

# **The plastic in the Mediterranean Sea**

**Report elaborated by journalists for journalists :**

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## 1 Introduction

This document arises on the occasion of the celebration of the 3rd Meeting of Environmental Journalists from News Agencies in the Mediterranean held in 13-14 November 2018 in Barcelona (Spain) organized by the Union for the Mediterranean and the IUCN Centre for Mediterranean Cooperation. Its objective is to provide to the journalists interested in writing about the contamination by plastics in the Mediterranean Sea a general view of the problem; and offer contacts and data on the productive sector and recycling of its products. It is not an exhaustive guide but rather a support based on the information provided by the institutions, organizations and agents related to this topic with which we have contacted. In addition, studies that they have published have been incorporated.

It is a living working document which is open to the necessary contributions -data and relevant agents from each affected country- from the environmental and scientific journalists members of the MedGreenJournalism network.

We would like to thank all those journalist that have contributed to the growth of this dossier, so far: Mohammed Addab, Arbi Fortuz, Elias Palialexis, Magali Reinert, Rehab Abdalmohsen, Kyriaki Christodoulou and Ivo Lučić. Thanks to all of them who will contribute in the future, and specially those who will find this in this document a helpful tool to make the Mediterranean a clean and healthy sea again.

## 2 Polymers and Plastics

Polymers are substances obtained primarily from petroleum, through a process called polymerization, formed by long chains of molecules denominated monomers. It can be of two types: thermostable or thermoplastic. The last are easily malleable by means of heat and/or pressure and are the most common, so at the end the name became used for all polymers: plastics. Here we will use this denomination, being it the most known.

The global annual consumption of plastic is of 300 million tons at the moment, and the polyethylene is the most common. Its annual production is of approximately 80 million tons and its principal use is packaging. The second one is polypropylene, with a production of 55 million tons. While it keeps relation with the polyethylene, this plastic can stand higher temperatures and a less cautious manipulation. They are followed by the vinyl polychloride, better known as PVC, with a production of 30 million tons as it is one of the most versatile plastics, being used to coat floors, walls and ceilings.

There are six main groups on the plastic's classification: PET, PEAD, PEBD, PVC, PP and PS. In the next picture are detailed the characteristics and differences of each one.









|                        | <br>PETE<br>Polyethylene Terephthalate | <br>HDPE<br>High Density Polyethylene | <br>V<br>Polyvinyl Chloride (PVC) | <br>LDPE<br>Low Density Polyethylene | <br>PP<br>Polypropylene and PIR | <br>PP<br>Bio-Based Biopropylene® | <br>PS<br>Polystyrene | <br>OTHER<br>Other Plastics |
|------------------------|---|--|--|---|--|--|--|--|
| <b>PROPERTIES</b>      |   |  |  |   |  |  |  |  |
| Clarity                | Clear   | Translucent  | Clear  | Translucent   | PP: Translucent<br>PIR: Opaque   | Opaque   | Clear  | Varies   |
| Moisture Barrier       | Fair to Good  | Good to Excellent  | Fair   | Good  | Good to Excellent  | Fair to Good   | Poor to Fair   | Varies   |
| Oxygen Barrier         | Good  | Poor   | Good   | Poor  | Poor   | Poor   | Fair   | Varies   |
| Distortion Temperature | 145°F   | 160°F  | 150°F  | 160°F   | 212°F  | 160°F  | 150°F  | Varies   |
| Rigidity               | High  | Moderate   | High   | Low   | Moderate   | Low  | High   | Varies   |
| Resistance to Impact   | Excellent   | Excellent  | Good   | Excellent   | Fair   | Fair to Good   | Poor   | Varies   |
| Resistance to Cold     | Good  | Excellent  | Fair   | Excellent   | Poor to Fair   | Excellent  | Poor   | Varies   |
| Resistance to Sunlight | Good  | Fair   | Poor to Good   | Fair  | Fair   | Fair   | Poor to Fair   | Varies   |
| Resistance to Acids    | Fair  | Good   | Good   | Medium  | Good   | Medium   | Medium   | Varies   |
| Resistance to Alcohol  | Good  | Good   | Very Good  | Good  | Good   | Good   | Fair   | Varies   |
| Resistance to Alkalis  | Poor  | Very Good  | Good   | Very Good   | Very Good  | Very Good  | Good   | Varies   |
| Resistance to Solvents | Good  | Poor   | Good   | Poor  | Poor   | Poor   | Poor   | Varies   |

Figure 2. Comparative table of thermoplastics (Source: <https://allamericancontainers.net/helpful-hints/resin-comparison-chart/>)  
A bit of extra information (source: <https://www.rotogal.com/tipos-de-plasticos-cuantos-existen-y-como-se-clasifican/>)

## **PET. Polyethylene terephthalate**

A plastic type, mainly used in drinks containers and textiles.

Some properties:

1. High transparency- admits colorants
2. High resistance
3. Good barrier to CO<sub>2</sub> and humidity
4. Compatible with other materials
5. Recyclable
6. Low weight
7. Impermeable
8. Approved for alimentary contact

## **HDPE. High Density Polyethylene**

Thermoplastic polymer constituted by ethylene units.

Properties:

1. High chemical and temperature resistance
2. Impact resistance
3. Solid, colourless
4. Easy processing
5. Flexible but rigid
6. Lightweight
7. Impermeable and hygienic
8. Resistant to water, acids and several dissolvent

## **LDPE. Low Density Polyethylene**

Thermoplastic polymer constituted by ethylene units.

Properties:

1. High chemical and thermic resistance
2. Impact resistance
3. Easy processing
4. Higher flexibility than HDPE
5. Colourless or opaque, depending on thickness
6. Difficult to print, paint or glue on the surface

## **PVC. Vinyl Polychloride**

The most versatile of all and constituted by a combination of chlorine and carbon

Properties:

1. Rigid or flexible, depending on the process of production
2. Malleable, high resistance to environment
3. Low density, high resistance to impact and abrasion
4. Stable and inert, hygienic
5. Does not burn easily
6. Isolate electric wires effectively
7. Low cost installation

8. Corrosion resistance
9. Recyclable

### **PP. Polypropylene**

It is a thermoplastic polymer obtained by the polymerization of propylene

Properties:

1. Repeated use resistance
2. Chemical resistance
3. Boiling water resistant
4. Load resistant
5. Detergent resistance
6. Low cost, malleable, easy to colour
7. Good thermic stability

### **PS. Polystyrene**

A thermoplastic polymer obtained by the polymerization of styrene

Four different types:

- Crystal PS: rigid, transparent, breakable
- High impact PS: strong material
- Expanded PS: lightweight
- Extruded PS: like expanded PS, but denser

Other plastics. Usually composed by mixed plastic products, not always known.

There are several more types of plastics. For more information:  
<https://www.plasticseurope.org/es/about-plastics/what-are-plastics/large-family>

## **3 Plastic production in the Mediterranean basin**

The plastics industry is composed of:

- producers of raw materials (which mainly produce plastic pellets or pellets, ie the raw material with which products are then manufactured);
- converters (those that transform these pellets into a finished product - like a bottle - or semi-finished - as automotive components);
- plastic waste recyclers and machinery manufacturers.

It directly employs more than one and a half million people throughout Europe, who work in more than 60,000 companies (the vast majority are SMEs), according to information from PlasticsEurope.

The same sources reflect that the production of plastics in Europe increased in 2016 -the last year of which they have figures- with respect to the previous year, going from 58 million tons to 60 million tons, of which 49.9 million tons are transformed to meet European demand, which is shared between Italy (14.2 percent), France (9.6 percent), Spain (7.7 percent) and Greece (just over one percent) ), among others.

Of them, the following quantities of each of the types of plastics are produced:

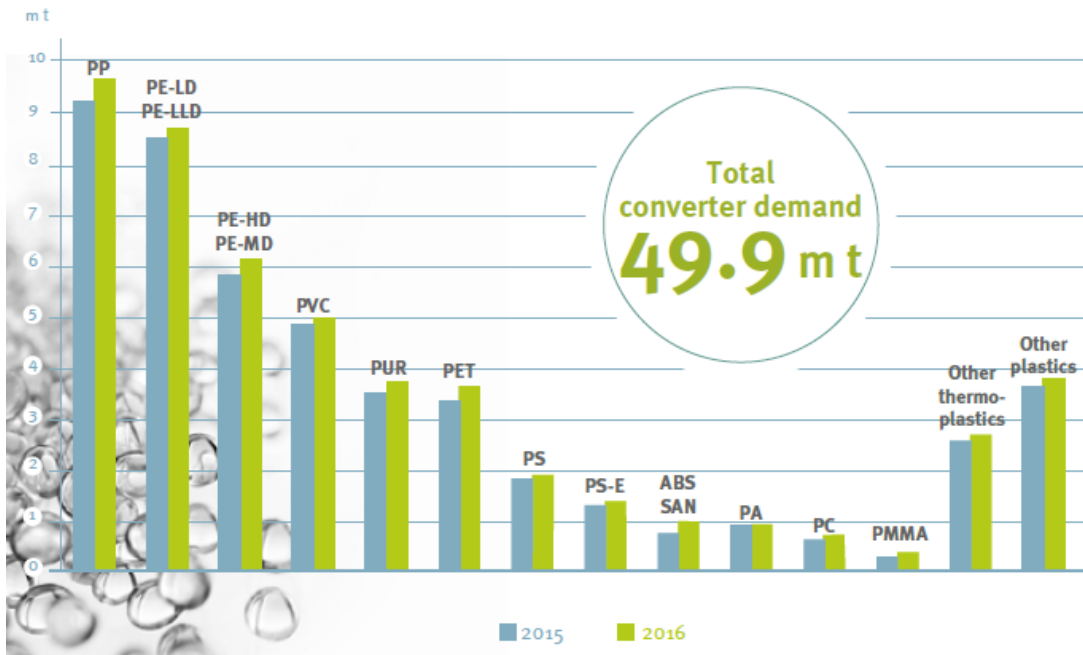


Figure 3. Plastic demand in Europe according to type of plastic (Source:

[https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics the facts 2017 FINAL f or\\_website\\_one\\_page.pdf](https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics_the_facts_2017_FINAL_f or_website_one_page.pdf)).

It should be mentioned that not all the plastic produced in Europe is transformed into the continent -part of it is exported, for example-, nor that all the processed products are of European origin:

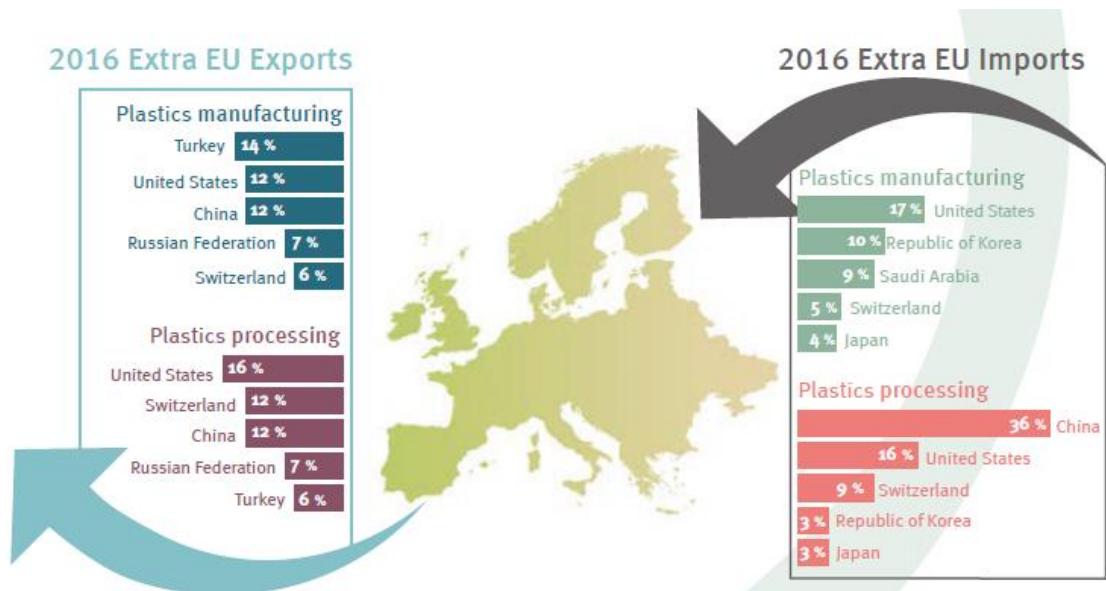


Figure 3. Exports and imports of plastics in Europe, in percentages on total data (Source: [https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics the facts 2017 FINAL f or\\_website\\_one\\_page.pdf](https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics_the_facts_2017_FINAL_f or_website_one_page.pdf)).



Spain is among the ten leading producers and consumers of plastic raw materials worldwide: according to data provided by ANAIP (Spanish Association of Plastic Industries), 3.84 million tons of plastics are consumed as raw materials for their transformation into products such as:

- Packaging and packaging: 40%
- Construction: 20%
- Agriculture: 8%
- Industry: 32%

The sector of the production and transformation of Spanish plastics generates an annual turnover of approximately 16,000 million euros and generates nearly 69,000 jobs.

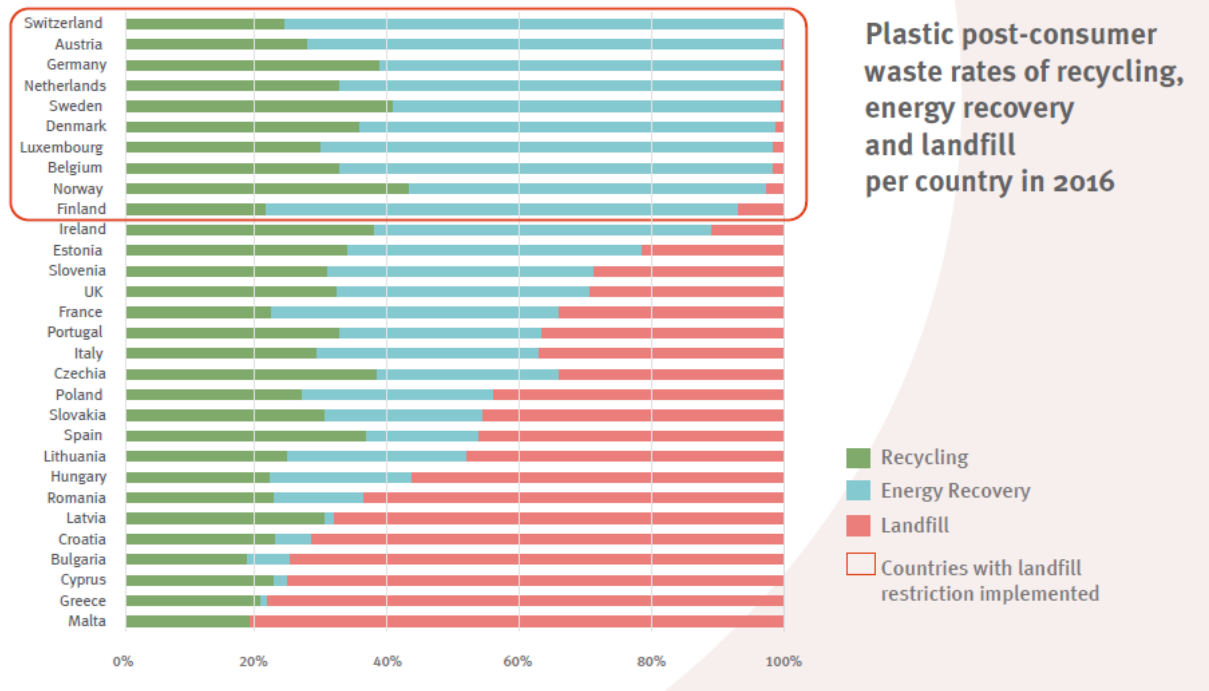
The Strategy of Plastics of the European Commission has made the industry try to increase the circularity of plastics. This means using more recycled plastic as raw material for the production of plastics, so the companies that produce plastic raw materials are investing in the recycling sector to avoid being displaced, according to some industries.

Regarding non-EU countries such as Turkey, the Turkish Plastic Industry Foundation (PAGEV) points out that the Turkish sector produces nine million tons a year and 35,000 million dollars, with an average annual increase of 12% in the last 10 years.

According to the journalist **Mohamed Addab (from Algerian News Agency)**, the number of companies activating in the field of plastic transformation in Algeria is 3,559 enterprises. The import of finished plastic products in Algeria has been banned since the end of 2017. Algerian banks are instructed to no longer allow imports of garbage bags, glasses and plastic cups, boxes, boxes and crates, plastic trays, knives plastic spoons, forks and spoons, food packaging bags, etc.

## **4 Management and recycling of plastic waste**

At European level, of the nearly 50 million tons of plastic products that were produced in 2016, 27.1 million tons were collected, according to sources consulted by PlasticsEurope. They also highlight that the destination of the plastics collected depends on the countries, although most of it goes to landfills, the actual recycling of these products is even lower. Another alternative is to use waste as an energy source.



**Figure 4.** Destinations of returned plastics, according to European country (Source: [https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics\\_the\\_facts\\_2017\\_FINAL\\_for\\_website\\_one\\_page.pdf](https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics_the_facts_2017_FINAL_for_website_one_page.pdf))

Waste management in Turkey, according to the PAGEV, is the responsibility of the municipalities, which use different methods of collection and management of these. In its interest to join the EU, it tries to implement a common national system, which is partly financed by European funds. A study on the current status of the issue and numerical data on waste management can be found in this [link](#).

**Ivo Lucic from the Croatian News Agency** points that only 17 percent of the waste is recycled in Croatia, according to the Croatian Member of the European Parliament Davor Škrlec, while Communal Waste Report for 2017 says 18 percent. Approximately 200 million plastic bags are produced annually in Croatia, only about 1% has been recycled according to Friends of Earth Croatia. During the year 2016, 54,700 tons of packaging waste were placed on the market, 22,300 tons of them or 41 % were recycled in Croatia, according to the Croatian Chamber of Economy.

Regarding countries in northern Africa with Mediterranean coast, such as Libya and Egypt, the German consultancy Retech has produced reports on waste management in past years, but can be used to estimate the current status:

- [https://www.retech-germany.net/fileadmin/retech/03\\_themen/themen\\_internationale\\_zusammenarbeit/themen\\_informeller\\_sektor/Valuing\\_Informal\\_Integration.pdf](https://www.retech-germany.net/fileadmin/retech/03_themen/themen_internationale_zusammenarbeit/themen_informeller_sektor/Valuing_Informal_Integration.pdf)
- [https://www.retech-germany.net/fileadmin/retech/05\\_mediathek/laenderinformationen/Marokko\\_R](https://www.retech-germany.net/fileadmin/retech/05_mediathek/laenderinformationen/Marokko_R)

- [https://www.retech-germany.net/fileadmin/retech/05\\_mediathek/laenderinformationen/Algerien\\_RA\\_ANG\\_WEB\\_0\\_Laenderprofile\\_sweep\\_net.pdf](https://www.retech-germany.net/fileadmin/retech/05_mediathek/laenderinformationen/Algerien_RA_ANG_WEB_0_Laenderprofile_sweep_net.pdf)

In Algeria, plastic waste represents 17% of the total volume of waste -which reached 13 million tonnes in 2017-, and 50% of plastic waste is recycled, according to journalist Mohamed Addab. The activity of recovery and recovery of waste is likely to bring 38 billion DA annually. Under the National Household Waste Program, 177 landfill sites, 16 sorting centers and 5 landfills were created. The ethylene terephthalate (PET) product line, such as plastic bottles, generates in Algeria a waste volume of around 350,000 tonnes / year, and its recycling can generate a total of 7,600 jobs.

#### 4.1 Code of Identification of Plastics

There is a Code of Identification of Plastics, a system used internationally in the industrial sector since 1988, to distinguish the composition of resins in packaging and other plastic products according to their capacity to be recycled according to their composition. The different types of plastic are identified with a number from 1 to 7 located inside the classic recycling sign (triangle of arrows in tracking):



From 1 to 6 can be recycled; the 7, which usually consist of mixtures of plastic products not always known and are not recycled.

Examples of packaging and products according to their code:



Figure 5. Category of the plastic according to its composition (Source: <http://www.ecores.com.mx/el-reciclaje-del-plastico/>).

Each type can be converted into other products:

1. PET (Polyethylene terephthalate). PET is mainly used in the production of bottles for beverages. Through its recycling, we mainly obtain fibers for stuffing sleeping bags, carpets, ropes and pillows.

2. HDPE (High density polyethylene). HDPE is normally used in containers of milk, detergent, motor oil, etc. The HDPE after recycling is used for pots, garbage containers and detergent bottles.

3. PVC (polyvinyl chloride). PVC is used in shampoo bottles, cooking oil containers, service items for fast food houses, etc. PVC can be recycled as drainage and irrigation pipes.

4. LDPE (Low density polyethylene). The LDPE is in supermarket bags, bread, plastic wrap. The LDPE can be recycled as supermarket bags again.

5. PP (Polypropylene). The PP is used in most containers for yogurt, sorbets, bottle caps, etc. The PP after recycling is used as plastic joists, steps for drainage records, car battery boxes.

6. PS (Polystyrene). The PS is found in disposable cups of hot drinks and meat trays. PS can be recycled into plastic joists, boxes of cassette tapes and pots.

7. OTHERS. It generally indicates that it is a mixture of several plastics. Some of the products of this type of plastic are: bottles of ketchup to squeeze, dishes for microwave ovens, etc. These plastics are not recycled because it is not known with certainty what type of resins they contain.

## Plastic Resin Identification Codes















| <br>PETE | <br>HDPE | <br>PVC | <br>LDPE | <br>PP      | <br>PS                             | <br>OTHER   |
|---|---|--|---|---|---|--|
| <b>Polyethylene Terephthalate</b>   | <b>High-Density Polyethylene</b>  | <b>Polyvinyl Chloride</b>  | <b>Low-Density Polyethylene</b>   | <b>Polypropylene</b>  | <b>Polystyrene</b>  | <b>Other</b>   |
| Common products: to-go containers, cups, jars, trays, soda & water bottles                  | Common products: grocery bags, milk jugs, flower pots, detergent & shampoo bottles          | Common products: pipe, pool liners, siding, automotive product bottles, sheeting           | Common products: bread bags, paper towel overwrap, squeeze bottles, trash bags              | Common products: yogurt tubs, cups, twine, straws, hangers, shipping bags, non-woven bags       | Common products: to-go containers, razor handles, flatware, CD cases, hot & cold cups, foam packing, trays, egg cartons | Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; multi-layer packaging, bottles, safety glasses, CDs, lenses, pouches |
| Recycled products: clothing, carpet, clamshells, soda & water bottles                       | Recycled products: detergent bottles, flower pots, crates, pipe, decking                    | Recycled products: pipe, siding, binders, carpet backing, flooring                         | Recycled products: trash bags, decking, furniture, shipping envelopes, compost bins         | Recycled products: paint cans, speed bumps, auto parts, hangers, plant pots, toothbrush handles | Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers                   | Recycled products: electronic housings, auto parts   |
|          |          |         |          |             |                                    |   |

Figure 6. Summary table of the type of recycling and the possible resulting products (Source: Association of Plastic Recyclers, USA).

## 4.2 Some innovative recycling projects

According to the Plastic Technology Institute, the industry is promoting R & D lines to improve the sustainability of products and processes, sometimes with LIFE grants from the European Commission.

One of the projects has already been completed: the road section of the Community of Madrid (Spain) paved with a more resistant mixture than conventional asphalt made with plastic waste from hangers, plugs, containers or tires.

Other investigations in process are:

- Incorporate recycled material into food packaging to meet food safety standards.
- Incorporate remains of fish, bird feathers, whey, bread clippings, citrus residues and even horticultural crops as new resources in the form of packaging, such as edible coatings or additives to manufacture flame retardant plastics.
- Containers that extend the life of food and are biodegradable
- Advanced recycling technologies that allow the industry to recover from printed films to containers that have contained hazardous products for subsequent recycling and use in new containers.

## 5 Plastic as Marine Litter

According to WWF data, Europe is the second global producer of plastics (after China), dumping from 150,000 to 500,000 tons of macroplastics (equivalent to 66,000 waste trucks) and from 70,000 to 130,000 tons of microplastics ending in the Mediterranean Sea and other European seas every year. They come mainly from Turkey and Spain, followed by Italy, Egypt and France.

According to [European Union estimations](#), plastics conform more than 80% of marine litter on Europe's beaches and seas, and 70% of them are single-use plastic products and abandoned fishing gear. Precisely, in the Mediterranean Sea the average plastic density is one fragment by each 4 square meters, like the known plastics islands of the Pacific, according to Greenpeace. This turns the Mediterranean Sea in the European sea with higher quantities of marine litter, and among them plastic waste.

Features of the Mediterranean Sea (data by UNEP/MAP, 2011; Eurostat 2017):

- The coast zones of the region have a high-density population, with 427 million inhabitants (approximate the 7% of the world's population)
- Attracts a great number of tourists in the summer (25% of annual international tourism).



- Large amount of commercial and leisure marine traffic (30% of global marine traffic goes through the Mediterranean Sea).
- The basin water has a permanence time of about 100 years (Ramirez-Llondra et al., 2013; Cózar et al., 2015; Tubau et al., 2015), being it a semi-closed basin with a limited communication with the Atlantic Ocean.

Greenpeace reminds that plastic waste is found in the sediments of the Mediterranean Sea, on the rocky marine floor, beaches, in the water columns and consumed by marine organisms. Although, it is not distributed uniformly, as they tend to accumulate near the coast, particularly urbanized zones, commercial or leisure routes and submarine canyons.

## 6 Invisible Plastics: Microplastics and Nanoplastics

According to Greenpeace sources (“A Mediterranean Full of Plastics”: <http://archivo-es.greenpeace.org/espana/Global/espana/2017/documentos/oceanos/Mediterranean%20plastic%20report-engLR.pdf>), between 21% and 54% of the microplastic particles in the world are in the Mediterranean basin. It is estimated there are 1.25 million fragments per kilometer, a concentration almost four times bigger than in the “plastic island” of the North Pacific Ocean. According to WWF sources, the quantity is increasing. The same sources are echoing studies that point how more than 80% of the plastics in the collected Mediterranean samples were microplastics.

Within the last years, the focus of plastic pollution has been shifted from macroplastics (less than 5mm) and nanoplastic (10-100 nm): despite their small size, they have an enormous surface area, bearing the potential to bind an even bigger amount of toxic compounds than the bigger pieces and because of this are found along all the food chain, including humans, according to the WWF’s report. Nanoplastics have the potential to spontaneously overcome natural biological barriers, such as cell membranes. This is disturbing if we take into consideration [the results of a recent pilot study](#) that analyzed human feces samples from countries as United Kingdom, Italy, Russia and Japan, among others, and discovered Vinyl Polychloride (PVC), polypropylene, polyethylene terephthalate and another dozen of plastics particles.

Recent study about this topic (Jan 2018): [Microplastics and Nanoplastics in Aquatic Environments: Aggregation, Deposition, and Enhanced Contaminant Transport.](#)

## 7 Use Limitations: Voluntary Projects

In this paragraph are listed some of the projects that different plastic stakeholders (manufacturers associations, NGO’s) have developed for decreasing their environmental impact. These are voluntary adherence initiatives, based on guidelines

that participants implement in their production plans by themselves, with no external supervision. Also there are social initiatives.

- **Plastics 2030:** Voluntary Commitment to increasing circularity and resource efficiency by PlasticsEurope. The objective is to re-use and recycling with the ambition to reach 60% for plastics packaging by 2030. This will lead to achieve the goal of 100% re-use, recycling and/or recovery of all plastics packaging in the EU-28, Norway and Switzerland by 2040.
- **#NoPlasticPollution initiative** during the Oceans' Global Day, in June 8th.
- **The Declaration of the Global Plastics Associations for Solutions on Marine Litter.** Global Plastics Associations declaration for marine litter remedies
- **ACT4LITTER.** International European delegation of the Mediterranean region, formed by governmental agencies and plastics manufacturers associations, for reducing waste's environmental impact.
- **The European Plastics Industry Circular, Economy Voluntary Commitments: Towards 50% Plastics Waste Recycling.** Voluntary adherence Project by the international association European Plastics Converters. The content consists of diverse guidelines to reach a plastic waste recycling ratio of 50% by 2040.
- **Operation Clean Sweep.** A voluntary adherence Project where plastic manufacturers commit to implement control measures to avoid pellets loss (and little plastics fragments detached during processes).
- **Producers education:** Spanish Association of Plastic Industries (ANAIP) is developing Circular Economy courses to make them accessible to the companies that conform the association.
- **#Ourocean**
- An air overflight operation of waters under national jurisdiction was launched July 2018 from Algiers as part of the Agreement for the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the adjacent Atlantic Area (Accobams) . This companion company, called the "Accobams Survey Initiative" (ASI), will provide an in-depth assessment of the density, abundance and distribution of cetaceans, marine turtles and seabirds as well as plastic bags that are real threat from the marine environment. Information provided by Mohamed Addab.

## 8 Legislation: EU and by countries

### EUROPE

Last October 24th, European Parliament supported the proposal of the European Commission to prohibit single-use plastics from 2021. Previously, October 10th, the Environment Committee of the European Parliament voted the [Directive Proposal for the Single Use Plastics Products of the European Commission](#), to reduce by half the use of the 10 plastic products that contribute the most to the marine litter (straws, cups, cutlery...). After the implementation, these products must be made



from sustainable materials and ambitious recycling ratios will be set. In the next picture are marked some examples of products and the consequent restrictions that will apply to them. This normative is framed in the [first European strategy for plastics](#) that the Commission approved at the beginning of the year. Previously, in 2013 was approved the "[Green Book for an European Strategy Against Plastic Waste in the Environment](#)".

|                         | Consumption reduction | Comercialization restrictions | Product design requisites | Market requisites | Producer extended responsibility | Separate collection goals | Awareness measures |
|-------------------------|-----------------------|-------------------------------|---------------------------|-------------------|----------------------------------|---------------------------|--------------------|
| Food Containers         | X                     |                               |                           |                   |                                  |                           | X                  |
| Drinking Cups           | X                     |                               |                           |                   | X                                |                           | X                  |
| Cotton Swabs            |                       | X                             |                           |                   |                                  |                           |                    |
| Plastic Tableware       |                       | X                             |                           |                   |                                  |                           |                    |
| Ballon Sticks           |                       | X                             |                           |                   |                                  |                           |                    |
| Ballons                 |                       |                               |                           | X                 | X                                |                           | X                  |
| Packages and Wrappings  |                       |                               |                           |                   | X                                |                           | X                  |
| Drink Containers, Plugs |                       |                               | X                         |                   | X                                |                           | X                  |
| Bottles                 |                       |                               | X                         |                   | X                                | X                         | X                  |
| Tobacco Filters         |                       |                               |                           |                   | X                                |                           | X                  |
| Hygiene Items           |                       |                               |                           | X                 | X                                |                           | X                  |
| - Wipes                 |                       |                               |                           | X                 |                                  |                           | X                  |
| - Compress              |                       |                               |                           | X                 |                                  |                           | X                  |
| Light Plastic Bags      |                       |                               |                           |                   | X                                |                           | X                  |
| Fishing Wares           |                       |                               |                           |                   | X                                |                           | X                  |

**Figure 7.** New regulations applied to plastic products, according to the proposal of the Plastic Products Directive (Source: <https://eur-lex.europa.eu/legal-content/ES/ALL/?uri=CELEX:52018PC0340>)

## **SPAIN**

Law 22/2011, July 28th 2011, about residues and contaminated soils, consider the implementation of waste deposit and return systems, of voluntary practice.

The Royal Decree 293/2018, for plastic bags consume reduction, took effect July 1st of this year. A Manufacturers Registry was created, according to the Directive 2008/98/CE.

The Technical Committee for Normalization Num. 53, of Plastics and Rubber, has activated a work group comprised by plastic bags producers, recyclers, laboratories, technological centers, universities, consumers and institutions representing the industry. It works on a standard that will include the specifications required for a plastic bag with high level of recycled material, and moreover, reusable.

## **FRANCE**

Approved by 2016 a four years plan that will ban the single use plastic products gradually. Plastic bags of less than 50 microns were the first to be banned, in the same year. By 2020, plastic cutlery, cups and packaging will be banned.

## **GREECE**

Until December 2017 the country lacked measures to stop the environmental impact of plastics. The first law on the subject was implemented in January 2018, with a tax of 4 cents of euro per plastic bag acquired on commerce. The tax will increase to 7 cents per bag in 2019. Street markets and kiosks are excluded from the normative now.

On the other hand, Greece leads the project [Life Debag](#), which goal is to achieve a plastic free Aegean Sea.

## **ITALY**

By the Law n. 123, August 3rd 2017, plastic bags use is banned for transport and conservation of aliments, introducing biodegradable substitutes that consumers have to acquire by a price between 1 and 3 cents of euro. At the beginning the law banned the reuse of bags previously bought, but such section was abolished after the social pressure.

Previously the Government approved the May 1st a law that bans the use of disposable plastics in the territory of the Tremiti archipelago, part of the Gargano Natural Park. Fines up to 500€ are contemplated for those who violate it. Plastic bags under 50 microns were banned in 2016.

## **MOROCCO**

Plastic Ecotax: January 1st 2014 a new tax came into effect, introduced by the Finances Law 2013, that taxed all plastic products (source materials and final products equally) with a 1.5% of the total value, to encourage plastic recycling.

Plastic Bags ban: July 1<sup>st</sup> 2016 Law 77-15 came into effect, banning all production, import, export, commercialization and use of plastic bags in the country. The law does not apply to isotherm, garbage and industrial or agrarian use bags.

## **ALGERIA**

According to the journalist Mohamed Addab, a study on the possibility of multiplying marine protected areas in Algeria is under way. Algeria has only two of the 1,400 km of its coastline: the island Plane, called "Paloma", which extends over an area of 4 hectares and located near the beach of Bousfer Ain El Turck (wilaya d Oran). The second protected marine area is the Habibas Islands (40 hectares), located 28 kilometers north of the Oran coast. The goal of achieving 14 marine protected areas throughout the Algerian coast by 2020.

One of the goals of these projects is to monitorize and control the amount of plastics in those areas.

## **EGYPT**

The journalist **Khalid Ghobashy from the state-run MENA news agency based in Egypt** provided the next information about the National Initiative on Reduction of Plastic Bags Consumption in Egypt. It has been launched by the Ministry of Environment on the World Environment Day on 5 June 2017. This is a partnership between the ministry, the United Nations Environment, and Center for Environment and Development for the Arab Regions and Europe (CEDARE), in the framework of SwitchMed Regional Programme, funded by the European Commission. The initiative aims to encourage Egyptians to reduce their consumption of plastic bags and to shift towards more environment-friendly alternatives in cooperation with large Fast Moving Consumer Goods chains, hypermarkets, pharmacies, and other key players via influential awareness campaigns and diverse activities.

The Initiative provides a recommendation for the policy options and measures to reduce the consumption of single use non-biodegradable plastic bags and promote other alternatives in Egypt.

The scope of the policy brief covers only the reduction of the consumption of "single-use" high density polyethylene (HDPE) plastic bags which are lightweight and of thickness below 15-50 microns used to carry goods and provided free of charge to consumers. They are single-use in the sense that they are usually used for one shopping trip, though they are often reused in the household for other purposes.

A series of consultation workshops took place during May – August 2017 to incorporate the perspectives of key stakeholders; mainly retailers, plastic bags manufacturers, raw materials importers, representatives from government, civil society organizations, and media. Further steps in the legislation of plastics are to come in the near future.

## **CROATIA**

Journalist Ivo Lucic points that the Ordinance on packaging and packaging waste will come into effect on 1 January 2019. The European Commission has pointed out in its report that Croatia is one of the members who is threatened to fail to meet the recycling target by 2020.

## 9 Stakeholders directory

### 9.1 NGO

- **Ecologist in Action:** Inform “Desengancharse del plástico”.  
[www.ecologistasenaccion.org](http://www.ecologistasenaccion.org) (+34 915 312 739)
- **Greenpeace (European Unit:** +32(0)22741900, european.unit@greenpeace.org). Last year they published “Mediterranean full of plastic. Research on plastic pollution, impacts and solutions”.
- **Friends of the Earth, Europe** (+32 (0)2 893 1010, +32 (0)485 93 05 15; Francesca Gater: francesca.gater@foeeurope.org; Paul Hallows: paul.hallows@foeeurope.org): It has launched the initiative Operation Plastic Off, the participatory campaign with actions to visualize and combat plastic pollution.
- **MIO-ECSDE (+302103247490, info@mio-ecsde.org):** The Mediterranean Information Office for Environment, Culture and Sustainable Development, is a non-profit Federation of 128 Mediterranean Non-Governmental Organizations (NGOs) for Environment and Development.
- **RETHINK PLASTIC** - Alliance of leading European NGOs, with thousands of active groups, supporters and citizens in every EU Member State. +32 (0)2 736 20 91 <https://rethinkplasticalliance.eu/>
- **SURFRIDER FOUNDATION – EUROPE** - Surfrider Foundation is a worldwide not-for-profit organization dedicated to the protection and enhancement of lakes, rivers, oceans, waves and the coastline. It gathers over 12 000 members in Europe and is represented in 9 countries through its volunteer chapters. +33 05 59 23 54 99 <https://www.surfrider.eu>
- **WWF** (Larissa Milo-Dale, Marine Communications Officer, +32 483 26 20 86): Past June, they published “[Out of the plastic trap: saving the Mediterranean from plastic pollution](#)”.
- **[#breakfreefromplastic GLOBAL MOVEMENT](#)** (Matt Franklin, matt@breakfreefromplastic.org): the global movement is working to stop plastic pollution, with environmental organisations from all around the Mediterranean. Last June, they agreed on a [manifesto](#) calling for systemic change along the whole plastic value chain to prevent plastic pollution at source. Currently they are [demanding](#) an improvement of the European Directive, with a clear definition of single-use plastics, with concrete measures to reduce these products and encourage reusable, eliminate pseudo-plastics from alternatives (such as biodegradable plastics or paper with plastic sheets in its composition), reinforcing the producer’s extended responsibility, establishing the obligation for companies to take responsibility for 100% of the environmental cost of their products, and

betting on collection measures that achieve optimal objectives, such as return systems.

## 9.2 Research centers

- **CNR, Consiglio Nazionale delle Ricerche, Consorzio Lamma (Italy)** has a large experience in developing model-based products to establish, understand and predict the debris sources, circulation, and accumulation paths as well as their variability in time and space at different scales.  
[www.cnr.it](http://www.cnr.it)
- **HCMR (Greece)** has a large experience in collecting data on macro and microplastics in the Mediterranean Sea as well as on effects of microplastics on marine biota.  
<https://www.hcmr.gr/en/>
- **IFREMER (France)** has been involved in the collection of data on macrolitter since 1994 in the Mediterranean and since microplastics, developing original methods to quantify floating debris based on the use of a wave-glider.  
<https://www.ifremer.fr/>
- **ISPRA** – The Institute for Environmental Protection and Research, Laboratory of Ichthyology and Marine ecology (Italy) has a large experience on detecting the effects of marine pollution and marine litter on marine trophic webs and fisheries resources.  
<http://www.isprambiente.gov.it/en>
- **ISOTECH – Environmental Research and Consultancy (Cyprus)** is one of the leading environmental companies in Cyprus. The firm has a dynamic involvement in environmental consulting and applied environmental research.  
<https://www.isotech.com.cy/>
- **IzVRS, Institute for Water of the Republic of Slovenia (SI)** (Eslovenia) is a leading professional body for the implementation of the Marine Strategy Framework Directive (MSFD, 2008/56/EC) and it is also leading the task on preparation of marine litter indicator and Marine Litter Watch development and promotion.  
<http://www.izvrs.si/?lang=en>
- **SOCIB (Spain)** is a large scale marine infrastructure that provide streams of oceanographic data and modeling services (ocean currents and waves).  
<http://www.socib.eu/>

### 9.3 Institutions and other entities

- **European Comission** (Enrico BRIVIO, +32 2 295 61 72, [enrico.brivio@ec.europa.eu](mailto:enrico.brivio@ec.europa.eu); Iris PETA, +32 2 299 33 21, [iris.petsa@ec.europa.eu](mailto:iris.petsa@ec.europa.eu); Tim McPHIE, + 32 2 295 86 02, [tim.mcphie@ec.europa.eu](mailto:tim.mcphie@ec.europa.eu)).  
<https://ec.europa.eu/>
- **The Union for the Mediterranean** (Isabel Pardillos, +34 935 214 198, [media@ufmsecretariat.org](mailto:media@ufmsecretariat.org)) is an intergovernmental institution bringing together the 28 European Union Member States and 15 countries from the Southern and Eastern shores of the Mediterranean to promote dialogue and cooperation (see “[PlasticBusters](#)” initiative).  
<https://ufmsecretariat.org/>
- **MedPAN**, Network of Managers of Marine Protected Areas of the Mediterranean (Magali Mabari, [magali.mabari@medpan.org](mailto:magali.mabari@medpan.org)).  
<http://medpan.org/>
- **UNEP/MAP** (+30 210 7273100) is a regional cooperative effort involving 21 countries bordering the Mediterranean Sea, as well as the European Union. Through the MAP, these Contracting Parties to the Barcelona Convention and its Protocols are determined to meet the challenges of protecting the marine and coastal environment while boosting regional and national plans to achieve sustainable development. (see Mediterranean Action Plan).  
<http://web.unep.org/unepmap/>

### 9.4 Associations and industries in plastic sector

- **Plastics Industry Society** (PLASTICS): organization that supports the entire plastics supply chain.
- The **Global Plastics Alliance** (GPA): See [The Declaration of the Global Plastics Associations for Solutions on Marine Litter](#).
- **PlasticsEurope**.
- **Plataforma Envase y Sociedad** (María Jesús Deza Cano, Digital & Public Affairs, +91 7027170 | 610 96 77 13): non-profit organization. It is made up of 46 organizations, among which are universities, research centers, technology centers, consumer associations, recycling, distribution, packaging and manufacturing Spanish entities. The common objective is to defend the function of the packaging from an environmental, economic and

social perspective, as well as to promote the sustainable use along all the package life cycle.

- **ANAIP - Spanish Association of Plastic Industries** (+91 713 08 11 comunicacion@anaip.es)
- **AVEP - Valencian Association of Plastic Entrepreneurs** (+96 351 61 59 | comercioexerior@avep.com)
- **AIMPLAS - Spanish Plastic Technology Institute** (María Llorens, Communications and Marketing Manager, +96 136 60 40, econes@aimplas.es)
- **ANARPLA - Spanish Association of Plastic Recyclers** (+96 391 95 04 | anarpla@anarpla.com )
- **CicloPlast** (Concha Ortiz, Communication Manager; 609 73 32 99 corti@iprcomunicacion.com)
- **EcoPlas - Recycled and Reprocessed enterprise -Spain-** (+96 106 40 26 [ecoplas@ecoplassl.com](mailto:ecoplas@ecoplassl.com))
- **Federación of the Marroquian Plastic Sector** (+212 (0) 5 22 66 24 58 (59) | federationdeplasturgie@gmail.com)
- **Plast Expo**: The fair with the highest affluence of North Africa, held every two years in Casablanca (Morocco).
- **CEDARE - Center for Development and Environment of the Arabica and European Region** -Egypt- ( (202) 245-13921234, [email@cedare.int](mailto:email@cedare.int)).
- **EPEMA - Egyptian Plastics Exports and Manufacturers Association** (+202-24665021, +202-24665022, [info@epema.org](mailto:info@epema.org)).
- **PAGEV- Turkish Foundation for the Plastic Industry**: [pagev@pagev.org.tr](mailto:pagev@pagev.org.tr), Phone : +90 (212) 425 13 13 - 14 - 15. It has a monitoring report on the Turkish sector:  
<https://www.pagev.org/upload/files/Hammadde%20Yeni%20Tebli%C4%9F%20Bilg.%203/Turkey%20Plastics%20Industry%20Follow-up%20Report%202017.pdf>

## 9.5 Other stakeholders by countries

### 9.5.1 Albania

- **National Agency of Protected Areas** <http://www.akzm.gov.al/us/>
- **APAWA - Association for Protection of Aquatic Wildlife of Albania** <http://www.netcet.eu/2013-01-04-21-36-00/association-for-protection-of-aquatic-wildlife-of-albania>
- **INCA - Institute for Nature Conservation in Albania** <https://www.inca-al.org/en/>
- **Ministry of Environment** <http://www.mjedisi.gov.al/>



#### 9.5.2 Algeria

- **Commissariat National du Littoral** <http://commissariatlittoral.dz/>
- **“Barbarous” association** <http://www.barbarous.org/>

#### 9.5.3 Croatia

- **Blue World Institute of Marine Research and Conservation** <https://www.blue-world.org/>
- **Sunce – Association for Nature, Environment and Sustainable Development** <http://sunce-st.org/en/>
- **Terra Hub** <https://terrahub.eu/>
- **Greenpeace Croatia / Greenpeace Hrvatska** <http://www.greenpeace.org/croatia/hr/>
- **FoE Croatia / Zelena akcija** <https://zelena-akcija.hr/en>

#### 9.5.4 Cyprus

- **Department of Fisheries and Marine Research (DFMR) – Ministry of Agriculture, Natural Resources and Environment** [http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/index\\_en/index\\_en?OpenDocument](http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/index_en/index_en?OpenDocument)

#### 9.5.5 Egypt

- **Egyptian Environmental Affairs Agency** <http://www.eeaa.gov.eg/en-us/home.aspx>

#### 9.5.6 France

- **Conservatoire du Littoral – International Unit** <http://www.conservatoire-du-littoral.fr/>
- **French Biodiversity Agency** <http://www.aires-marines.com/>
- **Mediterranean Small Islands Initiative** <http://mava-foundation.org/>
- **Medwet** <https://medwet.org/>
- **Plan Bleu** <http://planbleu.org/>
- **PlanèteMer** <http://www.planetemer.org/>
- **Septentrion Environnement** <https://septentrion-env.com/>
- **Souffleurs d’Ecume** <http://www.souffleursdecume.com/>
- **Tour du Valat** <https://tourduvalat.org/>

#### 9.5.7 Greece

- **Axios Delta Management Authority** <http://axiosdelta.gr/en/management-authority/objectives/>
- **Karpathos and Saria Protected Area Management Agency** <http://www.fdkarpathos.gr/index.php>
- **Management Body of the National Marine Park of Alonnisos Northern Sporades** <https://alonissos.gr/en/information/contact.html>

#### 9.5.8 Israel

- **Nature and Parks Authority** <https://www.parks.org.il/en/>
- **Eco-ocean** <http://www.ecoocean.org/main/>

9.5.9 Italy

- **Cetacean Studies Center** <https://www.centroricercacetacei.org/it/inside.asp>
- **General Fisheries Commission for the Mediterranean (GFCM)**  
<http://www.fao.org/gfcm/es/>
- **Interdisciplinary Study Center Gaiola onlus** <http://www.gaiola.org/Index.htm>
- **WWF Mediterranean Programme Office** <http://mediterranean.panda.org/>

9.5.10 Lebanon

- **Environment Protection Committee (EPC)**  
<https://www.daleel-madani.org/civil-society-directory/environment-protection-committee>

9.5.11 Libya

- **Environmental General Authority - EGA**  
No official website - Contact: [mustafa.ega@gmail.com](mailto:mustafa.ega@gmail.com)

9.5.12 Malta

- **Environment and Resources Authority (ERA)**  
<https://era.org.mt/en/Themes/Pages/Welcome.aspx>

9.5.13 Morocco

- **AGIR Association** <https://agir-env.org/>
- **Haut Commissariat aux Eaux et Forêts et à la lutte contre la désertification**  
<http://www.eauxetforets.gov.ma/fr/index.aspx>

9.5.14 Monaco

- **Nature Protection Association in Monaco**  
<http://www.ampn-nature-monaco.com/>
- **ACCOBAMS - Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area**  
<http://www.accobams.org/>

9.5.15 Montenegro

- **MEDCEM - Mediterranean Center for Environmental Monitoring**  
[http://medcem.org/?page\\_id=83&lang=en](http://medcem.org/?page_id=83&lang=en)
- "Posidonia Center for Development and Resources" NGO

9.5.16 Slovenia

- **Institute of the Republic of Slovenia for Nature Conservation**  
<http://www.zrsvn.si/en/>
- **Morigenos - Slovenian Marine Mammals Society**  
<http://www.morigenos.org/en/>

9.5.17 Spain

- **Fundacion Biodiversidad** <http://fundacion-biodiversidad.es/en>

- **Ministry of Agriculture, Food and Environment. General Secretariat of Fisheries** <http://www.mapama.gob.es/en/>
- **IUCN – International Union for Conservation of Nature – Mediterranean Center for Cooperation** <https://www.iucn.org/regions/mediterranean>

#### 9.5.18 Tunisia

- **APAL – Coastal Protection and Development Agency** [http://www.apal.nat.tn/site\\_web/index.html](http://www.apal.nat.tn/site_web/index.html)
- **RAC/SPA – Regional Activity Center for Specially Protected Areas** [http://www.apal.nat.tn/site\\_web/index.html](http://www.apal.nat.tn/site_web/index.html)
- **“Notre Grand Bleu” association** [https://www.facebook.com/pg/notre.grand/about/?ref=page\\_internal](https://www.facebook.com/pg/notre.grand/about/?ref=page_internal)

#### 9.5.19 Turkey

- **Mediterranean Conservation Society** <http://www.akdenizkoruma.org.tr/en/index.html>
- **SAD – Underwater Research Society** <http://sadafor.org/en/>
- **Turkish Marine Research Foundation** <http://tudav.org/en/>

## 10 Links (in order of appearance in the text)

<http://plasticos2014.blogspot.es>

<https://www.rotogal.com/tipos-de-plasticos-cuantos-existen-y-como-se-clasifican/>

<https://www.plasticseurope.org/es/about-plastics/what-are-plastics/large-family>

[https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics the facts 2017 FINAL for website one page.pdf](https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics_the_facts_2017_FINAL_for_website_one_page.pdf)

[https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics the facts 2017 FINAL for website one page.pdf](https://www.plasticseurope.org/application/files/5715/1717/4180/Plastics_the_facts_2017_FINAL_for_website_one_page.pdf)

[https://www.researchgate.net/publication/45505453 Regulation of waste and waste management in Turkey](https://www.researchgate.net/publication/45505453_Regulation_of_waste_and_waste_management_in_Turkey)

[https://www.retech-germany.net/fileadmin/retech/03\\_themen/themen\\_internationale\\_zusammenarbeit/themen\\_informeller\\_sektor/Valuing Informal Integration.pdf](https://www.retech-germany.net/fileadmin/retech/03_themen/themen_internationale_zusammenarbeit/themen_informeller_sektor/Valuing_Informal_Integration.pdf)

[https://www.retech-germany.net/fileadmin/retech/05\\_mediathek/laenderinformationen/Marokko R](https://www.retech-germany.net/fileadmin/retech/05_mediathek/laenderinformationen/Marokko_R)

[https://www.retech-germany.net/fileadmin/retech/05\\_mediathek/laenderinformationen/Algerien RA ANG WEB 0 Laenderprofile sweep net.pdf](https://www.retech-germany.net/fileadmin/retech/05_mediathek/laenderinformationen/Algerien_RA_ANG_WEB_0_Laenderprofile_sweep_net.pdf)

<http://www.ecores.com.mx/el-reciclaje-del-plastico/>

[http://ec.europa.eu/environment/waste/plastic\\_waste.htm](http://ec.europa.eu/environment/waste/plastic_waste.htm)

[https://elpais.com/elpais/2018/10/22/ciencia/1540213637\\_935289.html](https://elpais.com/elpais/2018/10/22/ciencia/1540213637_935289.html)

<https://www.ncbi.nlm.nih.gov/pubmed/29265806>

[https://www.plasticseurope.org/application/files/6115/1700/8779/PlasticsEurope\\_Voluntary\\_Commitment\\_16012018.pdf](https://www.plasticseurope.org/application/files/6115/1700/8779/PlasticsEurope_Voluntary_Commitment_16012018.pdf)

<https://www.marinelittersolutions.com/about-us/joint-declaration/>

<https://act4litter.interreg-med.eu/>

[https://g8fip1kplyr33r3krz5b97d1-wpengine.netdna-ssl.com/wp-content/uploads/2018/01/2018-01-15-09-48\\_01.pdf](https://g8fip1kplyr33r3krz5b97d1-wpengine.netdna-ssl.com/wp-content/uploads/2018/01/2018-01-15-09-48_01.pdf)

<https://www.opcleansweep.org/>

<https://eur-lex.europa.eu/legal-content/ES/ALL/?uri=CELEX:52018PC0340>

[http://europa.eu/rapid/press-release\\_IP-18-5\\_es.htm](http://europa.eu/rapid/press-release_IP-18-5_es.htm)

<https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A52013DC0123>

<https://eur-lex.europa.eu/legal-content/ES/ALL/?uri=CELEX:52018PC0340>

<http://www.lifedebag.eu/>

<http://archivo-es.greenpeace.org/espana/Global/espana/2017/documentos/oceanos/Mediterranean%20plastic%20report-engLR.pdf>

<https://wwf.fi/mediabank/11094.pdf>

<https://www.tierra.org/operacionplasticoff/>

<https://www.ecologistasenaccion.org/wp-content/uploads/adjuntos-spip/pdf/informe-plastico.pdf>

<https://www.zerowasteeurope.eu/wp-content/uploads/2017/07/MANIFESTO-OF-THE-BREAK-FREE-FROM-PLASTIC-MOVEMENT-IN-THE-MEDITERRANEAN-.pdf>

<https://actions.sumofus.org/a/european-parliament-break-free-from-plastic-oct-2018>

<http://plasticbusters.unisi.it/>

<http://web.unep.org/unepmap/who-we-are/mediterranean-action-plan>

<https://www.pagev.org/upload/files/Hammadde%20Yeni%20Tebli%C4%9F%20Bilg.%203/Turkey%20Plastics%20Industry%20Follow-up%20Report%202017.pdf>

## 11 Relevant documents

- Greenpeace:  
<http://archivo-es.greenpeace.org/espana/Global/espana/2017/documentos/oceanos/Mediterranean%20plastic%20report-engLR.pdf>
- WWF: <https://wwf.fi/mediabank/11094.pdf>
- Circular Economy and plastic (in Spanish):  
[http://economiacircular.org/wp/wp-content/uploads/2018/11/20181116\\_Documento-de-Posici%C3%B3n-sobre-Pl%C3%A1sticos\\_FEC.pdf](http://economiacircular.org/wp/wp-content/uploads/2018/11/20181116_Documento-de-Posici%C3%B3n-sobre-Pl%C3%A1sticos_FEC.pdf)

## 12 ANNEX

Articles sent by several collaborators

### 12.1 “Environnement: des dispositifs concrets pour le traitement des déchets en plastique” by Mohammed Addab

# Environnement: des dispositifs concrets pour le traitement des déchets en plastique

Publié Le : Jeudi, 24 Mai 2018 17:55



Photo APS

**ALGER - La ministre de l'Environnement et des énergies renouvelables, Fatma Zohra Zerouati, a affirmé jeudi à Alger que son département a mis en place des dispositifs concrets pour le traitement des déchets en plastique, notamment la promulgation de lois et de nouveaux décrets exécutifs portant traitement et valorisation des déchets notamment plastiques, et qui représentent 17% du volume global des déchets, estimé de 13 millions tonnes/an.**

A la question orale du sénateur Malik Khediri, lors d'une plénière au Conseil de la nation, sur la problématique de la production et utilisation du plastique,

Mme Zerouati a fait savoir que son département œuvrait à la promulgation de deux nouveaux décrets exécutifs.

Le premier projet de décret exécutif concerne, a-t-elle précisé, le système de collecte et de tri écologique des déchets en attribuant de nouvelles licences d'exploitation aux entreprises de récupération et de recyclage des déchets en plastique, tandis que le deuxième définit les matières recyclables et les modalités d'exonération et d'allègement fiscaux au titre de l'impôt forfaitaire unique au profit des activités de collecte des déchets ménagers et assimilés.

A ce propos, la ministre a rappelé la promulgation du décret 04-210 du 28 juillet 2004 définissant les modalités de détermination des caractéristiques techniques des emballages destinés à contenir directement des produits alimentaire ou des objets destinés à être manipulés par les enfants.

En outre, un arrêté interministériel fixant les caractéristiques techniques des sacs plastiques à bretelles a été promulgué par les ministères de l'Environnement, du Commerce, de l'Industrie et de la Santé.

La première responsable du secteur a indiqué que les importants articles du décret exécutif 02-372 relatif aux déchets d'emballage visaient la mise en place d'un cadre général pour le traitement des déchets d'emballage dont les fondements sont contenus dans le décret exécutif 04-199, et ce en vue de consacrer les méthodes adéquates de récupération, de valorisation et de traitement des déchets en plastique avec la contribution de tous les acteurs de ce domaine.

### **Proposition de mesures incitatives dans le projet de loi de Finances 2019 pour la production de sachets alternatifs**

La ministre a fait état d'un travail visant à introduire, dans le projet de loi de Finances 2019, de nouvelles mesures incitatives encourageant la production de sachets plastiques biodégradables.

Evoquant un protocole d'accord entre les représentants des producteurs de sachets en plastique et le ministère de l'Environnement pour arrêter la production et la commercialisation des sachets en plastique noirs et leur remplacement par des sachets conformes aux normes et standards de la réglementation en vigueur, Mme Zerrouati a indiqué que le dialogue se poursuit pour trouver une alternative définitive à cette problématique.

Elle a souligné, dans ce sens, que le plus grand nombre de ces producteurs travaille en dehors du cadre légal, d'où la difficulté de leur contrôle.

Par ailleurs, la ministre a mis en avant la collaboration avec le ministère de l'Intérieur dans le cadre des commissions de wilayas en charge du contrôle de la conformité de la production, de la distribution et de l'utilisation des sachets en plastique afin d'élargir leurs prérogatives à tous les types de produits en plastique.

A ce propos, elle a rappelé l'accompagnement offert par son département aux producteurs de sachets en plastique pour aller vers un produit ami l'environnement et le soutien de toute initiative pour la création d'entreprises de recyclage de produits en plastique dans le cadre d'un écosystème.

Mme Zerrouati a indiqué, en outre, que son département a, en coordination avec les secteurs concernés, mis en place au niveau de l'Institut algérien de la normalisation (IANOR), un projet de règlement technique algérien relatif aux sachets et rubans d'emballage en plastique biodégradable.

La ministre a ajouté que dans le cadre de l'application du Programme national de gestion des déchets ménagers, tous les équipements et installations nécessaires au traitement, au tri et à la mise en valeur des déchets avaient été mis en place dans toutes les wilayas du pays, faisant état de la création de 177 centres d'enfouissement technique, 16 centres de tri et cinq (5) décharges.



Mme Zerouati a rappelé la création d'une unité de récupération, de lavage et de mise en valeur des sacs en plastique usagers d'une capacité de production de 250 kg/heure au niveau du Centre d'enfouissement technique (CET) de Hamissi.

La ministre a également rappelé le protocole d'accord signé récemment entre l'Agence nationale des déchets (AND) et une entreprise canadienne filiale du groupe Divindus pour la réalisation d'un projet de tri, de transformation et de commercialisation des déchets et le développement des recherches sur l'éco-activité au profit des wilayas de Constantine et de Sétif.

Elle a, par ailleurs, indiqué que l'Algérie s'apprêtait, à l'instar de nombreux pays, à célébrer la Journée mondiale de l'environnement (5 juin) sous le thème "Combattre la pollution plastique", annonçant un riche programme de sensibilisation aux dangers de cette matière pour trouver des solutions permettant d'en limiter l'usage.

Le 5 juin, Mme Zerouati donnera le coup d'envoi de la distribution de 10.000 paniers artisanaux à travers des marchés dans la wilaya d'Alger.

Des expositions de sensibilisation seront organisées à cette occasion à travers les différentes wilayas du pays, des SMS seront envoyées aux usagers des réseaux de téléphonie mobile et des affiches publicitaires seront utilisées pour sensibiliser aux dangers de l'utilisation du plastique.

## 12.2 “Battle against plastics, Çuçi: 70% less plastic bags used than last year” by Arbi Fortuzi

# Battle against plastics, Çuçi: 70% less plastic bags used than last year

10/11/2018

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TIRANA, November 10/ATA/- Albania is pursuing a tough policy against plastic waste and especially plastic bags while since July the country has adopted a law that permanently bans their use.

Deputy Minister of Environment and Tourism Ornela Çuçi said during an interview with the Albanian Telegraphic Agency that the single-use plastic bags are almost no longer used.

“The governmental law focuses on thickness of the plastic bag. The law stipulates it is 70 microns on both sides of the plastic membrane bag, i.e. 35 microns on one side. On the other hand, the law defines the amount of bio-degrading agents that the plastic bag should have. The law also carries a very important specification according to which more than 50% of the material used in a plastic bag should be recyclable,” said Çuçi.

“Given that this product was very important in the Albanian market, we have undertaken this initiative to help the plastic bag recycling subjects. What we are currently doing is that we are getting all the relevant data and have come to the conclusion that the initiative has yielded good results. Based on the reports we have got, there are actually produced 70% fewer plastic bags. One year ago there were 5 million plastic bags used in a year, but now the number is reduced into 1 million plastic bags per year. Thus, the reduction is drastic. This happens because family members do not get any more single-use plastic bags, because they use paper bags instead, the same as used in pharmacies, or reusable shopping bags,” said Çuçi./j.p/p.s./

### 12.3 "The Mediterranean is in danger of turning into a 'plastic sea'" by Elias Palialexis

## The Mediterranean is in danger of turning into a "plastic sea"

GREECE / Tuesday 3 July 2018, 18:23:40 / Last Updated: 20:33 /  
Source: RES-MEA

Each plastic bag is used on average for less than 25 minutes. And then it is cast. However, its life span reaches 100 to 500 years before completely disintegrating. Twenty-five minutes, which have a dramatic impact on both the environment and our lives.

July 3 is set as the World Day Against the Plastic Bag. "The Mediterranean Sea has been transformed rapidly in recent years into a dangerous" plastic trap "with particularly high levels of pollution due to plastic waste, which poses a threat to marine species and human health." This is the main conclusion, concluded by a recent WWF study titled, "Saving the Mediterranean from the Plastic Trap". It has even been estimated that 1.25 million pieces of plastic per square kilometer are found in the Mediterranean Sea concentration, almost four times higher than that recorded on the so-called "plastic island" in the North Pacific Ocean. When they enter the food chain they pose a threat not only to a large number of species but also to human health.

According to the WWF study, in the Mediterranean, plastics account for 95% of the garbage found in the seas, both on the seabed and on the shores. This pollution comes mainly from Turkey and Spain, and secondly, from Italy, Egypt, France and Greece, with tourists visiting the region being responsible for the annual increase of 40% of waste which end up in the Mediterranean Sea.

As the Mesogeios SOS Network points out, on the occasion of today's global day against the plastic bag and with the central slogan "prepare to change", the European Commission is thrown into battle. The campaign follows the proposal for a new legislation that will stop marine waste at their source, targeting the 10 most common plastic products that end up in the oceans.

It is noted that 43% of marine litter consists of 10 types of disposable plastic, such as food packaging, plastic cups and beverage cans, cotton swabs, plastic saucers - forks - straws, plastic bottles, balloons, packs and plastic packaging, cigarette butts, plastic bags.

In addition, as WWF points out, large plastic pieces injure, cause suffocation and often death in marine animals, including some emblematic species that are either legally protected or in danger of extinction, such as sea turtles or marine mammals.

"The effective response to the increasing pollution of the seas requires the implementation of the Directive as a transitional stage, until the complete removal

of the plastic bag is completely abolished," which for the SOS MEDITERRANEAN NETWORK "is the only appropriate solution".

As the Network comments, unfortunately even today, six months after the first measure to reduce the use of the thinly carried plastic bag, we do not see other proposals and measures. The application proved, as the SOS MEDITERRANEAN SOCIETY has highlighted, is simply a matter of charging and collecting, and even today there is no clear commitment to making the environmental charge chargeable. Only if it is rewarding to all of us in practice will it win civil society as an ally.

It is recalled that plastic waste management and recycling are included in the National Strategy for Solid Waste and the National Strategy for the Waste Prevention Program, with Greece having to recycle 65% of plastic packaging by 2020.

Unfortunately, according to WWF, our country still has a way to go, as, as pointed out in the survey, the current solid waste management is inadequate. At the same time, the awareness of the citizens remains at a low level.

"If the increase in plastic waste continues, it will hit the global reputation of the Mediterranean as a tourist destination and as a region with a rich fishing tradition, with overwhelming consequences for the local communities that support their survival in these areas. All this should lead to immediate action to help protect the Mediterranean," said John Tanzer, head of the marine industry at WWF International.

For his part, Mr. Achilleas Piltaras, WWF Hellas, said: "In Greece, plastic pollution has just begun to enter into the domestic public debate but in a fragmented way, mainly through fragmented information actions. If we want to continue to say that we are a country with unique marine wealth,

For his part, Mr. Achilleas Piltaras, WWF Hellas, said: "In Greece, plastic pollution has just begun to enter into the domestic public debate but in a fragmented way, mainly through fragmented information actions. If we want to continue to say that we are a country with unique marine wealth and tradition, we must act directly, each one on its own. We must not let the Mediterranean and our seas drown in plastics.

### **The case of Greece**

According to the WWF study, our country consumes about 0.6 million tons of plastic per year and recycles just 20%. A survey of 80 purification items in Greece shows that the most common polluting material is plastic (43-51%), followed by paper (13-18%) and aluminum (7-12%). According to this survey, the main rubbish found on Greek beaches is cigarette filters, bottle caps, straws and stirrers, plastic bottles, food packages and natural plastic bags.

Indicative is that only 34% of Europeans say they avoided buying disposable plastic products. The percentage for Greeks is even lower and just 24%, it is an example of the fact that more effort is needed to raise awareness and take action on the part of the citizens.

How will the Mediterranean come out of this "plastic trap"?

According to the study, delays and gaps in waste management in most Mediterranean countries are the source of the problem. Of the 27 million tonnes of plastic waste produced each year in Europe (28 Member States, Norway and Switzerland), only one third is recycled. Against this background, and following the recent European Commission proposals on reducing disposable plastic, WWF confirms the disappointing situation in the Mediterranean, stressing the urgent need for immediate action by governments, businesses and citizens to the reduction of plastic waste in the urban, coastal and marine environment of the Mediterranean.

For example, WWF suggests:

- For governments: Adopt a binding international agreement on the elimination of plastic discards in the oceans with binding targets for states to achieve 100% recycling of plastic waste by 2030 and completely disposable plastics (e.g. bags, straws).
- For businesses: Invest in designing new, innovative and sustainable materials to replace plastics.
- For citizens: Do not choose products in plastic packaging, reduce disposable plastics, integrate recycling into their everyday lives and transmit the message to their fellow citizens.
- Europe of 28 together with Norway and Switzerland is the world's second largest producer of plastics, after China, producing 27 million tonnes of plastic waste each year and rejecting 150-500 million tonnes of microplastics in the Mediterranean Sea and European seas on an annual basis.

Details on the RES-EAP subscription page.



12.4 "Plastique: l'autre marée noire" by Magali Reinert

# Plastique: l'autre marée noire

Notre société produit des millions de tonnes de déchets plastiques chaque année : 3,5 millions de tonnes par an pour la seule France. Comment en est-on arrivé à un tel appétit pour ce dérivé du pétrole qui menace aujourd'hui notre santé et notre environnement ?

**I**l y eut l'âge de bronze, l'âge de fer... Notre époque, elle, mérite d'être baptisée l'âge du plastique. Depuis les années 1950 jusqu'à aujourd'hui, 8,3 milliards de tonnes ont été produites, selon une évaluation publiée dans la revue américaine *Science Advance* en juillet 2017. Et le déferlement ne semble pas prêt de s'arrêter. La production mondiale de plastique continue d'augmenter, avec 835 millions de tonnes produites pour la seule année 2016, selon Plastics Europe. Or le plastique ne se dégrade pas dans l'environnement. Les polymères de synthèse issus du pétrole ne réintégreront pas les cycles du vivant. Pire, de nombreuses particules s'avèrent toxiques pour la santé humaine et pour l'environnement. Face à l'océan de déchets plastiques que nous produisons, cette consommation sans limites apparaît contre-nature. Comment en est-on arrivé à une telle voracité de produits plastiques jetables ?

## DANS LES ANNÉES 1930 NAÎT L'IDÉE QUE JETER PRODUIT DE LA CROISSANCE

Le véritable essor du jetable remonte aux Trente Glorieuses, notamment au nom de la libération des tâches domestiques. En 1955, une couverture du magazine américain *Life* est emblématique : on y voit une famille qui jette en l'air des couverts en plastique. Les prémices de cette évolution s'étaient fait sentir avant. « Dans les années 1930 sort l'idée que remplir la charrette à ordures produit de la croissance », explique le sociologue Baptiste Monsaingeon, en citant un texte de 1932 intitulé *L'obsolescence planifiée, pour en finir avec la grande dépression*. Pourtant, « l'idée de jeter n'allait pas de soi. Dans

les grandes compagnies comme DuPont de Nemours [entreprise pionnière dans les matières plastiques], les vendeurs étaient formés à encourager les acheteurs à jeter », explique le chercheur, auteur de *Homo detritus. Critique de la société du déchet\**.

Initialement, la bakélite, ancêtre des plastiques, était vantée pour sa résistance et son immortalité. Mais rapidement, le plastique devient la matière jetable idéale : bon marché, très industrialisable et abondante (5 % de la production mondiale de pétrole suffit à la production mondiale de plastique).

## LES EMBALLAGES, CLÉ DE LA LOGISTIQUE DU TRANSPORT À GRANDE ÉCHELLE...

« Dans les années 1980, la mutation vers le tout-jetable est aussi liée à la baisse des coûts de production », souligne l'historien Manuel Charpy. La délocalisation de la production, là où la main-d'œuvre est beaucoup moins chère, a permis d'atteindre des prix suffisamment bas pour justifier le rachat plutôt que la réparation. De nombreux objets que nous utilisons « deviennent des boîtes noires en plastique scellé qui sont définitivement inutilisables dès qu'ils tombent en panne », commente Manuel Charpy.

Conçus pour être jetés, les emballages ont une grande part de responsabilité dans le gaspillage du plastique. Mais ils ne sont pas un dommage collatéral des achats, puisqu'ils sont au cœur de la consommation, comme l'explique Manuel Charpy : « L'industrie fabrique

Les emballages ont une grande part de responsabilité dans le gaspillage du plastique.





*l'image du produit à travers son emballage. Jusque dans les années 1930, la publicité montrait d'ailleurs volontiers les lieux de production. Aujourd'hui, les emballages et la publicité sont là pour raconter des histoires, qui permettent aussi de dissimuler les chemins de fabrication des produits. »*

Les images d'Épinal d'une petite ferme s'affichent plus volontiers qu'un élevage industriel sur les boîtes de produits laitiers. Les emballages sont aussi une des clés de la logistique du transport des produits. « *Les consignes marchaient dans un commerce de proximité, mais beaucoup moins avec le changement d'échelle des modes de distribution* », commente l'historien. Avec le développement du jetable, la question

du traitement des déchets devient cruciale. « *Dès les années 1970, les déchets sont devenus un problème global* », explique le sociologue Baptiste Monsaïgeon.

La responsabilité de ce lourd fardeau revient à la collectivité, qui opte pour la mise en décharge puis l'incinération. « *Mais si ces mesures permettent de rendre invisible la problématique des déchets en Europe, elles ne la règlent pas* », explique le sociologue qui pointe même que cette invisibilité a contribué à l'explosion de l'utilisation du plastique, en permettant son utilisation décomplexée.

### LA DIVERSITÉ DES MOLÉCULES REND LEUR TRAITEMENT EXTRÊMEMENT COMPLEXE

« *En même temps que le développement durable est arrivée l'idée de faire du plastique une ressource* », poursuit Baptiste Monsaïgeon. Mais

le plastique usagé n'est pas une ressource facile à traiter, car la grande diversité des molécules plastiques rend ensuite leur traitement extrêmement complexe et coûteux pour en tirer des matériaux aux propriétés intéressantes. En bref, les utilisations du plastique recyclé sont limitées.

D'ailleurs, les derniers chiffres du recyclage n'ont rien de rassurant. Car derrière les slogans vantant recyclage et

économie circulaire, la réalité est beaucoup moins verte. Pour prendre l'exemple de l'Hexagone, si on laisse de côté les bouteilles et flacons (480 000 tonnes sont recyclées), moins de 3 % des emballages plastiques (650 000 tonnes) triés ont été recyclés en 2016. Une proportion qui pourrait même baisser, puisque la moitié du plastique recyclé est traitée à l'étranger, en particulier en Chine. Or le gouvernement chinois a interrompu ce type d'importations depuis le 1<sup>er</sup> janvier. Quant à la majorité des déchets plastiques, ils finissent dans l'environnement, soit à travers les particules libérées dans l'air par les incinérateurs (environ 45 % des déchets plastiques), soit en allant grossir les décharges (le dernier tiers). Décidément, plastique jetable rime avec problème ingérable... II

MAGALI REINERT

\* *Homo detritus. Critique de la société du déchet*, Baptiste Monsaïgeon, Édition Le Seuil 2017, 19 €.

Derrière les slogans vantant recyclage et économie circulaire, la réalité est beaucoup moins verte.



**info+** Dans notre hors-série *Le Guide antigaspi* (n° 193, avril 2018, 5,90 €, à commander via la boutique pages 50-51 ou sur [60m.fr/antigaspi2018](http://60m.fr/antigaspi2018)), retrouvez nos conseils pour faire la chasse aux pertes d'énergie dans la maison, mieux connaître ce qui est recyclable ou pas, etc.





## 12.5 “The ‘80%’ project to avoid waste plastics of the Red Sea” by Rehab Abdalmohsen



*Photo rights: The Royal Marine Conservation Society of Jordan (JREDS)*

## The '80%' project to avoid waste plastics of the Red Sea

- Most plastic waste goes to the seas and oceans that cover 70% of the Earth's surface.
- They are harmful to marine ecosystems and threaten human security, and their risks have been alarming.
- An Egyptian company has launched an awareness project for Red Sea communities to reduce their landfill

Written by: Rehab AbdulMohsen

[Cairo] An Egyptian company launched a project to sensitize the communities of Red Sea cities to the damage of plastic waste to its environment.

Greenish started its '80%' project on Jan. 25, which gained its name from the fact that four-fifths of plastic waste ends up in the seas and oceans, many of which come from rivers or winds.

"Through the project, we aim to contribute to reducing the risk of plastic waste to the marine environment and humans in non-traditional ways," said Shadi Abdullah, the company's founder.

Shadi explains that plastics are not biodegradable until after a long distance, measured by centuries. They are made from petroleum derivatives, but with heat and sunlight they break into very small particles (microfluques), which are very dangerous to marine ecosystems and organisms. Humans after reaching their food chains.

According to the publication on the company's Facebook page, it seeks to achieve its goal by developing educational and awareness-based approaches that involve community members and communities in fun activities, such as games and puzzles based on information about the environment, Art of plastic waste collected from the beaches, or involved in theater performances.

Abdullah explained that the curricula are designed to suit different age groups, including children and adults, and vary according to the region. They are aimed at schools and companies in the Red Sea cities, pointing out that they have already started a number of events in the cities of Quseir, Hurghada, Sharm El Sheikh and Suez.

"Even a resident of al-Qusayr, who runs a non-governmental organization, has decided to work on a similar initiative within the activities of his association," Abdullah said.

Majdi Al-Alwani, Professor of Marine Environment at the Department of Marine Sciences at Suez Canal University in Egypt, praises the impact of such awareness initiatives, stressing the need to design the curricula in proportion to the target group and then measure the extent of the information and its impact on the ground.

"Awareness raising is very important, but it must be accompanied by legislation that supports the reduction of plastic consumption," said Mahmoud Hanafi, environmental consultant at the Society for the Preservation of the Environment in the Red Sea.

"We are trying to push for a law banning the use of light plastic bags with fish less than 25 microns in the Red Sea region," he said.

"The level of plastic waste in the Red Sea is relatively low," said marine scientist

Carlos Duarte, according to a recent study led by a team from King Abdullah University of Science and Technology.

The team collected samples of floating garbage from 120 sites along 1500 km of the eastern shore of the Red Sea during trips to the team in 2016 - 2017, the proportion of plastic waste was only 17%.

The study explained the relative decline in the existence of a single major human settlement on the Red Sea, Jeddah, which has a population of 2.8 million, making the chances of dumping and pollution of the sea less, in addition to the lack of a permanent river flow in the Red Sea, The arrival of plastic waste to the seas and oceans by between 10% and 50%.

Al-Alwani stresses the need to pay attention to the shores of more polluted seas and oceans, such as the Mediterranean Sea.

"We have started to communicate with a civil society in Morocco for that purpose, and we are ready to work out partnerships to share experiences in this area," Abdullah told SciDev.Net.

Greeneish is a limited liability company, with Abdullah, and its profits come from the work and design of paid curricula for schools and companies. The company spends 80 percent on the project and is funded by a quarter of what the company earned last year.

About the company and its activities Abdullah says: Founded in early 2017, its goal is to educate and create knowledge about the environment and public health. I worked with 3000 participants and participated in 13 cities inside Egypt and concluded dozens of international partnerships.

This topic was produced through the regional office of SciDev.Net in the Middle East and North Africa region

12.6 “We rushed to pass a bill on plastic bags without a debate, MP Theopemptou tells CNA” by Kyriaki Christodoulou



Cyprus News Agency



**We rushed to pass a bill on plastic bags without a detailed debate, MP Theopemptou tells CNA**

**CNA – Kyriaki Christodoulou - CYPRUS/Nicosia 23/01/2018 14:37**

## **The plastic in the Mediterranean Sea. Report. December 2018.**

No thorough discussion has taken place on the bill on plastic bags, which provides for a charge of 5 cents beginning of July 2018, and which the government had tabled at the eleventh hour and the House of Representatives rushed to pass it, Cyprus Greens Parliamentarian Charalambos Theopemptou has told the Cyprus News Agency.

Cyprus will be introducing the charge of 5 cents this coming summer, following a number of countries in the EU which have already taken strict measures in order to reduce the usage of plastic bags or have banned them completely.

This comes as no surprise if one takes into consideration the huge problem the environment faces with plastics. Only recently the European Commission has adopted the first-ever Europe-wide strategy on plastics which is part of the transition towards a more circular economy.

Under the new strategy, the European Union will make recycling profitable for business, will curb plastic waste, stop littering at sea and take measures to drive investment and innovation.

MP Theopemptou is one of few who have been warning about the consequences of plastic waste and has been criticising the public services for their failure to manage the plastic and other waste in Cyprus.

We met Theopemptou, the former Commissioner for the Environment, and asked him about the situation and whether the new bill is an adequate measure, taking into consideration the somewhat negative feedback because the supermarkets will benefit from the charge on plastic bags.

Theopemptou explained that the cost of production of plastics is extremely low, plastic is very easy to use and very accessible. He said that the public has not comprehended that this massive use of plastic is connected with health problems, environmental destruction and much more.

"We have been, for many years, aware of all these problems, but unfortunately we have not done anything at all to try to reverse the situation. Other countries have long ago introduced measures to reduce the use of plastic bags, Ireland for example has been charging for plastic bags since 2002, many African countries and some Latin American countries have banned plastic bags. Even China from which we import plastic bags has since 2008 completely banned plastic bags. However, besides the plastic bags, we use other plastic materials in our everyday lives, such as plastic bottles, caps and even laundry and washing powders. Microbeads are used in cosmetics and toothpastes, and even plastic rice is added to the normal one," he says.

Asked in particular about the situation in the Mediterranean, where the use of plastics is enormous, the unruly construction has destroyed the environment and the maritime, and the climate change is also responsible for the large migratory and refugee flows, Theopemptou says that the problem lies with the fact that the Mediterranean countries are not very eager in cooperating with each other.

A typical example, according to the Cyprus Parliamentarian, is the fact that everybody knows about the very negative consequences of overfishing but yet nothing is being done to tackle the problem. At the same time, pollution from large ships, the invasion of various alien species which are not indigenous to the Mediterranean sea and the unruly construction are all causing

additional issues.

According to Theopemptou, even if the EU moves forward with its new policy on reducing plastics, the fact that many Mediterranean countries are not member states, makes it extra difficult to have results, to cooperate and coordinate actions.

Asked about the plastic bag legislation adopted by the Cyprus Parliament, Theopemptou says that the discussion which was supposed to have taken place was not detailed and exhaustive and there were a lot of people involved who were worried about the suggestion to set up a green fund for the 5 cent fee on plastic bags.

"Beginning July 1<sup>st</sup> 2018, consumers will pay a charge of 5 cents for plastic bags, the money is profit for the supermarkets. The bill on plastic bags as well as other bills, to which the government had feared that there would be negative reaction, were tabled with delay. And when this particular one was sent to the House, we were under the threat and pressure of penalties from the EU. Therefore we did not have time to discuss it thoroughly. The Finance Ministry did not attend the meeting at the Parliament, we were not ready to find solutions, so we were rushed to vote on it", he told CNA.

Replying to a question about the need to take stricter measures for waste reduction and for reuse, Theopemptou explains to CNA that after the country's accession to the EU in May 2004, the Ministry of the Interior, without having the know-how, took over the responsibility for household waste.

He says that the Ministry recruited one company that prepared the state policy which was in conflict with the Waste Directives, in particular the 2008/98 Directive.

The Greens Parliamentarian told CNA that the adoption of waste reduction policies, despite coming first in the hierarchy of waste management policies, was contrary to the fact that the state did not manage to get enough waste in Koshi and Pentakomo landfills and therefore Cyprus would be faced with fines and penalties.

"We all recall that once we paid a fine of €1 million to Brussels," he said.

According to Theopemptou, not enough measures have been taken as regards the reuse of materials in order to reduce the waste produced, and the recycle process did get a push because the private companies had a legal obligation to do so.

The Cyprus Parliamentarian tells CNA that some policies already adopted are wrong and the decision making process is slow, however his experience tells him that the public is eager on receiving information and details on these environmental issues.

He says that "we should have promoted simple and easy policies that have to do with raising awareness and educating people." "Recycling should have been mandatory and 'pay as you throw' system should have been adopted by the local authorities", he says.





\*\* The interview is in the context of the project Rethink: Reduce- Reuse – Recycle which is funded by the EU programme LIFE+ (project code: LIFE13 INF/CY/000910) of the EU. Coordinating Beneficiary: CyBC. Partners: Green Dot Cyprus, Department of Environment, Cyprus Pedagogical Institute, CNA, Fost Plus Belgium \*\*

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