



POLICY BRIEF No 2019/22, MAY 2019

Is an Environmental Disaster at Attica the Only Waste Management “Solution”? Or Not?

Garyfalia-Ioanna Konstantinou

Key points

As the mass of garbage dumped in Attica’s landfills increases, almost nullifying their capacity, the Greek state is seeking for a solution, through the creation of additional landfills. Attica’s regional government proposes the conversion of some quarries in the municipality of Kropia into waste management areas. However, it seems to overlook the environmental and health dangers behind that project. The purpose of this policy brief is to highlight these risks and to propose alternative solutions, which are in line with the standards, the legislative framework of Europe and the sustainable development goals of the United Nations. Through this policy brief, the following solutions are suggested:

- Recycling and reuse.
- Composting.

Garyfalia-Ioanna Konstantinou is an undergraduate student at the International and European Studies, University of Piraeus.

Introduction

The region of Attica is facing a serious problem with waste management. Most of Attica’s waste ends up at Fili’s landfill site, which is a saturated area being the “receiver” of 95,5% of the region’s waste, with 90,53% being buried and only 7,47% being retrieved. Experts assume that the landfill site’s expiration date is due to 20202, emphasizing the urgent need of a solution. Specifically, Attica’s regional governor in collaboration with the environmental league of Attica (EDSNA) have decided to convert 3 inoperative quarries belonging to the municipality of Kropia into waste management unions. Particularly, they’re planning on configuring waste treatment plants (units of shared urban solid waste), bio-waste treatment plants, landfills and landfills for hazardous waste, where waste from South, Southeast and North Attica will arrive “relieving”, in this way, Fili’s landfill. Though, the problems this project will cause not only to the 30.307 inhabitants of the municipality, but to the entire country, are blatantly ignored.



Why is this a problem?

First of all, near the sites envisaged for the creation of waste management services, food production units operate. Apparently, in landfills a large amount of biogas is produced, which is a fuel rich in CH₄ (about 60%) and CO₂ (about 40%), releasing volatile hydrocarbons (VOC's) to the atmosphere, phenomenon which is connected with the occurrence of cancer in humans, as atmospheric pollution envenoms produced food, with carcinogenic substances. As Greece is a member in both EU and UN, such action would encroach basic directives of those international organizations. Specifically, it would deviate from Horizon 2020, the largest EU research program which aims at reinforcing innovation with one of its main goals being the protection of the environment and consequently ecological waste management. Additionally, an action like this would transgress two of the sustainable development goals of the UN:

- Goal 3 about good health and well-being: 3.9. Until 2030, reduction of deaths from chemical substances.
- Goal 12 for responsible consumption and production: 12.4. Until 2020, significant reduction of emissions of waste into air, water and soil in order to minimize their adverse effects on human health and the environment.

Moreover, the quarries are located within the A' protection zone of Mount Hymettus. Mount Hymettus is known for its flora, as it exhibits high diversity with more than 600 plant species, of which 23 are endemic. Therefore, it has been characterized, at a national level, as a special protection area. As a result, the possible implementation of the waste management plan would defy articles 4 and 13 of the Council Directive 92/43/EEC on the protection of plant species¹¹, and also article 13, parts a and c, of Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives, at no risk to water, soil, air plants and animals and no influence of a site of particular interest, respectively¹².

All the above-mentioned information indicates that Greece does not act in accordance with the objectives of both EU and UN. For instance, according to article 11 (2) (a) and (b) of Directive 2008/98/EC, about recycling and reuse targets¹³, Greece is among the few countries with the greatest deviation from the desired targets (recycling and reuse of more than 55% until 2025 and landfilling of less than 10% until 2035¹⁴), given that in 2014 surveys Greece was landfilling by 88.4% and recycling by 3,4%¹⁵, rates difficult to reverse.



	Total (million tonnes)	Landfill	Incineration	Energy recovery (%)	Backfilling	Recycling
EU-28	2 319.5	47.4	1.5	4.7	10.2	36.2
Belgium	42.8	8.2	4.3	13.6	0.0	73.9
Bulgaria	175.7	97.9	0.0	0.1	0.0	2.0
Czech Republic	19.9	17.3	0.4	5.1	29.1	48.1
Denmark	17.7	21.7	0.0	20.7	0.0	57.6
Germany	370.7	19.2	2.3	10.5	25.3	42.7
Estonia	20.7	65.6	0.0	2.5	11.9	20.0
Ireland	10.0	42.6	0.1	7.2	37.4	12.7
Greece	67.1	88.4	0.0	0.2	8.1	3.2
Spain	103.4	47.9	0.0	3.4	12.6	36.1
France	299.7	29.3	2.0	4.5	10.7	53.6
Croatia	3.5	51.1	0.0	1.4	2.0	45.5
Italy	129.2	16.0	5.2	1.6	0.2	76.9
Cyprus	1.8	58.9	0.0	1.7	25.9	13.5
Latvia	1.9	34.8	0.0	8.7	0.9	55.5
Lithuania	4.5	67.6	0.1	4.1	2.5	25.8
Luxembourg	8.5	38.3	0.0	2.5	16.0	43.3
Hungary	13.7	39.4	0.7	8.9	3.7	47.3
Malta	1.6	28.9	0.4	0.0	37.5	33.3
Netherlands	130.6	45.4	1.0	7.9	0.0	45.7
Austria	53.9	38.6	0.2	6.5	20.1	34.7
Poland	182.4	24.9	0.4	2.7	21.5	50.5
Portugal	9.9	31.8	10.0	3.1	0.0	55.0
Romania	172.2	94.4	0.0	1.3	0.6	3.7
Slovenia	5.4	9.2	0.6	4.9	33.5	51.8
Slovakia	7.1	53.8	0.8	4.4	0.0	40.9
Finland	93.3	80.9	0.5	4.8	0.0	13.8
Sweden	163.3	84.4	0.1	4.7	1.6	9.3
United Kingdom	209.0	41.5	3.6	0.9	10.4	43.6
Iceland (*)	0.5	30.7	0.0	2.7	0.6	66.0
Norway	11.7	17.9	0.5	35.8	5.3	40.5
Montenegro	1.0	98.8	0.0	0.1	0.0	1.0
FYR of Macedonia	1.5	98.7	1.3	0.0	0.0	0.0
Albania	1.2	74.8	3.1	0.5	0.0	21.6
Serbia	49.4	97.3	0.0	0.1	0.0	2.6
Turkey	79.3	70.2	0.0	0.7	.	29.0

(*) 2012.

Source: Eurostat (online data code: env_wastrt)

Recommendations

1. Recycling and reuse

Recycling and re-use can be enhanced through the innovation of “Green Points”. This term defines the configured places with appropriate building infrastructure, where the public can place recyclable, separately collected materials with the aim of recycling or reusing them. This will reduce the landfill rate to 60%. The features of a Basic Green Point should be pointed out: It is more than 3,500 square meters. Access is possible by car, as parking is available. Furthermore, it is built to accommodate waste transport vehicles. Green points can be combined with education through the creation of reception areas for various social groups with aiming at informing them of the benefits of recycling, as well as the provision of activities of waste separation, compacting and repackaging. Installation of modernization equipment is also required such as spacious, easy-to-move, closed or covered bundles, skips and containers; weighing equipment and weighbridges; compressors for larger capacity; and cutters.

As for re-use, it is proposed to include in the “Green Points” the appropriate settings and trained personnel for the separation of products that can be reused (such as clothes, furniture, books) and sold afterwards.

By implementing this idea, the target of 50% recycling and reuse will be achieved, as defined by the Directive 2008/98/EC of the European Parliament and of the Council on



waste [article 11 (2)]. At the same time, the idea will be harmonized with Directive 94/62/EC on packaging and packaging waste (article 5 and 6).

2. Composting

Composting is an aerobic biological process of degradation and stabilization of organic materials. It can be done at home through the purchase of trash compactors, where plant debris and garden residues are placed and good quality fertilizer is produced for each cultivation. This process can reduce the organic waste of the kitchen and the garden by 70-80%, something that would serve Europe's 2020 goal. Additionally, a composting unit could be built, which would handle more quantities coming from the whole region. The advantages would be plenty:

- lower investment and operating costs,
- no production of toxic gases or carcinogens, just carbon dioxide, as opposed to methane-producing landfills,
- benefits climate change and energy consumption,
- economic benefits through the sale of compost,
- increased soil fertility in Attica and reduced municipal expenditures on land improvement.

Notable for additional financial support is the application of the “polluter pays” principle, as defined in Article 14 of the Directive 2008/98/EC, in conjunction with Articles 3 and 5 of the Directive 2008/99/EC, which provide sanctions against those violating environmental legislation, as well as applications for funding from the European Commission.

Conclusion

Considering all the above, the creation of additional landfills would maximize Greece's gap with European targets and would harm the ecosystem and the citizens. The inoperative quarries of the municipality of Kropia provide a great “fit” for the consideration and exploitation of the above-mentioned recommendations, which would bring Greece closer to the standards of Europe. However, besides the “encouragement” and even enforcement of these recommendations of the EU, it would require spending time and effort to educate the Greek populace and policy makers in thinking more progressively about waste management treatment and embracing innovative solutions.



References

ECOPRESS. 2018. 7-point solution for waste management in Attica - New processing, transport and green labels - Areas and new plans| ECOPRESS. [ONLINE] Available at: <http://ecopress.gr/?p=10538>.

EKATHIMERINI. 2018. Expansion of Fili's landfill site is inevitable| Greece [EKATHIMERINI. [ONLINE] Available at: <http://www.kathimerini.gr/995488/article/epikairothta/ellada/anapofeykth-h-epektashtoy-xyta-fylhs> [Accessed 26 November 2018].

EDSNA. 2018. EDSNA. [ONLINE] Available at: <https://www.edsna.gr/>.

Hellenic Statistical Authority. 2014. Announcement of the revision of the results of the 2011 Population and Housing Census for the Resident, De Jure (registered) and De Facto population of Greece. [ONLINE] Available at: <http://www.statistics.gr/en/2011-census-pop-hous>.

ExternE - External Costs of Energy. 2015. The ExternE Methodology 2005 Update. [ONLINE] Available at: http://www.externe.info/externe_d7/?q=node/30 [Accessed 29 November 2018].

European Commission. 2014. Horizon 2020 in brief. [ONLINE] Available at: https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/H2020_inBrief_EN_FinalBAT.pdf.

United Nation-Sustainable Development Goals. 2017. Goal 3 about good health and well-being. [ONLINE] Available at: https://unric.org/el/index.php?option=com_content&view=article&id=27341:sdg-3&catid=36:sgds2016&Itemid=72.

United Nation-Sustainable Development Goals. 2017. Goal 12 about responsible consumption and production. [ONLINE] Available at: https://unric.org/el/index.php?option=com_content&view=article&id=27350:sdg-12&catid=36:sgds2016&Itemid=72.

TopoGuide. 2017. Quarries and mines in Hymettus. [ONLINE] Available at: http://www.topoguide.gr/mountains/attiki/advs_imittos/imittos_mines.php.

TopoGuide. 2018. Flora of Hymettus. [ONLINE] Available at: http://www.topoguide.gr/mountains/attiki/advs_imittos/imittos_flora.php.

Eur-Lex | Access to European Union Law. 1992. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.



[ONLINE] Available at: <https://eurlex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31992L0043>.

Eur-Lex | Access to European Union Law. 2008. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance). [ONLINE] Available at: <https://eurlex.europa.eu/legalcontent/EN/TXT/?uri=celex%3A32008L0098>.

Eur-Lex | Access to European Union Law. 2008. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance). [ONLINE] Available at: <https://eurlex.europa.eu/legalcontent/EN/TXT/?uri=celex%3A32008L0098>. [Accessed 30 November 2018].

Green Agenda. 2018. EU Waste Management (Graphics). [ONLINE] Available at: <http://greenagenda.gr/%CE%B7-%CE%B4%CE%B9%CE%B1%CF%87%CE%B5%CE%AF%CF%81%CE%B9%CF%83%CE%B7-%CF%84%CF%89%CE%BD-%CE%B1%CF%80%CE%BF%CE%B2%CE%BB%CE%AE%CF%84%CF%89%CE%BD-%CF%83%CF%84%CE%B9%CF%82-%CF%87%CF%8E%CF%81%CE%B5%CF%82/> [Accessed 30 November 2018].

Eurostat. 2014. Waste Treatment 2014. [ONLINE] Available at: https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=File:Waste_treatment,_2014_YB17.png.

YPEKA. 2015. Green Points Guide. [ONLINE] Available at: <http://www.ypeka.gr/LinkClick.aspx?fileticket=bxsDZxq9wPk%3D&tabid=898&language=el-GR>.

Citipost. 2018. Green Points. [ONLINE] Available at: <http://www.citipost.gr/en/what-we-do/greenspots/>.

Eur-Lex | Access to European Union Law. 2008. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance). [ONLINE] Available at: <https://eurlex.europa.eu/eli/dir/2008/98/oj>.

Eur-Lex | Access to European Union Law. 1994. European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste. [ONLINE] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31994L0062>.

ScienceDirect. 2015. Strategies for local authorities to achieve the EU 2020 50% recycling, reuse and composting target: A case study of England. [ONLINE] Available at:



<https://www.sciencedirect.com/science/article/pii/S092134491530094X>

EcologicalRecyclingCompany. 2013. Composting is a simple procedure. [ONLINE]
Available at:

http://www.ecorec.gr/ecorec/index.php?option=com_content&view=category&id=64&Itemid=537&lang=en.

Venngage. 2018. Compost VS Landfill. [ONLINE] Available at:
<https://infograph.venngage.com/p/59477/compost-vs-landfill>.

FusikoLipasma. 2018. Composting. [ONLINE] Available at:
<http://www.fisikolipasma.gr/kompostopoiisi>.

Eur-Lex | Access to European Union Law. 2008. Directive 2008/99/EC of the European Parliament and of the Council on the protection of the environment through criminal law. [ONLINE] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32008L0099>.

European Commission | Financial Transparency System. 2017. EU budget implemented directly by the Commission. [ONLINE] Available at:
http://ec.europa.eu/budget/fts/index_en.htm.

European Union. 2018. EUROPA.eu. [ONLINE] Available at:
https://europa.eu/european-union/index_el.

Nugent, N., 2017. The Government and Politics of the European Union. 8th ed. Red Globe Press.

Ministry of Environment and Energy. 2011. Article 09. [ONLINE] Available at:
<http://www.opengov.gr/minenv/?p=3165>.

EDSNA. 2015. Local Plan Municipality of Kropia. [ONLINE] Available at:
<https://www.edsna.gr/images/pdf/473/%CE%94%CE%97%CE%9C%CE%9F%CE%A5%20%CE%9A%CE%A1%CE%A9%CE%A0%CE%99%CE%91%CE%A3.pdf>.

Biowaste. 2011. Legislation Summarized. [ONLINE] Available at:
<http://www.biowaste.gr/site/wp-content/uploads/2011/11/BiowasteLegislation-Summarized.pdf>.

Notia.gr. 2018. In Kropia now the war on the garbage. [ONLINE] Available at:
<https://www.notia.gr/2018/10/sto-koropi-tora-o-polemos-gia-taskoypidia/>.

MyOta. 2018. Reactions and Reflections on CYTH of Kropia. [ONLINE] Available at:
<http://www.myota.gr/index.php/recycle/12692-2018-1009-05-50-21>.