

BL.EU Climate - Climate Innovation in Southern Waters

SOLUTIONS IDEAS DEVELOPMENT REPORT - Deliverable 3

Work Package 3 - Solutions ideas development











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1. Summary

This document describes the preparation and organization of a workshop (or similar event) in Croatia, Greece and Portugal, as well as highlights the ideas resulting from the event.

This report consists in fulfillment of Project Output 3 - Solution Ideas.

The identified solutions will be integrated in the final roadmap jointly delivered by Portugal, Croatia and Greece.

2. Introduction

Three case studies represent the BL.EU Climate project, namely in Croatia, Greece and Portugal.

Croatia

This document presents the outcomes of a mix of workshops (Cres, September 18th and Zlarin, September 25th) and direct discussions with key stakeholders (Cres island, Zlarin island teams) organized by TerraHub, in order to discuss the findings of the tourism sector survey and collect barriers and strategies proposals for the tourism sector regarding plastics reduction.

A Circular Economy discussion has been organised in Zagreb on November 16th together with Impact Hub Zagreb where findings and solutions of plastic pollution prevention/waste minimisation have been discussed in the context of an island, a tourism facility or local community.

Firstly, preparation and organization are described, including findings and barriers used in the session. Secondly, the ideas collected and discussed from the working groups are presented as well as the recommendations concluded in the "CKIC BL.EU project_Croatia_Research tourism responsible demand and supply". Conclusions and recommendations are the last section, where some strategies are highlighted.

The annex consists of the list of the stakeholders that participated in the workshop.

Greece

The Workshop on "Climate Innovation in Southern European Waters (BL.EU Climate)", held on 13th December 2019 at the ATHENA Research Centre in Athens, aimed to present the results of BL.EU. Climate project, based on which a discussion was held on potential solutions to prevent, reduce and collect marine litter, focusing on plastics.

After a presentation by all stakeholders who participated in the workshop, a discussion on the challenges and the best solutions related to plastics production, prevention and collection of marine litter were identified. Solutions were discussed in order to identify the best ideas proposed by the different project partners.

Ideas to invest in order to encourage the plastics industry to reflect on the status of 'some of the biggest carbon emitters'.

Portugal

This document presents the participatory workshop organized by FCT NOVA, in order to collect barriers and strategies proposals for tourism, cargo and fishing sectors regarding plastics reduction.

Firstly, preparation and organization are described, including the agenda and methodology used for the dynamics in the session. Secondly, the ideas collected from the 3 working groups are present, as well as the

ideas discussed at the end of the session. Conclusions and recommendations are the last section, where some concerns and strategies are highlighted.

The annex consists in two parts: i) the list of participants and, ii) the event evaluation.

3. CROATIA

3.1. Preparation and organization

The meeting and discussion about barriers and solutions with stakeholders on Cres was held on September 18th, 2019 as part of stakeholder analysis workshop where experiences from Zlarin island were presented by Zlarin initiative team member (Ivana Kordić) and their transferability to Cres has been discussed.

Findings of the survey on environmentally responsible tourist demand and supply have been presented via email and directly over phone conversation on December 12th and 13th with key stakeholders – Mr. Ugo Toić, head of Cres-Lošinj islands development agency OTRA, Mr. Marin Gregorović, deputy mayor of Cres and Mrs. Mirjana Rupćić from the hotel Kimen in Cres. Discussions confirmed survey findings and willingness to continue the work according to recommendations.

The meeting with stakeholders on Zlarin was held on September 24-25th as well as through attending (iii) the Waste management on small islands conference in Šibenik on September 26th where additional information on challenges and solutions has been gathered.

Findings of the survey on environmentally responsible tourist demand and supply have been presented via email and directly over phone conversation on December 12th with key stakeholders – Mrs. Katarina Gregov, director of Tourist Association Zlarin; Ana Robb, head of Albatros Revolution NGO - the initiator of Zlarin, no plastic island initiative; and a meeting was held in Zagreb on December 16th with Ivana Kordić and Katarina Cetinić. Discussions confirmed survey findings and willingness to continue the work according to recommendations.

All the findings were presented and discussed as well at the event co-organised with Impact Hub Zagreb at an event on Circular Economy in Zagreb, on November 26th. Zlarin team was one of case-studies presented.

The points of discussion were what Terra Hub team of experts identified in the survey:

- A need for a data-driven advocacy in order to use the first wave of change for generating further shifts in the value system and priority hierarchy. How we shall use concrete data on the specifics of tourism demand related to environmental quality; and on the needs of changemakers to help shifting values and demand?
- The decision about the destination was a combination of economy and ecology involved which was an important information for advocacy and marketing. Translated into strategy and policy: luxury tourist services (high end hotels/apartments) can raise the price of their service due to the economic category of their potential guests, lower-end accommodation and service can't do so and require additional support and stimulation from the local government in order to provide plastic-free or ecologically friendly services.
- Tourists are willing to replace plastic products such as plastic straws and shopping bags, plastic bottles, plates, cups and cutlery so serving food and drinks without plastic is an obvious possibility.

- Tourists would be willing to pay more to use an environmentally friendly product even if it costs more. This important finding can help design the policy on the use of plastic on locations, as tourists are not equally willing to pay more for certain products.
- However, from advocacy standpoint, having to pay more for a service that is for the good of the environment and the society is wrong and the additional price (on the tourist and the provider) should not be for the environmental tourist services /products but rather, via taxation or other means on those that are harmful for the society and environment.
- When asked if they knew they were on a first plastic-free island/hotel/location and how they felt about it in Rovinj (and similarly on Cres, in hotel Kimen) the tourists were unaware and suggested that information should have been disseminated to future tourists upon arrival at the location and via hotel/location marketing before the tourist season began. As Zlarin's (Island without plastic) fame preceded it because it was so well covered by the media, tourists already knew and had discussed what could have been done better, what had disappointed them or compared it to their home country.
- Our confirmed targeted audiences, women, are for two separate reasons extremely important: as the decision makers in families for vacations and they are predominantly active and sensitive to the issue of environment.

Secondly, the participants were asked to come up on their own with ideas and solutions, to present them if they already had some before the meeting, discussed their concerns about the implementations/executions of the new ideas or problems that could arise. Everything was written on a poster sized paper.

3.2. Ideas

Here we have accumulated all ideas suggested by stakeholders and by Terra Hub. They were grouped by whether they can be implemented generally by all, or locally only by some.

GENERAL IDEAS FOR ALL TOURIST SERVICE PROVIDERS and relevant stakeholder ecosystem at the country level:

- **Do more transfer of best practices** from/to other countries networking, learning from first-hand experiences.
- Close the waste management circle on the islands (and beyond) so that the separate collection/recycling that is now working well makes sense. This may be an opportunity for creating maritime start-ups: benefit from establishing the foundations of circular economy business models based on marine litter /pollution prevention production of reusable items on site/on-islands as alternative product and to create income.
- Local municipality: clearly express the vision (if there is a will) and gather resources (human, financial) for delivering the vision.
- Research centres/academia: provide the technical capacity to overcome relevant challenges. They remain isolated/detached from the field/locations on site but can benefit from the increased needs

for research on topics related to marine ecosystems management, marine litter, waste management through the implementation of relevant research projects that are usually EU and/or national funded.

- Replicate the existing well-functioning mechanism in Croatia of refund for PET bottles returned to some other types of plastic (PP, PE) that can be recycled; enlarge recycling labels on packaging and make them more visible and understood so the recycling policy can be easily understood and accepted by citizens and by tourists.
- **Harmonize the practice across sectors:** the Ministry of tourism/Tourist Board should give incentives to tourist service providers to replace old versions of certain items with eco-friendly ones, but it should be thought about how and where to dispose, recycle or reuse the replaced items (example of current practice mountains of discarded mattresses in a landfill that no one knew what to do with).
- For clean-up actions, good practice: NGO Blue World Institute practice classification of collected waste during beach / coastal clean-up actions, according to the default methodology prescribed by the EU. As such, it is possible to identify major sources of waste that need to be prevented at the source, this adds data to advocacy that can affect changes in placing plastics (packaging) on the market.
- Blue World Institute marGnet project deals with fisheries waste i.e. mapping sites with discarded fishing nets and other plastics collect, recycle, or convert by pyrolysis into boat fuel. They also provide training and promote sustainable prevention practices. This opens a niche to persuade suppliers of fishing accessories and nets to encourage returns of broken nets and other fishing supplies by giving customers a discount on the purchase of a new net if they return an old-broken one or put ID with information about the fisherman on their fishing nets.
- Cross-sector programming of the EU funds use creative industries to feature films/videos or other projects dealing with environmental and sustainable development issues to introduce new / desirable behavioural patterns as the norm through subliminal messaging through films. NGOs Using the film industry to cultivate a relevant "no litter" culture. Citizens: benefit from bridging awareness gaps in society, cultivate a relevant "no litter" culture. Financial gaps may be covered through volunteering or crowdfunding, stimulating increasing demand may lead to lower prices of alternative solutions or initiating creation and innovation of local solutions.
- Issue (for deposit money) reusable water bottles and canvas tote bags with the logo of the object from which they got it, to encourage tourists not to buy disposable plastic bags and water bottles. Guests lack knowledge about drinkable water and out of necessity buy plastic bottles and bags which they then bring back to the hotel. That can be amended if upon arrival they receive a textile bag and a reusable water bottle with the "1st plastic-free hotel" slogan and hotel brand on it. These can be returned and passed on or can be "bought off" as a souvenir. Even a key chain or a card for upcycled plastic or metal could be provided.
- Provide support for adjustments: Introducing the sale / distribution of beverages or merchandise in stores requires modification, which requires investment (bulk dispensers or increased shelf space). Shampoos and body care products in hotel rooms should be in ceramic containers and be filled by bulk dispensers or shampoo in bars, hotels should also buy laundry products that can be filled by bulk dispensers.
- Joint purchase of reusable cup-up glasses/cups that will replace any disposable plastic cups that would otherwise be used at events throughout the year. Shared island branding, shared procurement lower price. The local government procurement for the whole community and distribution or a joint order by groups of tourist providers could help small business owners go green.

- **Expand the digital billing system** for mixed waste collection (code cards) to mobile SMS text messaging (e.g. parking) and create an application that would make it easier for users (especially tourists, non-residents) to behave responsibly if they have forgotten or do not have the card.
- A helpline or an email address where you can consult the staff of the first plastic-free hotel, shared within the group could prove very useful and should also be compensated to the staff of the hotel. Generally, the first movers experience and knowledge are of use and a motivation for other owners of private accommodation and should be integrated in future projects/actions by the local community and the tourist boards when working with the private owners in their communities.
- A platform for sharing information and supporting change-makers is crucial. The change makers don't have the capacity, time nor reach to ensure impact and thus a platform for support, for promoting best practices, for providing information and for advocacy as well as scaling and providing support for the next generation of changemakers is needed.
- Advocate and push companies such as AirBNB, Booking and Trip adviser to have a searchable category for plastic free, zero waste and environmentally responsible accommodations. The owners would have an incentive to step up. It could have a very big impact on both the tourists and the private owners especially in countries where change is very slow through the government or social channels but can happen faster with the new technology.

LOCAL IDEAS FOR SOME TOURIST SERVICE PROVIDERS:

- Cres Tourist Board: removal of waste bins from the beaches and introduction of bags for waste collection followed by the info-educational campaign "Be green, keep it clean" that encourages guests to collect garbage and generate less waste. Recommendation: start with a small pilot project in one location to monitor people's behaviour and reactions and effects. NOT immediately throughout all of the island Cres as it can create a counter-effect, i.e. people not accepting it and therefore increased communal clutter.
- Strategic direction for the development and promotion of the island as a green / responsible / sustainable destination: the joint tourism strategy of Cres-Lošinj and the energy transition plan of the islands of Cres and Lošinj. Opportunity: A joint marketing strategy for the destination as green / responsible towards nature. Cres Tourist Board could lead the creation of Cres-no-plastic-island or Cres-green island brand?
- Create a slogan (words in Croatian for tourists who recycle) and short advertisements on airplanes / in the city / on the location, to encourage recycling, waste-free and "refuse, reuse, reduce" mindset.
- Cresanka d.d. (hotel Kimen and Kovačine campsite) already have positive practice on no-single-use
 plastics and needs stronger outreach and tools to lead/overspill good practice to other
 accommodation or service providers.
- Cresanka Camp Kovačine and OTRA: pilot project of introducing a water filler in the camp that will use tap water + cooler + CO2 injection for carbonated water guests will fill their bottles themselves. Possibility of introducing chargers and public water dispensers in the city of Cres, i.e. in more locations than the camp itself? Introduce similar refill stations for other goods to avoid single-use packaging like milk dispensers for island local dairies (goats, sheep, cheeses, etc.).
- Microplastic from many washing cycles during tourist season: a new product/service could be cotton sheets "Zlarin without plastic" (when washed microplastic don't enter the sea). Such sheets could promote Zlarin (and other islands) and provide info for tourists how to reduce plastic with the

already designed visuals from the project and, based on the amount of visibility, could probably be obtained/made through sponsorships.

- Provide space for small entrepreneurs who are a part of the no-plastic initiative, to go further if ready and willing, instead of pushing the whole group (and delaying the most advanced). Eg. on Zlarin one of the leaders, Konoba Prslike, have been composting before the project started and their brand (healthy, quality food they offer) together with the initiative, provides an opportunity for an additional step. An expert on composting on the island offering assistance in the area of composting and producing additional layers of soil in order to grow vegetables. Konoba could (with assistance, support and a volunteer program prior to the tourist season) embark on the project of being the first Konoba that has a (public) garden and where you can pick your own salad while learning about composting and the potential that has for islands and the island soil.
- Zlarin: with a vision to prohibit the use of any disposable packaging, regardless of the material, pilot introduce a deposit-return scheme to support reuse patterns for the most used products. Test a local refund system/deposit return for all tourist service providers through a local pilot project. Involve existing local suppliers to switch to these materials (PP, PE plastics, glass, metal, ceramics, wood) and engage with association of producers (Manufacture of rubber and plastic products HGK, HPD).

The case study of Zlarin as well as working in Cres and Rovinj has shown a lot about the crucial role of various stakeholders in the chain:

- The tourist board has a decisive role in the local community, in the change wanted and created in smaller tourist communities (Zlarin). It plays several important roles like connecting all local tourist-providers, being the source of knowledge and understanding of local context and plays a pivotal role in visibility and marketing for the local community.
- The local government in Rovinj was having a great and synergistic role with the hotel and working together towards reaching the same goal. The role of the local government is crucial not just in providing an environment that is clean for everyone at the location, for enabling tourism that is sustainable but also tourism that is attractive to higher-paying customers and that customers are willing to pay more for.

Some of the recommendations for the local government:

- i) Gaps in the supply chain are making it hard for the existing providers and are demotivating for others to join in. Small providers (apartments, small restaurants, cafes and shops) have problems acquiring substitutes for plastic. Organizing a collective order or a program for subsidies or public procurement would enable and support those willing to provide sustainable tourist services.
- ii) The ecosystem of small communities is what the tourists are looking for, they care about the whole little ecosystem being plastic free and responsible. Thus, good waste management as well as additional workforce to clean up before, during and after the season is crucial and sustainable only in the organization of the local government and community.
- iii) The local tourist service providers face issues that affect all of us, such as microplastics entering the sea during the washing machine cycles. Small apartments and private accommodation need significant **information and support** to be plastic-free and environmentally responsible. It is necessary to provide in collaboration with the local government education, online and offline

training, checklists for plastic-free and environmentally responsible accommodation as well as digital badges and certificates for tourist service providers educated and committed to providing such services. The tourist board can during advertising accommodation provide information or digital badge to those that are dedicated to plastic free or environmental tourist service.

- iv) When investing or securing funds for pushing sustainable lucrative tourism, the local government can do a lot by ordering and branding plastic-free linen for their communities, or establishing a bio-detergent bulk dispenser where the local owners can get their bio-detergent for a lower price and without additional plastic bottles which would motivate them to use the biodegradable detergents as well. For small owners, information as well as easy and cheap access to replacement goods are crucial. Repair shops and waste management systems such as reuse centres have proven to be very useful and stimulating.
- v) The EU directive will be coming into force in less than two years thus outlawing and single use plastic. The local government can use the frontrunners (Zlarin, Zero Waste Apartment in Zagreb, Adriatic hotel in Rovinj) cases, knowledge and experience in order to prepare themselves and their citizens and communities for eradicating single-use plastic in accordance with the directive. The unprecedented media attention shows how much social and digital capital can be gained by doing ahead of time what the directive prescribes!
- vi) Ecology proves to be an important topic for tourists. Large majority claims that they appreciate plastic-free and ecologically aware environment. Emphasis on ecology might be an additional value of the destination. Those that pay more for their accommodation are also willing to pay more for ecologically aware destinations. Majority of guests are ready to pay up to 5€ per person and night which means that ecological policies have to be balanced against economic circumstances. Ecology could be appreciated as a significant added value, especially in the case of more expensive accommodation.

3.3. Conclusions and recommendations

Croatia is branded as a Mediterranean crystal clean sea with natural beauty. Years of such branding have attracted tourists and modelled the perception of Croatia. With Zlarin being a great example of the immense power brand and campaign building on such notions can have, branding with high standards backfires if it doesn't deliver as with the brand "plastic free island", tourists expect no plastic nor waste on the island. With the Mediterranean as it once was, tourists are going to expect a pure and unpolluted sea, that doesn't contain microplastics.

1. A platform for sharing information and supporting change-makers is crucial.

- Civil sector organisations (like Terra Hub or "Za Zlarin bez plastike" initiative) should continue
 their role as a platform for support, promoting best practices, providing information and for
 advocacy as well as scaling and providing support for the next generation of changemakers.
- Organizing a group of first-generation ambassadors who share their stories, provide recognition for their work and open up a call for others to join in should be considered for better results/ideas and for a better and more realistic roadmap for Croatia.
- Education for schools, the general public as well as summer camps for children and tourists about the "refuse, reuse, reduce" mindset.

Terra Hub should create a uniformed set of steps to be taken by any local community as well
as a system of recognition of reaching various levels of plastic-free or eco-responsible local
community.

2. The demand for alternative products needs to be developed.

- Since there are a lot of small tourist service providers (private accommodation, shops and restaurants) and since Croatia is at the beginning of switching to eco-responsible tourist service, those willing to switch face high costs of making the change.
- The human resource cost needed for such a change can be reduced with the assistance and support of NGOs such as Terra Hub.
- Lowering prices of the alternative products can only be done with joint action where tourist boards and local government can assist. It is important to strategically think of ways to generate joint larger orders, higher demand and eventually lower prices and higher availability of plastic-free alternative products.

3. It has to be a community effort, and local government and tourist boards are crucial.

- Tourists see their destination as a whole and expect consistency in environmental protection in the whole community.
- The strategy and funding of local government and local tourist offices must consider the move towards eco-responsible and green tourist solutions and ways to make them more affordable for the service providers.
- Marketing and promoting such services (apps e.g. Booking should have a filter for plastic-free, waste-free, eco) is crucial since tourists are willing to pay more for eco-friendly accommodation and are increasingly searching for such options.
- With the level of awareness and values tourists have, the environmental policy and practice of the local government is a key decision for generating tourist demand as well as in preserving nature and coastal environment which is the basis for the tourist supply as well as for the lives of its inhabitants. With higher understanding and awareness slogans such as "Mediterranean as it once was" (but now filled with plastic) or beautiful, clean nature and destination (but with waste, and single use plastic) will backfire if there is no follow through in policy, budget and action from the local government and community.
- 4. There is an overall need to strengthen information, awareness and more importantly educational activities in elementary and secondary schools on the project test locations and beyond. The same stands for adults, working in both public and private sector.

4. GREECE

4.1. Preparation and organization

The workshop was organized by the Greek team in order to make the developments of the BL.EU project known and to discuss with key stakeholders' potential solutions to the marine litter issue. The target groups of the workshop were stakeholders related to commerce, fishing and tourism covering a wide spectrum from research, education and public bodies to businesses and startups involved in marine sustainability. Once their availability was ascertained, a definitive programme could then be created. The workshop was structured in the following way: after an initial introduction and presentation of the project, the main issues that emerged over time were addressed. The stakeholders present confirmed their willingness to financially support part of the project. The discussion continued with the proposal and evaluation of ideas.

4.2. Ideas

Fossil fuel industry and the one connected to it, plastic industry, are the largest contributors to carbon emissions. Among marine litter, plastic waste represents over 90% while it also deteriorates the socioeconomic life (public health via food chain, increase of health costs etc). The discussion revolved around the main challenges and solutions of plastic marine littering in of in southern European waters. As all agreed, although the devastating impacts of plastic marine littering are not comprehended by most of the people, fishermen are the only ones who are aware of the situation, since every day they are fishing tones of plastics out of our seas and dead fish. Four focus areas have been identified from all participants: policy making, education and awareness, investments on infrastructure and research and development. Multiple perspectives and case studies have been discussed and analysed during the workshop, forming recommendations as pictured in the following section.

4.3. Conclusions and recommendations

The discussion concluded with the identification of solutions aimed at tackling the production of plastics.

4.3.1. Policymaking

Extended Producer Responsibility (EPR) for the treatment or disposal of post-consumer products should be implemented, so that the producers provide solutions for the ecological footprint of their products, such as food waste packaging. For example, special bins in supermarkets could be located, where the consumer could recycle the plastic product and get a refund through a Deposit Return System (DRS). DRS exists in Greek legislation, but it is not widely implemented yet. In addition, Separate Waste Management to be implemented (in Greece there is legislation for four streams of packaging) combined with respective fines in case of noncompliance facilitate recycling rates. Taxes on plastic bags and ban of plastic-based products would be a radical solution to the problem, as far as a reasonable adaptation time is provided to both innovation (alternatives) get into the market and companies to internalize the environmental cost. For example, grocery shopping bags could be easily replaced by biodegradable bags.

4.3.2. Education/Awareness

As all participants agreed with Education in Schools and Universities should be a priority in order to avoid the same irresponsible behaviour of our times. A plastic free campus, where only reusable caps would be allowed, and packaging would be with eco-friendly materials combined with relevant courses could not only educate students on this matter but inspire us all.

Awareness could be raised through a number of ways. Civil society discussions, Initiatives, Conferences, Regional Multi-sectoral forums, Festivals, TV, Documentaries, special TV shows could present the seriousness of this issue by showing the catastrophic impacts of marine litter and also the solutions and alternatives easily adapted by everyone. Promoting a more nature-based lifestyle, such as carrying goods and products in baskets rather than in plastic bags, reusing products in alternative ways or that tap water is safer than bottled could be drive a significant number of people to make small individual changes, which would add up to a great plastic use reduction.

4.3.3. Infrastructure/Investments

Another aspect of tackling the plastic issue is the existing infrastructure. For instance, bottled water consumption could not be reduced if no other source of water can be easily found. Hence, public fountains should be provided by both public and private sectors in many spots of the city. Similarly, recycling cannot be achieved if separate recycling bins are not provided in each neighbourhood and main street.

4.3.4. Research & Development

Lastly, before any investment, research and development should be considered, since more competitive, smart and green options are being provided every day by bright people. Financial support of innovation is a major challenge, we should focus on in order to support these ideas at their early stage until they become competitive enough to get into the market. For example, in order to replace plastic packaging, an alternative solution of a packaging product with competitive capacity and price should be available to the company.

To sum up, the plastic marine litter to be faced, joint action should be taken. From researchers and start-ups, who provide innovative solutions, businessmen and investors willing to support these ideas and invest, teachers, professors, NGOs and journalists passionate to educate and raise awareness to the policy makers, who can drive citizens' behaviour by implementing relevant legislation.

5. PORTUGAL

5.1. Preparation and organization

The workshop was prepared by FCT NOVA and APLM, with Port of Lisbon support.

Based on stakeholder mapping and engagement results (WP1), 75 invitations were sent by email for stakeholders (Figure 1). In total, 25 registers were received but only 16 participants took part in workshop on November 19. Participants were from various public and private entities, such as academia, port authorities, waste management companies, sector companies and associations, ENGOs and others (Annex III.I).



Figure 1 - Workshop invitation (Portuguese version).

5.1.1. Agenda

All information was shared previously the event, in the invitation email. Here the details about the event:

Event title: Participatory workshop: Plastics reduction contribution in shipping, fishing and port sectors

Date: 19th November 2019

Time: 9h30 - 13h00

Place: Port of Lisbon - Gare Marítima da Rocha do Conde d' Óbidos - Alcântara, Lisbon

Agenda

09:30 Reception of participants

10:00 Project presentation, goals and workshop dynamics

10:30 Collaborative work session

11:00 Coffee break

11:30 Collaborative work session

12:30 Roadmap – where do we want to get and how?

13:00 Closing session

The workshop's main goals are described below:

- identify barriers on plastic products prevention
- Develop and identify innovative solutions for plastic mitigation and,
- Contribute for BL.EU Climate Change Roadmap 2030.

5.1.2. Methodology

A specific methodology was designed for the workshop, as described in this section.

Participants were asked to identify some barriers of plastics prevention per sector (activity 0), when they arrived to the workshop, that is described in more detail below.

The initial part of the workshop focused on brief presentations about the problem of marine litter and the work that has been developed so far in BL.EU Climate project (e.g. questionnaires, waste characterization campaigns) (Figure 2).





Figure 2 - BL.EU Climate results presentation.

Next it took place 2 collaborative work sessions (activity 1 and activity 2) without facilitators or moderators, in 3 tables each one dedicated to: i) tourism sector, ii) fishing sector and, iii) shipping/cargo sector. Activities developed are briefly described below.

Activity 0 - individual activity

Each participant was invited to register in a post-it the barriers for plastic products prevention, for tourism, fishing/ shipping sectors. The post-its were put in canvas (Figure 3) on the walls where workshop took place.



Figure 3 - Activity 0 - Individual activity (Portuguese version).

Activity 1 - Barriers and Strategies (group activity)

Participants were distributed in 3 working groups: tourism, fishing and shipping sectors. In each table, participants have to complete the working sheet (Figure 4), indicating barriers and strategies to reduce plastics in the sector.

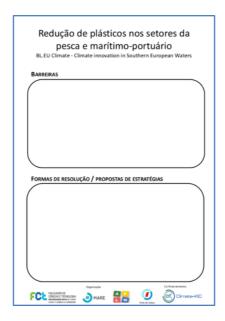


Figure 4 - Activity 1 - Barriers and strategies (Portuguese version).

Activity 2 - Detailed strategy (group activity)

Participants remained on the same working groups. Each group filled the activity sheet (Figure 5), where they have to: i) describe the problem, ii) indicate stakeholders to involve), point out synergies and, iv) find solution and strategy proposals.

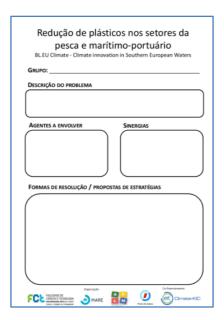


Figure 5 - Activity 2 - Detailed strategy (Portuguese version).

All working groups presented their activities results. Before closing, there was time dedicated to discussion and ideas debate among all working groups.

5.2. Ideas

The workshop had 3 main activities, one individual (activity 0) and two collaborative (activities 1 and 2), as described before.

Regarding activity 0, more barriers were collected on tourism sector (7 barriers). In the case of the fishing sector, 3 barriers were indicated. For the shipping/cargo sector no barrier was identified by participants.

Activities 1 (Barriers and Strategies) and 2 (Detailed Strategy) required interaction and participation of all stakeholders in each working group.

The results of the workshop activities are grouped by sector in this section.

5.2.1. Tourism sector

Table 1 shows the barriers identified by some of workshop participants, regarding tourism sector, collected in the activity 0 (individual activity). 7 barriers were identified by participants.

Table 1 - Individual activity - tourism sector.

Plastics products prevention, which are the barriers?			
	- Lack of eco-behavior by passengers and tourism professionals		
	- Excess of plastic in food and beverage packaging		
	- Lack of containers for separate waste collection		
Activity 0	- Glass vs plastic weight (e.g. water bottles)		
	- Touristic activities/vessels - team awareness		
	- Touristic activities/vessels - passengers flyers or other communicational support		
	- Source segregation on board and waste collection on ports		

The results collected from activities 1 and 2 are compiled in Table 2 and Table 3, regarding plastics reduction on tourism sector.

Table 2 - Activity 1 - Barriers and Strategies - tourism sector.

Plastics reduction			
	- Lack of awareness		
	- Lack of waste collection points/containers in ports		
	- Absence of policies that promote reusable or biodegradable materials, instead of disposable products		
Barriers	- Reduced inspection in ports		
	- Proper waste management - lack of economical instruments (e.g. waste payment regarding type of waste		
	- Collection operators responsiveness		
	- Land vs maritime legislation/regulations		
	- Awareness and information campaigns for all stakeholders		
	- Promote economic instruments (e.g. regarding type and quantity of waste generated)		
Strategies	- Promote the use of reusable materials policies (e.g. glass instead of plastic products)		
	- Improve inspection in ports and marinas		
	- Increase waste collection containers (number and type of waste)		

Table 3 - Activity 2 - Detailed strategy - tourism sector.

Plastics reduction			
Problem description	Lack of training / awareness - touristic vessels teams		
	- Ports/marinas		
	- Tour operators		
	- Waste management operators		
Stakeholders to involve	- NGO		
	- Government entities (tourism, Portuguese Environment Agency, DGRM, clubs/sports federations)		
	- Training entities		
Synergies	- R&D projects (academia) involving all stakeholders		
	- Provide environmental information on board		
	- Specific training / awareness campaigns for tour operators		
	- General training / awareness for passengers/tourists		
Solutions and strategies proposal	- Stakeholders protocols/working groups		
ргорозаг	- Measures implemented verification and monitoring		
	- Periodic awareness campaigns, especially in high season		
	- In events, try to always promote awareness campaigns suited to the target audience		

5.2.2. Shipping/cargo sector

There were no barriers identified by participants for shipping sector, in activity 0.

The working group results are shown on Table 4 (Activity 1) and Table 5 (Activity 2), focused on plastics reduction on shipping sector.

Table 4 - Activity 1 - Barriers and Strategies - shipping/cargo sector.

Plastics reduction		
	- Lack of waste collection points/containers in ports	
Barriers	- Lack of knowledge to classify waste	
	- Waste classification criteria different on land and sea	
	- Lack of training and awareness	
	- High costs - waste discharge	
	- Language - difficult communication	
	- Training and awareness campaigns	
Strategies	- Increase waste containers for segregated collection	
	- Increase in inspection/monitoring campaigns focused on waste management	
	- Uncertainty in waste discharge -> Existence of fees	

Table 5 - Activity 2 - Detailed strategy - shipping/cargo sector.

Plastics reduction			
Problem description	- Packaging and straps waste, plastic film, polystyrene waste		
	- Port authority		
	- Port concessionaire		
Stakeholders to involve	- Crew/ship-owner		
	- Waste management operators		
	- Port state control		
Synergies	es All stakeholders involved		
	- Provide waste management services		
Solutions and strategies proposal	- Promote the implementation of environmental management and best practices		
proposar	- Promote Port environmental assessment performance		

5.2.3. Fishing sector

3 barriers were identified by participants regarding fishing sector in activity 0, as shown on Table 6.

 Table 6 - Individual activity - fishing sector.

Plastics products prevention, which are the barriers?		
	- Policy	
Activity 0	- Lack of information	
	- Lack of knowledge	

The results from activity 1 (Table 7) and activity 2 (Table 8) according to the work carried out by the working group for fishing sector are compiled below.

Table 7 - Activity 1 - Barriers and Strategies - fishing sector.

Plastics reduction		
	- Political barriers	
	- Lack of inspection	
	- Lack of awareness/interest by fishermen	
	- Materials used in fishing nets	
	- Suppliers - material availability	
Barriers	- B2B - overwrapping in package products	
Darriers	- Street markets near ports	
	- Polystyrene fish boxes waste: appropriate storage containers	
	- Dragnet fishing - disinterest in retrieving some fishing nets	
	- Fishing nets - no owner's id	
	- No liability for loss / non recovery	
	- Lack of financial incentives	
	- Fishing floater produced with sustainable materials (e.g. clay, cork)	
	- Monitoring quantity of abandoned fishing nets	
	- Promote phased discontinuation of plastic materials	
	- "Fisheries for a sea without litter" project - reinforcement/expand	
Strategies	- Fishing nets - provide owner's id> increase responsibility for loss/return liability	
	- Promote dialogue between technicians / fishermen / politicians	
	- Promote recycling	
	- Incentives to save and recycle fishing nets -> find alternative / circular business models for recovered fishing nets	

Table 8 - Activity 2 - Detailed strategy - fishing sector.

Plastics reduction			
Problem description	Fishing nets consist in a high percentage of marine litter in sea bed> ghost fishing and impacts on fauna		
	- Fishermen's Associations		
	- Ship-owners		
	- Governmental entities - Docapesca, DGRM, Ministry of the Sea		
	- Researchers / Academia		
Stakeholders to involve	- Fishing nets suppliers industry		
	- Waste management operators		
	- Investors / Innovation / Circular Economy		
	- NGOs		
	- Maritime/Port authorities		
	- Improve dialogue between technicians / fishermen / politicians / researchers		
	- Creative Hubs		
	- Suppliers industry> Waste management operators		
Synergies	- Suppliers industry> Ship-owners		
	- Supplier industry> Authorities		
	- Funding programs		
	- Governmental entities - Environment <> Sea		
	- Fishing nets identifiers / loss / return liability		
	- Recycle fishing nets, turn into new products offered to fishermen / fishermen children (e.g. nylon backpacks)		
	- Fishing floaters - replacement plastic material by sustainable materials - reduction and phased replacement		
Solutions and strategies proposal	- Promote recycling		
3 -	- Offer conditions for waste storage and collection		
	- Encourage alternative business models		
	- Promote creative hubs dedicated to circular economy		
	- Reinforce awareness campaigns for fishermen and encourage co-responsibility		
	- "Fisheries for a sea without litter" project - reinforcement/expand		

5.2.4. Discussion

After working group presentations about the work carried out, there was an opportunity for discussion and debate among all participants.

The main themes discussed were:

 Training - sustainability/environmental management or marine litter are currently themes that are part of training for all sea professionals, including fishermen (see the FOR-MAR website: http://www.for-mar.pt/)

Communication

- Key factor e.g. language used, information to be included on flyers that also contains useful information (tide tables)
- Organize actions that explain adequate procedures (hands-on actions)
- Monitoring/pedagogical approach by authorities

Passenger ships

- Encourage cruise ships provide non bottled water (some vessels have already implemented programs to reduce plastics, such as the TUI Cruises / Mein Schiff WASTELESS program: https://www.tuicruises.com/nachhaltigkeit/wasteless)
- Act consistently with our supply chain, in order to reduce effectively in plastic products
- Recreational boating and recreational fishing associated with fast increase of touristic activities in Portugal - promote awareness campaigns
- Packaging products (transversal for all sectors) promote deposit-refund systems

5.3. Conclusions and recommendations

The participatory workshop consisted in a collaborative working session in 16 stakeholders were invited to work on barriers to plastic reduction, distributed across tables by sector: tourism, cargo transportation and fishing sectors. Transversal to all working groups, the key findings were:

- The importance of awareness and training campaigns;
- Collection containers more containers for source waste segregated collection;
- More inspection on ports;
- Economical incentives/instruments for better waste management.

Other solution and strategies proposals were:

- Waste classification criteria different on land and sea (indicated by tourism and cargo working groups)
- Promote Port environmental assessment performance (cargo working group)
- Promote the use of reusable products (tourism and fishing working groups)
- Fishing nets identifiers / loss / return liability (fishing sector)
- Promote creative hubs dedicated to circular economy / alternative business models (fishing sector)
- "Fisheries for a sea without litter" project reinforcement/expand (fishing sector)

The event provided a moment with ideas and knowledge shared among all participants. The outputs will contribute to the Change Roadmap 2030, the final document from BL.EU Climate Project.

Overall, the event feedback from the participants was very positive. The Portuguese version of the workshop report was shared with participants.

6. References

Event page on Circular Economy Discussion co-organised with Impact Hub Zagreb https://www.facebook.com/events/561442664622421/

Annexes

ANNEX I - Workshops in CROATIA

ANNEX II - Workshop in GREECE

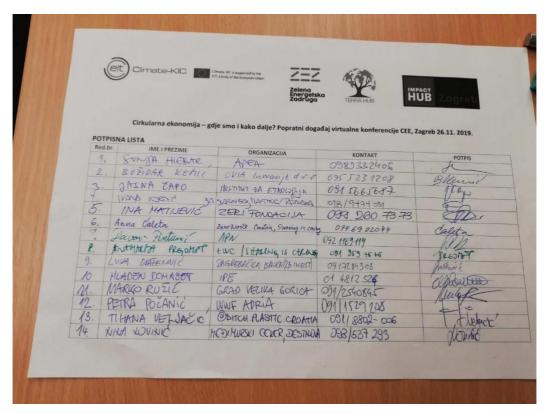
ANNEX III - Workshop in PORTUGAL

ANNEX I - Workshops in CROATIA

I.1 - Participants list Zlarin and Cres discussions and workshops

Table	Name	Entity
	Ivana Kordić	Inicijativa za Zlarin bez plastike
	Ana Robb	Inicijativa za Zlarin bez plastike, Albatros Revolution NGO
	Nataša Kandijaš	Inicijativa za Zlarin bez plastike
Zlarin	Katarina Cetinić	Inicijativa za Zlarin bez plastike
	Katarina Gregov	Inicijativa za Zlarin bez plastike, Tourism Board Zlarin
	Sylvain Petit	SMILO executive secretary, Small Islands Organisation
	Goran Čačić	Terra Hub
	Sandra Vlašić	Terra Hub and ZEZ
	Sanja Živanović	Tourism Board Cres, director
	Ugo Toić	OTRA, director, Island development agency
	Marin Gregorović	Grad Cres, deputy mayor
	Antonio Viskić	Communal company Cres-Lošinj
	Natalia Ribarić	OTRA
Cres	Dijana Kruljac	ACI marina Cres
0.00	Sara Bandera	LAGUR Vela vrata/Fishermen LAG
	Vesna Jakić	Grupa RUTA Cres, NGO
	Jelena Basta	Institut Plavi svijet/Blue World Institute
	Peter Mackelworth	Institut Plavi svijet/ Blue World Institute
	Mirjana Rupčić	Cresanka d.d., hotel Kimen
	Tina Gams	Camp Kovačine, Cresanka d.d.
	Marko Capek	Private owner Airbnb, zero waste, Terra hub
	Sandra Vlašić	Terra Hub and ZEZ

I.2 - List of participants Circular Economy event Zagreb, November 26, 2019 co-organised by Impact Hub Zagreb



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17	Herma HABOISA Hermes Arriaga	It Znords	091 890 3961	Hardju
18	Hermes Arriaga	1th Zagren	099 8750 999	Nowoges
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I.3 - Photos from discussions and workshops:



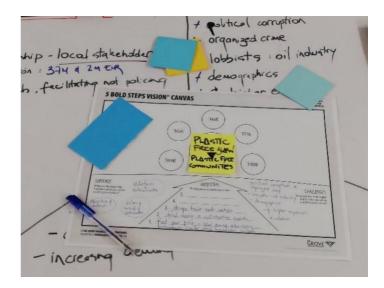
Circular economy event November 26, Zagreb



Circular economy event November 26, Zagreb



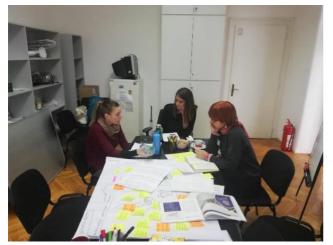
Circular economy event November 26, Zagreb



Circular economy event November 26, Zagreb

Figure I.1 - Working groups activities.

Discussion with Zlarin team December 16, Zagreb



Discussion with Zlarin team December 16, Zagreb



Stakeholder workshop Cres, September 18



Stakeholder workshop Cres, September 18



Figure I.2 - Working groups activities.

ANNEX II - Workshop in GREECE

II.1 - Workshop attendance list

Name	Affiliation	Email
Akinsete Ebun	ATHENA RC	ebun.akinsete@icre8.eu
Arapakis Lefteris	ENALEIA	lefteris.arapakis@gmail.com
Atsikbasis Eleni	Healing Lesvos	eleni@healinglesvos.org
Bousoulas Pavlos	BG Startuper/Phantom Nets	pavlos.mpousoulas@gmail.com
Demian Elias	IOBE	demian@iobe.gr
Giasiranni Stamatia	AEPHORIA	sgiasirani@aephoria.net
Gkolemi Ioanna	Clean Aegean Sea	ioanna.gkolemi@gmail.com
Guittard Alice	ATHENA RC	alice.guittard@icre8.eu
Karidis Dimitris	Municipality of Piraeus	karidisdimitris@gmail.com
Lampropoulou Aliki	Common Seas	aliki@commonseas.com
Laskaridi Suzanna	Laskaridis Foundation/Blue Cycle	slaskaridis@laskaridis.com
Lauren Mezari	Clean Aegean Sea	lauren.mezari@gmail.com
Lekakou Maria	University of Aegean	mlek@aegean.gr
Liogkas Vassilis	Ministry of Environment and Energy	vliogkas@mou.gr
Mitropoulou Annie	Cyclades Prevention Fund (CPF)	anni@cycladespreservationfund.org
Nikitopoulou Elia	Laskaridis Foundation/Blue Cycle	nikitopoulou@laskaridisfoundation.org
Nitas GrIgoris	ENALEIA	grigorisnitas@gmail.com
Papadaki Lydia	ATHENA RC	lydia.papadaki@icre8.eu
Spyrou Dimitris	OLP	dspyrou@olp.gr
Stefanidis Andreas	AEPHORIA	andreas.stefanidis@gmail.com
Tritopoulou Efi	Citipost	efitrito@gmail.com
Veldeki Georgia	HCMR	georgia.veldeki@hcmr.gr

ANNEX III - Workshop in PORTUGAL

III.1 - Participants list

Table	Name	Entity
Tourism	Carla Pacheco	Coastwatch Portugal (ENGO)
	Dora Luz	APIP (Portuguese plastics Industry Association)
	João Fernandes	EGEO (Waste management operator)
	João Filipe	Miracle Horizon - Lisboat (Boat tourist animation operator)
	Sofia Patrício	Blueotter Circular S.A. (Waste management operator)
	Vera Godinho	APL (Port authority)
Ships	Ana Barreiros	ISEL - IPL (Academia)
	Alexandre Trindade	EGEO (Waste management operator)
	Carlos Real	APSS, S.A. (Port authority)
	Graça Viegas	APSS, S.A. (Port authority)
	Sara Mélon	ISE - IPL (Academia)
Fishing	Angélica Azevedo	FCT NOVA (Academia)
	Filipe Pedro	Docapesca - Portos e Lotas, S.A. (Fishing sector state-owned company under the Ministry of Sea)
	Helena Mateus	EGEO (Waste management operator)
	Paula Sobral	APLM - Portuguese Marine Litter Association FCT NOVA (ENGO Academia)
	Ricardo Patrício	AAPLCLZO Associação Armadores da Pesca Local, Costeira, Largo da Zona Oeste (Fishing association)
	Sandra Moutinho	DGRM - Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (Public Administration - Portuguese Ministry of Sea)

III.2 - Working Group Activities













Figure III.2 - Working groups activities.

III.3 - Workshop evaluation

At the end of the session, participants were asked to evaluate the workshop indicating: i) what they liked most, ii) what they liked least and, iii) suggestions. The answers were analyzed and classified.



Figure III.1 - Workshop evaluation form.

Participants liked most 65% of participants pointed the interaction / dynamics of the event as well as the opportunity to share ideas and knowledge.

Participants liked least 75% of participants indicated that they would like to have more time to develop the activities.

Suggestions More similar events were indicated by almost 50% of participants.