

# Deliverable 2.2 B

## “PROPOSAL OF TENTATIVE ROAD MAP FOR A PRACTICAL IMPLEMENTATION OF HARMONIZED RULES IN PILOT PROJECT (S) ”



**EC DGNEAR - GRANT CONTRACT: ENI/2018/397-494**

**“Med-TSO—Mediterranean Project II”**

**Task 2.2 “Elaboration of zonal target regulatory framework and  
tentative roadmap”**



Med-TSO is supported by the European Union.

This publication was produced with the financial support of the European Union. Its contents are the sole responsibility of Med-TSO and do not necessarily reflect the views of the European Union.



## Table of Contents

1. Executive Summary .....	2
2. Background.....	3
3. Governance of the Pilot Project .....	4
4. Tentative Road Map towards a zonal platform for power trading .....	5
Step 1 - Creation of a dedicated Project Team (Multi-skill team).....	5
Step 2 - Inception phase.....	5
Step 3 - Regional Stakeholders engagement.....	5
Step 4 - Establishment of a benchmarking on similar cases of electricity market and trade platform projects .....	6
Step 5 - Definition of cooperation principles .....	6
Step 6 - Establishment of a benchmark on electricity generation and bidding costs/price .....	6
Step 7 - Analysis of the status of regulatory framework in Maghreb countries .....	7
Step 8 - Determination of the minimum requirements necessary for the proper functioning of the electricity exchange and regional market at its first stage. ....	7
Step 9 - Gap analysis and action plan for filling the gap. ....	7
Step 10 – Development and establishment of the Operational Agreement.....	7
5. Tentative Road Map: GANTT .....	9

# 1. Executive Summary

The activity 2.2 (Elaboration of zonal target regulatory framework and tentative roadmap) of the Mediterranean Project II refers to the implementation of a sub-regional project (zonal) concerning a practical application of harmonization for the subset of rules necessary to implement a project considered of priority in a selected zone for advancing in regional integration. The Deliverable 2.2.A Study of potential candidates and proposal of Pilot Project (s) identified the Maghreb Region as the appropriate candidate zone and defined the pilot Project scope.

The present Deliverable 2.2.B Proposal of tentative Road Map for practical implementation of harmonized rules in Pilot Project (s) define the structure and the activities needed to be developed for its implementation. This report is derived by the proposal founded in the subtask 2.2.A in which the members of Technical committee 2 “Regulations & Institutions” have selected and defined the Pilot Project scope (Figure 1).

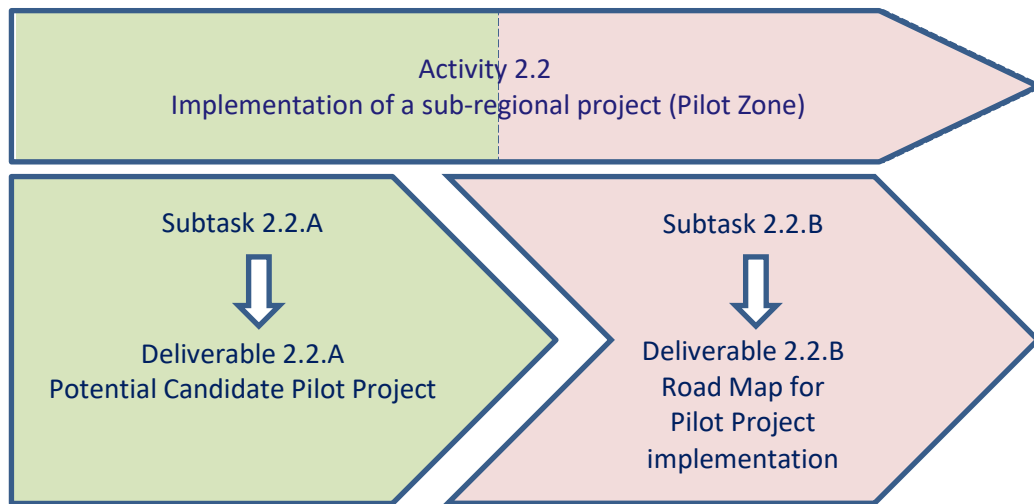


Figure 1.- Organisation of Activity 2.2. Elaboration of zonal target regulatory framework and tentative roadmap.

Med-TSO countries have a longstanding objective of integration their power systems through a common Mediterranean grid. To date, the related development has primarily focused on cross-border infrastructures, long-term coordinate planning and harmonization of basic technical rules and data exchange. Power trading and energy exchanges remain very poor and basically based on bilateral technical exchanges. With the increasing share of variable sources in the energy mix of the region, Med-TSO Members can benefit from multilateral power trade in terms of both increased economic efficiency due to resources sharing (complementarities of electrical systems) and security of supply. This background is presented in chapter 2.

After analysing different priorities, the Maghreb TSOs have chosen to develop, as common priority project, that of establishing **a zonal platform for power trading**, building on the activities already performed in the zone and using the Med-TSO support for accessing the international experience on this subject. Chapter 3 proposes a possible governing organization.

The needed structure and activities to be implemented in order to reach the goal of establishing the envisioned platform is detailed in Chapter 4. Finally, chapter 5 presents a tentative timeline of the each Step and the inter-relations among different Steps.

## 2. Background

Med-TSO countries have a longstanding objective of integration their power systems through a common Mediterranean grid. To date, the related development has primarily focused on cross-border infrastructures, long-term coordinate planning and harmonization of basic technical rules and data exchange. Power trading and energy exchanges remain very poor and basically based on bilateral technical exchanges.

However, Med-TSO has also long recognized that to fully unlock the benefits of a common Mediterranean grid their countries need to establish some form of regional (multilateral) Power trading. With the increasing share of variable sources in the energy mix of the region, Med-TSO Members can benefit from multilateral power trade in terms of both increased economic efficiency due to resources sharing (complementarities of electrical systems) and security of supply.

The studies described in the Deliverable 2.2.A identified the Maghreb zone as the appropriate candidate for developing a pilot project aimed to improve the current level of regional integration. After analysing different priorities, the Maghreb TSOs have chosen to develop, as common priority project, that of establishing a **zonal platform for power trading**, building on the activities already performed in the zone and using the Med-TSO support for accessing the international experience on this subject (Figure 2).

Indeed, until now the Maghreb interconnections are used mainly in multilateral emergency situations ways. Although since 2007 a bilateral trading contract was established between Algeria and Morocco and since 2014 between Algeria and Tunisia the exchanges on the interconnections remains below expectations and underexploited.

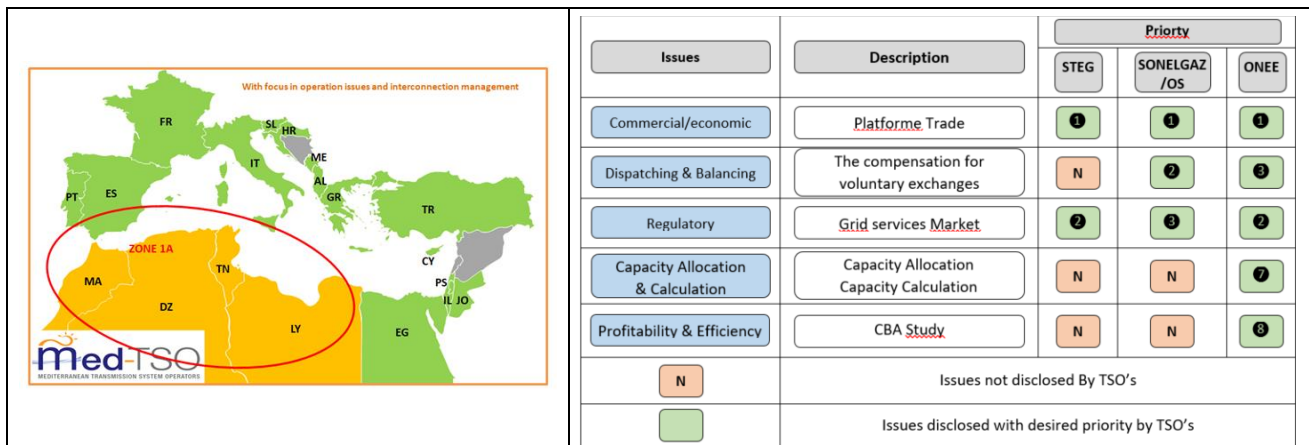


Figure 2.- a) Current “Western Zone” (Morocco, Algeria, Tunisia and Libya). b) Priorities of involved TSOs.

The present Deliverable 2.2.B tentatively identifies the structure and development activities to be implemented in order to reach the goal of establishing the envisioned platform. The relevant road map shall be verified and consolidated in the inception phase of the Pilot Projects in the framework of the Action Plan 2020-2025 of Med-TSO.

### 3. Governance of the Pilot Project

The development and management of the Pilot Project will be implemented through the organization showed in Figure 3.

- **Involved TSOs:**
  - ONEE,
  - STEG and
  - SONELGAZ
- **Med-TSO competent Committees:**
  - Regulations,
  - Electricity Exchanges,
  - Economic Studies,
  - new ones
- **Med-TSO Managing Bodies:**
  - Operational Activities Coordination Committee
  - Executive Board
  - General Assembly
- **External Stakeholders**
  - Ministries,
  - NRAs,
  - MedReg,
  - UfM
  - others

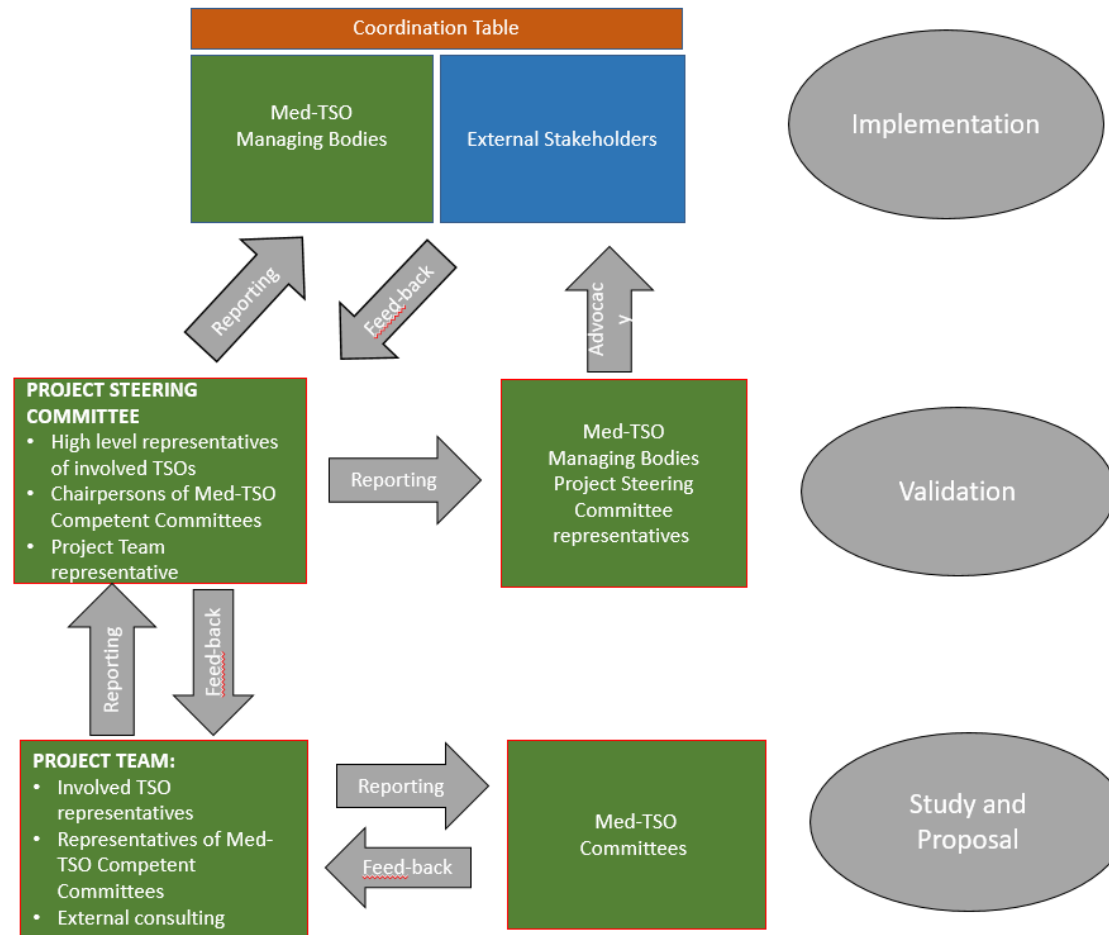


Figure 3.- Governance of the Pilot Project and decision levels.

## 4. Tentative Road Map towards a zonal platform for power trading

The report describes the steps of a tentative road map to implement the pilot project in the Maghreb Zone and achieve the identified target. A tentative timeline of the each Step and the inter-relations among different Steps is presented in chapter 5.

### Step 1 - Creation of a dedicated Project Team (Multi-skill team)

Med-TSO will create a Project Team composed of resources skilled in operation, regulation, markets and software systems supporting the operations and representatives of the zonal TSOs, integrated with the necessary external consulting and guided by an experienced Project Manager.

The Project Team will plan and develop the necessary activities under the supervision of a Med-TSO Steering Committee composed by representatives of the concerned TSOs of all the necessary skills, to which the relevant proposals shall be submitted. Nonetheless, ahead of the start of implementation, the governance for the management of this project shall be clearly defined and agreed between participating TSOs.

**At the End of this Step, a list of the members constituting the project team must be communicated to Med-TSO.**

### Step 2 - Inception phase

During the first 2 months of the project life, the Project Team will revise and consolidate the GANTT (chapter 5), the Final Road Map for the project implementation identifying activities, resources and timing necessary for the implementation.

The goal of the project will be to improve the Maghreb power system integration through the development and first implementation of a platform for electricity trading exchanges. The relevant platform will be defined in terms of processes and procedures consolidated in a **High Level Functional Architecture**, which will be enclosed in a **Memorandum of Understanding** for the establishment of a zonal platform for power trading.

In this phase a **Concept Note** justifying the Pilot Project will be prepared and then a Final Roadmap will be presented, discussed and approved through the Memorandum of Understanding among the three TSOs (ONEE, STEG, SONELGAZ).

**A deliverable (D.1) must be finalized at the end of this step describing the proposal revised by the project team and agreed by the three TSOs**

### Step 3 - Regional Stakeholders engagement

In order to make feasible the Pilot Project implementation, Med-TSO will set-up and develop the activities of a **Coordination Table** among the relevant regional stakeholders (Ministers, Authorities, TSOs, Regional Institutions like COMELEC, and others). The stakeholders' involvement (Coordination Table) should follow, support and finally endorse the proposals elaborated by the Project Team. Then the Shareholders engagement shall last for the whole duration of the Pilot Project and is like to continue after the final implementation.



A clear and quick procedure must be established by Med-TSO in order to allow the Steering Committee and the Coordination Table to discuss the deliverables to be submitted to the Steering Committee.

A deliverable (D.2) must be approved by Steering Committee the steering committee and Med-TSO Management bodies.

#### Step 4 - Establishment of a benchmarking on similar cases of electricity market and trade platform projects

The Project Team will elaborate its proposal taking advantage from similar experiences matured in other regions.

At this aim, the Project Team will:

- a) analyse the integration models and possible arrangements for cross-border trading existing in the international arena (from bilateral unidirectional to bilateral multi-countries, to multilateral and unified; from short term to long term cooperation models);
- b) identify and assess the features typical of each model;
- c) analyse international case studies relevant for each model. Globally, there are several successful examples of multi-country interconnected systems that support multilateral power trade:
  - in Europe (e.g. continental EU synchronized grid, Nord Pool, Iberian Market);
  - Southern Africa (Southern Africa Power Pool-SAPP);
  - Middle East (GCCIA);
  - USA (PJM), Central America (Central American Electrical Interconnection System-SIEPAC), and Asia Pacific Region.

Many others are in a developing phase in Middle East, Africa and Asia Pacific Region. The related cases represent varying degrees of market integration, as well physical interconnection. The Project Team will identify the international experiences that can be of interest and select the cases constituting the possible benchmark in terms of context, objectives and similarities;

- d) select the model that best fits the Maghreb TSOs objectives and use it as the base for the proposal for Maghreb zone.

#### Step 5 - Definition of cooperation principles

The Project Team will discuss and agree the cooperation principles supporting the possible Operational Agreement (i.e. agreement for the platform management) and the products to be exchanged (e.g. energy, capacity, ancillary services).

#### Step 6 - Establishment of a benchmark on electricity generation and bidding costs/price

The Project Team will identify, via international benchmarking, the best practices for the issues relevant to the power trading effective and efficient implementation, including among others price definition (for energy, capacity, ancillary services), bidding processes, access rights to the platform and wheeling charges.



## Step 7 - Analysis of the status of regulatory framework in Maghreb countries

The project Team will analyse the situation of the electricity sector regulation in the different countries of the Maghreb zone, identifying similarities and the differences in the related jurisdictions in terms of technical and interconnection exchanges regulations and also the barriers to be removed in order to increase exchanges in the Maghreb zone.

The project team have to work also in the existing bilateral procedures in order to revise them or to take account when establishing new procedures.

A deliverable (D.3) must be finalized at the end of these steps (4,5,6 &7) describe (i) a benchmarking on similar cases of electricity market and trade platform projects, (ii) Definition of cooperation principles, (iii) a benchmark on electricity generation and bidding costs/price and (iv) Analysis of the status of regulatory framework in Maghreb countries.

Parts of deliverable (D.3) describe real existing experiences in different countries in the world, which in principle does not require the approval by the Steering Committee; however in order to increase the coherence, D.3. will be submitted for approval to the Steering Committee.

## Step 8 - Determination of the minimum requirements necessary for the proper functioning of the electricity exchange and regional market at its first stage.

The Project Team will identify the minimum requirements for the functioning of the selected power trading model in terms of technical, commercial (exchanges) and communication arrangements as well of technical grid parameters setting and coordinated operation procedures.

## Step 9 - Gap analysis and action plan for filling the gap.

Based on the analysis performed in the previous steps the Project Team will identify the issues needing an intervention by the relevant TSO to become compliant with the determined minimum requirement conditions. The relevant TSOs will develop their best effort to ensure that the necessary actions to reach the requested modification/improvement in a defined period within the Pilot Project time horizon.

The conclusions and recommendations of the Project Team will be split in two parts: a first part which can be implemented by the relevant TSOs in their prerogative and a second part including the recommendation to be presented to high level if needed (Ministry, Regulators, or regional institutions).

A deliverable (D.4) must be finalized at the end of these steps (8 & 9) describe (i) the minimum requirements necessary for the proper functioning of the electricity exchange and regional market at his first stage and (ii) action plan for filling the gap.

Depending on the procedure created by Med-TSO, the Steering Committee must approve this deliverable (D.4) within a maximum of 4 weeks of its finalization by the Project Team.

## Step 10 – Development and establishment of the Operational Agreement

The Project Team will define the processes and procedures of the exchange platform consolidating the relevant rules and organization in a detailed Operational Agreement in accordance with the international best practice. At the same time, the Team will select a software for the practical implementation of these processes, chosen among those available in the international arena, and define the deployment plan for a fast track first





application. After the Med-TSO validation, the relevant proposal will be presented to the Stakeholders Zonal Group for the related approval.

A deliverable (D.5) must be finalized at the end of this step, by the Project Team, describing the development and establishment of the Trading Agreement.

Depending on the procedure created by Med-TSO, the Steering Committee must approve this deliverable (D.5) within a maximum of 4 weeks of its finalization by the Project Team.



## 5. Tentative Road Map: GANTT

In general, the conception of a roadmap (Figure 4.- Tentative road map (GANTT)).must contain the deadlines necessary for the various tasks for its implementation, as well as the sequential processing of these tasks, which explains that at this phase this roadmap is still preliminary. However, any other modification by the project team of the deadlines or sequence of tasks at an advanced stage will be permitted.

Task N°	Task Name	Responsible	Duration			N°Task Before	Cumul Days		Date		Month													
			Months	Weeks	Days		Start	End	Start	End	1	2	3	4	5	6	7	8	9	10	11	12		
	<b>Project</b>		<b>12</b>	<b>≈ 51</b>	<b>360</b>				<b>01/01/2021</b>	<b>27/12/2021</b>														
1	Step 1: Creation of a dedicated Project Team	Med-TSO	2	≈ 8	60	0	0	60	01/01/2021	02/03/2021														
2	List Project Team valid	Med-TSO	0	0	0	1	60	60	02/03/2021	02/03/2021														
3	Step 2: Inception phase	Project Team	2	≈ 8	60	2	60	120	02/03/2021	01/05/2021														
4	Deliverable 1: The proposals revised by the project team	Project Team	0	0	0	3	120	120	01/05/2021	01/05/2021														
5	Step 3: Regional Stakeholders engagement	Med-TSO	1	≈ 4	30	4	120	150	01/05/2021	31/05/2021														
6	Approvals of Deliverable 1 by stakeholders	Stakeholders	0	0	0	5	150	150	31/05/2021	31/05/2021														
7	Step 4: Benchmarking on similar cases	Project Team	3	≈ 12	90	6	150	240	31/05/2021	29/08/2021														
8	Step 5: Definition of cooperation principles	Project Team	3	≈ 12	90	6	150	240	31/05/2021	29/08/2021														
9	Step 6: Benchmark on generation & bidding costs/price	Project Team	3	≈ 12	90	6	150	240	31/05/2021	29/08/2021														
10	Step 7: Analysis of the status of regulatory framework	Project Team	3	≈ 12	90	6	150	240	31/05/2021	29/08/2021														
11	Deliverable 2: Benchmarking, Definition of cooperation & Analysis	Project Team	0	0	0	10	240	240	29/08/2021	29/08/2021														
12	Step 8: Determination of the minimum requirements	Project Team	2	≈ 8	60	11	240	300	29/08/2021	28/10/2021														
13	Step 9: Gap analysis and action plan for filling the gap	Project Team	2	≈ 8	60	11	240	300	29/08/2021	28/10/2021														
14	Deliverable 3: The minimum requirements & Action plan	Project Team	0	0	0	13	300	300	28/10/2021	28/10/2021														
15	Approvals of Deliverable 3 by stakeholders	Stakeholders	0	0	0	14	300	300	28/10/2021	28/10/2021														
16	Step 10: Development & establishment Trading Agreement	Project Team	2	≈ 8	60	14	300	360	28/10/2021	27/12/2021														
17	Deliverable 4: Agreement, contract & cooperation	Project Team	0	0	0	16	360	360	27/12/2021	27/12/2021														
18	Approvals of Deliverable 4 by stakeholders	Stakeholders	0	0	0	17	360	360	27/12/2021	27/12/2021														

Figure 4.- Tentative road map (GANTT).

## **DISCLAIMER**

*This document contains information, data, references and images prepared by the Members of the Technical Committees “Planning”, “Regulations and Institutions”; “International Electricity Exchanges” and Working Group “Economic Studies and Scenarios”, for and on behalf of the Med-TSO association. Whilst the information contained in this document and the ones recalled and issued by Med-TSO have been presented with all due care, the Med-TSO Members do not warrant or represent that the information is free from errors or omission.*

*The information are made available on the understanding that the Med-TSO Members and their employees and consultants shall have no liability (including liability by reason of negligence) to the users for any loss, damage, cost or expense incurred or arising by reason of any person using or relying on the information and whether caused by reason of any error, negligent act, omission or misrepresentation in the information or otherwise.*

*Whilst the information is considered to be true and correct at the date of publication, changes in circumstances after the time of publication may impact on the accuracy of the information. The information may change without notice and the Med-TSOs Members are not in any way liable for the accuracy of any information printed and stored or in any way interpreted and used by a user.*

*The information of this document and the ones recalled and issued by Med-TSO include information derived from various third parties. Med-TSOs Members take no responsibility for the accuracy, currency, reliability and correctness of any information included in the information provided by third parties nor for the accuracy, currency, reliability and correctness of links or references to information sources (including Internet Sites).*