.a.	0.02	0.02	0.04	0.03	0.03	n.a.	n.a.	n.a.	n.a.
- textiles	(17-19)	n.a.	n.a.	1.78	2.74	2.94	2.78	3.15	n.a.	n.a.	n.a.	n.a.
- paper and paper products	(21)	n.a.	n.a.	2.94	3.33	3.31	3.47	3.24	n.a.	n.a.	n.a.	n.a.
- chemicals, refined petroleum, etc.	(23-24)	n.a.	n.a.	57.39	56.29	58.65	60.50	60.75	60.86	61.26	57.49	55.12
- other manufacturing industry n.e.c.		n.a.	n.a.	10.17	10.13	11.16	11.57	12.35	n.a.	n.a.	n.a.	n.a.
Mining and quarrying	(10-14)	n.a.	n.a.	0.14	0.16	0.12	0.13	0.11	n.a.	n.a.	n.a.	n.a.
Construction	(45)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Self supply (24)												
Total manufacturing industry	(15-37)	n.a.	n.a.	1,268.91	1,230.39	1,252.32	1,400.68	n.a.	n.a.	n.a.	n.a.	n.a.
of which used by:												
- food processing industry	(15)	n.a.	n.a.	92.29	90.25	87.32	86.87	n.a.	n.a.	n.a.	n.a.	n.a.
- basic metals	(27)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- transport equipment	(35)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- textiles	(17-19)	n.a.	n.a.	n.a.	n.a.	12.14	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- paper and paper products	(21)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- chemicals, refined petroleum, etc.	(23-24)	n.a.	n.a.	678.48	706.94	662.45	759.88	n.a.	n.a.	n.a.	n.a.	n.a.
- other manufacturing industry n.e.c.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mining and quarrying	(10-14)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Construction	(45)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES →

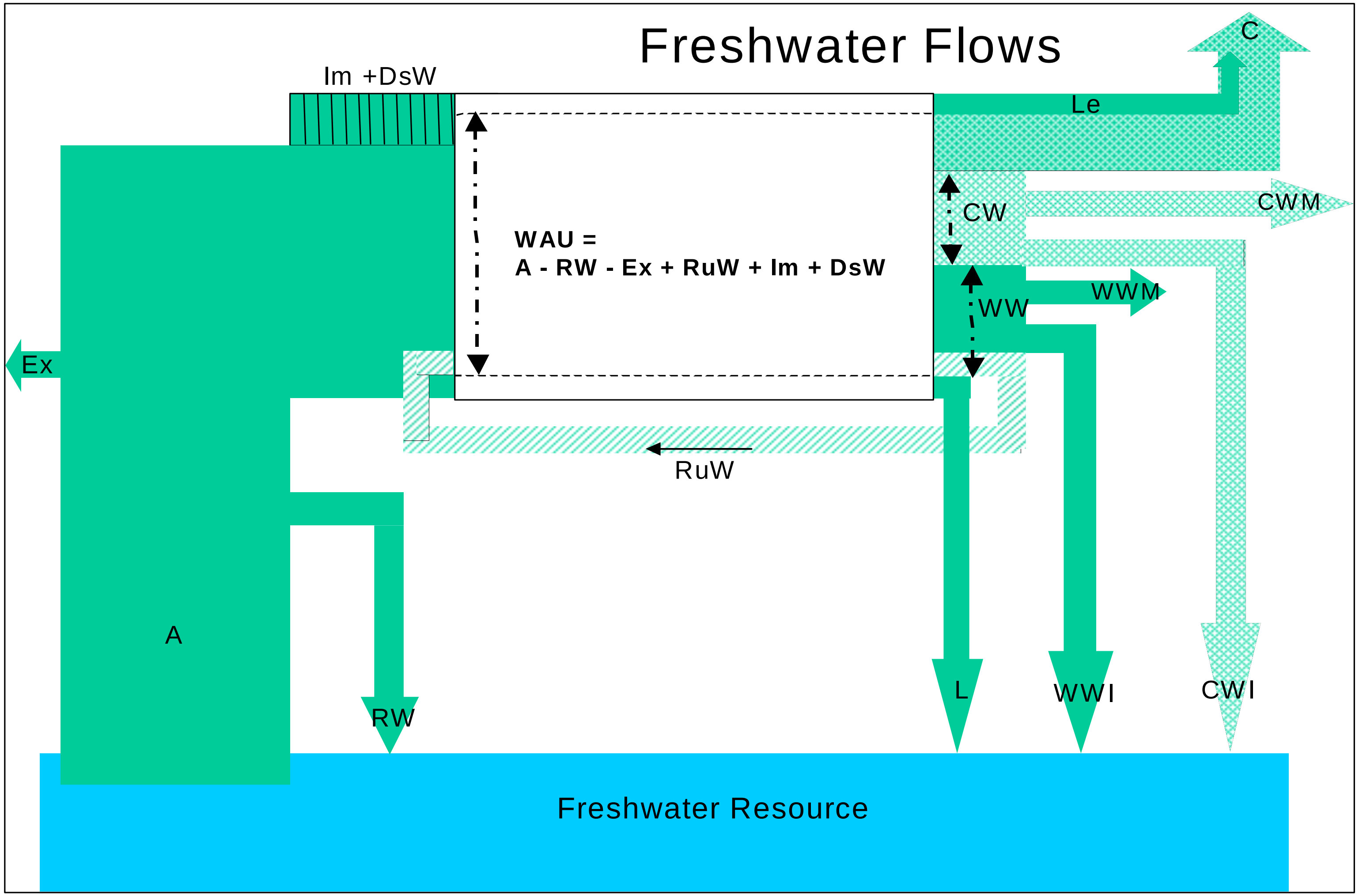
INLAND WATERS

Territory: **BE2** **BELGIUM**

(mio m³)

	ISIC/NACE	1994	1993	1992	1991	1990	1985	1980
Public water supply (23)								
Total manufacturing industry	(15-37)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which used by:								
- food processing industry	(15)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- basic metals	(27)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- transport equipment	(35)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- textiles	(17-19)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- paper and paper products	(21)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- chemicals, refined petroleum, etc.	(23-24)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- other manufacturing industry n.e.c.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mining and quarrying	(10-14)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Construction	(45)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Self supply (24)								
Total manufacturing industry	(15-37)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which used by:								
- food processing industry	(15)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- basic metals	(27)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- transport equipment	(35)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- textiles	(17-19)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- paper and paper products	(21)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- chemicals, refined petroleum, etc.	(23-24)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- other manufacturing industry n.e.c.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mining and quarrying	(10-14)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Construction	(45)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES ➔



A	Abstraction
C	Consumptive water use
CW	Cooling water
CWI	Cooling water discharged to Inland waters
CWM	Cooling water discharged to Marine waters
DsW	Desalinated Water
Ex	Exports
Im	Imports
L	Losses by leakage
Le	Losses by evaporation
RuW	Reused water
Rw	Returned water
S	Supply
WAU	Total water available for use within the territory
WW	Waste water generated
WWI	Waste water discharged to Inland waters
WWM	Waste water discharged to Marine waters

Adapted from Jean Margat

INLAND WATERS

WATER USE BALANCE

Territory : E-BRU (mio m³)

		2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Total gross abstraction of freshwater (A) (19)	1	n.a.	n.a.	6,653.94	6,633.41	6,982.41	7,537.67	7,211.74	7,479.75	7,689.66	7,551.51
Returned water (before or without use) **(Rw)** (29)	2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total net freshwater abstraction (20)	3 = 1-2										
Desalinated water **(DsW)** (17)	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reused water **(RuW)** (31)	5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Imports of water **(I)** (33)	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exports of water **(E)** (34)	7	0.00 b)	0.00 b)	0.00 b)	0.00 b)	0.00 b)	0.00 b)	0.00 b)	0.00 b)	0.00 b)	0.00 b)
Total water available for use within the territory (WAU)	8 = (3+4+5+6-7)										
Losses during transport (32) TOTAL of which:	9=10+11			282.23 c)	200.37 c)	308.27 c)	307.88 c)	299.92 c)	315.89 c)	361.11 c)	173.19 c)
Losses by evaporation **(Le)**	10	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Losses by leakage **(L)**	11	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total water available for end users within the territory (S = PWS+SS+OS)	12 = (8-9)										
Total cooling water discharged of which:	13 = (14+15)										
Discharged to inland waters **(CWI)**	14										
Discharge to marine waters **(CWM)**	15										
Total waste water discharged of which:	16 = (17+18+5)										
Discharged to inland waters **(WWI)**	17										
Discharge to marine waters **(WWM)**	18										
Consumptive water use (C) (35)	19 = (8-11-13-16)										
Total Water consumption (36)	20 = (19+15+18)										

YOUR FOOTNOTES →

a) the total abstraction of freshwater does not include the rain water.This latest is estimated to be less than 1% of total abstraction of freswater

b) the quantity of water that is exported is assumed to be negligible

c) Losses are calculated from the difference between abstraction and use of (PWS + SS). They corresponds to about 2 to 5 % of the abstracted volume. This is ,in some cases, only based on the volumes subjected to environmental taxes and based on the user information. A percentage of losses is estimated to be

INLAND WATERS

Territory : E-BRU (mio m³)

		1995	1994	1993	1992	1991	1990	1985	1980
Total gross abstraction of freshwater (A) (19)	1	8,221.17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Returned water (before or without use) **(Rw)** (29)	2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total net freshwater abstraction (20)	3 = 1-2								
Desalinated water **(DsW)** (17)	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reused water **(RuW)** (31)	5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Imports of water **(I)** (33)	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exports of water **(E)** (34)	7	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*	0.00 *b)*
Total water available for use within the territory (WAU)	8 = (3+4+5+6-7)								
Losses during transport (32) TOTAL of which:	9=10+11	a) *c)*	n.a. *c)*	n.a. *c)*	n.a. *c)*	n.a. *c)*	n.a. *c)*	n.a. *c)*	n.a. *c)*
Losses by evaporation **(Le)**	10	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Losses by leakage **(L)**	11	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total water available for end users within the territory (S = PWS+SS+OS)	12 = (8-9)								
Total cooling water discharged of which:	13 = (14+15)								
Discharged to inland waters **(CWI)**	14								
Discharge to marine waters **(CWM)**	15								
Total waste water discharged of which:	16 = (17+18+5)								
Discharged to inland waters **(WWI)**	17								
Discharge to marine waters **(WWM)**	18								
Consumptive water use (C) (35)	19 = (8-11-13-16)								
Total Water consumption (36)	20 = (19+15+18)								

YOUR FOOTNOTES →

his deduced proportion of losses is probably underestimated because of an underestimation of the abstracted volume, wh be around 10 % considering the water supply figu

INLAND WATERS

TABLE 4: National population connected to waste water treatment plants

Territory: **BE** **Belgium**

Contact: Isabelle Wemaere

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
National resident population		1000's	10,511.38 a)	10,445.85 a)	10,396.42 a)	10,355.84 a)	10,309.73 a)	10,263.41 a)	10,239.09 a)	10,213.75 a)	10,192.26 a)	10,170.23 a)
Urban waste water treatment (44), of which: (a)	1	% of pop.	54.55	53.30	51.52	47.79	45.71	41.15	38.67	38.04	34.60	30.33
- *Primary treatment* (47)		% of pop.	0.00 b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- *Secondary treatment* (48)		% of pop.	18.50	18.09	18.98	18.72	14.43	13.17	14.39	n.a.	n.a.	n.a.
- *Tertiary treatment* (49)		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other waste water treatment (b) (45)	2	% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Urban waste water collecting system with treatment (c)	1+2	% of pop.	54.55	54.10	51.52	47.79	45.71	41.15	38.67	38.04	34.60	30.33
Urban waste water collecting system without treatment	3	% of pop.	31.34	31.97	32.11	33.73	35.60	39.43	42.64	43.05	n.a.	n.a.
Total urban waste water collecting system (41)	1+2+3	% of pop.	85.89	85.13	83.62	81.53	81.31	80.59	81.31	81.09	n.a.	n.a.
Independent waste water collecting system (42)		% of pop.	12.24	12.86	14.52	16.63	16.87	17.60	16.88	17.11	18.33	18.40
of which with independent treatment (46), *total*		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which at least secondary treatment		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES →

a) population at the 31st of December

b) note that secondary treatment was considered for all years as exclusively secondary treatment, although it could also be filled as primary treatment,

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Territory: BE Belgium

		Units	1995	1994	1993	1992	1991	1990	1985	1980
National resident population		1000's	10,143.05 a)	10,130.57 a)	10,100.63 a)	10,068.32 a)	10,022.00 a)	9,986.98 a)	9,858.90 a)	9,863.37 a)
Urban waste water treatment (44), of which: (a)	1	% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- *Primary treatment* (47)		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- *Secondary treatment* (48)		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- *Tertiary treatment* (49)		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other waste water treatment (b) (45)	2	% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Urban waste water collecting system with treatment (c)	1+2	% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Urban waste water collecting system without treatment	3	% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total urban waste water collecting system (41)	1+2+3	% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Independent waste water collecting system (42)		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which with independent treatment (46), *total*		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which at least secondary treatment		% of pop.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

YOUR FOOTNOTES →

nt, regarding the JQ-IWA definiti

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TABLE 4: National population connected to waste water treatment plants

Explanatory notes:

(a) Please provide data on the percentages of the population whose waste water is treated in either a public sewage treatment plant or another waste water treatment plant. Industrial waste water should be excluded. Do NOT specify here the loadings on the waste water treatment plants in person equivalents compared to national population.

(b) For example treatment of municipal sewage in the waste water treatment plant of a large industry. Treatment in septic tanks is not included in "other waste water treatment", but is part of independent treatment.

(c) Please provide also any additional information needed to clarify and interpret the data (e.g. optimal national connection rate to sewage treatment plants; share of national population living in areas with scattered settlements; etc.) :

The main principles of the JQ classification of waste water treatment plants are derived from the definitions of the Urban Waste water Directive 91/271/EC. However, depending on the national transposition of the Directive, differences can occur when classifying individual plants.
Therefore, all EU countries are asked to provide data according to the following rules:
Urban waste water treatment plants serving agglomerations subjected to the Directive's requirements for either 'secondary treatment' or 'more stringent treatment' (=tertiary treatment), should be classified according to the national transposition of Annex 1B of the Directive. So, in case of 'secondary treatment', table 1 of Annex 1B is applicable and in case of 'tertiary treatment', either table 2 of Annex 1B is applicable and/or any other standards requiring extra treatment additional to secondary treatment.
For all urban waste water treatment plants not subjected to the requirements of Annex 1B of the Directive, as well as for 'Other waste water treatment', the JQ classification of treatment plants can be used.
All non-EU members can use the JQ classification without any exceptance.

TREATMENT PLANTS CLASSIFICATION

Category	Treatment efficiencies					Count Faecal Coliforms
	TSS	BOD	COD/TOC	N	P	
Primary treatment	>50%	>20%				
Secondary treatment		>70%	>75%			
Tertiary treatment:						
Of which for Organic Pollution		>95%	>85%			
Of which for Nitrogen				>70%		
Of which for Phosphorous					>80%	
Of which for Microbiological pollution						<1000 / 100 ml

Examples of independent treatment methods

Primary treatment: Septic tank

At least secondary treatment (*):
- Filtration bed
- Biological sandfilter

Systems using overland flow / infiltration with vegetation :
- Infiltration field (vertical flow)
- Rootzone system (horizontal flow)

Mini biological treatment plants:
- Biorotor
- Submerged bed
- Trickling filter
- Activated sludge system
- Anaerobic treatment systems

Remarks:

(*) In many cases the listed treatment methods require pre-settling in a septic tank.

INLAND WATERS

TABLE 5: Treatment capacity of waste water treatment plants, in terms of BOD (a)

Territory: **BE** **Belgium**

Contact: Isabelle Wemaere

	Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
URBAN WASTEWATER TREATMENT (44)											
Primary treatment (47)											
Plants	*number*	0.00 b)	0.00	0.00	0.00	0.00	0.00	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	0.00 b)	0.00	0.00	0.00	0.00	0.00	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	0.00 b)	0.00	0.00	0.00	0.00	0.00	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	0.00 b)	0.00	0.00	0.00	0.00	0.00	n.a	n.a	n.a	n.a
Secondary treatment (48)											
Plants	*number*	354.00	367.00	363.00	345.00	328.00	311.00	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	91.33	96.74	125.48	156.87	116.01	119.00	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	70.67	n.a	73.37	86.35	77.35	103.10	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	4.24	n.a	4.33	5.20	5.05	4.45	n.a	n.a	n.a	n.a
Tertiary treatment (49), **total**											
Plants	*number*	206.00	200.00	187.00	193.00	187.00	169.00	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	378.55	367.94	331.94	263.32	288.52	262.19	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	243.20	240.31	213.24	184.18	177.70	177.54	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	8.19	6.33	7.08	6.44	8.28	8.20	n.a	n.a	n.a	n.a
of which Nitrogen removal											
Plants	*number*	189.00	177.00	153.00	176.00	165.00	124.00	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	358.11	331.70	255.44	205.99	213.94	142.61	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	231.97	218.75	160.20	144.02	135.48	95.69	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	7.64	5.15	4.14	3.63	5.73	3.28	n.a	n.a	n.a	n.a
of which phosporus removal											
Plants	*number*	183.00	171.00	161.00	193.00	172.00	150.00	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	371.18	358.17	323.29	263.32	277.90	254.95	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	239.47	232.65	206.80	184.18	169.74	171.66	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	8.08	6.13	6.92	5.84	8.04	7.97	n.a	n.a	n.a	n.a
Total treatment											
Plants	*number*	560.00	567.00	550.00	538.00	515.00	480.00	450.00	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	469.89	464.68	457.41	420.20	404.53	381.19	361.50	384.76	374.30	368.17
actual occupation BOD	*1000 kg O_2/d*	313.87	n.a	287.14	270.53	255.04	280.65	237.33	234.37	238.10	221.48
effluent BOD	*1000 kg O_2/d*	12.43	n.a	11.48	11.05	13.33	12.65	n.a	n.a	n.a	n.a
INDEPENDENT TREATMENT (46)											
Total treatment											
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
of which at least secondary treatment											
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

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Territory: BE Belgium

	Units	1995	1994	1993	1992	1991	1990	1985	1980
URBAN WASTEWATER TREATMENT (44)									
Primary treatment (47)									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Secondary treatment (48)									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Tertiary treatment (49)**, total**									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
of which Nitrogen removal									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
of which phosporus removal									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Total treatment									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	344.09	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	207.71	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
INDEPENDENT TREATMENT (46)									
Total treatment									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
of which at least secondary treatment									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

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TABLE 5: Treatment capacity of waste water treatment plants, in terms of BOD (a)

Territory: BE Belgium

Contact: Isabelle Wemaere

	Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
OTHER WASTEWATER TREATMENT (45)											
Primary treatment (47)											
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Secondary treatment (48)											
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Tertiary treatment (49), **total**											
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

YOUR FOOTNOTES ➔ *b) note that secondary treatment was considered for all years as exclusively secondary treatment, although it could also be filled as pr*

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Territory: **BE** **Belgium**

	Units	1995	1994	1993	1992	1991	1990	1985	1980
OTHER WASTEWATER TREATMENT (45)									
Primary treatment (47)									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Secondary treatment (48)									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Tertiary treatment (49)**, total**									
Plants	*number*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
design capacity BOD (52)	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
actual occupation BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
effluent BOD	*1000 kg O_2/d*	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

YOUR FOOTNOTES ➔ *primary treatment, regarding the JQ-IWA definiti*

TABLE 5: Treatment capacity of waste water treatment plants, in terms of BOD (a)

Explanatory notes:

(a) Please provide data on urban waste water treatment plants as well as on other treatment plants. If the data, as asked for, are not available, and if other relevant data are, please provide them and specify how these data have been defined and calculated.

The main principles of the JQ classification of waste water treatment plants are derived from the definitions of the Urban Waste water Directive 91/271/EC. However, depending on the national transposition of the Directive, differences can occur when classifying individual plants.
Therefore, all EU countries are asked to provide data according to the following rules:
Urban waste water treatment plants serving agglomerations subjected to the Directive's requirements for either 'secondary treatment' or 'more stringent treatment' (=tertiary treatment), should be classified according to the national transposition of Annex 1B of the Directive. So, in case of 'secondary treatment', table 1 of Annex 1B is applicable and in case of 'tertiary treatment', either table 2 of Annex 1B is applicable and/or any other standards requiring extra treatment additional to secondary treatment.
For all urban waste water treatment plants not subjected to the requirements of Annex 1B of the Directive, as well as for 'Other waste water treatment', the JQ classification of treatment plants can be used.
All non-EU members can use the JQ classification without any exceptance.

TREATMENT PLANTS CLASSIFICATION

Category	Treatment efficiencies					Count Faecal Coliforms
	TSS	BOD	COD/TOC	N	P	
Primary treatment	>50%	>20%				
Secondary treatment		>70%	>75%			
Tertiary treatment:						
Of which for Organic Pollution		>95%	>85%			
Of which for Nitrogen				>70%		
Of which for Phosphorous					>80%	
Of which for Microbiological pollution						<1000 / 100 ml

Examples of independent treatment methods

Primary treatment: Septic tank

At least secondary treatment (*):

Systems using filtration :
- Filtration bed
- Biological sandfilter
- Infiltration field (vertical flow)
- Rootzone system (horizontal flow)

Mini biological treatment plants:
- Biorotor
- Submerged bed
- Trickling filter
- Activated sludge system
- Anaerobic treatment systems

Remarks:

(*) In many cases the listed treatment methods require pre-settling in a septic tank.

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TABLE 6: Sewage sludge (50) production and disposal (a)

Territory: BE Belgium

Contact: Isabelle Wemaere

	Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
URBAN WASTEWATER TREATMENT(44)											
Total sludge production vol.	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total sludge production D.S.	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total sludge disposal vol.	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total sludge disposal D.S.	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Agricultural use vol. (b)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Agricultural use D.S. (b)	mio kg	n.a.	n.a.	n.a.	n.a.	11.25	n.a.	n.a.	n.a.	n.a.	n.a.
Compost and other applications vol. (c)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Compost and other applications D.S. (c)	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Landfill vol. (d)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Landfill D.S. (d)	mio kg	n.a.	8.95	15.22	12.95	18.37	19.00	n.a.	n.a.	n.a.	n.a.
Dumping at sea vol. (e)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dumping at sea D.S. (e)	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Incineration vol. (f)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Incineration D.S. (f)	mio kg	n.a.	36.25	28.13	71.05	66.36	n.a.	n.a.	n.a.	n.a.	n.a.
Others, please specify vol.	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Others, please specify D.S.	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OTHER WASTEWATER TREATMENT (45).											
Total sludge production vol.	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total sludge production D.S.	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total sludge disposal vol.	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total sludge disposal D.S.	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Agricultural use vol. (b)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Agricultural use D.S. (b)	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Compost and other applications vol. (c)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Compost and other applications D.S. (c)	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Landfill vol. (d)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Landfill D.S. (d)	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dumping at sea vol. (e)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dumping at sea D.S. (e)	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Incineration vol. (f)	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Incineration D.S. (f)	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Others, please specify vol.	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Others, please specify D.S.	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
INDEPENDENT TREATMENT (46)											
Total sludge production vol.	1000 m³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total sludge production D.S.	mio kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

1995	1994	1993	1992	1991	1990	1985	1980
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

TABLE 6: Sewage sludge (50) production and disposal (a)

Explanatory notes:

(a) Production of sewage or waste water treatment sludge is for the purpose of this questionnaire defined as the quantity of decanted matter resulting from waste water treatment, including sludge treatment. Depending on the methods of water treatment and sludge treatment such as digestion, filterpressing etc., the concentration of dry solids can be very variable. For this reason only the final volumes and dry solids that are to be disposed of are requested. If you have any information available on the physical or chemical composition of the sludge, please send it with the questionnaire.

(b) 'Agricultural use', means all use of sewage sludge as fertiliser on arable land or pastures, the method of application being of no importance.

(c) 'Compost and other applications' means all application of sewage sludge after mixing with other organic material and compostation in parks, horticulture etc.

(d) All quantities of sludge which are disposed of in tips, landfill areas or special depot sites without any useful function.

(e) All sludge that is put into the sea, either directly by pipeline or indirectly after treatment.
Note for EU countries: dumping of sewage sludge at sea is forbidden since 1998

(f) All sludge that is disposed of by direct incineration or after mixing with other waste

INLAND WATERS

TABLE 7: Generation and discharge of waste water

Territory: BE2 BELGIUM

Contact:

	Code	Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
VOLUME												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*mio m³/y*	n.a.	n.a.	n.a.	3,417.72	3,720.10	3,950.68	3,461.10	3,670.72	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*mio m³/y*	n.a.	n.a.	55.42	56.76	42.36	62.64	63.74	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*mio m³/y*	n.a.	n.a.	567.26	605.88	715.63	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*mio m³/y*	n.a.	n.a.	46.16	46.13	46.84	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*mio m³/y*	n.a.	n.a.	257.72	278.08	377.42	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*mio m³/y*	n.a.	n.a.	10.06	9.40	11.86	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*mio m³/y*	n.a.	n.a.	52.40	50.02	51.92	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*mio m³/y*	n.a.	n.a.	154.26	162.96	172.74	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*mio m³/y*	n.a.	n.a.	1,629.83	1,905.81	2,108.98	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*mio m³/y*	n.a.	n.a.	2,257.45	2,574.18	2,872.48	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*mio m³/y*	n.a.	467.56	461.90	598.34	194.96	192.85	193.97	197.80	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*mio m³/y*	n.a.	397.41	383.41	517.92	150.36	147.34	150.10	155.47	n.a.	n.a.
not connected and discharged, total	**(3)**	*mio m³/y*	n.a.	70.15	78.49	80.42	44.60	45.52	43.86	42.32	n.a.	n.a.
of which discharged after independent treatment	**(4)**	*mio m³/y*	n.a.	n.a.	n.a.	37.49	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*mio m³/y*	n.a.	n.a.	2,257.45	2,574.18	2,872.48	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*mio m³/y*	n.a.	n.a.	72.98	78.61	75.76	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*mio m³/y*	n.a.	n.a.	2,184.47	2,495.57	2,796.72	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*mio m³/y*	n.a.	n.a.	456.39	596.53	226.12	225.45	367.85	n.a.	n.a.	n.a.
of which: connected to UWWTP		*mio m³/y*	n.a.	n.a.	258.86	229.25	88.81	78.62	71.94	n.a.	n.a.	n.a.
connected to IWWTP		*mio m³/y*	n.a.	n.a.	12.70	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*mio m³/y*	n.a.	n.a.	184.83	366.52	307.25	336.54	436.77	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**10)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

INLAND WATERS

Territory: **BE2** **BELGIUM**

	Code	Units	1995	1994	1993	1992	1991	1990	1985	1980
VOLUME										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*mio m³/y*	3,518.15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*mio m³/y*	202.02	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which discharged after independent treatment	**(4)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**10)**	*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*mio m³/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

	Code	Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
BOD												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		1000 kg O_2/d	n.a.	n.a.	322.77	331.55	336.19	344.04	338.24	343.49	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	401)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	1000 kg O_2/d	n.a.	n.a.	52.73	61.25	66.80	n.a.	n.a.	n.a.	n.a.	n.a.
* Domestic sector (c)		1000 kg O_2/d	269.15	266.89	270.04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	1000 kg O_2/d	n.a.	418.41	413.61	525.24	261.59	261.41	260.54	260.21	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	1000 kg O_2/d	n.a.	344.71	330.40	425.66	201.43	199.02	201.28	204.50	n.a.	n.a.
not connected and discharged, total	**(3)**	1000 kg O_2/d	n.a.	73.70	83.22	99.59	60.16	62.40	59.26	55.70	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	1000 kg O_2/d	n.a.	n.a.	n.a.	40.05	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	1000 kg O_2/d	n.a.	n.a.	52.73	61.18	66.80	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	1000 kg O_2/d	n.a.	n.a.	33.65	41.11	44.09	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	1000 kg O_2/d	n.a.	n.a.	19.08	20.07	22.71	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		1000 kg O_2/d	n.a.	n.a.	364.05	466.76	245.51	246.79	245.61	251.12	n.a.	n.a.
of which: connected to UWWTP		1000 kg O_2/d	n.a.	281.65	256.99	270.94	117.38	103.15	89.27	87.77	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	1000 kg O_2/d	n.a.	n.a.	n.a.	193.05	132.45	143.79	157.02	163.34	n.a.	n.a.
Effluents of UWWTP (g) (59)		1000 kg O_2/d	n.a.	n.a.	n.a.	13.20	13.36	12.14	n.a.	n.a.	n.a.	n.a.
of which: discharged	**10)**	1000 kg O_2/d	n.a.	n.a.	n.a.	13.20	13.36	12.14	n.a.	n.a.	n.a.	n.a.
re-used		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
BOD										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg O_2/d*	338.40	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	401)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Domestic sector (c)		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg O_2/d*	258.21	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**10)**	*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg O_2/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
COD (57)												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR -												
POINT SOURCES (Total) (a)		1000 kg O_2/d	n.a.	n.a.	n.a.	880.26	894.15	916.92	894.67	919.74	n.a.	n.a.
Of which:												
* **Agriculture, forestry, fishing** (b)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	1000 kg O_2/d	n.a.	n.a.	0.42	0.45	0.45	1.10	0.71	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	1000 kg O_2/d	n.a.	n.a.	166.97	191.30	202.64	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	1000 kg O_2/d	n.a.	n.a.	48.05	53.89	60.39	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	1000 kg O_2/d	n.a.	n.a.	5.65	6.49	8.83	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	1000 kg O_2/d	n.a.	n.a.	21.73	23.78	28.85	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	1000 kg O_2/d	n.a.	n.a.	20.79	19.07	21.69	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	1000 kg O_2/d	n.a.	n.a.	65.55	75.31	72.57	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	401)	1000 kg O_2/d	n.a.	n.a.	n.a.	0.75	0.53	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* **All industrial activities**	(10-45)	1000 kg O_2/d	n.a.	n.a.	171.72	196.62	207.94	n.a.	n.a.	n.a.	n.a.	n.a.
* **Domestic sector** (c)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	1000 kg O_2/d	n.a.	1,043.65	1,031.17	1,202.17	603.51	603.79	601.69	601.18	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	1000 kg O_2/d	n.a.	872.17	838.34	979.31	465.00	460.32	465.19	472.73	n.a.	n.a.
not connected and discharged, total	**(3)**	1000 kg O_2/d	n.a.	171.48	192.83	222.86	138.52	143.48	136.50	128.45	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	1000 kg O_2/d	n.a.	n.a.	171.72	196.44	207.84	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	1000 kg O_2/d	n.a.	n.a.	89.22	106.19	113.01	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	1000 kg O_2/d	n.a.	n.a.	82.50	90.25	94.83	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		1000 kg O_2/d	n.a.	n.a.	927.56	1,085.50	578.01	583.20	583.67	597.62	n.a.	n.a.
of which: connected to UWWTP		1000 kg O_2/d	n.a.	n.a.	603.80	610.32	280.02	262.83	234.92	230.61	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	1000 kg O_2/d	n.a.	n.a.	322.55	473.82	346.41	379.06	416.07	426.08	n.a.	n.a.
Effluents of UWWTP (g) (59)		1000 kg O_2/d	n.a.	n.a.	n.a.	101.02	101.69	96.14	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	1000 kg O_2/d	n.a.	n.a.	n.a.	101.02	101.69	96.14	n.a.	n.a.	n.a.	n.a.
re-used		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
COD (57)										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		1000 kg O_2/d	853.43	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	401)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	1000 kg O_2/d	595.79	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		1000 kg O_2/d	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Suspended Solids												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/d*	n.a.	n.a.	n.a.	468.27	457.14	466.45	459.81	471.93	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/d*	n.a.	n.a.	1.15	7.78	1.14	1.73	4.73	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/d*	n.a.	n.a.	30.01	37.89	35.67	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/d*	n.a.	n.a.	10.74	11.08	11.45	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/d*	n.a.	n.a.	1.69	2.79	1.50	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/d*	n.a.	n.a.	2.20	3.24	3.73	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/d*	n.a.	n.a.	3.23	4.00	2.59	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/d*	n.a.	n.a.	10.93	14.33	13.77	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/d*	n.a.	n.a.	n.a.	0.56	0.24	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/d*	n.a.	n.a.	32.15	47.22	38.34	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/d*	594.69	593.07	588.54	733.28	398.17	400.32	399.36	398.47	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/d*	n.a.	500.32	481.67	591.86	306.34	304.86	308.62	313.09	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/d*	n.a.	92.76	106.87	141.42	91.83	95.46	90.74	85.38	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/d*	n.a.	n.a.	27.20	46.93	37.70	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/d*	n.a.	n.a.	14.08	15.50	15.34	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/d*	n.a.	n.a.	n.a.	31.44	22.36	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/d*	n.a.	n.a.	495.75	607.35	321.68	320.26	323.16	329.69	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/d*	n.a.	n.a.	285.80	336.84	140.19	122.87	107.45	101.69	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/d*	n.a.	n.a.	209.50	269.71	193.87	209.71	228.59	240.14	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
Suspended Solids										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR -										
POINT SOURCES (Total) (a)		*1000 kg/d*	457.15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/d*	395.55	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
N-tot												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/d*	n.a.	n.a.	n.a.	82.65	83.57	86.70	84.42	88.97	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/d*	n.a.	n.a.	n.a.	3.05	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/d*	n.a.	n.a.	0.05	0.06	0.03	0.12	0.10	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/d*	n.a.	n.a.	11.80	13.38	14.74	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/d*	n.a.	n.a.	2.55	3.13	3.32	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/d*	n.a.	n.a.	1.62	1.84	2.00	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/d*	n.a.	n.a.	0.60	0.80	0.88	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/d*	n.a.	n.a.	0.19	0.29	0.34	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/d*	n.a.	n.a.	5.98	6.18	7.00	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/d*	n.a.	n.a.	0.12	0.12	0.14	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/d*	n.a.	n.a.	12.17	13.72	15.06	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/d*	n.a.	n.a.	n.a.	174.94	n.a.	n.a.	n.a.	n.a.	162.81	n.a.
ALL SOURCES		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/d*	101.32	100.78	100.27	108.26	44.21	44.31	44.15	44.15	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/d*	n.a.	85.61	83.52	89.14	34.00	33.74	34.11	34.70	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/d*	n.a.	15.17	16.75	19.12	10.20	10.56	10.04	9.45	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/d*	n.a.	n.a.	12.17	13.58	14.87	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/d*	n.a.	n.a.	3.35	4.45	4.62	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/d*	n.a.	n.a.	8.82	9.13	10.25	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/d*	n.a.	n.a.	86.87	93.58	38.62	38.58	38.82	40.68	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/d*	n.a.	n.a.	53.92	52.29	17.90	16.33	14.46	14.14	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/d*	n.a.	n.a.	32.82	41.16	26.52	29.83	32.78	35.03	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/d*	n.a.	n.a.	n.a.	30.44	29.22	29.33	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/d*	n.a.	n.a.	n.a.	30.44	29.22	29.33	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
N-tot										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/d*	65.25	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/d*	43.65	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
P-tot												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/d*	n.a.	n.a.	n.a.	14.19	14.02	14.34	14.10	15.39	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.00	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/d*	n.a.	n.a.	2.61	2.60	2.43	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/d*	n.a.	n.a.	0.77	0.90	1.04	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/d*	n.a.	n.a.	0.02	0.67	0.81	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/d*	n.a.	n.a.	0.10	0.12	0.17	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/d*	n.a.	n.a.	0.02	0.04	0.02	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/d*	n.a.	n.a.	1.65	1.42	1.06	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/d*	n.a.	n.a.	n.a.	0.01	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/d*	n.a.	n.a.	2.72	2.79	2.59	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/d*	n.a.	n.a.	n.a.	6.50	n.a.	n.a.	n.a.	n.a.	6.70	n.a.
ALL SOURCES		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/d*	16.86	16.78	16.37	19.65	8.95	8.96	8.92	8.91	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/d*	n.a.	14.17	13.44	16.08	6.90	6.84	6.90	7.00	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/d*	n.a.	2.61	2.93	3.57	2.05	2.13	2.02	1.91	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/d*	n.a.	n.a.	2.41	2.77	2.55	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/d*	n.a.	n.a.	1.25	0.91	0.94	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/d*	n.a.	n.a.	n.a.	1.86	1.61	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/d*	n.a.	n.a.	14.70	16.99	7.84	7.77	7.77	7.98	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/d*	n.a.	n.a.	8.92	9.49	3.59	3.22	2.84	2.83	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/d*	n.a.	n.a.	5.76	7.48	5.04	5.49	6.01	6.09	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/d*	n.a.	n.a.	n.a.	3.62	3.28	3.17	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/d*	n.a.	n.a.	n.a.	3.62	3.28	3.17	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
P-tot										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR -										
POINT SOURCES (Total) (a)		*1000 kg/d*	12.36	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/d*	8.80	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/d*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
As												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	0.75	1.95	1.42	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	0.07	0.04	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	0.31	1.08	0.48	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	0.02	0.03	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	0.38	0.61	0.75	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	0.01	0.01	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	0.76	1.97	1.44	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	0.76	1.98	1.43	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	0.07	0.16	0.13	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	0.69	1.81	1.30	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
As										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
* **Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* **All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* **Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Pop. Eqv. (56)												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

	Code	Units	1995	1994	1993	1992	1991	1990	1985	1980
Pop. Eqv. (56)										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*mio P.E.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Cd												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	0.00	n.a.	0.01	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	0.46	0.55	0.61	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	0.32	0.41	0.43	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	0.00	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	0.03	0.03	0.08	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	0.10	0.08	0.08	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	0.47	0.57	0.63	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	0.47	0.57	0.62	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	0.03	0.08	0.04	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	0.44	0.49	0.58	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
Cd										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
* **Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* **All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* **Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Hg												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	0.07	0.15	0.11	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	0.00	n.a.	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	0.01	0.01	0.01	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	0.00	n.a.	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	0.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	0.06	0.13	0.10	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	0.08	0.15	0.11	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	0.07	0.15	0.11	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	0.02	0.01	0.01	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	0.14	0.10	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
Hg										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
* **Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* **All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* **Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

			Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Cu													
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:													
*** Agriculture, forestry, fishing** (b)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)		*1000 kg/y*	n.a.	n.a.	0.08	0.06	0.03	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)		*1000 kg/y*	n.a.	n.a.	n.a.	8.29	8.95	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)		*1000 kg/y*	n.a.	n.a.	0.16	0.46	0.50	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)		*1000 kg/y*	n.a.	n.a.	2.01	4.63	3.22	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)		*1000 kg/y*	n.a.	n.a.	0.77	0.87	1.12	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)		*1000 kg/y*	n.a.	n.a.	0.46	0.30	0.31	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)		*1000 kg/y*	n.a.	n.a.	0.86	1.38	2.91	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)		*1000 kg/y*	n.a.	n.a.	n.a.	0.02	0.02	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)		*1000 kg/y*	n.a.	n.a.	5.44	8.86	9.54	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM													
Waste water generated by domestic sector (c) (38)		**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total		**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment		**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)		**(5)**	*1000 kg/y*	n.a.	n.a.	5.44	8.85	9.42	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(6)**	*1000 kg/y*	n.a.	n.a.	1.61	2.95	3.47	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total		**(7)**	*1000 kg/y*	n.a.	n.a.	3.83	5.91	5.95	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)		**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP				n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment		**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged		**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

			Units	1995	1994	1993	1992	1991	1990	1985	1980
Cu											
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:											
*** Agriculture, forestry, fishing** (b)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM											
Waste water generated by domestic sector (c) (38)		**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total		**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment		**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)		**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total		**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)		**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP				n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment		**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged		**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Cr												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	0.03	n.a.	0.01	0.03	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	3.99	4.52	5.41	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	0.05	0.12	0.12	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	1.81	1.79	2.19	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	0.68	0.72	1.07	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	0.10	0.03	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	0.78	0.91	0.89	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	0.00	0.00	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	4.11	4.61	5.50	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	4.11	4.49	5.49	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	1.32	2.17	2.11	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	2.79	2.32	3.38	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

			Units	1995	1994	1993	1992	1991	1990	1985	1980
Cr											
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:											
*** Agriculture, forestry, fishing** (b)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM											
Waste water generated by domestic sector (c) (38)		**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total		**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment		**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)		**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total		**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)		**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP				n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment		**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged		**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Ni												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	0.05	0.06	0.02	0.06	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	9.59	11.23	10.36	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	0.10	0.20	0.19	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	5.33	6.94	6.00	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	0.25	0.33	0.49	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	0.32	0.21	0.13	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	2.48	1.98	1.79	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	0.01	0.04	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	9.80	11.35	10.49	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	9.80	11.35	10.48	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	1.54	2.61	2.06	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	8.26	8.74	8.42	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
Ni										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

			Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Pb													
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:													
*** Agriculture, forestry, fishing** (b)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	0.09	n.a.	0.15	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)		*1000 kg/y*	n.a.	n.a.	4.61	5.33	4.62	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)		*1000 kg/y*	n.a.	n.a.	n.a.	0.06	0.08	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)		*1000 kg/y*	n.a.	n.a.	3.48	3.99	3.06	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)		*1000 kg/y*	n.a.	n.a.	n.a.	0.04	0.11	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)		*1000 kg/y*	n.a.	n.a.	n.a.	0.05	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)		*1000 kg/y*	n.a.	n.a.	0.29	0.35	0.56	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)		*1000 kg/y*	n.a.	n.a.	n.a.	0.00	0.01	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)		*1000 kg/y*	n.a.	n.a.	4.90	6.06	4.80	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM													
Waste water generated by domestic sector (c) (38)		**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total		**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment		**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)		**(5)**	*1000 kg/y*	n.a.	n.a.	4.90	6.05	4.80	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)		**(6)**	*1000 kg/y*	n.a.	n.a.	0.47	0.70	0.57	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total		**(7)**	*1000 kg/y*	n.a.	n.a.	4.43	5.35	4.23	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)		**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP				n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment		**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged		**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)			*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
Pb										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Zn												
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:												
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	0.29	0.91	0.20	1.67	1.24	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	106.39	72.73	85.94	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	2.07	5.48	2.97	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	69.46	36.81	48.12	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	1.03	2.12	2.59	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	3.95	3.64	4.41	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	24.87	19.71	23.68	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	0.05	0.07	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	109.02	75.08	87.15	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM												
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	109.02	75.08	87.12	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	8.08	13.38	10.09	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	100.94	61.70	77.03	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

		Units	1995	1994	1993	1992	1991	1990	1985	1980
Zn										
WASTEWATER GENERATED (58) BY SOURCE AND BY SECTOR - POINT SOURCES (Total) (a)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which:										
*** Agriculture, forestry, fishing** (b)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Mining and quarrying	(10-14)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Total manufacturing industries	(15-37)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: foodprocessing industry	(15)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
basic metals	(27)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
transport equipment	(35)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
textiles etc.	(17-19)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
paper & paper products	(21)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chemical products & refined petroleum	(23-24)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Production & distribution of electricity	(401)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
* Construction	(45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** All industrial activities**	(10-45)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*** Domestic sector** (c)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: Other activities	(50-93)	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: households		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NON POINT SOURCES (d)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ALL SOURCES		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WASTEWATER DISCHARGED BY TYPE OF COLLECTING SYSTEM										
Waste water generated by domestic sector (c) (38)	**(1)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(2)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, total	**(3)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after independent treatment	**(4)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water generated by industry (e) (40)	**(5)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to urban waste water collecting system (41)	**(6)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
not connected and discharged, Total	**(7)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged after treatment in IWWP (j)	**(8)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste water connected to urban waste water collecting system (f) (41)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: connected to UWWTP		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
connected to IWWTP			n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
discharged without treatment	**(9)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effluents of UWWTP (g) (59)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
of which: discharged	**(10)**	*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
re-used		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to Inland waters (h) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total discharges to the sea (i) (62)		*1000 kg/y*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Explanatory notes:

GENERAL NOTES:

* All the parameters of the second part of the table, 'Waste water discharged by type of collecting system', refer to Inland Waters
* For complementary purposes a question on total discharges to marine waters (data from marine questionnaire) is asked at the end of the table.
* In order to improve the comparability between data provided in the JQ with the data of the UWWT Directive reports, EU members are asked to provide data on Population Equivalent (PE) equaling 60g BOD.
* For non-EU members, if another definition of Population equivalent is used, please specify on which parameters and unit it is based. For example PE(B54) for 54g BOD/(inh*day) or PE(P2) for 2g P/(inh*day)
* The most common values for N and P domestic discharges of 1 inhabitant measured in E.U.Countries are: 12g N/p.e/day, and 2.5g P/ p.e/day

(a) The generation of waste water by point sources is broken down into activity categories defined according to the ISIC and NACE classifications.

(b) Under agriculture, estimates of effluents of animal feed lots should be included.

(c) Domestic waste water includes waste water (pollution) generated by households and the sector 'other activities' (ISIC/NACE 50-93).

(d) Please specify what kind of discharges are comprised under non point sources. Give a description of the estimation methods used for these sources:

(e) For the purposes of this questionnaire the discharges from industrial activities are defined as the quantities that leave the plant site. This means that an eventual waste water treatment inside a plant site is seen as part of the production process and that only the effluents are to be included in the data asked for. Waste water treatment within industrial plants is asked for in Table 5.

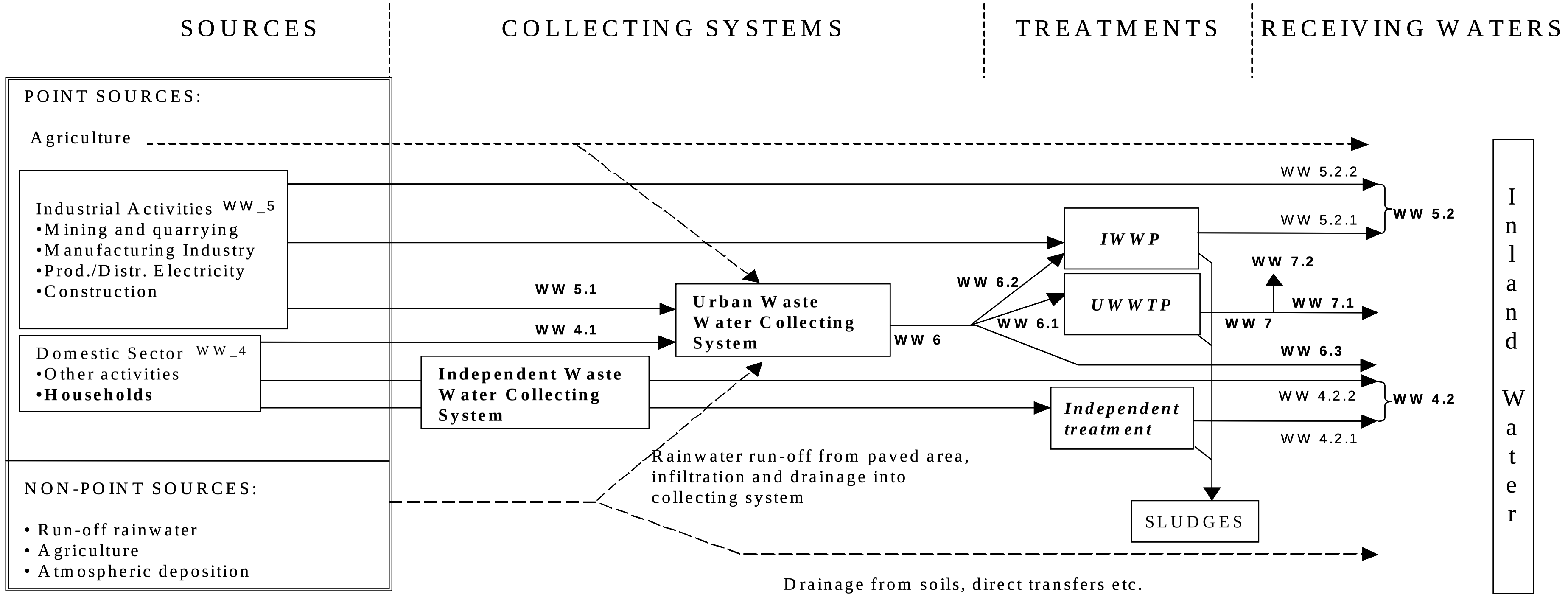
(f) Total waste water connected to the Urban waste water collecting system: the sum of (2) and (6) and any other waste water entering the collecting system, like agricultural waste water or rain water run-off from paved areas.

(g) Please specify if the effluents from UWWTP include run off rain water or only waste water generated by domestic sector or industry. Please provide an estimate of the volume of rainwater included if possible.

(h) Total discharges to inland waters: the sum of: (3)+(7)+(9)+(10) PLUS any other discharges reaching inland waters, such as direct discharges from agriculture (SEE ALSO SCHEME 3)

(i) Data from marine questionnaire

(j) Including eventual extra loads/volumes of treated urban waste water



IWWTP = Industrial waste water treatment plant
UWWTP = Urban waste water treatment plant

WW_4	Waste water generated by domestic sector	WW_5.2.2	of which: discharged without treatment
WW_4.1	of which: connected to urban waste water collecting system	WW_6	Total waste water connected to urban waste water collecting system
WW_4.2	of which: not connected and discharged, total	WW_6.1	of which: connected to UWWTP
WW_4.2.1	of which: discharged after independent treatment	WW_6.2	of which: connected to IWWTP
WW_4.2.2	of which: discharged without treatment	WW_6.3	of which: discharged without treatment
WW_5	Total waste water generated by industry	WW_7	Effluents of UWWTP
WW_5.1	of which: connected to urban waste water collecting system	WW_7.1	of which: discharged
WW_5.2	of which: not connected and discharged, Total	WW_7.2	of which: re used
WW_5.2.1	of which: discharged after treatment in IWWTP	WW_8	Total discharges to Inland waters

Annex 2

Lists of Belgian Water Experts

Annex 2.1

Ledenlijst **SG_WATER** **Liste des membres**

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Annex 3

NIS-Water database details

Annex 3.1: Variable definitions Table of NIS-Water Database

File used as input for water data concerning:

Water Resources (WaRes)

Variables cover mainly the data required for the joint questionaire of Eurostat-OECD on inland waters : JQ-IWA
The reference to JQ-IWA is indicated as JQXX with table number where XX is the year of the exercise
The tables of the **JQ-IWA are mainly the:**
Table 1, Table 1a-IF and Table 1a-OF

Tree main sheets:

WaRes-def
Provides the définition of the variables and the additional information on the variable itself

Info variables	Description	Type	character nb
Theme	Water	text	n specified
Sub-theme	Water Resource	text	n specified
VarNIScode	All variables receive **a unique code** composed of a first part related to the theme and a second part in sequential number, separated by a hyphen (first var is e.g. WaR-001)	text	8
VarIWecode	All variables receive a code with symbols, which is logically build and can be used as a kind of abbreviation of the variablecolumn of the tables. The domain of the variable is mentionned in the variable abbreviation by the suffix "_BE" or "_BR" or "_FL" or "_WA" etc...	text	n specified
VarJQcode	All variables that are required for JQ-IWA receive the possible code of the JQ-IWA which is found in the first column of the tables (mostly hidden column)	text	n specified
Variable basic name	The short definition of the variable as proposed in the JQ-IWA with some supplement when necessary (long definition is provided in a separated table)	text	n specified
Unit	the unit of the variable	text	n specified
Geo	the geographic domain of the variable. Here the REFNIS code is used	text	5
NACE	NACE code in text form. If a combination is needed following rule is used: When separated by "-" then is means from code XX1 to code XX2; when separated by "," then just the sum of the various codes. If not fiulled then the code is probably not relevant for the variable	text	n specified
ISTI	ISTI code used by some people at NIS is also filled. It provides some advantage of having agregations but disadvantages no to be internationally used or having missing codes	text	4
Dperiod	Type of periodicity: M: monthly (values are 1,2,3,…) Q: quaterly, A: annually 0: average; 1 total	text	2
Type	0: absolute data; 1: index; 2: coefficient	number	1
Table_row JQ08	Reference of the JQ-IWA table of 2008 in the form: JQ-IWA-*table name _table row nb in data range*	text	n specified
Formula with symbols	Default formula that can be used to obtain the variable value expressed with the symbols	text	n specified
Formula with Varcodes	Default formula that can be used to obtain the variable value expressed with variable NIScode	text	n specified
remark	any kind of remarks	text	n specified
Table_row JQ06	Reference of the JQ-IWA table **of 2006** in the form: JQ-IWA-*table name _table row nb in data range*	text	n specified

File used as input for water data concerning:

Water abstractions and water use (WaUse)

Variables cover mainly the data required for the joint questionaire of Eurostat-OECD on inland waters : JQ-IWA
The reference to JQ-IWA is indicated as JQXX with table number where XX is the year of the exercise
The tables of the **JQ-IWA are mainly the:**
Table 2.1, Table 2.2, Table 3.1, Table 3.2 and Summary Table

Tree main sheets:

WaUse-def
Provides the définition of the variables and the additional information on the variable itself

Info variables	Description	Type	character nb
Theme	Water	text	n specified
Sub-theme	Water Resource	text	n specified
VarNIScode	All variables receive **a unique code** composed of a first part related to the theme and a second part in sequential number, separated by a hyphen (first var is e.g. WaU-001)	text	8
VarIWecode	All variables receive a code with symbols, which is logically build and can be used as a kind of abbreviation of the variablecolumn of the tables. The domain of the variable is mentionned in the variable abbreviation by the suffix "_BE" or "_BR" or "_FL" or "_WA" etc...	text	n specified
VarJQcode	All variables that are required for JQ-IWA receive the possible code of the JQ-IWA which is found in the first column of the tables (mostly hidden column)	text	n specified
Variable basic name	The short definition of the variable as proposed in the JQ-IWA with some supplement when necessary (long definition is provided in a separated table)	text	n specified
Unit	the unit of the variable	text	n specified
Geo	the geographic domain of the variable. Here the REFNIS code is used	text	5
NACE	NACE code in text form. If a combination is needed following rule is used: When separated by "-" then is means from code XX1 to code XX2; when separated by "," then just the sum of the various codes. If not fiulled then the code is probably not relevant for the variable	text	n specified
ISTI	ISTI code used by some people at NIS is also filled. It provides some advantage of having agregations but disadvantages no to be internationally used or having missing codes	text	4
Dperiod	Type of periodicity: M: monthly (values are 1,2,3,…) Q: quaterly, A: annually 0: average; 1 total	text	2
Type	0: absolute data; 1: index; 2: coefficient	number	1
Table_row JQ08	Reference of the JQ-IWA table in the form: JQ-IWA-*table name _table row nb in data range*	text	n specified
Formula with symbols	Default formula that can be used to obtain the variable value expressed with the symbols	text	n specified
Formula with Varcodes	Default formula that can be used to obtain the variable value expressed with variable NIScode	text	n specified
remark	any kind of remarks	text	n specified
Table_row JQ06	Reference of the JQ-IWA table **of 2006** in the form: JQ-IWA-*table name _table row nb in data range*	text	n specified

File used as input for water data concerning:

Waste water generation, treatment and discharge (WaWaste)

Variables cover mainly the data required for the joint questionaire of Eurostat-OECD on inland waters : JQ-IWA
The reference to JQ-IWA is indicated as JQXX with table number where XX is the year of the exercise
The tables of the **JQ-IWA are mainly the:**
Table 4, Table 5, Table 6, Table 7

Tree main sheets:

WaWaste-def
Provides the définition of the variables and the additional information on the variable itself

Info variables	Description	Type	character nb
Theme	Water	text	n specified
Sub-theme	Waste Water	text	n specified
VarNIScode	All variables receive **a unique code** composed of a first part related to the theme and a second part in sequential number, separated by a hyphen (first var is e.g. WaU-001)	text	8
VarIWecode	All variables receive a code with symbols, which is logically build and can be used as a kind of abbreviation of the variablecolumn of the tables. The domain of the variable is mentionned in the variable abbreviation by the suffix "_BE" or "_BR" or "_FL" or "_WA" etc...	text	n specified
VarJQcode	All variables that are required for JQ-IWA receive the possible code of the JQ-IWA which is found in the first column of the tables (mostly hidden column)	text	n specified
Variable basic name	The short definition of the variable as proposed in the JQ-IWA with some supplement when necessary (long definition is provided in a separated table)	text	n specified
Unit	the unit of the variable	text	n specified
Geo	the geographic domain of the variable. Here the REFNIS code is used	text	5
NACE	NACE code in text form. If a combination is needed following rule is used: When separated by "-" then is means from code XX1 to code XX2; when separated by "," then just the sum of the various codes. If not fiulled then the code is probably not relevant for the variable	text	n specified
ISTI	ISTI code used by some people at NIS is also filled. It provides some advantage of having agregations but disadvantages no to be internationally used or having missing codes	text	4
Dperiod	Type of periodicity: M: monthly (values are 1,2,3,…) Q: quaterly, A: annually 0: average; 1 total	text	2
Type	0: absolute data; 1: index; 2: coefficient	number	1
Table_row JQ08	Reference of the JQ-IWA table in the form: JQ-IWA-*table name _table row nb in data range*	text	n specified
Formula with symbols	Default formula that can be used to obtain the variable value expressed with the symbols	text	n specified
Formula with Varcodes	Default formula that can be used to obtain the variable value expressed with variable NIScode	text	n specified
remark	any kind of remarks	text	n specified
Table_row JQ06	Reference of the JQ-IWA table of 2006 in the form: JQ-IWA-table name_table row nb in data range	text	n specified

Annex 3.2: Data Tables of NIS-Water Database

WaRes-data

Provides the values of the variables compiled for Belgium

Info variables	Description	Type	character nb
VarNIScode	same code as in def, **forms a unique key with Time and VersionDate**	text	8
VarIWecode	same code as in def, is not required here but just for information	text	n specified
VarJQcode	same code as in def, is not required here but just for information	text	n specified
Unit	same code as in def, is not required here but just for information	text	n specified
Geo	same code as in def, is not required here but just for information	text	5
ISTI	same code as in def, is not required here but just for information	text	4
Time	Time to which the value corresponds e.g. measurement value or other type of determination. The format depends on the Dperiod of the variable and cab be YYYY; YYYY-MM; YYYY-MM-DD. This variable forms a **unique key together with VarNIScode and VersionDate**	date	max 10
VersionDate	timestamps i.e. date when the data is collected and/or calculated and fixed. This variable forms a **unique key together with VarNIScode and Time**	date	
Value	value of the variable at the given timestamp for the given time period	number	n specified
Flag	Comment field partly inherited from the JQ '- 'Not applicable' or 'Real zero' or 'Zero by default' n.a.: Not available b Break in series e Estimated value f Forecast i See explanatory text n Not significant p Provisional value r Revised value s Eurostat estimate u Unreliable or uncertain data	text	1
Status	ok: the value has not to be revised rp: revision could be considered r: should be revised rc= should be recalculated, depending on precedent variables	text	2
Sce	code or explanation on the origin of the data at NIS level **JQ06**: Join questionnire exercice 2006; VMM; DGRNE; IBGE, IRM, …. More information and list of possible sources can be found in the file ListOfWaterDataSources_X-X.xls at path: N:\nis_brussel\Projects\876-milieu\Data\eau\1-Input\1.Sources	text	n specified
Value_confi	C: confidential P: public (per default)	text	1
data flow	provides some information on how the data was obtained, not really on the source but the process. If the default formula that is proposed in the def table is used then "D" is filled in; if another process is used and it can be described then a code of type WatRes001 is provided (with sequential numbering) and explained in an auxilliary table organised by themes (called DataProFlow, temporarily DataProFlow.xls for input)	text	n specified
comment	Any kind of comment. Most of the data that has been used in the JQ is mentionned as JQ+date; the remarks that are provided as footnote in the JQ can also be listed here, etc.	text	n specified

WaRes-data Regions

Provides the values of the variables provided for the three regions Brussel, Wallonia and Flanders

The fields are the same as for WaRes Data

WaWaste-data

Provides the values of the variables compiled for Belgium

Info variables	Description	Type	character nb
VarNIScode	same code as in def, **forms a unique key with Time and VersionDate**	text	8
VarIWecode	same code as in def, is not required here but just for information	text	n specified
VarJQcode	same code as in def, is not required here but just for information	text	n specified
Unit	same code as in def, is not required here but just for information	text	n specified
Geo	same code as in def, is not required here but just for information	text	5
ISTI	same code as in def, is not required here but just for information	text	4
Time	Time to which the value corresponds e.g. measurement value or other type of determination. The format depends on the Dperiod of the variable and cab be YYYY; YYYY-MM; YYYY-MM-DD. This variable forms a **unique key together with VarNIScode and VersionDate**	date	max 10
VersionDate	timestamps i.e. date when the data is collected and/or calculated and fixed. This variable forms a **unique key together with VarNIScode and Time**	date	
Value	value of the variable at the given timestamp for the given time period	number	n specified
Flag	Comment field partly inherited from the JQ '- 'Not applicable' or 'Real zero' or 'Zero by default' n.a.: Not available b Break in series e Estimated value f Forecast i See explanatory text n Not significant p Provisional value r Revised value s Eurostat estimate u Unreliable or uncertain data	text	1
Status	ok: the value has not to be revised rp: revision could be considered r: should be revised rc= should be recalculated, depending on precedent variables	text	2
Sce	code or explanation on the origin of the data at NIS level **JQ06**: Join questionnire exercice 2006; VMM; DGRNE; IBGE, IRM, …. More information and list of possible sources can be found in the file ListOfWaterDataSources_X-X.xls at path: N:\nis_brussel\Projects\876-milieu\Data\eau\1-Input\1.Sources	text	n specified
Value_confi	C: confidential P: public (per default)	text	1
data flow	provides some information on how the data was obtained, not really on the source but the process. If the default formula that is proposed in the def table is used then "D" is filled in; if another process is used and it can be described then a code of type BE_WaU-000001 is provided (with sequential numbering) and explained in an auxilliary table organised by themes (called DataProFlow, temporarily DataProFlow.xls for input)	text	n specified
comment	Any kind of comment. Most of the data that has been used in the JQ is mentionned as JQ+date; the remarks that are provided as footnote in the JQ can also be listed here, etc.	text	n specified

WaWaste-data Regions

Provides the values of the variables provided for the three regions Brussel, Wallonia and Flanders

The fields are the same as for WaWaste Data

WaUse-data
Provides the values of the variables compiled for Belgium

Info variables	Description	Type	character nb
VarNIScode	same code as in def, **forms a unique key with Time and VersionDate**	text	8
VarIWecode	same code as in def, is not required here but just for information	text	n specified
VarJQcode	same code as in def, is not required here but just for information	text	n specified
Unit	same code as in def, is not required here but just for information	text	n specified
Geo	same code as in def, is not required here but just for information	text	5
ISTI	same code as in def, is not required here but just for information	text	4
Time	Time to which the value corresponds e.g. measurement value or other type of determination. The format depends on the Dperiod of the variable and cab be YYYY; YYYY-MM; YYYY-MM-DD. This variable forms a **unique key together with VarNIScode and VersionDate**	date	max 10
VersionDate	timestamps i.e. date when the data is collected and/or calculated and fixed. This variable forms a **unique key together with VarNIScode and Time**	date	
Value	value of the variable at the given timestamp for the given time period	number	n specified
Flag	Comment field partly inherited from the JQ '- 'Not applicable' or 'Real zero' or 'Zero by default' n.a.: Not available b Break in series e Estimated value f Forecast i See explanatory text n Not significant p Provisional value r Revised value s Eurostat estimate u Unreliable or uncertain data	text	1
Status	ok: the value has not to be revised rp: revision could be considered r: should be revised rc= should be recalculated, depending on precedent variables	text	2
Sce	code or explanation on the origin of the data at NIS level **JQ06**: Join questionnire exercice 2006; VMM; DGRNE; IBGE, IRM, …. More information and list of possible sources can be found in the file ListOfWaterDataSources_X-X.xls at path: N:\nis_brussel\Projects\876-milieu\Data\eau\1-Input\1.Sources	text	n specified
Value_confi	C: confidential P: public (per default)	text	1
data flow	provides some information on how the data was obtained, not really on the source but the process. If the default formula that is proposed in the def table is used then "D" is filled in; if another process is used and it can be described then a code of type BE_WU-000001 is provided (with sequential numbering) and explained in an auxilliary table organised by themes (called DataProFlow, temporarily DataProFlow.xls for input)	text	n specified
comment	Any kind of comment. Most of the data that has been used in the JQ is mentionned as JQ+date; the remarks that are provided as footnote in the JQ can also be listed here, etc.	text	n specified

WaUse-data Regions
Provides the values of the variables provided for the three regions Brussel, Wallonia and Flanders
The fields are the same as for WaUse-Data

IF a number 1 is indicated, it means that only table 2.1, 2.2, 3.1, 3.2 and Summary table are filled Water Use sensus stricto
IF a number 2 is indicated, it means that only table 4, 5, 6 and 7 are filled in (Waste water)

Annex 3.3: Process Flow Tables of NIS-Water Database

File with several sheets providing information on the methods used for obtaining a specific data, organised in subthemes

Data process information

When data is originating from the joint questionnaire of OECD-Estat, it is based on the footnotes provided by the responsible of the questionnaire
The different sheets are WatRes, WatUse, Popu and Surf
related to data of the respective themes:
Water Resources, Water Use, Population and Land areas

Four sheets:

WarRes, WatUse, Popu, Surf
Provide information on the data process applied to obtain the final figure

Info variables	Description	Type	character nb
Code	Sequential number by identified process of data with suffixe in two parts. The first part refers to the geographic domain as BE_, BR_, FL_, WA_, for respectively Belgium, Brussels, Flanders and Wallonia The second part of the suffix is related to the subtheme of the data as WR, WU, P, S for respectively Water Ressources, Water Use, Population and Land areas exemple of code: WA_WU_000001; BE_P-00004	text	n specified
Data process flow	Description of the data process Is based on the footnote added in the JQ-IWA	text	n specified
ProcessPlace	Place where the data process has been carried out	text	n specified
External Source	The name of the source of the data, according to the processPlace	text	n specified
remark	any kind of remarks	text	n specified

Process flow related to :
Total BOD in Waste Water generated by Domestic sector, in Belgium (asked in table 7 of JQ06-IWA)

VarNIScode	VarIWecode	VarJQcode	Geo	ProcessCode	Time_i	Time_f	Data process flow
WaU-0810	BODbyDo_BE	W19_2&WW3_1.7	01000	BE_WU_00005	1980	2005	The value is the sum of values for the variable for BR, FL and WA if the three values are provided in the JQIWA06 regional replies, if less than 3 values provided than the value is not available "n.a."
WaU-1488	BODbyDo_FL	W19_2&WW3_4	02000	FL_WU-000009	1998	2001	**O (other activities) includes WWTP's, ann. envir. rep. WWTP; O includes WW from ind only (no HH), based on actual loads situation** * (FL: b) FL; NACE 50-93: NACE 50-93 + WWTPs. Annual Environmental Reports of WWTPs since 1998. * (FL: g) FL, 2002: From 2002 on, the figures also contain the waste water from the domestic sector partim households, whereas the data until 2001 are based on the domestic waste water from industry only. * (c) FL: Loads are calculated in relation to the actual situation of discharges, as the historical situation is lacking.
WaU-1488	BODbyDo_FL	W19_2&WW3_1.7	02000	FL_WU-000008	2002	2005	**O (other activities) includes WWTP's, ann. envir. rep. WWTP; O includes the WW from HH also, based on actual loads situation** * (FL: b) FL; NACE 50-93: NACE 50-93 + WWTPs. Annual Environmental Reports of WWTPs since 1998. * (FL: g) FL, 2002: From 2002 on, the figures also contain the waste water from the domestic sector partim households, whereas the data until 2001 are based on the domestic waste water from industry only. * (c) FL: Loads are calculated in relation to the actual situation of discharges, as the historical situation is lacking.
WaU-2166	BODbyDo_WA	W19_2&WW3_1.7	03000	WA_WU-00027	1995	1997	**BODbyDo_WA is calculated from the PE of 60g BOD5/d** g) données estimées en considérant que chaque habitant produit 60g de DBO5 de manière journalière
WaU-2844	BODbyDo_BR	W19_2&WW3_1.7	04000	BR_WU-00021	1995	2000	**Data from ERM -BELGROMA (2002) on water contaminants in BR** b) Toutes les charges polluantes correspondant à la pollution diffuse sont issues d'un même rapport : "Evaluation de l'apport de matières polluantes dans les eaux dans la Région de Bruxelles Capitale" de mars 2002. Les valeurs sont calculées pour l'année 2002 et sous-estimées : la lixiviation des sols pollués n'a pas été évaluée. Il est supposé que ces valeurs restent constantes au fil des années : les valeurs inscrites pour les autres années comportent donc une marge d'erreur. La pollution diffuse en RBC résulte de différentes sources: * Les dépôts atmosphériques (source de N et dans une moindre mesure de Zn et Pb) * La lixiviation des sols pollués (quantités inconnues mais présumées importantes!) * Le lessivage des sols agricoles (principale source de N et unique source de P) * Les émissions liées aux activités de transport (quantités relativement importantes de métaux notamment Cu, Ni, Pb, Zn, Cr) * Le lessivage des matériaux de construction (rejets de quantités importantes de Pb, Zn, Cr)

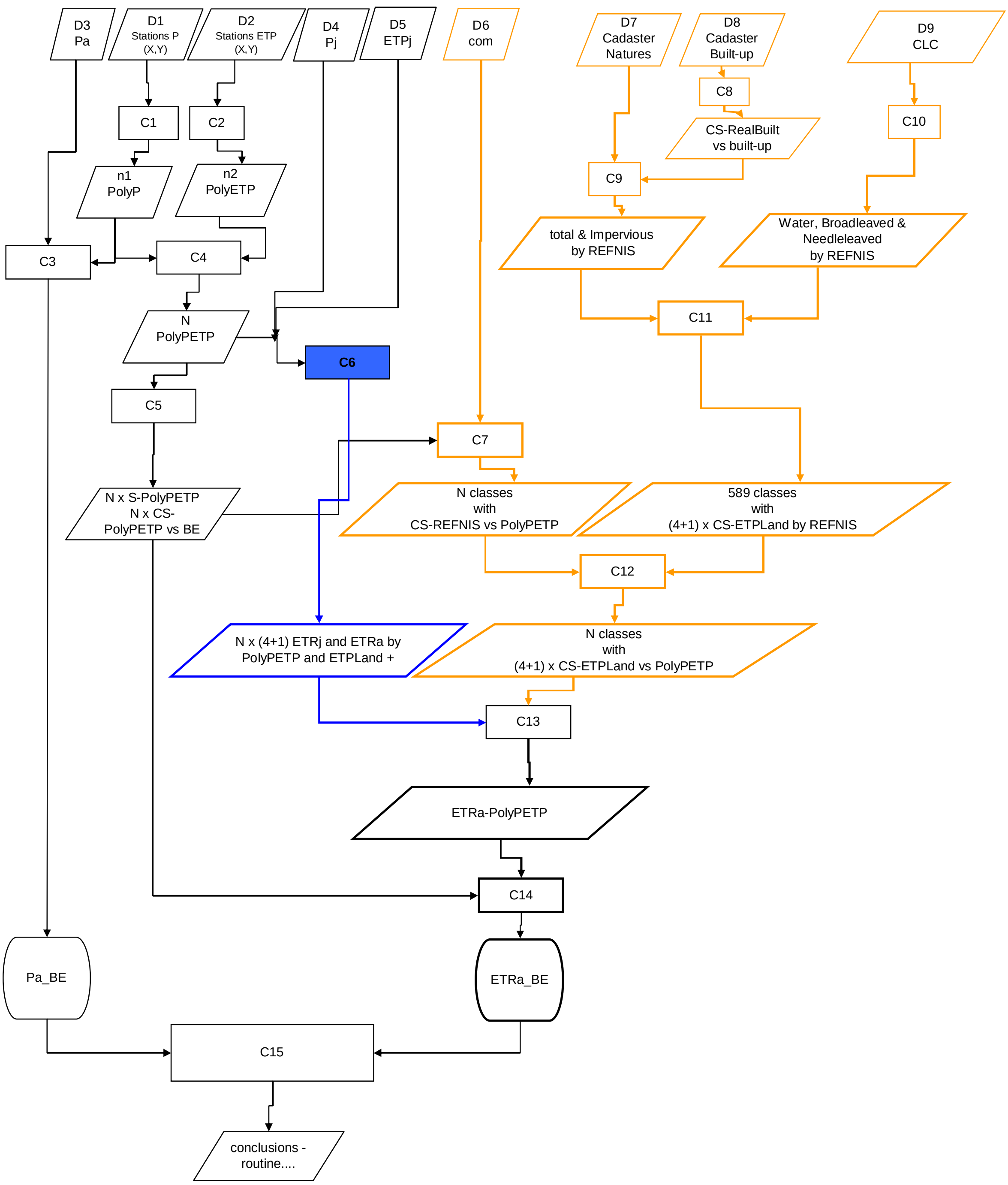
Process flow related to:
The % of national resident population connected to Urban waste water treatment, in Belgium (UWWTP)

VarNIScode	VarIWecode	VarJQcode	Geo	ProcessCode	Time_i	Time_f	Data process flow
WaU-0665	PopP_UWWTP_BE	WW0_2	01000	BE_WU_00005	1980	2005	The value is the sum of values for the variable for BR, FL and WA if the three values are provided in the JQIWA06 regional replies, if less than 3 values provided than the value is not available "n.a."
WaU-2021	PopP_UWWTP_WA	WW0_2	03000	WA_WU-00010	2003	2003	Values extrapolated from other years a) données manquantes mais extrapolées à partir des données des autres années
WaU-2021	PopP_UWWTP_WA	WW0_2	03000	WA_WU-00011	1997	2002	Pop_UWWTP based on the PCGE (Plans Communaux Généraux d'égouttage). b) données estimées jusqu'en 2002 à partir des informations contenues dans les PCGE (Plans Communaux Généraux d'égouttage). Les données 2004 sont calculées à partir des informations contenues dans les PASH (Plans d'Assainissement par Sous-Bassins Hydrographiques). La valeur calculée pour 2004 correspond au rapport entre la "population raccordable épurée au 31/12/2004 (population liée par son réseau d'assainissement existant ou futur à une station d'épuration existante)" et la population totale en Région wallonne.
WaU-2021	PopP_UWWTP_WA	WW0_2	03000	WA_WU-00012	2004	2005	Pop_UWWTP based on the PASH (Plans d'Assainissement par Sous-Bassins Hydrographiques), max connections b) données estimées jusqu'en 2002 à partir des informations contenues dans les PCGE (Plans Communaux Généraux d'égouttage). Les données 2004 sont calculées à partir des informations contenues dans les PASH (Plans d'Assainissement par Sous-Bassins Hydrographiques). La valeur calculée pour 2004 correspond au rapport entre la "population raccordable épurée au 31/12/2004 (population liée par son réseau d'assainissement existant ou futur à une station d'épuration existante)" et la population totale en Région wallonne.
WaU-2699	PopP_UWWTP_BR	WW0_2	04000	BR_WU-00011	2002	2002	b) La Station d'épuration Sud de Bruxelles d'une capacité nominale de 360.000 EH a été mise en service au 1er août 2000. Elle traite, outre les eaux usées bruxelloises, 23.922 EH de Flandre. La station Sud effectue un traitement secondaire des eaux usées. La Station d'épuration Nord de Bruxelles d'une capacité nominale de 1.100.000 EH sera mise en service en octobre 2006. Equipée d'un système de traitement tertiaire, elle traitera, outre les eaux usées bruxelloises, 145.111 EH de Flandre. La RBC compte donc : 1.460.000 (capacités nominales des 2 STEP) - 169.033 (nb d'EH venant de Flandre) = 1.290.967 EH. Ils se répartissent en 336.078 EH dans le bassin Sud et 954.889 EH dans le bassin Nord. Ne disposant pas des chiffres exacts de l'évolution du taux de raccordement à l'égouttage ni à la station d'épuration au fil du temps, une estimation a été faite en 2002 sur base des charges entrantes dans la STEP Sud par l'IBGE. D'après ce calcul, si on suppose que toute la charge issue de Flandre est collectée, 77% de la population bruxelloise du bassin Sud était raccordée à la STEP Sud. Pour le bassin Sud, on considère de plus que toutes les eaux raccordées au réseau d'égouttage sont acheminées vers la STEP Sud.
WaU-2699	PopP_UWWTP_BR	WW0_2	04000	BR_WU-00013	2000	2000	PopP_WWTP is supposed to be the same as in 2002, where it was estimated (2001 and 2005) There is only one single WWCS see b) in BR_WU_00011
WaU-2699	PopP_UWWTP_BR	WW0_2	04000	BR_WU-00012	2001	2004	PopP_WWTP is estimated by IBGE for 2002 by substracting the part for Flanders from the single WWTP SUD. see b) in BR_WU_00011

Annex 4

Meteoric parameters calculations

Annex 4.1: Procedure applied for the calculation of the precipitation (P) and the actual evapotranspiration (ETR)



Values of P (mm) by polygon

N	nrr	P1980 (mm)	P1981 (mm)	P1982 (mm)	P1983 (mm)	P1984 (mm)	P1985 (mm)	P1986 (mm)	P1987 (mm)	P1988 (mm)	P1989 (mm)	P1990 (mm)	P1991 (mm)	P1992 (mm)	P1993 (mm)	P1994 (mm)	P1995 (mm)	P1996 (mm)	P1997 (mm)	P1998 (mm)	P1999 (mm)
1	103	730.7	874.5	615.6	687.5	832.5	748.3	787.9	791.1	892.5	608.4	655.2	719.7	762.5	937.1	844	759	671.3	683.9	822.8	895
2	502	808.4	890.7	696.8	703.3	884.6	792.6	868.1	816.1	914.4	635.7	745.8	769.9	865.9	795.9	906.6	782.8	619.3	707.8	1028.3	889.2
3	700	793.9	948.3	707.6	749.8	938.4	820.7	908.7	927.4	988.6	686.3	800.9	812.8	939	993.9	964.2	883.6	731.7	773.2	1137.4	983
4	1402	901.4	944	806.8	703.1	893.2	772.4	907.8	949.7	888.1	715.4	775.8	821.2	962.4	928.7	943.8	811.7	849.8	783.7	1058	939
5	1909	922.7	1047.9	769.3	823.1	1030.4	864.7	939.2	920.7	1054.5	761.7	816.8	716.3	1027.9	965.9	954.3	816.2	639.9	727.2	1237.2	974.3
6	2602	995.3	897.7	795.4	866.5	1114.5	842.2	944.4	903.9	1099.9	716.6	779.5	765.7	925	940.8	968.8	925.3	740.1	887.8	1263.9	1046.4
7	2900	915.8	1016.2	799.6	699.2	930.8	758.1	946.3	908.4	1004.6	639.5	759.6	793.8	916.5	856.7	895.2	763.3	744.6	700.7	948	886
8	3601	839.3	1204	1145.9	988.5	1177.5	854.5	991.6	961.2	1067.3	968.8	953.8	621.9	922	799.2	723.5	751.6	652.6	799.9	1077.7	1046.6
9	4001	798.8	938.4	760.5	713.2	860.7	723.1	900.1	923.2	867.4	702.7	654	661.5	844.2	771.4	810	807.9	682.1	659.1	850.4	937.5
10	4204	923.8	1134.3	895.7	867.4	911.4	735.3	1001.1	1006.8	1062.5	755.6	758.4	791.2	1073.1	1009.8	950.6	1043.7	820	852.4	992.3	947.6
11	4603	1073.2	1132.6	927.6	942.1	957.7	720.4	989.8	1100	1182.4	895.9	934.8	771.9	847.7	975.3	950.2	1032.1	744.1	819.8	1037.9	978.8
12	4704	883.2	993.5	838.1	876	824.4	683	848.5	948.6	1009.5	800.2	746.5	673.2	922	893.8	755.4	892.7	655.8	757.8	860.9	883.7
13	5105	1040.6	1162.1	968.6	934.8	1040.7	848.4	1071.8	1108.5	1120.2	803.8	804.7	788.8	1001.2	1044.7	931.6	1001.8	670.5	805.4	1021.9	1070.4
14	5603	1236.2	1315.4	1218.7	1215.6	1673.9	540.3	1204	1308.9	1386.5	925.1	1130.5	926.2	1075.2	1044.4	1087.9	1288.7	833.9	1079.2	1320.4	1227.4
15	6300	1227.2	1295.9	1182	1065	1329.1	1008.2	1318.5	1458.2	1801.8	1202.7	1101.2	1099.7	1535.8	1271.5	1084.4	1239.6	905.5	1058.2	1288.2	1281.3
16	6304	1257.6	1376.5	1087.6	1138.6	1151.4	875.8	1184.8	1169.7	1331	1096.7	1013	1028.5	982.9	1067.4	1195.5	1329.2	890.4	1137.3	1352.4	1402
17	6804	1178.4	1274.2	1166.8	1043.1	1208	843.2	1201.4	1122.5	1316.5	971.9	1056.2	773.5	956.2	1225.5	1067.3	1172.3	795.4	1052.7	1217.9	1266.3

Values of P (mm) by polygon

N	nrr	P2000 (mm)	P2001 (mm)	P2002 (mm)	P2003 (mm)	P2004 (mm)	P2005 (mm)	P2006 (mm)	P2007 (mm)	CS_PoplyP_vs_BE (-)
1	103	972	1077.5	991.6	598.5	658.6	778.7	806.9	921.8	0.0563
2	502	996.9	937.7	982.6	616.4	830.3	708.2	883.4	950.9	0.0170
3	700	1133	1155.1	1102.3	742.8	846.8	1066.5	913.5	949.1	0.0488
4	1402	985	895.2	1042.9	749.7	839.7	856.7	980.9	1039.2	0.0843
5	1909	1053	1107.3	1144.8	731.2	857.3	898	908.8	1072.5	0.0616
6	2602	933.4	1043.9	1044.3	773.6	914.5	769.6	897.3	975.5	0.0186
7	2900	852.2	1088.5	1077.8	670.5	913.7	751	835.1	891.7	0.0826
8	3601	1026.8	832.1	897.8	591.6	1003.9	744.5	1028.9	917.7	0.0760
9	4001	850.8	993	967.3	609.1	678	716.8	698.5	804.3	0.0573
10	4204	1071.1	1145.7	1058.1	701.6	845.2	807.6	860.2	951.9	0.0263
11	4603	1136.1	1123.7	1118.9	717.2	812.3	704.6	864.2	950.5	0.0269
12	4704	1002.8	982.2	930.1	657.8	704.8	574	728.3	828.6	0.0569
13	5105	1016.4	1211.3	1118.1	826.3	914.2	848.3	938.8	1011.5	0.0793
14	5603	1149.8	1404.4	1448.9	1013.9	1195.3	1217.5	1271	1394.1	0.0987
15	6300	1319.9	1337.7	1346.8	904.2	1098.6	930.4	1178.5	1263.5	0.0381
16	6304	1445	1451.2	1283.2	983	1232.8	1019.3	1153.6	1329.5	0.0853
17	6804	1314.8	1486.2	1305.7	960.7	1148.5	850.8	1146.1	1196.6	0.0860

Values of ETR by PETP polygon calculated with water balance model taking land covers into account

N	NameETP_NameP	ETR1980 (mm)	ETR1981 (mm)	ETR1982 (mm)	ETR1983 (mm)	ETR1984 (mm)	ETR1985 (mm)	ETR1986 (mm)	ETR1987 (mm)	ETR1988 (mm)	ETR1989 (mm)	ETR1990 (mm)	ETR1991 (mm)	ETR1992 (mm)	ETR1993 (mm)	ETR1994 (mm)
1	0102_0103	551	539	538	547	508	511	517	526	532	525	500	557	579	544	643
2	0102_0700	523	513	537	521	489	495	503	505	514	518	526	529	555	581	613
3	0102_1402	518	507	546	506	477	483	495	497	504	514	551	520	552	582	604
4	0481_0502	457	458	488	528	433	452	456	418	457	438	503	439	485	499	518
5	0481_0700	486	490	547	566	468	479	487	443	482	475	495	471	515	543	561
6	0481_1402	489	492	576	534	466	477	488	442	481	474	528	472	519	542	562
7	0481_1909	466	465	517	523	441	453	459	424	459	444	510	443	489	510	520
8	0481_2900	477	481	561	529	455	463	474	434	474	438	528	458	503	525	545
9	0481_4001	498	503	588	580	477	486	496	451	491	485	490	481	526	549	570
10	0904_0502	437	442	474	466	425	450	463	426	466	473	495	456	488	470	490
11	0904_1909	466	469	515	493	454	472	490	449	488	548	547	484	516	508	519
12	0904_2602	474	473	527	504	462	479	495	456	497	490	550	490	521	515	525
13	0904_2900	445	453	497	473	435	451	469	433	474	448	516	464	493	485	502
14	0904_4001	463	470	518	496	454	472	490	449	491	508	474	484	516	507	523
15	0904_4204	448	456	502	480	435	455	476	436	474	498	524	468	498	491	508
16	1009_2900	481	476	520	513	480	464	489	447	516	494	572	513	541	537	547
17	1009_3601	487	481	528	525	486	472	498	451	520	584	603	518	550	546	551
18	1009_4204	473	470	514	508	470	457	484	441	507	530	567	504	534	530	540
19	1009_5105	482	477	523	520	481	467	492	450	515	552	592	513	545	541	548
20	1108_2602	494	467	533	503	456	460	465	453	515	510	565	512	535	518	532
21	1108_3601	493	472	537	509	457	464	472	454	516	601	610	516	541	519	529
22	1108_5105	519	496	565	533	483	486	497	477	541	588	640	554	569	553	569
23	1108_5603	534	509	581	547	652	345	511	491	556	628	660	568	582	552	584
24	1302_4204	459	456	519	517	469	480	488	464	528	536	552	525	531	504	556
25	1302_4603	487	478	548	548	495	508	515	488	557	594	627	553	561	534	583
26	1302_5105	486	478	548	547	499	509	516	489	557	578	625	554	562	534	583
27	1303_4704	513	502	567	567	514	525	536	486	553	578	582	551	573	551	588
28	1705_4001	461	446	514	508	469	463	483	447	508	525	485	510	529	506	552
29	1705_6300	486	466	541	536	494	486	511	471	533	607	612	542	556	533	579
30	1708_5105	480	473	564	523	453	486	486	460	518	544	609	528	534	504	537
31	1708_5603	504	496	592	552	630	358	511	482	543	600	650	559	559	521	564
32	1708_6304	502	493	587	550	473	506	506	478	539	618	638	557	555	526	564
33	1801_6304	459	491	550	427	413	471	425	465	521	576	570	547	510	490	541
34	1801_6804	446	478	534	413	400	458	413	452	506	556	548	435	495	476	514

Values of ETR by PETP polygon calculated with water balance model taking land covers into account

N	NameETP_NameP	ETR1995 (mm)	ETR1996 (mm)	ETR1997 (mm)	ETR1998 (mm)	ETR1999 (mm)	ETR2000 (mm)	ETR2001 (mm)	ETR2002 (mm)	ETR2003 (mm)	ETR2004 (mm)	ETR2005 (mm)	CS_PoluPETP_vs_BE (-)
1	0102_0103	574	512	564	575	608	590	614	598	529	598	602	0.0563
2	0102_0700	565	485	587	575	583	568	593	576	543	590	576	0.0145
3	0102_1402	532	521	605	565	570	564	552	564	576	580	562	0.0061
4	0481_0502	541	371	515	515	530	497	534	546	493	543	591	0.0220
5	0481_0700	556	484	550	547	567	533	575	583	548	574	631	0.0471
6	0481_1402	536	529	552	547	566	536	552	583	595	574	630	0.0782
7	0481_1909	537	433	518	523	533	505	538	555	521	549	599	0.0062
8	0481_2900	555	467	535	532	547	516	555	566	532	561	612	0.0059
9	0481_4001	560	522	560	555	576	540	547	591	550	584	640	0.0172
10	0904_0502	486	370	527	481	534	508	506	520	492	541	561	0.0540
11	0904_1909	516	448	558	508	561	538	534	551	557	570	595	0.0124
12	0904_2602	507	493	569	517	573	544	534	555	588	578	596	0.0184
13	0904_2900	490	453	532	486	536	515	512	526	518	544	565	0.0600
14	0904_4001	510	489	556	506	565	538	518	547	537	564	591	0.0271
15	0904_4204	504	472	538	490	546	525	518	526	558	549	570	0.0059
16	1009_2900	550	483	556	545	572	527	581	597	546	590	604	0.0609
17	1009_3601	562	508	565	553	583	535	584	604	560	602	614	0.0167
18	1009_4204	548	489	547	538	566	524	573	583	570	581	593	0.0103
19	1009_5105	551	486	560	546	575	530	583	596	632	593	607	0.0364
20	1108_2602	519	486	560	532	562	541	527	545	561	538	566	0.0112
21	1108_3601	543	495	563	531	568	545	538	548	534	544	573	0.0884
22	1108_5105	575	506	595	556	597	574	570	579	634	572	609	0.0111
23	1108_5603	595	537	611	570	596	587	584	592	637	585	625	0.0591
24	1302_4204	559	499	543	487	536	518	502	525	566	527	542	0.0158
25	1302_4603	584	507	578	514	566	544	527	557	590	557	574	0.0260
26	1302_5105	578	503	578	512	566	544	529	558	644	559	575	0.0166
27	1303_4704	610	504	636	580	598	581	594	619	624	610	585	0.0269
28	1705_4001	531	492	562	501	562	527	525	532	557	556	585	0.0046
29	1705_6300	572	519	597	526	591	554	562	559	665	586	614	0.0170
30	1708_5105	547	472	614	511	585	564	536	571	659	569	593	0.0174
31	1708_5603	596	531	646	535	596	588	564	599	671	596	622	0.0270
32	1708_6304	592	538	642	532	621	586	561	596	695	593	619	0.0669
33	1801_6304	532	516	539	471	531	490	504	530	505	465	521	0.0206
34	1801_6804	514	499	523	457	515	474	490	513	488	452	505	0.0359

Annex 5

Public water supply information

Industrie de l'eau

Statistique mensuelle de l'activité industrielle

(Arrêté ministériel du 15 décembre 1998)

(Règlement (CE) n° 1165/98 du Conseil du 19 mai 1998)

economie
SPF Economie, P.M.E., Classes moyennes et Energie

Direction générale Statistique
et Information économique
Enquêtes entreprises - Industrie de l'eau 18.3M
Rue de Louvain, 44 ▪ 1000 Bruxelles
Personne de contact:
Tél.:
Fax:
e-mail:

Nos références: E8564/18.3M/

Données signalétiques

Unité locale de production

Corrections éventuelles

Dénomination :

Rue et n° :

Code postal et commune :

N° de téléphone : /

N° de fax : /

Adresse internet :

Numéro entreprise :

Personne de contact interne

Nom :

N° de téléphone : /

N° de fax : /

e-mail :

Contact externe [(1)]

Dénomination :

Rue et n° :

Code postal et commune :

Personne de contact

Nom :

N° de téléphone : /

N° de fax : /

e-mail :

(1) Personne ou entreprise, dont l'adresse est différente de celle de l'unité locale, à qui le déclarant confie la tâche de compléter les déclarations.

Déclaration du mois de

18.3M

1. Personnel inscrit sur la liste de paie comprenant le 15 du mois.

Nombre d'employés (membres du personnel assujettis à la sécurité sociale ou inscrits à la Caisse communale de pensions ou à un organisme similaire, pour employés) | 2

Nombre d'ouvriers (membres du personnel assujettis à la sécurité sociale ou inscrits à la Caisse communale de pensions pour ouvriers ou à un organisme similaire, pour ouvriers. Les apprentis sous contrat d'apprentissage sont également déclarés) | 3

Nombre d'heures [nombre d'heures de travail réellement prestées pendant le mois par tous les travailleurs, y compris les heures supplémentaires] | 4 | , 00 h.

2. Volume de l'activité.

Volume

► Volume d'eau souterraine capté	61	, 00 m³
► Volume d'eau de surface traité en vue de la distribution	62	, 00 m³
► Volume d'eau reçu d'autres sociétés	63	, 00 m³
Total (=61+62+63)	60	, 00 m³
► Volume d'eau cédé à d'autres sociétés	71	, 00 m³
► Pertes	72	, 00 m³
Volume disponible pour la distribution (=60-71-72)	70	, 00 m³
Nombre de raccordements en service	80	

(1) 3. Chiffre d'affaires en EUR (2).

Chiffres d'affaires du mois (T.V.A., droits d'accise et autres taxes non comprises) | 90 | , 00 €

(1) 4. Salaires et traitements bruts, TOTAL du TRIMESTRE en EUR (à ne remplir qu'en mars, juin, septembre et décembre).

Salaires et traitements bruts payés pendant le trimestre aux employés, ouvriers et apprentis | 15 | , 00 €
(ceci comprend le montant du salaire à 100%, les indemnités de préavis, les primes et le double pécule de vacances, mais NON COMPRIS les cotisations patronales).

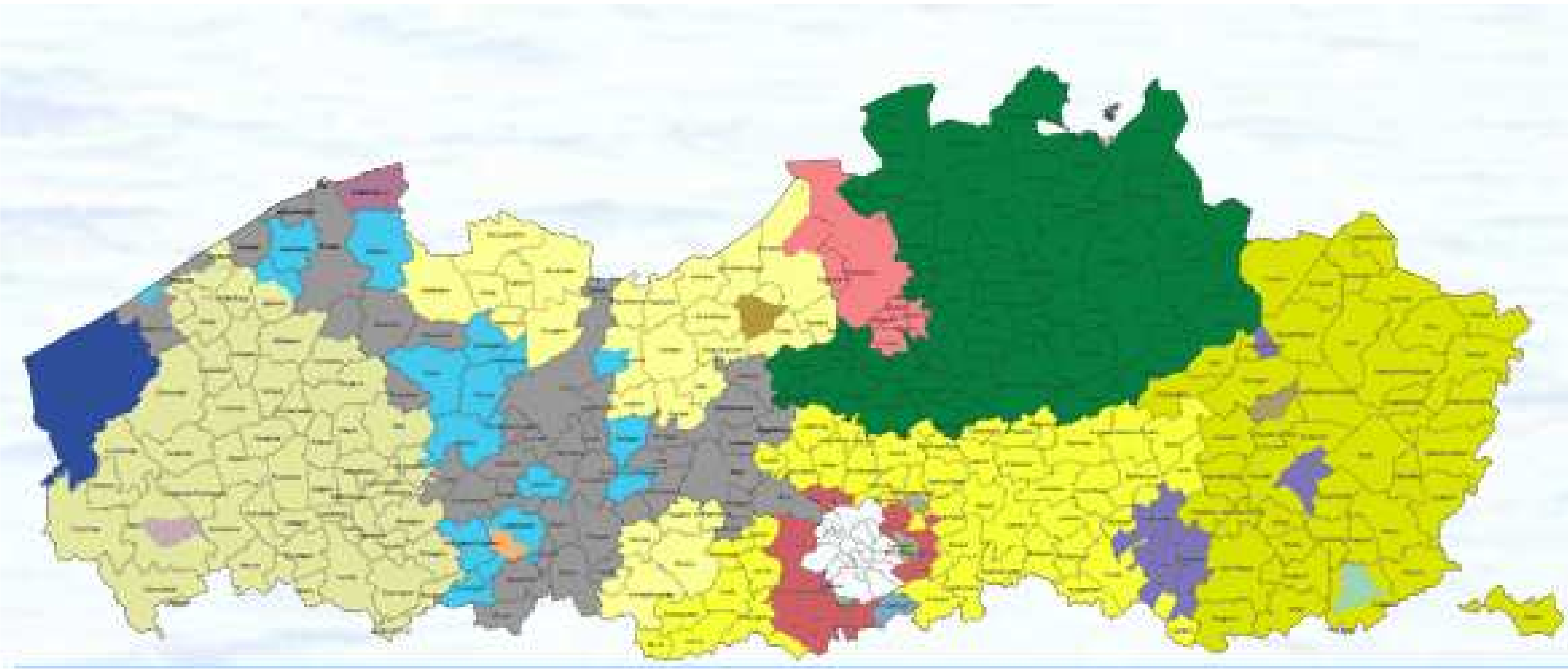
Certifié exact, le: ___ / ___ / ______ (JJ/MM/AAAA)

Nom et signature de la personne qui a rempli la déclaration:

Remarques:

- *Ce questionnaire doit être retourné, dûment rempli, à la Direction générale de la Statistique et de l'Information économique, Rue de Louvain 44, 1000 Bruxelles, au plus tard le 8 du mois suivant le mois de référence.*
- *Les données transmises sont confidentielles et ne peuvent en aucun cas être utilisées dans un but fiscal.*

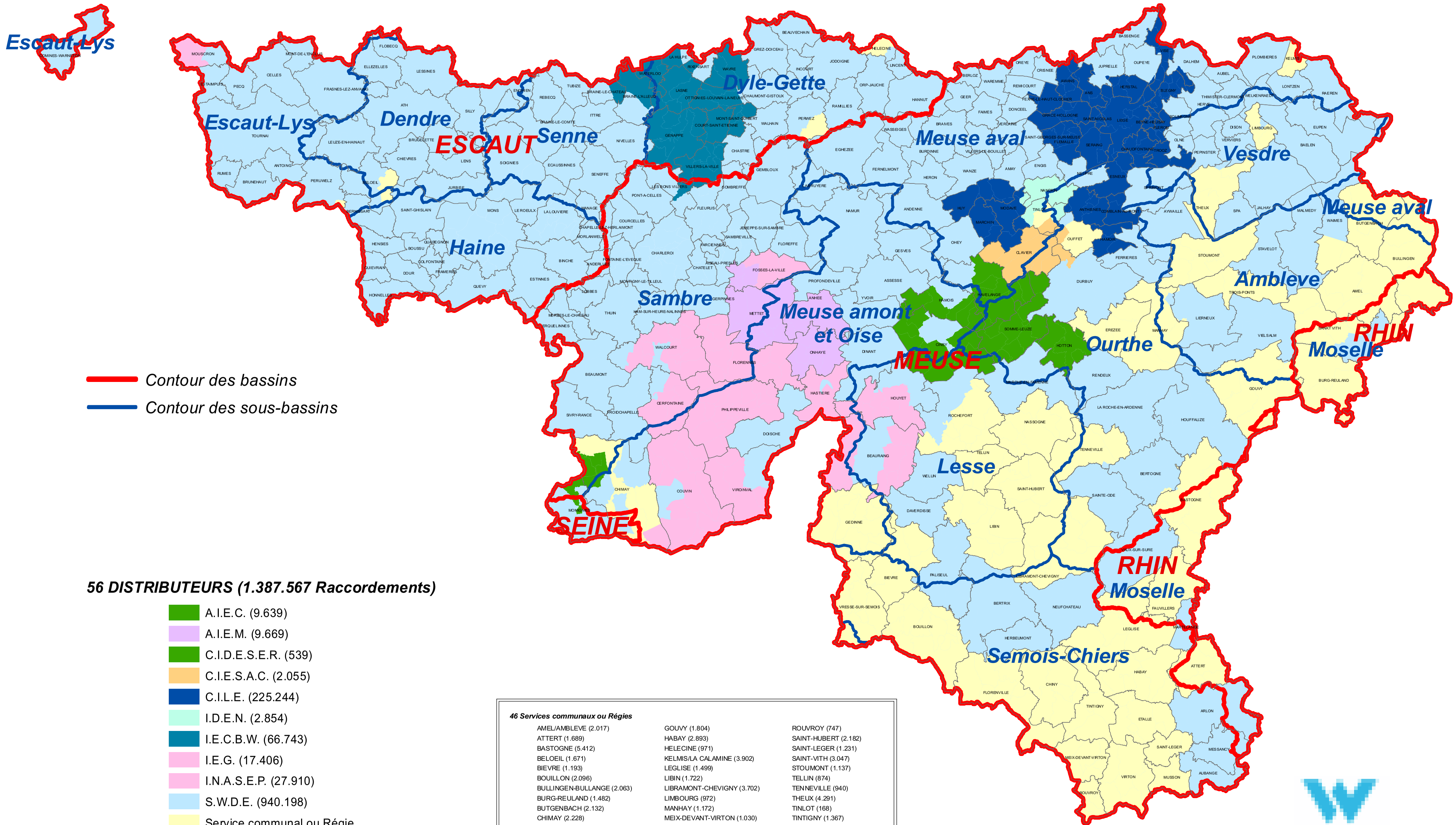
(1) Déclaration complémentaire à remplir uniquement par les entreprises ayant occupés 20 personnes ou plus à un moment quelcomque de l'année précédente.
(2) Le chiffre d'affaires à déclarer comprendra le montant facturé à des tiers pour des livraisons de produits au prix départ-usine et pour des prestations de service (par ex. Travail à façon), y compris éventuellement les frais d'emballage ainsi que les frais facturés pour des transports effectués par le déclarant avec ses propres moyens de transport.
Sont à exclure:
- les livraisons internes, c'est à dire la valeur des produits cédés à d'autres divisions de l'établissement ou à d'autres établissement de l'entreprise;
- la valeur des produits sortis de l'établissement sans y avoir subi de transformation (commerce).



Water Supply Map of Flanders (2008)
after Samenwerking Vlaams Brabant
See http://www.svw.be/overleg/watervoor.asp
for more details

Annex 5.3

Distributeurs d'eau en Wallonie (janvier 2007)



Contour des bassins

Contour des sous-bassins

56 DISTRIBUTEURS (1.387.567 Raccordements)

- A.I.E.C. (9.639)
- A.I.E.M. (9.669)
- C.I.D.E.S.E.R. (539)
- C.I.E.S.A.C. (2.055)
- C.I.L.E. (225.244)
- I.D.E.N. (2.854)
- I.E.C.B.W. (66.743)
- I.E.G. (17.406)
- I.N.A.S.E.P. (27.910)
- S.W.D.E. (940.198)
- Service communal ou Régie

46 Services communaux ou Régies

AMEL/AMBLEVE (2.017)	GOUVY (1.804)	ROUVROY (747)
ATTERT (1.689)	HABAY (2.893)	SAINT-HUBERT (2.182)
BASTOGNE (5.412)	HELECINE (971)	SAINT-LEGER (1.231)
BELOEIL (1.671)	KELMIS/LA CALAMINE (3.902)	SAINT-VITH (3.047)
BIEVRE (1.193)	LEGLISE (1.499)	STOUMONT (1.137)
BOUILLON (2.096)	LIBIN (1.722)	TELLIN (874)
BULLINGEN-BULLANGE (2.063)	LIBRAMONT-CHEVIGNY (3.702)	TENNEVILLE (940)
BURG-REULAND (1.482)	LIMBOURG (972)	THEUX (4.291)
BUTGENBACH (2.132)	MANHAY (1.172)	TINLOT (168)
CHIMAY (2.228)	MEIX-DEVANT-VIRTON (1.030)	TINTIGNY (1.367)
CHINY (1.892)	MUSSON (1.563)	TROIS-PONTS (932)
EREZEE (1.116)	NASSOGNE (1.883)	VIRTON (4.276)
ETALLE (1.999)	OUFFET (643)	VRESSE-SUR-SEMOIS (1.091)
FAUVILLERS (730)	PERUWELZ (616)	WAIMES (1.277)
FLORENVILLE (2.113)	PERWEZ (1.393)	
GEDINNE (1.674)	ROCHEFORT (4.048)	

Société wallonne des eaux

After Société wallonne des eaux,.

See http://www.aquawal.be/servlet/Repository/distribution_eau_janvier2007-pdf.pdf?ID=842&saveFile5=true for more details

Informations

La Direction générale Statistique et Information économique relève du SPF Economie, PME, Classes moyennes et Energie. Une de nos missions est de répondre aux besoins des autorités, des entreprises et des citoyens par une information chiffrée sur la situation réelle du pays dans différents domaines d'actualité

Où trouver l'information statistique et économique?

Sur nos sites Internet http://statbel.fgov.be (statistiques) et http://economie.fgov.be (économie)

Dans cinq grandes villes du pays, la Direction générale Statistique et Information économique met à la disposition du public :

◊ Des annuaires et des publications spécialisées ainsi qu'une sélection de disquettes et de cédéroms.
◊ Une salle de lecture où il est possible de consulter nos publications, ainsi que celles d'autres ministères ou d'institutions belges et internationales.

Toutes nos bibliothèques sont accessibles les jours ouvrables de 8h30 à 16h30 (Bxl) ou de 9h à 12h et de 13h à 16h (autres).

Bruxelles City Atrium C

Rue du Progrès 50, 1210 Bruxelles
tél. 02/277.55.03 – 02/277.55.04 fax 02/277.55.19
e-mail : info@economie.fgov.be

Train (B) :	Gare du Nord
Métro (M) :	ligne 2, station Rogier
Trams :	3, 52, 55, 56, 81, 90 arrêts Rogier ou Nord
Bus STIB :	38, 58, 61 arrêts Rogier ou Nord
Bus De Lijn :	318, 351, 358, 410, 526, 554 arrêt Nord

Anvers

Italiëlei 124 - bus 85, 2000 Antwerpen
tél. 03/229.07.00 fax 03/233.28.30
e-mail : info.antwerpen@economie.fgov.be

Train (B) :	Centraal Station
Métro (M) :	arrêt Opera
Tram-Bus :	accès facile (Fr. Rooseveltplaats)

Charleroi

Tour Biarent, Bd Audent 14/5, 6000 Charleroi
tél. 02/277.80.37 fax 02/277.57.03
e-mail : info.charleroi@economie.fgov.be

Train (B) :	Charleroi Sud, 20 min depuis la gare (Place Buisset, Rue du Collège, Place Charles II, Boulevard Tirou, rue de la Montagne)
Bus :	arrêt Tirou
Autoroute :	petite ceinture de Charleroi - sortie Gare du Sud

Gand

Gaston Crommenlaan 6 bus 0901,9050 Gent
tél. 02/277 86 96 fax 02/277 54 06
e-mail : info.gent@economie.fgov.be

Train (B):	Gent St. Pieters
Tram-Bus :	40, 43 arrêt Theresianenstraat
Autoroute:	accès aisé par autoroute E40 (sortie N° 13 - Gent - West/Drongen)

Liège

Bd de la Sauvenière 73-75, 4000 Liège
tél. 02/277.55.78 fax 04/222.49.94
e-mail : info.liege@economie.fgov.be

Train (B):	Gare des Guillemins ou Gare du Palais
Tram-Bus :	(Guillemins) 1 et 4 arrêt Sauvenière
Parking (P):	Neujean (à 20 m - même trottoir) Mercure (en face)

Achevé d’imprimer
par l’imprimerie de la
Direction générale Statistique
et Information économique
B-1000 Bruxelles

Octobre 2008