Union for the Mediterranean
Union pour la Méditerranée
الإتحاد من أجل المتوسط

2030GreenerMed
AGENDA FOR A GREENER MEDITERRANEAN

Baseline Assessment Report

February 2022

Acknowledgements

Supervisor: Alessandra Sensi

Research Team: Nina Retzlaff, Frank Müller, Johanna Klein, Anna María Franco Gantiva, Jorge Alarcón

SDG contribution analysis: Simone Cresti, Giovanni Stanghellini

Ecological Footprint analysis: Maria Serena Mancini, Leopold Wambersie, and Alessandro Galli

This work has been carried out under the UfM Environment Task Force, as part of the UfM Working Group on Environment and Climate Change; within the *2030 Agenda for a Greener Med - Contributing to Achieving the Environmental SDGs in the Mediterranean* (so called 2030GreenerMed Agenda); and the related UfM Ministerial/s on Environment and Climate Change, in particular the latest one adopted in Cairo on the 4th of October 2021. It is addressed to the UfM Environment community, made up of the 42 UfM member countries and a wide range of stakeholders, including representatives of regional organisations, academia, local authorities, private sector, and civil society, etc.

The UfM Secretariat would like to thank all contributing authors and all 2030GreenerMed supporting projects, programmes and initiatives that shared information to feed into this pilot application of the agenda's monitoring approach.

List of Acronyms

CBC	Cross-Border Cooperation
CSF	Civil Society Facility
DMC	Domestic Material Consumption
ENI South	European Neighborhood Instruments
EPPA	Environment Partnership Programme for Accession
EUSAIR	EU Strategy for the Adriatic and Ionian Region
FAO	Food and Agricultural Organization
GEF	Global Environment Facility
Gha	Global hectare
GIZ	Gesellschaft für Internationale Zusammenarbeit
H2020 RTD	Horizon 2020 Research and Technological Development
IPA II	Instrument for Pre-Accession Assistance
IPCC	Intergovernmental Panel on Climate Change
KA	Key Actions
KBA	Key Biodiversity Area
MD	Materials directly used in the economy
ME	Materials exported
MedECC	Mediterranean Experts on Climate and Environmental Change
MedPAN	Mediterranean Protected Areas Network
MPA	Marine Protected Areas
MSW	Municipal Solid Waste
OHI	Ocean Health Index
PRIMA	Partnership for Research and Innovation in the Mediterranean Area
RLI	Red list index of species survival
SCP	Sustainable Consumption and Production
SDGs	Sustainable Development Goals
SDSN	Sustainable Development Solutions Network
ToC	Theory of Change

List of figures

List of tables

Table of Content

1. Introduction

1.1 Background and context

The Euro-Mediterranean region faces important challenges on land, at sea and in the air that are caused by anthropogenic changes in the environment. Climate change, population increase, pollution, unsustainable land and sea use practices are threatening the region's natural habitats and ecosystems.

The UfM Environment Agenda for the Euro-Mediterranean region calls for a shift to sustainable consumption, management and production patterns; increasing resource efficiency and pollution prevention; preserving and restoring ecosystems; promoting nature-based solutions; and moving towards a circular approach. This is essential to address environmental degradation and climate change and shape a new future in harmony with nature.

The UfM 2030GreenerMed Agenda defines the post-2020 UfM Environment Agenda. Collaboratively developed and agreed by countries and stakeholders, 2030GreenerMed addresses key environmental issues in the Mediterranean that require cooperation across borders and sectors, linking international, national, regional and local level decision making and experience.

The UfM 2030GreenerMed Agenda provides a regional structured framework that, based on the coordination of existing and future programmes and projects, creates political and operational convergence to accelerate the transition of the Mediterranean region towards a greener/more circular economy and sustainable model of development, generating a virtuous socio-economic cycle and taking due care of the environment and its precious resources. It is a joint flagship agenda that supports the implementation of the Ministerial Declaration on Environment and Climate Change endorsed in 2021 in an inclusive and open spirit that reflects the collaborative nature of the Ministerial Declaration.

The core objective of the 2030GreenerMed Agenda is to set the framework to coordinate, streamline and promote the efforts in the Mediterranean region – involving UfM member countries and other relevant stakeholders, including regional partners and local authorities, through a participatory approach, to:

Figure 1. Thematic axes of the UfM 2030GreenerMed agenda

The agenda is a living document and was built on the conclusions and results of the H2020 Initiative for a Cleaner Mediterranean, the SCP programmes and other relevant programmes. It contains three thematic axes with related key actions (KA) as well as a cross-cutting area on regional partnerships. It is also linked to the Agenda 2030 and the Sustainable Development Goals (SDGs).

The KA under each thematic axis, summarize the joint specific actions agreed by the UfM countries as per the 2030GreenerMed document.[1]

Identified Key Actions under 2030GreenerMed Thematic Axis 1

KA1.1 Support Sustainable Consumption and Production
KA1.2 Increase Resource Efficiency
KA1.3 Adopt innovative solutions along the entire value chain (across sectors and industries, urban and rural)
KA1.4 Promote changes in business practices, trade, public policy
KA1.5 Promote changes in education, behavior and lifestyles
KA1.6 Engage all stakeholders (private, public and society/consumer level) and raise awareness

Extensive description of the KAs:

- *Increasing resource efficiency in value chains: Supporting recycling and recovery of raw materials through promotion of extended producer responsibility, circular and eco-design with an integrated life-cycle approach, efficient separation, collection and recycling systems; Repair, refurbish and remanufacture schemes enabling reuse/repurpose of products; Securing sustainable supply of raw materials (substitutions, renewable resources, environmental/social transparency of supply and value chains); Eco innovation and new business models (e.g. product service systems, technological and social innovation, industrial symbiosis, etc.); Appropriate governance, market incentives and finance (cross-cutting issues - green procurement, certification schemes, reforms and taxation favouring green investments and entrepreneurship, etc.); Promoting sustainable trade and trade-related policies.*
- *Importance of a change to more sustainable consumption patterns, taking into account existing traditional or cultural practices that are aligned with sustainability objectives. Encourage healthier diets consistent with the traditional Mediterranean diet.*
- *Links to Education for Sustainable Development, at all educational levels of formal, informal and non-formal education, including the development of transformative learning environments that induce positive change of minds and give impulse to action, e.g. including awareness of consumer behaviour (food, fashion, etc.), the role of the consumer and its rights and responsibilities, as well as support of consumer movements.*
- *Green manufacturing: promotion of industries and biotechnologies promoting resource efficiency and waste prevention.*
- *Eco-labelling: homogenization of methods to assess the environmental performances of a product during its lifecycle. Market up-take of Product Environmental Footprint for environmental communication to consumers.*
- *Enhance the importance of integrating Sustainable Consumption and Production into national strategies. Promote comprehensive policy reform to enable more sustainable consumption and production, including the integration into national strategies.*
- *Promote low-carbon economy, in particular in the field of energy, mobility, tourism, etc.*
- *Reinforcement of rural development by promoting new circular business models and green economy.*

[1] A more extensive description of key actions is included in the 2030GreenerMed document and in the annex of this report.

- *Agriculture and livestock: treatment and valorisation of organic waste from agricultural sources such as livestock waste (slurry and manure) promoting nutrient recovery and preventing environmental pollution. Promote the use of innovative technologies to produce tailor-made fertilizers, as well as reduction of the use of pesticides and fertilizers. Management of other type of waste from farms, poultry houses, greenhouses and slaughterhouses.*
- *Food waste: reduce food waste including all the stages in the agri-food chain, avoiding the unnecessary use of resources and reducing the generation of waste.*
- *Urban waste: particular focus on activities such as preparation for reuse and recycling of municipal waste should be increased in order to deliver substantial environmental, economic and social benefits and to accelerate the shift towards a circular economy.*
- *More focus on public awareness raising activities and capacity building programs targeting different stakeholders.*

Identified Key Actions under 2030GreenerMed Thematic Axis 2

KA2.1 Strengthen mechanisms for pollution prevention and reduction from different sources through application of a source-to-sea/ridge-to-reef approach
KA2.2 Put a particular focus on plastic pollution and marine litter as well as other inorganic and organic pollution sources
KA2.3 Facilitate investments in infrastructure
KA2.4 Reduce chemical pollution
KA2.5 Improve soil quality
KA2.6 Reduce and control air pollution
KA2.7 Reduce landfilled waste

Extensive description of the KAs:

- *Pollution Prevention: Support to waste management; valorisation of waste; incentives to new green businesses to integrate R&I results; Promote public and private investments in infrastructure (green and grey) for pollution prevention and reduction from solid waste, waste water, industrial emissions, transport emissions, etc.; With respect to plastics - strengthening of actions against single-use plastics; promotion of environmentally sound alternatives to plastics (on land and at sea), such as biodegradable bioplastics; use of alternative materials and identification/replacement of related toxic substances including chemical components to soil, air and water ; partnerships and coordination among different actors (private, public, etc.) in the plastics value chain; reference to/ coordination with the EU plastic strategy within a circular economy approach; plastic prevention, monitoring, cleaning.*
- *Plastic pollution with special focus on marine litter:*
  - ✓ *Identification/ Mapping of marine litter sources and typology floating and in deep area, sources/accumulation points/areas/hotspots in the Mediterranean; baseline assessment, support the establishment of regional marine litter monitoring methodologies/support the implementation of existing monitoring systems;*
  - ✓ *Identification of specific/targeted prevention and mitigation actions;*
  - ✓ *Assessment of the research and awareness raising on impacts on biodiversity and human health and promotion of precautionary approach to micro and nano plastics in food chains;*
  - ✓ *Improvement of marine (sea/ocean) literacy and promotion of a Marine Culture within a wider Education for Sustainable Development (ESD) approach;*
  - ✓ *Supporting the implementation of harmonized marine litter monitoring methods; Identification of means to reduce the stock of existing pollutants.*
- *Water quality and quantity monitoring; following a source-to-sea/ridge-to-reef approach, identification of sources of chemical pollution (in addition to plastics) at the source (rivers, lakes…) to prevent reaching the sea.*

- *Improve soil quality: including reduction and control of diffuse (agricultural and livestock) and point source pollution sources (sewage treatment and industrial discharge) that enter into water, air or soils.*
- *Reduce and control air pollution: Reduction of air pollution sources (agriculture, industry, transport, energy production) to minimize human health and ecosystems problems, including through Mediterranean climate-smart resilient planning. Particular focus on cities and farming systems.*
- *Landfill waste: reduction of landfilled waste. Particular focus on improving landfill facilities to mitigate environmental impacts with special emphasis on avoiding open dumping on Northern African Coast.*

Identified Key Actions under 2030GreenerMed Thematic Axis 3

KA3.1 Support actions that preserve, protect and/or restore terrestrial, marine and coastal ecosystems, natural capital and biodiversity
KA3.2 Promote the sustainable management of landscapes, seascapes and coastal areas in the Mediterranean
KA3.3 Promote an integrated ecosystem-based approach to managing terrestrial, coastal and marine natural resources
KA3.4 Focus on safeguarding/improving key ecosystem functions and services (in protected and productive areas)
KA3.5 Promote transboundary cooperation
KA3.6 Mainstream biodiversity in key sectors
KA3.7 Protect on-farm biodiversity in agro-ecosystems
KA3.8 Promote Disaster Risk Reduction with a special focus on extreme events including droughts and floods, and forest fires
KA3.9 Promote nature-based solutions

Extensive description of the KAs:

- *Supporting ecosystem-based management as integrated approach at the interface of land, sea and air and the role of protected areas in terrestrial and marine biodiversity protection in the Mediterranean region, including technical support to the development of a more coherent network of Marine Protected Areas in the Mediterranean, in terms of ecological and socio-economic asset as well as in terms of nature-based solutions supporting adaptation and mitigation to climate change (including links between cities and MPAs to secure local resources and improve resilience of the areas).*
- *Promote transboundary cooperation for common actions to address cumulative impacts and pressures on key ecological marine and terrestrial species and habitats (ecologically functional units of key importance) and to better protect mobile species.*
- *Link conservation of biodiversity with the provision of ecosystem services to support sustainable development and poverty reduction, mainstream biodiversity in key sectors.*
- *Restoration/Conservation of degraded terrestrial, coastal and marine ecosystems by addressing the drivers of degradation and ensuring the compatibility between the production function and the conservation function.*
- *Protect on-farm biodiversity in agro-ecosystems (pastures, arable land, local seeds, genetic pool, etc.)*
- *Promote landscape restoration/sustainable land management and planning (to combat drought/desertification/flood/ erosion/degradation, promote biodiversity conservation, ensure land degradation neutrality, mitigate/adapt to CC) in order to improve the functionality of natural ecosystems and hence the services that are delivered to society.*
- *Assess land degradation at regional level and identify the opportunities for landscape restoration*
- *Address the drivers of degradations through participatory approaches and the promotion of the goods and services provided by ecosystems.*

- *Manage genetic resources for landscape restoration while adapting to climate change*
- *Promote Disaster Risk Reduction (including forest fires), with a special focus on extreme events including drought and flood early warning and management.*
- *Prevention of soil degradation and restoration of degraded and deforested lands, restoration of key coastal ecosystems such as sand dune systems and coastal wetlands.*
- *Increase of knowledge, skills and understanding of natural resources in the Med Region through influencing attitudes and behavioural change, encouraging innovative learning opportunities for protecting, preserving and restoring natural resources.*
- *Coherence between climate change impacts, biodiversity conservation and land degradation prevention.*

During the 5th meeting of the UfM Task Force on Environment that took place on the 27th of May 2021, countries and other stakeholders agreed on a monitoring and evaluation approach for 2030GreenerMed. The objective of this approach is to track progress of the 2030GreenerMed Agenda implementation and to assess short- and long-term results and the contribution of the agenda to the SDGs. It includes a Theory of Change (ToC) and an indicator framework for each of the three thematic axes and the cross-cutting area of partnerships.[2]

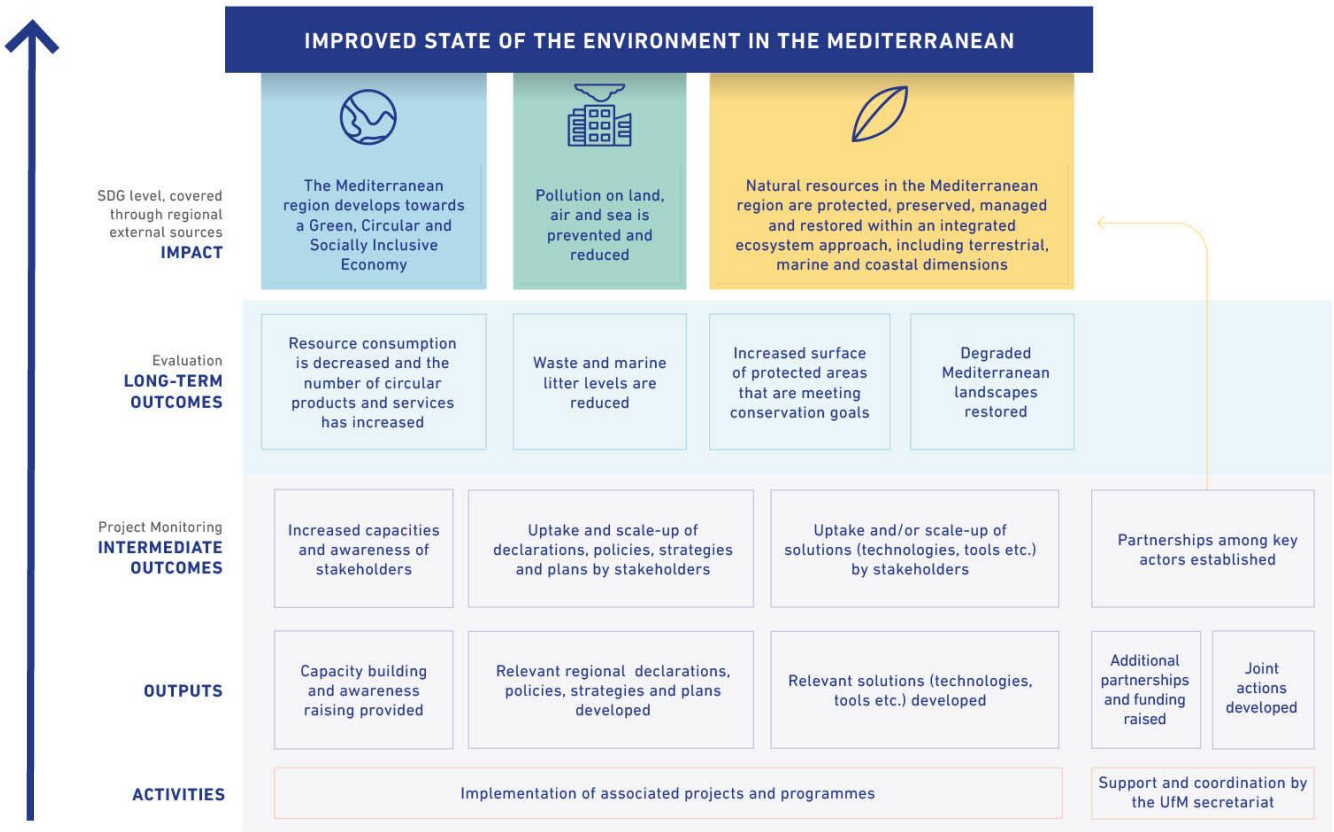


Figure 2. 2030GreenerMed high-level Theory of Change

The overall goal (expected impact) of the 2030GreenerMed agenda is to contribute to an improved state of the environment in the Mediterranean region through achievements

[2] A ToC can be described as an analytical model that shows the causal results chain of any project, programme or intervention, linking activities with short-, medium- and long-term results and finally, the overall goal or impact that is expected to be achieved. The high-level ToC and the indicator framework are included as annex to the 2030GreenerMed document, which can be accessed at the UfM Secretariat website: https://ufmsecretariat.org/ufm-environment-agenda/

under each thematic axis. Impact will be reached in the long term if the Euro-Mediterranean region is successful in (1) reducing resource consumption and providing green and circular products and services, (2) preventing and reducing pollution, in particular waste and marine litter, (3) increasing the surface of protected areas that meet conservation goals and restoring degraded landscapes.

The assumption is that 2030GreenerMed supporting projects, programmes and initiatives, which UfM countries participate in, directly contribute to these long-term outcomes and impact by (a) providing capacity building, awareness raising and education for sustainable development, (b) supporting the development of regional / multi-country declarations, policies, strategies or plans, (c) supporting the development of concrete solutions, for example technologies, tools, methodologies, or other. These three key output areas are the same under each thematic axis of the agenda and in the mid-term should lead to increased knowledge, awareness and capacities of stakeholders, the uptake and/or scale-up of developed declarations, policies, strategies or plans, as well as uptake and/or scale-up of developed solutions.

In addition and complementary to 2030GreenerMed supporting projects and programmes under implementation, the UfM Secretariat provides coordination and support at the regional level, facilitates partnership building and access to financial resources, and participates in joint developed actions with stakeholders and partners that further promote the 2030GreenerMed Agenda key topics. These approaches that are cross-cutting among all thematic axes are expected to maximise positive impact.

In alignment with the evolving nature of the 2030GreenerMed Agenda, the ToC and indicator framework should be understood as flexible instruments. They give structure to the monitoring system but can be subject to adaptations over time to reflect the reality of 2030GreenerMed implementation.

1.2 Objectives of this report

This report has been mandated by the 5th UfM Task Force on Environment held on the 27th May 2021, which decided among its "Final Agreed Conclusions" that a baseline assessment of 2030GreenerMed should be elaborated with information for the year 2020. It thus provides a reference point based on which advancements towards the achievement of the agenda's objectives by 2030 can be tracked over time according to the agreed modalities (regular monitoring and mid-term evaluation).

It presents:

- the results of the 2030GreenerMed mapping of relevant supporting programmes and projects,
- a baseline analysis of 2030GreenerMed indicators, with information received from a majority of the mapped programmes and projects for outputs and outcomes including long term outcomes wherever possible; and
- an analysis of the contribution of 2030GreenerMed to the SDGs, based on information from official external sources for the impact indicators.

It needs to be highlighted that the baseline data collection was the first practical application of the monitoring framework. The process as such has been a learning journey through which the operationalisation of the approach will be further improved.

It also should be kept in mind that this baseline assessment can only provide a snapshot of a certain point in time – in this case, the year 2020. However, developments in the Euro-Mediterranean region are highly dynamic, with some initiatives finalising and others starting in parallel. Over the coming decade, it is envisaged that the UfM Secretariat conducts regular updates of the mapping of supporting initiatives and collects monitoring data from these initiatives. The aim is to keep information about supporting projects and programmes up to date and to assess activities and related results in the different thematic and geographic segments that constitute the 2030GreenerMed Agenda and the Euro-Mediterranean region.

Additionally, two external evaluations are planned for 2030GreenerMed, in 2025 and 2030. Doing so, allows to also independently assess advancements towards the achievement of the agenda's objectives.

Both, the monitoring and evaluations of 2030GreenerMed shall contribute to a learning process. They also provide inputs to strategic decision-making of donors and other relevant stakeholders in the Euro-Mediterranean region to jointly work towards the achievement of the 2030GreenerMed goals.

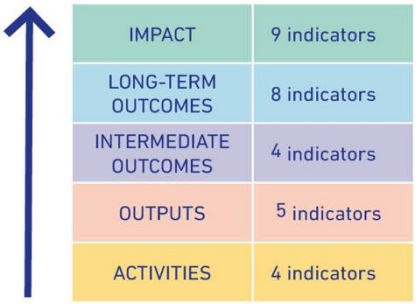
2. Methodology

According to the three main elements included in this report, three distinct methodologies were used for research and analysis[3]:

Mapping of 2030GreenerMed supporting programmes and projects

The mapping identified relevant initiatives/programmes that facilitate and finance/co-finance projects relating thematically to at least one of the thematic axes of 2030GreenerMed and that have a regional scope. It includes programmes that expressed interest in contributing to 2030GreenerMed and those that confirmed to be included at the 4th UfM environment task force meeting, November 17th, 2020[4]. This resulted in the selection of 12 initiatives[5] and related to these, a list of 82 projects under implementation in the year 2020. It was examined to which of the key actions of each of the thematic axes of 2030GreenerMed projects contribute to and which countries and time frame they cover. One key criterion for the selection of contributing projects was that projects have a (sub-)regional approach, covering at least three countries and of those, at least one non-EU country within the realm of UfM member states. A large sample (>70%) of the categorised (thematic, regional, temporal scope) projects was reviewed by the respective initiatives.

Baseline for 2030GreenerMed supporting programmes and projects



The baseline for 2030GreenerMed builds on the mapping exercise. Based on the 2030GreenerMed narrative, the high-level ToC and a first monitoring framework was drafted and discussed with key stakeholders. Through this consultative process, the framework and indicators were developed and further fine-tuned. The aim of the 2030GreenerMed monitoring framework is that it can be handled flexibly to accommodate a large number of projects and programmes. Each of the three thematic axes, as well as the cross-cutting area of partnerships, has its own framework. In total, the log frame includes 30 indicators, allocated at different result levels from activity to impact.

The baseline data collection is based on information from supporting projects, programmes and initiatives for the year 2020 and followed the methodological steps, as depicted below:

[3] This section provides a summary of the methodologies used. For a more detailed description please see the annex.
[4] See: Agreed Conclusions – 4th UFM Environment Task Force - 17th November 2020
[5] This can include programmes, finance instruments and organisations. A strict categorisation/ distinction is not made. Where multiple donors are contributing to the initiatives, only the main donors are listed as also information detailing the share of funding or type of contribution could not always be identified in detail.

In addition to information received from contributing projects and programmes and the UfM Secretariat, secondary sources have been consulted. They include: the Regional Action Plan on Sustainable Consumption and Production in the Mediterranean, the Sustainable Development Report (2021), the UN Statistics Wiki (2018) and the UN Statistical Division (2020) , the First Mediterranean Assessment Report (2020) by the Mediterranean Experts on Climate and Environmental Change (MedECC), information on the status of Marine Protected Areas (MPA) in the Mediterranean (2019) from MedPan, the State of the Environment and Development in the Mediterranean: Summary for Decision Makers (2020), the Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity in 2004, among others. In addition, several academic articles were consulted for the impact level indicators. The analysis of the ecological footprint for the Euro-Mediterranean region was provided by the Global Footprint Network. A detailed methodology description is included in the annex.

SDG contribution analysis

The analysis of the contribution of 2030GreenerMed to the SDGs was conducted by experts of the UN Sustainable Development Solutions Network - Mediterranean Node, hosted by the University of Siena – Santa Chiara Lab. It followed the methodology applied for the regional SDG report published by the SDSN Mediterranean, operationalizing the Six Transformations Framework presented by Jeffrey Sachs et al. (2019). Under each transformation, a set of challenges has been defined, expressed through and measured by various clusters of SDG indicators at regional level. The list of challenges has been taken as guideline to determine a series of eight solutions to help address challenges and accomplish each transformation.

Methodological limitations

Some challenges need to be highlighted to contextualise the analysis. Regarding the mapping of initiatives, a clear attribution of projects to one specific key action was not always possible as the definition of key actions within each thematic axis does not allow for a clear-cut differentiation. Also, some key actions have a broader character while others are very specific. Furthermore, the precise scope of projects can only be partially derived from project summaries that have been used as the basis for the analysis.

To allow for the establishment of a baseline for the year 2020, the analysis only takes those projects into account for which sufficient information was available before November 15th, 2021. Information received after this date (for instance from PRIMA or H2020 RTD - Bluemed Initiative) will be integrated and reflected in following reports. Other limitations for the baseline collection included:

Differences in reporting timelines – Projects apply different reporting cycles, mostly not aligned with the data collection approach of 2030GreenerMed (reporting cycle from January to December). For this reason, it was not always possible to include exact numbers for the year 2020 for each of the indicators, and the research team needed to decide on a case by case basis which information could be included.

Reporting on 2030GreenerMed indicators – Not all projects were able to report exactly on the indicators as defined in the 2030GreenerMed framework but submitted information according to their own monitoring frameworks. In several cases reported information was included in the baseline as proxy indicators for the defined 2030GreenerMed indicators.

Disaggregation of information - To the extent possible, all indicators involving the number of stakeholders should be reported disaggregated per gender and age to facilitate differentiated analysis. From the overall 82 projects, only one was able to provide disaggregated information.

Causal results chain - Most projects focus their monitoring on activity and output level so that only limited information is available for intermediary and long-term outcomes, therefore leading to some weaknesses in the causal relation between 2030GreenerMed supporting initiatives' implementation and the desired higher-level results

All impact indicators that are SDG indicators are based on the SDSN-Mediterranean Repository, with data compiled/collected from UN, WB, EUROSTAT, UNEP, etc. in 22 Mediterranean countries. Only the analysis of the ecological footprint and the impact indicator "domestic material consumption" cover all of the 42 UfM member states.

At the same time, due to the fact that on the one hand 2030GreenerMed is now fully operational, and on the other hand this baseline assessment helped supporting programmes and projects to better understand what kind of data and information will be necessary to report progress, it is expected that reporting will be progressively smoother and more harmonized in the years to come.

3. Overall findings

3.1 Baseline assessment cross-cutting area: partnerships

The objective of the partnership area is to highlight the partnerships and joint actions developed with a regional approach. In addition, the UfM Secretariat's role as a convening body that supports partnership building and collaboration in the Euro-Mediterranean region is observed.

From the overall 82 projects considered in the mapping, 72 (88%) shared information on project implementation and results for the 2020 baseline collection. This serves as an indication for the general endorsement and support of the 2030GreenerMed agenda as a framework for regional collaboration and partnership building.

The volume of financial resources leveraged by all 82 projects amounts to almost EUR 300 mio.[6] The size of initiatives in terms of overall budget varies considerably, as some are individual projects while others represent large-scale programmes with a multitude of projects. The smallest budget with EUR 745.890 is represented by the project GEAR under the initiative IPA II, while the biggest budget comes from the 34 projects under InterregMed with overall EUR 82.710.841, followed by the 26 projects under CBC Med with EUR 70.110.665. Given that projects appear under various thematic axes of 2030GreenerMed it is not possible to calculate the exact budget that is allocated to each axis; however it can be assumed that the share of budget is aligned with the share of projects under each axis as shown in Figure 3 (see p. 19).

Beyond the funding of programmes and projects, in more general terms, SIDA supports the UfM Environment/2030GreenerMed through the UfM Secretariat, and the Italian Development Cooperation supports FAO and CIHEAM with funds dedicated to Sustainable Food Systems. GIZ further supports regional activities in sustainable blue economy at Med scale, with a special focus in particular on blue skills, careers, and jobs aspects.

Figure 3. Partnership area baseline results[7]

Long-term Outcome	Number of multi-country projects under implementation	**82**
Outputs	Number of joint developed actions	**21**
	Number of financial resources leveraged	**≈ EUR 300 mio**
Activities	Amount of Environmental Task Force meetings	**1**
	Number of annual reports received from 2030 GreenerMed supporting projects/programmes*	**72**
	Number of support and coordination activities of the UfM Secretariat	**10**

** 72 projects/programmes shared information for the baseline, not always in the form of annual reports*

[6] This is the sum of all projects' and programmes' overall budgets, and it needs to be considered that these are usually multiple-year initiatives. No information has been requested/obtained on budget implementation for 2020 only. Also, information on budgets for joint developed actions is not available.

[7] Note that the partnership area has a slightly different structure for results levels; no intermediate outcomes and impact is included as this is a cross-cutting supporting area for the three thematic axes.

In 2020, the UfM Secretariat convened one Environmental Task Force Meeting and further supported member states and initiatives through at least 10 coordination activities. These included, for example, the organisation of several events and webinars that provided a platform for regional dialogue and knowledge sharing, online consultations with stakeholders on post-2020 Environment and Climate Action priorities in view of the 2nd UfM Ministerial on Environment and Climate Action Conference, activation of technical assistance in various thematic areas, the assessment and labelling of projects and programmes to enhance visibility and highlight contributions to regional development objectives, as well as integrating and fostering operational links of the Environment agenda and the implementation plan with other related UfM agendas.

Furthermore, the UfM Secretariat together with its partners and stakeholders organised, disseminated and/or participated in at least 21 joint developed actions, including a variety of knowledge sharing events/webinars or e-training courses on topics relevant to the 2030GreenerMed agenda, conferences and side-events, as well as the elaboration and publication of reports. Most joint developed actions (7) were cross-cutting while six were related to thematic axis 3 (biodiversity/natural resources/ecosystems) and four to thematic axis 1 (green, circular and socially inclusive economy) and 2 (pollution prevention and reduction), respectively.

Joint developed actions also include partnerships or processes that are not projects per se and thus were not counted under the mapping exercise, but still make a contribution to the objectives of 2030GreenerMed. Some joint developed actions include, for example, the Sustainable Food System Platform, or the Mediterranean Committee of Education for Sustainable Development.

3.2 Mapping of 2030GreenerMed supporting initiatives

A wealth of projects supporting the objectives of the 2030GreenerMed Agenda is already under implementation. Overall, along the 12 initiatives analysed, 82 projects were identified contributing to the 2030GreenerMed Agenda. Many of them (35%) have a cross-cutting character touching upon more than one thematic axis. At the same time, the majority of projects is directly and indirectly addressing several key actions within each thematic axis.

Most of the projects analysed in this first baseline assessment (69 projects, 84%) are being implemented up to 2022, around 7 projects (9%) are running up to 2023, 3 projects (4%) up to 2024 and for 3 projects (4%) the duration was not identified. This indicates -despite the generally impressive thematic and geographic coverage- the need to significantly expand the range and timeline of projects to close the gap until 2030. As new projects are being designed and launched under different initiatives and financing schemes, the mapping will be regularly updated to capture these new developments.

Coverage of the thematic axes[8]

Thematic axis 1 - Support the transition towards a green, circular and socially inclusive economy - is addressed most frequently, by 53% of projects. This also applies to the related key actions. Each key action under thematic axis 1 is addressed through more projects than any other key action of the other two thematic axes. Most prominent among the key actions

[8] Includes project double-counts, i.e. those that are cross-cutting through the different themes/ contributing to more than one thematic axis

are KA 1.1 "sustainable consumption and production" and KA 1.4 "promote changes in business practices, trade, and public policy", which is little surprising given their broad character.

Thematic axis 3 - Protect, preserve, manage and restore natural resources in the Mediterranean region within an integrated ecosystem approach, including terrestrial, marine and coastal dimensions - is addressed by 28% of all projects, within which KA 3.1 "support actions that preserve, protect and/or restore ecosystems" is the most frequently addressed key action (26 projects), followed by KA 3.9 "promotion of nature-based solutions (25 projects) and KA 3.2 "promote the sustainable management of landscapes, seascapes and coastal areas in the Mediterranean" (15 projects).

Least often addressed is thematic axis 2 with 21 projects (19%), with the most covered key actions being KA 2.7 "reduce landfilled waste" (10 projects) and KA 2.2 "plastic pollution and marine litter" (8 projects).

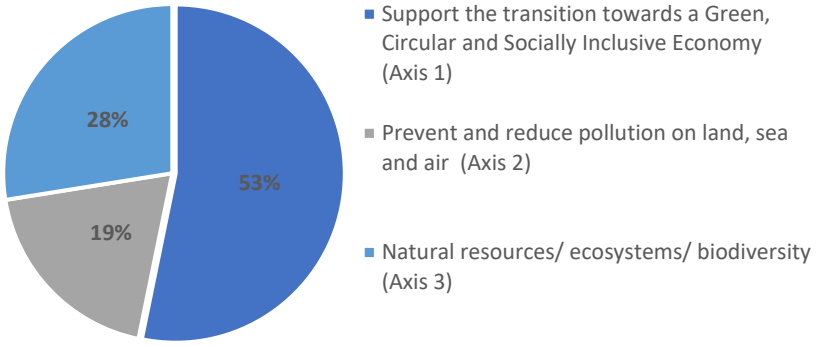


Figure 4. Share of projects of each thematic axis in overall number of projects

Geographic coverage per country

Italy is involved in most of the projects implemented (68). Spain, Greece, France and Tunisia, Lebanon, Jordan and Croatia, Albania follow with 62, 43, 38, 31, 24, 21, 20 projects, and Monaco takes a special position (4 projects) given its size. Among the non-EU UfM countries, Algeria (6 projects) and Israel (8 projects) have less representation in regional projects.

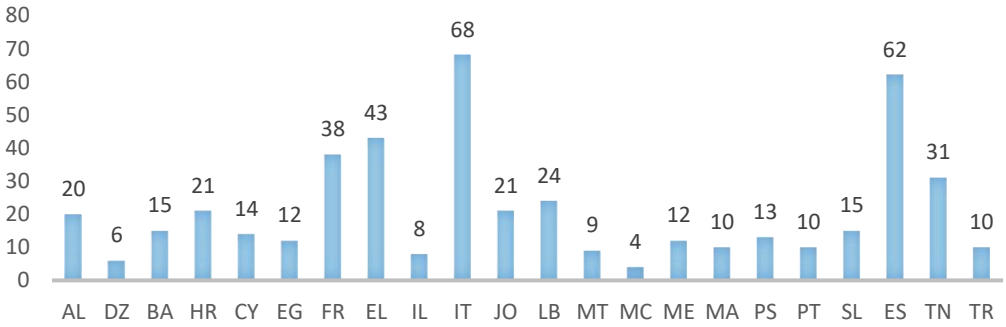


Figure 5. Number of projects per country overall

Geographic coverage by sub-region

The average number of projects per country contributing to the thematic axes of 2030GreenerMed[9] is highest in the Mediterranean EU (28.4 projects) and lowest in the North-African Mediterranean (14.8 projects).

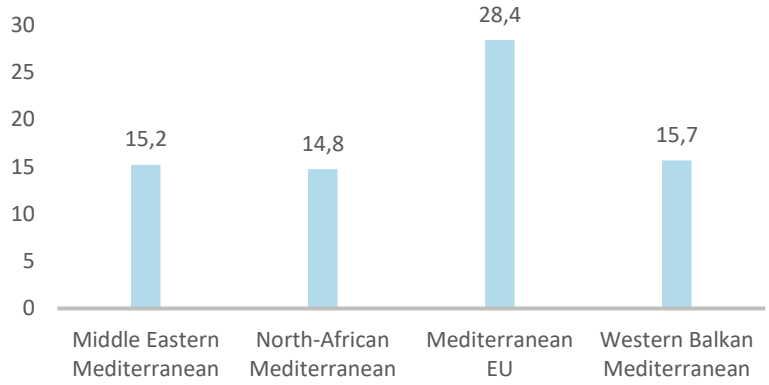


Figure 6. Average number of projects per country within each sub-region

Contribution to 2030GreenerMed by initiative

With 34 projects (41% of all projects), most projects contributing to the 2030GreenerMed Agenda are implemented under the umbrella of Interreg Med, second most projects are running under CBC Med (26 projects, 32%). This is followed by projects under PRIMA (10 projects, 12%)[10] and IPA II (3 projects, 4%).

# of projects	Initiative
34	Interreg Med
26	CBC Med
10	PRIMA
3	IPA II (incl. IPA II CSF)[11]
2	ENI South
1	GIZ
1	H2020 RTD – Bluemed
1	FAO
1	GEF
1	MAVA
1	MedFund
1	MEDPAN

Table 1. Number of projects per initiative

[9] Unweighted average (Sum of all projects within one sub-region divided by the number of countries the sub-region covers)
[10] At the time of the analysis PRIMA has provided a list of 50 additional projects that will be integrated into the next version of the report.
[11] Not taking into account its contribution to InterregMed

4. Findings per 2030GreenerMed Axis

4.1 Axis 1: Green, Circular and Socially Inclusive Economy

Summary of key findings

- Axis 1 of the 2030GreenerMed Agenda is the axis covered by most programmes and projects. The most covered key actions are KA 1.1 'Support Sustainable Consumption and Production' with 56 (97%) projects and programmes, and KA 1.4 'Promote changes in business practices, trade, public policy' with 49 (84%) projects and programmes. The key action with less associated projects is KA 1.5 'Promote changes in education, behaviour and lifestyles' with 29 (50%) projects and programmes. In summary, each key action under axis 1 is addressed by at least 50% of the projects. The countries with most projects in axis 1 are Italy (47), followed by Spain (43) and Greece (29).
- Within KA 1.1 on SCP, there seems to be a stronger focus of projects on sustainable production rather than on sustainable consumption.
- Most frequently addressed sectors by projects are food systems and agriculture, and tourism. Other sectors covered include smart cities, fisheries, ICT, mobility, nutrition and health, textile and clothing and cultural and creative industries.
- Sustainability is at the core of all the projects but not necessarily targeted to longer term or beyond project impact. Therefore, it is important that regional/national/local governments provide support beyond the lifetime of the projects to ensure sustainability over time.
- 52 projects (93%) shared information for the 2020 baseline assessment but none could provide information at the long-term outcome level. Information provided at output and intermediate outcome level does not provide a complete picture, as not all projects were able to report on all of the indicators in a quantitative way. Thus, reported numbers (30.231 stakeholders capacitated or with raised awareness, 53 declarations/policies/strategies or plans developed, and 98 solutions developed) can be understood as minimum results, with actual numbers potentially being higher.
- The analysis shows that under this axis, most regional projects are financed by the EU at Med level with CBC Med and Interreg Med leading most projects, 24 and 18, respectively, followed by PRIMA with 8 projects. Most projects are running up to 2022, 6 up to 2023 and 3 up to 2024. Bilateral donors are mostly engaged in national level projects. Still, GIZ runs a project on waste and recycling management in the Western Balkans with circular economy approaches. Additionally, GEF is engaged in a project addressing the prevention of the use of toxic chemicals in the MENA region that also integrates green economy aspects.
- Further fostering regional collaboration and possibly maximizing impact, CBC Med has planned to create 103 synergies with other projects/programmes, of which 53 have been implemented.
- There is an important information gap regarding the contribution of projects to transition to a socially inclusive economy focusing on vulnerable groups (women and youth), especially when unemployment rates are around 11% on average in the Mediterranean, with homogeneity in the for regions. Only the SIRCLES project under CBC Med explicitly pointed out that its aim is to create green jobs for youth and women. Regarding data disaggregated by vulnerable groups, only the NAGE project under IPA II/CSF reported on it. Another project to highlight is Med Pearls under CBC Med, which held two EU4Youth events where 900 people assisted. WES also covers youth, but data for the baseline collection from this project are not available.

More overarching key findings are included in this report under Section 6 "Learnings & Considerations".

The latest IPCC report and the MedECC report highlight that the Mediterranean region warms 20% faster than the rest of the world. With current policies, temperatures are expected to increase 2.2 °C by 2040; sea level rises may exceed 1 meter by 2100 and increasing frequency in drought plays a significant role in the current regional balance. According to the MedECC, there is high confidence over land that "warming will likely be in the range of 0.9 to 1.5°C or 3.7 to 5.6°C during the 21st century, for low (RCP2.6)[12] or high (RCP8.5) RCP scenarios [13], respectively. [...] Future regional average warming will exceed the global mean value by 20% on annual basis and 50% in summer."[14] Moreover, a study from the Massachusetts Institute of Technology (MIT) argues that global climate models confirm that the Mediterranean area will be significantly drier in coming decades. The results of the research show "up to 40% of winter precipitation could be lost, setting strong limits on water resources that will constrain the ability of the region to develop and grow food."[15]

The Mediterranean Region is already facing environmental challenges, and one of the objectives of 2030GreenerMed is to address and offset the Mediterranean environmental and climate crisis accelerating the transition towards a green, circular, and socially inclusive economy, based on sustainable consumption and production, resource efficiency, and changes in business practice and behaviors, among others (e.g., fiscal and market measures).

The projects framed under axis 1 implement practices, tools and patterns of sustainable consumption and production, while preventing and addressing environmental challenges along the entire value chain across different sectors and industries, in urban and rural contexts. To track progress towards the transition in the region, the monitoring framework under axis 1 includes three impact indicators, three long-term outcome indicators, three intermediate outcome indicators, three output indicators, and one activity indicator.

[12] RCP stands for Representative Concentration Pathways. The RCP 2.6 is a low emissions scenario and is described as the best case for limiting anthropogenic climate change.
[13] RCP 8.5 refers to the concentration of carbon that delivers global warming at an average of 8.6 watts per square meter across the planet. It represents the worst-case scenario.
[14] Source: First Mediterranean Assessment Report, MedECC (2020)
[15] Source: Tuel and Elthaier, 2020, p. 5829

LEVEL	INDICATOR	
IMPACT	Ecological footprint (gha per capita), per year	3,82 gha/capita
	Domestic material consumption (tons), per year	13,63 tons/capita
	Ratio of female to male labour force participation rate, per year	50, 35 %
LONG-TERM OUTCOME	Resource savings	No data available
	Number of public administration applying SCP/green procurement	No data available
	Number of green jobs created	No data available
INTERMEDIATE OUTCOMES	No. of stakeholders with increased awareness / knowledge / capacity due to project measures	750
	No. of solutions (tools, technologies, etc.) taken up or upscaled due to project measures	8
	No. of declarations, policies, strategies and plans taken up or upscaled due to project measures	29
OUTPUTS	No. of actors that participated in a) capacity building b) awareness raising events c) ESD through related programmes and projects per year	30.231
	No. of declarations, policies, strategies and plans that are developed through related programmes and projects per year	98
	No. of relevant tools and technologies developed through related programmes and projects per year	53
ACTIVITIES	No. of projects and programmes implemented under the GreenerMed	56

Figure 7. Axis 1 baseline results

As projects and programmes currently focus monitoring on the output level, few projects submitted information on intermediate outcomes and no project reported on long-term outcomes.

Mapping of initiatives

2030GreenerMed supporting programmes and projects are taking measures to drive progress towards a greener, circular and inclusive economy. Compared to the other axes, axis 1 of the 2030GreenerMed Agenda is the most covered. The key actions of this thematic axis are the most covered of all key actions of the 2030 GreenerMed[16]. That is, each of the key actions is addressed by more projects than any other key action of the 2030GreenerMed Agenda.

Most projects are implemented under the umbrella of CBC Med (24 projects) and Interreg Med (18 projects), followed by PRIMA (8 projects), IPA II (3 projects), and ENI South (2 projects). GIZ and GEF are implementing one project each contributing to axis 1.

Coverage by key action

With overall 56 projects addressing KA 1.1 "Support Sustainable Consumption and Production", this key action is the one that is most covered in thematic axis 1. Second most covered is KA 1.4 "Promote changes in business practices, trade, public policy" (49 projects). The related projects cover various sectors, such as smart cities, fisheries, ICT, cultural and creative industries, mobility, nutrition and health, textile and clothing, and resource efficiency services. Most frequently addressed sectors are, however, food

[16] Here and in the following includes both types of projects, those that were identified as explicitly addressing and those indirectly addressing the respective topic.

systems (more than 15 projects), and tourism (more than 10 projects). The least covered key action is KA 1.5 "promote changes in education, behaviour and lifestyles" (29 projects).

# (%)[17] of projects of thematic axis 1	Key action
56 (97%)	KA 1.1 Support Sustainable Consumption and Production
49 (84%)	KA 1.4 Promote changes in business practices, trade, public policy
37 (64%)	KA 1.3 Adopt innovative solutions along the entire value chain (across sectors and industries, urban and rural)
32 (55%)	KA 1.6 Engage all stakeholders (private, public and society/consumer level) and raise awareness
32 (55%)	KA 1.2 Increase Resource Efficiency
29 (50%)	KA 1.5 Promote changes in education, behaviour and lifestyles

Table 2. Number and share of projects per key action in thematic axis 1

Coverage by country/sub-region

All countries are involved in and address each of the six key actions. The country with most projects is Italy (47), followed by Spain (43) and Greece (29). The least involved countries are Monaco (1 projects), Algeria (4 projects), Malta (5 projects) and Morocco (6 projects).

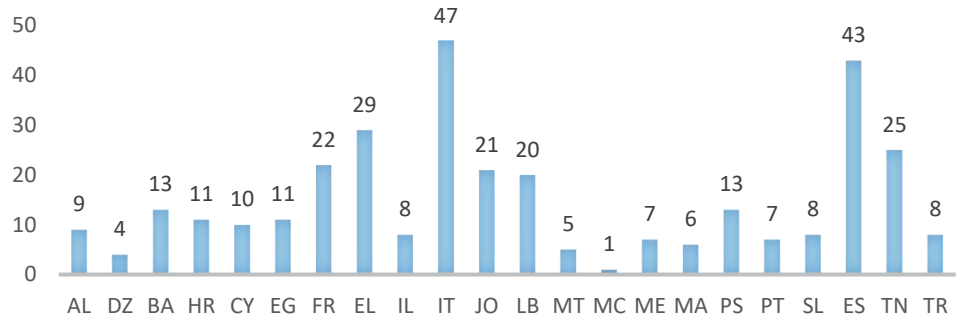


Figure 8. Number of projects per country in thematic axis 1

In terms of sub-regional coverage, this translates into the following unweighted average number of projects per country[18]: Med EU 18.3, Middle East 14, Northern Africa 11.5, Western Balkan 9.7.

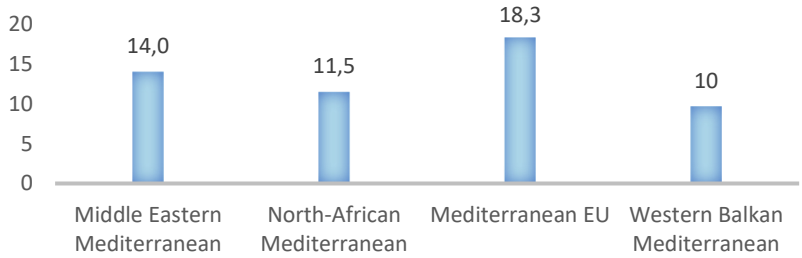


Figure 9. Average number of projects per country per sub-region in thematic axis 1

Among the North African Mediterranean countries (Morocco, Tunisia, Egypt, Algeria), Tunisia stands out being involved in 25 projects, while the others are taking part in 11 (EG)

[17] Each project covers multiple key actions, i.e. the sum of this column does not reflect the overall number of projects.
[18] Sum of all projects within one region divided by the number of countries the region covers

and less (MA 6, DZ 4) projects each. Although the coverage of the different key actions does not show strong differences, supporting sustainable consumption and production tends to be more and stakeholder engagement and awareness raising less addressed.

The Mediterranean countries of the Western Balkan are addressing this thematic axis with 9 (AL), 13 (BA) and 7 (ME) projects respectively. Projects address mostly the support of sustainable consumption and production and the promotion of changes in business practices, trade and public policy (with a strong focus on policy and approximation to EU legislation). Least covered in the Western Balkan are "adopt innovative solutions along the entire value chain" and the "promotion of changes in education, behaviour and lifestyles", except for Bosnia and Herzegovina, where stakeholder engagement and awareness raising comes second last.

Among the middle eastern countries (Israel, Jordan, Lebanon, Palestine and Turkey), Jordan and Lebanon are most involved (21 and 20 projects respectively), followed by Palestine (13 projects), Israel and Turkey (each 8 projects). Resource efficiency is the least and sustainable consumption and production (SCP) the most addressed key action in Jordan, Lebanon and Israel and most frequently also in Palestine. Most of the projects in Turkey focus on the "promotion of changes in business, trade and public policy", "SCP" and adopting "innovative solutions along the entire value chain". The promotion of changes in education, behaviour and lifestyles is least often covered.

Among the Mediterranean EU countries, it stands out that Italy, Spain, and Greece are particularly often involved in projects (Italy and Spain are more than four times as often involved than Cyprus, Malta, Monaco, Portugal and Slovenia, more than three times as often as Croatia, and around twice as often as France). The thematic focus of the projects in Mediterranean EU countries is dominated by supporting sustainable consumption and production as well as by the promotion of changes in business practices, trade and public policy. The promotion of changes in education, lifestyles and behaviour is the least covered key action, closely followed by stakeholder engagement as such.

Activities, outputs and outcomes

To measure the results achieved by projects and programmes regarding the transition to a greener, more circular and inclusive economy in the Mediterranean region, long-term outcomes, output and activity indicators were established. From total projects included in the mapping, 52 shared information for the 2020 baseline assessment. CBC and Interreg Med are the ones who presented most of the reports (Figure 10).

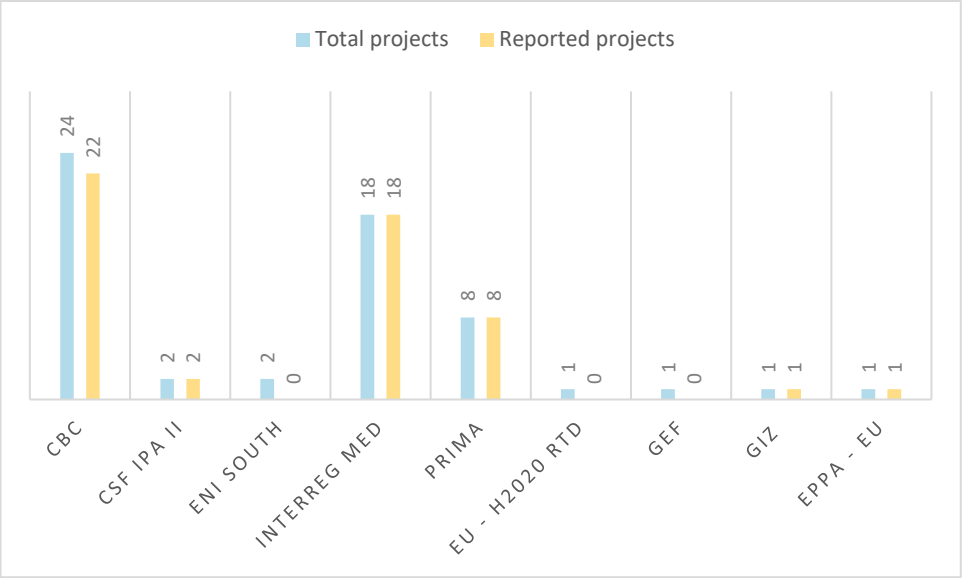


Figure 10. Number of projects that shared information

Due to the COVID-19 pandemic and its consequences, many projects had to delay activities and reschedule timelines. This is one reason why not all reporting projects had available information for all indicators, especially for intermediate and long-term outcomes (Table 3). However, additionally most projects do not report at the higher results levels as part of their monitoring frameworks.

	INDICATOR	BASELINE 2020
Long-term outcome	Resource savings	No data available
	Number of public administrations applying SCP/green procurement	
	Number of green jobs created	
Intermediate outcome	Number of stakeholders with increased awareness/knowledge/capacity.[19]	750
	No. of declarations, policies, strategies and plans taken up or upscaled.[20]	29
	No. of solutions (tools, technologies, etc.) taken up or upscaled.[21]	8
Outputs	No. of actors that participated in capacity building, awareness raising events and ESD.[22]	30.231
	No. of declarations, policies, strategies and plans developed.[23]	53
	No. of solutions (tools, technologies, etc.) developed.[24]	98
Activities	No. of projects and programmes implemented under the Greener Med framework per year.[25]	56

Table 3. Indicator results Axis 1

[19] Data source: CBC - DECOST project report.
[20] Data source: CBC - DECOST project report.
[21] Data source: CBC (CeoMed) and GIZ
[22] Data source: CBC, CSF IPA II (NAGE, GEAR), PRIMA and GIZ
[23] Data source: CBC, CSF IPA II (NAGE, GEAR), PRIMA and GIZ
[24] Data source: CBC, CSF IPA II (NAGE, GEAR), Interreg Med, PRIMA, GIZ and EPPA.
[25] Data source: CBC, EPPA, CSF IPA II (NAGE, GEAR), Interreg Med, PRIMA and GIZ.

With respect to Table 3 it is important to highlight five aspects:

i. ***Activities.*** This indicator measures the number of projects implemented. However, in the case of CBC Med it can be highlighted that according to project reports, it is planned to create 103 synergies with other projects/programmes, of which 53 have been implemented, thus further fostering regional collaboration and possibly maximizing impact.

ii. ***Solutions developed.*** The main developed tools are platforms, methodologies, manuals, and technologies such as sensor systems.

iii. ***Declarations, policies, strategies and plans developed.*** CBC Med is the initiative with most strategies and plans developed (33), followed by PRIMA (10) and Interreg Med (8)[26]. Under IPA II, GEAR developed one strategy.

iv. ***Capacity building/ Awareness raising events.*** A total of 5.447 people were trained and 24.581 people participated in awareness raising events. Highest results in this area are reported by CBC Med projects. Only one project under IPA II/ CSF (NAGE) disaggregated total participation by gender and age. Women were the most involved in the events of this project. Project reporting in most cases does not make a distinction between the output indicator no. of actors that participated in capacity building, awareness raising events and ESD, and the intermediate outcome indicator no. of stakeholders with increased awareness/knowledge/capacity. It is mostly assumed by projects that stakeholders that participate in such events would automatically have increased knowledge and capacities. Thus, results at the intermediate outcome level are likely to be higher in reality, but the baseline assessment took only into account those numbers that were specifically reported at this level.

   In the case of CBC Med, there are two aspects that are important to mention. First, the Med Pearls project had two EU4Youth events where 900 people assisted but the report does not disaggregate information by gender and age. However, from the type of event, it can be assumed that most of the participants were youth. Second, for the 22 CBC Med projects considered in the analysis, social media plays an important role to disseminate information, and to effectively engage audiences. Moreover, to promote awareness, most of the projects have published newsletters to disseminate the most relevant information about the project implementation and results.

v. ***Long-term outcomes***. As no information from project reporting is available, secondary sources have been consulted. The Sustainable Development in the Mediterranean Report (2020) identifies that "unemployment rates are around 11% on average in MED, with homogeneity in the four regions. The number of NEET (youth not in employment, education or training) is increasing in OECD countries involving almost 20% of young people"[27]. Indeed, youth unemployment is a major issue in most parts of the basin with rates up to three times the national unemployment levels. In the case of women in the economically active population, rates are still low for most of the region "mainly

[26] For Interreg Med, two indicators reported on by Interreg Med were used as proxy indicators: Number of regions and sub-regions engaged (through charters, protocols, MoU) in implementing sustainable tourism plans; and Number of strategies applying sustainable tourism management criteria.
[27] Sustainable Development in the Mediterranean Report, 2020, p.6.

due to a lack of work-life balance, gender discrimination and sociocultural norms, as well as practical issues such as lack of transport to workplace."[28]

These data highlight the need for creation of green jobs in the coming years, especially as the above-mentioned report stresses that in the transition to a greener Mediterranean, the generation of these jobs should favour vulnerable population groups.

Among all projects that shared information for the baseline, the SIRCLES project under CBC Med, was the only one that explicitly pointed out that its aim is to create green jobs per year for NEET and women in seven pilot areas The other projects did not provide information on this indicator, and EPPA, CSF IPA II (NAGE) and GIZ did not consider green job creation as one of the key objectives of their projects.

[28] SDSN Sustainable Development in the Mediterranean Report, 2020, p.7.

Impact level

Note to the reader

The impact level analysis (below) of the agreed indicators has been prepared based on publicly available internationally recognized sources.

It aims to link and show how the 2030GreenerMed supporting projects contribute to the impact level.

- To track progress towards the transition in the Mediterranean region, the monitoring framework under axis 1 includes three impact indicators, which have been jointly decided by relevant stakeholders: Ecological Footprint, Domestic Material Consumption and Ratio of female to male labour force participation.
- The Ecological Footprint framework aims at quantifying the natural resources and ecosystem services that a population consumes as well as the regenerative capacity the biosphere provides by means of two metrics: Ecological Footprint [EF] and Biocapacity [BC]. Data show there was an ecological deficit situation throughout 2000 to 2017. In 2017, for the UfM region the EF was 3.82 gha per capita while the BC was 1.62 gha per capita, the result being a deficit of 2.20 gha per capita.
- Domestic Material Consumption [DMC] refers to the amount of materials used in an economy, i.e. taking into account domestic extraction, harvest and imports but excluding exports. The DMC is a sub indicator of Sustainable Development Goal 12 on sustainable consumption and production. Data show that for UfM member states the total DMC is 572.26 tonnes per capita. Eastern Europe has the highest rate (235.99 tonnes per capita), followed by Western Europe (235.08 tonnes per capita), Middle East (60.47 tonnes per capita) and North Africa (40.72 tonnes per capita). *No information has been found to determine whether these values are high or low, e.g. in relation to a specific target.*
- Ratio of female to male labour force participation measures the share of the female population aged 15 years and older that is economically active in proportion to the same share of men. For calculating the baseline 22 countries were considered.

The first impact indicator is the ecological footprint.[29] It is an environmental accounting tool introduced in the early 1990s by Mathis Wackernagel and William Rees at the University of British Columbia, to track one key aspect of the sustainability challenge: whether renewable natural resources are consumed faster than they are regenerated, and wastes emitted faster than ecosystems can assimilate them. Maintaining human use of natural resources and ecosystem services within the planet's regeneration capacity is a necessary, although not sufficient, condition for sustainable human societies and economies.[30] The Ecological Footprint framework aims at quantifying the natural resources and ecosystem services that a population consumes as well as the regenerative capacity the biosphere provides by means of two metrics:

- **Ecological Footprint (EF)**, representing the human demand for key natural resources and ecosystem services.

[29] The analysis included here is only a part of the full analysis provided by the Global Footprint Network. For the full analysis, please see the annex. The analysis considers all 42 UfM member states.
[30] Source: Wackernagel *et al.*, 2020.

- **Biocapacity (BC)**, representing the biological productivity of specific ecosystems for those resources and services.

Ecological Footprint and biocapacity are expressed in hectare-equivalent units or global hectares, which are hectares of land with world average productivity.

The analysis of the Ecological Footprint and biocapacity results has been done for the period 2000-2017 for the whole Euro-Mediterranean region, including all UfM member states except Monaco[31]. When looking at per capita Ecological Footprint and Biocapacity values for the UfM region from 2000 to 2017, Figure 7 shows an ecological deficit situation throughout the whole period. In 2017, the latest year of analysis, the Ecological Footprint of the UfM region was 3.82 gha per capita, while the regional biocapacity was 1.62 gha per capita, thus determining an ecological deficit of 2.20 gha per capita. It should be noted that while the regional per capita biocapacity is in line with the world average per capita biocapacity (1.60 gha), residents of the UfM region are characterized by an average per capita Ecological Footprint noticeably higher (+38%) than the world average Ecological Footprint of 2.77 gha per capita.

Over the considered period (2000-2017), the per capita biocapacity decreased by 10% while the per capita Ecological Footprint decreased by 8%, and the regional population increased by 14% from 2000 to 2017.

The second impact indicator, Domestic Material Consumption (DMC), refers to the amount of materials used in an economy, i.e. taking into account domestic extraction, harvest and imports but excluding exports. This indicator is also part of Objective 5 - *Transition towards a green a blue economy* - of the Mediterranean Strategy for Sustainable Development (MSSD). According to the MSSD Mid-Term Evaluation November 2020, there is low progress in the region to match the targeted timeline or reach the full objective.

Objective 5 integrates SDGs 8, 9 and 12. The DMC is a sub indicator of SDG12 on sustainable consumption and production. The related target 12.2 is to achieve the sustainable management and efficient use of natural resources. SDG12 overall is tracked with seven indicators, and each country shows different levels of progress per indicator.

Within the above contextualisation, it is noteworthy that in 2016 the Regional Action Plan on Sustainable Consumption and Production in the Mediterranean was adopted at COP 19 of the Barcelona Convention for promoting a greener and more circular economy, which is in full alignment with the 2030GreenerMed agenda.

For UfM member states the total DMC is 572.26 and the overall regional average is 13,63. Eastern Europe has the highest rate with 235.99 tonnes per capita (42.1%), followed by Western Europe with 235.08 (41.9%). In third place is the Middle East with 60.47 (10.8%), and North Africa represents the lowest values with 40.72 (5.2%). From a regional perspective, Western Europe's average DMC is 15.67 tonnes per capita, Eastern Europe's is 15.73, the Middle East's is 12.09 and North Africa's is 8.14. No information has been found to determine whether these values are high or low, e.g. in relation to a specific target.

Data can be further distinguished into metals, non-metallic minerals (construction minerals, industrial minerals), biomass (wood, food) and fossil energy carriers[32]. Non-metallic minerals are the most used material, except in Estonia, where it is fossil fuels.

[31] Ecological Footprint and biocapacity data are currently not available for Monaco.
[32] Source: OECD, n.d.

Among UfM member states, Cyprus has the highest consumption of non-metallic minerals. In 23 countries biomass consumption is higher than fossil fuel consumption, while in 12 countries (excluding Estonia) the consumption of fossil fuels is higher than biomass. The consumption of metal ores in general is low. However, in Sweden it is the second most used material after non-metallic minerals and in Poland it is used to the same extent as biomass and fossil fuels (Figure 11). This may overall mean that decarbonisation is taking place within the UfM region, while bioenergy is increasing. However, mineral extraction remains deeply rooted in many countries.

Figure 11. Domestic material consumption per country, tonnes per capita[33].

[33] Source: The material flow analysis portal

Regarding the third impact indicator, *Ratio of female to male labour force participation*, it is framed under SDG5 on Gender Equality and measures the share of the female population aged 15 years and older that is economically active in proportion to the same share of men. A percentage closer to 100 indicates a higher equality, a percentage closer to 0 indicates a wider gender gap in terms of economic participation.

For the Mediterranean region considering 22 countries[34], the baseline result is 50.35%. The average for Western Europe is 78.24%, for Eastern Europe 65.16%, for Middle East 39.16% and for North Africa 29,42%. There are six countries with a percentage higher than 80. Jordan and Algeria both show the lowest rate with 22.21%. (Figure 12).

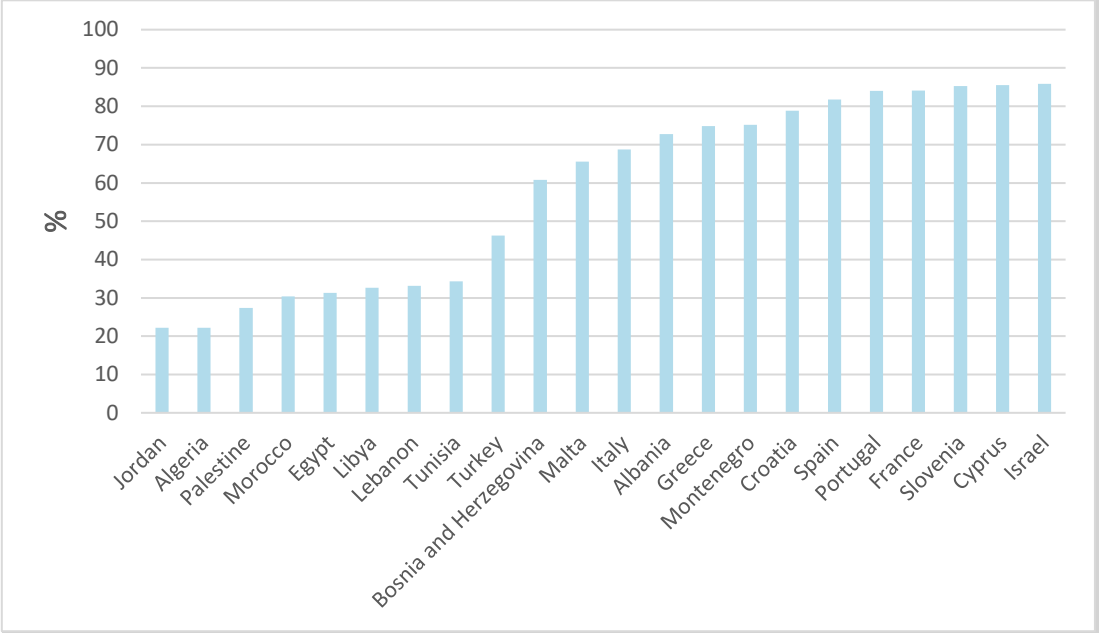


Figure 12. Ratio of female to male labour force participation per country[35]

[34] Western Europe (6), Eastern Europe (6), Middle East (4) and North Africa (5)
[35] Source: SDSN Mediterranean, 2020

4.2 Axis 2: Pollution prevention and reduction

Summary of key findings

- The 21 contributing projects and programmes under axis 2 focus mostly on the key actions KA 2.7 'Reducing landfilled waste' (48% in total) and KA 2.2 'Plastic pollution and marine litter' (38% in total). Only one project was identified that clearly addresses the key action KA 2.6 'Reduce and control air pollution', and other key actions like KA 2.3 'Facilitate investments in infrastructure', KA 2.4 'Reduce chemical pollution of rivers and lakes' and KA 2.5 'Improve soil quality' are addressed by only a few projects (2 each).
- All 22 countries covered by the mapping of relevant initiatives are involved in projects addressing this thematic axis with at least one project, except Portugal. The country with most projects addressing this thematic axis is Italy (17), followed closely by Spain (16). Least often involved are Jordan (2), Monaco (1), Slovenia (2), and Turkey (2). From a sub-regional perspective the average number of projects per country is Med EU 6.3, Western Balkan 4, Northern Africa 4.8, and Middle East 3.4.
- The analysis shows that most of regional projects are financed by the EU at Med level, while bilateral donors are rather engaged in national level projects. Most projects are running under Interreg Med and CBC Med with 9 and 7 projects, respectively. The majority has a timeline up to 2022 and 4 projects will be implemented up to 2023. Bilateral donors are less present on regional projects, but GIZ can be highlighted in this axis with a sub-regional project on waste management in the Western Balkans Additionally, GEF is engaged in an environmental project at Med scale, whose component on the use of toxic chemicals in the MENA region is included in 2030GreenerMed.
- The baseline for 2020 was established with information reported by 14 projects (67% of all projects mapped under axis 2). Of those, 13 projects are cross-cutting with thematic axis 1 (green, circular economy), two with thematic axis 3 (biodiversity/ecosystems)and one project is crosscutting among all three axes (green, circular economy; pollution; biodiversity/ecosystems). Although none of the projects reported information for long-term outcomes, Sircles and DECOST projects under CBC Med have quantified targets for waste treatment. However, there is overall weak evidence for the contribution to the impact level.
- Likewise, most projects do not report on intermediate outcomes. Therefore reported numbers (194.334 stakeholders capacitated or with raised awareness, 18 declarations/policies/strategies or plans developed, and 40 solutions developed), can be understood as the minimum achieved, with actual numbers potentially being higher.
- None of the projects reported information disaggregated by vulnerable groups (e.g. youth or women).

More overarching key findings are included in this report under Section 6 "Learnings & Considerations".

Axis 2 focuses on those actions that aim to prevent and reduce pollution on land, sea and air from different sources, applying a source-to-sea/ridge-to-reef approach with a particular focus on plastic pollution and marine litter as well as other inorganic and organic pollution sources. In the case of plastic pollution, the IUCN reported for 2020 that "the total plastic accumulated in the Mediterranean is estimated in the order of magnitude of 1,178,000 tonnes, with an uncertainty ranging from 53,500 to 3,546.700 tonnes"[36], while every year 229,000 tonnes of plastic are leaking into the Mediterranean Sea, "equivalent to over 500 shipping containers each day"[37]. This study also estimated a central annual plastic leakage of 229,000 tonnes (low and high leakage

[36] Source: Boucher and Billard, 2020, p.10
[37] Source: IUCN, 2020

LEVEL	INDICATOR	
IMPACT	Ocean Health Index	47,60
	Annual mean concentration of particulate matter of less than 2.5 microns of diam.	4142 µg/m3
	Municipan Solid Waste	1,4 kg/day/capita
LONG-TERM OUTCOME	Tons of waste treated	No data available
	Wastewater treated	No data available
	Amount and type of toxic pollutants eliminated or reduced	No data available
INTERMEDIATE OUTCOMES	No. of stakeholders with increased awareness / knowledge / capacity	2.737
	No. of solutions (tools, technologies, etc.) taken up or upscaled	4
	No. of declarations, policies, strategies and plans taken up or upscaled	11
OUTPUTS	No. of actors that participated in capacity building, awareness raising and ESD	194.334
	No. of solutions (tools, technologies, etc.) taken up or upscaled	40
	No. of declarations, policies, strategies and plans taken up or upscaled	18
ACTIVITIES	No. of projects and programmes implemented under the Greener Med	21

Figure 13. Axis 2 baseline results

estimates equate to 150,000 and 610,000 tonnes year-1 respectively), of which 94% are macroplastics and 6% are microplastics. The average litter density in beaches and protected areas was estimated to be 1048 items/100m, based on a study covering 28 different beach sites in the Mediterranean.[38] In this sense, through the diagnosis of axis 2 it is possible to strengthen the mechanisms for pollution prevention and facilitate investments in infrastructure whenever feasible, considering relevant regional frameworks. Given the focus on monitoring activities and outputs, information on long-term outcomes has not been reported by any of the projects. Therefore, an important information gap exists regarding the actual effects of project implementation on pollution prevention and reduction.

Mapping of initiatives

Under axis 2, 21 projects have been identified that address pollution prevention and reduction with a (sub-)regional approach. 14 are cross-cutting with other thematic axes, and this axis of the 2030GreenerMed agenda is the least covered one among all projects identified. Most projects of this thematic axis are implemented under the umbrella of Interreg Med (9 projects), and CBC Med (7 projects). Other initiatives addressing this thematic axis (each with one project) include H2020 RTD-Bluemed, ENI South, GIZ, PRIMA, and GEF.

Coverage by key action

Most frequently addressed within this thematic axis are KA 2.7 "Reducing landfilled waste" (10 projects) and KA 2.2 "Plastic pollution and marine litter" (8 projects). Only one project 'SUMPORT' (Interreg Med) clearly addresses KA 2.6 "reduce and control air pollution".

[38] Source: UfM, 2021

# (%)[39] of projects of thematic axis 2	Key action
10 (48%)	KA 2.7 Reduce landfilled waste
8 (38%)	KA 2.2 Put a particular focus on plastic pollution and marine litter as well as other inorganic and organic pollution sources
4 (19%)	KA 2.1 Strengthen mechanisms for pollution prevention and reduction from different sources through application of a source-to-sea/ridge-to-reef approach
2 (10%)	KA 2.3 Facilitate investments in infrastructure
2 (10%)	KA 2.4 Reduce chemical pollution
2 (10%)	KA 2.5 Improve soil quality
1 (5%)	KA 2.6 Reduce and control air pollution

Table 4. Number and share of projects per key action in thematic axis 2

Coverage by country/sub-region

All countries are involved in projects addressing this thematic axis with at least one project, except Portugal, for which no project was identified. The country with most projects addressing this thematic axis is Italy (17), followed closely by Spain (16). Least often involved are Monaco (1 project), Jordan, Slovenia, and Turkey (2 projects each).

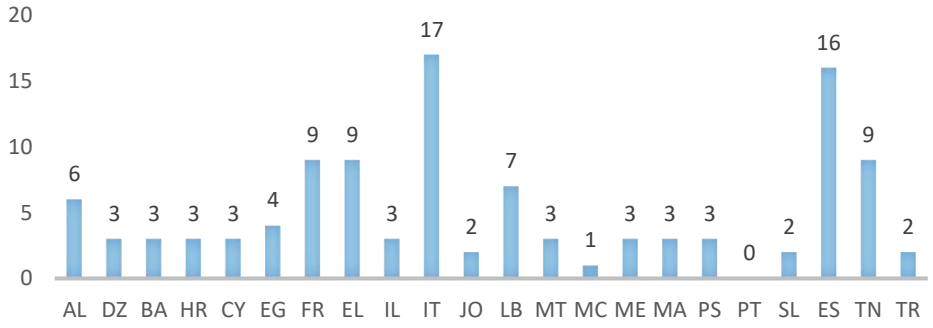


Figure 14. Number of projects per country in thematic axis 2

In terms of sub-regional coverage, this translates into the following unweighted average number of projects per country: Med EU 6.3, Western Balkan 4, Northern Africa 4.8, and Middle East 3.4

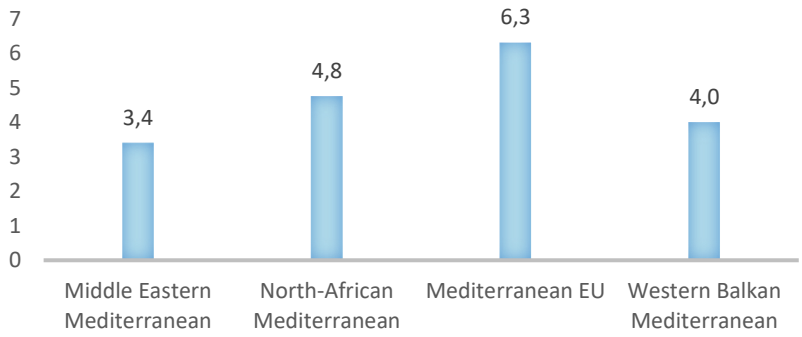


Figure 15. Average number of projects per country per sub-region in thematic axis 2

Among the North African Mediterranean countries (Morocco, Tunisia, Egypt, Algeria), Tunisia stands out with 9 projects compared to 4 projects in Egypt and 3 projects each in Morocco and

[39] Each project covers multiple key actions.

Albania. Tunisia covers the key action "reduce landfilled waste" with 5 projects and "strengthen mechanisms for pollution prevention" as well as "plastic pollution and marine litter" with three projects each. One project focuses on the facilitation of investments in infrastructure and one on chemical pollution, while soil quality and air pollution are not addressed by any project in Tunisia. Projects in Algeria, Morocco and Egypt focus on the key actions "strengthen mechanisms for pollution prevention", "plastic pollution and marine litter" with 2 projects each. In Algeria and Egypt, 1 project also addresses soil quality improvement. In Morocco 1 project contributes to chemical pollution reduction.

Among the Mediterranean countries of the Western Balkan, Albania is involved in 6 projects, whereas Bosnia and Herzegovina and Montenegro are involved in 3 projects each. Projects in Albania most frequently emphasise actions addressing plastics and marine litter as well as landfill waste (3 and 2 projects respectively). 1 project addresses air pollution control and reduction, facilitating investments in infrastructure as well as the strengthening of pollution prevention measures. Bosnia and Herzegovina is involved in 1 project addressing landfill waste (indirectly through the promotion of bio-based packaging solutions), 1 project focusing on plastic and marine litter, and 1 project addressing the reduction of chemical pollution. Montenegro is involved in 1 project that facilitates investments into infrastructure, especially into transport. The same project also addresses air pollution. Further, 2 projects address marine litter and plastic pollution.

Among the middle eastern countries, Lebanon is most involved (7 projects), followed by Israel and Palestine (3 projects each), and Turkey and Jordan (2 projects each). The key actions "Strengthen mechanisms for pollution prevention" and "plastic pollution and marine litter" are addressed in Israel and Jordan with 2 projects each. Turkey is not involved in any project that addresses any of the other key actions except for "reduce landfilled waste (1 project). Israel is also involved in 1 project addressing landfilled waste, while Lebanon, Jordan and Palestine each are addressing this key action with 4, 2 and 2 projects respectively. Jordan is not involved in any project addressing any of the other key actions of this thematic axis. Soil quality, and air pollution are not addressed by any project within this region.

Among the Mediterranean EU countries, it stands out that Italy (17 projects), Spain (16 projects), France (9 projects), and Greece (9 projects) are particularly often involved in regional projects under this thematic axis compared to the other countries (Croatia 3, Cyprus 3, Malta 3, Monaco 1, Slovenia 2, Portugal 0). The thematic focus among the projects of the earlier four countries is dominated by landfill waste and plastic pollution and marine litter, the latter of which are not addressed at all by Portugal. Slovenia, Cyprus, Greece, Italy and Spain address indirectly the facilitation of investments in infrastructure, specifically mobility to reduce congestion and air pollution, with one project.

Activities, outputs and outcomes

The baseline was established based on the information reported by 14 projects. Of those, 13 projects are cross-cutting with Axis 1, two with Axis 3 and one project is crosscutting among all three axes. CBC Med and Interreg Med have most projects under axis 2 (Figure 16).

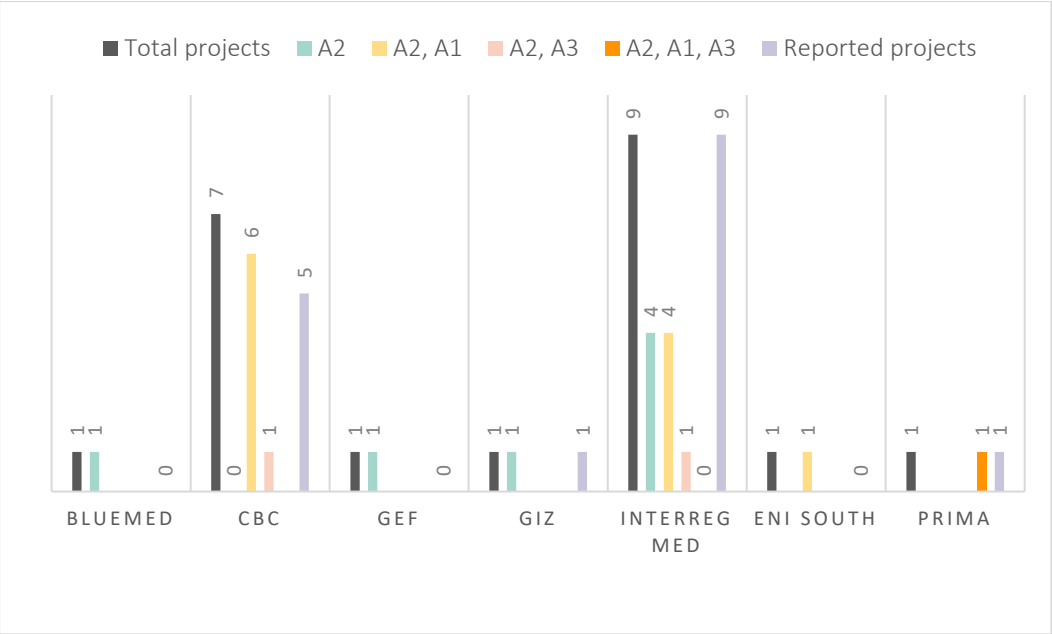


Figure 16. Number of projects with available information

The information analysed from CBC Med refers to the projects Clima, Med-Ina, CeoMed, DECOST and Sircles. Reported Interreg Med projects include: SUMPORT, Plastic Busters MPAS, ACT4LITTER, Consume-Less and MedSeaLitter. Not all projects have information available on all indicators for building the baseline; especially for longer-term outcomes an information gap remains.

	INDICATOR	BASELINE 2020
Long-term outcome	Tons of waste treated	No data available
	Wastewater treated (m3/d)	
	Amount and type of toxic pollutants eliminated or reduced	
Intermediate outcome	Number of stakeholders with increased awareness/knowledge/capacity.[40]	2.737
	No. of declarations, policies, strategies and plans taken up or upscaled.[41]	11
	No. of solutions (tools, technologies, etc.) taken up or upscaled.[42]	4
Outputs	No. of actors that participated in capacity building, awareness raising events and ESD.[43]	194.334
	No. of declarations, policies, strategies and plans developed.[44]	18
	No. of solutions (tools, technologies, etc.) developed.[45]	40
Activities	No. of projects and programmes implemented under the Greener Med framework per year.[46]	21

Table 5. Indicator results Axis 2

[40] Data source: GIZ M&E Officer
[41] Data source: CBC (Clima, DECOST and MED-InA) and GIZ
[42] Data source: CBC (CeoMed) and GIZ
[43] Data source: CBC (CeoMed, Clima, Decost, Med-InA and Sircles), Interreg Med, PRIMA (Transition) and GIZ
[44] Data source: CBC (CeoMed, Clima, Decost and Circles), EPPA, InterregMed, PIRMA and GIZ
[45] Data source: CBC (CEOMed, Clima, Decost and Sircles), EPPA, Interreg Med and PRIMA
[46] Data source: EPPA, Interreg Med, PRIMA and GIZ

With respect to Table 5 it is important to highlight four aspects:

i. ***Solutions developed.*** The major tools reported are methodologies and models, guidelines, apps/websites and other platforms, and technologies such as detection systems. In addition, equipment and infrastructure was provided for waste management.

ii. ***Declarations, policies, strategies, and plans developed.*** The main resources developed are communication plans, recommendations, and roadmaps.

iii. ***Capacity building/ Awareness raising events.*** 458 people were capacitated while 193,876 people participated in awareness raising events (Figure 17). There is no gender or youth disaggregated data available in any project.

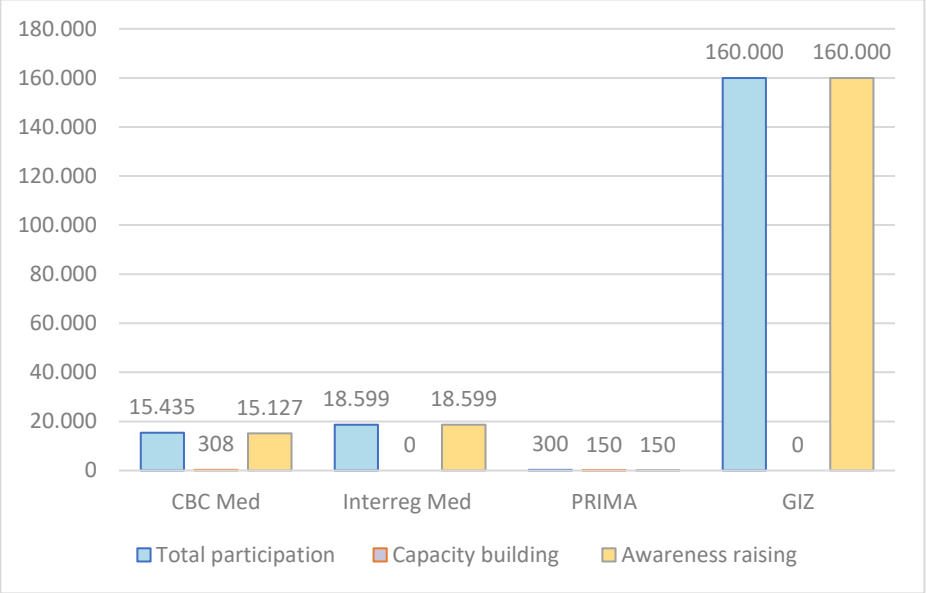


Figure 17. No. of people that participated per type of events

iv. ***Long-term outcomes.*** Although there is no data available on long term outcomes it is important to point out that the Sircles project (CBC Med) has quantified targets for waste treatment. In addition, the DECOST project, also under CBC Med, seeks to establish waste treatment capacity ranging from 400 to 550 tones/year, in each pilot initiative (four in total), where all compost produced will be reused as fertilizer in subsequent urban food system projects.

Impact level

Note to the reader

The impact level analysis (below) of the agreed indicators has been prepared based on publicly available internationally recognized sources.

It aims to link and show how the 2030GreenerMed supporting projects contribute to the impact level.

- To track progress towards the prevention and reduction of pollution on land, sea and air from different sources in the Mediterranean region, the monitoring framework under axis 2 includes three impact indicators, all of them SDG indicators: Ocean Health Index, Annual mean concentration of particulate matter of less than 2.5 microns of diam and is Municipal solid waste.
- Ocean Health Index measures to what degree marine waters under national jurisdictions have been contaminated by chemicals, excessive nutrients (eutrophication), human pathogens, and trash. Data show the average score is 47,60 which means seawater quality must be improved in the Mediterranean region.
- Annual mean concentration of particulate matter of less than 2.5 microns of diam measures air pollution as the population-weighted mean annual concentration of PM2.5 for the urban population in a country. The higher the value, the higher the levels of personal exposure to this pollutant. The population exposed to health damage is 100% in almost all countries.
- Municipal solid waste measures the amount of waste collected by or on behalf of municipal authorities and disposed of through waste management systems. It excludes agricultural and industry waste.

The first impact indicator is the *Ocean Health Index* (OHI). It measures to what degree marine waters under national jurisdictions have been contaminated by chemicals, excessive nutrients (eutrophication), human pathogens, and trash. A score closer to 100 indicates less pollution and healthier oceans, and vice versa. This index was calculated for 22 countries of the Mediterranean region. The average score is 47,60 which means seawater quality must be improved in all of them. Data show Slovenia, Israel, and Lebanon are the countries with the lowest scores. France, Italy, Spain, Jordan, and Tunisia have a score between 47 and 49. The score of Greece, Portugal, Albania, Cyprus, Turkey and three countries of North Africa (Egypt, Morocco, Libya) is over 50. Croatia has the highest score with 64.56 followed by Montenegro with 61.31 (Figure 18).

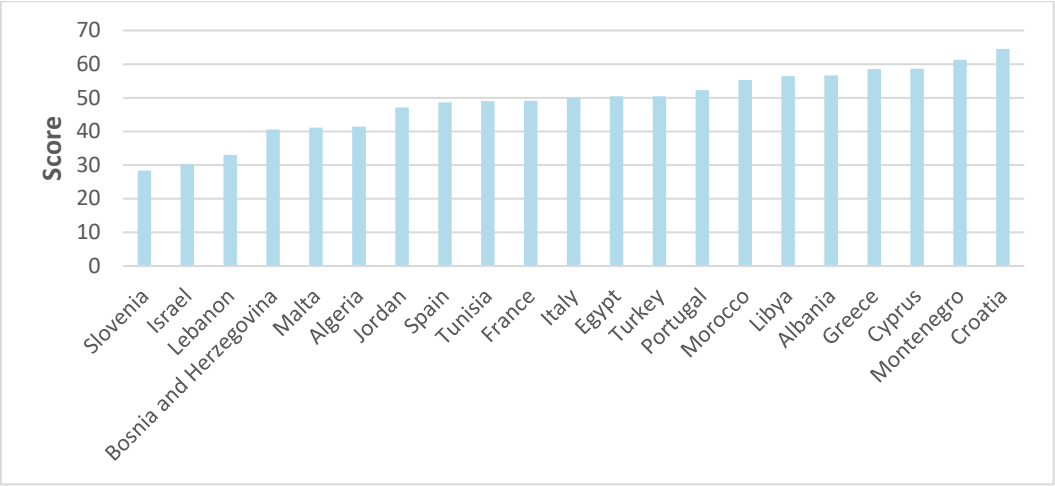


Figure 18. OHI per country[47]

The second impact indicator is *Annual mean concentration of particulate matter of less than 2.5 microns of diam.* It is framed under SDG11: Sustainable Cities and Communities. Its aim is to measure air pollution as the population-weighted mean annual concentration of PM2.5 for the urban population in a country. PM2.5 is suspended particles measuring less than 2.5 microns in aerodynamic diameter. They are capable of penetrating deep into the respiratory tract and can cause severe health damage, with studies also linking them to the pathogenesis of lung cancer[48]. Values oscillate from 0 to 100, whereas any value below 6.3 signals SDG achievement. The higher the value, the higher the levels of personal exposure to this pollutant.

For the Mediterranean area the value is 41.42 µg/m3. Data show Portugal is the country with the lowest value (8.16 µg/m3) followed by Spain (9.7 µg/m3). The country with the highest value is Egypt: 87 µg/m3. From a regional overview, North Africa has the highest value (51.44 µg/m3), followed by Middle East (42.70 µg/m3), Eastern Europe (21.84 µg/m3) and Western Europe (12.23 µg/m3). The population exposed to health damage is 100% in almost all countries, except in Portugal (16.01%) and Spain (41.12%) (Figure 19).

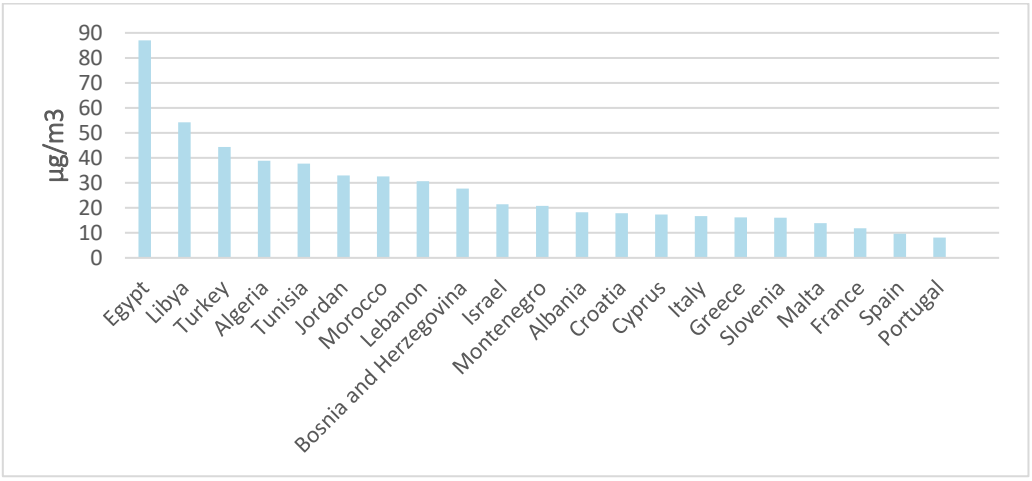


Figure 19. Annual mean PM2,5 concentration per country[49]

[47] Source: SDSN Mediterranean (2020)
[48] Source: Li, Zhou and Zhang, 2018.
[49] Source: SDSN Mediterranean (2020). Information on Palestine is not available.

The third impact indicator under axis 2 is M*unicipal solid waste* (MSW). The SDSN-Mediterranean relates this indicator to SDG12 on Responsible Consumption and Production, and its objective is to measure the amount of waste collected by or on behalf of municipal authorities and disposed of through waste management systems. It excludes agricultural and industry waste. The indicator is measured in kg/day/capita.

Data show Jordan, Morocco, and Tunisia have values below 1 kg/day/capita. Slovenia has the highest value: 2.24 kg/day/capita (Figure 20). From a regional perspective the average is quite similar in the four sub-regions, with Middle East being the region with the lowest result (1.15 kg/day/capita), followed by North Africa (1.17 kg/day/capita), Eastern Europe (1.72 kg/day/capita) and Western Europe (1.75 kg/day/capita).

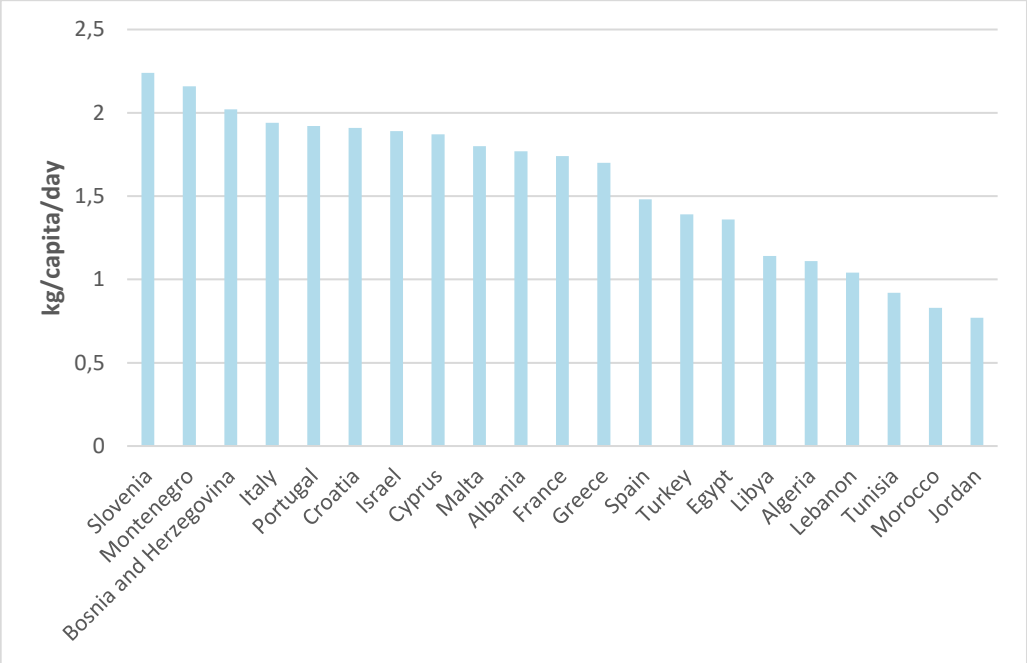


Figure 20. Municipal solid waste indicator per country[50]

[50] Source: SDSN Mediterranean (2020)

4.3 Axis 3: Natural resources/biodiversity/ecosystems

Summary of key findings

- The 30 contributing projects and programmes under axis 3 focus mostly on the KA 3.1 'Support actions that preserve, protect and/or restore terrestrial, marine and coastal ecosystems, natural capital and biodiversity', and KA 3.9 'Promote nature-based solutions'. However, almost half of the projects address marine and coastal zones, including MPAs, while less than 10 projects address land, with a focus on landscapes such as forests, wetlands, and agricultural land. Key actions least addressed are KA 3.7 'Protect on-farm biodiversity in agro-ecosystems', and KA 3.8 'Promote disaster risk reduction with a special focus on extreme events including droughts and floods, an including forest fires'.
- All 22 countries covered by the mapping of relevant initiatives are involved in at least one regional project, except Palestine. The country with most projects is Italy (26), followed by Spain (23), Greece (19) and France (17). Israel and Jordan are only involved in one project each. From a sub-regional perspective, the average number of projects per country are: Med EU 11.4, Western Balkan 5.7, Northern Africa 4, and Middle East 2.4.
- The analysis shows that most of regional projects are financed by the EU at Med level, while bilateral donors are rather engaged on national level projects.
- Most of the projects and programmes are under Interreg Med (16), followed by CBC Med (5) and PRIMA (4). Also, most of the projects and programmes are running up to 2022 (16) while only 3 will be implemented up to 2023. Other donors are less present in regional projects, but MAVA Foundation can be highlighted in this axis with a regional project to restore damaged habitats and reduce impacts on wetlands; and the German Ministry of Environment (BMU) funding the project "Scaling up Forest and Landscape Restoration in line with the Paris Agreement, the Biodiversity Convention and the Bonn Challenge". In addition, MedPAN – funded through various donors including the French government amongst others – with a project focusing on integrated and sustainable management of coastal, insular and marine protected areas, and MedFund – with bilateral and multilateral donors, philanthropic and private funds – providing a dialogue and financing mechanism to the long-term management of Mediterranean Marine Protected Areas.
- The baseline for 2020 was established with information reported by 28 projects (93% of all projects mapped under axis 3). Of those, 20 projects are relevant for this axis only, 10 projects are cross-cutting with axis 1, two with axis 2, and one project is cross-cutting for the three axes. None of the projects reported information for long-term outcomes, and secondary sources (e.g. MapaMed database) were used instead.
- As in the other axes, projects do not monitor results at the level of intermediate outcomes at this point in time. Reported numbers (1.381 stakeholders capacitated or with raised awareness -from one single capacity event under one project-, 29 declarations/policies/strategies or plans developed, and 59 solutions developed), can be understood as minimum results. There is no gender disaggregated information available.

More overarching key findings are included in this report under Section 6 "Learnings & Considerations".

LEVEL	INDICATOR	
IMPACT	Mean area that is protected in marine sites important to biodiversity	35,38%
	Mean area that is protected in terrestrial sites important to biodiversity	34,94%
	Red List Index of species survival	0,85
LONG-TERM OUTCOME	No. of improved management practices	19
	Area of ecosystems improved or protected	20.930.337 ha
INTERMEDIATE OUTCOMES	No. of stakeholders with increased awareness / knowledge / capacity due to project measures	No information available
	No. of declarations, policies, strategies and plans taken up or upscaled due to project measures	1
	No. of solutions (tools, technologies, etc.) taken up or upscaled due to project measures	No information available
OUTPUTS	No. of actors that participated in a) capacity building b) awareness raising events c) ESD through related programmes and projects per year	1.381
	No. of declarations, policies, strategies and plans that are developed through related programmes and projects per year	59
	No. of relevant tools and technologies developed through related programmes and projects per year	29
ACTIVITIES	No. of projects and programmes implemented under the 2030 GreenerMed	30

Figure 21. Axis 3 baseline results

Climate change and anthropogenic changes in the environment threaten the Mediterranean region's natural ecosystems and biodiversity at land and in the sea. Land degradation and desertification, and degradation of coral reefs lead to destruction of natural habitats of the region's species. Already 28% of Mediterranean forest animal and plant species are threatened with extinction, and 48% of natural wetlands have been lost since 1970.[51] Axis 3 of 2030GreenerMed aims to protect, preserve, manage and restore terrestrial, marine and coastal ecosystems, natural capital and biodiversity, while promoting the sustainable management of landscapes, seascapes and coastal areas in the Mediterranean region. 2030GreenerMed also encourages the application of integrated ecosystem-based approaches to manage terrestrial, costal and marine natural resources focusing on safeguarding and improving key ecosystem services and functions they provide to society, covering protected and productive areas.

To keep track of progress towards the agenda's objectives, three impact and two long-term outcome indicators have been defined, as well as the indicators at intermediate outcome, output and activity level that are the same for all thematic axes. Regarding long-term outcomes, contrary to axis 1 and 2 there is some information available, however not directly attributable to the implementation of supporting projects and programmes, as will be explained further below.

Mapping of initiatives

Overall 30 projects were identified that support meeting the objective of axis 3. Of these projects, 11 are cross-cutting with other thematic axes of the 2030GreenerMed. This thematic axis ranges in the midfield in terms of the number of projects when compared to thematic axis 1 and 2. Almost half of the projects address the marine and coastal zones, including MPAs, while less than 10 projects address landscapes such as forests, wetlands, and agricultural land. The remaining projects appear to take a more general/ cross-cutting approach without specific focus on either land- or seascapes.

By far most projects of this thematic axis are implemented under Interreg Med (16), followed by CBC Med (5), PRIMA (4), and BMU/IKI/FAO, MAVA Foundation, MedPAN and MedFund (one project each).

[51] According to information on UfM Secretariat website, https://ufmsecretariat.org/ufm-environment-agenda/

Coverage by key action

Most frequently addressed within this thematic axis are actions that "preserve, protect and/or restore terrestrial, marine and coastal ecosystems, natural capital and biodiversity" (26 projects), and the promotion of "nature-based solutions" (25 projects). Only 3 projects were identified that clearly address the KA 3.7 "protect on-farm biodiversity in agro-ecosystems", and only 1 that promotes KA 3.8 "disaster risk reduction".

# (%)[52] of projects of thematic axis 3	Key action
26 (87%)	KA 3.1 Support actions that preserve, protect and/or restore terrestrial, marine and coastal ecosystems, natural capital and biodiversity
25 (83%)	KA 3.9 Promote nature-based solutions
15 (50%)	KA 3.2 Promote the sustainable management of landscapes, seascapes and coastal areas in the Mediterranean
13 (43%)	KA 3.5 Promote transboundary cooperation
10 (33%)	KA 3.6 Mainstream biodiversity in key sectors
7 (23%)	KA 3.4 Focus on safeguarding/improving key ecosystem functions and services (in protected areas and productive areas)
8 (27%)	KA 3.3 Promote an integrated ecosystem-based approach to managing terrestrial, costal and marine natural resources
3 (10%)	KA 3.7 Protect on-farm biodiversity in agro-ecosystems
1 (3%)	KA 3.8 Promote Disaster Risk Reduction with a special focus on extreme events including droughts and floods, and including forest fires

Table 6. Number and share of projects per key action in thematic axis 3

Coverage by country/sub-region

All countries are involved with at least one project, except Palestine, for which no project was identified. The country with most projects is Italy (26), followed by Spain (23), Greece (19) and France (17). Israel and Jordan are only involved in one project each.

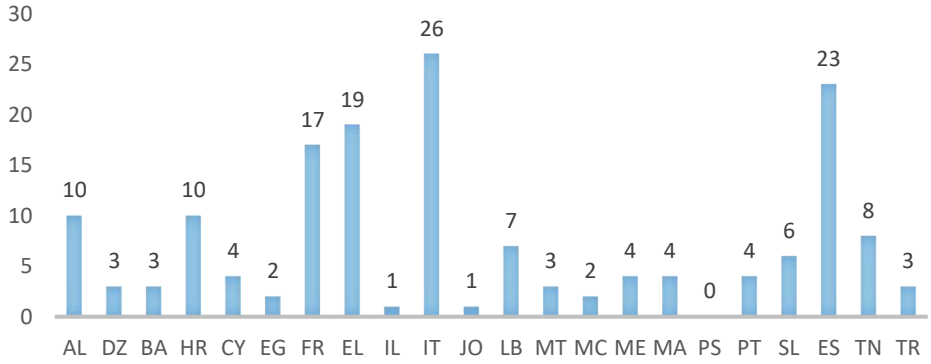


Figure 22. Number of projects per country in thematic axis 3

In terms of sub-regional coverage, this translates into the following unweighted average number of projects per country: Med EU 11.4, Western Balkan 5.7, Northern Africa 4, Middle East 2.4.

[52] Each project covers multiple key actions.

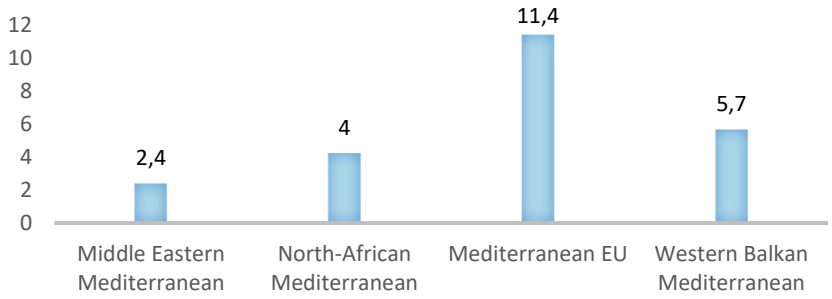


Figure 23. Average number of projects per country per sub-region in thematic 3

Among the North African Mediterranean countries, Tunisia is involved in most projects (8), followed by Morocco (4) and Algeria (3 projects). For Egypt 2 projects were identified that are contributing to this thematic axis, supporting all key actions but the promotion of transboundary cooperation, mainstreaming biodiversity, and promoting disaster risk reduction. Tunisia, Morocco, Egypt and Algeria also address support actions for ecosystems, natural capital and biodiversity with 7, 4, 2 and 3 projects respectively, and actions that focus to promote the sustainable management of landscapes, seascapes and coastal areas through 6, 3, 1 and 2 projects respectively. Tunisia and Morocco are the only countries involved in projects promoting transboundary cooperation. Tunisia is the only country involved in a project mainstreaming biodiversity in key sectors. All countries are participating in projects that promote nature-based solutions (7, 4, 2, and 3 projects, respectively).

Among the Mediterranean countries of the Western Balkan, Albania is involved in 10, Bosnia and Herzegovina in 3 and Montenegro in 4 projects under this thematic axis. All three countries are involved in projects that

- support actions that preserve, protect and/or restore terrestrial, marine and coastal ecosystems (AL 9, BA 2, ME 3 projects),
- promote the sustainable management of landscapes, seascapes and coastal areas (AL 4 and ME 2 projects, BA 1 project),
- promote an integrated ecosystem-based approach to natural resources (AL 5, BA 1, ME 2 projects),
- focus on safeguarding/improving key ecosystem functions and services (AL 2, BA and ME – 1 project each)
- promote transboundary cooperation (AL 7, BA 2, ME 3 projects)
- promote nature-based solutions (AL 8, BA 2, ME 3 projects)

No projects were identified for these countries that aim to protect on-farm biodiversity and promote disaster risk reduction.

Among the middle eastern countries, Lebanon and Turkey are most involved (7 and 3 projects respectively), followed by Israel and Jordan (each 1 project). No regional project was identified that involves Palestine. Lebanon is comparatively often involved in projects that preserve, protect and/or restore terrestrial, marine and coastal ecosystems (6 projects) as well as in projects promoting the sustainable management of landscapes, seascapes and coastal areas as well as nature-based solutions (6 projects each). No project that promotes disaster risk reduction or mainstreams biodiversity in key sectors, and only 1 project (Lebanon) that aims to protect on-farm biodiversity was identified. Projects that promote transboundary cooperation involve all

countries but Palestine. Turkey is also involved in one project that promotes nature-based solutions and in two that promotes transboundary cooperation.

Among the Mediterranean EU countries, it stands out that - compared to the other countries - Italy is particularly often involved in projects under this thematic axis (26 projects), followed by Spain (23 projects), Greece (19 projects), and France (17 projects). While Croatia is involved in 10 projects under this thematic axis, the remaining countries are involved in less than 10 projects, with Malta and Monaco making up the rear (3 and 2 projects respectively). Support actions that preserve, protect and/or restore terrestrial, marine and coastal ecosystems, natural capital and biodiversity, the promotion of nature-based solutions and of the sustainable management of landscapes, seascapes and coastal areas, the mainstreaming of biodiversity in key sectors as well as the promotion of transboundary cooperation are the most frequently covered key actions, whereas the protection of on-farm biodiversity as well as the promotion of disaster risk reduction are least frequently covered (the latter not at all by PT, SL, MT, MC, EL and CY; the earlier not at all by PT, SL, MT, MC, CY, and HR).

Activities, outputs and outcomes

The results of contributing projects under axis 3 is measured by two long-term outcome indicators, three intermediate outcome indicators, three output indicators and one activity indicator. A total of 28 projects shared information to be considered for the baseline assessment. Of those, 20 projects are relevant for this axis only, 10 projects are cross-cutting with axis 1, two with axis 2 and one project is cross-cutting for the three axes (Figure 24).

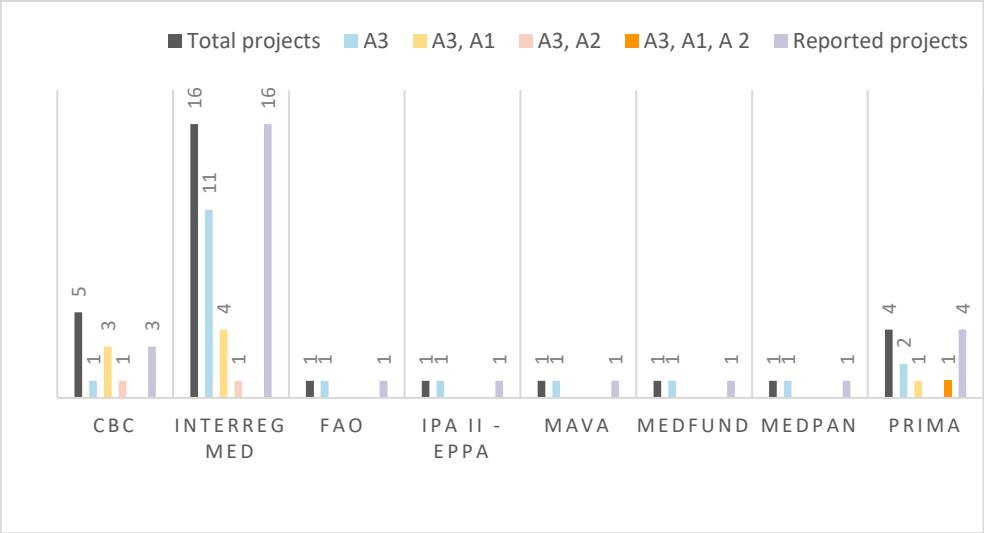


Figure 24. Number of projects that shared information

The results for axis 3 are presented in the following table.

	INDICATOR	BASELINE 2020
Long-term outcome	No. of improved management practices.[53]	19
	Area of ecosystems improved or protected.[54]	20.930.337
Intermediate outcome	Number of stakeholders with increased awareness/knowledge/capacity.	No data available

[53] Data source: MedPan.
[54] Data source: MedPan.

	No. of declarations, policies, strategies and plans taken up or upscaled.	
	No. of solutions (tools, technologies, etc.) taken up or upscaled.[55]	1
Outputs	No. of actors that participated in capacity building, awareness raising events and ESD.[56]	1.381
	No. of declarations, policies, strategies and plans developed.[57]	29
	No. of solutions (tools, technologies, etc.) developed.[58]	59
Activities	No. of projects and programmes implemented under the Greener Med framework per year.[59]	30

Table 7. Indicator results axis 3

Regarding Table 7 is important to highlight five aspects:

i. ***Capacity building/ Awareness raising events.*** 690 people were capacitated while 691 people participated in awareness raising events (Figure 25). Apart from one single capacity building event under the LENSES project (PRIMA), there is no gender disaggregated data available.

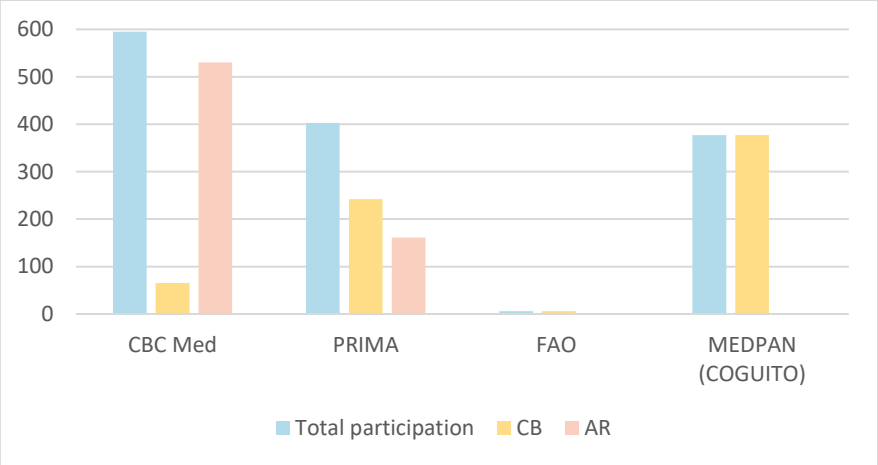


Figure 25. Stakeholder participation in capacity building/awareness raising events

ii. ***Declarations, policies, strategies, and plans developed.*** The main resources are communication strategies, roadmaps, and operational plans.

iii. ***Solutions developed.*** The common tools developed are methodologies, studies, platforms, innovative technologies, mappings, databases, frameworks, guidelines and reports.

iv. ***Number of improved management practices.*** The number reported is derived from the MedPan initiative's MapaMed database, for the indicator "Number of MPAs that have a management plan", as information on "improved management practices" was not available from any projects. Thus, this result cannot be attributed to any specific project. However, under Interreg Med it was reported that 19 MPAs are "engaged (through charters, protocols, MoU) in implementing management strategies". This number was not

[55] Data source: EPPA.
[56] Data source: CBC, PRIMA, FAO and MedPan.
[57] Data source: CBC (Co-Envolve and MedArtSal), Interreg Med, PRIMA, FAO, MedFund and MedPan.
[58] Data source: CBC (LivingAgro and MedArtSal), EPPA, Interreg Med, FAO, MAVA, MedFund and MedPan.
[59] Data source: EPPA, Interreg Med, PRIMA, FAO and MedPan.

summed up to the total number for this indicator, as it is assumed that the 19 MPAs are the same that are reported from the MapaMed database.

v. ***Area of ecosystems protected.*** Again, available information of MedPan's MapaMed database was used in the absence of reporting from projects. The information from MapaMed represents the overall surface of MPAs in the Mediterranean. On the other hand, Interreg Med reported information for projects AMAre, EcoSustain, MPA-ADAPT, POSBEMED and WETNET. A total area of 990.485 hectares was reported under the indicator "Surface of habitats supported to attain a better conservation status". This number was not summed up to the surface reported by MapaMed, as potential overlaps exist. Finally, in the case of MedFund, from 2020 to 2025, it will support eight MPAs in total from five different countries: Albania (1) -Karaburun Sazan Marine Protected Area; Tunisia (4) -Kuriat Islands, the Galite, Zembra/Zembretta, and Kneiss-; Morocco (2) -Al Hoceima and Jbel Moussa-; and Turkey (1) – Gokova-. More reporting on this indicator can be expected for the years to come.

Impact level

Note to the reader

The impact level analysis (below) of the agreed indicators has been prepared based on publicly available internationally recognized sources.

It aims to link and show how the 2030GreenerMed supporting projects contribute to the impact level.

- To track progress towards ecosystem protection in the Mediterranean region, the monitoring framework under axis 3 includes three impact indicators, all of them SDG indicators: *Mean area that is protected in marine sites important to biodiversity*, *Mean area that is protected in terrestrial sites important to biodiversity* and *Red list index of species survival*.
- *Mean area that is protected in marine sites important to biodiversity* measures the average proportion of each marine Key Biodiversity Area (KBA) that has been designated as a protected area. The latest State of Environment and Development in Mediterranean report (2020), which applies a different methodology, stated that 8.9% of the Mediterranean Sea has Marine Protected Areas and other effective area-based conservation measures.
- *Mean area that is protected in terrestrial sites important to biodiversity* measures the mean percentage area of terrestrial KBA protected. The higher the value the better because there is more terrestrial area protected. Data show the average percentage for the Mediterranean region is 34.94%.
- *Red list index of species survival* measures on a scale of 0 to 1. 1 is the maximum contribution that the country/region can make to global species survival, equating to all species being classified as Least Concern on the IUCN Red List, and 0 is the minimum contribution that the country/region can make to global species survival, equating to all species in the country or region having gone extinct. Data show North Africa has the highest value (0.91) followed by Western Europe (0.87), Eastern Europe (0.78) and Middle East (0.75).

The first impact indicator is *Mean area that is protected in marine sites important to biodiversity* under SDG14 Life below water. It measures the average proportion of each marine Key Biodiversity Area (KBA) that has been designated as a protected area. The KBAs "are sites contributing significantly to the global persistence of biodiversity and are identified following global standard criteria for the identification of KBAs by IUCN in 2016 applied at national levels"[60].

On the other hand, Marine Protected Areas (MPA) were defined by the Convention on Biological Biodiversity as: "any defined area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection that is surroundings."[61]

In this sense, Marine KBAs "are defined as those with at least 5% of their area overlapping the sea, as defined through a spatial analysis"[62]. In the Mediterranean sea there are 1,215 MPAs and Other Effective area-based Conservation Measures (OECMs)[63]. According to MedPan (MapaMed database), UN Environment/MAP and SPA/RAC by 2019 MPAs covered 171,362 km2 which placed a surface of

[60] Source: UN Statistics Wiki, n.d.
[61] Source: Conference of the Parties, 2004
[62] Source: UN Statistics Wiki, n.d.
[63] Source: MedPan (MapaMed database), UN Environment/MAP and SPA/RAC, 2019.

6.81% under a legal designation. The latest State of Environment and Development in Mediterranean report (2020) stated that "around 1,200 MPAs and other effective area-based conservation measures cover over 8.9% of the Mediterranean Sea, close to the global Aichi 11 and SDG 14 Target of 10% coverage. However, only about 10% of these sites properly implement management plans, due to the lack of financial resources and skilled staff, as well as legal and policy gaps"[64]. At national level[65] there are 190 sites designated which cover 32,065 km2 (1.27%) of the Mediterranean Sea[66].

Despite some progress made regarding protected areas, MedECC report states that "the Mediterranean Sea represents the highest proportion of threatened marine habitats in Europe (32%, 15 habitats) with 21% being listed as vulnerable and 11% as endangered".it is important to consider that the main pressures to biodiversity are anthropogenic disturbances and the transformation of its environmental characteristics due to global change. In the first case, coastal development (fishing industry, aquaculture, agricultural, tourism, among others) and urbanization "are among its main threats and these have intensified over the last few years. [...] Coastal demographic growth contributes to degraded landscapes, soil erosion, increased waste discharges into the sea, loss and fragmentation of natural habitats as well as deterioration of the state of vulnerable or endangered species."[67] .

The Sustainable Development Report states that the Middle East has the lowest percentage (3.37%) of marine protected areas important to biodiversity. Data show there are two main reasons: (i.) There is no available data on Palestine, Israel, and Jordan; and (ii.) Turkey and Lebanon have the second and third lowest percentage among the 22 Mediterranean countries considered for this indicator, with 4.14% and 5.13% respectively. North Africa is the region with the second lowest percentage (27.91%), and Libya the country with the lowest percentage (0.31%). The countries of these regions still have major challenges remaining to achieve SDG14. In the case of Europe, Western Europe has the highest percentage (80.11%) followed by Eastern Europe (63.34%).

The second impact indicator is *Mean area that is protected in terrestrial sites important to biodiversity*, under SDG 15 Life on land. Territorial protected areas "are totally or partially protected areas of at least 1,000 hectares that are designated by national authorities as scientific reserves with limited public access, national parks, natural monuments, nature reserves or wildlife sanctuaries, protected landscapes, and areas managed mainly for sustainable use."[68]

It measures the mean percentage area of terrestrial KBA protected. The higher the value the better because there is more terrestrial area protected. The average percentage for the Mediterranean region is 34.94%. Middle East has the lowest percentage (3.04%), followed by North Africa (30.23%) and Eastern Europe (47.86%). Western Europe has the highest percentage (72.56%). Regarding individual countries, data shows that Turkey and Palestine have the lowest percentages: 2.47% and 2.5%, respectively (Figure 26).

[64] Source: State of Environment and Development in Mediterranean report, 2020, p. 14.
[65] Countries with MPAs: Slovenia, Spain, Cyprus, Algeria, Greece, Malta, France, Albania, Croatia, Egypt, Italy, and Turkey (Gomei M. *et al.,* 2021).
[66] Source: MedPan (MapaMed database), UN Environment/MAP and SPA/RAC, 2019.
[67] Source: MedPan organization, n.d.
[68] World Bank, n.d.

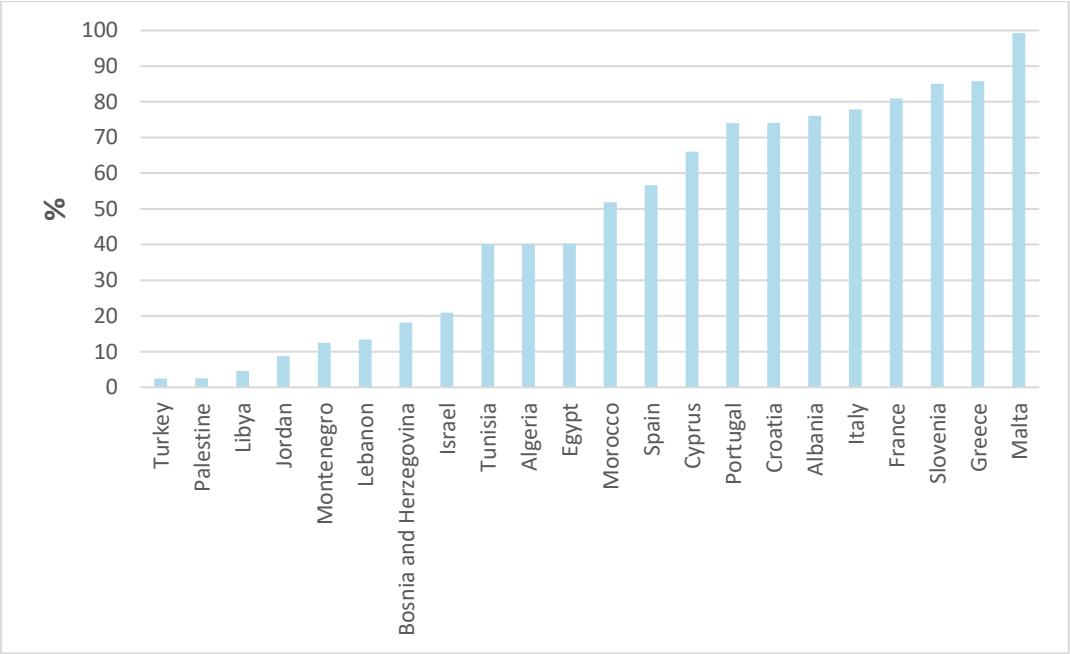


Figure 26. Mean terrestrial KBA protected per country[69]

The third impact indicator is *Red list index of species survival* (RLI), which is framed under SDG15. It is "an index of the aggregate extinction risk for species within the country or region relative to its potential contribution to global species extinction risk (within the taxonomic groups included)."[70] It is measured on a scale of 0 to 1, "where 1 is the maximum contribution that the country or region can make to global species survival, equating to all species being classified as Least Concern on the IUCN Red List, and 0 is the minimum contribution that the country or region can make to global species survival, equating to all species in the country or region having gone extinct."[71]

Data show the result for the Mediterranean region is 0.85. The region with the lowest value is the Middle East (0.75) followed by Eastern Europe (0.78), and Western Europe (0.87). The region with the highest value is North Africa (0.91). From a country perspective Israel has the lowest value (0.76) and Cyprus the highest (0.98). (Figure 27).

[69] Source: SDSN Mediterranean (2020)
[70] UNStats, 2021.
[71] Idem.

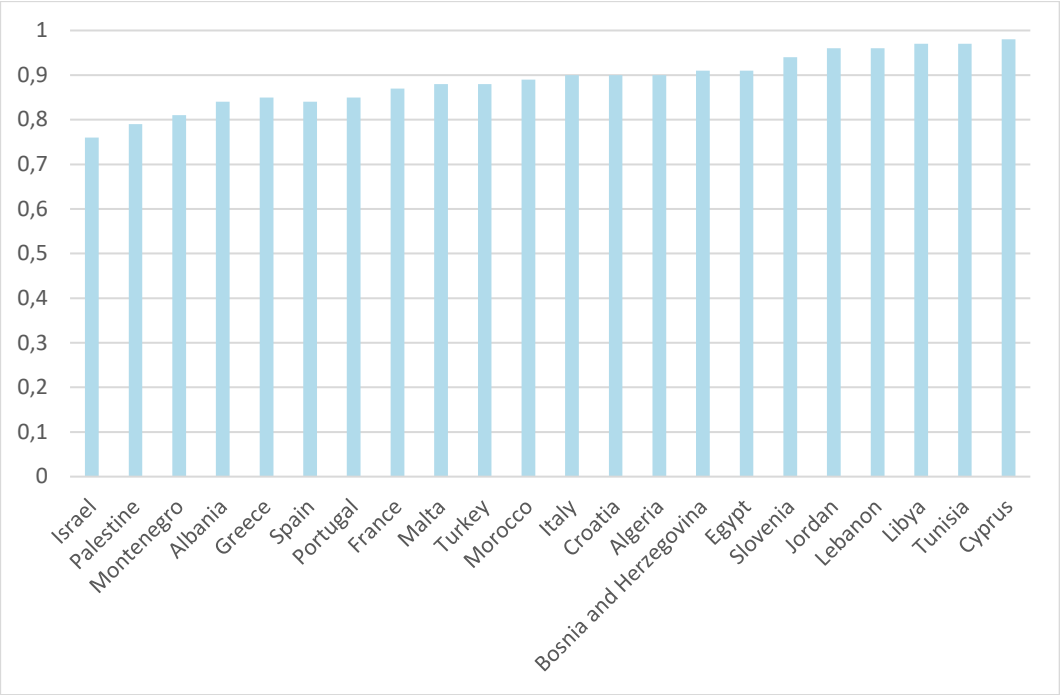


Figure 27. RLI per country[72]

[72] Source: SDSN Mediterranean (2020)

5. SDG Contribution of 2030GreenerMed

This chapter analyses the overall contribution of 2030GreenerMed supporting projects and programmes to the SDGs, beyond the individual SDG indicators included in the monitoring framework. It enriches the quantitative analysis provided in previous chapters with a **qualitative analysis** based on the 2020 SDSN (*Sustainable Development Solutions Network*) Mediterranean Report methodology[73]. The 2020 SDSN Mediterranean Report presents the SDG Index and Dashboards for the 24 countries of the Mediterranean area, a complex environment, shared by three continents, seriously affected by global warming, being the most vulnerable to climate change in the world, after the Artic[74].

The **SDSN Med Report** introduces two significant concepts that help the analysis and understanding of the Mediterranean scenario as well as the potential instruments to be activated to address the most critical issues. In particular, the SDSN MED Report identifies specific ***challenges*** that are emerging from the analysis of the 17 SDGs and their respective indicators as key lens/fields through which understanding the progress of the Mediterranean Countries in the implementation of the Agenda 2030. In addition, the SDSN MED Report focuses on the tools and ***solutions***, being them a series of policies and strategies that can be put in place in order to address the specific Med-related problems.

The "***challenges***" are specific issues that relates to one or more of the 17 SDGs, are easy to grasp, concrete aspects or problems that are implicitly behind the targets and indicators that used by SDSN to measure the progress and implementation of Agenda 2030. In fact, the challenges reflect those sectors where more actions are needed. With a clear and structured connection with the SDGs, the concept of "*challenges*" can be seen as a complementary tool through which conducting an analysis on the Mediterranean area.

As for the "***solutions/tools***" they do not constitute an all-comprehensive package of actions, but they are able to illustrate the main ways usually adopted by different actors, including research centers and universities, to enhance the implementation of Agenda 2030. In particular, the main tools include:

- Regulation and protocols to be applied by public authorities at both transnational and national level, as part of a cooperative action shared by all the Mediterranean countries or specific Mediterranean regions;
- Policies and governance aimed at improving performance of public-private partnerships and services through sectorial planning, including urbanism, natural resource and waste management (e.g. energy and water supply networks), mobility in all its forms, coastal and marine governance, ecosystem services, climate change mitigation;
- Incentive schemes and supporting programs for sustainable development, aimed at deploying best practices and scaling-up, financial support, and public-private initiatives.

[73] Riccaboni, A., Sachs, *et al.* (2020): *Sustainable Development in the Mediterranean. Report 2020. Transformations to achieve the Sustainable Development Goals*, Sustainable Development Solutions Network Mediterranean (SDSN Mediterranean).

[74] MedECC Report, *Climate and Environmental Change in the Mediterranean Basin: current situation and risks for the future*. First Mediterranean Assessment Report, 2019.

- Education and knowledge transfer programs including awareness raising campaigns, trainings, capacity building activities and uptake of innovation, especially targeting young generations, enterprises, value chain operators in any productive sector.[75]
- Stakeholders' engagement mechanisms to promote broad public support, also favoring the involvement of different value chains actors.
- Digital and technological development to implement systems as decision-support tools and data sharing systems at local, national and transnational level.
- Economic and market development by fostering innovation through the engagement of value chain actors and providing information directly to consumers thus promoting healthier and more sustainable behaviours.

Based on these two variables (**challenges** and **solutions**), a qualitative analysis has been conducted. The matrix used has the *challenges* in the Y-axis and the *solutions* as X-axis. The analysis conducted along the matrix highlights which *challenge,* or *challenges* are mostly addressed by the projects within each group. It also illustrates which are the solutions that are very often proposed by the projects to deal with the problem. The qualitative analysis, conducted by looking at the abstracts of each project, shows which specific *challenge* or *challenges* and which given *solution* o *solutions* are mainly at the centre of the debate. By contrary, it also highlights which *solutions* are only rarely adopted and which *challenges* for the Mediterranean are neglected or only lowly considered. When completing the qualitative analysis, only the challenge/challenges and solution/solutions directly addressed by the project were considered, without taking into account some potential indirect impacts or positive spillover originating from the activities of the project. However, when a project was addressing more than one issue or referring to one or more tools, multiple challenges and solutions were selected. Since the challenges pertaining to SDG 16 are not relevant for the focus of the 2030GreenerMed Agenda, they are not present in the figures of this chapter.

The contributing projects deriving from the main Euro-Mediterranean programmes and initiatives have been considered and analysed, using the described matrix. Regardless of their thematic specificity, being some of them research and innovation projects while other cooperation ones, the projects have been grouped along three different clusters, respectively dealing with: *1. the transition to a green, circular and socially inclusive economy based on sustainable consumption and production practices and nature-based solutions; 2. Prevention and reduction of air, sea and on land pollution; 3. Protection, preservation, management and restoration of natural resources in the Mediterranean area.* Each of these axes is addressed separately and then combined in a joint analysis.

The axis related to *the transition to a green, circular and socially inclusive economy based on sustainable consumption and production practices and nature-based solutions* includes the projects around some of the main most debated issues today at European, Mediterranean and global level. In fact, circular economy, green transition and inclusiveness are among the main priorities worldwide. This cluster also focuses on consumption and production practices whose importance has been underscored in the frame of the UN Food System Summit and in the G20 debate. Significantly, this group includes the three traditional dimensions of sustainable development: social, environmental and economic ones. This axis intends, in particular, to detect the different contributions that international projects offer to resource efficiency, innovation

[75] When conducting the qualitative analysis, education and knowledge transfer have been considered separately.

along the entire value chains at rural and urban level, changes in behaviours and lifestyles as well as business practices and public policies (Figure 28).

The analysis conducted reveals that a large number of projects is contributing to supporting the transition towards a green, circular and socially inclusive economy based on sustainable consumption and production practices and nature-based solutions. Within this framework, the analysis shows that the *challenges* of **job market** and **labour** are particularly addressed, thus revealing how the issue of employment and economic recovery gathers the attention of Euro-Mediterranean institutions and initiatives. Projects highly contribute to them.

The analysis also reveals that the *challenges* of sustainable cities and communities, the water management and water quality as well as waste management and environmental protection are somehow at the centre of the projects analysed. Another key *challenge* that has been specifically targeted by the projects relates to the promotion of sustainable food systems and of healthy food habits and diets. Projects analysed highly contribute to **labour** and **job market**, and, to a lower extent, to **sustainable cities** and **communities**, **efficient water and waste management**, the promotion of **sustainable food systems**, as well as **healthy food habits** and **diets**. Such contribution is articulated in different ways and forms.

The main *solutions* proposed relate to market development (Figure 29), which results to be, therefore, the main instrument for supporting a green and circular transition, able to leave no one behind. This aspect confirms the importance of addressing issues related to low market dynamism, stagnant productivity, high percentage of unemployment (especially among the youth), limited cooperation between business and academia. Paradoxically, this is not accompanied by an even comparable attention towards incentive schemes, which are too often perceived as out of reach for research and cooperation projects. Another important aspect relates to the role of **governance and protocols**. Only combined they are considered extremely useful to promote the required green and circular transition and they often proposed as instrumental tool for inclusive societies.

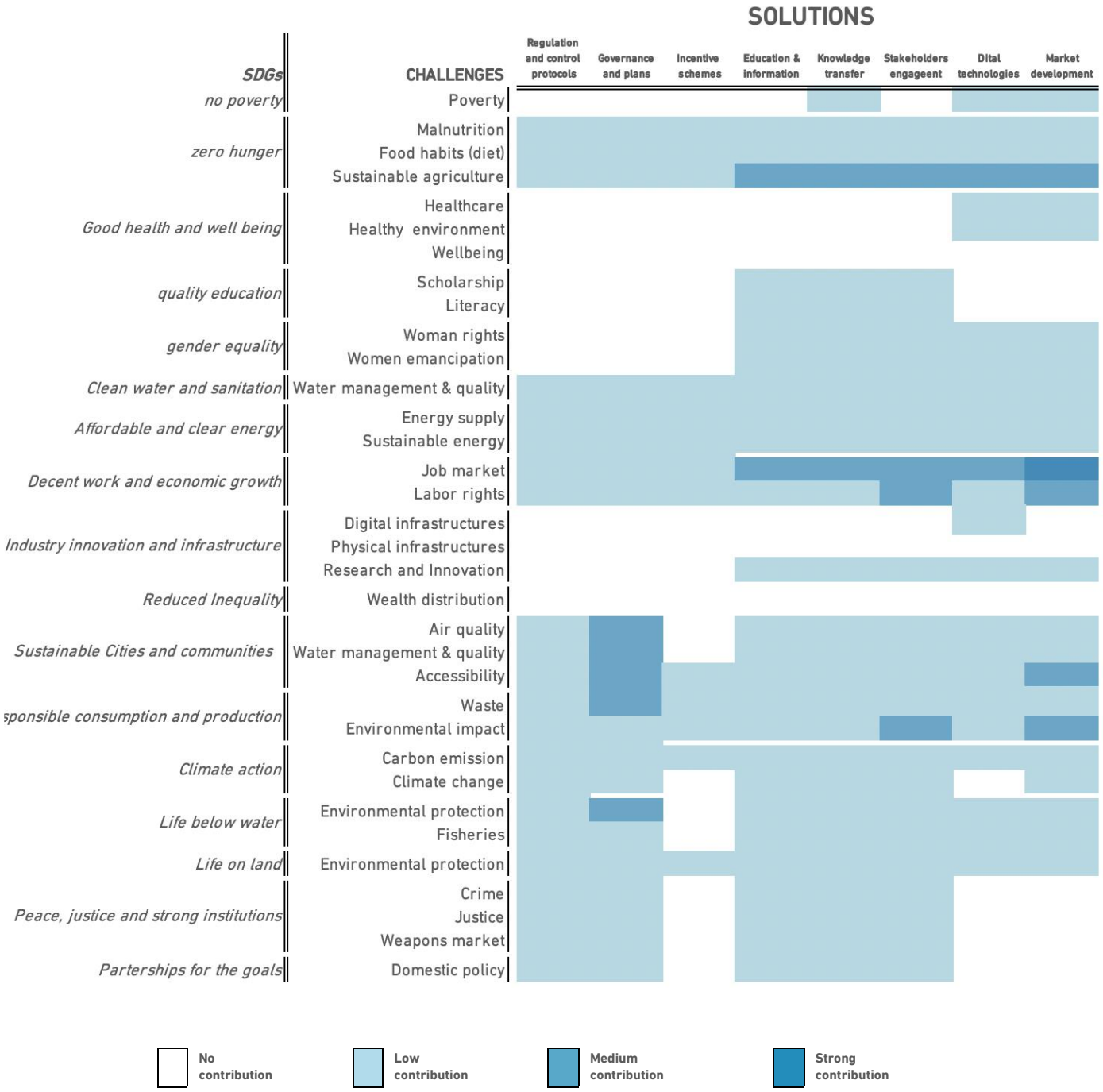


Figure 28. Challenges and solutions Axis 1

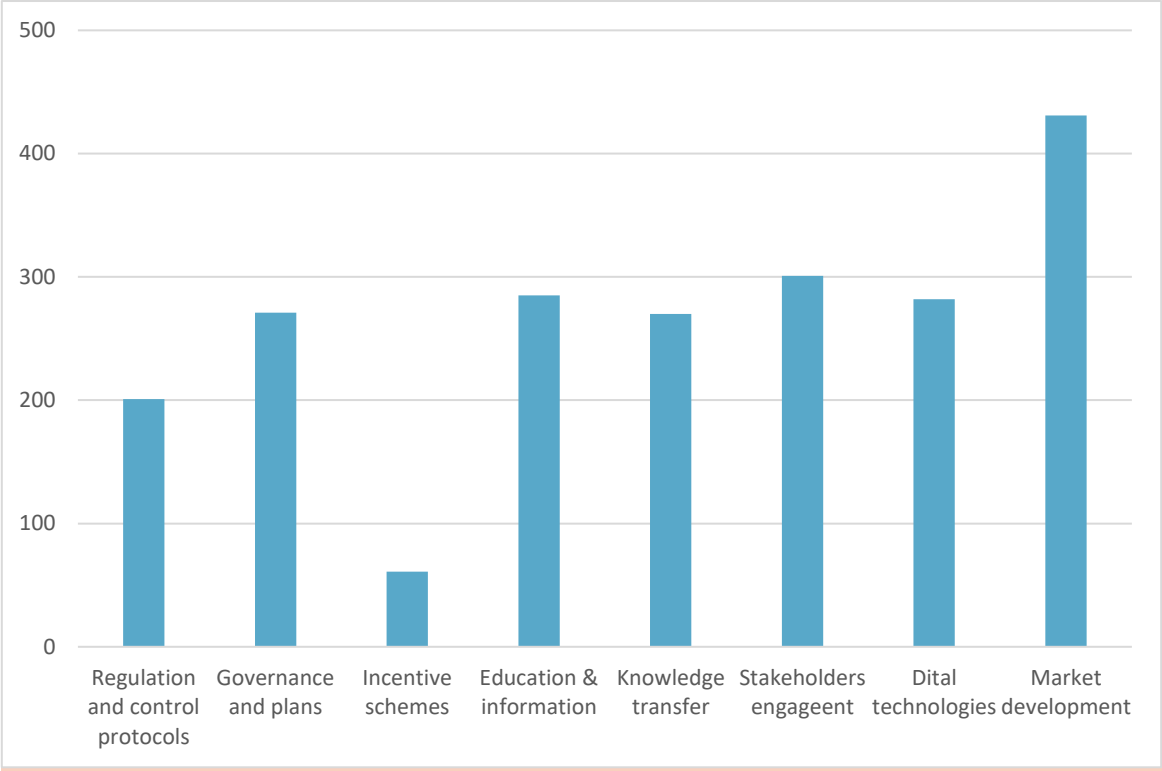


Figure 29. Number of solutions Axis 1

Another axis of projects is focusing on the *prevention and reduction of pollution on land, sea and air*. The axis includes action related to marine litter, plastic pollution, organic, inorganic and chemical pollution, reduction of landfilled waste as well as promotion of nature-based solutions and soil health quality. The projects analysed show **great attention towards the need for environmental protection and the protection of marine biodiversity as key *challenges* for the Euro-Mediterranean region**. **Waste management** is also highlighted as key issue to be addressed. Interestingly, the analysis reveals that **stakeholder engagement**, differently from what emerged in the previous axis, is proposed as a pivotal *solution*. This looks in line with the perception of environmental challenge as strongly requiring cooperation and interaction among different actors, since this issue more than others is understood as not having borders. On the other hand, **Governance and policies** are considered highly instrumental for solving the above-mentioned *challenges* related to fisheries and environmental protection, as well as waste management. This proves the expectation towards the public sector and policies, considered to be effective and powerful solutions to influence positively the implementation of a green agenda with particular regard to pollution prevention and reduction.

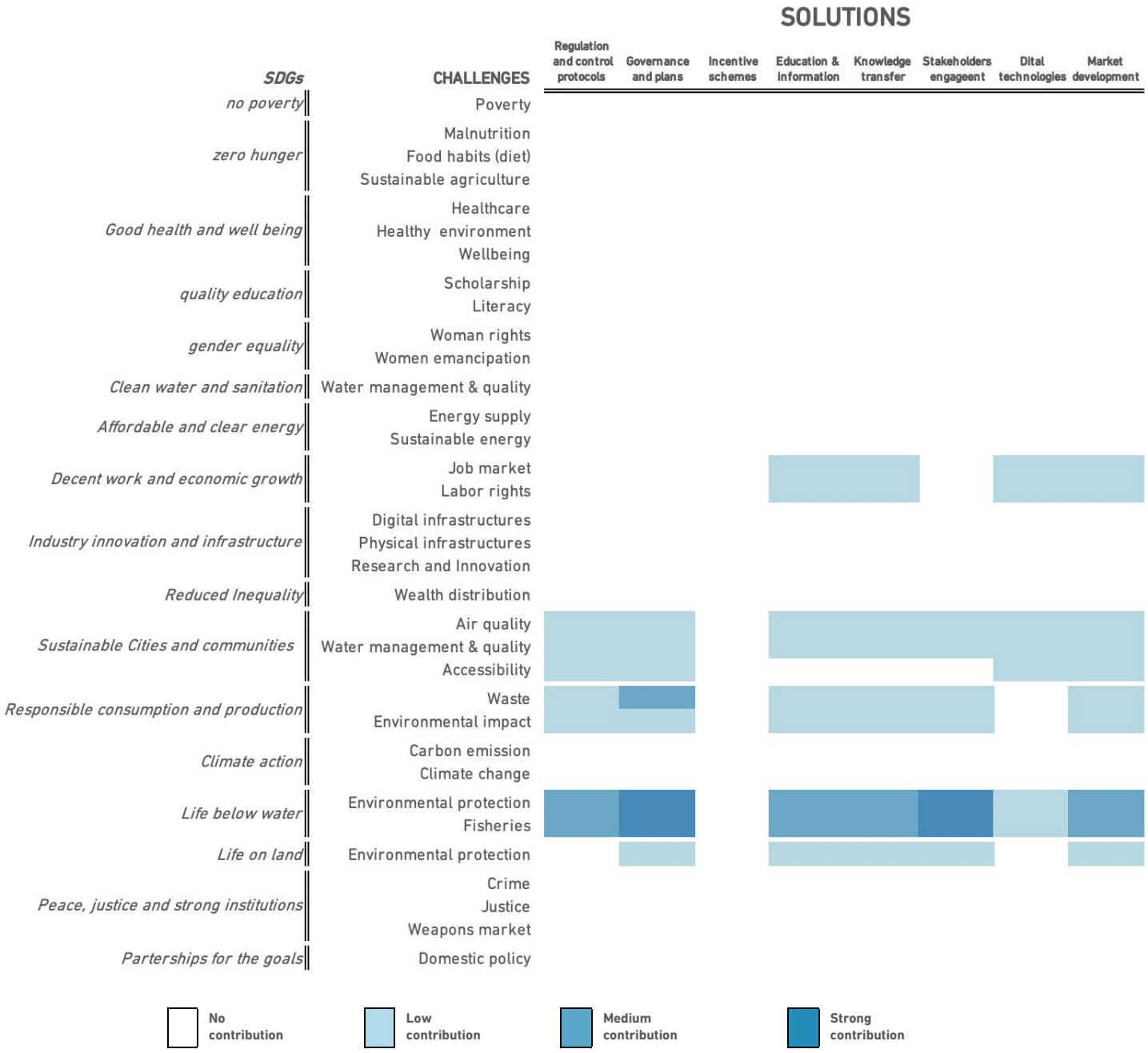


Figure 30. Challenges and solutions Axis 2

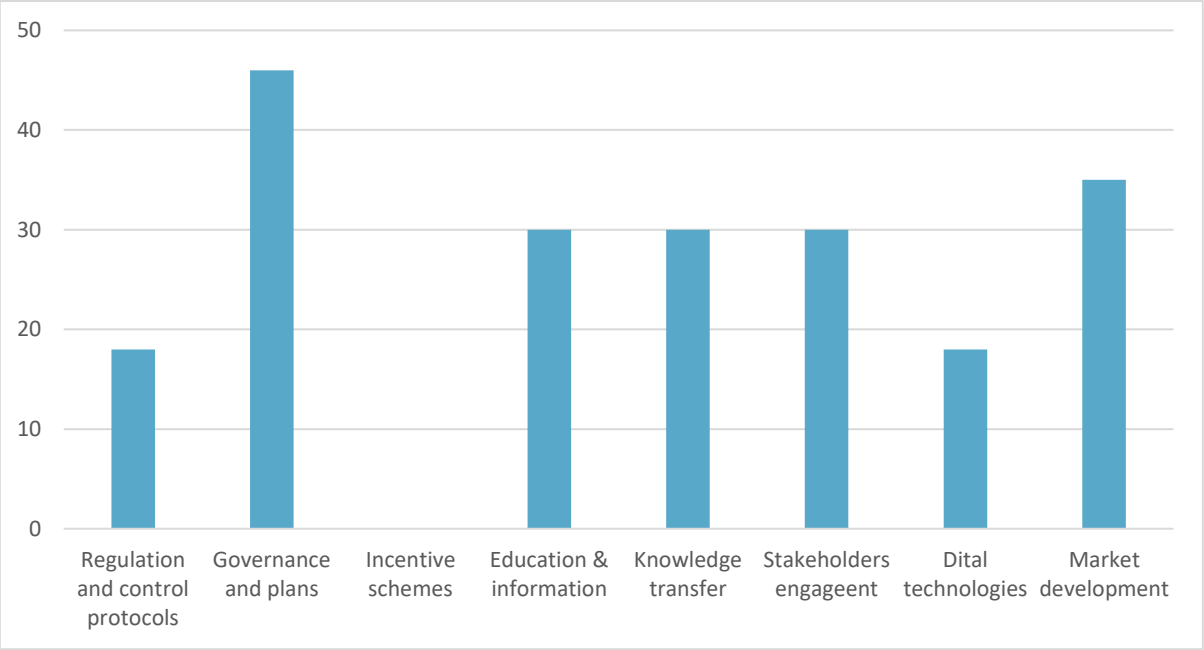


Figure 31. Number of solutions Axis 2

The third axis grouping several Euro-Mediterranean projects refers to *protection, preservation, management and restoration of natural resources in the Mediterranean region within an integrated ecosystem approach, including terrestrial, marine and coastal dimensions*. This axis includes sustainable management of landscapes and coastal areas, the promotion of ecosystem-based approaches to natural resources, biodiversity, risk reduction practices for extreme whether events. In this frame, the qualitative analysis conducted on the projects **confirms that as key challenges the need for environmental protection, both below water and land**. It is also confirmed that the quality of **marine biodiversity** constitutes a key *challenge* for the Mediterranean region. The analysis is aligned with the previous axis, identifying therefore **as useful *solutions* the engagement of different stakeholder, as well as the role of regulations and policies.** Interestingly, lower attention is dedicated to digital technologies, while **education and knowledge transfer activities** (including trainings, technology transfer and capacity development) are proposed as useful *solutions*.

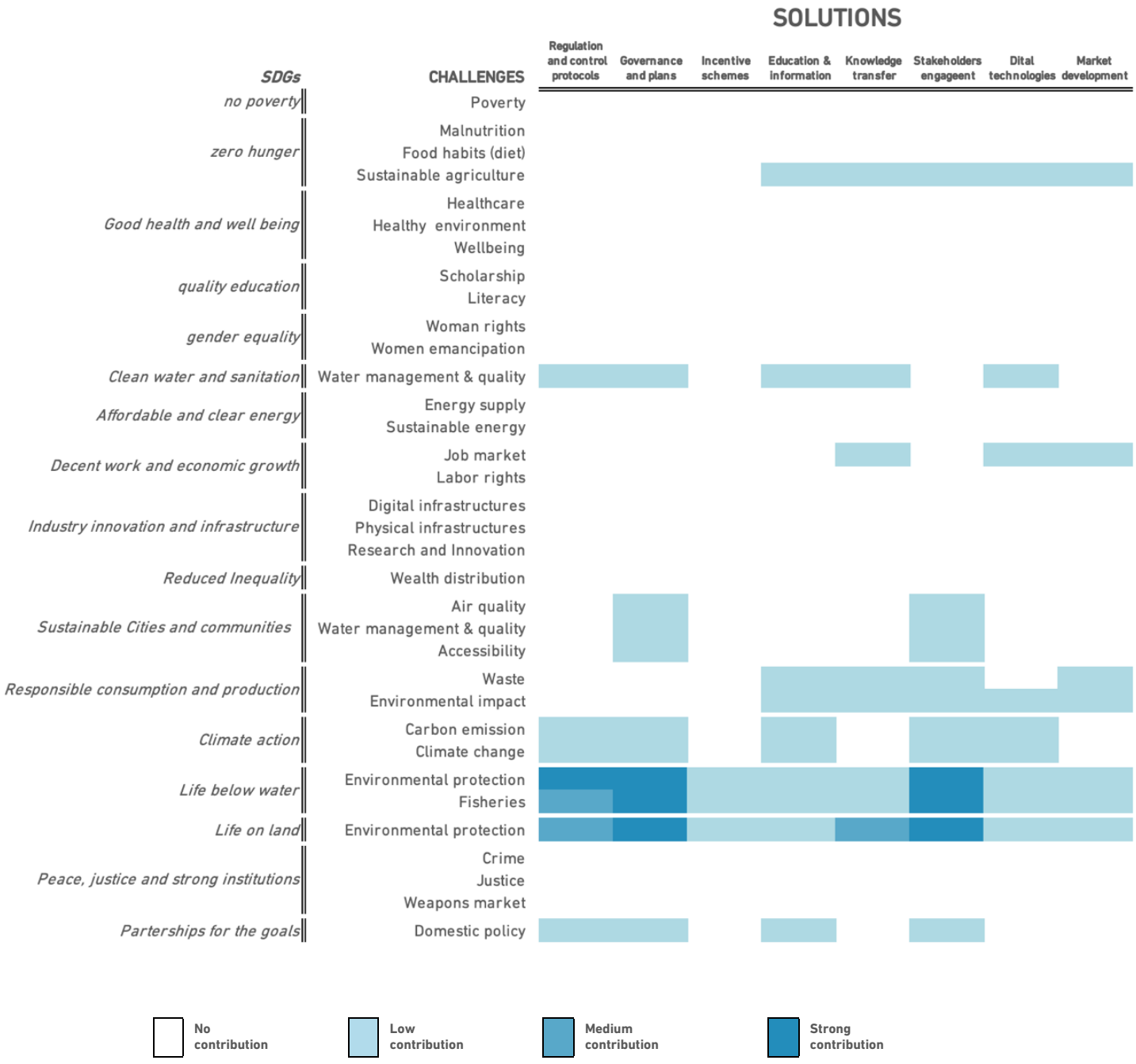


Figure 32. Number of solutions Axis 3

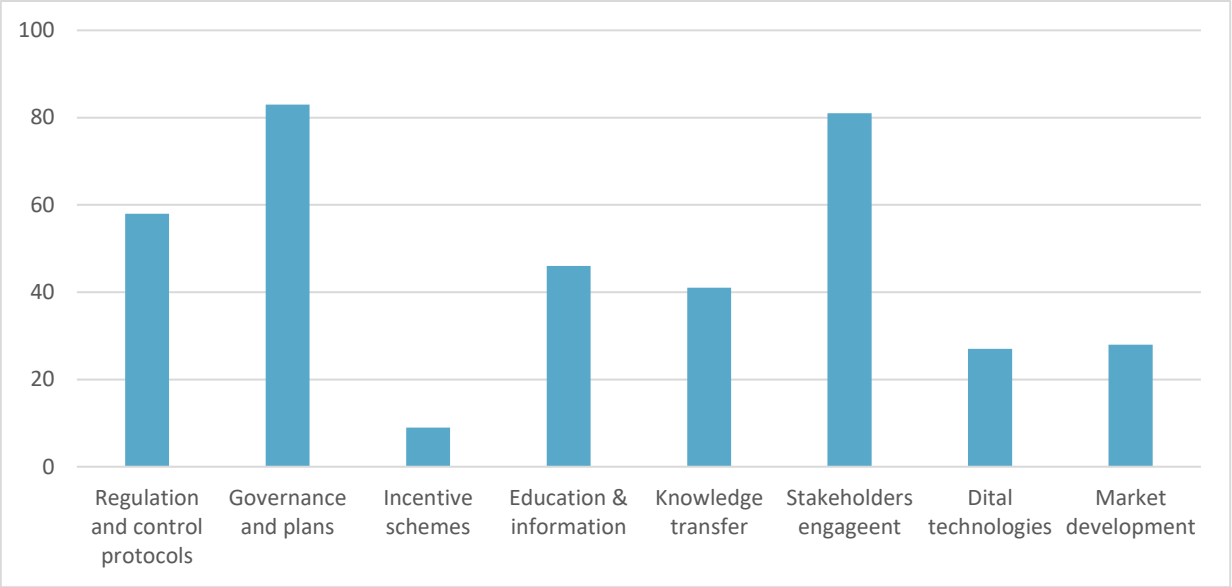


Figure 33. Challenges and solutions Axis 3

As a whole, from the integrated analysis of the three axes emerges that the challenges related to **job market** and the **environmental protection** constitute the main issues addressed by the projects under scrutiny. As for the latter, projects address environmental protection mainly in the perspective of and in its interaction with life below water including quality and safety of fisheries' production, as well as ecosystem restoration. However, inland environmental protection remains also high on the agenda. On the contrary, contribution to the **reduction of GHG emissions** is not sufficiently highlighted (and, more generally, **energy is not covered as it falls beyond the direct scope** of the analysed projects).

Sustainable food systems together with the issue of ensuring **decent work** and **labour rights** have also recurrent presence as key challenges at the centre of the projects' attention and actions. A fair attention is also dedicated to **waste management**, while sustainable energy is an issue for which a higher focus could be expected, considering the potentials of the Mediterranean region in the field and the relevance of sustainable energy for the green transition. Notably, the projects analysed do not focus very much on health and healthcare, poverty, physical infrastructure, as well as, regrettably, on women empowerment.

As for the *solutions*, the projects relate to all, and each project refers to more than one solution. As a whole**, the role of market development is the solution more often proposed** as a key instrument to address the above-mentioned challenges. **Stakeholder engagement** is also a recurrent solution. This confirms the need of a Partnership approach well described by SDG 17, bearing in mind that many of the challenges we are facing do not know borders and cannot be addressed but by a common effort from different actors and sectors. Moreover, the analysis shows that **governance and policies are essential instruments** very often proposed by the projects. This somehow might reveal that the role of public sector is perceived as highly important for the main highlighted challenges and, more in general, for the recovery of the region. Education and knowledge transfer are regularly recalled by the projects, while incentive schemes and public-private initiatives is lowly proposed as effective *solution*. This might hide a gap for the region, related to low business opportunities, modest productivity and limited private engagement. On the contrary, digital technology, while not proposed as a priority solution, remains recurrent as proposed solution for almost all the challenges analysed.

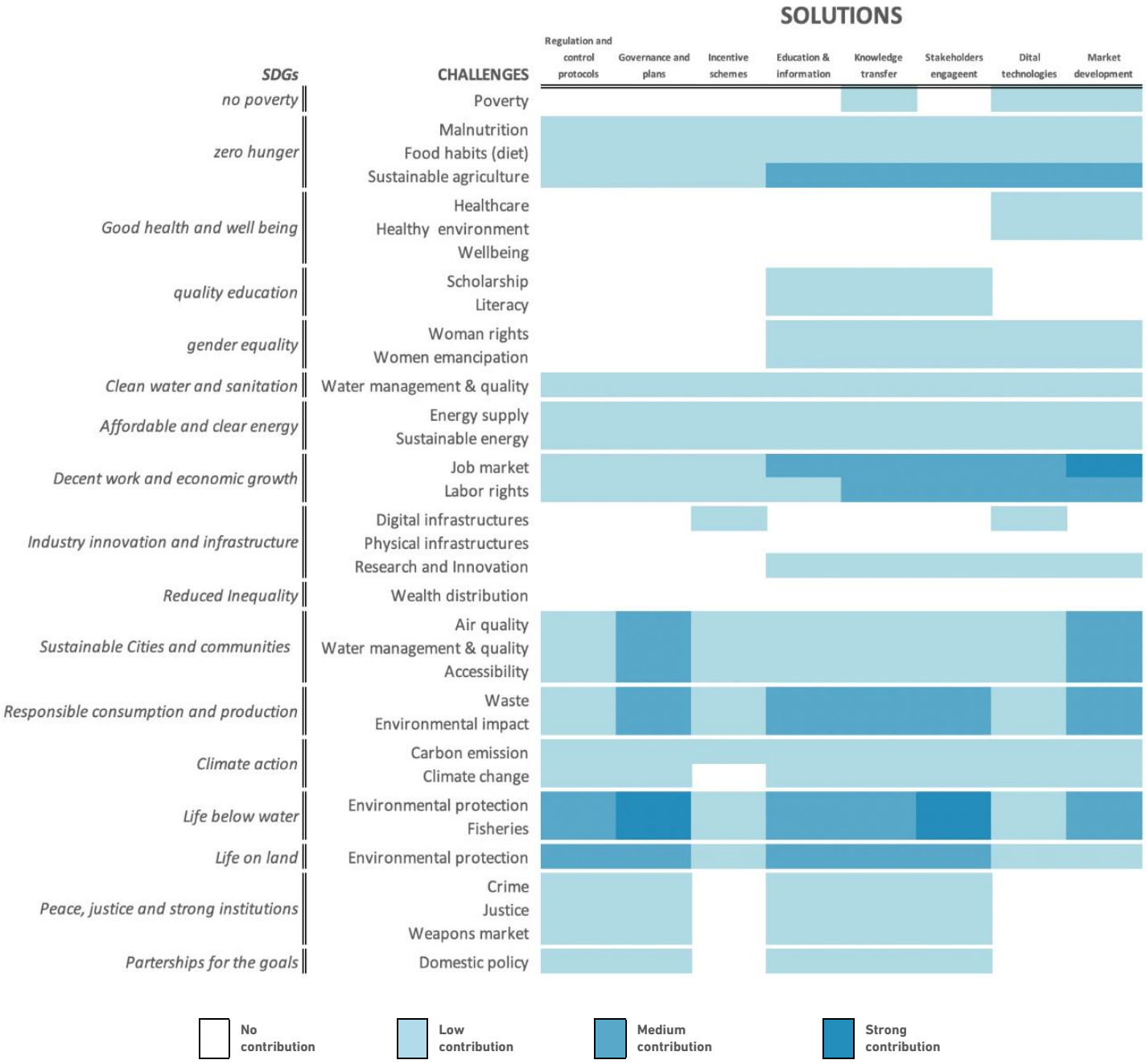


Figure 34. Challenges and solutions Axis 1-3

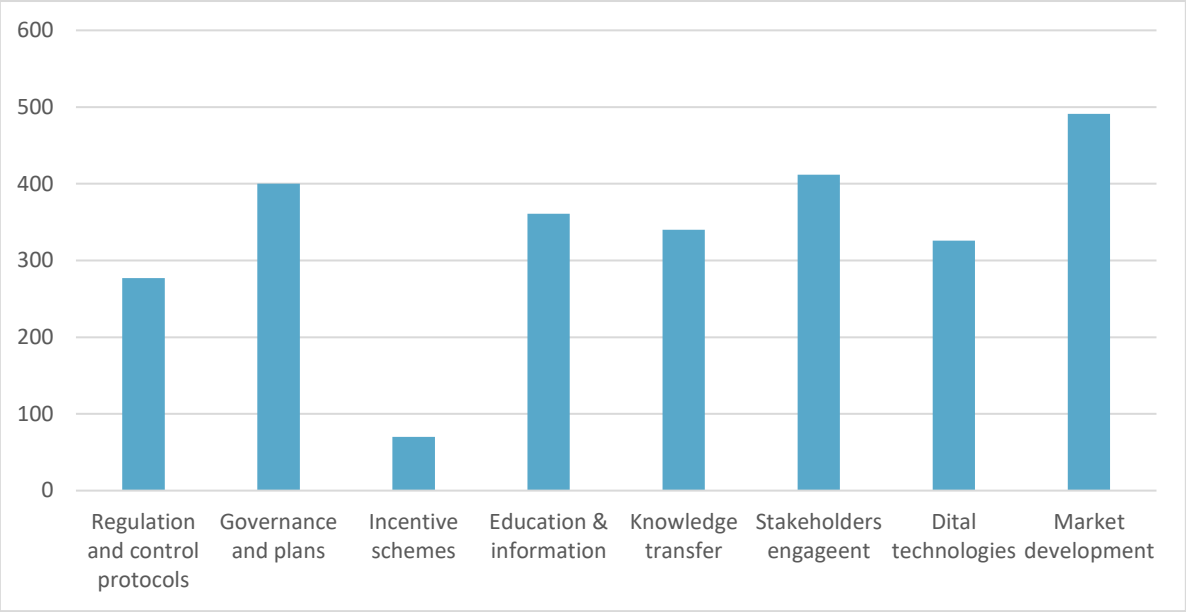


Figure 35. Number of solutions Axis 1-3

From a geographical perspective, Italy and Spain are the most targeted areas. Projects analysed also show a significantly recurrent focus on zones of Greece, France, Lebanon and Tunisia. For the rest, the expected impacts of the projects are fairly distributed within the region, with 22 countries involved, representing the different shores of the Mediterranean and with almost all countries being targeted in all the three axes (Figure 36).

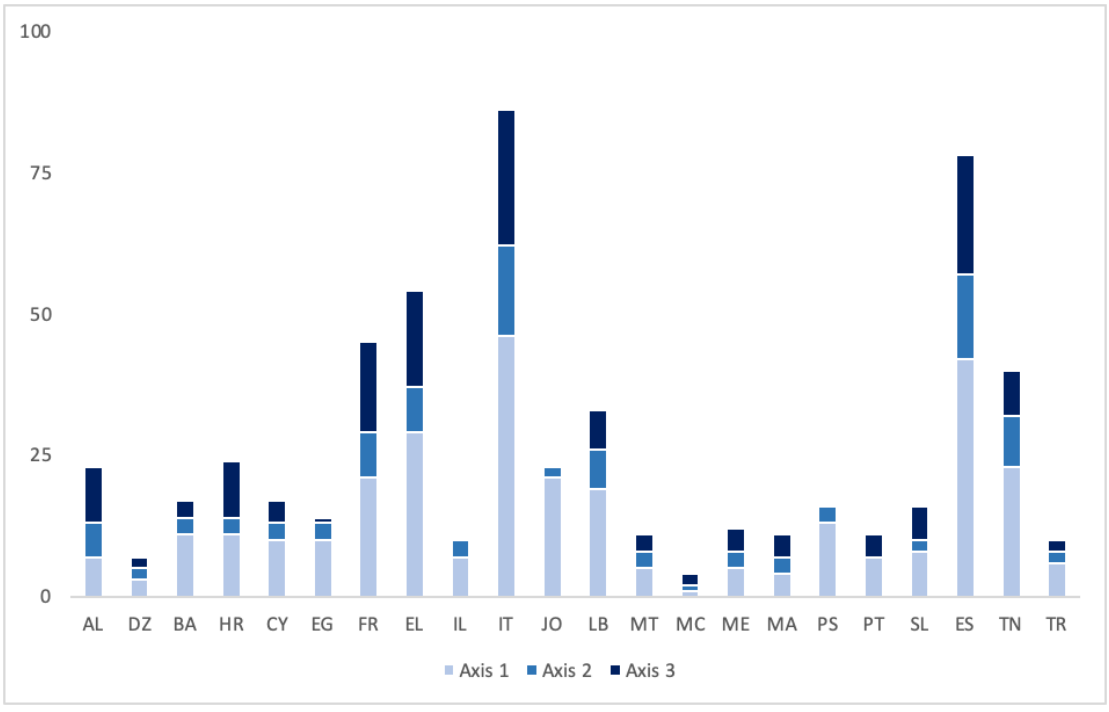


Figure 36. Mediterranean countries organisations engaged in Greener Med projects[76]

[76] Legend: AL Albania, DZ Algeria, BA Bosnia and Herzegovina, HR Croatia, CY Cyprus, EG Egypt, FR France, EL Greece, IL Israel, IT Italy, JO Jordan, LB Lebanon, MT Malta, MC Monaco, ME Montenegro, MA Morocco, PS Palestine, PT Portugal, SL Slovenia, ES Spain, TN Tunisia, TR Turkey

6. Learnings & Considerations

6.1 Related to baseline process

The baseline assessment was the first practical application of the 2030GreenerMed monitoring framework. It proved to be a challenging but very useful exercise to start having an overview of operational activities run in the region on the three GreenerMed axes of work and identify room for structured cooperation in the years to come, in terms of coverage of priority areas of focus, geographical balance, convergence, complementarity of actions, gaps, etc.

Being the baseline assessment, naturally the research team encountered a number of challenges in the process that had also already been anticipated during the consultations with countries and stakeholders from different supporting initiatives. Main issues were the following:

- **Differences in project life cycles and reporting timelines**

  The 82 supporting projects included in the baseline mapping and assessment are a compilation of initiatives, programmes and projects with diverse start and end dates and related life cycles and reporting timelines. While 2030GreenerMed aims to collect data annually, many projects do not follow an annual reporting logic in the sense of following the calendar year; in many cases reporting is done semi-annually but counting from the start date of the individual project. Some flexibility is needed as it is sometimes not possible to make a clear cut between years. In some cases information from the last quarter of 2019 or from the first quarter 2021 was included in the baseline although in the strict sense the baseline should only cover 2020. It is unlikely that a mitigation mechanism can be found for this issue, and UfM should continue to use a flexible approach in the years to come.

- **No harmonized monitoring of activities and results in the region**

  Understandably, not all projects/programmes/initiatives were able to report on all 2030GreenerMed indicators, given that each initiative works with its own indicators and frameworks that are only partly aligned. Some flexibility was needed for the baseline assessment, and sometimes reported data needed to be used as proxy indicators given that information on the specific indicators of the 2030GreenerMed framework was not always available. This could be improved, in the future, if initiatives are open to gradually integrate 2030GreenerMed indicators in their own reporting frameworks. While the 2030GreenerMed monitoring framework is already partly aligned with frameworks of bigger programmes such as Interreg Med, the aim was to keep it generic so that other or new projects and programmes can easily integrate indicators. For example, PRIMA has added all 2030GreenerMed indicators to its own project reporting platform so that project managers in the future will report on all of them.

- **Results-based monitoring is still limited**

  Most projects and programmes focus their monitoring on activities and immediate results, i.e. outputs. Only few projects/programmes look at medium-to longer-term results achieved through project implementation, which limits the evidence base for making sound assessments of the contribution of 2030GreenerMed supporting

initiatives to long-term objectives and impact. Interreg Med's new monitoring framework applicable from 2022 onwards will start looking at medium-term effects; however, for the long-term outcome indicators included in the 2030GreenerMed framework no information is likely to be reported by any of the supporting projects/programmes. A possible solution could be to make more use of secondary information sources at this level. At the same time, contributing initiatives could gradually adopt a more results-based monitoring approach in the coming years.

- **Women and youth are not made visible through project and programme monitoring**

  Although stakeholders highlighted the importance of showcasing gender and youth disaggregated information to demonstrate how 2030GreenerMed supports these vulnerable population groups in the Mediterranean region; and although some of the supporting projects do have a specific focus on women and youth, disaggregated information is mostly unavailable from the supporting projects and programmes reporting. It is therefore suggested to make it a priority to include data disaggregation in the monitoring frameworks of all projects, programmes and initiatives so that inclusion of marginalised and vulnerable groups can be reflected.

As based on this first exercise, several initiatives and projects are aiming to integrate relevant indicators into their regular project monitoring, it is expected that monitoring data for 2030GreenerMed will be more reliable and complete, as well as easier to compile for the projects, with each year to come. At the same time, the UfM Secretariat will be working on a more automatic process for data collection based on the results and lessons learnt from this first baseline assessment.

6.2 Related to baseline results

It needs to be highlighted that the baseline assessment was done based on a first mapping of 2030GreenerMed supporting initiatives, which does not yet include a complete picture of all (sub-)regional cooperation projects and programmes in the Euro-Mediterranean region. In fact, through the baseline information collection, several initiatives proposed the incorporation of additional projects. Due to established deadlines for the elaboration of the baseline, these additional projects – including but not limited to 50 projects under PRIMA and 40 projects under H2020 – could not yet be systematically analysed. This will however be done in 2022, and as new projects are being launched, there will be annual updates of the mapping and monitoring of implementation and results will be expanded.

It is also important to consider that the 2030GreenerMed baseline assessment only includes an analysis of its contributing (sub-)regional projects, programmes and initiatives, and does not look at bilateral or individual country level initiatives. It therefore provides a complementary picture next to other monitoring done in the region.

Nevertheless, the baseline assessment provides a sound first reference point based on a sample of selected projects and programmes.

Some key findings to be highlighted include:

- **While all three axes of 2030GreenerMed will remain highly important, thematic axis 2 might need more attention in the future**

While according to impact indicators pollution is one of the most pressing issues in the Mediterranean area, with most countries having considerable challenges remaining for the achievement of SDG targets, axis 2 is the least addressed by contributing projects and programmes. Attention is being put on the top emergency of plastic pollution at the Mediterranean level. However, more investments would be needed in the area of pollution prevention and reduction. As already done in many initiatives, this can also be implemented in a cross-cutting manner, combining approaches for green and circular economy with pollution reduction and prevention goals.

2030GreenerMed is complementary to the EU Mission "Restore our Ocean and Waters by 2030", focusing on reducing plastic litter at sea, as well as the use of chemical pesticides by 50%. In this sense, it can support directing political and economic efforts towards the achievement of SDG targets in axis 2, further contributes to fulfilling the above-mentioned EU mission.

- **Among projects and initiatives under axis 2, there is a strong focus on actions to mitigate and reduce sea pollution and its environmental impacts, while air and land pollution are less frequently addressed**

Most of the projects and programmes address the challenges posed by marine litter in the Mediterranean Sea. Few initiatives work on land pollution, and much less in air pollution, though most of the sources of pollution come from the land. In 2020, cities and towns located in coastal areas were considered responsible for 35% of the total microplastic leakage. In the future more attention should be given to land and air pollution, particularly when the first one feeds sea pollution.

- **Within thematic axes 2 and 3, some key actions could be more strongly addressed**

Whereas under axis 1, all key actions are addressed by at least 50% of the mapped projects and programmes, under axis 2 and 3 some key actions are addressed by only few projects. This includes, under axis 2, "Reduce and control air pollution", "Improve soil quality", "Reduce chemical pollution of rivers and lakes", and "Facilitate investments in infrastructure"; and under axis 3 "Promote Disaster Risk Reduction with a special focus on extreme events including droughts and floods and including forest fires" and "Protect on-farm biodiversity in agro-ecosystems". Future initiatives under axes 2 and 3 could seek to integrate the different key actions more systematically in projects and programmes.

- **Inclusive approach of projects and programmes might need to be enhanced, especially in thematic axis 1**

Although the transition to a *socially inclusive* green and circular economy is the key goal of axis 1 of the 2030GreenerMed agenda, few projects include vulnerable groups explicitly in the project design. Inclusion of youth, women and other vulnerable groups should become more explicit and should be more systematically addressed in a cross-cutting manner by future contributing projects and programmes.

In addition, the topic of sustainable consumption could be more strongly integrated in future initiatives, addressing it through an inclusion lens.

- **Participation of non-EU countries in Med regional cooperation programmes and projects could still be strengthened**

The 2030GreenerMed contributing initiatives, programmes and projects already show some good levels of participation of non-EU countries. However, in all three thematic axes, based on the current baseline compilation covering 2020, (South-)Western EU countries - especially Spain, Italy, Greece and France - are the ones with most participation in projects and programmes. Although Tunisia stands out as an exception, overall the Northern African subregion is the one with least participation, very closely followed by the Middle Eastern Mediterranean countries and the Western Balkan Mediterranean. Most projects include North Med – South Med and North Med – Eastern Med collaborations but few projects include both South Med and East Med countries. Efforts are already underway to include countries from these subregions in projects at the regional level, which is of high importance to intensify joint efforts to tackle the serious challenges the Mediterranean is facing in all axes of 2030GreenerMed. At the same time sub- regional cooperation between the non-EU countries is present among EUSAIR countries and has advanced remarkably in the WestMed but 1) does not tackle environmental cooperation per se and 2) is still limited in the other areas of the Med region.

- **Many projects still focus on piloting rather than on capitalization and scaling up**

While a lot of experience and examples are already available in the region, projects still mostly focus on piloting activities. Going forward capitalizing on good examples and pilots, as well as scaling up of what has worked well, will be crucial to reach the necessary impact for the transition to a Greener Mediterranean.

Especially the bigger initiatives that are combining a wide range of projects and countries under one programmatic approach are in a unique position to foster this scaling process.

- **Big initiatives/ macro projects serve as regional glue and platform for technical exchange**

Big initiatives that are covering a wide range of countries, stakeholders and topics are important stakeholders in itself and provide a platform for technical exchange on the regional level. This adds an additional layer of collaboration, acting as possible catalysers for the above mentioned need for upscaling and replication, as well as learning between the different sub-regions, but also within the sub-regions. For the 2030GreenerMed these initiatives act as important intermediaries and can help to shape the agenda going forward.

- **Financing sources could be diversified in the future**

The biggest initiatives, such as Interreg Med, CBC Med, PRIMA or ENI South, are EU funded. Only few projects under 2030GreenerMed are financed by other multilateral donors (e.g. GEF, FAO) or bilateral agencies (e.g., BMU, BMZ/GIZ). Sweden can be highlighted as an important donor to the UfM Secretariat in general, thus supporting the cross-cutting area of partnerships. Likewise, Italy has made important contributions, for example to the joint developed action on Sustainable Food Systems. Other relevant regional contributions come from the MAVA Foundation and the MedFund. Closer contacts with donors, highlighting the strong progress and importance of devoting more attention to regional cooperation, could open up windows of opportunities in supporting the transition towards a more sustainable Mediterranean region. New investment windows are currently being explored in the region, but they are still at brainstorming stage.

7. Annex

I. References

Boucher, J. and Billard, G. (2020). *The Mediterranean: Mare plasticum*. [online] IUCN. Available at: <https://portals.iucn.org/library/sites/library/files/documents/2020-030-En.pdf

Conference of the Parties. (2004). *Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its seventh meeting*. [online] Kuala Lumpur: UNEP. Available at: <https://www.cbd.int/doc/decisions/cop-07/cop-07-dec-05-en.pdf

Gomei M., Abdulla A., Schröder C., Yadav S., Sánchez A., Rodríguez D., Abdul Malak D. (2021) [original 2019]. *Towards 2020: how Mediterranean countries are performing to protect their sea.* [online] WWF. Available at: https://wwfeu.awsassets.panda.org/downloads/wwf_towards_2020_how_mediterranean_countries_are_performing_to_protect_their_sea.pdf

IUCN. (2020). *Over 200,000 tonnes of plastic leaking into the Mediterranean each year – IUCN report*. [online] IUCN. Available at: https://www.iucn.org/news/marine-and-polar/202010/over-200000-tonnes-plastic-leaking-mediterranean-each-year-iucn-report

Li, R., Zhou, R., & Zhang, J. (2018). Function of PM2.5 in the pathogenesis of lung cancer and chronic airway inflammatory diseases. Oncology letters, 15(5), 7506–7514. https://doi.org/10.3892/ol.2018.8355

MedPAN, UN Environment/MAP and SPA/RAC, 2019. *The 2016 status of marine protected areas in the Mediterranean. Main findings*. [online] Available at: https://www.rac-spa.org/sites/default/files/doc_medmpanet2/statut2016_brochure_en.pdf

OECD. n.d. *Material consumption*. [online] OECD Data. Available at: https://data.oecd.org/materials/material-consumption.htm> [Accessed 3 December 2021.

Tuel, A. and Eltahier, A.B. (2020). Why is the Mediterranean a Climate Change Hot Spot? In: *Journal of climate.* pp. 5829 - 5843.

UfM (2021). Towards a Sustainable Blue Economy in the Mediterranean, UfM Secretariat.

United Nations Environment Programme/Mediterranean Action Plan and Plan Bleu. (2020). State of the Environment and Development in the Mediterranean: Summary for Decision Makers. Nairobi.

UN Statistics Wiki. (2018). *Indicator 14.5.1*. [online] Unstats.un.org. Available at: https://unstats.un.org/wiki/display/SDGeHandbook/Indicator+14.5.1

United Nations Statistical Division. (2020). *12.2.2 Domestic Material Consumption: All Raw Materials (Tonnes Per Capita).* [online] Global SDG Indicator Platform. Available at: https://sdg.tracking-progress.org/indicator/12-2-2-domestic-material-consumption-all-raw-materials-tonnes-per-capita/

UNStats. 2021. *SDG indicator metadata*. [online] Unstats.un.org. Available at: https://unstats.un.org/sdgs/metadata/files/Metadata-15-05-01.pdf

World Bank. n.d. *Glossary* / *DataBank*. [online] Databank.worldbank.org. Available at: https://databank.worldbank.org/metadataglossary/world-development-indicators/series/ER.LND.PTLD.ZS

For the ecological footprint analysis

Borucke, M., Moore, D., Cranston, G., Gracey, K., Iha, K., Larson, J., ... & Galli, A. (2013). Accounting for demand and supply of the biosphere's regenerative capacity: The National Footprint Accounts' underlying methodology and framework. *Ecological indicators*, *24*, 518-533.

Galli, A., Halle, M., Grunewald, N., 2015. Physical limits to resource access and utilization and their economic implications in Mediterranean economies. *Environmental Science & Policy*, 51, 125-136.

Galli, A., (2015). On the Rationale and Policy Usefulness of Ecological Footprint Accounting: the case of Morocco. *Environmental Science & Policy*, 48, 210 – 224.

Lin, D., Hanscom, L., Murthy, A., Galli, A., Evans, M., Neill, E., ... & Wackernagel, M. (2018). Ecological footprint accounting for countries: updates and results of the National Footprint Accounts, 2012–2018. *Resources*, 7(3), 58.

Mancini, M. S., Galli, A., Niccolucci, V., Lin, D., Bastianoni, S., Wackernagel, M., & Marchettini, N. (2016). Ecological footprint: refining the carbon footprint calculation. *Ecological indicators*, *61*, 390-403.

Mancini., M.S., Galli, A., Coscieme, L., Niccolucci, V., Lin, D., Pulselli, F.M., Bastianoni, S., Marchettini, N. (2018). Exploring Ecosystem Services assessment through Ecological Footprint Accounting. *Ecosystem Services*, 30, 228-235

Wackernagel, M., Hanscom, L., Jayasinghe, P., Lin, D., Murthy, A., Neill, E., & Raven, P. (2021). The importance of resource security for poverty eradication. *Nature Sustainability*, 1-8.

II. List of 2030GreenerMed Contributing Projects

Axis 1 - Support the transition to a green, circular and socially inclusive economy based on sustainable consumption and production practices and nature-based solutions

as of November 2021

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
1	BlueMed	BlueMed Pilot Action on A Healthy Plastic-Free Mediterranean Sea	Mapping and assessing the actions on place regarding marine plastic pollution in the EU and non-EU countries of the Mediterranean area to promote the circulation of good practices, R&I actions but also demonstration, communication and educations actions specifically addressed to face the challenges posed by marine litter in the Mediterranean Sea as a whole. 4 pillars: Key enabling knowledge for the Med (ecosystems, dynamics, pollution, coastal areas…) Enabling technology and capacity creation for the Med (transport, observing systems, off-shore platforms, cultural heritage) Key sectoral enablers in the Med (tourism, clusters, MSP, bioresources, …) Cross-cutting enablers for blue jobs and blue growth (open science, skills…)	N/A	DZ, EG, FR, IL, IT, MA, ES, TN, TR
2	CBC	SME4SMARTCITIES	The increasing need for urban innovation will result in the development of a significant number of smart cities initiatives, creating new business opportunities for Mediterranean SMEs. If we want our cities to be efficiently managed and more liveable for communities, public authorities and SMEs have to work together to come up with the best technological solutions. SME4SMARTCITIES will make this collaboration possible by reinforcing the capacities of Mediterranean cities and SMEs. On the one the hand, the project will help cities to be the front-runners of innovation, in particular through the use of Public Procurement of Innovative solutions. On the other hand, the project will support Mediterranean SMEs in order to guarantee that their products and services meet the expectations and needs of smart cities.	2022	IL, IT, JO, PS, ES
3	CBC	FISHMEDNET	The project will train fisheries MSMEs in increasing their diversification and integration potential and favouring the development of new products and services. New business	2022	FR, IT, LB, PS, TN

[77] AL Albania, DZ Algeria, BA Bosnia and Herzegovina, HR Croatia, CY Cyprus, EG Egypt, FR France, EL Greece, IL Israel, IT Italy, JO Jordan, LB Lebanon, MT Malta, MC Monaco, ME Montenegro, MA Morocco, PS Palestine, PT Portugal, SL Slovenia, ES Spain, TN Tunisia, TR Turkey; N/A not available

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			alliances will fill the integration gap among MSMEs by fostering common business models and marketing activities. Finally, the project will develop public authorities' capacities to encourage both a sustainable and successful development of the fishing sector.		
4	CBC	CROSSDEV	CROSSDEV expects to increase tourism competitiveness and attractiveness of less known destinations and rural areas, enhancing the Cultural Routes experiences such as those of the Council of Europe (e.g. Phoenicians Route and IterVitis), Palestine (Abraham Path) and Jordan (Jordan Trail). To achieve this goal, the project will set up a cross-border tourism framework to enhance sustainable tourism policies, to promote tourism-related business and to develop community-led action plans. CROSSDEV will enable to increase skills and knowledge, contributing to better tourism practices which benefit socio-economic development and the protection of the environment and cultural heritage.	2022	IT, JO, LB, PS
5	CBC	MEDPEARLS	Med Pearls aims at internationally positioning the Mediterranean as a unique and integral destination to experience the Med lifestyle through SlowTourism (ST), inviting travellers to discover sustainably and responsibly new destinations while taking time to have direct contact with local communities. The project will deliver a set of 26 new ST products created by local Destination Management Companies (DMCs) and ICT enterprises thanks to financial and technical support called Product Development and Innovation Facilities. The idea is to create similar experiences based on the typology of products and themes agreed among partners, therefore, visitors will live similar experiences, of the same quality, in any of the 13 areas targeted by Med Pearls.	2022	EG, EL, IT, JO, PS, ES
6	CBC	MEDUSA	By designing and testing routes and itineraries that offer improved adventure tourism products, MEDUSA will contribute to job creation and income for local communities in the medium and long term. Moreover, the project has the potential to reveal lesser-known destinations and attract tourists throughout the year.	2022	IT, JO, LB, ES, TN
7	CBC	TEX-MED Alliances	Aims to support Mediterranean textile/clothing MSMEs in developing high performance innovation, accessing new international markets and exploiting the high potentialities of the circular economy. EXPECTED ACHIEVEMENTS: • 31 support initiatives for the internationalization, innovation and technology upgrading and circular economy in the textile/clothing industry. • 34 MSMEs participating in key business events and internationalization/innovations fairs. • 1 open forum on circular economy to share best practices in the textile/clothing industry.	2022	EG, EL, IT, JO, PS, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			• 4 business to business events gathering at least 123 MSMEs. • 22 MSMEs participating in new Euro-Mediterranean business alliances and partnerships.		
8	CBC	GIMED	Strengthening eco-innovative entrepreneurship is a recognised solution even though green ventures face a complex set of challenges including limited access to funding, underdeveloped markets and fragmented support from sector stakeholders. GIMED aims at boosting the development of eco-innovative ventures in order to create employment and drive the green and circular economy in the Mediterranean. The project will implement a United Nations-backed 'Green Entrepreneurship Standard' that will standardise the supportive inputs needed to generate successful ventures and will give those ventures a mark of quality to better access finance and markets. On the ground, the project will train and coach eco-innovators and encourage financiers to invest in the Mediterranean eco-innovation sector.	2022	EG, IT, LB, PS, ES, TN
9	CBC	MEDARTSAL	The project will define a sustainable and adaptable management model for artisanal salinas including, among others, a marketing strategic plan and a biodiversity strategy. With this aim, MedArtSal project addresses both salinas managers and institutional policy-makers. On the one hand, salinas managers will receive up-to-date training on how an artisanal salina should be managed in order to remain competitive, especially by diversifying products. On the other hand, institutional policy-makers will help build the management model which will be further tested in two artisanal salinas in Spain and Tunisia. Finally, a network of Artisanal Mediterranean Salinas will be created to capitalize the project results in the long run.	2022	IT, LB, ES, TN
10	CBC	MEDSNAIL	Many challenges are threatening the Mediterranean agro-food sector like the gradual loss of local varieties, a high sectorial fragmentation, rural poverty (mostly affecting women) and limited investment capacity of rural entrepreneurs, lack of training on socio-environmental sustainability, weak business planning and marketing strategies. Moreover, EU food security regulations represent a barrier for many small producers from non-EU countries. MedSNAIL will address these issues by fostering the enhancement and development of small-scale traditional agro-food value chains that will offer increased business opportunities and more socio-environmental sustainability. The project will build on the well-established experience and methods of SlowFood, an international grassroots organization promoting traditional food with a strong focus on biodiversity preservation.	2022	IT, JO, LB, MT, PS, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
11	CBC	ORGANIC ECOSYSTEMS	organic agriculture is still relatively underdeveloped in Mediterranean countries with heterogeneous situations from country to country. Main shared challenges are inconsistent or lacking support policies from national/local governments, low innovation capacities, limited knowledge of sustainable farming practices, and a weak value chain where MSMEs operate in a disaggregated way. ORGANIC ECOSYSTEM project aims at reducing these obstacles and make the MSMEs operating in organic agriculture more competitive and better integrated. The project intends to establish a cross-border agro-food ecosystem which will set the ground for the development of the Mediterranean whole organic sector. This will be encouraged through new business alliances, creation of innovative value chains, and specialized support provided to MSMEs to increase the quality and the commercialization of products and their capacities to access to new markets.	2022	EL, IT, JO, LB, ES, TN
12	CBC	BESTMEDGRAPE	Based on the R&D experience of the partners in the fields of grape valorization, waste exploitation and development of nanotechnological antioxidant/anti-inflammatory/anti-neurodegenerative formulations, BESTMEDGRAPE aims at supporting the creation of new startups/SMEs by transferring scientific/technological knowledge on local grape cultivars and the exploitation of wine by-products as a source of bioactive compounds that can be transformed into innovative commercial health products. Hence, the project will not only valorise a Mediterranean product - grape - but also the expansion of the grape value chain through the development of nanotechnological products, thus boosting the local economy, reducing environmental pollution and increasing employment opportunities.	2022	FR, IT, JO, LB, TN
13	CBC	LIVINGAGRO	The identification and implementation of innovative value chains in agroforestry will create new opportunities for local communities in terms of sustainable farming practices and products diversification. In addition, food production stability will be improved over time, providing agricultural products of high quality while coping with limited resources and environmental constraints and generating increased farmers' income. Finally, the project will lead to different innovations with high business potential in the fields of agricultural machinery, food products, omics techniques, optimised uses of agricultural, forestry and breeding by-products and residues. A specific focus will be on olive multifunctional system (Living Laboratory 1) and grazed woodlands (Living Laboratory 2). Olive cultivation is representative of many Mediterranean rural areas, and traditionally olive orchards were and are often still managed as agroforestry systems, in combination with cereals, fodder legumes and/or pasture. Grazed woodlands are major agroforestry systems in the	2022	EL, IT, JO, LB

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			Mediterranean that highly contribute to sustaining Mediterranean local economies supplying both vegetal and animal products.		
14	CBC	GREENinMED	GREENinMED project proposes an integrated approach for the development of new products and services addressed to the efficient use of water and energy and reduction in consumption by 10% in the hotel industry. The project will develop eco-innovative products such a seawater air conditioning, water and energy-saving devices for spa, garden irrigation and industrial cold generation. GREENinMED will upgrade the eco-innovation capacities of Mediterranean SMEs in the hotel sector and create more dynamic innovation ecosystems, thanks to a cross-border learning process and dedicated financial support. By addressing the challenges of environmental sustainability in the hotel sector, GREENinMED project will reduce the negative footprint of the tourism industry and spread knowledge about efficient water and energy consumption solutions.	2022	FR, IL, ES
15	CBC	MAIA-TAQA	Despite the fact that the southern Mediterranean countries have an increasing need for resource efficiency (RE) services - consulting, engineering and operations - to cope with the increased pressure on the environment, the supply of RE services remains limited. This is mainly due to the lack of an appropriate innovation process able to identify needs, structure solutions and market them. MAIA-TAQA will address these problems by setting up pilot actions in 3 Mediterranean areas where innovative services will be applied: they will be linked to micro-grids, photovoltaics, energy storage, solar thermal technologies and sanitation. and water purification. The partners will develop solutions for each identified obstacle: a capacity building program (to address the skills gap); an innovation window (due to lack of information); guidelines (lack of regulation); economic aids (due to lack of funding) and targeted B2B events (due to poor networking). The main final beneficiaries are SMEs (in particular those in the environment, public services and construction sector) which will have a set of instruments to overcome existing obstacles and reduce the risks associated with innovation. .	2022	EG, EL, IT, JO, LB, ES
16	CBC	INNOaGROwOmED	InnovAgroWoMed project aims at boosting women labor participation and entrepreneurship, by leveraging on the potential of the agri-food sector - an industry closely linked to the cultural identity of the Mediterranean region - and showing a significant level of untapped potential in terms of innovation and growth. While countries such as Spain and Italy feature comparatively high levels of growth in the agri-food sector, albeit, with very low levels of women participation, the MENA agricultural business is still fragmented, and with low	2022	IT, PS, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			women employment. This project will focus on two European regions (Valencia, Spain and Sicily, Italy) and two MENA areas (Béja and Médenine in Tunisia, and Palestine), identified as suitable for the implementation and scaling up of a sustainable value model in the agri-food sector: Rural Social Innovation (RSI). RSI redefines the boundaries between organizations and the community, addressing broader societal challenges by seeking economic, social and environmental sustainability, balancing tradition and innovation and explicitly seeking community development at the local level.		
17	CBC	RESMYLE	RESMYLE mobilizes 9 Mediterranean operators (cooperatives, associations, universities) in 5 countries (France, Italy, Jordan, Lebanon and Tunisia) around 3 complementary areas of intervention: the inclusion of sustainable development topics in the support actions carried out by the organizations (associations, social centers working on integration of NEETS in the Mediterranean); the testing of a set of hands-on field trainings for young people focusing on sustainable development and based on mobility, intercultural exchanges and real environmental issues; the creation of a Mediterranean network of eco-incubators of youth-led activities based on a common method and shared tutoring/trainings.	2022	FR, IT, JO, LB, TN
18	CBC	CLIMA	he CLIMA project, and its regional platform of Italian, Tunisian and Lebanese municipalities, public agencies and NGOs, aims to cope with environmental, economic and social problems of organic waste mismanagement in three Mediterranean countries, developing policy tools like integrated Municipal Waste Management Plans, innovative technical solutions such as the compost drum and two improved pilot compost sites. At the same time, the project will support local businesses active in the circular economy sector, as well as information and advocacy campaigns to change citizens' attitude towards zero waste paradigm. Through the project, around 80,000 citizens in 3 municipalities will benefit from the reduction of waste production due to the increase of treated organic waste.	2022	IT, LB, TN
19	CBC	MED-INA	The MED-InA project proposes to develop and roll out a methodology for a "Zero Waste" public policy adapted to Mediterranean cities as an exemplary and participatory approach for waste reduction, reuse and recycling. The Zero Waste approach offers an alternative option and aims to reduce the amount of waste sent to landfills or incinerators through waste prevention, reuse, recycling and development of local activities. To adapt this ambitious approach to the Mediterranean context, the MED-InA project will develop a methodology co-designed by the partners, based on a wide consultation with local stakeholders (public, private, associations, citizens) and territorial coordination. It will place the citizens at the	2022	FR, JO, LB, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			heart of the process and will strongly value a "low tech-low cost" approach by promoting in the South and reintegrating in the North traditional practices that generate little quantity of waste.		
20	CBC	COEVOLVE4BG	the Co-Evolve4BG project aims at analyzing and promoting the co-evolution of human activities and natural eco-systems in touristic coastal areas, towards sustainable development of tourist activities based on the principles of Integrated Coast Zone Management (ICZM) and Maritime Spatial Planning (MSP), promoting at the same time Blue Growth in the Mediterranean. The analysis and the demonstration actions foreseen by the project will enhance sustainable coastal and maritime tourism development fully exploiting the Blue Economy potential, promoting the creation of business and job opportunities in the field of ecosystem-oriented services, coastal and maritime tourism, coastal management and adaptation to climate change. Co-Evolve4BG will take advantage from the methodology of the CO-EVOLVE project that was funded by the Interreg MED Programme and extend its main actions towards the South & East Mediterranean through the integration of new pilot areas. Finally, Co-Evolve4BG is part of a wider project, "Med Coast for Blue Growth" labelled by the 43 Countries of the Union for the Mediterranean.	2022	EL, IT, LB, ES, TN
21	CBC	INNOMED-UP	Promoting UPcycling in Circular Economy through INNovation and education for creative industries in MEDiterranean cities. Adoption of circular economy procedures within Cultural and Creative Industries; shift local urban economies towards a circular production and consumption paradigm including optimal use of material resources, innovation enhancement for SMEs, knowledge transfer among cities, social inclusion and citizens' engagement.	2022	EL, IT, JO, PS, TN
22	CBC	CEOMED	Reduce municipal waste generation, promote source-separated collection and the optimal exploitation of the organic component by recovering energy and recycling nutrients. Design of new waste management plans in the cities of Amman and Sfax which focus and address separately the waste produced from fruits and vegetables wholesale markets.	2022	EL, IT, JO, ES, TN
23	CBC	DECOST	DECOST aims to develop a new framework of waste management, building a closed-loop system of organic waste valorisation, integrating decentralised home and community composting systems with urban agriculture.	2022	IL, IT, JO, PS, ES
24	CBC	SIRCLES - Support for Circular Economy	SIRCLES partners want to explore new employment opportunities by applying the circular economy model applied to the biowaste sector. The project will mainly focus on developing new capacities oriented to business development and separation, collection, composting and	2023	EG, IT, JO, LB, PS, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
		Opportunities for Employment and Social Inclusion	agriculture processes. The training will be tested through 7 pilot projects that address the hotel, food retail and household sectors, adjusted to the diverse local contexts of each territory involved in the project. Consequently, SIRCLES will contribute to the creation of green jobs by involving the most vulnerable sectors of the population and supporting environmental sustainability.		
25	CBC	Med4Waste	Med4Waste aims to facilitate new governance models for integrated and efficient urban waste management policies across the Mediterranean through: - building and improving existing knowledge to foster capitalisation of social innovative, integrated and efficient practices from public, private and social sectors in WM across the MSB, with special focus on waste prevention, circular economy practices and on the organic component - offering guidance and training for public administration and relevant private and social stakeholders, to apply transferring actions and exploitation measures and to support planning, adapting and re-addressing of waste management plans, policies and other manaement actions and normative drivers (regulations, financial plans, service contracts) - supporting dissemination of the key results and increase awareness among key stakeholders, promote cross-border and cross-sectorial networking, and foster long-term commitment of decision and policy makers to promote an environmental , socio-economic and institutional transition towards green growth in MSB.	2023	EL, IT, JO, LB, ES, TN
26	CSF IPA II	NAGE - Networking and Advocacy for Green Economy	The overall objective of the project is to provide support to enhance the policy and decision-making impact of Balkan Rural Development Network (BRDN) and its constituents, through involvement in the agricultural and rural program and policy reform processes for introduction of the green economy concept. The project has three specific objectives: 1) Strengthening of the grassroots' CSOs capacities in generic work, advocacy and networking, to be able to sustain their role of agricultural and rural reform advocates, in transparent and accountable way; 2) Introduction of the concept of green economy as unique cross-cutting entrepreneurial model for rural diversification and sustainability; 3) BRDN and its constituents use evidence-based policy development and rights-based advocacy to foster the national EU CAP approximation processes and promote green economy.	2021	AL, BA, HR, ME

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
27	CSF IPA II	GEAR – Green Economy for Advanced Region	The project aim to increase the activities and impact of civil society organizations from Albania, Montenegro, Serbia, B&H and Macedonia in the environmental protection through networking strengthening their capacities and promoting green economy. A three-year project will be implemented in the above-mentioned countries, and its main activities include trainings for representatives of civil society organizations on green economy, public advocacy and lobbying, participation in decision making, monitoring of public policies, project cycle management, etc., familiarization with good practice models in green economy and green entrepreneurship through study visit to EU and presentations organized in the target countries, sub-granting for civil society organizations, regional conferences on green economy and green entrepreneurship, development of a Study on possibilities for the development of green economy in the target region, etc.	2021	AL, BA, ME
28	ENI South	SwitchMed II	Stimulate the creation of business opportunities and employment while reducing the environmental footprint of existing economic activities. Capitalizing on the results and lessons learned from Phase I, Phase II is structured with three main components: • Direct support to the private sector • Creation of an enabling policy environment • Coordination, networking and communication Focus: Increasing Resource Efficiency in value chains; Integrating Sustainable Consumption and Production patterns into national strategies; Promote low-carbon economy; Reinforcement of rural development by promoting new circular business models and green economy; Public awareness raising and capacity building	2022	DZ, EG, IL, JO, LB, MA, PS, TN
29	ENI South	WES	Water and Environment Support in the ENI Southern Neighbourhood region. The project's purpose is to contribute to increase the capacity of various stakeholders involved in pollution reduction and water management in order to support them in formulating and implementing the environmental and water policies. It will be building on the experience gained through the predecessor projects, the "Sustainable Water Integrated Management and Horizon 2020 Support Mechanism" (SWIM-H2020 SM) project 2016-2019 and the "Sustainable Water Integrated Management Support Mechanism (SWIM SM) project 2010-2015. Regional activities will be comprising of Regional Trainings, Peer-to-Peer exchanges, Webinars, Study Tours. On:	2023	DZ, EG, IL, JO, LB, MA, PS, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			• Topic 1: Plastic Pollution & Marine Litter. • Topic 2: Circular Economy (Support the shift to sustainable consumption and production; Waste management schemes and streams). • Topic 3: Prevention & Reduction of Pollution from Industrial Sector. • Topic 4: Mainstreaming & Implementing Integrated Environmental Management		
30	GEF	Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security - CP1.1: Reducing Pollution from harmful Chemicals and Wastes in Mediterranean Hot Spots and Measuring Progress to Impacts	Focus on promoting the prevention of the use of toxic chemicals, instead of the more traditional approach to management (waste, disposal,..). It will address: · PFOS (perfluorooctane sulfonic acid) - SCP/RAC will target Civil Defense and public firefighting organizations, as these are the single largest users of PFOS foams; and also due to the direct application of large volumes of foams directly onto soil and surface waters. · HBCD (Hexabromocyclododecane) - SCP/RAC will target importers of EPS/XPS pellets and manufacturers of EPS/XPS insulation panels and architects, engineers, financiers and standard setting and procurement bodies who may have a role in setting specifications for building developments. · SCCP (short-chain chlorinated paraffins) - SCP/RAC will target the whole sector of PVC production in Lebanon, which is known to use large quantities of chlorinated paraffins, used in sectors such as paints and sealants, metal working fluids, lubricants and rubber.	N/A	LB, MA, TN
31	GIZ	Integrated Waste Management and Marine Litter Prevention in the Western Balkans	Local and national stakeholders in waste and recycling management in Albania, Bosnia and Herzegovina and Montenegro are identifying the causes and effects of water pollution. They are reducing the amounts of waste that enter the Mediterranean Sea and contributory rivers.	2022	AL, BA, ME
32	Interreg med (biodiversity protection)	FishMPABLue 2	The project tested a "Small Scale Fisheries governance toolkit" in 11 Marine Protected Areas (MPAs) and assessing its ecological effectiveness, benefits and the social acceptance of management measures. The "MPA Pilot Implementation Plans" involved capacity building for local fishermen, and governance measures. The benefits were measured through an environmental and socio-economic monitoring campaign.	2022	HR, FR, EL, IT, SL, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
33	Interreg med (green growth)	Interreg Med Green Growth Community	Community of 14 innovation projects in the field of green growth. It supports participating projects in communication and capitalization efforts to increase their impact at policy level and ensure potential transfer and replication of results to other actors and territories. It has 4 focus areas: Food systems, Eco-Innovation, Smart Cities and Waste Management. Four Thematic Working Groups related to the EU Circular Economy Action plan were created: Resource Efficiency, Green and Smart Public Services, Waste Prevention and Management, Competitiveness and Innovation. Horizontal project.	2022	AL, BA, HR, CY, FR, EL, IT, MT, ME, PT, SL, ES
34	Interreg med (green growth)	ESMARTCITY	Testing solutions and pilot implementation in the field of intelligent urban districts, energy efficiency of buildings and smarter public lighting; Green Paper on Innovation Policy Change	2022	BA, FR, EL, IT, PT, ES
35	Interreg med (green growth)	ARISTOIL	Support the competitiveness and innovation of the Mediterranean olive oil producers by developing a commonly accepted method for measuring olive oil ingredients related to a standardised procedure for an olive oil "Health Claim" certification	2022	HR, CY, EL, IT, ES
36	Interreg med (green growth)	EMBRACE	Toolkit for SMEs, Intermediary Organizations, Clusters and Policy Makers in the agro-food and wine sectors engaged in transforming their businesses or "ecosystem" work streams in a circular way.	2022	BA, FR, EL, IT, PT, SL, ES
37	Interreg med (green growth)	REINWASTE	Identification and testing of solutions to optimise the use of bio-based packaging materials and to redesign products and processes in the dairy, meat and horticulture sectors (mapping of Best Available Technologies (BATs) and Key Enabling Technologies (KETs)	2022	BA, FR, IT, ES
38	Interreg med (green growth)	RE-LIVE WASTE	Testing of innovative solutions for livestock waste management, taking into account technical, environmental, economic and legal aspects (4 demonstrative plants). Policy guidelines to stimulate innovation adoption and to set-up a common suitable legal framework regarding livestock waste management.	2022	BA, CY, IT, ES
39	Interreg med (green growth)	finMED	"Support service tool" to aid entrepreneurship in the access to finance, provided to SMEs by Clusters and Business Support Organisations (BSOs). Policy Procedures for the delivery of green growth policies able to assure proper financing to innovation in the involved project regions.	2022	BA, CY, FR, EL, IT, MT, PT, SL, ES
40	Interreg med (green growth)	CreaInnovation	CREAINNOVATION SUSTAINABILITY EVALUATION TOOL (CISET) to be used for qualitative assessment of economic, social and environmental sustainability of innovation projects, and as a checklist on sustainability to be used in the generation of innovation projects. Design, launch and testing of e-Labs for Creative Innovation where product, process,	2022	BA, HR, FR, EL, IL, ME, PT, SL, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			marketing and organisational innovation is produced (SMEs, managers and young people working together).		
41	Interreg med (green growth)	GREEN MIND	strengthen the clusters and agencies to support SMEs in exploiting the market opportunities of green and smart mobility products and services (supports market intelligence, public funding screening and B2B matchmaking services).	2022	BA, HR, FR, EL, IT, SL, ES
42	Interreg med (sustainable tourism)	Interreg Med Sustainable Tourism Community	Created in November 2016 within the framework of the Interreg MED Programme, the MED Sustainable Tourism Community has been renewed for a three-year period until June 2022 to make tourism a real driver for inclusive and sustainable growth. The Community's members are leading the development of innovative tools to monitor the tourism industry, they are studying and testing new tourism models and they are actively engaging policy makers and managers in a constant dialogue to make tourism a real driver for inclusive and sustainable development. Horizontal project.	2022	BA, HR, CY, FR, EL, IT, MC, ME, PT, SL, ES
43	Interreg med (sustainable tourism)	Co-Evolve	It aimed at analysing and promoting the co-evolution of human activities and natural systems in touristic coastal areas. It coupled an analysis of threats and enabling factors for sustainable tourism with local studies and pilot actions in seven representative Pilot Areas, to demonstrate the effectiveness of an Integrated Coastal Zone Management/ Maritime Spatial Planning-based planning process. The project has integrated the "CO-EVOLVE Tourism Typology": a three-tier system (composed by core indicators, destination indicators and pilot area-specific indicators) in their "Tourism Sustainability Evaluation Tool". The project has been capitalised by ENI CBC Co-Evolve4BG	2022	HR, FR, EL, IT, ES
44	Interreg med (sustainable tourism)	BLUEMED	The project studied the natural, cultural, and legislative conditions of selected locations in the Mediterranean region. It also aimed at protecting marine ecosystem and underwater cultural resources, while making them publicly accessible by promoting the concept of Underwater Museums and organised underwater archaeological sites. Finally, the project wanted to promote a sustainable and responsible model of tourism development for selected regions of the Mediterranean.	2022	HR, CY, EL, IT, ES
45	Interreg med (sustainable tourism)	CONSUME-LESS	It aimed to contribute to sustainable water, energy and waste management with particular focus on the reduction in the consumption of water and energy as well as waste reduction through prevention of waste generation in the tourism sector. The project foresaw the creation of a "Consume-Less" label as an indication that environmental concerns could be translated into tourism market advantages. The idea was to promote and heighten tourist	2022	AL, EL, IT, MT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			awareness on certified hotels, bars and restaurants through the innovative marketing campaign of the Consume-Less label.		
46	Interreg med (sustainable tourism)	LABELSCAPE	A certification given to the Mediterranean destinations to guarantee visitors a responsible use of natural resources, and to recognise their will to follow the principles of sustainable development. This is the project's aim: not to create new labels, but rather to capitalize on existing certifications. This will be achieved through: thematic workshops and exchange forums, an online platform for capacity building, the implementation of a social inclusion policy at territorial level and a new draft framework regulation at program level.	2022	HR, FR, EL, IT, PT, SL, ES
47	Interreg med (sustainable tourism)	MITOMED+	The main objective of the project was to enhance the sustainability and responsibility of Maritime and Coastal tourism. To achieve this, the project increased knowledge and social dialogue regarding the development of the Maritime and Coastal (M&C) tourism in each partner region for better decision-making. In addition, it improved M&C tourism planning at destination level and its coordination for a transnational governance and the setup of an Interreg MED M&C tourism model.	2022	HR, VY, FR, IT, ES
48	Interreg med (sustainable tourism)	TOURISMED	The project aimed at testing and transferring a fishing tourism business model in the Mediterranean coastal territories. It sought to promote a sustainable approach to tourism, while fostering the preservation of the marine ecosystem and traditional fishing culture. Facing challenges such as the worrying depletion of marine resources, the decline of the artisanal fishing sector and the negative impacts of tourism, the project's results deal with an improved use of resources by artisanal fishers, a diversification of income in the sector and a better valorisation of coastal traditional heritage and local seafood. A mobile app (Fishing Tourism) and a web platform (fi-shingtourism.net) were created, to always be updated on itineraries and get in touch with fishermen involved in the project.	2022	AL, CY, FR, EL, IT, ES
49	Interreg med (sustainable tourism)	INCIRCLE	It capitalises the available knowledge and tools to test a new methodology, which ap-plies the principles of circular economy to tourism. It focalises on the needs of islands and regions with low population density. Mobility, renewable energy and energy efficiency, water and waste management, improvement of the prosperity and quality of life in the com-munities: those are the policies developed by the project. Lasting and easily adaptable results are expected: they will lead to concrete and testable tools and to the capacity to at-tract other funding.	2022	Al, CY, EL, IT, MT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
50	IPA II	EU Environment Partnership Programme for Accession (EPPA) in the Western Balkans and Turkey	The overall objective of the programme is to strengthen the implementation of the EU environmental acquis in the Western Balkans and Turkey in areas relevant for addressing trans-boundary environmental issues. The purpose of the project is to assist the European Commission in providing the Secretariat of the EU Environment Partnership Programme for Accession (EPPA).	2022	AL, BA, ME, TR
51	PRIMA	TRANSITION	InnovaTive Resilient fArmiNg Systems in MedITerranean envIrONments - The goal of TRANSITION is to pave the way for a transition towards resilient agriculture in the Mediterranean, maximising the net positive impact on the environment, while increasing resilience of agroecosystems, rural societies and return on assets of farmers. This is done by analysing the most relevant innovative solutions in resilient agroforestry and mixed farming systems using a participatory approach. TRANSITION will i) identify appropriate strategies for adoption to improve resilience of the agriculture sector, including using locally-adapted genetic resources, unconventional water reuse and soil protection strategies, ii) establish what are the environmental and socio-economic barriers to resilient agriculture implementation, iii) quantify the system productivity and delivery of ecosystem services of existing systems and co-designed and replicable case studies and their effect on farmers' livelihoods, iv) empower the expansion of agroforestry and mixed farming systems through practical innovation and knowledge exchange and v) provide robust information which is useful to administration in terms of measurable impacts and possible transition scenarios which maximise ecological services delivery and resilience of key Mediterranean cropping systems.	2024	DZ, EG, FR, EL, IT, ES
52	PRIMA	NEWFEED	Turn food industry by-products into secondary feedstuffs via circular-economy schemes. The objective of this Innovation Action is the development and adoption of alternative animal feeds setting up a circular economy approach in the livestock production by turning the by-products of the food industry into high value secondary feedstuff for animal feed. The project also focusses on the increase of the sustainability of the Mediterranean livestock through the valorisation of local food industry by-products that will lead to reduced environmental impact and costs. The overall methodology focuses on activities directly aiming at testing	2025	EG, EL, ES, TR

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			and demonstrating the technical and economic viability of alternatives feed resources from improved food industry by-products in the Mediterranean Area.		
53	PRIMA	SUSTAvianFEED	Alternative animal feeds in Mediterranean poultry breeds to obtain sustainable products. It aims to demonstrate innovative poultry farming systems by the inclusion of sustainable animal feeding. A sustainable nutritional formula for poultry farming in which insects will play a key role will be developed. Thus, the sustainability of poultry feeding will be the mainstream of the development of an innovative and sustainable livestock farming system. The sustainable nutritional formula for poultry farming will be developed through the use of insects and the substitution of environmentally damaging protein sources (as soybean or fishmeal) by regional agri-food sector by-products in order to follow circular economy principles. SUSTAvianFEED approach will also promote local economy, socioeconomic growth and local resilience of Mediterranean areas. Furthermore, the project aims to contribute towards the transition to a more sustainable farming system by the implementation of circular economy approaches, as the involvement of smallholders, consumers, and other relevant actors or promotion of local agriculture and livestock farming. In addition, the inclusion of native and local species, adapted to each ecosystem, will significantly contribute to the reduction resources consumption regarding basic needs as energy or water consumption. SUSTAvianFEED considers as a crucial aspect of the project its social impacts, so it will promote gender equality and women empowerment in pilot activities. The project will develop a multi-actor approach, so relevant actors of the whole value chain are involved.	2024	IT, ES, TN, TR
54	PRIMA	MEDWEALTH	Development of new wheat-derived foods of the Mediterranean diet with improved nutritional and health value. It proposes to develop durum wheat-derived products typical of Mediterranean Diet with improved nutritional value and new technological properties. Further, the use of durum wheat in the Mediterranean tradition is often done in mixture with different crops. At this regard, MEDWHEALTH will develop new products (pasta, couscous, home-made bread) with barley and lentil mixtures, as such or malted to reduce the main anti-nutritional compounds. MEDWHEALTH will also evaluate the protective actions of a diet based on the consumption of durum wheat-based foods improved in fiber content and protective bioactive compounds such as micronutrients and health-promoting phytochemicals on chronic metabolic and inflammatory diseases. Indeed, information and data gathered from fields, laboratories, sensorial analyses and piloting processing plants	2024	DZ, IT, LB, MA, TN, TR

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			will be used to assess production costs and environmental impact of new products. These estimates are aimed to evaluate the potential development of a new value chain based on re-formulated products (pasta, couscous, freekeh, bulgur), against the conventional durum wheat-based products, focusing on the gains that downstream value chain actors can achieve.		
55	PRIMA	LENSES	Learning and action alliancEs for NexuS EnvironmentS. The project argues that this is possible only through the activation of inclusive nexus partnerships, the Learning & Action Alliances (LAAs). The objective for the pilot Alliances in the Med region is to design and implement adaptive Nexus Management Strategies under future uncertainty that will co-progress the Nexus sectoral objectives of improved water allocation, enhanced food security and ecosystem preservation. This will help building resilient Nexus systems. In this context, LAAs will (a) co-produce new knowledge regarding Nexus interactions to support the development of Participatory System Dynamics Models at suitable spatial and temporal scales and (b) explore multiple co-developed scenarios of demographic change, climate change, socio-environmental, economic incentivization and regulatory policies. The LAAs and their activities are the means to (i) develop stakeholder trust, feed cross-sectoral exchange of knowledge and build shared visions, (ii) test the multi-dimensional efficacy of integrated policies aiming at improving system resilience, and (iii) build legitimacy for evidence-based decisions towards sustainable transitions. The project will leverage Ecosystem Services and Ecological/Environmental Economics approaches and develop a Nexus-SDG toolkit to guide multi-objective policy- and decision-making in the pilot cases. Against this basis, Nature-based Solutions (NBS) addressing pilot-specific challenges will be planned and designed. This full cycle of interconnected activities gives confidence on the environmental, institutional, social and financial sustainability of the proposed solutions. On a policy level, LENSES will progress the linkage between the Climate Change Adaptation and Nexus management as a means to push forward the Nexus agenda.	2023	EL, IL, IT, JO, ES, TR
56	PRIMA	NEXUS-NESS	NEXUS Nature Ecosystem Society Solution: Fair and Sustainable Resource Allocation Demonstrator of the Multiple WEFE Nexus Economic, Social and Environmental Benefits for Mediterranean Regions: All four elements (water, food, energy and ecosystems) are 1) highly dependent on each other, 2) crucial for human well-being, and 3) impacting social cohesion and source of geopolitical conflicts. In Mediterranean regions the water scarcity and land degradation do not match sound and sustainable agricultural practices and often the	2023	CY, EG, FR, IT, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
			protection of ecosystems is in conflict with economic growth. NEXUS-NESS aims to interlink consolidated Water-Energy-Food (WEF) Nexus data, knowledge and tools and a three-fold Ecosystem component value (i.e. Environment, Economy and Engagement) to produce a comprehensive Water-Energy-Food-Ecosystem (WEFE) Nexus-NESS Service (NNS). The NNS service includes best practices for achieving high environmental protection, sustainable economic growth while delivering optimal resource management for the Mediterranean regions. The NEXUS-NESS project has three main objectives: 1) Co-Produce WEFE Nexus management plans for fair and sustainable allocation of resources by applying the NNS into real case conditions through the four Multi-Actor diverse NEXUS Ecosystem Labs (NELs); 2) Operationalize the adoption of the WEFE Nexus by co-defining short- to long-term resource management plans and hands-on guidance through application, validation and demonstration actions in the four NELs 3) Enable mindset change for the effective adoption of WEFE Nexus through the implementation of Innovation Ecosystems of private sector, academic, public authorities and citizens in the 4 NELs through the Responsible Research and Innovation (RRI) Roadmap and the six RRI dimensions (public engagement, open science, science education, gender issues, ethics and institutional change through governance).		
57	PRIMA	MEDITOMATO	The main goal of MEDITOMATO is to demonstrate innovative technology solutions along the whole tomato value chain enabling this Mediterranean sector to bring improvements at different levels (environmental, food quality & safety, sustainability, traceability, efficiency and water management) that will contribute to a consistent rural and social development of the Mediterranean agri-food sector. Comprises prototype assembly of in/on-line as well as portable system based on Vis-NIR spectroscopy for non-destructive quality monitoring; development of IoT-enabled irrigation systems to obtain water and energy savings; application of IoT to soil fertilization; microbiological Risk Analysis for food safety; on-site deployment of other IoT sensors for traceability and data analysis to optimize production rates; integration and demonstration of the proposed innovations in 3 locations (Spain, Italy and Turkey); quantified analysis of the status of the food supply chains benefits of the deployed solutions and study of the feasibility for replication in other Mediterranean countries.	2021	EL, IT, ES, TN, TR

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[77]
58	PRIMA	VEG-ADAPT	To increase the tolerance of three important Mediterranean vegetable crops (tomato, pepper and melon) to stress induced by climate change in the Mediterranean region. To this end, the project will follow three lines of research: 1. Characterization and selection of local varieties and new hybrids tolerant to climate change; 2. Research on the physiological processes that contribute to the tolerance of these crops and related genetic markers; 3. Optimization of crop management techniques that reduce sensitivity to climatic stress.	2021	FR, EL, IT, JO, MA, ES, TR

Axis 2 – Prevent and reduce pollution on land, sea and air

as of November 2021

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
1	BlueMed	BlueMed Pilot Action on A Healthy Plastic-Free Mediterranean Sea	Mapping and assessing the actions on place regarding marine plastic pollution in the EU and non-EU countries of the Mediterranean area to promote the circulation of good practices, R&I actions but also demonstration, communication and educations actions specifically addressed to face the challenges posed by marine litter in the Mediterranean Sea as a whole. 4 pillars: • Key enabling knowledge for the Med (ecosystems, dynamics, pollution, coastal areas…). • Enabling technology and capacity creation for the Med (transport, observing systems, off- shore platforms, cultural heritage…). • Key sectoral enablers in the Med (tourism, clusters, MSP, bioresources…).	N/A	DZ, EG, FR, IL, IT, MA, ES, TN, TR

[78] AL Albania, DZ Algeria, BA Bosnia and Herzegovina, HR Croatia, CY Cyprus, EG Egypt, FR France, EL Greece, IL Israel, IT Italy, JO Jordan, LB Lebanon, MT Malta, MC Monaco, ME Montenegro, MA Morocco, PS Palestine, PT Portugal, SL Slovenia, ES Spain, TN Tunisia, TR Turkey; N/A not available

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
			• Cross-cutting enablers for blue jobs and blue growth (open science, skills…).		
2	CBC	COMMON	Coastal Management and Monitoring Network for tackling marine litter in Mediterranean Sea. The COMMON project will apply the Integrated Coastal Zone Management (ICZM) principles to the challenge of marine litter, improving knowledge of the phenomenon, enhancing the environmental performance of 5 pilot coastal areas in Italy, Tunisia and Lebanon, and engaging local stakeholders in marine litter management.	2022	IT, LB, TN
3	CBC	CEOMED	Reduce municipal waste generation, promote source-separated collection and the optimal exploitation of the organic component by recovering energy and recycling nutrients. Design of new waste management plans in the cities of Amman and Sfax which focus and address separately the waste produced from fruits and vegetables wholesale markets.	2022	EL, IT, ES, TN
4	CBC	CLIMA	The CLIMA project, and its regional platform of Italian, Tunisian and Lebanese municipalities, public agencies and NGOs, aims to cope with environmental, economic and social problems of organic waste mismanagement in three Mediterranean countries, developing policy tools like integrated Municipal Waste Management Plans, innovative technical solutions such as the compost drum and two improved pilot compost sites. At the same time, the project will support local businesses active in the circular economy sector, as well as information and advocacy campaigns to change citizens' attitude towards zero waste paradigm. Through the project, around 80,000 citizens in 3 municipalities will benefit from the reduction of waste production due to the increase of treated organic waste.	2022	IT, LB, TN
5	CBC	DECOST	DECOST aims to develop a new framework of waste management, building a closed-loop system of organic waste valorisation, integrating decentralised home and community composting systems with urban agriculture.	2022	IL, IT, PS, ES
6	CBC	MED-INA	The MED-InA project proposes to develop and roll out a methodology for a "Zero Waste" public policy adapted to Mediterranean cities as an exemplary and participatory approach for waste reduction, reuse and recycling. The Zero Waste approach offers an alternative option and aims to reduce the amount of waste sent	2022	FR, LB, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
			to landfills or incinerators through waste prevention, reuse, recycling and development of local activities. To adapt this ambitious approach to the Mediterranean context, the MED-InA project will develop a methodology co-designed by the partners, based on a wide consultation with local stakeholders (public, private, associations, citizens) and territorial coordination. It will place the citizens at the heart of the process and will strongly value a "low tech-low cost" approach by promoting in the South and reintegrating in the North traditional practices that generate little quantity of waste.		
7	CBC	SIRCLES - Support for Circular Economy Opportunities for Employment and Social Inclusion	SIRCLES partners want to explore new employment opportunities by applying the circular economy model applied to the biowaste sector. The project will mainly focus on developing new capacities oriented to business development and separation, collection, composting and agriculture processes. The training will be tested through 7 pilot projects that address the hotel, food retail and household sectors, adjusted to the diverse local contexts of each territory involved in the project. Consequently, SIRCLES will contribute to the creation of green jobs by involving the most vulnerable sectors of the population and supporting environmental sustainability.	2023	EG, IT, JO, LB, PS, ES, TN
8	CBC	Med4Waste	Med4Waste aims to facilitate new governance models for integrated and efficient urban waste management policies across the Mediterranean through: • Building and improving existing knowledge to foster capitalisation of social innovative, integrated and efficient practices from public, private and social sectors in WM across the MSB, with special focus on waste prevention, circular economy practices and on the organic component. • Offering guidance and training for public administration and relevant private and social stakeholders, to apply transferring actions and exploitation measures and to support planning, adapting and re-addressing of waste management plans, policies and other management actions and normative drivers (regulations, financial plans, service contracts).	2023	EL, IT, JO, LB, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
			• Supporting dissemination of the key results and increase awareness among key stakeholders, promote cross-border and cross-sectorial networking, and foster long-term commitment of decision and policy makers to promote an environmental, socio-economic and institutional transition towards green growth in MSB.		
9	ENI South	WES	Water and Environment Support in the ENI Southern Neighbourhood region. The project's purpose is to contribute to increase the capacity of various stakeholders involved in pollution reduction and water management in order to support them in formulating and implementing the environmental and water policies. It will be building on the experience gained through the predecessor projects, the "Sustainable Water Integrated Management and Horizon 2020 Support Mechanism" (SWIM-H2020 SM) project 2016-2019 and the "Sustainable Water Integrated Management Support Mechanism (SWIM SM) project 2010-2015. Regional activities will be comprising of Regional Trainings, Peer-to-Peer exchanges, Webinars, Study Tours, on: • Topic 1: Plastic Pollution & Marine Litter • Topic 2: Circular Economy (Support the shift to sustainable consumption and production; Waste management schemes and streams. • Topic 3: Prevention & Reduction of Pollution from Industrial Sector. • Topic 4: Mainstreaming & Implementing Integrated Environmental Management	2023	DZ, EG, IL, LB, MA, PS, TN
10	GEF	Mediterranean Sea Programme (MedProgramme): Enhancing Environmental Security - CP1.1: Reducing	Focus on promoting the prevention of the use of toxic chemicals, instead of the more traditional approach to management (waste, disposal,..). It will address: • PFOS (perfluorooctane sulfonic acid) - SCP/RAC will target Civil Defense and public firefighting organizations, as these are the single largest users of PFOS foams; and also due to the direct application of large volumes of foams directly onto soil and surface waters.	N/A	LB, MA, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
		Pollution from harmful Chemicals and Wastes in MediterraneanHot Spots and Measuring Progress to Impacts	• HBCD (Hexabromocyclododecane) - SCP/RAC will target importers of EPS/XPS pellets and manufacturers of EPS/XPS insulation panels and architects, engineers, financiers and standard setting and procurement bodies who may have a role in setting specifications for building developments. • SCCP (short-chain chlorinated paraffins) - SCP/RAC will target the whole sector of PVC production in Lebanon, which is known to use large quantities of chlorinated paraffins, used in sectors such as paints and sealants, metal working fluids, lubricants and rubber.		
11	GIZ	Integrated Waste Management and Marine Litter Prevention in the Western Balkans	Local and national stakeholders in waste and recycling management in Albania, Bosnia and Herzegovina and Montenegro are identifying the causes and effects of water pollution. They are reducing the amounts of waste that enter the Mediterranean Sea and contributory rivers.	2022	AL, BA, ME
12	interreg med (biodiversity protection)	Plastic Busters MPAs	Aims to maintain biodiversity and preserve natural ecosystems in pelagic and coastal marine protected areas by consolidating Mediterranean efforts against marine litter. The project entails actions addressing the whole management cycle of marine litter, from monitoring and assessment to prevention and mitigation; it also foresees actions to strengthen networking between and among coastal and pelagic MPAs in the Mediterranean.	2022	AL, HR, FR, IT, MC, ES
13	Interreg med (biodiversity protection)	ACT4LITTER	The project identified effective and feasible prevention measures to tackle marine litter in the Mediterranean Protected Areas (MPAs) through the development of an appropriate decision-making tool (dmtmarinelitter.com), able to assess the effectiveness of such measures.	2022	FR, EL, IT, ES
14	Interreg med (biodiversity protection)	MEDSEALITTER	The aim of the project was to define and adopt the right measures to develop cost-effective protocols, to monitor and manage the litter impact on the biodiversity of the Mediterranean Sea. This action involved Marine Protected Areas (MPAs), scientific organisations and environmental NGOs. The project has defined the fundamental scientific elements on which the protocols about the monitoring of	2022	FR, EL, IT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
			floating marine macro litter and their ingestion were developed, and then signed and ratified.		
15	Interreg med (green growth)	REINWASTE	Identification and testing of solutions to optimise the use of bio-based packaging materials and to redesign products and processes in the dairy, meat and horticulture sectors (mapping of Best Available Technologies (BATs) and Key Enabling Technologies (KETs).	2022	BA, FR, IT, ES
16	Interreg med (green growth)	RE-LIVE WASTE	Testing of innovative solutions for livestock waste management, taking into account technical, environmental, economic and legal aspects (4 demonstrative plants). Policy guidelines to stimulate innovation adoption and to set-up a common suitable legal framework regarding livestock waste management.	2022	BA, FR, IT, ES
17	Interreg med (sustainable tourism)	BLUEISLANDS	It aimed to develop effective ways to identify, address and mitigate the impact of the seasonal variation of waste generated on Mediterranean islands. During the first year, it measured the correlation of tourism and waste generation, through analysis of micro-plastics and marine litter on 18 selected beaches, and an investigation of the quality of coastal seawater through short-term macro algae deployments. The project subsequently developed action plans for each of the 9 partner islands to promote sustainable tourism and circular economy loops, to support the implementation of seasonal waste variation management plans, coordinating institutional partners and involving the food service industry and other waste/sewage/water treatment operators. The project also released a Waste Management Handbook gathering good practices implemented in Mediterranean islands.	2022	HR, FR, EL, IT, MT, ES
18	Interreg med (sustainable tourism)	CONSUME-LESS	It aimed to contribute to sustainable water, energy and waste management with particular focus on the reduction in the consumption of water and energy as well as waste reduction through prevention of waste generation in the tourism sector. The project foresaw the creation of a "Consume-Less" label as an indication that environmental concerns could be translated into tourism market advantages. The idea was to promote and heighten tourist awareness on certified hotels, bars and restaurants through the innovative marketing campaign of the Consume-Less label.	2022	AL, EL, IT, MT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
19	Interreg med (sustainable tourism)	INCIRCLE	It capitalises the available knowledge and tools to test a new methodology, which applies the principles of circular economy to tourism. It focalises on the needs of islands and regions with low population density. Mobility, renewable energy and energy efficiency, water and waste management, improvement of the prosperity and quality of life in the communities: those are the policies developed by the project. Lasting and easily adaptable results are expected: they will lead to concrete and testable tools and to the capacity to at-tract other funding.	2022	AL, CY, EL, IT, MT, ES
20	Interreg med (urban transports)	SUMPORT	The project tackled the issue of congestion and air pollution in port cities, aggravated by port-originated traffic, by providing sustainable alternatives to individual car transport. Pilot actions were launched in the participating port cities, to elaborate, update or harmonize their own Sustainable Urban Mobility Plans (SUMPs): as a result, they tested carpooling, bike network extensions and new bikes lines, SUMPs updates, bike and e-bikes sharing, and also a simulation of a maritime public transport system.	2022	AL, CY, EL, IT, ME, SL, ES
21	PRIMA	TRANSITION	InnovaTive Resilient fArmiNg Systems in MedITerranean envIrONments - The goal of TRANSITION is to pave the way for a transition towards resilient agriculture in the Mediterrnean, maximising the net positive impact on the environment, while increasing resilience of agroecosystems, rural societies and return on assets of farmers. This is done by analysing the most relevant innovative solutions in resilient agroforestry and mixed farming systems using a participatory approach. TRANSITION will i) identify appropriate strategies for adoption to improve resilience of the agriculture sector, including using locally-adapted genetic resources, unconventional water reuse and soil protection strategies, ii) establish what are the environmental and socio-economic barriers to resilient agriculture implementation, iii) quantify the system productivity and delivery of ecosystem services of existing systems and co-designed and replicable case studies and their effect on farmers' livelihoods, iv) empower the expansion of agroforestry and mixed farming systems through practical innovation and knowledge exchange and v) provide robust information which is useful to administration in terms of measurable impacts and	2024	DZ, EG, FR, EL, IT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[78]
			possible transition scenarios which maximise ecological services delivery and resilience of key Mediterranean cropping systems.		

Axis 3 - Protect, preserve, manage and restore natural resources in the Mediterranean region within an integrated ecosystem approach, including terrestrial, marine and coastal dimensions

as of November 2021

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
1	CBC	MED4EBM	Mediterranean Forum for Applied Ecosystem-Based Management: Aims to contribute to the preservation and sustainable development of Mediterranean coastal zones for the benefit of present and future generations by establishing effective ecosystem-based ICZM protocols.	2022	IT, LB, TN
2	CBC	MEDARTSAL	The project will define a sustainable and adaptable management model for artisanal salinas including, among others, a marketing strategic plan and a biodiversity strategy. With this aim, MedArtSal project addresses both salinas managers and institutional policy-makers. On the one hand, salinas managers will receive up-to-date training on how an artisanal salina should be managed in order to remain competitive, especially by diversifying products. On the other hand, institutional policy-makers will help build the management model which will be further tested in two artisanal salinas in Spain and Tunisia. Finally, a network of Artisanal Mediterranean Salinas will be created to capitalize the project results in the long run.	2022	IT, LB, ES, TN

[79] AL Albania, DZ Algeria, BA Bosnia and Herzegovina, HR Croatia, CY Cyprus, EG Egypt, FR France, EL Greece, IL Israel, IT Italy, JO Jordan, LB Lebanon, MT Malta, MC Monaco, ME Montenegro, MA Morocco, PS Palestine, PT Portugal, SL Slovenia, ES Spain, TN Tunisia, TR Turkey; N/A not available

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
3	CBC	CO-Evolve4BG	Co-evolution of coastal human activities & Med natural systems for sustainable tourism & Blue Growth in the Mediterranean: It aimed at analysing and promoting the co-evolution of human activities and natural systems in touristic coastal areas. It coupled an analysis of threats and enabling factors for sustainable tourism with local studies and pilot actions in seven representative Pilot Areas, to demonstrate the effectiveness of an Integrated Coastal Zone Management/Maritime Spatial Planning-based planning process. Since none of the project pilot areas has incorporated the principles of the EBM nor avails spatial ICZM software tools, the project will therefore generate positive changes through the establishment of the Ecosystem-based ICZM Decisions Support Systems and the Ecosystem-Based Governance Protocol, helping concerned stakeholders to reduce and handle conflicts on the different uses of coastal and marine resources, boosting the sustainable productivity potential of these resources.	2022	HR, FR, EL, IT, ES
4	CBC	COMMON	Coastal Management and Monitoring Network for tackling marine litter in Mediterranean Sea. The COMMON project will apply the Integrated Coastal Zone Management (ICZM) principles to the challenge of marine litter, improving knowledge of the phenomenon, enhancing the environmental performance of 5 pilot coastal areas in Italy, Tunisia and Lebanon, and engaging local stakeholders in marine litter management.	2022	IT, LB, TN
5	CBC	LIVINGAGRO	LIVINGAGRO aims at achieving an integrated system of good practices for the sustainability of production, the protection of the biodiversity of distinct ecosystems, the transfer of innovation and the increase in profitability for the territories/actors involved. The project uses an Open Innovation approach, based on the setting-up of two Living Laboratories making possible the co-creation of the economic and social values and the interactions between supply and demand, eliminating geographical and cultural barriers. A specific focus will be on olive multifunctional system (Living Laboratory 1) and grazed woodlands (Living Laboratory 2).	2022	EL, IT, LB

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
6	FAO	The Paris Agreement in action: upscaling forest and landscape restoration to achieve nationally determined contributions	Build regional/national capacity as a foundation to implement large-scale Forest and Landscape Restoration (FLR programmes. Med specific: support the implementation of the recently approved Agadir Commitment under a work package of actions including: (i) a high level regional conference on FLR strategic investment frameworks in the context of NDCs / Paris Agreement; (ii) the provision of targeted on-demand national support through a technical assistance facility and (iii) regional capacity building events on FLR and climate finance related issues.	2022	LB, MA
7	Interreg med (biodiversity protection)	Interreg Med Biodiversity Protection Community	Bringing together key public and private players, this Mediterranean community of nature conservation actors is mainstreaming management efforts for environmental sustainability and increasing the impact of biodiversity protection projects towards common identified strategic targets. The PANACeA project (its predecessor initiative implemented from 2016 to 2019) has now become the Mediterranean Biodiversity Protection Community project (2019-2022) to move forward networking and management efforts inside and outside protected areas (PAs), and so enhance nature conservation and management in the region. With this in mind, the partners in the Mediterranean Biodiversity Protection project and in the 15 projects engaged, including those that finalized in 2019, are looking at ways to strengthen networking and linkages among community institutions. The three Working Groups established for 2016-2019 will continue to promote joint collaborative work, with capacity building opportunities to empower project partners and interested actors with effective biodiversity protection and management tools, put the Mediterranean Ecosystem-based Declaration into practice in partnership, and raise awareness on Mediterranean biodiversity knowledge and the challenges ahead.	2022	AL, BA, HR, CY, FR, EL, IT, MC, ME, PT, SL, ES
8	Interreg med	AMAre	Many species and habitats in Marine Protec-ted Areas (MPAs) are exposed to stressors. The project wanted to improve the efficiency of MPAs by studying the	2022	FR, EL, IT, MT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
	(biodiversity protection)		distribution and effects of human pressures using shared and coordinated methodologies developed with local stakeholders. The project built a common vision to be shared among the MPAs through a spatial Geoportal (AMAre WebGIS) including environmental data, guidelines for early warning of regime shifts and guidelines for a standard management plan and for assessing alternative management options.		
9	Interreg med (biodiversity protection)	EcoSUSTAIN	It looked for maintaining biodiversity and natural ecosystems in protected areas through improved management, innovative tools and water quality monitoring. The project's team has developed a Status report of national parks and an Operations strategy and action plan, which includes management, monitoring, information on how to train staff, test, monitor water quality, and which buoys to procure.	2022	BA, HR, EL, IT, ES
10	Interreg med (biodiversity protection)	MEDSEALITTER	The aim of the project was to define and adopt the right measures to develop cost-effective protocols, to monitor and manage the litter impact on the biodiversity of the Mediterranean Sea. This action involved Marine Protected Areas (MPAs), scientific organisations and environmental NGOs. The project has defined the fundamental scientific elements on which the protocols about the monitoring of floating marine macro litter and their ingestion were developed, and then signed and ratified.	2022	FR; EL, IT, ES
11	Interreg med (biodiversity protection)	MPA-ADAPT	Its goal was to develop collaborative and site-specific adaptation plans for Mediterranean Marine Protected Areas (MPAs) to enhance their resilience to climate change impacts. It prepared materials and capacity building for MPA managers on standardised monitoring protocols, vulnerability assessments and adaptation action plans on climate change. Five MPAs displaying contrasted ecological and socio-economic settings developed specific adaptation plans for climate change. The Med MPA Climate Change Adaptation platform is one of its results: it's an online resource for MPAs managers, researchers and national/regional administrations. It gathers available tools and materials for climate change adaptation in Mediterranean MPAs, as well as constant updates from the region.	2022	HR, FR, IT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
12	Interreg med (biodiversity protection)	MPA Engage	It aims at engaging Mediterranean key actors in Ecosystem Approach to manage Marine Protected Areas (MPAs) to face climate change. Quintuple Helix stakeholders (MPAs, socio-economic actors, local and regional authorities, scientists and citizens) in 8 countries will cooperate to adapte 7 MPAs' management to the impacts of climate change. For the first time, the commitment of recreational divers and artisanal fisheries actors will be essential. The operational know-how will be capitalised and transferred to principal actors by trainings, twinning agreements and data sharing. It will be supported by MEDPAN, RAC-SPA-UNEP/MAP, FAO, CGPM, CPMR-ICM, WWF, UfM and PANACEA.	2022	AL, HR, FR, EL, IT, MT, ES
13	Interreg med (biodiversity protection)	MPA Networks	It aims at building solid networks supporting MPAs efficiency, by boosting management efficiency, management of local artisanal fishing, conservation of wetland species and sustainable funding. It will support the test and the adaptation of tools, and it will recommend previous projects to facilitate knowledge transfers. MPAs management networks will be developed and supported at national, supranational and Mediterranean level. A regular thematic programme aiming at capacity-building will be established.	2022	AL, HR, FR, EL, IT, SL, ES
14	Interreg med (biodiversity protection)	POSBEMED	Posidonia oceanica is a Mediterranean endemic sea plant, which is vital to aquatic ecosystems and coastline protection. However, municipalities in tourist areas see it negatively. The project aimed to define a transnational joint management strategy for Posidonia beach/dunes systems. It also aimed to offer common sustainable tools for local administrators and Protected Areas managers and develop a strategic model of integrated governance, which linked local blue growth to the conservation of this natural asset. The efforts have resulted in a comprehensive Strategy and Action Plan for the Mediterranean region. The document, entitled "Governance and management of Posidonia beach-dune systems", summarises the main findings of the project.	2022	FR, EL, IT, ES
15	interreg med	POSBEMED2	It is based on the conclusions of POSBEMED, which have defined a common strategy for the sustainable management of Posidonia beach/dune systems. Catalysing performances is the objective, by upgrading tourism stakeholders' and local	2022	HR, CY, FR, EL, IT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
	(biodiversity protection)		authorities' management and policy skills. The second phase approaches the issues of identifying knowledge gaps, to improve adaptation, policy, planning and promoting decision making about Posidonia in protected areas.		
16	interreg med (biodiversity protection)	TUNE UP	It promotes a multi-level governance to enhance biodiversity protection in maritime areas. It aims at testing and capitalising a tool for governance, based on River and Wet-lands Contracts experienced by the Interreg Med WETNET. Increased and proactive participation of Marine protected areas (MPAs) stakeholders and strengthened trans-national cooperation are the primary objectives.	2022	AL, FR, EL, IT, ME, SL, ES
17	interreg med (biodiversity protection)	WETNET	By defining common priorities for the conservation of Interreg MED wetlands, the project forged a common territorial strategy for their integrated management. Built on previous EU experiences (River Contracts), it tested and transferred 'Wetlands Contracts', acting through broad participatory processes where private and public entities were committed to mainstreaming wetlands preservation into their ordinary activities, limiting conflicts between preservation issues and economic activities.	2022	FR, IT, MT, PT, SL, ES
18	interreg med (biodiversity protection)	PHAROS4MPAs	The project delivered an integrated framework for recommendations on the collaboration between Mediterranean MPAs and the maritime sectors, adapted to and designed for the project's targets. The change originating from the project was to enhance management effectiveness and networking for Mediterranean MPAs, to contribute to the conservation of marine biodiversity and natural ecosystems. The project also created a Decision Support Tool for Blue Economy in Marine Protected Areas (DST-MPA). The tool (pharos4mpas.tools4msp.eu) has been developed by CNR ISMAR within the Interreg MED PHAROS4MPAs project. The tool is specifically intended for three kinds of users: MPA managers and planners, public authorities and economic operators, to help them to easily find the recommendations and other information (e.g. best practices or case studies) that are more useful for their specific needs.	2020	AL, HR, EL, IT, SL, ES
19	Interreg med	BLUEMED	The project studied the natural, cultural, and legislative conditions of selected locations in the Mediterranean region. It also aimed at protecting marine ecosystem	2022	HR, CY, EL, IT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
	(Sustainable Tourism)		and underwater cultural resources, while making them publicly accessible by promoting the concept of Underwater Museums and organised underwater archaeological sites. Finally, the project wanted to promote a sustainable and responsible model of tourism development for selected regions of the Mediterranean.		
20	Interreg med (Sustainable Tourism)	TOURISMED	The project aimed at testing and transferring a fishing tourism business model in the Mediterranean coastal territories. It sought to promote a sustainable approach to tourism, while fostering the preservation of the marine ecosystem and traditional fishing culture. Facing challenges such as the worrying depletion of marine resources, the decline of the artisanal fishing sector and the negative impacts of tourism, the project's results deal with an improved use of resources by artisanal fishers, a diversification of income in the sector and a better valorisation of coastal traditional heritage and local seafood. A mobile app (Fishing Tourism) and a web platform (fi-shingtourism.net) were created, to always be updated on itineraries and get in touch with fishermen involved in the project.	2022	AL, CY, FR, EL, IT, ES
21	Interreg med (Sustainable Tourism)	Co-Evolve	It aimed at analysing and promoting the co-evolution of human activities and natural systems in touristic coastal areas. It coupled an analysis of threats and enabling factors for sustainable tourism with local studies and pilot actions in seven representative Pilot Areas, to demonstrate the effectiveness of an Integrated Coastal Zone Management/Maritime Spatial Planning-based planning process. The project has integrated the "CO-EVOLVE Tourism Typology": a three-tier system (composed by core indicators, destination indicators and pilot area-specific indicators) in their "Tourism Sustainability Evaluation Tool". The project has been capitalised by ENI CBC Co-Evolve4BG	2022	HR, FR, EL, IT, ES
22	Interreg med (sustainable tourism)	LABELSCAPE	A certification given to the Mediterranean destinations to guarantee visitors a responsible use of natural resources, and to recognise their will to follow the principles of sustainable development. This is the project's aim: not to create new labels, but rather to capitalize on existing certifications. This will be achieved through: thematic workshops and exchange forums, an online platform for capacity	2022	HR, FR, EL, IT, PT, SL, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
			building, the implementation of a social inclusion policy at territorial level and a new draft framework regulation at program level.		
23	IPA II	EU Environment Partnership Programme for Accession (EPPA) in the Western Balkans and Turkey	The overall objective of the programme is to strengthen the implementation of the EU environmental acquis in the Western Balkans and Turkey in areas relevant for addressing trans-boundary environmental issues. The purpose of the project is to assist the European Commission in providing the Secretariat of the EU Environment Partnership Programme for Accession (EPPA).	2022	AL, BA, ME, TR
24	MAVA	Enhancing the conservation of coastal wetlands	The Action Plans aim to restore damaged habitats, encourage sustainable water use and reduce the impacts of water abstraction, pollution and coastal development on wetlands and related marine habitats by: *building capacity for effective management and planning processes *raising awareness of the importance and value of coastal wetlands *demonstrating local solutions in different contexts	2023	AL, FR, IT, ME, TN
25	MedFund	MedFund	The MedFund is a hybrid environmental fund composed of an endowment fund, a sinking fund and a revolving fund. The MedFund aims to contribute to the long-term management of Mediterranean Marine Protected Areas by strengthening their financial sustainability through the establishment of an environmental fund (or "trust fund") financing mechanism. It is a unique and innovative financial tool but also a political dialogue tool for the Mediterranean basin countries and stakeholders with a very high potential of evolution to provide multiple services to MPAs such as covering their operating costs. It seeks to mobilise public and private actors in order to promote the development and effectiveness of Mediterranean MPAs. The initiative is a Mediterranean cooperation platform which currently has 15 members including 6 Mediterranean countries as well as regional civil society organizations. The initiative is based on funding from bilateral and multilateral donors who are historically interested in this theme, but also on funding from other sources, particularly the private and philanthropic endeavours.	N/A	AL, FR, MC, MA, ES, TN

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
26	MEDPAN	COGITO	Enhance integrated and sustainable management of coastal, insular and marine protected areas in the Mediterranean – 2018-2021: Contribute to the support and consolidation of the integrated management and resilience process of Mediterranean coastal, island and marine areas, for the benefit of ecosystems and local communities, while integrating the challenges of co-management of targeted territories, in order to reproduce them, in the long term, on a larger scale.	2021	AL, DZ, LB, MA, TN, TR
27	PRIMA	PLANT-B	A sustainable mixed cropping-beekeeping system in the Mediterranean basin: PLANT-B aims to produce concrete and positive impacts on the Mediterranean citrus-bee productive system by obtaining the following results: 1. will stand on low pesticide input in Citrus crop and associated beehives, succeeding productivity and economic return to farmers and beekeepers alike; 2. is expected to improve the present resources management of two stand-alone farming systems, citrus cropping and beekeeping, making them compatible in the same farm unit with mutual benefit (pollination, honey quality); 3. will integrate new ecological, agronomical and socio-economic knowledge to accredit qualities of an innovative sustainable and efficient farming system; 4. will develop a sustainable use of genetic resources of well adopted endemic HB races/ecotypes fitting the actual needs of beekeepers in different geographical and climatic contests at present and in future.	2022	DZ, EG, FR, EL, IT, ES
28	PRIMA	SUSTAINOLIVE	Novel approaches to promote the SUSTAInability of OLIVE groves in the Mediterranean: The overall objective of SUSTAINOLIVE is to enhance the sustainability of the olive oil farming sector throughout the implementation and promotion of a set of innovative sustainable management solutions that are based on agro-ecological concepts, and on the exchange of knowledge and co-creation involving multiple actors and end-users.	2021	IT, MA, PT, ES, TN
29	PRIMA	LENSES	Learning and action alliancEs for NexuS EnvironmentS. The project argues that this is possible only through the activation of inclusive nexus partnerships, the Learning & Action Alliances (LAAs). The objective for the pilot Alliances in the Med region is to design and implement adaptive Nexus Management Strategies under future	2023	EL, IL, IT, JO, ES, TR

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
			uncertainty that will co-progress the Nexus sectoral objectives of improved water allocation, enhanced food security and ecosystem preservation. This will help building resilient Nexus systems. In this context, LAAs will (a) co-produce new knowledge regarding Nexus interactions to support the development of Participatory System Dynamics Models at suitable spatial and temporal scales and (b) explore multiple co-developed scenarios of demographic change, climate change, socio-environmental, economic incentivization and regulatory policies. The LAAs and their activities are the means to (i) develop stakeholder trust, feed cross-sectoral exchange of knowledge and build shared visions, (ii) test the multi-dimensional efficacy of integrated policies aiming at improving system resilience, and (iii) build legitimacy for evidence-based decisions towards sustainable transitions. The project will leverage Ecosystem Services and Ecological/Environmental Economics approaches and develop a Nexus-SDG toolkit to guide multi-objective policy- and decision-making in the pilot cases. Against this basis, Nature-based Solutions (NBS) addressing pilot-specific challenges will be planned and designed. This full cycle of interconnected activities gives confidence on the environmental, institutional, social and financial sustainability of the proposed solutions. On a policy level, LENSES will progress the linkage between the Climate Change Adaptation and Nexus management as a means to push forward the Nexus agenda.		
30	PRIMA	TRANSITION	InnovaTive Resilient fArmiNg Systems in MedITerranean envIrONments - The goal of TRANSITION is to pave the way for a transition towards resilient agriculture in the Mediterranean, maximising the net positive impact on the environment, while increasing resilience of agroecosystems, rural societies and return on assets of farmers. This is done by analysing the most relevant innovative solutions in resilient agroforestry and mixed farming systems using a participatory approach. TRANSITION will i) identify appropriate strategies for adoption to improve resilience of the agriculture sector, including using locally-adapted genetic resources, unconventional water reuse and soil protection strategies, ii) establish what are the	2023	DZ, EG, FR, EL, IT, ES

#	Initiative	Project name	Short description	Running up to (year)	Countries involved[79]
			environmental and socio-economic barriers to resilient agriculture implementation, iii) quantify the system productivity and delivery of ecosystem services of existing systems and co-designed and replicable case studies and their effect on farmers' livelihoods, iv) empower the expansion of agroforestry and mixed farming systems through practical innovation and knowledge exchange and v) provide robust information which is useful to administration in terms of measurable impacts and possible transition scenarios which maximise ecological services delivery and resilience of key Mediterranean cropping systems.		

III. Detailed methodology

According to the three main elements included in this report, three distinct methodologies were used for research and analysis:

Mapping of 2030GreenerMed supporting programmes and projects

The mapping set out by identifying relevant initiatives that facilitate and finance/co-finance projects relating thematically to at least one of the three thematic axes of the 2030GreenerMed and that have a regional character. Specifically, the mapping includes initiatives that expressed interest in contributing to 2030GreenerMed as well as those that confirmed to be included at the 4th UfM environment task force meeting, November 17th, 2020[80]. It includes the following 12 initiatives[81], sorted by main donor:

1. EU - Interreg Mediterranean, including the green growth, the biodiversity, and the sustainable tourism community (Interreg Med)

2. EU - European Neighbouring Instrument Cross-border Cooperation "Mediterranean Sea Basin Programme" - ENI CBC Med (CBC)

3. EU - European Neighbouring Instrument South (ENI South)

4. EU - Instrument for Pre-Accession II (IPA II), including the Civil Society Facility – CSF

5. EU - Partnership for Research and Innovation in the Mediterranean Area (PRIMA)

6. EU - H2020 RTD - Bluemed Initiative (Bluemed)

7. EU - Network of Marine Protected Areas managers in the Mediterranean (MedPAN)

8. GEF - Global Environment Facility (GEF)

9. BMZ Germany - Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ)

10. BMU Germany - IKI International Climate Initiative - Food and Agriculture Organisation (FAO)

11. MAVA Foundation (MAVA) – MedWet initiative

12. MedFund - based on funding from bilateral and multilateral donors, but also on funding from other sources, particularly private and philanthropic endeavours

Along these initiatives, a list of overall 82 projects currently being implemented was compiled (partly provided by the initiatives) and tabulated in an MS Excel data base. Based on project summary sheets and information provided on the initiatives' websites, it was examined to which of the key actions of each of the three thematic axes of the 2030GreenerMed each of the projects is potentially contributing to as well as which countries and which time frame the project covers. One key criterion for the selection of contributing projects was that projects have a regional or sub-regional approach, covering

[80] See: Agreed Conclusions – 4th UFM Environment Task Force - 17th November 2020

[81] This can include programmes, finance instruments and organisations. A strict categorisation/ distinction is not made. Where multiple donors are contributing to the initiatives, only the main donors are listed here as also information detailing the share of funding or type of contribution could not always be identified in detail (e.g. MedPAN – apart from the EU this initiative includes contributions from AFD, OFB, Conseil Départemental des Bouches du Rhône, Projet MedMPA networks, FFEM, MAVA, FPA2, Région Sud, ville de Marseille). The initiatives are referred to in the remainder of this document as indicated in this list in brackets.

at least three countries and of those, at least one non-EU country within the realm of UfM member states.

The following table provides an overview on the three thematic axes and the key actions of the 2030GreenerMed:

Box 1: 2030 GreenerMed Thematic Axes and key actions (KA)

Identified Key Actions under 2030GreenerMed Thematic Axis 1
KA1.1 Support Sustainable Consumption and Production
KA1.2 Increase Resource Efficiency
KA1.3 Adopt innovative solutions along the entire value chain (across sectors and industries, urban and rural)
KA1.4 Promote changes in business practices, trade, public policy
KA1.5 Promote changes in education, behaviour and lifestyles
KA1.6 Engage all stakeholders (private, public and society/consumer level) and raise awareness

Extensive description of the KAs:

- *Increasing resource efficiency in value chains: Supporting recycling and recovery of raw materials through promotion of extended producer responsibility, circular and eco-design with an integrated life-cycle approach, efficient separation, collection and recycling systems; Repair, refurbish and remanufacture schemes enabling reuse/repurpose of products; Securing sustainable supply of raw materials (substitutions, renewable resources, environmental/social transparency of supply and value chains); Eco innovation and new business models (e.g. product service systems, technological and social innovation, industrial symbiosis, etc.); Appropriate governance, market incentives and finance (cross-cutting issues - green procurement, certification schemes, reforms and taxation favouring green investments and entrepreneurship, etc.); Promoting sustainable trade and trade-related policies.*
- *Importance of a change to more sustainable consumption patterns, taking into account existing traditional or cultural practices that are aligned with sustainability objectives. Encourage healthier diets consistent with the traditional Mediterranean diet.*
- *Links to Education for Sustainable Development, at all educational levels of formal, informal and non-formal education, including the development of transformative learning environments that induce positive change of minds and give impulse to action, e.g. including awareness of consumer behaviour (food, fashion, etc.), the role of the consumer and its rights and responsibilities, as well as support of consumer movements.*
- *Green manufacturing: promotion of industries and biotechnologies promoting resource efficiency and waste prevention.*
- *Eco-labelling: homogenization of methods to assess the environmental performances of a product during its lifecycle. Market up-take of Product Environmental Footprint for environmental communication to consumers.*
- *Enhance the importance of integrating Sustainable Consumption and Production into national strategies. Promote comprehensive policy reform to enable more sustainable consumption and production, including the integration into national strategies.*
- *Promote low-carbon economy, in particular in the field of energy, mobility, tourism, etc.*
- *Reinforcement of rural development by promoting new circular business models and green economy.*
- *Agriculture and livestock: treatment and valorisation of organic waste from agricultural sources such as livestock waste (slurry and manure) promoting nutrient recovery and preventing environmental pollution. Promote the use of innovative technologies to produce tailor-made fertilizers, as well as reduction of the use of pesticides and fertilizers. Management of other type of waste from farms, poultry houses, greenhouses and slaughterhouses.*
- *Food waste: reduce food waste including all the stages in the agri-food chain, avoiding the unnecessary use of resources and reducing the generation of waste.*
- *Urban waste: particular focus on activities such as preparation for reuse and recycling of municipal waste should be increased in order to deliver substantial environmental, economic and social benefits and to accelerate the shift towards a circular economy.*

- *More focus on public awareness raising activities and capacity building programs targeting different stakeholders.*

Identified Key Actions under 2030GreenerMed Thematic Axis 2

KA2.1 Strengthen mechanisms for pollution prevention and reduction from different sources through application of a source-to-sea/ridge-to-reef approach

KA2.2 Put a particular focus on plastic pollution and marine litter as well as other inorganic and organic pollution sources

KA2.3 Facilitate investments in infrastructure

KA2.4 Reduce chemical pollution

KA2.5 Improve soil quality

KA2.6 Reduce and control air pollution

KA2.7 Reduce landfilled waste

Extensive description of the KAs:

- *Pollution Prevention: Support to waste management; valorisation of waste; incentives to new green businesses to integrate R&I results; Promote public and private investments in infrastructure (green and grey) for pollution prevention and reduction from solid waste, waste water, industrial emissions, transport emissions, etc.; With respect to plastics - strengthening of actions against single-use plastics; promotion of environmentally sound alternatives to plastics (on land and at sea), such as biodegradable bioplastics; use of alternative materials and identification/replacement of related toxic substances including chemical components to soil, air and water ; partnerships and coordination among different actors (private, public, etc.) in the plastics value chain; reference to/ coordination with the EU plastic strategy within a circular economy approach; plastic prevention, monitoring, cleaning.*
- *Plastic pollution with special focus on marine litter:*
  - ✓ *Identification/ Mapping of marine litter sources and typology floating and in deep area, sources/accumulation points/areas/hotspots in the Mediterranean; baseline assessment, support the establishment of regional marine litter monitoring methodologies/support the implementation of existing monitoring systems*
  - ✓ *Identification of specific/targeted prevention and mitigation actions;*
  - ✓ *Assessment of the research and awareness raising on impacts on biodiversity and human health and promotion of precautionary approach to micro and nano plastics in food chains;*
  - ✓ *Improvement of marine (sea/ocean) literacy and promotion of a Marine Culture within a wider Education for Sustainable Development (ESD) approach*
  - ✓ *Supporting the implementation of harmonized marine litter monitoring methods; Identification of means to reduce the stock of existing pollutants.*
- *Water quality and quantity monitoring; following a source-to-sea/ridge-to-reef approach, identification of sources of chemical pollution (in addition to plastics) at the source (rivers, lakes…) to prevent reaching the sea*
- *Improve soil quality: including reduction and control of diffuse (agricultural and livestock) and point source pollution sources (sewage treatment and industrial discharge) that enter into water, air or soils.*
- *Reduce and control air pollution: Reduction of air pollution sources (agriculture, industry, transport, energy production) to minimize human health and ecosystems problems, including through Mediterranean climate-smart resilient planning. Particular focus on cities and farming systems.*
- *Landfill waste: reduction of landfilled waste. Particular focus on improving landfill facilities to mitigate environmental impacts with special emphasis on avoiding open dumping on Northern African Coast.*

Identified Key Actions under 2030GreenerMed Thematic Axis 3

KA3.1 Support actions that preserve, protect and/or restore terrestrial, marine and coastal ecosystems, natural capital and biodiversity

KA3.2 Promote the sustainable management of landscapes, seascapes and coastal areas in the Mediterranean

KA3.3 Promote an integrated ecosystem-based approach to managing terrestrial, coastal and marine natural resources

KA3.4 Focus on safeguarding/improving key ecosystem functions and services (in protected and productive areas)
KA3.5 Promote transboundary cooperation
KA3.6 Mainstream biodiversity in key sectors
KA3.7 Protect on-farm biodiversity in agro-ecosystems
KA3.8 Promote Disaster Risk Reduction with a special focus on extreme events including droughts and floods, and forest fires
KA3.9 Promote nature-based solutions

Extensive description of the KAs:

- *Supporting ecosystem-based management as integrated approach at the interface of land, sea and air and the role of protected areas in terrestrial and marine biodiversity protection in the Mediterranean region, including technical support to the development of a more coherent network of Marine Protected Areas in the Mediterranean, in terms of ecological and socio-economic asset as well as in terms of nature-based solutions supporting adaptation and mitigation to climate change (including links between cities and MPAs to secure local resources and improve resilience of the areas)*
- *Promote transboundary cooperation for common actions to address cumulative impacts and pressures on key ecological marine and terrestrial species and habitats (ecologically functional units of key importance) and to better protect mobile species*
- *Link conservation of biodiversity with the provision of ecosystem services to support sustainable development and poverty reduction, mainstream biodiversity in key sectors.*
- *Restoration/Conservation of degraded terrestrial, coastal and marine ecosystems by addressing the drivers of degradation and ensuring the compatibility between the production function and the conservation function*
- *Protect on-farm biodiversity in agro-ecosystems (pastures, arable land, local seeds, genetic pool, etc.)*
- *Promote landscape restoration/sustainable land management and planning (to combat drought/desertification/flood/ erosion/degradation, promote biodiversity conservation, ensure land degradation neutrality, mitigate/adapt to CC) in order to improve the functionality of natural ecosystems and hence the services that are delivered to society*
- *Assess land degradation at regional level and identify the opportunities for landscape restoration*
- *Address the drivers of degradations through participatory approaches and the promotion of the goods and services provided by ecosystems*
- *Manage genetic resources for landscape restoration while adapting to climate change*
- *Promote Disaster Risk Reduction (including forest fires), with a special focus on extreme events including drought and flood early warning and management*
- *Prevention of soil degradation and restoration of degraded and deforested lands, restoration of key coastal ecosystems such as sand dune systems and coastal wetlands*
- *Increase of knowledge, skills and understanding of natural resources in the Med Region through influencing attitudes and behavioural change, encouraging innovative learning opportunities for protecting, preserving and restoring natural resources.*
- *Coherence between climate change impacts, biodiversity conservation and land degradation prevention.*

A large sample (>70%) of the categorised (thematic, regional, temporal scope) projects was reviewed by the respective initiatives and corrected where needed.

The mapping covers 22 countries, including Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Monaco, Montenegro, Morocco, Palestine[82], Portugal, Slovenia, Spain, Tunisia and Turkey. It highlights the topics and the countries covered by the projects and initiatives as well as the

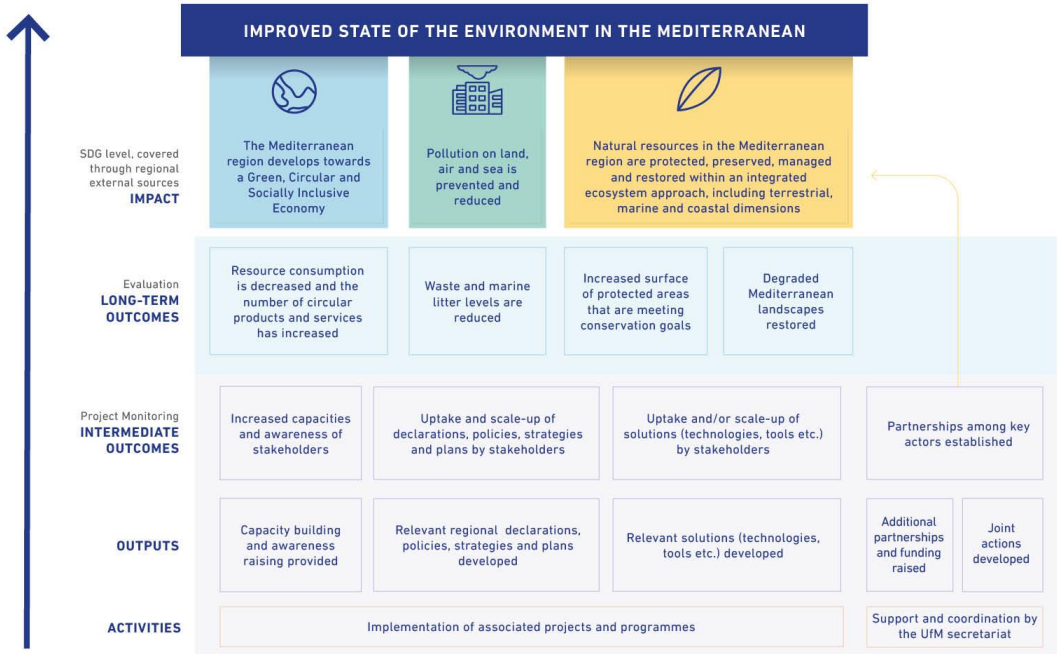
[82] This shall not be construed as recognition of a State of Palestine

respective gaps. To further facilitate the analysis, the countries were clustered into sub-regions as follows:

- Mediterranean EU countries: Croatia, Cyprus, France, Greece, Italy, Malta, Monaco, Portugal, Slovenia, Spain
- Middle Eastern Mediterranean countries: Israel, Jordan, Lebanon, Palestine, Turkey
- North-African Mediterranean countries: Algeria, Egypt, Morocco, Tunisia
- Western Balkan Mediterranean countries: Albania, Bosnia and Herzegovina, Montenegro

Baseline for 2030GreenerMed supporting programmes and projects

The baseline for 2030GreenerMed built on the mapping exercise conducted. The first phase consisted in a desk review of key initiatives included in the mapping and especially, a review of existing monitoring frameworks of programmes and projects. As a result, based on the 2030GreenerMed narrative a high-level Theory of Change (ToC) and a related first monitoring framework was drafted and then discussed in several bilateral calls and group meetings with key stakeholders. Through this consultative process, the framework and indicators were further fine-tuned.



The aim of the 2030GreenerMed monitoring framework is that it can be handled in a flexible way to accommodate for a large number of different projects and programmes. Each of the three thematic axes has its own framework, plus the additional cross-cutting area on partnerships. In total, the log frame includes 30 indicators, allocated at different result levels from activity to impact.

At the activity and output level, as well as the intermediate outcome level, the same indicators apply in all three thematic axes. They are indicators that most projects and programmes already monitor as part of their donor reporting.

Long-term outcome indicators are specific as per thematic axis, based on indicators that as per the frameworks that were reviewed, some key initiatives should report on. While long-term outcomes will be determined through external independent evaluations, it is important that projects/ programmes can provide information on them.

Finally, impact indicators are SDG indicators or other officially recognized indicators from external sources where data is available for the Mediterranean region including most or all UfM member countries. They will not have to be monitored by programmes/projects and will be collected directly by the UfM Secretariat from the identified data sources.

The baseline data collection and assessment followed these methodological steps:

Calls were held individually with each initiative[83], in which the feasibility for providing information on the 2030GreenerMed indicators was again discussed and the process for submission of information was agreed on. With the aim of not creating additional workload for programme and project managers, this was done in a flexible way. While some initiatives preferred to share their semi-annual or annual reports, in other cases they shared their monitoring frameworks with their own indicators, and in a few cases, projects made the effort to provide information aggregated as per the 2030GreenerMed indicators.

IMPACT	9 indicators
LONG-TERM OUTCOMES	8 indicators
INTERMEDIATE OUTCOMES	4 indicators
OUTPUTS	5 indicators
ACTIVITIES	4 indicators

The research team then processed all information into the 2030GreenerMed monitoring tool in Excel format. All information received on projects and programmes in different formats was systematically screened and relevant information and data was extracted and allocated to the respective 2030GreenerMed indicators under the relevant thematic axes, including quantitative and some qualitative information.

In addition, secondary sources were consulted for the impact level indicators. These included the relevant SDG indicators and data for the Mediterranean region provided by the Sustainable Development Solutions Network for the Mediterranean Area – SDSN Mediterranean managed by the University of Siena, the ecological footprint provided by the Global Footprint Network, and data on domestic material consumption as published on Materialflow.net. MedPAN further supported data collection beyond their projects by providing information on marine protected areas from their database Mapamed[84].

[83] All included in the mapping except FAO, as they were unresponsive to requests for scheduling a meeting.
[84] https://medpan.org/main_activities/mapamed/

SDG contribution analysis

The analysis of the contribution of 2030GreenerMed to the SDGs was conducted by experts of the University of Siena – Santa Chiara Lab, as the hosting institution of the SDSN-Mediterranean. It followed the methodology applied for the regional SDG report published by the SDSN Mediterranean, operationalizing the Six Transformations Framework presented by Sachs et al. (2019). Under each transformation, a set of challenges has been defined, expressed through and measured by various clusters of SDG indicators at regional level. The list of challenges has been taken as guideline to determine a series of eight solutions to help address challenges and accomplish each transformation.

For the analysis of the contribution of 2030GreenerMed to the SDGs, this framework was applied by systematically screening all projects and programmes included in the mapping of initiatives and relating the core topics and activities of each initiative to the respective challenges and solutions. This exercise resulted in the elaboration of a matrix that shows how the 2030GreenerMed supporting projects and programmes contribute to solutions and SDGs. A scale was developed that highlights low, medium and high contribution per solution and challenge. Likewise, the analysis applied a geographic lens, highlighting in which sub-regions of the Mediterranean a higher or lower contribution is seen.

Methodological limitations

A number of challenges need to be highlighted to contextualise the analysis presented in this report.

Regarding the mapping of initiatives, a clear attribution of one project to one specific key action is not always possible and partly subjective for the following reasons:

- The nature of most of the projects covers several key actions (for instance, many projects that are addressing a particular technical matter such as waste or MPA management have implicitly integrated a project element that reaches out to stakeholders and promotes related topics, which is defined as a key action in itself).
- The scope of key actions within each of the 2030GrenerMed's thematic axes is not defined in a way that it allows a clear-cut differentiation. At the same time, some key actions have a rather broad character (e.g. "sustainable consumption and production") while others are very specific or narrow (e.g. "protect on-farm biodiversity in agro-ecosystems")
- The precise scope of projects cannot be derived from the project summaries that served the analysis. Also, in cases in which the project summary did not explicitly indicate its contribution to one of the key actions, but the project still can be considered to contribute implicitly or indirectly, it was counted in the analysis as contributing to/ covering the specific key action (in such case this is indicted as "indirectly" in the MS Excel data base that serves as basis of this analysis).

The attribution of a project to a specific thematic axis must not necessarily correspond to/ be limited to the category the project was publicly listed under by the actual initiative the project is framed or embedded in. For instance, Interreg Med lists the project "FishMPABLue 2" under "Biodiversity protection", which falls under thematic axis 3 of the 2030GreenerMed and is listed here accordingly. However, it also comprises elements that contribute to the thematic axis 1 of the 2030GreenerMed (green economy) and is in this analysis therefore listed under both thematic axes, indirectly promoting changes in

business practices, contributing to SCP, and engaging various stakeholders (organisations, policy makers, businesses).

Regarding the baseline collection, the list of projects covered as well as the mapping in itself form key components of the monitoring and evaluation (M&E) scheme that was developed to track progress of the 2030GreenerMed Agenda implementation and to assess short- and long-term results and the contribution of the agenda to the SDGs. In order to allow for the establishment of a baseline in the scope of this M&E, the analysis at hand could take into account only those projects for which sufficient information was available before 15. November 2021. Projects and related information received after this date (for instance projects under the hospice of PRIMA) will, however, be integrated into the project data base and reflected in the following reports.

- **Differences in reporting timings** – Different projects apply different reporting cycles, mostly not aligned with the annual approach of 2030GreenerMed. For this reason, sometimes it was not possible to include exact numbers for the year 2020 for each of the indicators per project, and the research team needed to decide on a case by case basis which information could be included in the baseline and which not.
- **Reporting on 2030GreenerMed indicators** – Not all projects were able to report exactly on the indicators as defined in the 2030GreenerMed framework but submitted information according to their own monitoring frameworks. For this reason, in several cases reported information was included in the baseline as proxy indicators for the defined 2030GreenerMed indicators.
- **Disaggregation of information** - To the extent possible, all indicators involving the number of stakeholders should be reported disaggregated per gender and age to facilitate differentiated analysis. However, from the overall 82 projects, only one was able to provide disaggregated information.
- **Causal results chain** - Most projects focus their monitoring on activity and output level so that only limited information is available for intermediary and long-term outcomes, therefore leading to some weaknesses in the causal relation between 2030GreenerMed supporting initiatives' implementation and the desired higher-level results

Regarding the consistency of approaches across the key areas of analysis – mapping, baseline collection, and SDG contribution analysis, it needs to be highlighted that as there is no official definition of the "Mediterranean region" and its sub-regions, parts of the analysis provided in this report work with different geographic scopes: the UfM Secretariat works with the concept of the Euro-Mediterranean region, covering all 42 UfM member states. These include countries that are not actually Mediterranean countries in the stricter sense (i.e. that share a border with the Mediterranean sea basin). Therefore, the analysis of the ecological footprint as well as of the impact indicator domestic material consumption apply the geographic scope of the UfM member states. However, the SDSN-Mediterranean applies a narrower definition of the Mediterranean region, considering overall 24 countries – of which two are not UfM member states. All impact indicators that are SDG indicators have the SDSN-Mediterranean as a source and thus reflect the situation in 22 countries only. For future monitoring and evaluations, these differences should be overcome and a harmonized approach regarding the geographic scope of analysis should be taken.

III. Ecological footprint full methodology and analysis

1. The Ecological Footprint accounting tool

The Ecological Footprint is an environmental accounting tool introduced in the early 1990s by Mathis Wackernagel and William Rees at the University of British Columbia, to track one key aspect of the sustainability challenge: whether renewable natural resources are consumed faster than they are regenerated, and wastes emitted faster than ecosystems can assimilate them. Maintaining human use of natural resources and ecosystem services within the planet's regeneration capacity is a necessary, although not sufficient, condition for sustainable human societies and economies (Wackernagel et al., 2020).

The Ecological Footprint framework aims at quantifying the natural resources and ecosystem services that a population consumes as well as the regenerative capacity the biosphere provides by means of two metrics:

- **Ecological Footprint** (EF), representing the human demand for key natural resources and ecosystem services.
- **Biocapacity** (BC), representing the biological productivity of specific ecosystems for those resources and services.

More precisely, the natural resources and ecosystem services accounted for by the EF methodology are those that can be expressed in terms of biologically productive land, grouped into six land-use types:

I. Cropland for food, animal feed, fiber, oil, and rubber;
II. Grazing land for animal-based products (such as meat, milk, dairy products, wool, and hide);
III. Fishing ground (marine and inland) for fish and seafood products;
IV. Forests for wood and timber products;
V. Built-up surface for shelters and other urban infrastructures.
VI. Carbon uptake land for the sequestration of the carbon dioxide released from electricity and fossil fuel use (this is the part of the methodology dealing with waste absorption).

Ecological Footprint and biocapacity are expressed in hectare-equivalent units or global hectares, which are hectares of land with world average productivity. Global hectares allow results to be comparable among the land types as well as across all countries of the world (Borucke et al., 2013; Galli, 2015).

2. Ecological Footprint accounting at the national level

Ecological Footprint accounting can be applied at scales ranging from individuals to activities and sectors, to cities and regions, and up to countries and the whole world. National level is the most widely used application and is based on a consumer perspective, which assigns responsibility for pressures humans place on the planet on the basis of where the final demand for natural resources and ecosystem services takes place, irrespective of where the product/activity is produced.

For a given country, the Ecological Footprint is estimated by calculating the Ecological Footprint of all that is produced within that country and then adding the Ecological Footprint embedded in imports and subtracting that embedded in exports (see Figure 1).

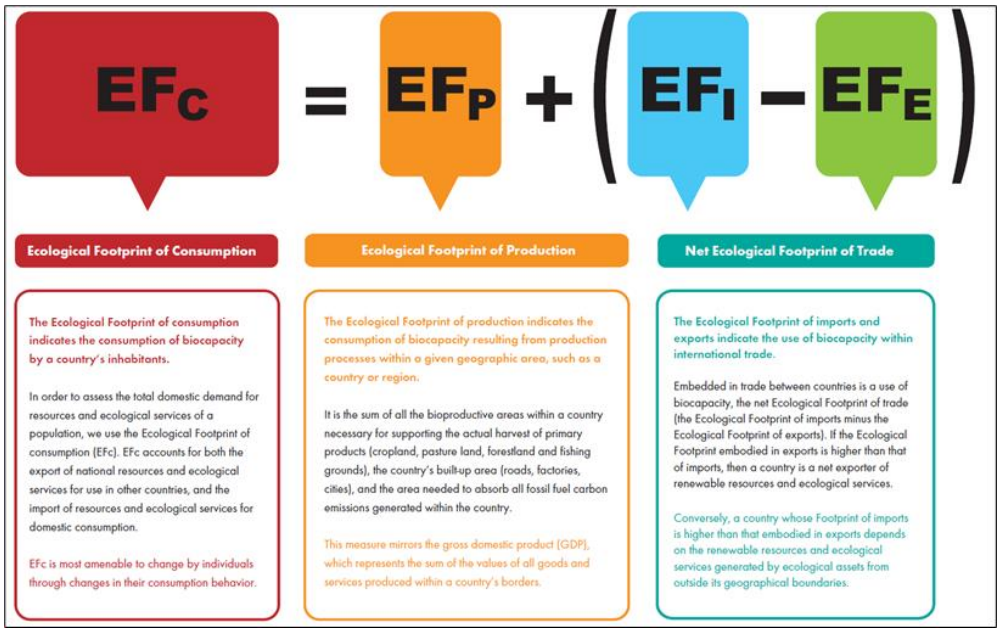


Figure 1. Tracking national production, consumption and net trade with the Ecological Footprint

Ecological Footprint thus measures the ecological assets (i.e., the biologically productive land and sea areas) required by the population of a given country to produce the natural resources and ecosystem services it consumes. The Ecological Footprint is then compared to the biocapacity of that country, which is a measure of the ecological assets available within the national borders and their capacity to produce renewable resources and ecological services sustained under current technology and management schemes (Mancini et al., 2018).

The comparison between EF and BC then allows to derive an ecological balance for each territorial unit – let's say a country – investigated. When the EF is lower than the BC, the country is in a situation of ecological remainder, meaning that there are enough natural resources within the country to meet the citizens' demand. Contrarily, if a population's Ecological Footprint exceeds the country's biocapacity, that country is characterized by an ecological deficit. This situation occurs because the country can liquidate its own ecological assets (e.g., through deforestation or overfishing), import resources from outside its boundaries, or emit more CO_2 into the atmosphere than its land and the oceans are able to sequester.

The National Footprint Accounts (NFAs) are annually published by Global Footprint Network and provide annual accounts of biocapacity and Ecological Footprint for the world and nearly 200 countries, with historical data reaching back to 1961[85]. Each NFAs edition provides updated results for the entire accounting timeline (Lin et al., 2018).

According to the latest NFAs edition (NFAs 2021) that refers to the data year 2017, results at the global level show that humanity's Ecological Footprint is exceeding the planet biocapacity by nearly 77%. In other words, humanity needs about 1.7 Planet Earths to

[85] National Footprint Accounts (NFA) data for all countries of the world is freely available at: http://data.footprintnetwork.org/#/. This continuously updated framework is based on United Nations (UN) data sets of over 15,000 data points per country and year.

satisfy its overall demand for natural resources and ecosystem services[86] (Global Footprint Network National Footprint Accounts 2021 Edition).

The ecological deficit that exists at the world level is called *Ecological Overshoot* and each year Global Footprint Network calculates Earth Overshoot Day to mark the date when humanity's demand for ecological resources and services in a given year exceeds what the planet can regenerate in that year. In 2021, Earth Overshoot Day fell on July 29th, meaning that as of July 30th humanity has been living out of future generations' ecological assets.

3. Ecological Footprint and biocapacity analysis for the Union for the Mediterranean Region

The Union for the Mediterranean (UfM) region is composed of 42 countries, of which 27 are part of the European Union and 15 located between North Africa and Eastern Europe (see Table 1).

EU countries		Non-EU countries
Austria	Latvia	Albania
Belgium	Lithuania	Algeria
Bulgaria	Luxemburg	Bosnia and Herzegovina
Croatia	Malta	Egypt
Cyprus	The Netherlands	Israel
Czech Republic	Poland	Jordan
Denmark	Portugal	Lebanon
Estonia	Romania	Libya
Finland	Slovakia	Mauritania
France	Slovenia	Monaco
Germany	Spain	Montenegro
Greece	Sweden	Morocco
Hungary		Palestine
Ireland		Tunisia
Italy		Turkey

Table 1. Countries belonging to the Union for Mediterranean region

The analysis of the Ecological Footprint and biocapacity results has been done for the period 2000-2017 for the whole region, including all countries pertaining to the UfM region except Monaco[87]. Results are presented here below, first concerning the overall regional values and then focusing on the per-capita values.

When looking at the overall trends over the 2000-2017 period, Figure 2 results show that:

- On average, through the entire period the EF of consumption is 184% higher than the regional BC and 46% higher than the EF of production; this indicates that 1) overall, the UfM region is characterized by an ecological deficit situation and, 2) the UfM region is a net importer of ecological assets from countries outside the region.

[86] Data and visuals on the Footprint and biocapacity over time of all world countries are available for free at http://data.footprintnetwork.org/

[87] Ecological Footprint and biocapacity data are currently not available for Monaco.

- Overall, the total EF of consumption, total EF of production and total Biocapacity have had a quite stable trend throughout the period, with a percentage variation between 2000 and 2017 of +5%, -7% and -1% respectively.
- An EF reduction can be observed in 2009, showing a setback in the resources demand due to the global financial crisis that hit most Euro-Mediterranean countries in 2008 (see Galli et al., 2017).

The region has been thus in a situation of ecological deficit over the entire period of analysis.

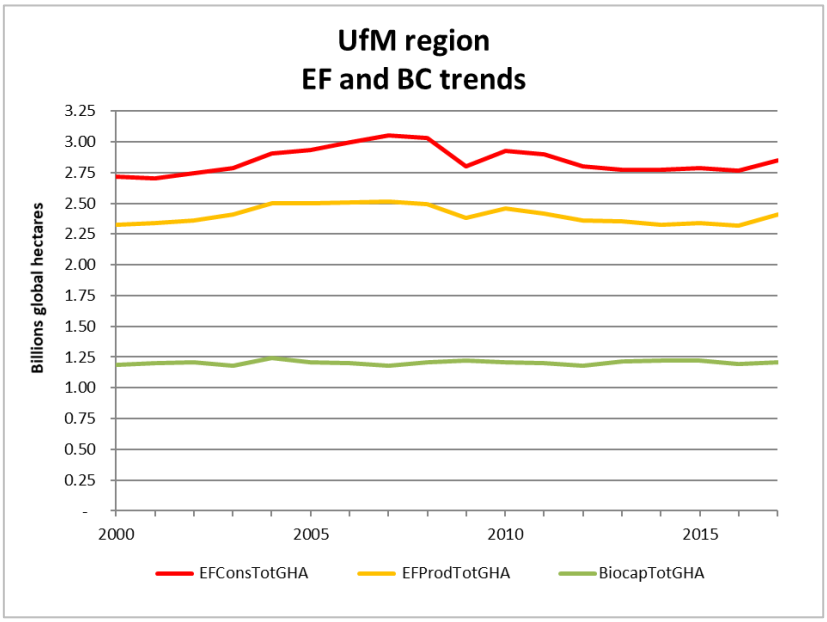


Figure 2. Trend analysis of EF of consumption, EF of production and BC of the entire Union for the Mediterranean region.

The composition of the EF of consumption (see Figure 3) shows that the greater pressure is posed on the carbon uptake land – the bioproductive area needed to sequester human-induced CO_2 emissions –, for an average of 63% throughout the entire period. The second- and third-highest pressure is posed on cropland (20% on average) and forest land (11%). Grazing land, fishing ground and built-up land represent on average 5%, 3% and 2% respectively of the overall Footprint value.

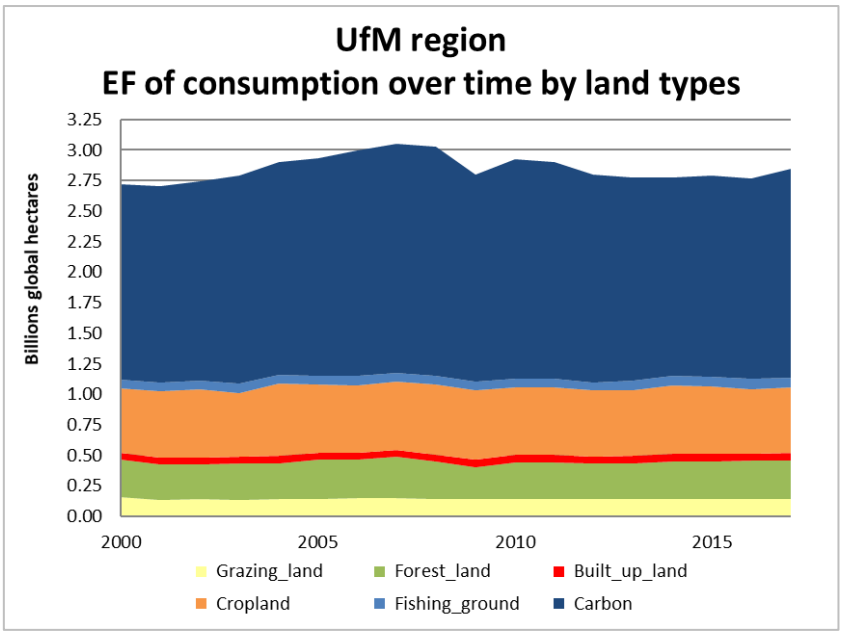


Figure 3. Ecological Footprint of consumption of the Union for the Mediterranean region, 2000 to 2017, broken down by land types.

When looking at the contribution of each individual member country to the overall UfM region's Ecological Footprint of consumption we found that in 2017, the latest year for which results are currently available, the top 5 UfM member countries driving the region's Footprint were 1) Germany (14% of the total UfM region's Footprint), 2) France (11%), 3) Turkey (10%), 4) Italy (9%), and Spain (7%) (see Figure 4).

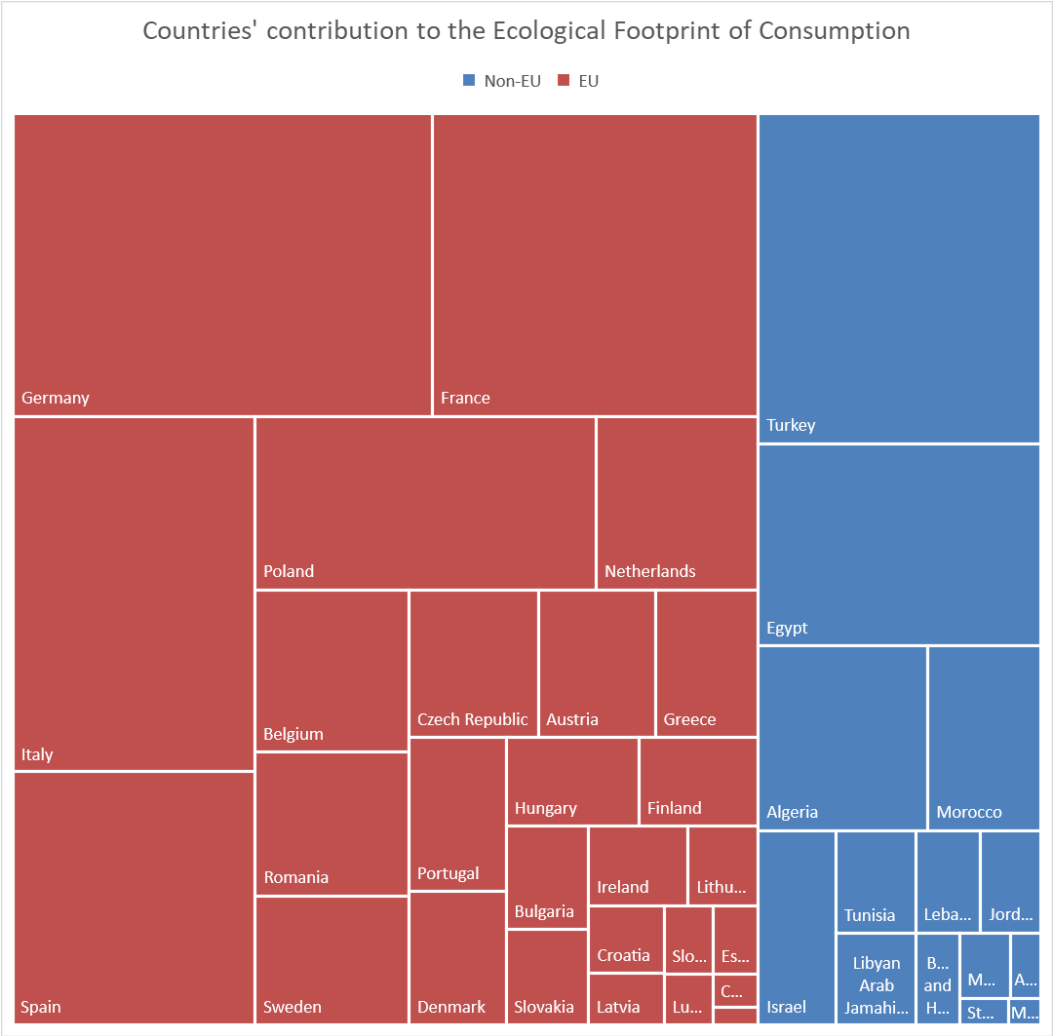


Figure 4. Treemap chart showing each country's contribution to the total Ecological Footprint of consumption. Countries are divided into EU and non-EU UfM member countries.

Looking at the resource provision side, Figure 5 provides the biocapacity composition of the overall UfM region from 2000 to 2017 and results show that the two major ecosystems contributing to the resource supply of the region are forests (40 % of the total biocapacity as an average across the entire period) and croplands (38% on average). Then, fishing grounds contribute to 10% of the total biocapacity, grazing lands 7% and built-up land 5%.

All these land types are to be preserved, especially forest and croplands as they represent key ecological assets for the countries of the UfM region. Furthermore, it is worth noting that forest lands play a double role in meeting competing human demands, as they provide natural resources like timber and wood products while also serving as a key carbon sequestration sink for carbon dioxide emissions (Mancini et al. 2016).

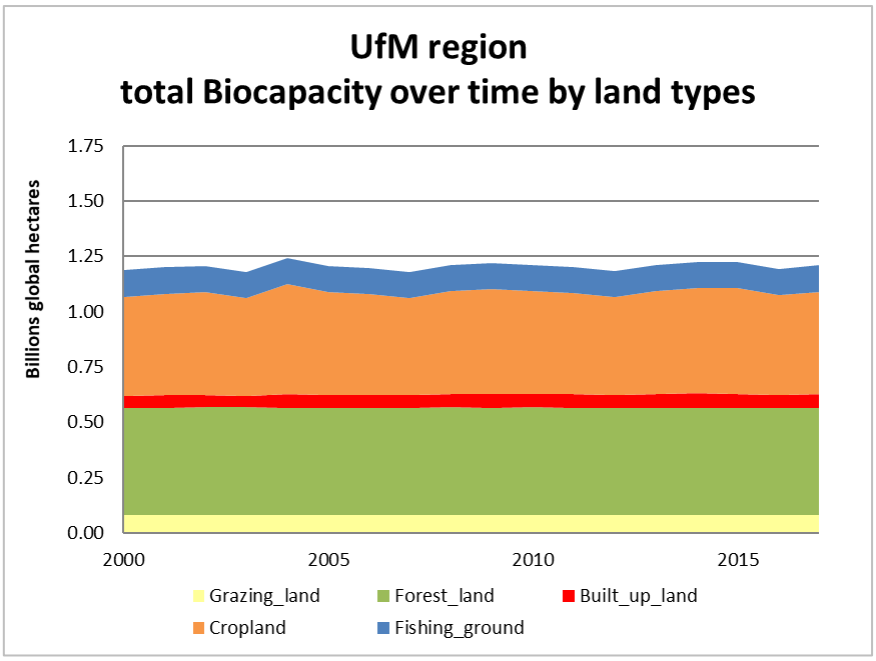


Figure 5. Total Biocapacity of the Union for the Mediterranean region, 2000 to 2017, broken down by land types

Looking at the role of individual countries, Figure 6 shows that the top 5 countries supplying most of the natural resources and services – thus contributing the most to the region's biocapacity – within the UfM region were: 1) France (14%), 2) Germany (12%), 3) Turkey (9%), 4) Sweden (8%), and 5) Finland (6%).

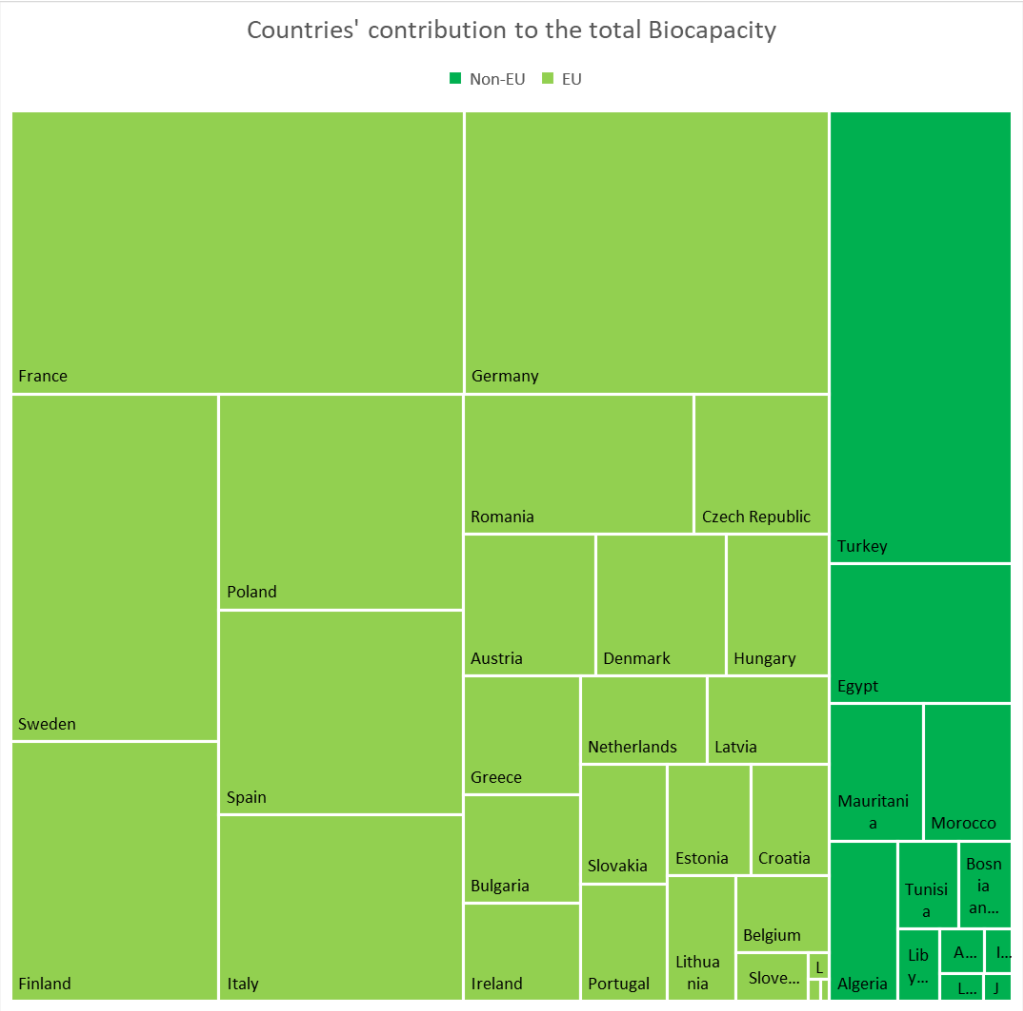


Figure 6. Treemap chart visually showing each country's contribution to the total Biocapacity. Countries are divided into EU countries and non-EU countries.

When looking at per capita Ecological Footprint and Biocapacity values for the UfM region from 2000 to 2017, an ecological deficit situation is evident throughout the whole period. In 2017, the latest year of analysis, the Ecological Footprint of the UfM region was 3.82 gha per capita, while the regional biocapacity was 1.62 gha per capita, thus determining an ecological deficit of 2.20 gha per capita. It should be noted that while the regional per capita biocapacity is in line with the world average per capita biocapacity (1.60 gha), residents of the UfM region are characterized by an average per capita Ecological Footprint noticeably higher (+38%) than the world average Ecological Footprint of 2.77 gha per capita.

Over the considered period (2000-2017), the per capita biocapacity decreased by 10% while the per capita Ecological Footprint decreased by 8%, and the regional population increased by 14% from 2000 to 2017.

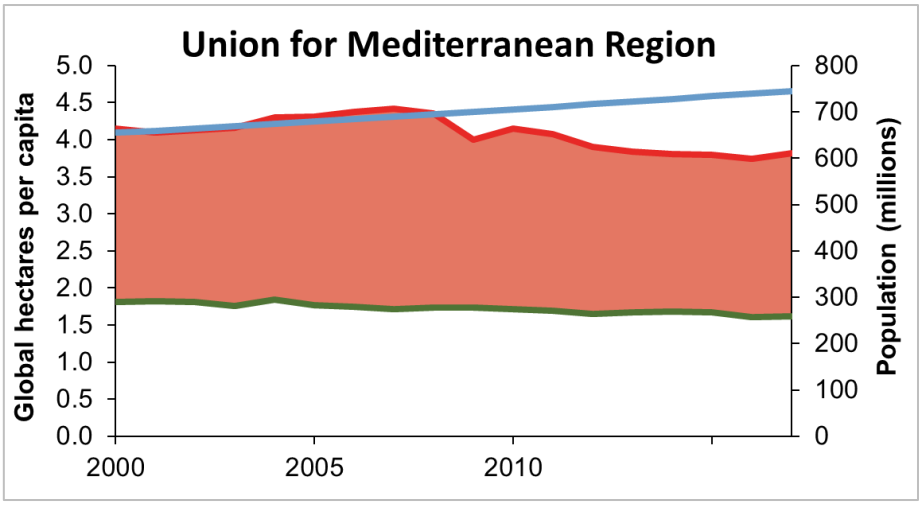


Figure 7. Per capita Ecological Footprint (red line), biocapacity (green line), ecological deficit (red area), and population trend (blue line) of the Union for the Mediterranean Region, from 2000 to 2017.

When analyzing the ecological deficit trends of the EU countries vs. non-EU countries that are members of the Union for the Mediterranean region, a different pattern can be observed (Figure x and X).

In 2017, the per capita Ecological Footprint of the EU countries belonging to the UfM region was 4.67 gha (22% and 69% higher than the average UfM region and the world average EF, respectively) while their biocapacity was 2.18 gha per capita (thus approximately 35% of both the world average and the average UfM region per capita BC). These countries thus run an ecological deficit in which natural resources and ecosystem services are demanded 114% more than their availability. Over the 2000-2017 period, the Ecological Footprint per capita of the European UfM countries decreased by 11%, while the biocapacity had a minor variation (-4%), and population increased by 3%.

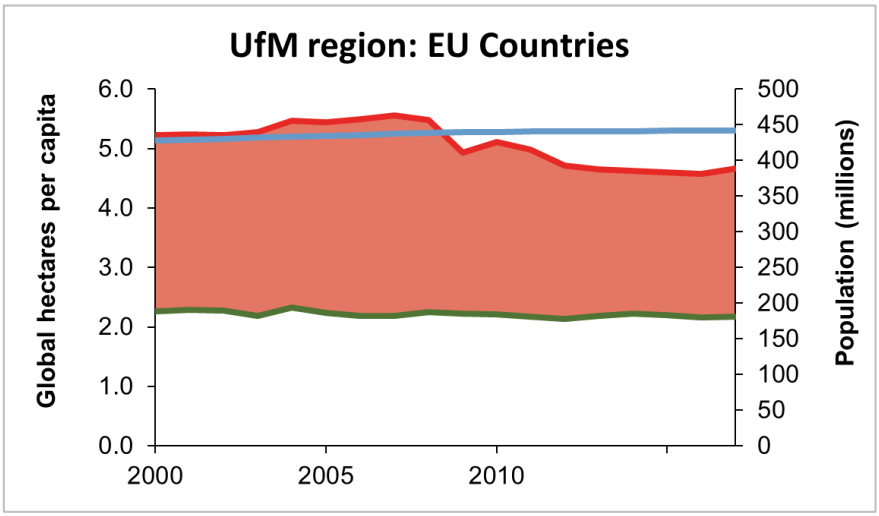


Figure 8. Per capita Ecological Footprint (red line), biocapacity (green line), ecological deficit (red area), and population trend (blue line) of the EU countries members of the Union for the Mediterranean, from 2000 to 2017.

A look at the Ecological Footprint breakdown by land types shows that, in 2017, the demand for the carbon uptake land contributed to 61% of the total Footprint of this subregion, although the demand for this land type decreased by 8% from 2000 to 2017. Cropland contributed 17% to the total Footprint in 2017 and decreased by 7% since 2000. Forest was 12% of the total Footprint of the sub-region in 2017 and decreased by 8% since 2000. Grazing land contributed to 5% of the total Footprint in 2017 and decreased by 16% since 2000. Finally, fishing ground and built-up land had a minor contribution to the total Footprint of the sub-region in 2017 (3% and 2% respectively), although both Footprint components increased their value (6% and 8%, respectively) since 2000.

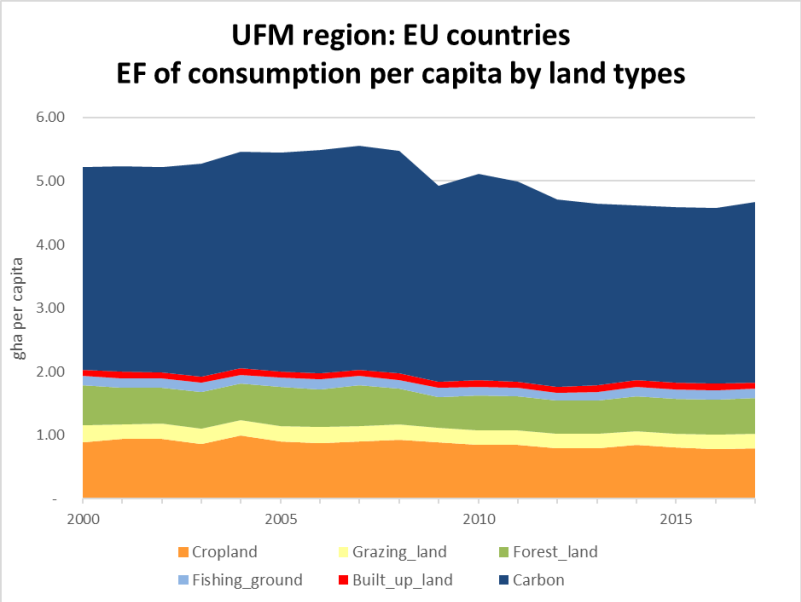


Figure 9. Per capita Ecological Footprint of the European countries of the UfM region, 2000 to 2017, broken down by land types.

Meanwhile, the non-EU countries that are members of UfM experienced, on a sub-region's average, a +22% increase in the per capita Ecological Footprint value, passing from 2.11 gha in 2000 to 2.59 in 2017, while the sub-region's biocapacity decreased by 15%, passing from 0.95 gha to 0.81 gha per capita (see Figure 10). In 2017, the Ecological Footprint resulted to be 219% higher than biocapacity highlighting a growing ecological deficit in the non-EU side of the UfM region. The population also increased by 33% from 2000 to 2017. In 2017, the per capita EF and BC of the non-EU UfM subregion were 32% and 50% lower than the UfM region average values, respectively.

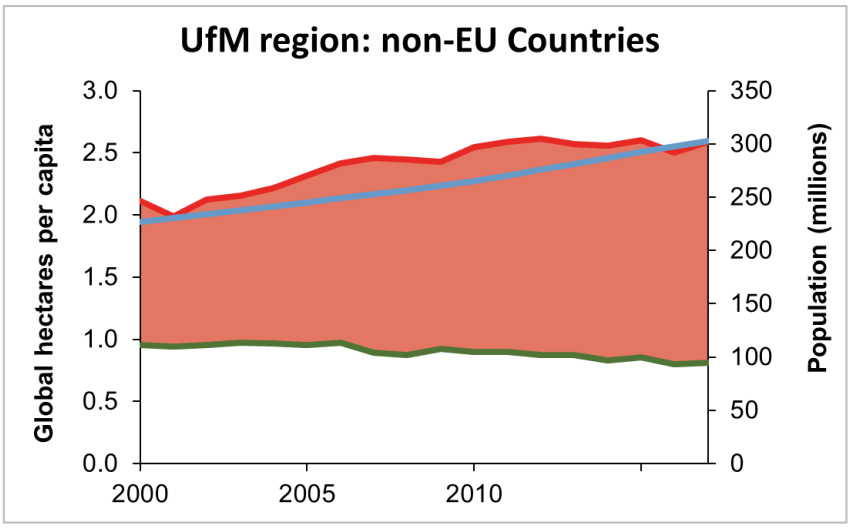


Figure 10. Per capita Ecological Footprint (red line), biocapacity (green line), ecological deficit (red area), and population trend (blue line) of the non-EU countries members of the Union for the Mediterranean, from 2000 to 2017.

In the non-EU countries of the UfM region, the human demand for resources increased in all the land types from 2000 to 2017. The pressure over the carbon uptake land nearly doubled its value (+96%), and in 2017 its overall contribution to the total Footprint of the non-EU sub-region was 58%. Demand on cropland increased by 24% and, in 2017, it contributed to 28% of the overall sub-region's Footprint. The demand for forest products increased by 50% and its contribution to the total Footprint in 2017 was 8%. Grazing land increased by 20% and its contribution to the sub-region Footprint was 6%. Finally, fishing grounds and built-up lands had a minor contribution to the total Footprint (2% each), although they experienced a noticeable increase since 2000, + 36% the demand on fishing grounds and +52% the demand for built up lands.

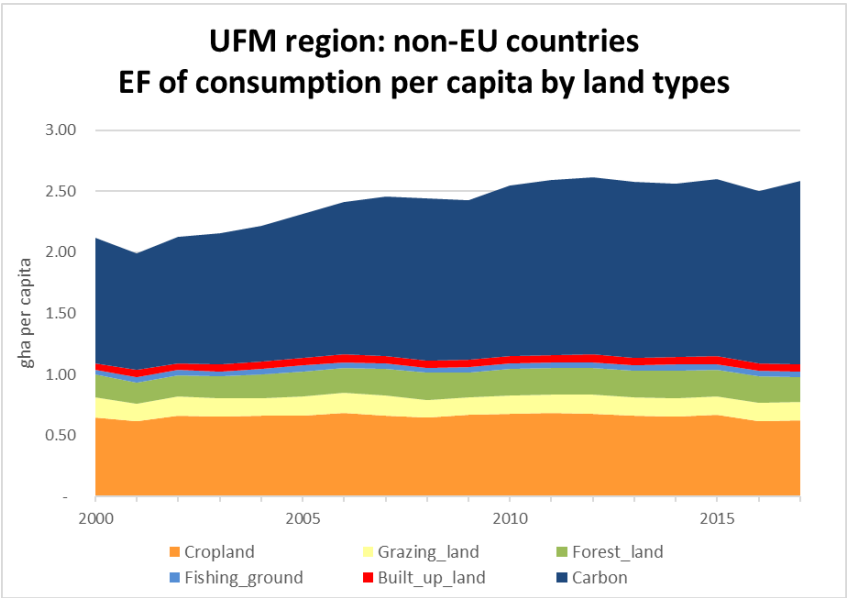


Figure 11. Per capita Ecological Footprint of the European countries of the UfM region, 2000 to 2017, broken down by land types.

IV. Impact indicators formulas

Domestic Material Consumption [DMC]

$$DMC = \sum MD - \sum ME$$

Where:

- DMC is measured in metric tonnes.
- MD = Materials directly used in the economy (Domestic Extraction plus Imports).
- ME = Materials exported.

Mean area that is protected in marine sites important to biodiversity

$$\frac{1}{n}\sum_{x=1}^{n} \frac{PA_x^t}{KBAx} \times 100$$

Where:

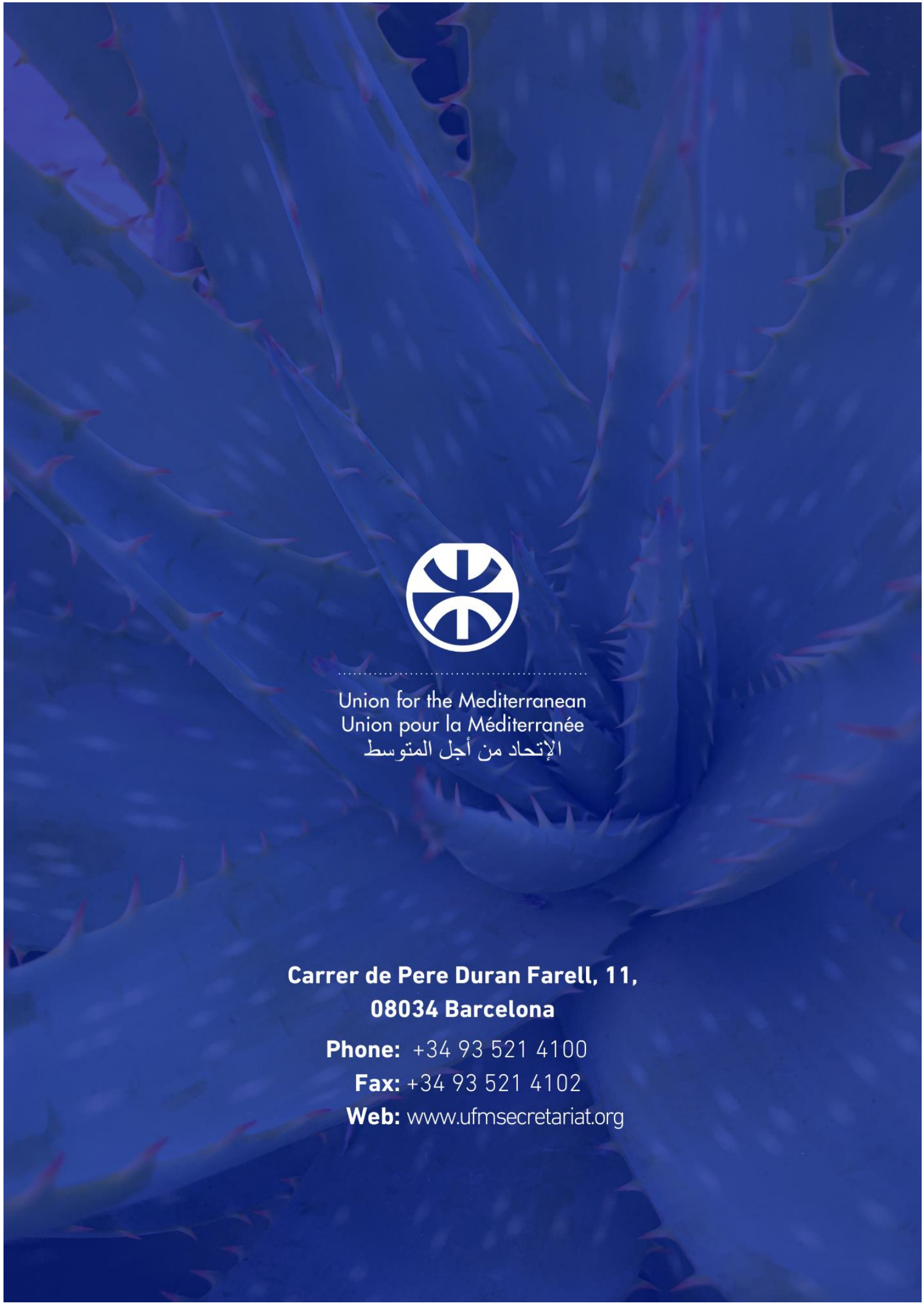
- *KBAx* is the area of a marine KBAx.
- $PA\frac{t}{x}$ is the area of a KBA*x* covered by protected areas at time t.

Red list index of species survival

$$\mathrm{RLIt} = 1 - \left[\frac{Ss\ Wc\ (t,s)}{(WEX * N)}\right]$$

Where:

- Wc(t,s) is the weight for category (c) at time (t) for species (s).
  - ➢ Possible extinct or Possible extinct in the wild = 5
  - ➢ Critically endangered = 4
  - ➢ Endangered = 3
  - ➢ Vulnerable = 2
  - ➢ Near threatened = 1
  - ➢ Least concern = 0
- WEX = 5, the weight assigned to Extinct or Extinct in the wild species.
- N is the total number of assessed species, excluding those assessed as data deficient in current time period, and those considered to be 'extinct' in the year the set of species was first assessed.



Union for the Mediterranean
Union pour la Méditerranée
الإتحاد من أجل المتوسط

Carrer de Pere Duran Farell, 11,
08034 Barcelona

Phone: +34 93 521 4100
Fax: +34 93 521 4102
Web: www.ufmsecretariat.org