

## CHAPTER 2.

# ECOLOGIC AND ECONOMIC ASPECTS OF INTEGRATION OF SERBIA IN THE EU<sup>1</sup>

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### *Abstract*

*In the pre-accession period of perspective accession of Serbia to the EU, in Serbia, especially during 2008 and 2009, legislative activities, directed to adjust its own legislation in the field of environmental protection, recommendations and directives, applied in EU countries were intensified. The amendments were made in the Law on Environment Protection, Nature Conservation, Regulations referring to Waste Management, Use of Natural Resources. In recent years, the investments from the budget for the protection and preservation of the environment ranged from 0.3% of GDP, which represents a low level of investment. The sources of funds for investment are the fees and charges for the use of natural resources and compensation for environmental pollution. An important source of funds for environment protection was realized from international grants and loan debts. The original revenues for the use of natural values, goods and capital in Serbia, as well as revenues from fees for polluting the environment are distributed by applicable laws, defined percentage of the central budget and the budget of the Autonomous Province of Vojvodina and the budgets of municipalities and towns in Serbia. In Serbia, the Fund for Environment Protection was established in accordance with the recommendations of the UN and practices developed in EU in 2005, which goal is to raise funds and systematic realization of investments for environment protection. Finally, the paper presents a short view and some of the paradoxes that follow the pattern of trading pollution rights.*

**Key words:** *environment, fees, natural resources and capital investments, trading pollution rights*

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## **INTRODUCTION**

The environmental policy in the European Union is one of the issues that is given a great importance. Over 200 rules and regulations of EU refer to the environmental issues. In the center of the aspects, related to the issue of environment protection, is an issue of sustainable development and reducing the negative impact of economic activities on the environment, the depletion of unrenovable resources, the increase of energy efficiency, reducing the impact of industry on pollution and the impact of using fossil fuels on global pollution by carbon dioxide and creation of the greenhouse effect. The regulation or EU directives in this area are usually detailed, even imperative in certain segments with deposited time period for starting their application. The others, not so many countries that geographically belong to Europe, and which are in line for accession to the EU, must adapt its legislation and its operational use in this area in order to meet the requirements for prospective membership before the admission. The questionnaire for Serbia, relating to the environment protection, contains 129 detailed questions. The questions concerning the environment protection can be classified into several subgroups. The first subgroup relates to the existing national legal regulations related to environment protection and sustainable development. Another subset of questions relates to the state of institutions and the effectiveness of implementation of measures, which carries a statutory regulation. This subset of questions requires the identification of status of certain measurable aspects of the state of the environment and the efficiency of application regulatory mechanisms. The third subgroup comprises the issues relating to the national legislation for the obligations arising from international agreements and environment protection standards. The fourth group relates to the sources of funding for environment protection policy. The fifth group of questions relates to the specific fields of resources implementation and protection such as: use and water protection, air protection, management of industrial, municipal and hazardous waste and recycling issues.

In this paper we deal with key aspects of the comprehensive legislation relating to environment protection in Serbia, as well as with some economic aspects of the collection and use of funds that are invested in environmental protection. Some aspects of trade licenses, that is, pollution rights are also analyzed.

## **LEGISLATION**

For the last five years (in the period of preparation for joining the EU), a number of legal and accompanied by-law acts in the field of environment protection in Serbia have been passed. According to their content, set targets and standards,

they include the key aspects of environmental policy, which is promoted and applied the EU member states.

The highest legal act of Serbia- its Constitution, adopted in 2006, provides the rights of citizens to a healthy environment and right to be promptly informed about its condition, and that the Republic of Serbia and autonomous province is responsible for environment protection. According to the Constitution, the obligation of the state is to take care of the sustainable development, protection and improvement of the environment, as well as the protection and enhancement of flora and fauna. The Constitution also obliges the local self-governments – municipalities, to (within their obligations), and in accordance with legislation, take care of the environment protection.

The basic legal act of the Republic of Serbia, starting from one of the fundamental human rights- the right to a healthy environment, made the assumptions and the obligations to pass the necessary legislation in this area.

The outline legislation for the protection of the environment is contained in the Law on Environment Protection,<sup>4</sup> which came into force in 2004, and significant amendments were made in 2009 with the aim of complying with regulations valid in EU countries.

This Act defines an integrated system of environment protection and strives to create a normative framework to balance the relationship between economic development and environmental protection. Thus, this regulation's goal is to affect the conflicts of interests of economic development and environment protection. The law defines the key principles and entities in the implementation of environment protection and the principles of sustainable management of natural values.

The legislation includes the following aspects: the conditions and management of natural values, the measures that must be undertaken for the protection of the environment, obligation for monitoring implementation in relation to changes in the state of the environment, public notification obligations on the state of the environment, in some parts, and the whole territory of the Republic, the economic instruments that are applied in protection and sustainable use of the environment, responsibility for damage and environment pollution, monitoring the implementation of the policy and penalties for not implementing protection, or causing environmental costs.

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<sup>4</sup> Law on Environment Protection, "Gazette RS" No.135/04; 36/2009

The operational aspects and objectives of the Act are to ensure the realization of an integrated environmental policy and policy for sustainable economic development of Serbia.

The Act de facto introduces two key economic aspects into the ecology. This aspect is "user pays", and refers to payments for the use of natural values, resources and natural capital as well as to providing the funds for investments in the reclamation of space from which the exploitation of natural resources was made. The introduction of this principle means the restriction of, recently existing free use of natural capital and common goods that can be expressed monetarily. Another economic aspect is the obligation for "polluter to pay", that someone who pollutes the environment is obliged to pay compensation for pollution, as well as to cover the cost of preventing and reducing pollution and eliminating the consequences caused by pollution of the environment. In addition, the regulation provides the introduction of other economic measures and incentives for sustainable use of natural resources and the environment as a subject from which the natural resources and services are exploited, as well as the environment, which presents a space for depositing byproducts of human economic activities.

Based on the Law on Environment Protection, which contains the general regulations, special laws were passed that concretize the individual aspects of environmental protection and sustainable utilization of natural values and natural capital, along with common resources. In 2009 and 2010, some 15 ecological laws, which present further concretization of regulations on environment protection, were adopted in Serbia. These are: Law on Nature Protection, Law on Protection of Air, Water Law, Law on Noise Protection, Law on protection from non-ionizing radiation, Law on Protection from ionizing radiation and nuclear safety, Law on Waste Management, Law on chemicals, Law on the Impact assessment on the environment, Law on Strategic assessment impact on the environment, Law on Geological Research, Law on biocidal products, Law on Packaging and packaging Waste, Law on integrated pollution prevention and control of the environment, Law on conservation and sustainable use of fishing fund.<sup>5</sup>

Further operational concretization of the legislation is followed by the adoption of bylaws, regulations and rules issued by the Government, which provide the individual aspects of environment policy in Serbia. Due to limited space for presentation of this paper, we will be quite short in interpretation of some economic and ecological aspects of mentioned legislation.

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<sup>5</sup> Most laws were passed in 2009 and published in: Gazette of RS No.36/2009, 88/2010, and 30/10

Regulations relating to the protection of nature are focused on protection of nature, biodiversity, geological and natural diversity as one of the key parts of the environment. The regulation relating to waste management and the management of packaging waste is especially important from the economic and ecological aspects. Regulation is particularly important from the aspect that, in Serbia in the past few decades, the number of illegal dumps and ad hoc storage for depositing waste into the environment increased, certainly without any technological and economic conditions for sustainable waste management.

The regulation specifies the types of waste, management, defines the subjects of management with responsibilities and duties, way of recording and reporting of waste as well as funding the process of collection, selection, recycling and disposal of various types of waste. A special act was passed and it refers to the organization, policy and economic instruments, incentives and penalties for the management of packaging waste, which presents an increasing environmental problem in Serbia.

From the economic point of view and theoretical controversies that exist in connection with the use of common resources, particularly interesting is the regulation concerning the management of fishing fund in fishing waters, which includes the protection and sustainable use of fishing fund as "freely" available natural resource and capital, and which has an indicative market and monetary value.

## **INVESTMENTS IN THE FIELD OF ECOLOGY**

Sources of funds for investment in environment protection are realized from the budget of the Republic of Serbia, autonomous province of Vojvodina, budgets of municipalities and cities, as well as loan funds and international aid and donations. The budget inflow is realized from fees and taxes for the use of natural values, natural capital, and fines for damage caused in environment and other fiscal revenues.

Complete systematic information on the total investment for environment protection in Serbia does not exist. First of all it's about missing data and the amount of investment of public and private companies, and economic sectors, which have a great impact on the environment, primarily energy, mining, manufacturing, transport. Data on inflows, realized by the local governments and municipalities are available with certain time delays. However, the expenses of municipalities for investment in the environment protection are either unsystematic or unavailable.

According to available global indicators at the Republic level, total annual expenditures from the budget for environment protection amount approximately per year 0.3% of gross domestic product (GDP). Data includes the expenditures of central government, autonomous province, municipalities and towns in Serbia. The level of expenditures, together with relatively low GDP, present quite modest government expenditures for environment protection.

The next table shows the statistical data on investments and current expenditures, which prevent, remove, cut or decrease the negative effects on the environment.

*Table 1. Environment Protection Investments (in 000 RSD)*

		Waste Disposal	Protection of Surface Waters	Air Protection	Protection of Groundwater and Land	Nature Protection	Noise Protection
2006	Investments	770,620	122,837	734,557	14,195	373,558	61,318
	Current expenditures	153,700	49,857	21,816	18,672	88,558	727
2007	Investments	314,487	707,247	1,568,714	164,582	68,176	165,458
	Current expenditures	334,259	65,412	86,075	82,747	148,984	3,160
2008	Investments	574,836	685,105	349,305	113,510	29,289	26,014
	Current expenditures	578,479	132,937	150,517	76,850	374,994	5,040

*Source: Statistical Office of the Republic of Serbia*

The cumulative nominal investments, in the period 2006 to 2008 show that the maximum investments were made in the protection of air- 2.9 billion dinars due to huge investments in 2007. Secondly are the investments in waste disposal of 2.7 billion dinars, and then follow the investments in the protection of surface waters in the amount of 1.8 billion dinars.

*Table 2. Budget Environment Protection Investments in Euros*

Period		Total in million EUR
2006	Investments	26.3
	Current expenditures	4.2
2007	Investments	37.7
	Current expenditures	9.1
2008	Investments	20.1
	Current expenditures	14.9

*Source: Table on data basis from Table 1*

Total investments and current expenditures are presented in EUR and had cyclical trends. In 2006, the expenditures for environment protection amounted EUR 30.5 million, in 2007 46.8 million, and in 2008 EUR 35 million. The calculation of total investments and current expenditures are presented in EUR based on the middle exchange rate of RSD for 1 EUR. In 2006 it was 79 dinars, in 2007, 79.2362 dinars and in 2008 it was 88.6010 dinars. This shows a very modest amount from the budget for protection of the environment.

Apart from direct budget allocations for the investments in environment protection, there were some allocations through the National Investment Plan. In 2009, through this plan 156.6 million dinars were invested or approximately 1.6 million EUR. Part of the investments, from the program of scientific and technological development is oriented to the needs of environmental protection, and in 2009 for these projects 849.8 million dinars, or about 8.9 million EUR were allocated.

In 2009, within the program of the Ministry of Agriculture, Forestry and Water Management, 3.4 billion dinars, or 35.5 million EUR were invested for the purposes of environment protection, for reconstruction programs, construction and maintenance of water facilities.

The grant of international assistance for the investments in environmental protection was obtained and for the period 2006-2009, it mounted:

*Table 3. Grant of international assistance*

	RSD in millions	EUR in millions
2006	256.0	3.2
2007	880.9	11.1
2008	320,4	3.6
2009	1,441.0	15.03

*Source: Own calculations based on data from Ministry of Finance of RS*

The inflows arising from grant of international assistance for investments in environmental protection or removal of the effects of pollution and remediation show that in the observed years, the means by amounts are very different. It is evident, for example, that the amount of grants in 2009 was 15.03 million EUR and that at the same time, the total budget revenues of municipalities and cities from environmental taxes and charges in the same year amounted 15.4 million EUR.

The credit funds are also used as a source of funds for the investment in environmental protection and for removal of the effects of pollution from the past.

*Table 4. Loan funds for Environment Protection Investments*

	RSD in millions	EUR in millions
2008	331	3.7
2009	2,665	27.79

*Source: Own calculations based on data from Ministry of Finance of RS*

The Fund for Environmental Protection was founded for the purposes of systematic collection and investment of funds for the environmental protection in Serbia. The special-purpose revenues from use of natural resources, capital and value are realized on the basis of fees and environmental fees and fines, revenue for the budget of the Republic, the Autonomous Province of Vojvodina and local self-governments units (municipalities and cities).

The fees, as parafiscal budget revenue of different levels of authority, are from water use, charges for the use of forests, the fees for use of agricultural land, or change of its purpose of use, the fees for use of road land and mineral resources.

Another group of fees are ecological fees which are defined by the laws on environment protection, nature protection, waste management, use of fish stocks, the law on hunting and the law on chemicals.

The following table presents the systematized overview of the area and the fees, charged for use of natural resources and environment as the environment. The table shows the percentage of revenue structure, from the compensation between the central government, authorities in the autonomous province and the municipalities and cities, and local governments. The presented data show that some revenues are only directed at the Republican budget, while some revenues are shared between the central and local governments.

*Table 5. Structure of Revenues from Environmental Charges*

<b>Basic fees</b>	<b>Republic</b>	<b>Province</b>	<b>Municipality</b>
<b>Fees based on Water Use :</b>			
- all, except water basin fees	100% or 0%	100%	0%
- water basin fees	50% or 0%	50%	50%
- exploitation of river deposits			
- economic activities			
- setting up of temporary facilities			



<b>Basic fees</b>	<b>Republic</b>	<b>Province</b>	<b>Municipality</b>
- mooring of vessels - sport, recreation and tourism			
<b>Agricultural Fees:</b>			
- changes of land use	60%	0%	40%
- reduced value of plant	60%	0%	40%
- rent	60% or 30%	30%	40%
<b>Woodland fees:</b>			
- change of purpose	100% or 0%	100%	0%
- use of forests and forest soil	70% or 0%	70%	30%
o tax payer user			
o taxpayer owner			
- for general useful forests functions	100% or 0%	100%	0%
<b>Travel fees :</b>			
- annual fees for motor vehicles, tractors, and trailers	0%	0%	100%
- annual fees for motor vehicles not covered by fees for motor vehicles, tractors and trailers	0%	0%	100%
- extraordinary transport - set up of advert billboards, devices for image or sound notification or advertising - toll - overuse of public road , its part or passenger facilities - rent of parts of public road land and other land used by public road controller - connection of access road to public road - construction and annual fee for use of commercial objects accessible from public road - set up of water and sanitation , electric, phone and telegraph lines etc on public road - use of state road for vehicles registered abroad	100% revenue for roads controller		
<b>Fees for Use of Mineral Raw Materials</b>	50% or 40%	10%	50%
<b>Environmental fees</b>			
Law on Environment Protection :			
- turnover of wild flora and fauna species	100%	0%	0%
- environment pollution	60% or 80%	0%	40% or 20%
- protection and promotion of environment	0%	0%	100%
Law on Nature Protection			
- use of protected area	100% for area controller		
Law on Protection and Sustainable Use of Fishery Fund			
- use of fishing area	100% or 0%	100%	0%

<b>Basic fees</b>	<b>Republic</b>	<b>Province</b>	<b>Municipality</b>
Law on Wildlife and Hunting			
- use of close season of protected wildlife species	100% or 30%	70%	0%
- hunting map	100% or 30%	70%	0%
Law on Waste Management			
- products which after use become special waste case	100%	0%	0%
Law on Packaging Waste Management			
- failure in meeting national targets	100%	0%	0%
Law on Chemicals			
- total amount of chemicals put in circulation	100%	0%	0%
- other fees for chemicals	100% level of authority that issues license		
<b>Tourist and spa fees</b>			
- tourist fees	20%	0%	80%
- use of natural curatives	0%	0%	100%

*Note: table based on data from legislation in Serbia*

The distribution of fees from utilization of natural values, goods and capital is allocated in such a way that some revenues belong only to central government, autonomous region or only to municipalities and cities. Certain fees are divided according to the territorial principle between the central government and autonomous province, and some between the central government, autonomous province and municipalities – cities. The revenues from some fees belong only to the users of natural resources, as it is the case with managers of protected areas or institutions that issue permits or certificates for the use of certain natural resources.

The following table presents the analytical data on the amount of the cash value of the budget, which municipalities and cities in Serbia realized in the period 2007 -2009 on the basis of environmental fees and taxes. In the last column of the Table marked as "development", by numerical features from 1-5 are defined status levels of development, which the municipality or city belongs to. Marked by the number 1 are the municipalities that are developed over the average of the Republic of Serbia, marked by the number 2 are the municipalities that are on the average level of the Republic, number 3 defines the municipalities which development level is the 80% of the average of the Republic, the number 4 are the municipalities which level of development is 60% of average, and number 5 are the municipalities which development level is below 50% of average level of the Republic.

Table 6. Revenue of Municipalities in Serbia from Environmental Fees and Taxes, values in 000 RSD

No.	Municipality	Environmental Tax			Level of Development
		2007	2008	2009	
1	APATIN	4,434	4,462	3,392	1
2	ARILJE	4	4	2	1
3	BAČKA PALANKA	4,846	5,092	9,359	1
4	BAČKA TOPOLA	714	721	776	1
5	BEČEJ	0	3	1	1
6	BEOČIN	43,111	49,333	54,519	1
7	BEOGRAD	235,883	268,612	299,775	1
8	ČAČAK	8,630	11,991	12,700	1
9	ČAJETINA	2	1	0	1
10	GORNJI MILANOVAC	2	10	2	1
11	INĐIJA	0	0	0	1
12	JAGODINA	17,045	16,522	14,376	1
13	KANJIŽA	114	217	1,668	1
14	KIKINDA	6,642	6,987	7,071	1
15	KOSJERIC	0	1	1	1
16	KRAGUJEVAC	7,908	7,994	8,521	1
17	KRUŠEVAC	44	2	7,341	1
18	KULA	367	715	13,462	1
19	LAJKOVAC	35,108	35,495	49,867	1
20	NIŠ	120	17	14,768	1
21	NOVI SAD	17,714	16,589	38,074	1
22	PANČEVO	357,617	378,078	346,945	1
23	PEČINCI	7,251	6,115	5,809	1
24	PIROT	24	17	30	1
25	POŽAREVAC	376	267	-90	1
26	SENTA	401	1,385	1,616	1
27	SMEDEREVO	8,243	13,645	12,170	1
28	SOMBOR	1,252	2,588	2,926	1
29	SREMSKA MITROVICA	0	1	0	1
30	SREMSKI KARLOVCI	0	5	0	1
31	STARA PAZOVA	5	1	0	1
32	SUBOTICA	34,426	42,809	41,021	1
33	ŠABAC	3,079	3,091	3,152	1
34	TEMERIN	0	0	1	1
35	UŽICE	89	21	13	1
36	VALJEVO	48	9	2	1
37	VRBAS	27,073	32,502	19,727	1
38	VRNJAČKA BANJA	11	0	4	1
39	VRŠAC	3,259	5,248	4,008	1
40	ZRENJANIN	36,792	37,140	34,011	1
41	ADA	0	9	11	2
42	ALEKSANDROVAC	328	431	393	2
43	BAC	1,972	2,687	2,262	2
44	BAČKI PETROVAC	0	0	641	2
45	BOR	1	1	2,444	2

No.	Municipality	Environmental Tax			Level of Development
		2007	2008	2009	
46	ČUPRIJA	3	312	7,897	2
47	KLADOVO	0	0	12,700	2
48	KRALJEVO	14	3	4	2
49	LAPOVO	63	107	116	2
50	LOZNICA	0	1	2	2
51	LUČANI	3,756	4,171	4,670	2
52	NOVI BEČEJ	1	0	0	2
53	NOVI KNEŽEVAC	561	565	648	2
54	ODŽACI	0	0	2	2
55	PARAČIN	24,998	27,602	44,276	2
56	POŽEGA	10	1	8	2
57	RUMA	17	2	5	2
58	SOKOBANJA	607	2	3,511	2
59	ŠID	6	2	0	2
60	TITEL	0	0	0	2
61	TOPOLA	6,394	6,807	7,312	2
62	VRANJE	5,534	4,678	14,123	2
63	ZAJEČAR	31,390	27,067	41,462	2
64	ALEKSINAC	1,502	1,531	4,667	3
65	ARANĐELOVAC	34	4,034	7,784	3
66	BAJINA BAŠTA	64,970	98,157	97,600	3
67	BATOČINA	13,200	10,943	6,155	3
68	BOGATIĆ	5,895	3,205	1,190	3
69	BOLJEVAC	357	327	624	3
70	ČOKA	1	0	8	3
71	ČIČEVAC	384	388	406	3
72	DESPOTOVAC	8,639	7,845	9,874	3
73	DIMITROVGRAD	1	0	1	3
74	IRIG	1	99	25	3
75	IVANJICA	1,436	1,462	1,535	3
76	KOCELJEVA	561	619	3,363	3
77	KOVAČICA	1,279	1,360	1,354	3
78	KOVIN	10,334	9,405	12,891	3
79	LESKOVAC	7,209	6,376	6,233	3
80	LJIG	410	411	436	3
81	MAJDANPEK	0	0	0	3
82	MALI IDOŠ	9	14	2	3
83	NEGOTIN	2,090	678	15,048	3
84	NOVA VAROŠ	24,999	51,469	55,922	3
85	NOVI PAZAR	11	3	10	3
86	OPOVO	14	149	11	3
87	PRIBOJ	10	1	1,095	3
88	PROKUPLJE	2,654	2,755	3,628	3
89	RAŠKA	172	1,587	1,416	3
90	SEČANJ	2,324	1,982	341	3
91	SMED.PALANKA	2,863	2,970	9,445	3
92	SRBOBRAN	618	587	627	3

Part I - Chapter 2

No.	Municipality	Environmental Tax			Level of Development
		2007	2008	2009	
93	SVILAJNAC	3,145	905	4,501	3
94	TRSTENIK	3	6	2	3
95	UB	37,024	51,883	15,698	3
96	VELIKA PLANA	1,938	2,238	3,350	3
97	VELIKO GRADIŠTE	459	439	2,775	3
98	VLADIMIRCI	1,718	9,782	4,707	3
99	ŽABALJ	823	975	778	3
100	ALIBUNAR	387	389	416	4
101	BELA CRKVA	2	4	0	4
102	BRUS	2	0	2	4
103	KNJAŽEVAC	1	0	1	4
104	PETROVAC	355	379	398	4
105	SURDULICA	2,560	2,449	2,576	4
106	BABUŠNICA	317	326	43	5
107	BELA PALANKA	8	2	2,782	5
108	BLACE	1,441	1,494	1,959	5
109	BOJNIK	1	1	1	5
110	BOSILEGRAD	74	471	73	5
111	BUJANOVAC	2	7	17	5
112	CRNA TRAVA	288	251	49	5
113	DOLJEVAC	6	0	4	5
114	GADŽIN HAN	0	1	0	5
115	GOLUBAC	1	407	366	5
116	KNIĆ	419	414	435	5
117	KRUPANJ	0	0	0	5
118	KUČEVO	3,026	1,907	1,700	5
119	KURŠUMLIJA	243	290	290	5
120	LEBANE	5	0	1	5
121	LJUBOVIJA	4,488	4,704	7,370	5
122	MALI ZVORNIK	18,761	25,161	26,971	5
123	MALO CRNIĆE	158	280	342	5
124	MEDVEĐA	114	131	137	5
125	MEROŠINA	398	395	967	5
126	MIONICA	3	1	0	5
127	NOVA CRNJA	0	0	1	5
128	OSEČINA	204	231	242	5
129	PLANDIŠTE	347	360	507	5
130	PREŠEVO	1,508	1,061	1,411	5
131	PRIJEPOLJE	16	0	4	5
132	RAČA	7	14	3	5
133	RAŽANJ	278	354	381	5
134	REKOVAC	57	6	5	5
135	SJENICA	3	1	11	5
136	SVRLJIG	374	378	394	5
137	TRGOVIŠTE	175	34	3	5
138	TUTIN	1	1	45	5
139	VARVARIN	36	32	31	5

No.	Municipality	Environmental Tax			Level of Development
		2007	2008	2009	
140	VLADIČIN HAN	259	111	655	5
141	VLASOTINCE	1,271	1,453	1,503	5
142	ŽABARI	482	528	599	5
143	ŽAGUBICA	0	1	2,779	5
144	ŽITIŠTE	2	0	0	5
145	ŽITORAĐA	460	474	1,030	5
	TOTAL	1,173,916	1,341,228	1,479,516	

*Source: Own calculations based on data from Ministry of Finance of RS*

Total revenues of municipalities and cities in Serbia, on the basis of environmental taxes and charges are stated in EUR and in 2007 they amounted 14.8 millions, in 2008 about 15.1 millions and 15.4 millions in 2009. Data in the table show that there are significant differences in the level of budget revenues from environmental taxes fees by municipalities and towns in Serbia.

#### **FUND FOR ENVIRONMENT PROTECTION OF THE REPUBLIC OF SERBIA**

The Fund for environment protection in Serbia, according to the Law on Environment Protection from 2005, was founded similar to the Global Ecological Fund founded by the United Nations in 1990, and based on the UN program for environment protection, as well as the EU recommendations. The founder is the Republic of Serbia. The fund is based on recommendations of the First survey on environment situation created by EU Economic commission for Europe. These recommendations defined basic Fund obligations as well as the financing of projects on environment protection and the use of renewable sources of energy.

The principle goals of the Fund is to provide aiming systematic fund rising and investment in project on preservation, sustainable use, protection and strengthening of environment and improvement of energy efficiency by growing participation of renewable sources of energy. Priority fields for investment are as follows: the waste management, the support of production that is more pure, the protection, and improvement of air quality, forests, waters, and soil, enhancing the growing use of renewable source of energy, protection and sustainable use of natural resources.

In fulfilling its aims and functions, the Fund has to achieve the realization of aims and principles of environment protection, preservation of natural balance and rational use of natural value, to create conditions for sustainable exploitation, human protection, and development in healthy environment.

The actions that Fund has to organize and implement may be classified in the following aspects:

1. Expert and other tasks related to the acquisition, management, and use of the fund sources;
2. Initiating, financing and control of project implementation within the scope of the Fund;
3. Mediation in connection with the financing of environmental protection and renewable energy sources financed by foreign countries, international financial institutions and agencies, as well as domestic and foreign legal and natural persons;
4. Keeping database of programs, projects and other activities in the field of environmental protection, renewable energy sources, as well as the necessary and available financial resources for their implementation;
5. Initiating, implementing and cooperating with international and domestic financial institutions and other companies and individuals to finance environmental protection, renewable energy sources in accordance with the National program of Environmental Protection, other strategic documents, action plans and recovery plans and other plans and programs, and international agreements;
6. Provide professional services to companies and individuals in the preparation of projects in the field of environmental protection, in accordance with the contract, pursuant to the income gaining;
7. Perform other activities related to encouraging and funding of environmental protection established by the law.

The government, establishing the Fund transferred to it the following competences in:

8. Adjudication of taxpayers to pay the fees prescribed by the law on governing the sustainable management of natural resources and environmental protection;
9. Establishing detailed conditions to be met by beneficiaries of the Fund and the methods of allocation of funds, criteria, and standards for the evaluation of proposals or request for allocation of funds; supervision of project implementation; monitoring methods of appropriate spending of funds and contractual rights and obligations, as well as other task of importance for the allocation and use of funds, in accordance with the Law on Fund for Environmental Protection and other laws;
10. Proposing measures to the beneficiaries of the Fund for case of misuse of funds, and failure to meet contractual rights and responsibilities.

Based on the guidelines defined by the Law on Environmental Protection, the Fund has jurisdiction over regulating the special laws on environmental protection as follows: Waste Management Law, the Law on Packing and Packing Waste, the Law on the Protection and Sustainable Use of Fish fund, and Law on Water.

The Waste Management Law provides that the manufactures or importer of products has to pay a certain fee on products that become waste after use. The proceeds of these fees are part of the budget of the Republic of Serbia. Those funds are used through the Fund for investment and operational activities in the field of waste management including: building the plants for waste management, the improvement of waste management, management of waste batteries and accumulators, waste oils, waste tires, waste from electrical and electronic products, waste from fluorescent tubes containing mercury, and waste motor vehicles, encouraging separate collection of waste, recycled materials market promotion, implementation of regional waste management plans, development of information system for waste management, help in developing and applying new technologies for waste treatment, rehabilitation of long-term pollution management, education programs and strengthening the public awareness of environmental issues and waste management.

Law on Packing and Packing Waste defines that the supplier that packing or packed products dispose on the market on the territory of the Republic of Serbia, is obliged to pay fee. The fee is determined by the type, quantity, composition, and purpose of packing, as well as of the packing material. These funds are used for financing environmental protection. The law provides the criteria for the determination of fees and conditions for exemption from payment of fees.

Law on the Protection and Sustainable Use of Fish Fund established that the fishing area might be assigned to a particular company or user, if they meet certain criteria, and pay a fee for the exploitation. The fee is 15% of the cost of issuing permits for commercial fishing and 10 percent, when it comes to recreational fishing. Through the Fund, are provided the funds that are used for protection, enhancement, and sustainable use of fish funds.

The Law on Water regulations prescribed the obligation to pay a fee for indirect or direct water pollution. Individuals or legal entities pay the fee on various grounds such as the owners of vessels that discharge water into its sewers, canals, lakes etc, if they carry out the collection, removal or treatment of waste and storm water through public sewers, if they release to the agricultural, construction or forest land pollutants that directly or indirectly pollute the water, or if they produce or import fertilizes and chemical plant protection products and the one that destruct weeds, as well as phosphate-based detergents.



The fee to be paid for water pollution is calculated based on percentage of the cost of compulsory insurance of vessel, and is paid upon registration of the vessel; for waste water – according to the quantity, type and emission properties from the source of pollution; bulk pollutants – concerning the produced or imported quantity of fertilizers and chemical plant protection products and the destruction of weeds, together with phosphate-based detergents. The fee amount increases if the recipient is the protected area. Simultaneously, the level of benefits is reduced if the wastewaters are subjected to purification, depending on the purification effects. The funds collected from such fees are dedicated through the Fund to invest in the protection of waters against pollution.

### Fund revenues

Fund for Environment Protection gets income from following sources: fees for the supply of wild flora and fauna species, the fee for registration in EMAS system, compensations for environmental pollution and compensation for environmental pollution in areas of special national interest, the Republic of Serbia dedicated budget funds earned from fees in accordance with the law, the funds realized from international bilateral and multilateral cooperation programs, projects and other activities in the field of environmental protection and renewable energy sources, funds realized through the management of Fund's free cash flows, contributions, donations, gifts and assist, interest and annuities on loans, fees for professional services which funds are paid into a special revenue account and are used for Fund's operations, and lately, all other sources in accordance with the law.

Table 7. Income of the Fund for Environmental Protection

	RSD in million	EUR in million
2006	888.7	11.2
2007	972.3	12.3
2008	1,045.9	11.8
2009	1,561.8	16.29

*Source: Own calculations based on data provided by The Fund for Environmental Protection*

The Fund realizes its income mostly from fees on motor vehicle use, and the ones for SO<sub>2</sub> and NO<sub>2</sub> emission, then come the revenue from wild flora and fauna trading, based on the Decree on putting under control the use and trade of wild flora and fauna from 2005. The income is realized as well as from compensations like the ones based on the principle “polluter pays” under the Regulations on types of pollution, whereby are established a specific criteria for calculating fees for polluting environment and taxpayers, the amount and method of calculation

and payment of compensation. The Fund receives the resources also through budget funds, and funds from international financial assistance.

In the year 2009, the Environmental Protection Fund invested 1.9 billion RSD in projects related to environmental protection. The amount of investment is provided by current flows and state budget. Investments denominated in Euro amounted to approximately 19.8 million.

### **PARADOX OF RIGHTS IN POLLUTION TRADE**

The initial model of pollution rights trade has emerged in the United States after 1990, based on legislation on clear air. Essentially, the model establishes a market of transferable pollution rights. The system works by defining initially the extent of allowed pollution of air, water, land. The level of long-term reduction of the annual pollution amount, such as CO<sub>2</sub> on target-projected level in future is defined by national legislation or based on international agreements. The determined current pollution level is then quantified and converted to quotas and licenses, and consequently, distributed free of charge to existing polluters or, alternatively, sold on auction. As described above, the result is a “manufactured” product called “right to pollute, which can be traded on the market as any other good. Manufacturer of the product “pollution rights” is a state regulation on the basis of professional measuring and monitoring of pollutants behavior due to their economic activities. Establishing the market in pollution rights was based on the hypothesis that the autonomy of market mechanisms of supply and demand would establish the optimal allocation of “pollution rights” resources and reduce pollution levels due to the economic incentives that participants in the market would have. Initially, the assumption was that the forces of market incentives would be more efficient in the sector of environmental protection and ecological costs, in relation t the efficiency of state direct regulations.

Thus, expectations were that the trade with permits to pollute would enhance competition and economic incentives to invest in new technologies for waste purification emitted into the air, water, and sole. Economic motivation is logical, if a pollutant due to innovation and new investment in waste materials purification reduces the amount of released substances that pollute the environment below the quota on disposal. In such case this pollutant has an excess of “pollutant rights” that can be sold to another participant at the market, which impact on the level of pollution is not reduced, or may be increased. The experience in pollution rights trading initially featured certain results.<sup>6</sup>

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<sup>6</sup> Ackerman, Frank, and William Moomaw, SO<sub>2</sub> Emissions Trading: Does it Work?, *Electricity Journal*, vol. 10 (1997); pp 61~66.

Model of trade pollution has spread to most developed countries concerning various forms of pollution, and increasingly begun to take shape of autonomous financial stock transactions, simultaneously departing from its essential aspects. What is the paradox of pollution rights trading? The first paradox is featured due to existence of different forms of pollution that have a global implications, while “rights” trading is being done inside countries and their companies that are de facto the largest polluters, causing the situation that trading this rights could be transferred to the international level. Pollution rights trading by international companies are transferred down to the countries that have low participation in pollution quotas. The trend in pollution rights trading can lead to migration of pollution in developing countries, because effectively, the market itself determines this fact. The second paradox is that precisely, the companies that generate pollution and adverse impacts to the environment, their “product” – contamination – without the mechanism of “rights” assigned by the state, would not be able to sell as pollution. In contrast, they would have to pay high fees for pollution discharging into the environment. The level of fees represents the cost for companies, and may affect the incentives to reduce environmental pollution. Introduction of pollution rights trading creates the situation that the pollution takes the form of good, which naturally can be traded, thus, a polluter on local and international markets can generate high financial benefits. At the same time, the company in the same or even greater extent continues to discharge harmful substances into the environment. The paradox of the pollution trading allowance issue is particularly relevant for developing countries such as Serbia. Comparable to developed countries, Serbia has a lower contribution to environmental pollution, and in consequence, in the process of joining the EU, these aspects must be taken into account.

## **CONCLUSION**

Regulation related to environment protection in Serbia is a comprehensive, harmonized and mutually agreed to key principles and guidelines adopted in the EU. The process of adjusting regulations has been intensively carried out in the year 2009. The system of raising funds for environmental protection and use of natural resources, values and capital in Serbia is based on the principles of «user pays», while for the damage caused to the environment the principle is «polluter pays». The amount of funds invested in environmental protection through the budget expenditures are relatively modest, amounting to an average of 0.3 percent of GDP. In Serbia, there is no developed system of comprehensive monitoring and integration of databases on environmental protection expenditure, invested by public and private companies.

Pollution rights trading can be analyzed from the point of paradox, which is in the very core of that trading. The paradox lies in the fact that the “product” pollution becomes a commodity in the form of “pollution rights”, which can be traded on financial markets and which can gain benefit to the polluter.

## **References**

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