

Further options

average being 0.45%), there were no taxes on pollution and resources (EU average is 0.08%). In the same year, the environmental tax came to 9.22 % of total revenues from taxes and social security contributions (much higher than the EU average of

Pas-as-you-throw scheme and additional landfill tax to encourage waste minimisation and recycling

Landfill is the predominant means of waste management in Greece. Household collection is not widespread and the current recyclables collection system consists of the Blue Bag scheme/bring sites for glass, paper, cardboard and plastic. There is limited to no infrastructure for the source separation and collection of organic waste. Greece is currently in the process of putting into practice a tax on landfilling. This is described further below. According to modelling carried out, the level of the environmental levy is too low for the cost of recycling to be competitive in comparison to the landfill costs. Investment is needed to improve collection infrastructure which the current environmental levy does not achieve, so revenue raised could be used for this purpose. Greece could consider accompanying this with a pay-as-you-throw scheme (PAYT) in order to increase the proportion of waste that is reused

5.76 %).1

or recycled. PAYT would aim to incentivise source separation of recyclable waste and would improve the separate collection infrastructure. PAYT has been piloted in Vrilissia and Elefsina, and proposed in Voula-Vari-Vouliagmeni. A system using prepaid bags or containers (to be purchased directly from the municipality and appropriately identified/labelled) could help local authorities to overcome financial barriers in upgrading their waste fleet. Home composting bins should be available free of charge, as in the pilot PAYT program in Elefsina municipality.

The scenario results show that a PAYT would have small negative effects on GDP and employment in a scenario without revenue recycling. However, when the tax revenues are recycled back into the economy, the negative effect could be mitigated.

Examples of economic instruments

LANDFILL TAX

In 2012, a landfill tax for untreated waste to landfill was introduced through Law 4042/2012, and was meant to enter into force on 1 January 2014. However, it was never implemented, instead a series of legal suspensions occurred. It was planned to start at \in 35/tonne, increase annually by \in 5/tonne, and reach \in 60/tonne. In 2019, an Environmental Fee (\$\Pi\xi\text{E}\ighta\text{D}\text{O}\text{V}\text{IK}\text{E}\ighta\text{D}\text{O}\text{O}\text{D}\text{O}\text{D}\text{P}\text{P}\text{P}\text{E}\text{I}\text{E}\text{I}\text{O}\text{O}\text{D}\text{P}\text{P}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{O}\text{O}\text{D}\text{P}\text{P}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\text{I}\text{E}\

However, according to a new draft Greek Law, the Environmental Fee of Law 4609/2019 is proposed to be replaced by a new landfill tax which will be applied to all waste disposed to landfill, starting at epsilon15/tonne as of 01.01.2021, increasing annually by epsilon5/tonne and up to epsilon35/tonne by 2025 (further analysed in the following).

Finally, according to the recently adopted National Waste Management Plan 2020-2030 (NWMP), the following measure is set as a priority: "Modernise the existing environmental fee with the aim to provide an incentive for diversion of waste from landfilling."

How it works

The landfill tax (LFT) has been recently reintroduced, but has not yet been implemented. The major reason for this is the notion (commonly shared by the Government and other stakeholders) that the tax would impose an additional economic burden that would be politically hard to tolerate. Moreover, other reasons include:

- the infrastructure needed for source separation and recovery operations was not complete;
- it was not combined with measures to encourage different waste management or to boost recycling / circular economy/ waste management infrastructure.

The Environmental Fee of Law 4609/2019 is currently

in force for garden and park waste, and several categories of municipal waste that are disposed of to landfill. It is collected via the 'Green Fund' dedicated to financing prevention, preparation for re-use and waste recycling activities. The environmental fee is charged to the regional waste management authorities (FOSDA) or the municipal authorities and paid by households (and private companies) via the electricity bills.

In particular, the environmental fee can be reduced in relation to the progress of the implementation of the planned waste treatment plants:

- by 35% when there is an environmental permission issued for a waste treatment facility (MBT plant or/and bio-waste treatment plant);
- ▶ by 70% when there is a contract for the construction of a waste treatment facility (MBT plant or/and bio-waste treatment plant);
- ▶ by 100% when there is a waste treatment facility (MBT plant or/and bio-waste treatment plant) in operation.

The landfill tax proposed through the new draft Law 2021, as already mentioned, was proposed to start at € 15/tonne from 1st January, 2021, increasing annually by € 5/tonne and up to € 35/tonne by 2025. Moreover, according to this new draft law, a different landfill tax of € 5/tonne, increasing annually by an additional € 5/tonne is proposed for the wastes generated from the treatment of the separately collected waste in Recycling Sorting Centres, Biowaste Treatment Units or Mechanical Biological Treatment Units. The landfill tax is charged to the regional waste management authorities (FOSDA) or the municipal authorities and paid by the citizens (and private companies) via the electricity bills.

According to the new draft Law 2021 (yet to be adopted and implemented) the landfill tax revenues will be collected via the Green Fund and will be used in the following manner:

▶ 50% of the LFT revenues will be used to support the Greek municipalities to increase prevention, separate collection and recycling, as well as enhance the environment in general;

- 40% of the LFT revenues will be used to support the Greek municipalities that achieved the highest separate collection and recycling performance, as a rewarding mechanism; and
- the remaining 10% will be used to provide financing in research and technology in the field of recycling and waste management.

What it does

Landfilling is still dominant in Greece – over 80% of municipal waste is disposed of in landfills, compared to the EU average of less than 40%. Specifically, the percentage of waste disposal at landfills is consistently close to 80% (78.4% of the produced MSW for 2018) and it is far from the minimum target of 26% set in the previous NWMP for the year 2020 and even further from the corresponding EU average of 22.6% of MSW production. The existing Environmental Fee provides no serious economic incentives for households or the industry to reduce the amount of waste generated, since waste charges and landfill gate fees are flat and they are not linked to the amount of waste generated. Moreover, the proposed landfill tax (if this is adopted into new Law) is still considered to be very low (starting at € 15 / tonne) in order to be meaningful and effectively discourage the landfill of waste.

Stakeholder involvement

There is a broad range of stakeholders involved in the discussions about waste management and related economic instruments in Greece. These include:

- Producer Responsibility Schemes (PROs) such as HERRCO for packaging;
- Industry Associations such as the: Federation

of Recycling and Energy Recovery Industries and Enterprises (SEPAN), Hellenic Association of Biogas Producers (HABio), Hellenic Solid Waste Management Association (EE $\Delta\Sigma$ A), Hellenic Cement Industry Association, Association of the Greek Manufacturers of Packaging & Materials (Σ YBI Π Y Σ), Association of Hellenic Plastic Industries , Federation of Hellenic Food Industries (Σ EBT), Greek Tourism Confederation (SETE), concerned about requirements for reduction or reuse of industrial waste and any related costs;

- The Union of Municipalities (KEΔE), the Regional Waste Authorities (Φ 0 Δ ΣA) and the local authorities (who are supposed to bear the costs of a landfill tax);
- Private investors interested in building and operating waste treatment plants;
- ► Environmental NGOs (such as the Ecological Recycling Society (Mediterranean SOS, Greenpeace and WWF Greece)
- Research and Academia that have been involved in all previous public consultations.

The role of civil society has been limited to support the development and adoption of an effective policy to divert waste from landfill: mainly environmental NGOs, a limited number of companies and academics have supported the (future) adoption of economic instruments for waste management. This is also evident from the position papers/statements submitted during the public consultation periods of the proposed draft Law 2020 and the NWMP 2020-2030. Local authorities (municipalities and communities) that will be responsible for paying landfill tax (passing this tax through to households and companies) may be hostile due to political and social concerns, this instrument may bring.



EXTERNALITY PRICING FOR WATER SCARCITY - "RESOURCE COST"

In terms of externality pricing for water scarcity in Greece, there is a recent regulatory framework for the pricing of water services in Greece, which sets the definition of 'Resource Cost' and the methodology for calculating this cost

How it works

In particular, 'Resource cost' is defined as the cost of alternative water uses in case a water system is over-used, beyond its ability of natural replenishment. The methodology for the calculation of the 'resource cost' is applicable when:

- a. a groundwater body is evaluated as 'bad' in terms of water quantity, or
- b. there is inadequate coverage of water needs for human use, especially when this is due to inefficient water management.

The water management authority determines the price per cubic meter, to be paid by end users through tariffs relative to water use. There is different pricing for different types of water usage and sources (residential, industrial, agriculture, tourism, commercial, etc.).

The charge rate depends on the type of water use and on the state of the basin groundwater area.

What it does

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Stakeholder involvement

The JMD that introduced the "Resource cost" into the Greek legislation was co-signed by the Ministries of Energy and Environment, Interior, Economy & Development, Health, Finances, Infrastructure and Transportation and Agricultural Development & Food. These ministries make up the National Water Committee which was established in 2003 in accordance with the Greek transposition of the Water Framework Directive (Law 3199/2003). The aim of the National Water Committee is to develop policies for the protection and management of water resources, to monitor and control the implementation of these policies and to approve the River Basin Management Plans.

Within the Ministry of Energy and Environment the Special Secretary for Water is in charge of drafting and developing water-related policies and ensure the implementation of the Water Framework Directive.

Furthermore, in 2013 the National Water Council was established consisting of parties' representatives, organizations, public bodies, local authorities and NGOs. President of the Council is the Minister of Energy and Environment.

Finally, the water providers (regional and local) are responsible for charging and collecting the "Resource cost" from their customers. The pricing of the "Resource cost" is carried out by the Decentralized Administrations of the various regions, based on the methodology proposed in the JMD.



Stakeholders

The Greek Ombudsman: https://www.synigoros.gr/?i=stp.en

Federation of Greek Municipalities: https://kedke.gr/

Network of the Hellenic Solid Waste Management Associations

Hellenic Solid Waste Management Association: https://eedsa.gr/site/

Federation of Recycling and Energy Recovery Industries and Enterprises: https://www.sepan.gr/index.php/en/ home

Hellenic Federation of Enterprises – Business council for sustainable development: http://www.sevbcsd.org. gr/

National Water Committee: http://wfdver.ypeka.gr/en/ home-en/

Special Secretariat for Water: https://ypen.gov.gr/

Academics (universities, thinktanks research institutes, independent researchers)

National Technical University of Athens, School of Civil Engineering, Department of Water Resources and Environmental Engineering: https://www.hydro.ntua.gr/

School of Chemical Engineering, Unit of Environm. Science & Technology: https://www.uest.gr/



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¹ https://ec.europa.eu/eurostat/databrowser/view/env_ac_tax/default/table?lang=en