



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



# Regional Analysis on Nationally Determined Contributions



The UfM Secretariat  
is co-funded by the  
EUROPEAN UNION

## EXECUTIVE SUMMARY



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



## Authors

CITEPA:

Etienne FEUTREN, Ghislaine TANDONNET GURAN  
Jérôme BOUTAND (Executive Director).

UNDP, external reviewers:

Yulia Isaeva, Walid Ali  
Line manager: Kishan Khoday

**UfM Coordinator:**

Arnault Graves

Follow the UfM Secretariat on:

[ufmsecretariat](#)

[@UfMSecretariat](#)

[union-for-the-mediterranean](#)

DISCLAIMER: This document has been produced with the financial assistance of SIDA - Swedish International Development Cooperation Agency

The views and opinions expressed in this report do not necessarily reflect those of the Government of Sweden.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

# Executive Summary

---

The report *Regional analysis on Nationally Determined Contributions* prepared by Citepa for UfM and UNDP aims to provide an analysis at the regional level on the state of progress of the NDC update towards COP-26 in the SEMed region for Albania, Algeria, Bosnia-Herzegovina, Egypt, Israel, Jordan, Lebanon, Mauritania, Morocco, Montenegro, Palestine, Tunisia and Turkey

A UfM-UNDP-Citepa co-signed survey was sent to the SEMed countries to investigate climate ambition, capacity needs, MRV systems, governance and long-term strategies at country-level. The report builds on results received from 7 countries as well as on desktop research. The development process of the NDC update is still on-going; due to the Covid-19 pandemic, it has been difficult for countries to fully prepared for the update, and to already define a common path towards the 3<sup>rd</sup> update which will take place in 2025.

As identified at the macro level by Plan Bleu (*State of the Environment and Development in the Mediterranean, 2020*) or MedECC (*1st Mediterranean Assessment Report, 2020*), the Mediterranean region is facing great challenges due to global warming and will be impacted more than average. The greatest challenges identified in the regional reports are:

- Demographic growth: increasing demand for energy, water and food, and pressuring land use (especially coastal zones).
- Freshwater availability: mainly for agricultural purposes.
- Land artificialization: reducing agricultural potential and endangering coastal zones with touristic activities.
- Air and water pollution.

Therefore action (regarding both greenhouse gas emission mitigation and adaptation to climate change) is needed in order strengthen the region's resilience and low-carbon pathways. From the answers provided to the survey, we have seen that there is great concern on climate and that financial and human resources are mobilized in order to enhance climate ambition that will be displayed in the next NDC update. Two sectors of the economies are particularly concerned by climate action:

- Energy: energy consumption is the main source of GHG emissions in SEMed countries and increasing demand is expected considering demographic growth and economy's development. Greenhouse gas emission mitigation can be achieved with a switch from coal and oil towards natural gas (as initiated in Israel, Jordan or Tunisia) and renewable energy sources. Enhanced energy efficiency in buildings and processes is also a way to achieve GHG emission mitigation. Ambitious targets have been stated in the survey's answers and will be included in the 2021 NDCs.
- Agriculture: the stake is to ensure food security to a growing population while preserving water availability and lower dependence to international imports and price volatility. Given the weight of agriculture in the SEMed countries GDP, adaptation to climate change consequences (drought, salinization, need for increased irrigation, loss of arable land) is critical. Possible actions could lie in crop diversification or the use of new varieties. Regarding mitigation actions in the agricultural

sector could include better fertilization management via N<sub>2</sub>O, improved water treatment/management, or carbon sinks.

The key priorities for action on mitigation and adaptation as informed by the survey are highlighted in the tables below.

In table 1, are displayed the countries' strategy regarding GHG emission mitigation with the referential that is used to define the target, the targeted year to achieve the unconditional target as well as the sectors involved.

| <b>Country</b> | <b>Referential for the unconditional mitigation target</b> | <b>Target year</b> | <b>Sectors involved</b>  |
|----------------|--|--------------------|--|
| Albania        | BAU scenario   | 2030               | - Energy (including transport)<br>- Industrial processes<br>- Agriculture<br>- LULUCF<br>- Waste |
| Israel         | Not stated   | Not stated         | Not stated   |
| Lebanon        | BAU scenario   | 2030               | - Energy<br>- Industrial processes<br>- Transport<br>- Agriculture<br>- LULUCF<br>- Waste        |
| Morocco        | 2010 baseline year   | 2030               | - Industrial processes<br>- Waste  |
| Palestine      | BAU scenario   | 2040               | - Energy<br>- Agriculture  |
| Tunisia        | BAU scenario   | 2030               | - Industrial processes<br>- Transport  |
| Turkey         | BAU scenario   | Not stated         | - Energy<br>- Transport<br>- Agriculture<br>- LULUCF<br>- Waste                                  |

Table 1 – Climate ambition to be included in the next NDC. Source: authors' survey to SEMed countries.

In table 2, are displayed the adaptation actions that are currently or will be undertaken by the countries, as well as the climate change issues to adapt to and the bodies in charge of the NDC and frameworks that will be used.

| <b>Country</b> | <b>Adaptation actions</b>   | <b>Climate change issues to adapt to</b>   | <b>Bodies in charge of the NDC update and frameworks to be used</b>  |
|----------------|---|--|--|
| Albania        | Not stated  | <ul style="list-style-type: none"> <li>- Air temperature</li> <li>- Rain</li> <li>- Sea level rise</li> <li>- Droughts</li> </ul>  | N/A  |
| Israel         | <ul style="list-style-type: none"> <li>- Implementation of Green Building Standards</li> <li>- Urban tree planting</li> <li>- Installation of solar panels on buildings and infrastructure (rather than open spaces)</li> <li>- Development of Urban Nature parks</li> <li>- Protecting more natural habitats (i.e., Nature Parks, National Parks)</li> <li>- Preservation of open and natural landscapes and maintaining their connectivity</li> <li>- Conservation of Aquatic habitats (rivers , streams, winter ponds etc.)</li> <li>- Protecting additional Marine Nature Reserves</li> </ul> | <ul style="list-style-type: none"> <li>- Air temperature</li> <li>- Rain</li> <li>- Sea level rise</li> <li>- Urban heat</li> <li>- Urban flooding</li> </ul>  | <ul style="list-style-type: none"> <li>- National Guidelines for Climate change to Adaptation at local level</li> <li>- Pilot projects are being carried out in 13 cities and regional councils to develop local/regional adaptation action plans</li> <li>- In 2019, 20 local authorities participated in the EU funded "CLIMAMED" program for the purpose of capacity building.</li> </ul> |
| Lebanon        | <ul style="list-style-type: none"> <li>- Climate-smart agriculture</li> <li>- Enhance carbon sinks</li> <li>- Develop sustainable water services</li> <li>- Sustainable management of terrestrial and marine biodiversity</li> <li>- Reduce the vulnerability of climate change impacts on coastal zones, especially in Cities</li> <li>- Ensure public health and safety through climate-resilient health systems</li> <li>- Reduce disaster risk and minimize damages by mitigating and adapting to climate-related natural hazards and extreme weather</li> </ul>                              | <ul style="list-style-type: none"> <li>- Air temperature</li> <li>- Rain</li> <li>- Sea level rise</li> <li>- Sea water acidification</li> <li>- Sea water temperature</li> <li>- Droughts</li> <li>- Forest fires</li> <li>- Extreme storms</li> <li>- Desertification</li> <li>- Health hazards</li> </ul> | The Ministry of Interior and Municipalities, the Ministry of Environment as well as the Disaster Risk Management Unit at the Prime's Minister's Office could be the direct interface with local actors when it comes to developing local adaptation plans  |

| <b>Country</b> | <b>Adaptation actions</b>  | <b>Climate change issues to adapt to</b>  | <b>Bodies in charge of the NDC update and frameworks to be used</b>  |
|----------------|--|---|--|
| Morocco        | - Program of reforestation 2010-2030<br>- Olive oil program 2020-2030<br>- Cactus planting project 2020-2030   | - Air temperature<br>- Rain<br>- Sea water temperature<br>- Droughts  | Yes (no detail provided)   |
| Palestine      | Mitigation co-benefits for planned adaption actions of highly vulnerable sectors, agriculture, Waste, Food, Energy, Water Health, Industry, terrestrial ecosystem, tourism, and urban infrastructure.              | - Air temperature<br>- Rain<br>- Sea level rise<br>- Droughts<br>- Floods<br>- Frost<br>- Heat waves                  | - Environment Quality Authority<br>- National designated authority for green climate fund in full coordination with local government units and joint services councils for solid waste as well as joint services councils for water and wastewater |
| Tunisia        | - Infrastructure<br>- Land management  | - Rain<br>- Sea level rise<br>- Droughts  | N/A  |
| Turkey         | - Integral and sustainable forest management<br>- Reducing emissions from deforestation and forest degradation<br>- Role of conservation, sustainable management of forests and enhancement of forest carbon stock | - Air temperature<br>- Rain<br>- Sea level rise<br>- Sea water acidification<br>- Sea water temperature<br>- Droughts | Local authorities can prepare their local adaptation plans and submit it to the Ministry directly.   |

Table 2 – SEMed countries adaptation actions to be included in next NDC. Source: authors' survey to SEMed countries

Citepa's adaptation fitness coefficients reflect the relevance of choices made by the countries regarding adaptation given the climate-change-induced hazard and intensity, and could be used as a way to short-list projects that seem to be commonly identified as an appropriate answer to address a hazard and allow countries to pick from these actions, or by countries to validate their choices. Development institutions like the UNDP, the World Bank or the Islamic Bank of Development could integrate the fitness metric to the indicators used to define if a given adaptation project should be funded and implemented.

As SEMed countries share similarities (fossil fuel usage for instance) and issues (environmental issues, such as water availability for instance), they could benefit from working hand in hand to implement a limited, well targeted number of actions to optimize the allocation of resources towards great challenges, hence the need for enhanced cooperation as previously highlighted in the 2019 report. In the survey's answers, countries have shown will to collaborate.

If we can define country clusters within the SEMed group, based on common issues for instance, we would assess whether the adaptation actions proposed by the countries in the different national communications are relevant or not - checking if countries all over the world chose the same kind of solutions when facing a similar issue. Several initiatives are already in motion in order to provide countries with a platform to seek for international support. The possibility to form country clusters would then allow to benefit from synergies regarding capacities, technologies or by addressing the same issues. These clusters could be defined based on the issues faced regarding adaptation to climate change, or the socio-economic profiles of the countries for instance. Political will is required to allow cooperation regarding the environmental urgency. Thematic hubs can also be a way to address these issues in synergy and in solidarity. The Plan Bleu report names several, including: the INFOMAP system, the Integrated Monitoring and Assessment Programme (IMAP), a shared environmental information system with EU countries, the European Marine Observation and Data Network (EMODnet).

After the NDC update occurring in 2021, we recommend a continuation of action in the SEMed and in the entire Mediterranean, aligned with the agenda of the Paris Agreement (2022-2024), in support to the development of new more transparent and ambitious NDCs before the end of 2024 as well as stand-alone NAPs as well as BTRs. This could be achieved by:

- Creating synergies: by theme (hubs like those of Plan Bleu) and by creating a Mediterranean Climate Change Hub / Cluster depending on major threats (under the coordination of UfM and with UNDP, NDC Partnership, CLIMA MED, OME collaborations).
- Linking the threats described above: regional climate modelling coupled with modelling of the availability of water resources (freshwater for food and agriculture, taking into account the risks of drought, temperatures, extreme episodes, sea level rise, demography); agronomic research (development of new or enhanced varieties) and smart agriculture ( $N_2O$ , irrigation techniques, etc.). Upstream, Citepa's adaptation fitness coefficient might help to define a short-list of well-suited solutions for each level of hazard.
- Modelling the regional energy demand in order to support countries to allow to define mitigation targets as a percentage reduction compared BAU scenario for instance. It would allow for more transparency and would facilitate the comparison and additionality of objectives.
- Assessing potential synergy between mitigation and adaptation measures.
- Establishing a transparent system for reporting and projecting emissions GHG emissions, especially regarding carbon sinks, as many actions are related to reforestation and carbon sequestration.
- Targeting development banks aid according to the priorities of hubs and regional clusters.



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



[ufmsecretariat.org](http://ufmsecretariat.org)

Follow the UfM Secretariat on:

[ufmsecretariat](#)

[@UfMSecretariat](#)

[union-for-the-mediterranean](#)

Palau de Pedralbes | Pere Duran Farell, 11 | 08034 Barcelona, Spain  
Phone: 00 34 93 521 4100 | Fax: 00 34 93 521 4102