Interreg Greece-Bulgaria
BIO2CARE
European Regional Development Fund

Rethinking management of protected areas towards a circular economy – The BIO2CARE project

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Brief Description

The Project BIO2CARE is CBC GR-BG 2014-2020 ongoing project, and aims at reinforcing the administrative capacities and effectiveness of ***Protected Areas Management Bodies (PAMBs)***, in benefit of biodiversity and local communities, through the implementation of an innovative and integrated approach.

In particular, during the project the following will be implemented:

a) Development of an innovative decision-making tool assessing the environmental impacts resulting from anthropogenic activities in protected areas;

b) Installation of specific equipment to monitor illegal activities within the boundaries of the protected areas under study (National parks of Eastern Macedonia & Thrace and Rila)

c) Construction of hiking routes and development of a mobile phone application for disabled persons, aiming to the improvement of their visiting experience to national parks;

d) Providing specific training and information to target groups (e.g. training regarding biodiversity preservation, circular economy and industrial symbiosis practices);

e) Further networking and communication actions. (e.g. presentations to external events, papers to scientific journals/conferences, promo material, social networking)

Partnership

- The Project BIO2CARE consists of eight (8) partners, balancing between the Greek and Bulgarian side.

  - Democritus University of Thrace (Laboratory of Environmental Management and Industrial Ecology) – **Lead Beneficiary**
  - Municipality of Nestos
  - The Goulandris Natural History Museum / Greek Biotope Wetland Centre
  - National Confederation of Disabled People

  - Regional Inspectorate of Environment and Water – Blagoevgrad
  - National Park Rila
  - South-West University Neofit Rilski, Faculty of Mathematics and Natural Sciences
  - Pirin Tourism Forum

Expected Outputs

BIO2CARE applies an integrated approach responding to the entire environmental system of a protected area. It will deliver a wide range of differentiated outputs. Its main deliverables are:

➢ D.1: Set of studies
- Methodology, description and analysis of the existing situation (both natural and anthropogenic);
- SWOT analysis study.

➢ D.2: Monitoring networks for:
- high-tech monitoring of fauna and flora;
- high-tech monitoring of illegal activities.

➢ D.3: E-tools / software:
- *BIO2CARE Calc*, for estimating the carrying capacity in the areas of interest;
- *BIO2CARE Symbiosis*, for examining, assessing and proposing potential symbiotic activities;
- *BIO4TOURISM*, smart application (in OSX and Android) for facilitating and promoting green tourism.

➢ D.4: Infrastructure - pathways for recreational purposes and birdwatching for handicapped and disabled people.

➢ D.5: Development and implementation of a sustainability labelling scheme with varying certification levels.

➢ D.6: Training sessions and workshops
- regarding the use of BIO2CARE Software
- regarding BIO2CARE labelling scheme

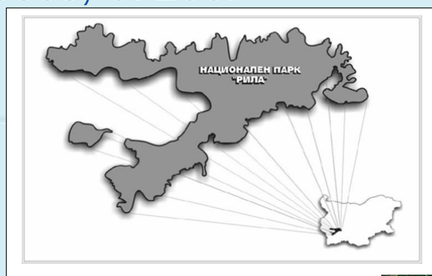
Study Areas

The BIO2CARE activities will be implemented and demonstrated in two study-areas: 1) the National Park of Eastern Macedonia and Thrace (NP-EMATH) and 2) the Rila National Park (RNPD) including the catchment area of the river basin of Blagoegradska Bistrica.

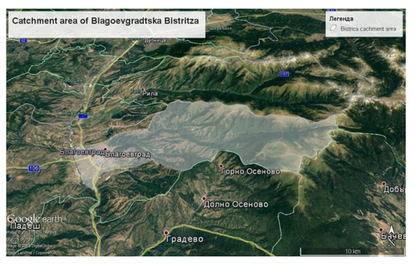
Boundaries of NP-EMATH

These areas include not only the areas of absolute protection but also neighboring areas where anthropogenic activity is intense.

In this way, the results of the Project BIO2CARE will benefit not only the protection of natural environment and biodiversity of the areas, but also local communities through the development and adoption of circular economy and green entrepreneurship strategies.



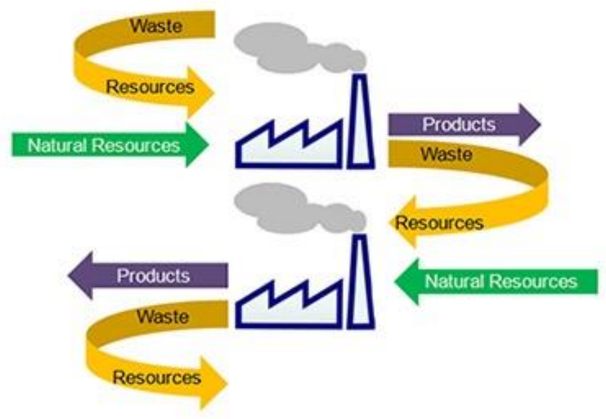
Boundaries of Rila National Park



Boundaries of Blagoegradska Bistrica river catchment area

Towards Circular Economy

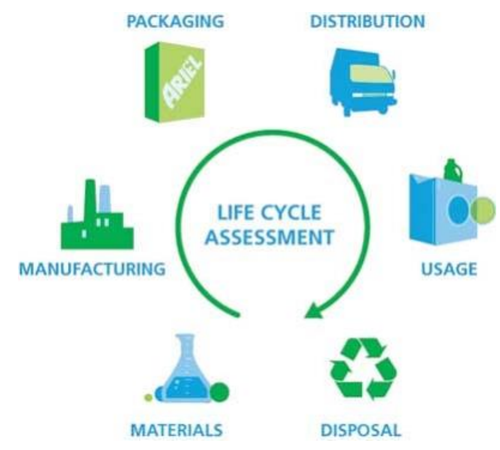
- The successful transition towards Circular Economy will be planned by implementing principles of **Industrial Symbiosis** within the boundaries of the two areas of interest.
- *Industrial Symbiosis involves a collective approach to competitive advantage through the physical exchange of materials, energy, water and/or byproducts, or the shared use of assets, logistics and expertise.*



- The quantification of the environmental benefits from the implementation of symbiotic activities (part of the studies from D.1) follows three stages:

1. Life Cycle Assessment (LCA) model of the existing situation within the protected areas of interest;
2. Development of an Industrial Symbiosis case study, where potential symbiotic activities will be identified;
3. LCA model of the new symbiotic scenario, measuring and quantifying the new impacts.

- LCA approach guarantees an objective outlook through a systematic set of procedures for compiling and examining the inputs and outputs of materials and energy and the associated environmental impacts directly attributable to the functioning of a product or service system throughout its life cycle.



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BIO2CARE is a CBC GR-BG 2014-2020 ongoing project aiming to reinforce protected areas capacity through an innovative methodology for sustainability. During the project, a decision support platform is jointly developed by management bodies, public authorities and universities within the area of a coastal protected area in Greece (the National Park of East Macedonia and Thrace) and a mountainous protected area in Bulgaria (the Rila National Park). The platform will include various studies, methods and tools that will facilitate the identification of key anthropogenic activities that affect the environmental sustainability of the areas and quantify their impact on biodiversity. Under this framework, a model-case study will be designed building upon the principles of circular economy to assess the symbiotic potential of the existing and future activities within the examined areas. Based on this model, a comparative study will be conducted with the utilization of the Life Cycle Assessment approach and relevant software, presenting the benefits of circular economy for the environment (existing situation vs. symbiotic situation). To do so, key material and energy flows within the national parks will be quantified and assessed. Respective software (BIO2CARE Symbiosis) will be further developedfor examining, assessing and proposing potential symbiotic activities in the areas of interest. During the ECOCITY forum 2018, the circular economy model-case study for protected areas and initial results will be analytically presented and discussed thus initiating a dialogue on how the management bodies of protected areas can benefit from the promotion of circular economy.