

Water abstraction charges in Bulgaria¹

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Brief summary of the case

Bulgaria implemented its water abstraction charges in 2001. The charges have been reformed a couple of times since then in terms of the price charged for amounts and sources of water abstraction. The charges cover all aspects of abstraction and exclude some emergency situations such as firefighting and civil protection. The revenue from the charges is collected by the Enterprise for Management of Environmental Protection Activities (EMEPA) and is then redistributed to environmental projects and initiatives. The current Bulgarian Government aims to increase the charges from 2017 onwards, justified by the need to fulfil the requirements of the EU Water Framework Directive (WFD). One of the main drivers of the development of the Bulgarian water abstraction charges was the introduction of the WFD. In general, industrial operators oppose the high rates of the taxes, but according to experts from the academia the transparency mechanism applied to the earmarking of revenues has improved since the instrument's introduction and the overall pressure on policy makers is now less intense. Over the years the water abstraction charges have had moderate effects on water use. Policy makers expect increased economic and environmental efficiency once the instrument is reformed and higher charges are introduced. The charges are constantly evaluated through various mechanisms.

1 Description of the design, scope and effectiveness of the instrument

1.1 Design of the instrument

After Bulgaria passed from a centrally governed economy towards a market-based one, there was an urgent need for environmental protection legislation. In 1991 a Law on Environmental protection was passed, and with it procedures concerning water resource quantities and quality. In 1999 the Water Act was adopted which governs the ownership and management of water resources in the country. In 2000 a charge on water abstraction was adopted with the regulatory document "Tariff of fees for the right to use water and / or authorized use of water bodies" and it was amended in 2012 with the title "Tariff of fees for water abstraction, water use and those that are subject to contamination".

The charges were imposed with the main aim of preserving water resources to achieve sustainable water usage in the long-term. An amendment to the Water Act, effective from 11 August 2006, transposed the EU Water Framework Directive (2000/60/EC) into national legislation. The Directive itself requires Member States to ensure that the price charged to water users - such as for the abstraction and distribution of fresh water and the collection and treatment of waste water - reflects the true costs.

The rates in the year of introduction (2001) were separated into two groups – for abstraction of water and for abstraction of water from mineral water sources. The situation changed with the amendment in 2012, when the tariffs for abstraction of water were separated into abstraction from groundwater and from surface water. The increase in the tax in 2012 was

due to the changes in the economic environment in Bulgaria and was justified by the increase in the rate of inflation. The increase in the tax in 2012 was opposed by businesses through the Bulgarian Industrial Association, in particular given the lack of transparency regarding the increase and the assessment of the costs and benefits for business (BIA, 2011). For example, 2012 saw a significant change in the charges for the production of energy, for industrial purposes and for cooling.

Table 1 Charges in nominal terms for surface water use in 2001 and 2012

No	Usage type	Charge in 2001 (in BGN)	Charge in 2012 (in BGN)
1	Drinking and household needs	0.02 (EUR 0.01)	0.02 (EUR 0.01)
2	Irrigation, livestock, fish breeding	none	0.001 (EUR 0.0005)
3	From surface and spring waters	0.005 (EUR 0.00025)	other
4	From groundwater	0.005 (EUR 0.0025)	other
5	For cooling	0.0001 (EUR 0.000051)	0.0003 (EUR 0.00015)
6	For recreation and water sports	0.04 (EUR 0.02)	none
7	For industrial purposes	0.008 (EUR 0.004)	0.045 (EUR 0.023)
8	For other purposes	0.01 (EUR 0.005)	(EUR 0.033)
9	For production of energy	0.001 (EUR 0.0005)	0.0016 (EUR 0.0008)

Source: Ministry of Environment and Waters (2004, 2011)

There are several exemptions from the water abstraction tax, including personal use up to 10 m³ daily, in events of fire, for the purposes of drainage, for public fountains and for management of fisheries.

1.2 Drivers and barriers of the instrument

Bulgaria joined the EU in 2007 which required compliance with several new legislative requirements. For example, Bulgaria agreed to implement “the polluter pays” principle in its national policy making process before its accession to the EU. As mentioned above, an amendment to the Water Act ensured that water users pay the true costs of water use. The following drivers and barriers significantly influenced the process of design and implementation of the water abstraction charge:

Drivers at the European level:

In accordance with Bulgaria’s EU membership, the country had to comply with a wide package of EU obligations, including the requirements of the WFD.

Institutional drivers at the national level:

Bulgaria was one of the first countries in Europe to implement environmental legislation. The legal basis and related institutions have been operating for more than four decades (Mochurova, 2008). Two key players for the introduction of the abstraction charges are the Ministry of Economy and the Ministry of Environment and Waters, which argued that the revenue from the instrument will allow the achievement of strategic environmental goals.

Administrative barriers:

Due to the fast-changing legal framework in Bulgaria, the implementation of regulatory acts is slow, creating incoherence between legislative acts. The administrative burden combined with a lack of institutional capacity resulted in loss of data and insufficient monitoring of water resources (Ministry of Environment and Waters, 2006). These conditions created a beneficial environment for industrial water users to take advantage of “loopholes” in the legislation and thus avoid the payment of charges, reducing the impact of the instrument (Mochurova, 2008). According to some experts, one barrier that continues to disrupt the effect of the instrument concerns the lack of inclusion of stakeholders in the process of earmarking of the revenues. Industry representatives state that if the process were clearer and transparent they would endorse the charge (Interviewee 1).

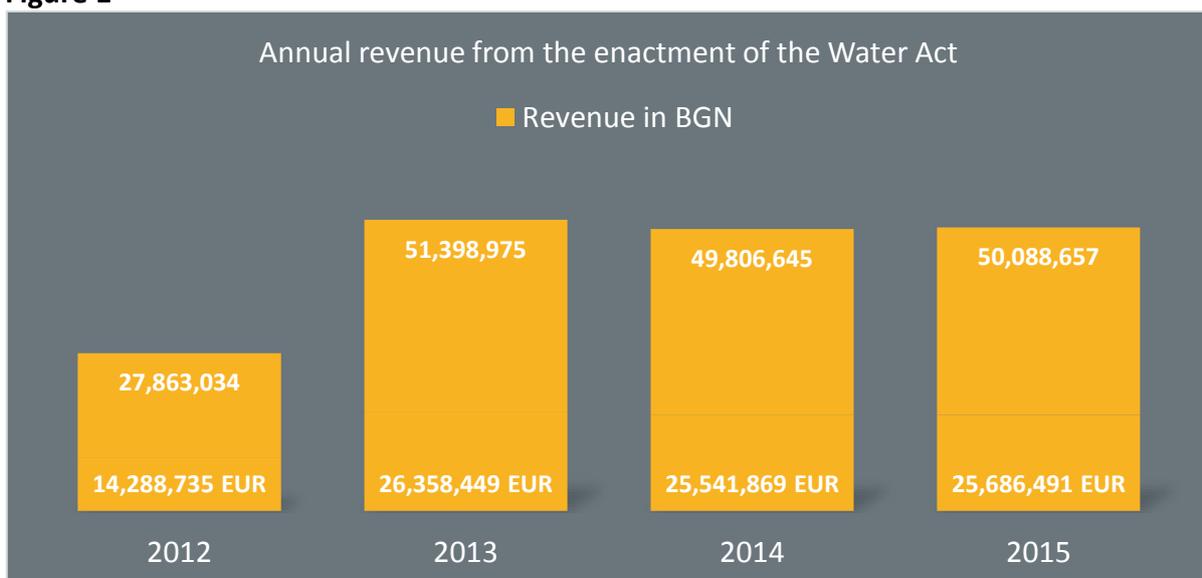
Lobby barriers:

Industrial stakeholders tried (unsuccessfully) to oppose the increase of the charges on several occasions in 2011. The Bulgarian Industry Association filed a number of economic statements against the increase in the charge, and also organized round tables between industry representatives and the state on this issue. The main disagreement concerned the amount of the charges and the burden on business (Interviewee 1).

1.3 Revenue collection and use

According to the Environment Protection Act, all taxes and charges in the field of environmental protection are collected by the Enterprise for Management of Environmental Protection Activities (EMEPA). This is a legal state-owned entity at the Ministry of Environment and Waters. The abstraction charges are paid by private entities and individuals. Figure 1 shows a significant increase in the revenue of EMEPA in 2013. According to experts, this may be due to the increase in the water abstraction charges in the previous year, and also due to reforms in the legislative procedures on water abstraction monitoring and control.

Figure 1

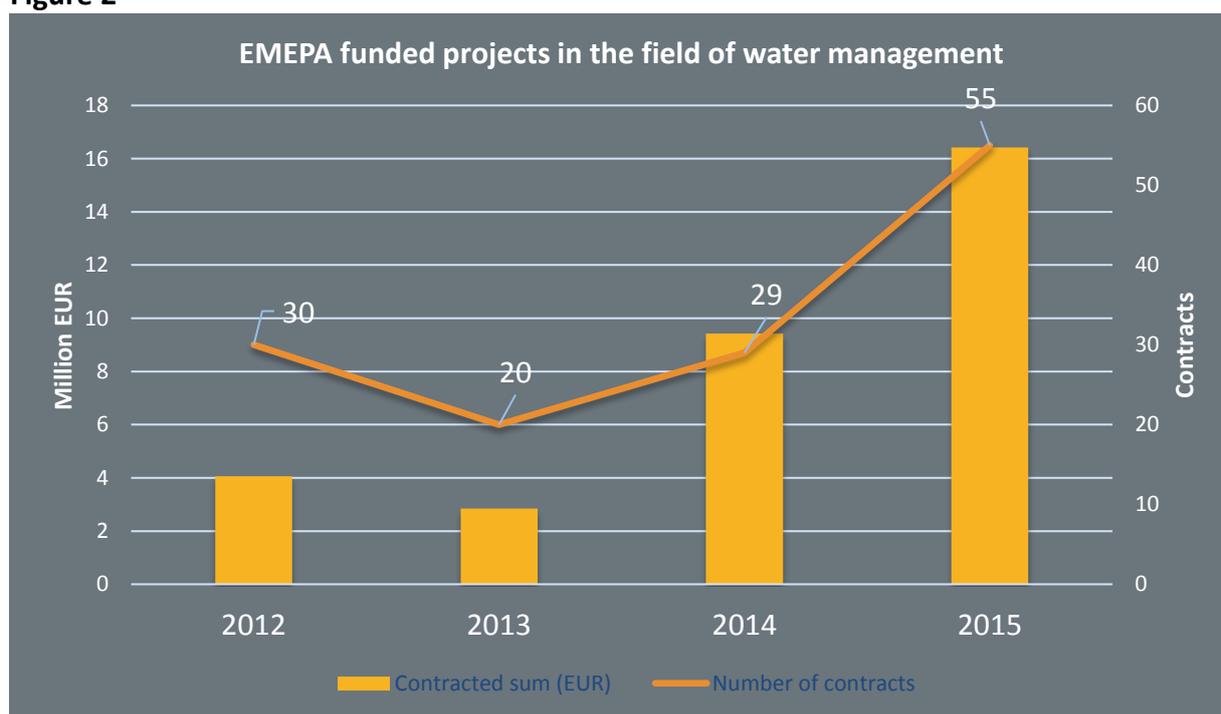


Source: EMEPA (2012, 2013, 2014, 2015)

EMEPA uses the revenues raised and European and National funding schemes to finance projects in the field of water and waste management and also redirects funds for biodiversity protection in Bulgaria. The projects vary from small plumbing and water supply projects to the creation of landfills, and have also helped to fund the Natura 2000 ecological network in Bulgaria.

In terms of the projects funded by EMEPA in the field of water management, Figure 2 shows a steady increase in funding over the years, which correlates with the national priorities for sustainable development in the field of water management.

Figure 2



Source: EMEPA (2012, 2013, 2014, 2015)

1.4 Environmental impacts and effectiveness

As a resource efficiency, related MBI, the water abstraction charge is expected to lead to considerable environmental benefits. A discussion is included below of both the direct and indirect impacts of the charge.

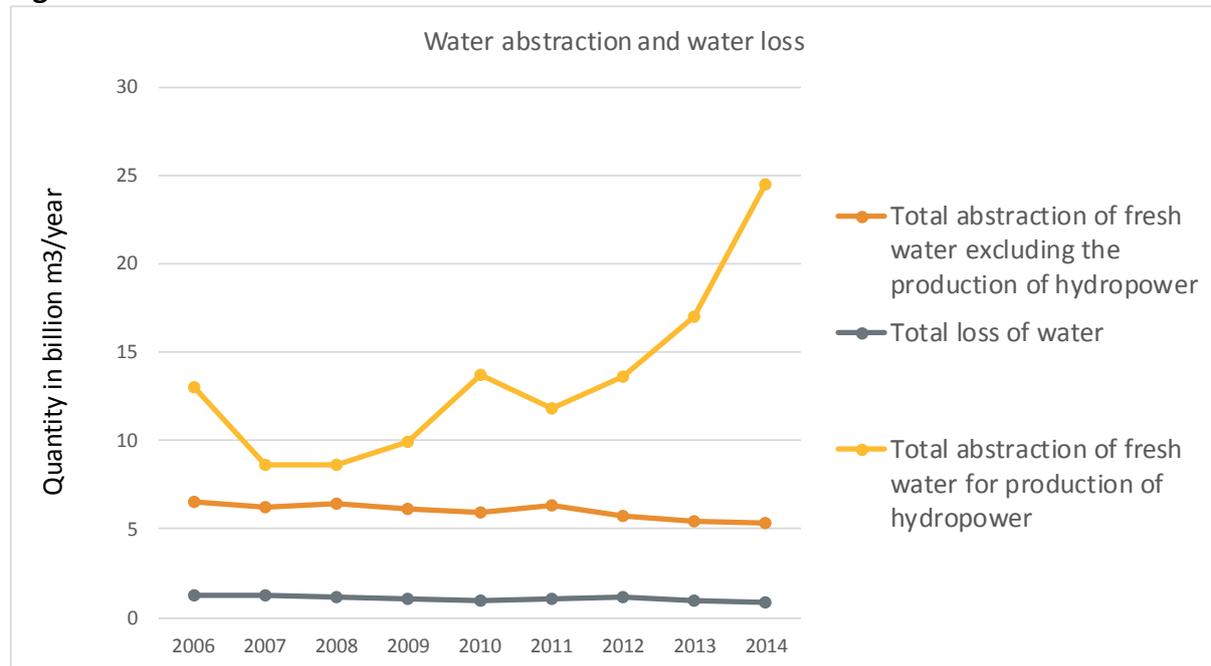
Direct environmental impact:

The main purpose of the water abstraction charge is to decrease the volumes of water abstracted and therefore to protect water resources. Users are charged according to their consumption level and therefore water saving is encouraged. Figure 3 shows a decrease in water usage (excluding hydropower production) with a simultaneous decrease in the total loss of water¹ in Bulgaria. However, there is a substantial increase in the amount of water abstracted and used for the production of hydropower, and the trend is increasing. This

¹ Water losses are reported by water supply and sewerage operators and include physical losses during transportation, unauthorized consumption, measurement errors, etc.

increase is due to subsidies for energy that is produced by small and medium hydropower plants. (Interviewee 1).

Figure 3



Source: National Statistical Institute, 2016a

According to an industry representative - there are many people with special interests in Bulgaria that support measures and subsidies to promote growth, employment and increase incomes in particular sectors. Figure 3 above shows that subsidising production of electricity leads to increased water abstraction and it is not necessarily the best way to achieve sectoral economic or social objectives.

Indirect environmental impact:

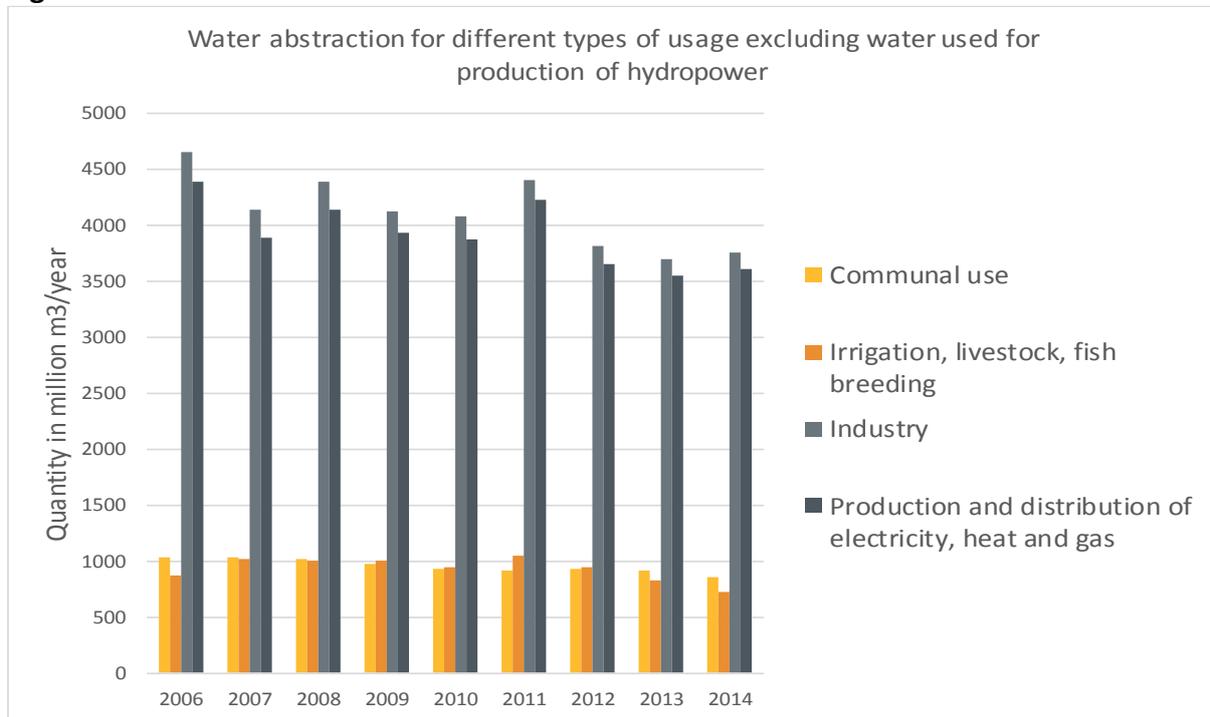
According to the National Report on the Status and Protection of the Environment in Bulgaria in 2014, 98.51% of the water in Bulgaria complied with the relevant quality standards (Ministry of Environment and Water, Environment Executive Agency, 2016). There is a trend for improvement in the quality of surface waters in Bulgaria in terms of basic physical and chemical indicators, both in the short and long term. According to experts, this is due to the investments in the sector through the EMEPA funding schemes and also due to co-financing from the EU funds through Operational Programme “Environment”. For the period between 2012 and 2015 EMEPA, funded over 134 projects in over 77 municipalities in the field of water management and water purification (EMEPA 2012, 2013, 2014, 2015). Despite intensive rainfall and localized flooding in some areas of the country, the renewed water management networks prevented outbreaks of diseases which can be caused by contaminated water used for household purposes (Ministry of Environment and Water, Environment Executive Agency, 2016).

1.5 Other impacts

Figure 4 shows the effects of the water tax on the behaviour of business and citizens (through the increase in the charge for water operators for drinking and household needs) in terms of

water abstraction. With the increase of the water abstraction charges from 2012 onwards, there is a significant decrease in usage, proving the effectiveness of the instrument.

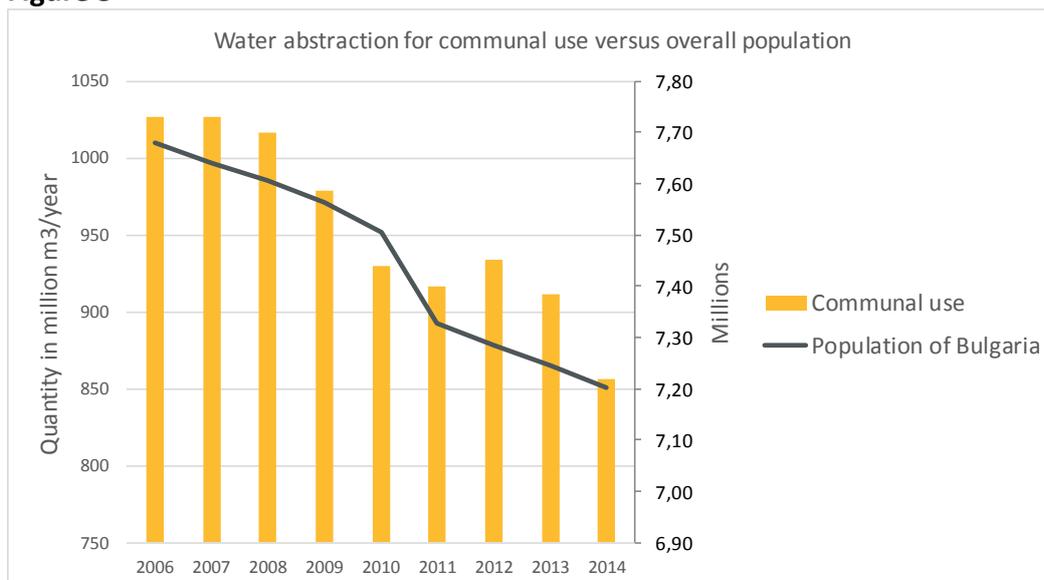
Figure 4



Source: National Statistical Institute, 2016a

As the fee for abstracted water for communal use has not changed during the years, Figure 5 shows the connection between water abstraction for communal use and the overall population in Bulgaria. There is a visible decrease in the population from the years 2006 to 2014 and a decrease in water consumption.

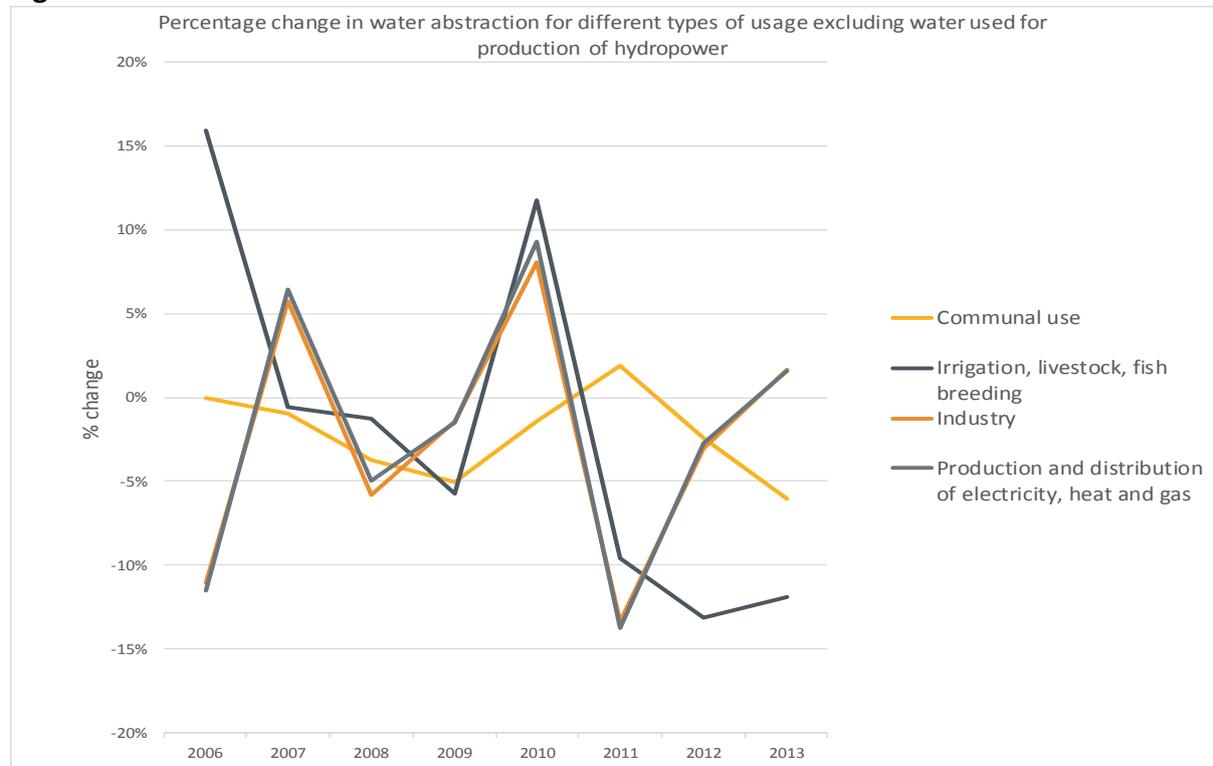
Figure 5



Source: National Statistical Institute, 2016a

Figure 6 shows the percentage change in water abstraction and a steep decrease in 2011 for water abstracted for the industry, irrigation and production of electricity, heat and gas. However, due to the changes in the behaviour of different stakeholders in the process of re-design of the instrument in 2011 and 2012 the trend reversed for the production and distribution of electricity, heat and gas.

Figure 6



Source: National Statistical Institute, 2016a

Table 2 below shows an increase in the number of enterprises in various economic sectors from 2008 onwards; even taking into account the effects of the economic crisis in 2009 there is still a stable growth in those sectors of the economy. This means that the instrument has a positive resource preservation effect on industry (as water use declined despite an increase in the number of enterprises), with the exception of the hydropower sector. There is a clear correlation between those numbers and the increase in water abstraction for the production of hydropower, as can be seen in Figure 3.

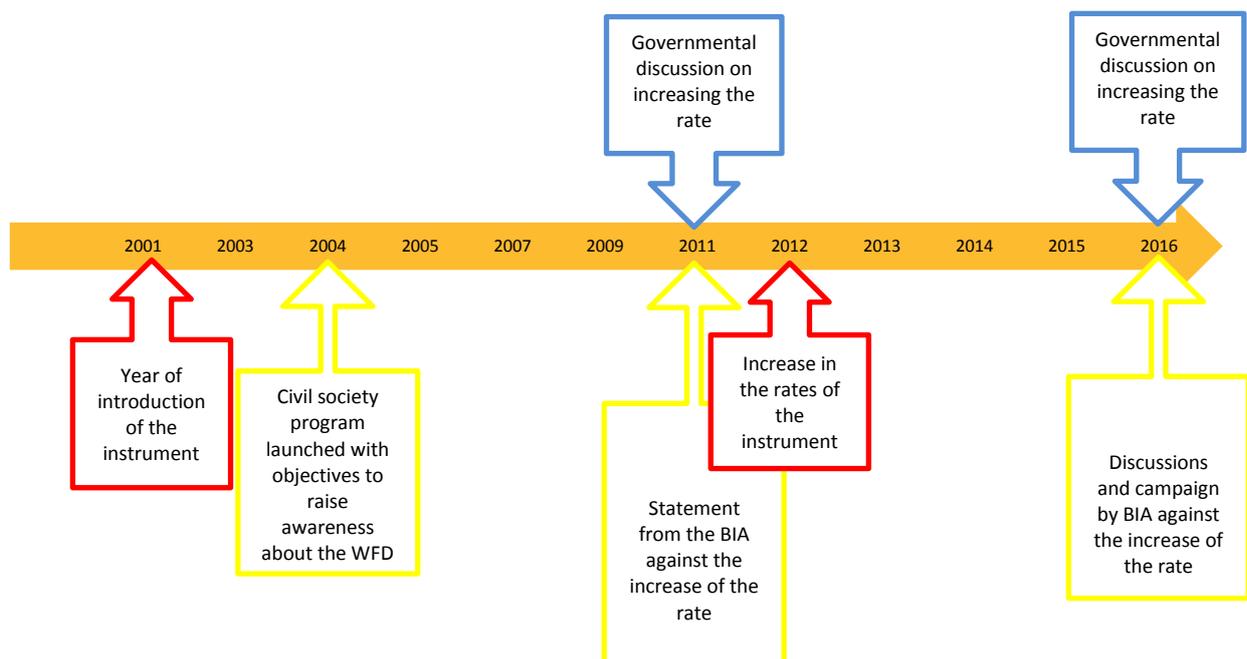
Table 2

Number of enterprises by economic sector on a yearly basis							
Year	2008	2009	2010	2011	2012	2013	2014
Type of industry							
Agriculture, forestry and fishing	8 756	11 367	13 341	14 820	16 221	17 325	17583
Mining industry	370	410	403	407	414	429	421
Manufacturing industry	30 958	33 056	31 179	30 654	30 332	30 712	31 150
Production and distribution of electricity, heat and gas	689	1 149	1 407	1 800	2 101	2,104	2 043
Water supply, sewage, waste management and recovery	595	669	712	757	792	787	810

Source: National Statistical Institute, 2016b

It can be concluded that the instrument has not had an effect on the behaviour of hydropower plants. This is due to the current subsidy schemes and the way they are targeted at production of energy from renewable sources, however the adverse effects concerning the water conservation are not taken into account in the legal framework. However, according to policy-makers, hydropower plants replenish water used in the process of power generation, and therefore have little or no direct effect on the overall quantity. Nonetheless, they also state that there are some indirect environmental effects concerning the fish population and the biodiversity in some areas.

2 Stakeholder engagement



The key stakeholders when the instrument was introduced in 2001 were the national institutions, represented by the Ministry of Environment and Waters and the Ministry of Economics. In 2004, experts and academics from the Bulgarian Academy of Science were involved in the process of implementing the WFD, including raising awareness for managers of medium and large-sized industrial enterprises about the Directive and stimulating stakeholders to participate in decision-making processes (Global Water Partnership, 2004). On the side of business, the Bulgarian Industrial Association played an important role in the debates during the introduction of the abstraction charges in particular in relation to discussions on the amount of the charges to be applied. In 2011 the Association filed complaints against the charge increase, but the new tariffs were still implemented. There is currently a debate between the Ministries and industry about the proposed new increase in the charges.

At the time of the introduction of the water abstraction charge, no significant opposition to the charge was recorded. A 2005-2006 survey of industry representatives (an important stakeholder as they pay a significant share of the charges) suggested that industry was rarely involved in the process of instrument design (Mochurova, 2008). It has been suggested that the lack of transparency in the process undermined the Government decision to increase the rates (Interviewee 1). However, if companies are better informed of how revenues raised from the charges will be used their support for the instrument will increase. According to some experts, business participation in working groups and in the decision making process for earmarking revenues from the abstraction charges can be beneficial. (Mochurova, 2008).

In the years since the introduction of the instrument one of the key problems was in terms of the transparency of the revenue allocation. However, policy makers managed to tackle the issue by publishing comprehensive financial reports on the activities of EMEPA and now the environmental effects of the instrument are visible. However, there is still an ongoing debate between the industrial association and the government about the upcoming increase of the charges (Interviewee 1, Interviewee 2).

3 Windows of opportunity

Policy formulation: After the transition from a command economy to a free market governed economy there was an urgent need for the application of up to date environmental legislation for resource conservation. This required a public-private partnership approach to preserve water resources. In the year 2000 charges focusing on water abstraction were introduced. In 2012 the instrument was revised with a focus on the economic changes in the country and the charges were increased.

Decision making: The decision making process around the abstraction charges involved the Ministry of Environment and Waters and the Ministry of Economy, and implementation was also backed up by the Council of Ministers. Some stakeholders (industry and municipal waterworks) were included in the process of discussions. Industry did not support the increase of the charge in 2012, stating that the Government's reasoning was not clear enough

and there was a lack of transparency in revenue allocation. The backing of academia was important in terms of public awareness raising. Due to the implementation of the Water Framework Directive, projects funded through the PHARE fund helped to engage civil society and academia in the process of decision-making. One of these projects included the assessment of needs of industrial enterprises that resulted in follow-up training and seminars in connection with the Directive (Global Water Partnership, 2004).

Policy Implementation:

The main problem of the instrument concerned the lack of transparency in the earmarking of revenues raised. According to some stakeholders, a more transparent and inclusive process might have increased their approval of the charges.

Monitoring:

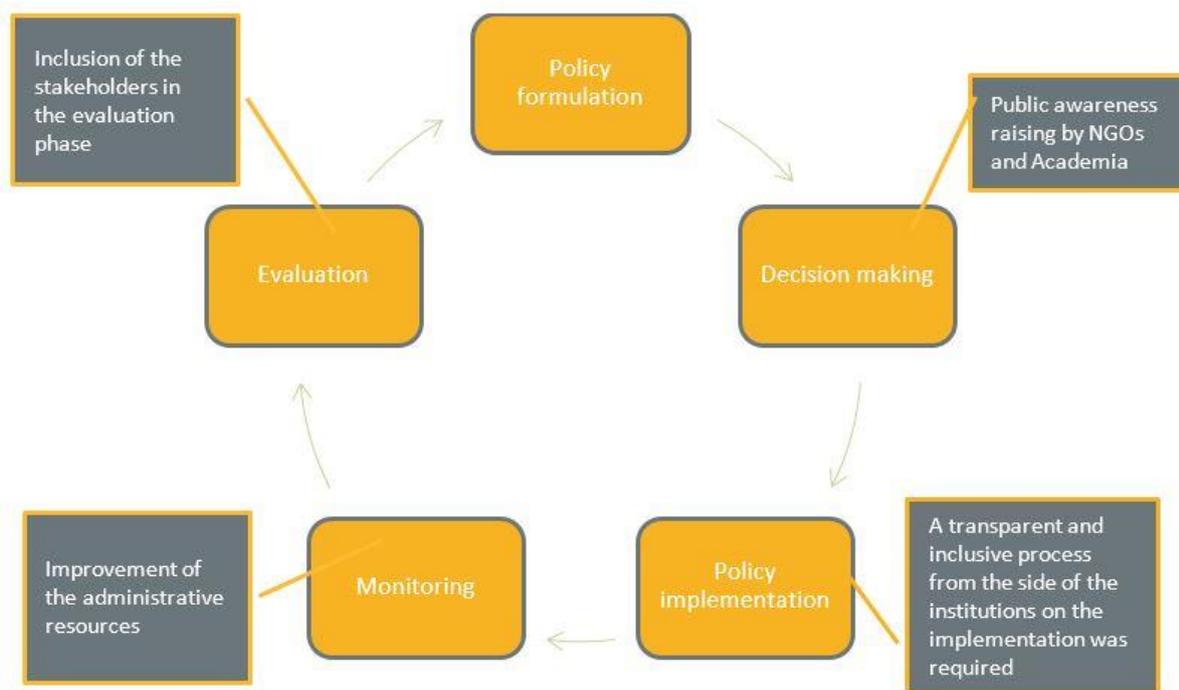
According to the Water Act, people and organizations with permits for water abstraction are responsible for monitoring the water quality and quantity and for providing information to the Ministry of Environment and Waters through the local governance bodies (Water Act, 2013, art. 174). Water monitoring in Bulgaria on a national level is done by the Executive Environmental Agency through the National System for Environmental Monitoring². Policy makers state that there is insufficient staff and funds for the local monitoring bodies. There is an opportunity for improvement of the administrative resources.

Evaluation:

The most recent evaluation is in the River basin management plan for 2015-2021. It states that irrigation for agricultural purposes and water abstraction for households have the highest water usages³. Numerous ongoing projects funded by EU environmental funds are also undertaking evaluations. Prior to the increase of the tax in 2012, an evaluation was done by experts from the Economic Institute of the Bulgarian Academy of Sciences in 2008. All of the evaluations conclude the need for better reporting on water quantities and the need for improvement in the mechanism of the instrument through stakeholder engagement.

² <http://eea.government.bg/en/nsmos/index.html>

³ <http://earbd.org/files/File/PURB/Proekt%20na%20PURB%202016%202021/kacheno%20na%20web/kacheno%20na%20web/Razdel%206/PART%2006.pdf>



4 Insights into future potential/reform

4.1 Actual Planned reforms and stakeholder engagement

The Ministry of Environment and Waters and the Ministry of Economy are planning to increase the charge, particularly for the industrial sector. The rationale is that the charges are too low and do not stimulate companies to invest in environmentally friendly technologies. The need for the increase also comes from a suggestion by the European Commission to “provide appropriate incentives for efficient use of water resources”.

One of the **key lessons** from the implementation of the water abstraction charges is that the funds raised are funding projects and initiatives in the field of environmental protection and management. Another important lesson is that the water abstraction charges are an applicable instrument with visible effects on the preservation of the water resources.

4.2 Suggestions for future reforms – instrument design and civil society engagement

Potential future reforms relate to the earmarking of the revenues raised and more importantly a thorough analysis of the environmental protection benefits before awarding funds. There is a special emphasis on the pricing of the instrument, especially with respect to hydropower production – we cannot see a change in behaviour of hydropower enterprises. The problem here lies in the subsidies for “green energy”, which are not part of this research.

There is a debate on the way the charges are collected. Some stakeholders would support the centralisation of the collected charges to the budget of the Ministry of Finance, while others prefer to have the collected charges in a separate pool to be used only for ecological purposes.

4.3 Suggestions for replicability

As a result of the WFD, all EU Member States are obliged to implement instruments concerning water preservation. The Bulgarian response could be replicated in other countries

which use **taxes** for water abstraction, instead of charges. This can be justified by the mechanism of the instrument, because it charges based on consumption; “you pay for what you receive” and the rate is directly tied to the cost of maintaining the service. Nonetheless, the most important part to replicate is the revenue allocation mechanism, meaning that the charge only funds projects in the environmental field.

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ⁱ This case study was prepared as part of the study 'Capacity building, programmatic development and communication in the field of environmental taxation and budgetary reform', carried out for DG Environment of the European Commission during 2016-2017 (European Commission Service Contract No 07.027729/2015/718767/SER/ENV.F.1) and led by the Institute for European Environmental Policy (www.ieep.eu). This manuscript was completed in December 2016.