Analysis of the Formation and Allocation of Resources Directed at Funding Environmental Projects and Programmes (EPP)

Ionel BOSTAN¹, Cristina Mihaela LAZĂR², Ioan HURJUI³, Nicoleta ASALOȘ⁴

¹Faculty of Law and Administrative Sciences, Stefan cel Mare University, Universității 13, Suceava 720229 Romania, ionel_bostan@yahoo.com or ionel.bostan@fdsa.usv.ro

²Faculty of Economic Sciences, Ovidius University, Universității 1, Constanța 900527, Romania, lazarcristinam@yahoo.com

³Faculty of Economic Sciences and Public Administration, Stefan cel Mare University, Universității 13, Suceava 720229 Romania, ioanhurjui@seap.usv.ro

⁴Faculty of Economic Sciences, Ovidius University, Universității 1, Constanța 900527, Romania, nasalos20@gmail.com

Abstract: After signing the Treaty of Accession to the European Union (2005), Romania has enforced the obligations assumed as concerns the environment, all the while trying to identify and attract additional sustainable funding sources in order to develop wide scope projects and programmes. Therefore, the Romanian legal system has instituted a special mechanism for the formation and allocation of resources for funding environmental projects and programmes (EPP), by applying the “the polluter pays” and “extended producer responsibility” principles. We are here referring to the Environment Fund Budget, regulated since 2005 and the focus of the present endeavour. In this respect, we will resort to the most recent professional literature available in the field and to the current regulatory framework, in order to conduct certain relevant analyses related to the mentioned mechanism, all the while bringing forward the issue of the recent financial developments, based on the officially confirmed data and indicators. Also, we indicate the current (minimum) objectives of recovery / incineration in incineration plants with energy recovery and recovery through recycling, global and by type of packaging materials. In the last part of the paper, we offer the formulas used in establishing the taxes and contributions due to the Environmental Fund, striving to make a presentation as unified and documented as possible.

1. Introductory remarks

In light of the importance of the environment for the quality of life or present and future generations, Romania has constantly focused on diminishing the delays recorded in environment infrastructures, both in terms of quality and quantity. As a matter of fact, the compliance with the European standards, the protection and improvement of the quality of the environment and of the standard of living have been constant concerns that have mostly developed after signing the Treaty of Accession to the European Union (2005). The topic we have focused upon, that of mankind’s fundamental right to a healthy and ecologically balanced environment, mentioned in the rather complex regulations of most states worldwide (Prieur, 2004; Iancu, 1998; Guillot, 1998; McEldowney, 2001; McGillivray, 2002; Neuray, 2001; Duțu, 2008; Lupan, 2009; Ignătescu, 2013), has been approached by various researchers with different specialities. When tackling environmental issues, strictly in the case of Romania (in a European context) we have identified several significant scientific papers on the topic (Teodoroiu, 2009; Bădescu, 2011; Boroi & Gorunescu, 2007; Dușcă, 2009; Marinescu, 2010; Minea, 2008), based on which we have developed the references for the present study. Additionally, we have seen that in many of the studies we have referred to, including reports, statistical surveys and publications of certain institutions and organisations concerned with environmental issues, climate change or agriculture and sustainable development, there are visible warning signals concerning the need to solve the financial problem affecting the implementation of efficient policies/strategies concerning the protection of the environment (Rotaru, 2013; Câmpeanu, 2009; Tache & Tache, 2011; Radulescu et al., 2012; Bostan, 2011, Burciu et al., 2010; Onofrei & Bostan, 2013). This is the very reason why our research will particularly emphasize a special budget related instrument – the Environment Funds (EF) – legally established by the Romanian government, and subsequently underline certain aspects we believe are important. Moreover, we should specify that the creation of that particular instrument is not sufficient, and environmental policies should be closely related to and conditioned by economic, administrative, financial and legislative policies, a correlation which is based on a national and international co-interest, as it involves both theoretical and practical concrete relations (Dogaru, 2007). This is the only way to better monitor certain disparities and phenomena related to the green domain (Figures 1 and 2), augment the strengths and attempt to promptly diminish the weaknesses.
Since environment protection tasks and policies are rather different and very complex, the main responsibilities are assigned to the Executive of each EU member state, as well as to the specialised national and local authorities.
2. The adoption of a special mechanism for the generation and allocation of resources for funding environmental projects and programmes (EPP) in Romania

The Environment Fund (EF) was created after signing the Treaty of Accession to the European Union (2005) as justified by certain European reasons that enforce the application of the “polluter pays” and “extended producer responsibility” principles in the Romanian regulatory framework (GR, 2007, 2011; Burciu et al., 2010). The fund is regulated by OUG no. 196/2005, approved by Law no. 105/2006, which, in turn, was subsequently changed and completed (PR, 2006). The management, execution and control responsibilities in this respect are assigned to a central government institution – The Environment Fund Administration (EFA) (GR, 2006; AFM, 2018), which is a public organisation coordinated by the Ministry of the Environment and Climate Change and entirely self-funded. The activity of EFA mainly consists in collecting, recording, financially inspecting and recovering the debts of the special budget of this fund. The role of the EF, in agreement with the National Strategy for Sustainable Development that establishes the precise objectives for the “transition, within a reasonable and realistic period, to the development model that generated high added value, impelled by the interest in knowledge and innovation, oriented towards the constant improvement of people’s quality of life and of the relationships between them, in agreement with the environment, is to encourage investments in state-of-the-art environmental technologies.” (GR, 2007).

2.1. The development of the EF

The annual income of the EF consists in the taxes and contributions paid by polluters. In 2018, these revenues were made up of most of the receipts returned in Table 1.
Table 1. Fiscal revenues owed to the EF (GR, 2018)

<table>
<thead>
<tr>
<th>No.</th>
<th>Specification / Name</th>
<th>Sums (thousand lei)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A 3% contribution from the receipts from the sale of ferrous and non-ferrous metal waste, including the goods for dismantling, made by the waste generators, i.e. the owner of the goods.</td>
<td>65 040</td>
</tr>
<tr>
<td>2</td>
<td>The taxes levied for pollutants in the atmosphere, owed by the economic operators with stationary sources whose use affects environmental factors.</td>
<td>7 652</td>
</tr>
<tr>
<td>3</td>
<td>A contribution of 2 lei/kg, owed by business units that introduce packages and packaged goods on the domestic market, for the difference between the quantities of packaging waste related to the recovery or incineration objectives.</td>
<td>64 800</td>
</tr>
<tr>
<td>4</td>
<td>A 2% contribution from the value of the substances legally classified as hazardous for the environment, introduced on the domestic market by economic operators.</td>
<td>12 475</td>
</tr>
<tr>
<td>5</td>
<td>A 2% contribution from the receipts from the sale of wood and/or wood products, gained by the administrator or the owner of the forest respectively, except for fuel, ornamental trees, Christmas trees, willow and seedling.</td>
<td>51 527</td>
</tr>
<tr>
<td>6</td>
<td>A contribution of 2 lei/kg for tires, owed by economic operators who bring new and/or used tires for reuse on the domestic market.</td>
<td>1 723</td>
</tr>
<tr>
<td>7</td>
<td>A 3% contribution from the annual fee for managing hunting funds, paid by the managers of the respective funds.</td>
<td>1 440</td>
</tr>
<tr>
<td>8</td>
<td>The taxes levied for issued environmental licenses, approvals and authorizations.</td>
<td>136</td>
</tr>
<tr>
<td>9</td>
<td>A contribution of 100 lei/ton, owed by administrative-territorial units starting with July 1st 2010, if they do not meet their annual objective of diminishing the quantity of household and assimilable waste, collected and sent for disposal by 15%.</td>
<td>27 000</td>
</tr>
<tr>
<td>10</td>
<td>An Eco tax of 0.1 lei/piece, levied for shopping bags with an integrated or applied handle, made from non-renewable materials.</td>
<td>62 715</td>
</tr>
<tr>
<td>11</td>
<td>A 0.3 lei/kg tax, levied for oils that fall under the influence of GO no.235 (2007) on the management of used oils, to be collected starting from January 1st 2011 from economic operators tat introduce oils on the domestic market.</td>
<td>41 847</td>
</tr>
<tr>
<td>12</td>
<td>The value of green certificates not acquired.</td>
<td>455</td>
</tr>
<tr>
<td>13</td>
<td>A contribution of 2 lei/kg, due to the economic operators authorized to take over the annual obligations for the recovery of packaging waste, respectively for the management of used tires.</td>
<td>900</td>
</tr>
<tr>
<td>14</td>
<td>A contribution due to the economic operators who introduce on the national market electrical and electronic equipment.</td>
<td>13 500</td>
</tr>
<tr>
<td>15</td>
<td>A contribution of 4 lei/kg of portable batteries and accumulators, due to the economic operators who introduce these goods on the national market.</td>
<td>540</td>
</tr>
</tbody>
</table>

In the case of the 100 lei/ton contribution, levied from the administrative-territorial units starting from July 1st 2010, for failing to meet their annual objective of diminishing the quantity of household and assimilable waste, collected and sent for disposal by 15%, the payment will be levied for the difference between the quantity established as the annual objective and the quantity that was actually diminished by means of specific activities of selective recycling and the Eco tax of 0.1 lei/piece, levied for shopping bags with an integrated or applied handle, made from non-renewable materials, defined according to OUG no.196 (2005).

The budget of the Environmental Fund was designed "with deficit" (185,000 thousand lei), the total revenue being 1,044,743 thousand lei and of the expenses - 1,383,852 thousand lei (GR, 2018).
2.2. Allocation/use of the EF

The EF budget funds the activities included in the categories provided in paragraph (2) of OUG no.196 (2005), with particular focus on the financial support of a variety of projects through non-refundable financing or co-financing and the co-financing of projects funded from EU funds and/or other international funds. The final outcome (Bostan, 2011) should consist in finding solutions to improve the standard of living in local communities, in order to alleviate the air quality, to prevent the generation of waste, to promote renewable sources of energy, to act against the pollution of natural resources or noise pollution. Table 2 presents the allocation of EF for each of the most important destinations (2018).

Table 2. Allocation of the amounts from the environmental fund by priority project categories (GR, 2018)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Program</th>
<th>Crédite de angajament (thousand lei)</th>
<th>Crédite bugetare (thousand lei)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Program on improving air quality and reducing greenhouse gas emissions, using less polluting vehicles in local public transport - electric buses and trolleybuses</td>
<td>460 000</td>
<td>460 000</td>
</tr>
<tr>
<td>2</td>
<td>Program for the realization of charging stations for electric vehicles in the municipalities of county residences</td>
<td>92 000</td>
<td>40 000</td>
</tr>
<tr>
<td>3</td>
<td>Program on the development of the charging infrastructure for electric and electric hybrid plug-in vehicles at the level of motorways, European roads and national roads</td>
<td>92 000</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>The program on the installation of photovoltaic solar systems for the production of electricity in order to cover the consumption needs and the delivery of the surplus in the national network to the individual households</td>
<td>32 500</td>
<td>20 000</td>
</tr>
<tr>
<td>5</td>
<td>Program for the installation of photovoltaic solar systems for isolated households not connected to the electricity distribution network</td>
<td>230 000</td>
<td>100 000</td>
</tr>
<tr>
<td>6</td>
<td>The program on reducing greenhouse gas emissions in transport, by promoting clean and energy efficient road transport vehicles</td>
<td>70 000</td>
<td>39 000</td>
</tr>
<tr>
<td>7</td>
<td>RO-LA type transport program, to stimulate the passage of freight from road transport to rail, in order to reduce greenhouse gas emissions from the transport sector</td>
<td>20 000</td>
<td>29 000</td>
</tr>
<tr>
<td>8</td>
<td>The program regarding the financing of the NATO Center of Excellence for environmental protection, by constructing a green building whose energy consumption is almost equal to zero</td>
<td>6 000</td>
<td>6 000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1 092 500</td>
<td>679 000</td>
</tr>
</tbody>
</table>

We note that, in 2018, within the Classic Rabla Program, AFM approved 2,610 ecobonusos (unit value - 1,000 lei) for the purchase of a new vehicle whose engine generates an amount of CO2 emissions of less than 98 g / km, in regime of mixed operation (AFM, 2018). It also approved 515
ecobonuses (unit value - 1,700 lei) for the purchase of a new vehicle with hybrid propulsion system (AFM, 2018).

In general, according to the provisions of art.13, paragraph (7) of OUG no.196 (2005), the funding of the approved environment protection projects is based on the annual and multi-annual funding contracts. Most of these contracts are multi-annual (Bostan, 2011), which is why, according to the provisions of the Order of the Ministry of Finance no.1792 (2002) for the approval of the methodological standards concerning the undertaking, liquidation, ordinance and payment of the costs of public institutions (...), legal agreements will be signed in terms of the retaining loans approved in the budget for the multi-annual actions (GR, 2011). Moreover, the funding of the environment protection projects and programmes, as well as of the projects that enable the reduction of greenhouse gas emissions will be conducted in compliance with the state aid national procedures.

3. Regulatory adjustments concerning the EF status in 2013 and 2014

The recent changes made in the OUG text no.196 (2005) concerning the Environment Fund (GR, 2013), are directed at disambiguating the just and fair application of the taxes and contributions to the Fund, and are meant to correlate the legal provisions from other regulatory documents related to both the sources of income of the Fund, and the projects and programmes it finances. The newest provisions mainly concern, among others, the minimum objectives for recovery or incineration in installations that allow the recovery of the heat and the recovery through recycling, overall and per types of packaging material, starting with September 2013 (Table 3).
Table 3. The new parameters concerning the minimum objectives for recovery or incineration in installations that allow the recovery of the heat and the recovery through recycling, overall and per types of packaging material (GR, 2013)

<table>
<thead>
<tr>
<th>Recovery objective through recycling/type of packaging material (% - of the total mass of the packaging material found in the waste resulting from packaging introduced on the market)</th>
<th>Global objective for recovery through recycling$^1$(%)</th>
<th>Global objective for recovery/incineration through recovery of the heat$^2$(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardboard paper</td>
<td>Plastic</td>
<td>Glass</td>
</tr>
<tr>
<td>60</td>
<td>22.5</td>
<td>55</td>
</tr>
</tbody>
</table>

Note: $^1$The minimum percentage from the total mass of all the packaging materials found in package waste resulting from packages introduced on the domestic market; $^2$The minimum percentage from the total mass of all the packaging materials found in package waste resulting from packages introduced on the domestic market.

The taxes levied for inert and non-hazardous waste disposed of for being eventually landfilled have also been changed and, starting with January 1. 2014. On the other hand, starting with 2013, other changes also occur, related to specific calculation formulae (MMSC, 2014), that will be further described in this section.

We mention that the row of formulas (1 - 4) are rendered according to the Methodology for calculating the contributions and taxes due to the Environmental Fund (https://www.ecotic.ro/wp-content/uploads/2015/07/Ordin-578-din-2006-Metodologie-AFM.pdf).

Thus, in the case of economic operators who own stationary sources that generate pollutants in the atmosphere, with self-monitoring of the air pollutants and with records of the measurements accepted by the county agency for environmental protection, the taxes due to the EF are calculated according to the following formula:

\[ T = Q \times V \]  

(1),

where:
- \( T \) – the sum owed to the EF;
- \( Q \) – the quantity of pollutant emitted into the atmosphere, as shown in measurements and expressed in kilograms;
- \( V \) – value of the tax to be levied for each type of pollutant, according to the Annex no.1 of OUG no.196 (2005), approved with changes and
completions through Law no.105 (2006), with subsequent changes and completions.

For economic operators with stationary sources that generate air pollutants, with no self-monitoring air pollutant systems, the formula is as follows:

\[ T = Q \times Val \quad (2), \]

where:
- \( T \) – the sum owed to the EF;
- \( Q \) – the quantity of air pollutant, per type of pollutant, calculated according to formula (3);
- \( Val \) – value of the tax to be levied for each type of pollutant.

The quantities of air pollutants generated by stationary sources, is calculated with the following formula:

\[ Q = f \times A \quad (3), \]

where:
- \( Q \) – quantity of air pollutant, expressed in kilograms;
- \( f \) – the emission factor for each type of pollutant, depending on the process;
- \( A \) – the quantity of fuels, raw materials and materials used or the quantity of finished products, depending on the type of process.

Finally, as concerns the taxes for the introduction on the domestic market of new and/or used tyres for reuse, it is calculated as the product between the annual obligations to manage used tyres, against the total quantity of tyres introduced on the domestic market during the previous year, diminished by the quantity of used tyres that have been reused, recapped, recycled and/or thermally recovered and the contribution of 2 lei/kg.

The respective formula is as follows:

\[ \text{Tax} = [(Q \times Ob) - Q \text{ completed}] \times 2 \quad (4), \]

where:
- \( Q \) – quantity of new and/or used tyres for reuse introduced on the domestic market during the previous year;
- \( Ob \) – annual obligation to manage tyres, according to the Government Order no. 170/2004;
- \( Q \text{ completed} \) – quantity of tyres managed during the reporting year.
After going through the methodological changes introduced in the calculation of the taxes and contributions owed to the EF, we note that a more unitary and more documented calculation method has been developed, thus enabling payers to understand the dues to be paid for this Environment Fund.

The number of payers that are part of this category is rather large, since at the end of 2018 (AFM, 2018), the legal and natural persons included in the computerised records of AEF amounted to cca. 200,000, significantly higher every year.

4. Conclusions

The financing of the priority projects for environmental protection ensures the completion of the objectives on which European environmental policies are based, as provided in article 191 of the Treaty on the Functioning of the European Union, that sets the specific objectives and encompasses its purpose – ensuring the high protection of the environment, by taking into account the variety of the existing situations in the different regions of the EU. Since these objectives refer to the preservation, protection and improvement of the quality of the environment, the protection of people’s health, the careful and rational use of the natural resources and the promotion of international measures that tackle regional environmental problems, the member states of the EU must provide the financial support needed for environmental policies. Therefore, Romania has created the EF in this respect, on which we have this far focused our analysis. The revenues received by this fund are available to the public and consist of taxes and contributions to be levied for the general consolidated budget. The amounts collected by the EF are allocated for the financial support provided for several EPPs (the programme aimed at encouraging the renewal of the national car park, the programme for the installation of heating systems that use renewable energy, the national programme for improving the quality of the environment by expanding urban green spaces, etc.) exclusively directed at the constant improvement of people’s quality of life and the relationships between them, in harmony with the natural environment. Our estimates for the future are that we will deal with a relatively just and fair enforcement of the taxes and contributions to the EF, all the while correlating such taxes with the legal provisions from other regulations concerning both the sources of income for the budget of the fund and the projects and programmes to be financed from these sources,
this being the underlying reason why we have approached the changes occurring in the legal framework of the EF towards the end of the paper.

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