The **2030 Agenda for Sustainable Development** was launched by the United Nations as a plan of action for people, planet and prosperity, strengthening peace in larger freedom and aiming at ending poverty in all its forms worldwide. With 17 integrated and indivisible, global in nature and universally applicable *Sustainable Development Goals* (SDGs) and 169 targets, the 2030 Agenda sets the direction to transform our world.

The Goals address the economic, social and environmental dimension of the sustainable development. A territorial dimension is equally important, taking into account the different levels of development and wealth around the world, and the intensity of change required to different type of territories and communities. This is true also at the Mediterranean scale, considering the striking disparities between the European shore and the Southern and Eastern Mediterranean Countries (SEMCs).

**Blue bioeconomy and the challenging transition towards sustainable development**

The Blue Economy concept, intended as “green economy in a blue world”, is linked to sustainable development of the marine economy and recognizes the crucial contribution of the seas and oceans to food, water, energy and ecosystem service provision.

The blue bioeconomy subfield consists of any economic activity associated with the use of renewable aquatic biological biomass, including both traditional uses for human consumption like fisheries and traditional aquaculture, and more innovative uses of marine living resources e.g. food additives, animal feeds, pharmaceuticals, cosmetics, energy. In the latter case, a key role is played by cutting-edge science and technology, such as blue biotechnology.

Blue bioeconomy is closely connected with the Agenda 2030 goals, through a complex net of links of direct and indirect bidirectional impacts. It contributes directly to Goal 14 “Conserve and sustainably use the oceans, seas and marine resources for sustainable development” and Goal 2 “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” but it is connected to many economic, social and environmental aspects covered by other Goals.

The distance from the targets of the Agenda 2030 is still wide – at global level and across the Mediterranean - and there is a need to accelerate a fair, green and blue transition during this decade. According to the Sustainable Development in the Mediterranean Report 2020, environmental issues do not show well in terms of performance at Mediterranean level, in particularly biodiversity protection including SDG 14 Life below Water. This Goal show the lowest average score in the region and no single country have a satisfactory performance nor a significant positive trend. The situation looks critical also concerning SDG 2 Zero Hunger due to unsustainable practices and critical yield gaps in the primary sector as well as unbalanced food consumption habits determining increasing rates of obesity and health diseases.
The transition to sustainable blue bioeconomy is especially challenging:

- oceans and seas are different from land from several points of view including the wider extension, the lack of physical barriers with higher fluidity and interconnectivity on a three-dimensional base, the lack of ownership and responsibility, their inherent transnational dimension; the limited scientific knowledge;
- blue bioeconomy, being dependent on living resources, is much more impacted by the overall ecosystems’ status than other blue economy activities that use the sea (i.e. shipping, port management, non-living resources extraction, etc.);
- at the same time blue bioeconomy value chains play a key role in ecosystem degradation through excessive pressure on marine environments or over exploitation of living resources (i.e. with non-regulated fishing).

The way traced for the transition in the Mediterranean Sea basin

Transition happens over a long-time interval in which the transformation or progressive decay of current unsustainable patterns is accompanied by the emergence of new, more sustainable ones. Therefore, it is urgent to ensure full awareness on the scope of the challenges ahead and to start immediately to plan with a clear directionality. Systemic transitions require a combination of top-down government interventions and bottom-up action by diverse actors, ranging from innovators and businesses to communities and civil society organisations.

The integrated view set by the Agenda 2030 is the first step to move forward. Different and sometimes conflicting goals should be considered jointly, while traditional systems tend to work in silos, focusing separately on different economic, social, environmental and territorial equally important objectives. At the Mediterranean level:

- the Union for the Mediterranean (UfM) Ministerial Declaration on Environment and Climate Change marked a milestone, setting the basis for the shift towards sustainable production and consumption and resource efficiency as main tools to green/blue economy at Mediterranean level, linking the traditional depollution approach with a forward-looking planning based on pollution prevention and climate change;
- the first UfM Ministerial Declaration on the Blue Economy, adopted by the 43 UfM Member Countries in Brussels in November 2015, provided the political mandate and set the framework for cooperation amongst UfM countries in the sustainable development of their blue economies. The mid to long term expected impact is that blue economy becomes a solid pillar of the Mediterranean regional agenda and joint collaboration, thus helping UfM member countries in:
  - for sustainable blue economy mainstreaming into government policies and strategies;
  - ensuring a convergence of efforts towards
    a. relaunching crucial sectors of the economy of the entire area (SMEs, infrastructure, tourism, fishery, aquaculture, etc.) feeding in research/innovation results within a sustainable approach respectful of the environment and related sustainability targets,
    b. promoting employment opportunities, with a focus on youth, in targeted sectors, both in terms of new jobs and hiring adequately trained people (requalification and relaunch of job offer) as well as in terms of investments and business;
➢ in 2016, the Mediterranean Strategy for Sustainable Development (MSSD) 2016-2025 set the vision of “a prosperous and peaceful Mediterranean region in which people enjoy a high quality of life and where sustainable development takes place within the carrying capacity of healthy ecosystems [...], achieved through common objectives, strong involvement of all stakeholders, cooperation, solidarity, equity and participatory governance”.

Transformative innovation policy as a driver towards a Mediterranean Blue Deal

An extraordinary effort of ownership and coordination is required to address complex challenges that are deeply rooted, persistent, interconnected, structural and, therefore, difficult to be understood and addressed. The adoption of a holistic approach to tackle such complex challenges is the second step to cope with integration and to move from desired future to concrete strategies and actions. This implies a broad view encompassing the global trends, the current settlement of the socio-technical systems (the combination of institutions, technologies, markets, rules, norms and routines) put under pressures by these trends and the potential solutions and “new ways to do things” emerging from innovators, entrepreneurs and communities.

Transformative innovation policy - which sets the direction in investments, reforms and regulation to stimulate the emergence and diffusion of knowledge and (radical) solutions for the transformation towards sustainability - is key to lead and accelerate the transition to meet the Agenda 2030 targets and the more stringent commitments taken at the EU level with the European Green Deal. Transformative innovation policy emphasises the following principles and aspects of the innovation process:

- co-creation: a horizontal and inclusive approach is sought to understand and tackle the challenges, working and acting together for a better society;
- diffusion: linking actors and promoting knowledge flows between them to share knowledge across society, territories and people are necessary for sustainable transformation
- uptake: Research and Innovation (R&I) results should turn into sustainable solutions with social and economic value. Besides promoting research and individual pieces of innovation, a systemic approach is needed to ensure the condition for their successful uptake;
- transformative ambition: R&I have a major role in supporting a profound transformation of the way we consume and produce, which is needed to achieve the SDGs. Transformation requires alignment of incentives along short, medium and long-term horizon to reduce the high risk associated to systemic changes;
- directionality: a transformative framework for the implementation of R&I policy calls for direction and an effective coordination, alignment and synchronisation. R&I is steered to address specific challenges without prescribing the way how they should be addressed. Effective directionality requires a horizontal approach that encompasses an alignment of policy objectives, the coordination of policy and implementation instruments and the synchronisation of funding and investments.

Transformative innovation policy is recognised to be difficult because of its linkage with systemic change. It is essential to promote diverse alternatives and use real-world experimentation involving stakeholders from the quadruple helix of the innovation spectrum (including citizens point of view) to assess results and sustainability impacts, learning from failures, as well as from successes.
The way ahead to build a stronger Mediterranean sustainable blue economy

Sustainable blue bioeconomy can be achieved only working at the sea basin level, framed within the global oceans’ dimensions. The role and effectiveness of existing Mediterranean transnational frameworks are key to pursue this ambitious mission.

The UfM second Ministerial declaration on Sustainable Blue Economy reaffirms the commitment of Mediterranean countries to work together for a sustainable blue economy. The Communication from the European Commission issued in May 2021 “Transforming the EU’s Blue Economy for a Sustainable Future” sets the direction for a new approach for a sustainable blue economy in the EU, recognising the importance of sea basin strategies and regional cooperation. The Horizon Europe’s Mission Starfish: Restore our oceans and waters by 2030 is putting research and innovation into a new role - combined with new forms of governance and collaboration, as well as by engaging citizens - to bring concrete solutions to some of the greatest blue challenges.

The Bluemed Initiative, backed by UfM, EUSAIR and WestMed, is the platform to start from to bridge the innovation efforts at the transnational level with regional and national innovation ecosystems. Higher coherence and alignment of policy and innovation efforts are required at the Mediterranean scale to overcome fragmentation and raise the impact against the ambitious transformative goals.

We advocate closer linkages between research, development and innovation actors to orient the research efforts, to boost the uptake of relevant knowledge advancements, to spread the diffusion of new solutions and to sustain more balanced territorial development.

We recognize that a new wave of transformative innovation policies is taking shape at the European and international level but we observe that the capacities to design, plan and implement such policies and to evaluate their impact on sustainable development targets in a transparent and inclusive way are still scattered and insufficient.

We call for public authorities, research organisations, higher and technical education institutions, business, innovators, civil society, clusters and bridging institutions in the Mediterranean innovation ecosystems to engage with capacity building on how to leverage on innovation potential to accelerate the transition toward sustainable development. We invite committed actors to join forces in order to:

- Boost blue bioeconomy potential to generate shared value (economic, social, environmental) contrasting polarisation and feeding territorial cohesion and integration across the sea. Both making existing activities and value chains more sustainable, decoupling growth and resource consumption, and fostering emerging sustainable niches and business are important, reinforcing the innovation-employability nexus in the Mediterranean;
- Mobilise efforts to face urgent challenges to sustainability in the Mediterranean, reducing pressures and threats to blue bioeconomy arising from other uses of the sea and land-sea interactions and promoting nature-based solutions/working with nature philosophy;
- Explore the untapped potential of blue resources to foster sustainable development in all sectors fully seizing (co-)benefits of the action.
Building on the [Mediterranean Cooperation Alliance Declaration](#) “Facing together common challenges and integrating strategies for a better and sustainable future”, that recognises the Blue Economy as the perfect driver to build an integrated strategy at Mediterranean level, we stress the added value of territorial cooperation to reinforce the overall standing of the Mediterranean instances in the European and the global context, while promoting at the same time regional cohesion to ensure that all take part in the effort and the benefits are for all.

We seek for multilevel alignment and coordination of policy efforts and investment, levering on the opportunities of the 2021-27 European programming period supporting innovation, cohesion, resilience and ecological transition of the Mediterranean regions.

We emphasise the role of the new Interreg cycle to consolidate successful grassroot experiences and to advance in the governance of transformative innovation policies in the Mediterranean, in a multilevel perspective bridging the stronger transnational organisations with lively territorial dynamics.

BLUEBIOMED is a strategic project co-financed by the Interreg Mediterranean programme that supports better governance of blue bioeconomy innovation policies bridging the transnational governance frameworks active in the Mediterranean area (i.e. UfM, UNEP-MAP, EUSAIR, WestMed, Bluemed Initiative, etc.) with the territorial – regional/national – policy making, assuming the Agenda 2030 Sustainable Development Goals (SDGs) as the common reference grid. BLUEBIOMED intends to develop a governance model of innovation policies to tackle complex challenges and test an innovative approach through policy experiments triggering the cooperation of the quadruple helix stakeholders for interregional innovation investments. The four experiments focus on circularity in sustainable aquaculture, recovery from the sea and recycling of macro-plastics waste, reducing and eradicating the impact of invasive alien species, digitalisation of the blue bioeconomy. BLUEBIOMED will support the start-up of a coalition to boost the Mediterranean leadership in the transformative innovation of the blue economy.

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