

Monthly E-Bulletin of the Project “Zero Waste Strategy for Good Environmental Status-BSB257”

E-Bulletin No:24

Common borders. Common solutions

This project is funded by the 1st Call for Proposal of the Joint Operational Programme “BLACK SEA BASIN 2014-2020”

BSB257 ZEWSGES (Zero Waste Strategy for a Good Environmental Status) Project

The Last e-Bulletin

About the ZEWSGES Project and the Program by which it is supported

The Project started on the 13th of September 2018. The Black Sea Basin Programme 2014-2020 is part of European Union’s Cross-Border Cooperation (CBC) under its European Neighborhood Instrument (ENI). The Black Sea Basin Programme focuses on a set of objectives and priorities, reflecting the countries’ specific circumstances and requirements, as presented below.

Black Sea Basin ENI Cross-Border Cooperation programme 2014-2020 - Objectives and Priorities:

Overall objective

Improve the welfare of the people in the Black Sea basin regions through sustainable growth and joint environmental protection

Specific objectives and priorities (ZEWSGES project is supported under the Priority 2.2.)

- Specific objective 1. Promote business and entrepreneurship within the Black Sea basin
 - Priority 1.1 Jointly promote business and entrepreneurship in the tourism and cultural sectors
 - Priority 1.2 Increase cross-border trade opportunities and modernisation in the agricultural and connected sectors
- Specific objective 2. Promote coordination of environmental protection and joint reduction of marine litter in the Black Sea basin
 - Priority 2.1 Improve joint environmental monitoring
 - *Priority 2.2 Promote common awareness-raising and joint actions to reduce river and marine litter*

Brief about ZEWSGES

Lead partner Of the Action:

- Tekirdag Namik Kemal University (Turkey)

Partners

- Tourism Development Council in Nessebar Municipality BULGARIA
- Ukrainian Marine Environment Protection Association UKRMEPA UKRAINE
- International Association “Civitas Georgica” CIVITAS GEORGIA



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Overall Objectives of the Joint Action

The action aims at contributing to overall reduction in, (1) the number of visible (> 2.5 cm) litter items on coastlines including plastic, fishing and sanitary litter items on coastlines; (2) the number of litter items per square meter on the sea bed including fishing related litter items on the sea bed from 2012 levels by 2020, in Odessa, in Ukraine; Bourgas, in Bulgaria; Guria, in Georgia and Tekirdağ, in Turkey.

Specific Objectives of the Action

- **Marine litter collection and disposal:** The action undertakes, (1) four 'Fishing for Litter' campaigns (one in each country) with local fishermen collecting min. 1,5 tonnes of derelict fishing gear from the sea-bed; (2) four beach clean-up campaigns (one in each country) with 7-16 age group children and their teachers collecting min. 0,5 tonnes of litter from beaches.
- **Public awareness among children:** 40 primary/secondary schools (15 from Turkey, 5 from Bulgaria, 10 from Ukraine, 10 from Georgia), 50 NGOs (15 from Turkey, 5 from Bulgaria, 20 from Ukraine, 10 from Georgia) and 25 local media organisations (10 from Turkey, 5 from Bulgaria, 7 from Ukraine, 3 from Georgia) will be involved in the Ecosystem Education Program (EEP) which has already been started within ILMM-BSE project for environmental education and public awareness in Turkey, Bulgaria, Ukraine and Georgia.

Target Groups of the Action

The target groups of the action are 7-16 age group primary and secondary school students and their teachers, local fishermen and local communities

Duration of the Action:

The Duration of the Action is **24 months**.

Total Budget of the Action

The total budget of the Action is **€ 872 118.00**.

Estimated Results of the Action

The estimated results include proper implementation of waste management legislation, reduction of marine litter on beaches and seas, improvement of residents and tourists' waste related behavior, creation of a monitoring programme, and the coherence of relevant initiatives contributing to reaching a regional Good Environmental Status based on, and guided by, ecological knowledge to achieve the maximum degree of ecosystem protection commensurate with the highest sustainable quality of living for mankind.

Main Activities of the Action

The main activities of the action include project management activities, communication activities, integrating activities and joint zero waste activities.

Marine pollution and ZEWSGES Projects



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Definition of Marine Pollution

The United Nations Convention on the Law of the Sea defined Marine pollution as the introduction by man, directly or indirectly, of substances or energy into the marine environment which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of the sea water and reduction of amenities’.

Why is cross-border cooperation needed to achieve the ZEWSGES project objectives and results?

The history of aquatic environmental pollution goes back to the very beginning of the history of human civilization. However, aquatic pollution did not receive much attention until a threshold level was reached with adverse consequences on the ecosystems and organisms. The nature of this waste has changed dramatically over the last 30 to 40 years due to the introduction of synthetic materials such as plastics. Human garbage, including synthetics and plastics, have inevitably found their way into the world’s seas. Marine debris is one of the world’s most pervasive pollution problems affecting the seas.

Large concentrations of floating waste were found in the central part of the Black Sea. It is well known that the Black Sea has a surface-rich oxygen layer, under which a deep, oxygen-free layer is saturated with dissolved hydrogen sulfide. The oxygen-free zone is located at a depth below 90-160 m and occupies about 87% of the sea. Over the past 20 years, the hydrogen sulfide layer has risen by 20-25 m. This negative trend has been confirmed by research in 2016.

It poses a complex and multi-dimensional challenge. In this regard, partnering countries of the action sharing a marine region or sub-region in Black Sea shall draw up awareness programmes and clean-up campaigns in the interest of coherence and coordination, endeavour to ensure that: (a) activities envisaged are consistent across the marine region or sub-region so far as to facilitate comparability of monitoring results; (b) relevant trans boundary impacts and trans boundary features are taken into account. “Coordinated coherent prevention and reduction effort will be practically and financially.

What is the ZEWSGES project approach in addressing common challenges?

Solid materials, typically waste, that has found its way to the marine environment is known to be the cause of injuries and deaths of numerous marine animals and birds. Countless marine animals have been killed or harmed by marine debris primarily because they either become entangled in it, or, they mistake plastic debris for food and ingest it. A review of entanglement and ingestion of marine debris by marine organisms showed that these phenomena had been known to affect individuals of at least 267 species world-wide. This included 86% of all sea turtles, 44% of all seabird species, 43% of all marine mammal species and numerous fish and crustacean species.

In this respect, the action will go beyond a product-by-product approach to reducing debris’ impacts in the sea. With this knowledge comes the responsibility to seek the most effective solutions to stop the flow of solid wastes into our seas. These solutions must range from changing our own behaviour as consumers to local efforts such as coastal clean-up and product specific policy to transformative ways to manage waste at the global scale. In this respect: (1) Littering



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caused by beachgoers becomes marine debris including items such as food packaging and beverage containers, cigarette butts and plastic beach toys. The action will fight against this by **beach clean-ups bringing people together** - school children, and teachers, as well as members of environmental, cultural and civic organizations. (2) The geographical distribution of litter on the sea floor (i.e. seafloor litter) is strongly influenced by hydrodynamics, geomorphology and human factors. Under the weight of fouling by a wide variety of organisms, most litter will eventually sink to the bottom. Currents will enable transportation of litter to areas of accumulation, such as the seafloor and for most of the species concerned, significant numbers of individuals are affected. This will be addressed by the action through mobilisation of local fishermen in 'Fishing for Litter' campaigns involving collection of derelict fishing gear abandoned by them on the sea floor, and for this reason, these species will be benefiting from the action asco-habitants of the same ecosystem with humans, as well.

What are the common territorial challenges that will be tackled by the ZEWSGES project?

Recently, it was estimated that a staggering 6.4 million tons of garbage reach the marine environment every year. Estimates suggesting that there are currently over 18,000 pieces of plastic litter floating on every square kilometre of seas have been reported by UNEP (United Nations Environment Program) (UNEP 2005). The significant marine litter reduction at global level was the only new target agreed at the Rio+20 summit in 2012. In the mean time, the assessment of the status of marine litter in the Mediterranean prepared by MAP partners in 2008 in the framework of UNEP/MAP MED POL Programme found that, (1) most of marine litter come from land based sources; (2) inadequate solid waste management is a major driver to generate marine litter in the region; (3) data gaps and inconsistency exists at national, sub regional and regional levels; (4) monitoring of marine litter needs substantive improvement; and (5) there is high potential to implement recycling and prevention measures in the region. Therefore, knowledge of the pollution sources and impacts on ecosystems is important not only for a better understanding on the ecosystem responses to pollutants but also to formulate prevention measures.

Many of the sources of aquatic pollutions are generally well known and huge effort has been devoted to the issue. However, new concepts and ideas on environmental pollution are emerging (e.g., biological pollution) with a corresponding need for an update of the knowledge. Because the pollution problem is characterized by interconnectedness, complicated interactions, uncertainty, conflicts and constraints, this makes it difficult to control the problem. Moreover, because scientific knowledge on marine pollution is patchy, knowledge gaps have been identified as one of the major problems in introducing effective management strategies for its control. Disposal into waterways is a very ancient practice of dealing with wastes and the open waterways have been used by people for dumping all kinds of waste produced. Consequently, most of the aquatic environments are now polluted to some extent; situations are even critical near intensive human settlements.

Development of a Method for Marine (Beach) Litter Monitoring and Reporting under ZEWSGES Project

It is necessary to recognize the quantity and quality of marine litter which gets into our marine areas in order to develop policies and strategies to decrease that litter or to raise the effectiveness



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of current precautions. The European Marine Strategy Framework Directive (MSFD), which has defined the marine litter to assess “The Good Environmental Status” of the sea environment, comprises the commitment of monitoring beach litter. The beach surveys carried out regarding this protocol are available to monitor the quantity and composition of the marine litter washed away to the land as well as the qualitative features of its sources

OSPAR (OSPAR Commission, 2010) prepared the guidelines as a data collection tool for monitoring the marine litter with a standard methodology.

Marine litter monitoring activities have been planned for ZEWSGES Project on four coastal areas in four countries on the Black Sea Coastline including Turkey, Ukraine, Bulgaria and Georgia, regarding the detailed methodology specified as follows.

Selecting the Coastal Areas to Treat

The criteria defined by the OSPAR Beach Monitoring Guideline (OSPAR Commission, 2010) to select the referral coasts are as follows:

- Having a minimum length of 100 m,
- Low to moderate slope,
- Clear access to sea,
- Accessible to survey teams throughout the year,
- Ideally the site should not be subject to cleaning activities,
- Survey activities posing no threat to endangered or protected species.

The selected coasts to treat are listed below:

- Kiyıköy (Turkey)
- Kryzhansky, Odessa (Ukraine)
- Smrikite, Bourgas (Bulgaria)
- Kvavilnari (Georgia)

Sampling Areas

Regarding OSPAR criteria, all the litter has been collected into waste bags within a 100-metre monitoring area parallel to the beach.

Monitoring frequency and period

- Winter: Mid-December - mid-January
- Spring: April
- Summer: Mid-June - mid-July
- Autumn: Mid-September - mid-October



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Figure 1. Marine litter monitoring unit.

Item classification

The litter has been classified according to OSPAR Guidelines (Guideline for Monitoring Marine Litter on the Beaches in the OSPAR Maritime Area, OSPAR scoring lists (OSPAR Commission, 2010). The litter items on the OSPAR lists are connected to different sources.

Litter is categorized under:

- shipping,
- fisheries, tourism,
- sanitation and
- other

All the items of the sampling is recorded on OSPAR survey forms with an OPRAR identification number while unknown litter or unidentified items by OPRAR have been put into “other item box” with a short description.

Data Management

Beach litter monitoring are recorded on the database after the activity in order to process the results. The copied monitoring surveys have also been scanned and saved in digital format. The data gathered about beach litter will be used to have trend analysis on annual basis. The analysis done are trend analysis, calculation of total item counts, source analysis and material analysis.

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Figure. Marine litter monitoring activities in Turkey (above left), Georgia (below left), Ukraine (above right) and Bulgaria (below right).

Eight litter monitoring activities in each partner country were realised as they were planned. The collected litter were counted, classified, analysed and entered into the “Marine Litter Watch Database”.

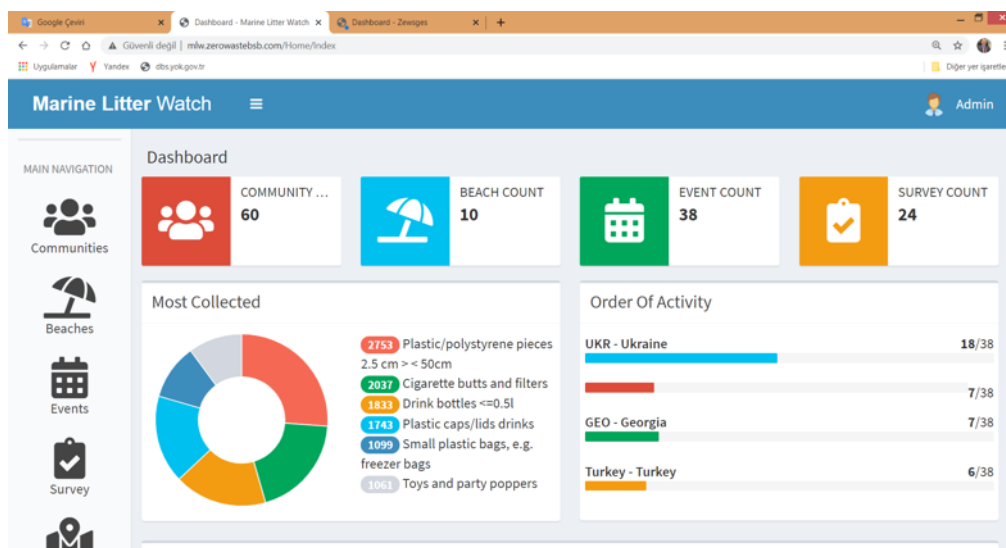


Figure. Marine Litter Watch Database

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Ecosystem Education Program (EEP) of ZEWSGES Project

One of the main activities of ZEWSGES Project is public awareness among 7-16 aged students and their teachers under Ecosystem Education Program (EEP). Within the scope of this activity about 75 primary/secondary schools (50 from Turkey, 5 from Bulgaria, 10 from Ukraine, 10 from Georgia), 50 NGOs (15 from Turkey, 5 from Bulgaria, 20 from Ukraine, 10 from Georgia) and 25 local media organisations (10 from Turkey, 5 from Bulgaria, 7 from Ukraine, 3 from Georgia) are expected to be involved in the Ecosystem Education Program (EEP). So far, 193 teachers and 3690 students from 101 schools in four partnering countries, namely, Turkey, Bulgaria, Ukraine and Georgia, have been registered in the EEP integrated database. While all the registered teachers have been trained, part of the students have been educated via classical class meetings. EEP will cover about 2000 students at 7-16 age primary and secondary schools and their teachers.

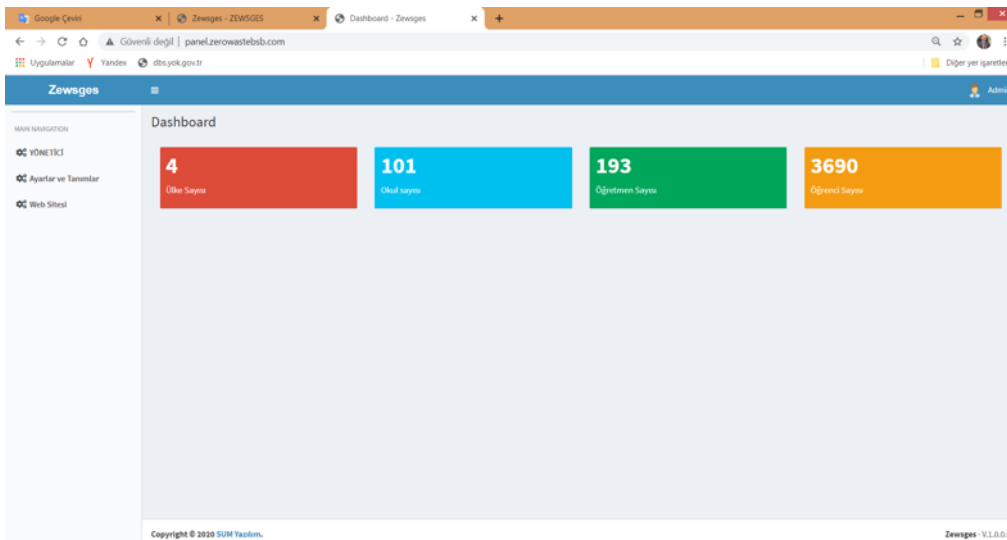


Figure. Number of schools, teachers and students registered in the EEP integrated database in the partnering countries, namely, Turkey, Bulgaria, Ukraine and Georgia.

Before the start of the COVID-pandemic restrictions, Turkey has trained 692 students in 50 schools; Bulgaria has trained 415 students in 4 schools; and Georgia has trained 105 students in 7 schools. Ukraine has managed to train 41 teachers and 986 students remotely during the pandemic. The remaining students will be trained online via WEBINAR. The software for online education is being developed now.

Ecosystem Education Set

- Nineteen short video films and its guide book,
- An online game
- A poster
- A brochure,
- A DVD



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Figure Students and teachers ecosystem training

The main purpose of our campaign is to inform our students about ecosystem and to aid to create a perception of responsibility for preserving their environment in a sustainable way. The students completed the EEP are expected to realize the following gains:

- Understand the concept of ecosystem.
- Develop an understanding of the ecosystem in their region/basin.
- Become aware of the threats to the ecosystem in their region/basin.
- Recognize the threat of personal behaviour towards the ecosystem.
- Understand that they can reduce threats to the ecosystem through their individual efforts.
- Recognize the role of each individual in eliminating threats to the ecosystem.
- Will be able to establish voluntary organizations and targeted working groups.
- Question the sustainability of the initiatives to be made in their region/basin.
- Understand the importance and sustainability of the relationship between the use of resources and the carrying capacity of nature.



Figure. Project poster and brochure



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Meetings

Project 1st Congress Project 1st Workshop Project Press Conference and Project 6st Coordination Meeting were held on 14th and 15th May, 2019 at Exhibition Centre “Flora” in Bourgas-BULGARIA in the Supervision of Tourism Development Council in Nessebar Municipality (TDCNM).



Figure. Project meeting in Bourgas-Bulgaria

Project 2nd Congress Project 2nd Workshop, Project Press Conference and Project 10th Coordination Meeting were held on 19th and 20th September, 2019 at Deribas Hotel in Odessa UKRAINE under the supervision of the Ukrainian Marine Environment Protection Association (UKRMEPA).



Figure. Project meeting in Odessa-Ukraine

The remaining two meetings to be held in Georgia and Turkey will be realised online via WEBINAR, in October 2020 and December 2020, respectively.

Other events during the implementation of ZEWSGES Project

The interview by Mrs. Volha PROKHARAVA with Ecosystem Education Program Coordinator Fatih KONUKCU (Tekirdag Namik Kemal University-TURKEY) on ZEWSGES Project activities and outcomes was published in TESIM ENI-CBC web site (<https://tesim-enicbc.eu/voices/citizens-against-marine-litter/>) and Facebook.

ZEWSGES was introduced at the Laboratory Group organised by TESIM during the EU Regions WEEK in Brussels.



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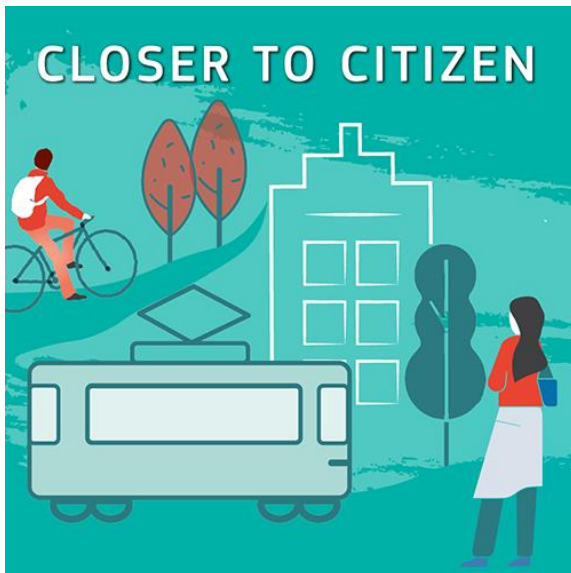


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Citizens for greener cross-border regions along the EU's external borders

Moderators:

Mathieu BOUSQUET, Head of Unit C1, DG NEAR (EC), Belgium.

Rosario Sapienza, Head of the Joint Technical Secretariat Italy-Tunisia, Joint Technical Secretariat ENI CBC Italy-Tur Sicilian Region, Italy.

Speakers:

Fatih Konukcu from ZEWSGES project Black Sea Basin CBC,

Anna Kryukova from "Water meets people" project South-East Finland - Russia CBC Programme and Estonia-Russia CBC Programme 2014-2020, Kolarctic CBC.

Code: 10PL446

Format: Participatory Lab - world café, ideas labs

Theme: A Europe Closer to Citizen

Partner: TESIM - TA for ENI CBC programmes

Language: English

Venue: Building SQUARE - Brussels Convention Centre, Room Hall 100.

Address: Mont des Arts, 1000 Brussels

<https://www.facebook.com/enicbc/videos/389751595307605/>

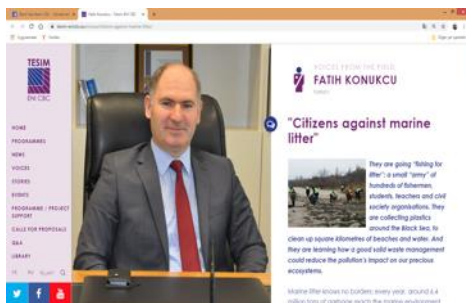


Figure. The interview by Mrs. Volha PROKHARAVA and EU Regions WEEK in Brussels (citizens)

ZEWSGES was introduced to Minister of Transport and Infrastructure in National Marine Safety and Emergency Intervention Center opening ceremony in Marmara Ereğlisi Town of Tekirdag.



Figure. ZEWSGES introduction to Minister of Transport and Infrastructure in Tekirdag.



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ZEWSGES Project has been selected to be part of the "Interreg 30 years - Projects' publication and exhibition.

Project index by topic

green connections	neighbour cohesion	youth cooperation
22 _ ZEWSGES	38 _ Kaliningrad and Klaipeda maritime	54 _ EUR.friends
23 _ CleanAtlantic	39 _ Museums over the borders	55 _ iEER
24 _ coop MDD	40 _ SmartVillages	56 _ RYE CONNECT
25 _ SAPOLL	41 _ EUROCIDADE 2020	57 _ ActiveGirls
26 _ PESCAR	42 _ Take Canal	58 _ SMART-UP
27 _ BIOVAL	43 _ TOURISMED	59 _ GHELP
28 _ INNieme	44 _ In For Care	60 _ Rampen/Ramppi
29 _ Carnivora Dinarica	45 _ Reconnecting with Sorbian culture	61 _ Strong Neighbours: German-Czech
30 _ REW-BE-LAS	46 _ Cross-border day-care	62 _ PAREO
31 _ SUPER-LNG	47 _ Preserving our heritage together	63 _ Peace Bytes
32 _ ADAPTARES	48 _ AFRIMAC	64 _ ELAN
33 _ ECOMARPORT	49 _ OCS - Dyspeck, Cooperation, Santé	65 _ Formaterra
34 _ ReNovRisk-Cyclones	50 _ CARBSKY	66 _ Au fil des Iles
35 _ STEU	51 _ GEO-IN	

Figure. ZEWSGES Project posters in the “Interreg 30 years - Projects publication and exhibition”

Online Interview: ZEWSGES Project was selected “Environmental Challenges” Thematic Cluster as a good practice to be transferred in other areas.



Figure Online interview by TESIM for Environmental Challenges

TESIM ENI CBC Experts Mr. Huseyin AKTURK and Mrs. Ruben SARUKHANYAN realised online interviews with Prof. Dr. Fatih KONUKCU (Tekirdag Namik Kemal University-TURKEY) on the 7th of May 2020 and with Mr Mamuka GVILAVA (CIVITAS Georgica-GEORGIA) on the 18th of May 2020, respectively, for “Environmental Challenges” Thematic Cluster. The main interest was in better communicating at EU level those projects that could represent a good practice to be transferred in other areas.



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Press Release: Tekirdag Namik Kemal University (TNKU), Çorlu Engineering Faculty Dean **Prof. Dr. TECER** and Faculty students gave a press release during beach cleaning and marine litter monitoring activity. **Prof. TECER** emphasized that the measures to combat COVID-19 reduce the pollution in the sea and coasts! (<https://www.hurriyet.com.tr/seyahat/ordudaki-boztepede-yamac-parasutu-ucuslari-yeniden-basladi-41560325>,<https://www.mynet.com/kirklareli-kiyikoy-sahilinde-kirliligin-azaldigi-belirlendi-tekirdag-6537280-myvideo>).



Figure. Beach cleaning and marine litter monitoring activity in Kiyikoy Tekirdag.

The editor of the material: Tekirdağ Namik Kemal University

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