Organizing Framework for Scoping of PMR activities

Country:	**Tunisia**
Responsible official:	**National Agency for Energy Conservation (ANME)**
Date of submission:	**14.02.2014**

Outline of Template

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2. Overview of country's GHG emissions

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2. Overview of estimated timeline for formulation of Market Readiness Proposal

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I. Policy context:
Domestic mitigation objectives and emissions profile

I- Policy context: Domestic mitigation objectives and emissions profile

Policy context and objectives: General framework

Tunisia's international commitment

UNFCCC ratification → 1st national communication → KP ratification → Association with Copenhagen accord → NAMAs list submission → Biannual report

National strategies

- **CDM strategy**
- **National Strategy for Climate Change**
- **EE and RE strategy**

Mitigation instruments

- **CDM portfolio**
- **7 CDM projects and PoA registered**
- **NAMA development**
  - Building sector
  - Sanitation sector
  - Agriculture and forest sectors
- **Sectoral crediting**
  - Cement sector
  - RE electricity sector

Measurement, Reporting and Verification

- **Annual GHG inventory for energy and processes**
- **National GHG inventory system**
- **Energy information system**
- **MRV of NAMAs**

GHG IPCC inventory → CDM projects development → GHG accounting methods (WRI protocol, Bilan Carbone) → NAMA development → MRV systems

Capacity building/stakeholder consultation process

I- Policy context: Domestic mitigation objectives and emissions profile

Policy context and objectives

National Climate Change Strategy

- In 2010 Tunisia initiated a large national stakeholder consultation process which led to the development of its national strategy of climate change.
- The strategy proposes an anticipatory approach for adaptation and a proactive mitigation policy in order to enhance the **decrease of the economy's carbon intensity**.
- The mitigation objective will be updated in the coming months based on the EE & RE objectives, the latest developments of NAMAs in different sectors...
- The strategy considers market-based instruments as key for Tunisia's mitigation policy, particularly in the energy sector.

Submission on a New Market-based Mechanism to UNFCCC

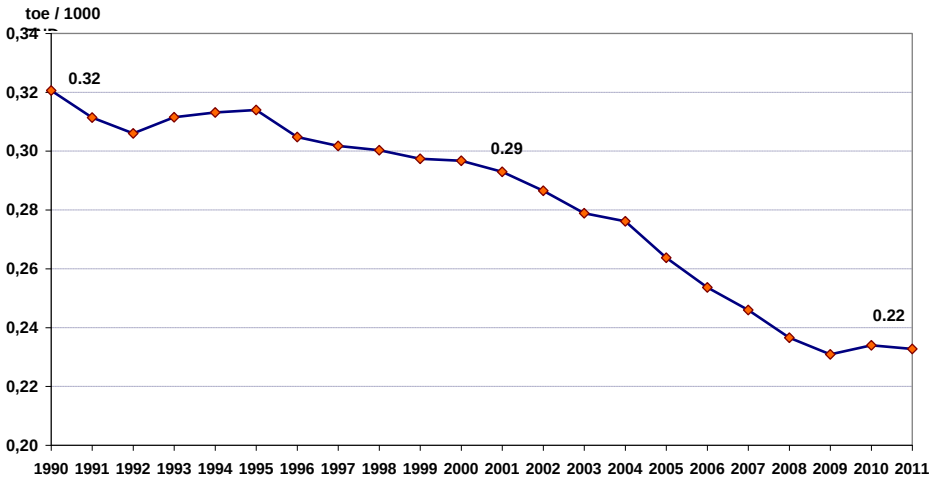
- Tunisia confirmed its engagement for the NMM by submitting a position paper to the UNFCCC, in March 2013 in accordance with FCCC/CP/2012/L.14/Rev.1, paragraph 52.
- It recommends clear but pragmatic governance and technical rules and encourages the adoption of common international rules at the 19th Conference of the Parties in November 2013.

I- Policy context: Domestic mitigation objectives and emissions profile

Policy context and objectives: Mitigation policy in energy sector

- Policy focusing on EE an RE development.
- Initiated early 1980's and reinforced since mid-2000s with the development of ambitious programs (2005-2007 and 2008-2011):
  - Decrease of the carbon intensity by 2% per year on average (1990-2011).
- Development of new ambitious strategies in 2012 :
  - Reaching 7% of RE in final energy demand by 2020 and 12% by 2030;
  - Reaching 30% of electricity generation from renewable sources in 2030;
  - Reducing the primary energy demand by 17% in 2020 and 34% in 2030, compared to the BaU scenario (12 Mtoe in 2030 instead of 19.5 Mtoe);
  - 48% of emission reductions by 2030

Final energy Intensity : Decrease of 30% comparing to 1990



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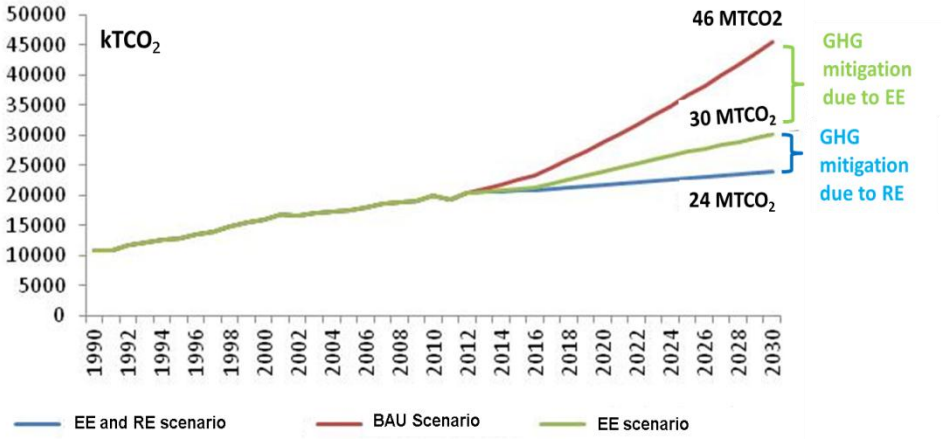


I- Policy context: Domestic mitigation objectives and emissions profile

Policy context and objectives: Mitigation policy in other sectors

NAMA in agriculture, forestry and land use change

- Increasing the effectiveness of the use of artificial nitrogen fertilizer;
- Development of applied research for improving fertilizer;
- Promotion of organic agriculture;
- Manure management;
- Conservation agriculture;
- Regeneration of natural forests and planting for biomass production;
- Conversion of marginal land to multipurpose plantations.

Solid waste: PRONGIDD (National Integrated and Sustainable Waste Management Program)

- Shutting down all uncontrolled dumps by 2016;
- Reduction of waste production at the source by 10% in 2016;
- Improving composting rate by 15% in 2016;
- Improving waste recycling by 20% in 2016.

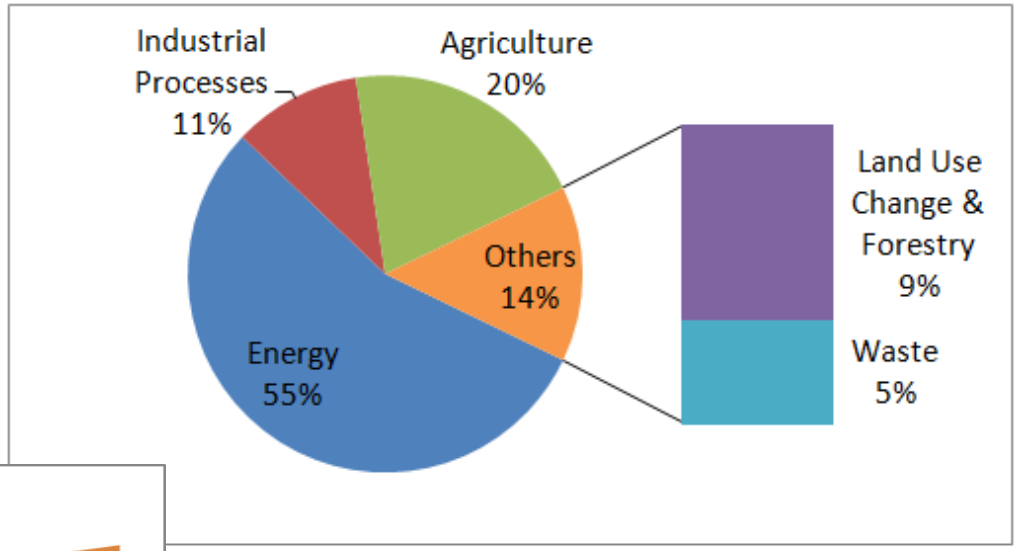
NAMA in the wastewater sector

- Stepping up connection rate in rural area to achieve 15% in 2020 and 26% in 2030;
- Stepping up connection rate in industrial zones;
- Spreading of 25% of dried sludge on agriculture lands by 2030;
- Methane recovery for electricity production (40% of dried sludge in 2030).

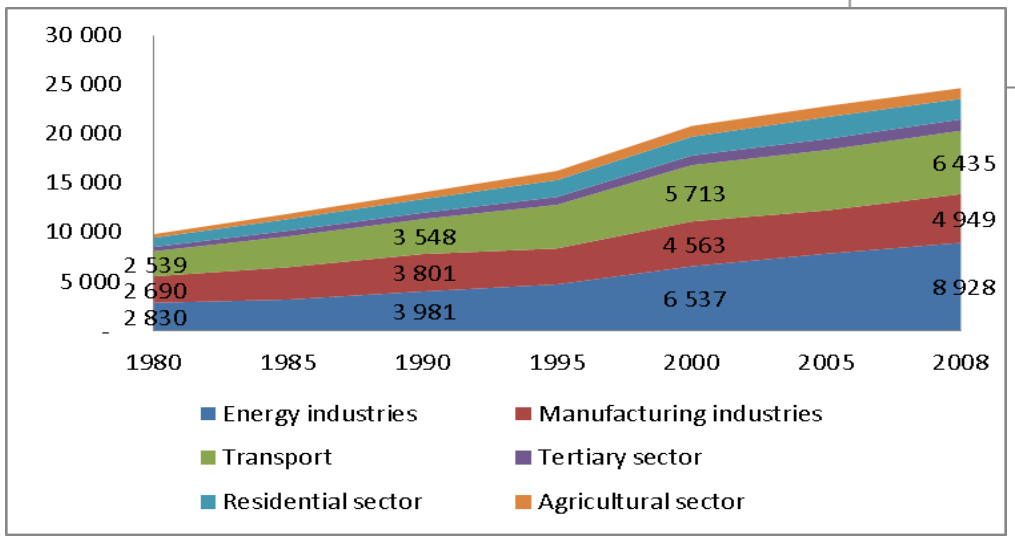
I- Policy context: Domestic mitigation objectives and emissions profile

Overview of country's GHG emissions

- Gross national GHG emissions: 37.8 million tCO2e in 2000 (3.96 tCO2e/cap.).
- GHG emissions increase: 4% per year (1994-2000), in the same rhythm as the economy growth.



National GHG emission in % in year 2000



Combustion-related emissions in 1000 tCO2e

- Domination of the energy sector (55% of total emissions, 20.78 million tCO2e) (2000).

II. Technical building blocks of Market Readiness and role of a GHG crediting instrument

Regarding market instrument development, Tunisia will focus on 2 sectors:

1- ***The cement sector,*** by improving energy performance and reducing process emissions

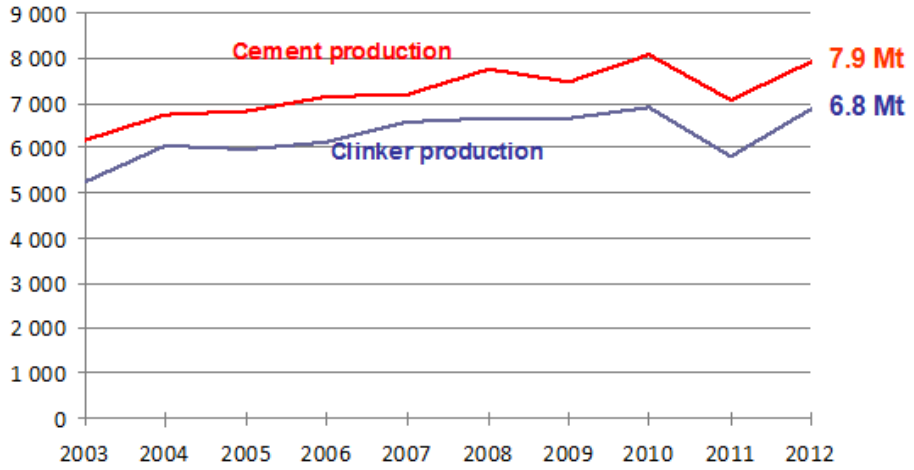
- Significant **mitigation potential** was identified in the sector : 8 MtCO2e over 2014-2020.
- **Willingness** and aptitude of cement companies to rally around a common goal and to engage in mitigation efforts.
- The sector comprises **9 well-structured companies**, equipped already with monitoring systems measuring and controlling the main production factors as well as material compositions.
- Partial experience in terms of **monitoring and notifying emissions**: Some cement companies are already monitoring their emissions (CSI protocol, WRI GHG protocol, 1 CDM registered project, monitoring of air pollutants).
- Development of **NAMA/NMM concept** in a stakeholder consultation process: baseline and mitigation scenario, cost analysis, proposal for mitigation mechanism design.
- Submission of NAMA concept to the **NAMA facility**.

2- ***Energy sector***, particularly **electricity sector**

- **High mitigation potential**: 60% of the total potential
  - The electricity sector represents 40 to 50% of the mitigation potential of the energy sector.
- **Energy conservation** is considered by law as national priority (energy law 2009).
  - Fast growing **energy deficit** inducing challenges in terms of energy supply security and economic vulnerability to rising fossil fuel prices.
  - Fast **growth of electricity demand** with challenges to meet required investments in generation capacity.
- Development of the **Tunisian Solar Plan** with the objective of reaching a share of 30% from total generated electricity by 2030 (3700 MW of wind and solar).
- Availability of data due to the existence of **Energy Information System** managed by ANME.
- With the support of UNDP, Tunisia is currently exploring the possibilities of **carbon instruments in the electricity sector** (NAMA and sectoral crediting mechanism).

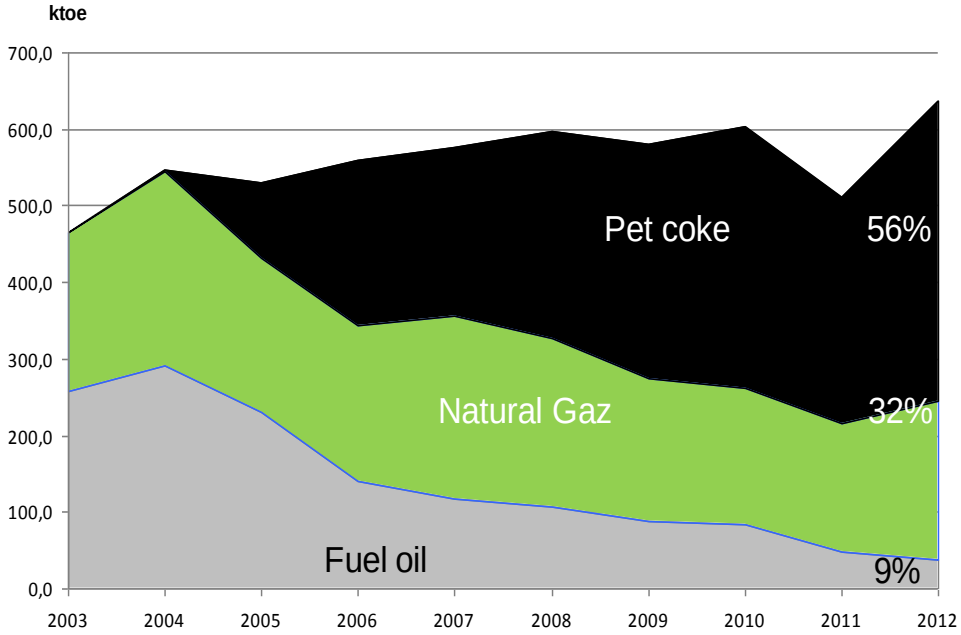
II- Technical building blocks of market-readiness

Assessment of readiness of cement sector: Coverage and characteristics



- 8 cement plants, in 2012 producing 7.9 Mt of cement
- A ninth plant, with an annual production capacity of 2.2 Mt cement, started production in October 2013

- Final energy consumption : 740 Ktoe in 2012; 1/3 of the energy consumption of the industrial sector and 11% of the total energy consumption
- Emissions (2012): 6.4 MtCO2e, around 10% of Tunisian GHG emissions
- Carbon intensity (2012) : 0.810 tCO2e/t cement



Thermal Energy consumption (89%)

II- Technical building blocks of market-readiness

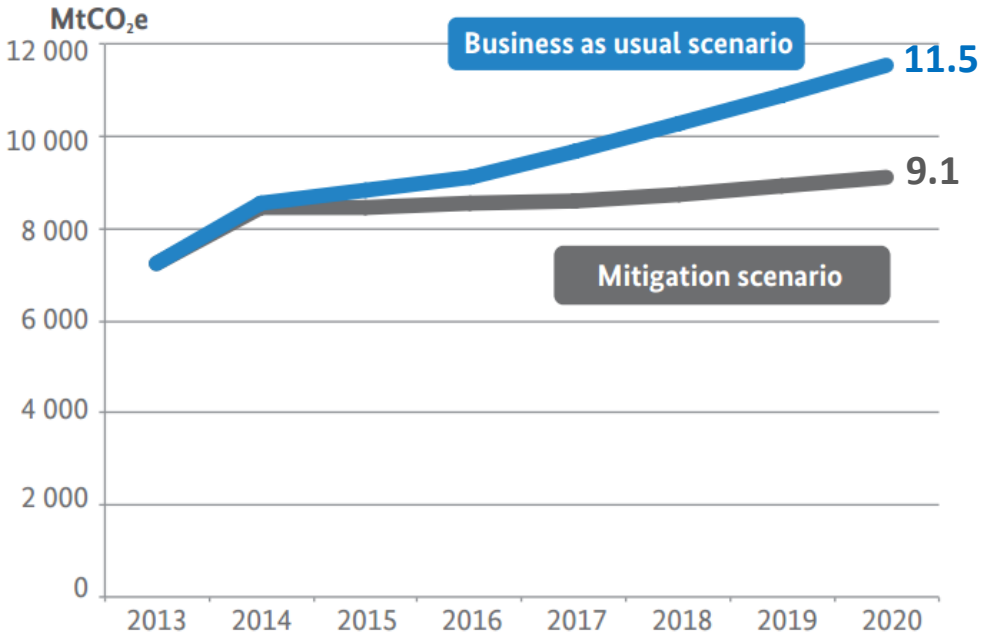
Assessment of readiness of cement sector: Target and potential impact

Baseline and mitigation target

- Business as usual : 11.5 MtCO2e by 2020, with a carbon intensity of 0.793 tCO2e/t cement produced
- Target: lowering the carbon intensity to 0.626 in 2020 (21% decrease)

Potential impact

- Total mitigation potential: 8 MtCO2e over 2014-2020
- *EE measures*: 1.7 MtCO2e,
  RE measures: 2.5 MtCO2e,
  Reduction of the clinker/cement ratio: 1.2 MtCO2e,
  Co-processing: 2.6 MtCO2e
  (over 2014-2020)



BaU scenario vs mitigation scenario

II- Technical building blocks of market-readiness

Assessment of readiness of cement sector: Barriers

1. Regulatory barriers

Wind energy

Electricity production was opened to private participation

However

Regulatory framework still unclear

Co-processing

Subject to very strict rules

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Limit emission values imposed by Tunisian law are more strict than those of the European Directive (NO_x, dust)

Low clinker cement

Some cement types are not allowed

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Specific applications according to the cement type and strength class

II- Technical building blocks of market-readiness

Assessment of readiness of cement sector: Barriers

2. Common practices

Investing in EE , co-processing or in wind energy is not considered by the cement plants as core business

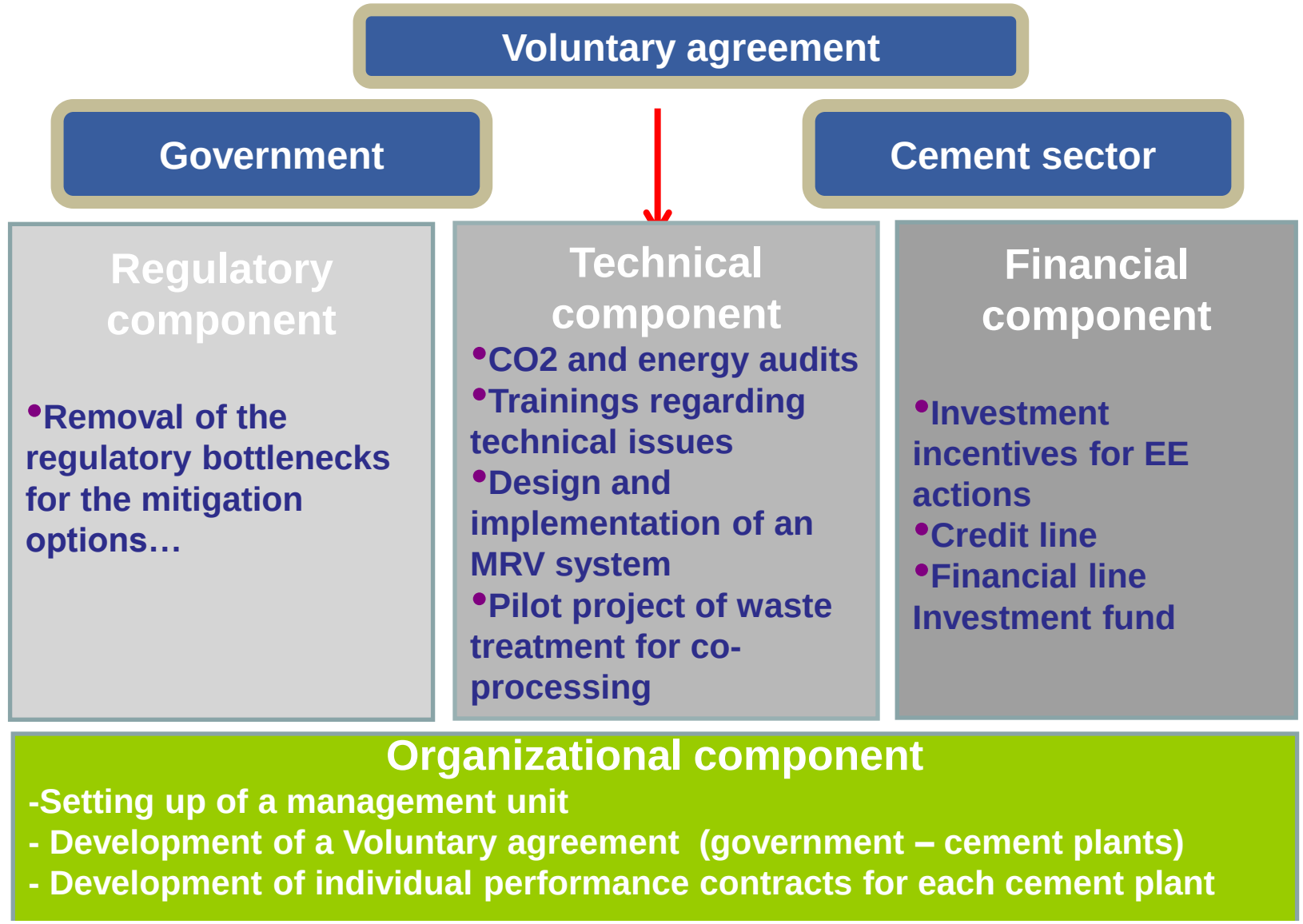
3. Financial barrier

High investment Costs (968 Million€) especially for wind energy and Co-processing

Risky investments

II- Technical building blocks of market-readiness

Assessment of readiness of cement sector: Relevant policy/regulation to be implemented



Tunisia seeks support from the PMR in preparing and testing this mechanism:

- Developing the **organizational, regulatory, technical and financial components.**
- Developing a detailed **MRV system and capacity building** for the cement plants.
- Negotiating the required **agreements** between stakeholders.
- Piloting and testing a **crediting mechanism in the sector.**

II- Technical building blocks of market-readiness

Assessment of readiness of electricity sector

Characteristics

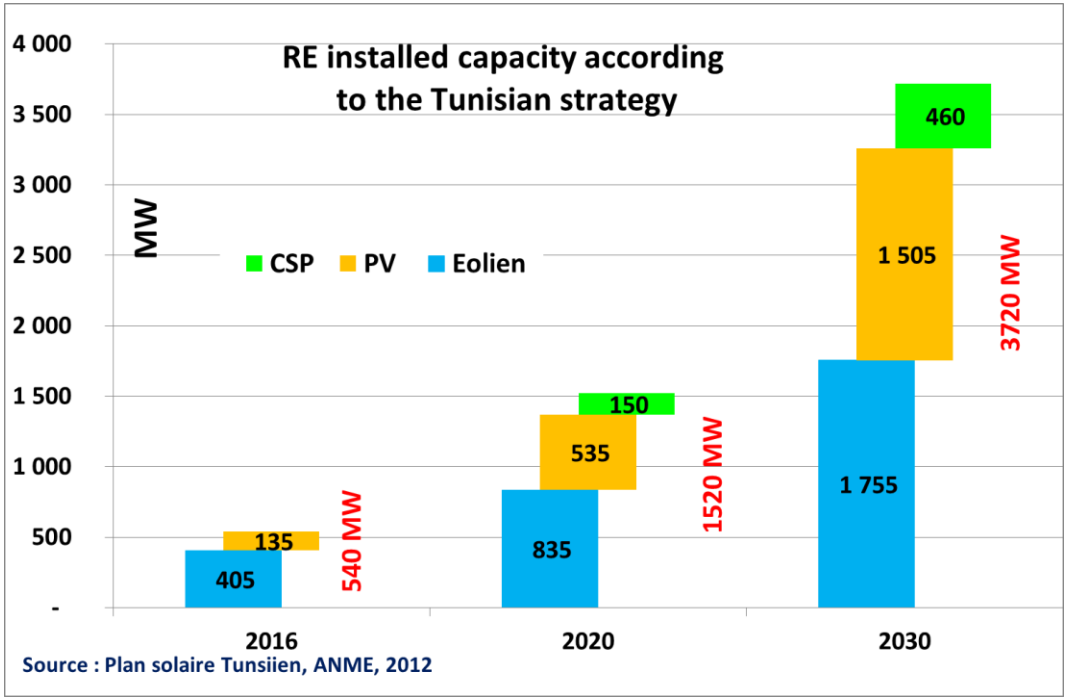
- **Fast growth**: 5% per year of energy demand and 11% of peak load
- **High consumption** of primary energy (Electricity sector consumes more than 45% of primary energy in 2012) - (34% in 2000)
- Large **subsidies** to the sector: 70% of electricity price in 2012
- Emission factor of the electricity sector: 550 tCO2e/GWh

II- Technical building blocks of market-readiness

Assessment of readiness of electricity sector: Target and potential impact

Baseline and target established in the electricity sector

- 30% of electricity generation from RE in 2030
- RE installed capacity of 3700 MW from 13200 total installed capacity
- Decreasing the emission factor of electricity sector to 372 tCO2e/GWh by 2030 compared to the business as usual emission of 528 tCO2e/GWh



Impacts

- Required investment in RE: 5500 M€, mainly private
- Primary energy saving : 22 Mtoe over 2014-2030
- National energy bill saving: 18 500 M€ over 2014-2030
- Creation of more than 10,000 jobs

- **Regulatory and institutional barriers**:
  - Limited access to the grid for private independent producers. RE electricity generation is mainly allowed for own consumption
  - Absence of an independent regulatory body for electricity sector
- **Technical barriers:**
  - Weakness of the absorption capacity of the grid
  - Absence of a grid code for RE integration
- **Financial barriers:**
  - Large subsidy to conventional electricity (more than 70% of the price in 2012)
  - High investment cost for RE technologies
  - No feed-in-tariff for RE electricity generation

II- Technical building blocks of market - readiness

Assessment of readiness of electricity sector: Relevant policy/regulation to be implemented

- To achieve these ambitious goals, the following measures are required:
  - Legal framework reform in order to allow access to the grid for independent RE electricity producers
  - Attractive feed-in tariff with obligation of purchase by the utility
  - Establishing an independent regularity body for electricity sector
  - Reinforcement of the absorption capacity of the grid for RE electricity
  - Establishing a grid code for RE integration in the electricity system
  - Setting up an MRV and management unit for the Tunisian Solar Plan
- **Some reforms are ongoing or under discussion**:
  - Law on access to the grid and grid code
  - Discussions on feed-in tariff
  - Discussions on regulatory body

Tunisia seeks support from the PMR in:

- **Designing a crediting mechanism** for the sector by choosing the most appropriate option: Sectoral crediting, technology based approach, NAMA crediting, etc.
- Exploring the possibilities of **linking the feed-in tariff to the carbon market** by exchanging and learning from the other member countries.
- Developing a detailed **MRV system and capacity building** of the stakeholders (public and private).
- **Piloting and testing** the selected crediting mechanism in the sector.

For the implementation of NAMAs and market based mechanisms, it will be necessary to set up a national registry which centralizes the data of different mechanisms.

- This will help to ensure quality and transparency of emission reductions, avoid double counting and keep record of all mitigation initiatives and financing sources.
- There will be a need for technical assistance to develop a reliable national registry.
- **The detailed support needs will be identified during the preparation phase (MRP) in close cooperation with the concerned stakeholders:**
  - Ministry in charge of Environment and Climate Change Focal Point
  - Ministry of Finance
  - Ministry of International Cooperation
  - Sectoral ministries, etc.

II- Technical building blocks of market readiness

Interest in market-based instruments

- Tunisia has been active in the CDM; however the results were below expectation (**7 registered CDM projects and PoAs**) despite the large effort undertaken by the stakeholders.
- The CDM, as a project based mechanism, is not well adapted to the Tunisian context, partly because of its **economic structure which is based on SMEs**. SMEs are unable to develop large CDM projects attractive to carbon investors and transaction costs are very high.
- For that reason Tunisia moved to the development of more **flexible and cost effective crediting mechanisms, such as NAMAs and NMM**

Considering the resources of the PMR and the readiness of the sectors, the PMR support will be focused on the cement and the electricity sector.

III- Organization and consultations

III- Organization and consultations

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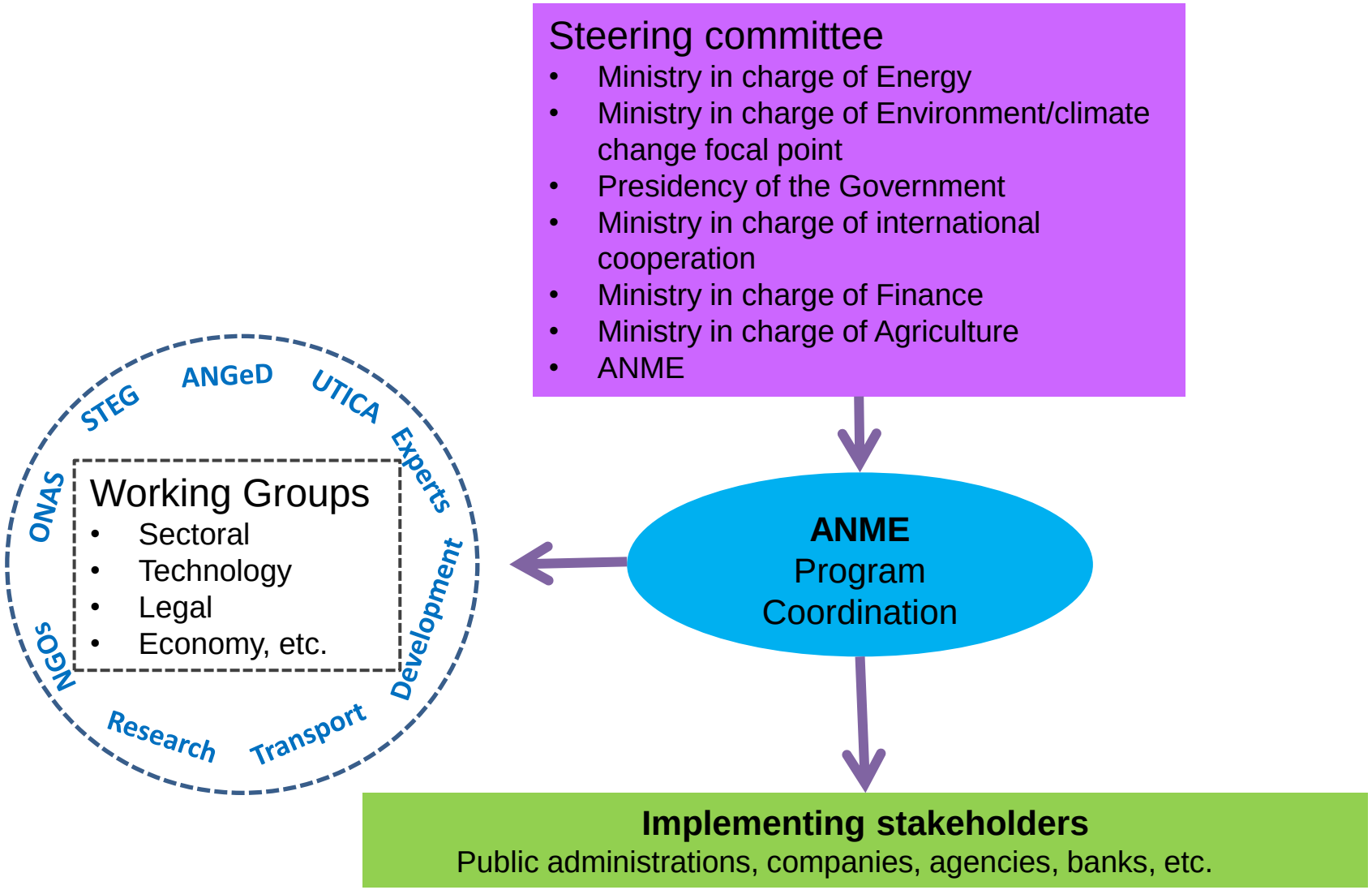
III- Organization and consultations

Consultation process

Date	Participants	Topics
22 November	ANME, experts, GIZ	Preparing the consultation process for EoI and OF development
13 December	Presidency of Government Ministry of Development and international cooperation Ministry on Industry General Directorate of Energy	Presentation of the PMR Presentation and discussion of the first draft of the EoI
9th January morning	Ministry of Industry, National Agency for Energy Conservation, Tunisian Company for Electricity and Gas, STEG renewable energy, National Chamber of Cement Manufacturers , Tunisian Company of Petroleum Activities and Tunisian Company for Refinery Industry, GIZ	Presentation of the PMR Presentation and discussion of the second draft of the EoI Discussion on the preliminary design of the institutional organization of the PMR implementation
9th January afternoon	UNFCCC National focal point, Ministry of Infrastructure and Environment, Ministry of Agriculture, General Directorate of Forest, National Agency for Energy Conservation, National Sanitation Utility, National Waste Management Agency, GIZ.	Presentation of the PMR Presentation and discussion of the second draft of the EoI Discussion on the preliminary design of the institutional organization of the PMR implementation
28th January	23 participants: All the above stakeholders + Tunisian Association of Energy Conservation (NGO)	Presentation, discussion and approval of the organizing framework of the PMR

III- Organization and consultations

Partners in the formulation and implementation of the country's Market Readiness Proposal



III- Organization and consultations

Partners in the formulation and implementation of the country's Market Readiness Proposal

- Steering committee:
  - Decides the broad guidelines of the program
  - Monitors and evaluates its implementation
  - Facilitates coordination among different sectoral and cross-sectoral institutions
- National Agency for Energy Conservation:
  - Carries out the day by day activities and acts as the coordinating entity for the program
  - Ensures the secretariat of the committee and the coordination of its meetings
  - Ensures the follow-up of the preparation activities and later their implementation
- Working groups: ad-hoc groups to work and propose solutions for specific issues

IV- Other key relevant initiatives

- Development of a NAMA on energy conservation in buildings in Tunisia (2012-2013, part of the global 'Mitigation Momentum' project supported by the German Federal Ministry for the Environment in five countries, implemented by ANME);
- Development of NAMA in sanitation sector in Tunisia (2013-2014, supported by German Federal Ministry for Economic Cooperation and Development, implemented by ONAS/GIZ, in progress);
- Development of NAMA in agriculture, forestry and land-use change sectors in Tunisia (2013-2014, supported by German Federal Ministry for Economic Cooperation and Development, implemented by Ministry of Agriculture/GIZ, in progress);
- Capacity development for greenhouse gas inventory and MRV in Tunisia (2012-2016, supported by German Federal Ministry for the Environment, implemented by ANME/GIZ);
- Local GHG management by the City of Sfax (2013, supported by German Federal Ministry for Economic Cooperation and Development, implemented by City of Sfax/GIZ, completed).

V- Organization of work and estimated timeline

Overview of organization of work/tasks envisioned to prepare the Market Readiness Proposal

	Activities	Lead organization
1.	Setting up of a steering committee for the PMR implementation	ANME
2.	Triggering a process for the set-up of a coordination entity in charge of mitigation policies at the national level	Steering committee
3.	Scoping study to confirm priority sectors based on a multi-criteria analysis	Consultant(s)/ Steering committee
4.	Research and analytical work on crediting options and assessment of their suitability for the identified sectors	Consultant(s)
5.	Gaps analysis of institutional set up, MRV system and technical expertise	Consultant(s)/ Steering committee
6.	Selection of (a) pilot project(s) and drafting of its preliminary design: baseline and mitigation scenario, economic, legal, institutional, organizational framework.	Consultant(s)/ Steering committee
7.	MRP drafting	Consultant(s)
8.	Conduction of stakeholder consultation and training workshops throughout the process of the MRP preparation	Steering committee/ Consultant(s)

V- Organization of work and estimated timeline

Overview of estimated timeline for formulation of Market Readiness Proposal

	Activities	1	2	3	4	5	6	7	8	9	10	11	12
1	Setting up of a steering committee for the PMR implementation												
2	Triggering a process for the set-up of a coordination entity in charge of mitigation policies at the national level												
3	Scoping study to confirm priority sectors based on a multi-criteria analysis												
4	Research and analytical work on crediting options and assessment of their suitability for the identified sectors												
5	Gaps analysis of institutional set up, MRV system and technical expertise												
6	Selection of (a) pilot project(s) and drafting of its preliminary design: baseline and mitigation scenario, economic, legal, institutional, organizational framework.												
7	MRP drafting												
8	Conduction of stakeholder consultation workshops and trainings throughout the process of the MRP preparation												

VI- Conclusions – Summary of priority areas for PMR support

- Two sectors are identified as a priority for the market-based mechanisms implementation: the **cement** sector and the **electricity** sector.
- Tunisia plans to implement **sectoral crediting mechanisms** in these sectors.
- Tunisia considers the PMR as a platform to **innovate and exchange experiences** with the other members. We would like to explore innovative mechanisms, such as linking renewable electricity incentive mechanisms (e.g. feed-in tariff) with the carbon market.
- Tunisia wants to use PMR assistance
  - to **set up a coordination entity for mitigation policy** at the national level.
  - to set up a **national registry** to keep record of all mitigation initiatives and financing sources.
  - to **build market readiness** by developing the legal, financial and technical framework in the cement and energy sector.
  - to **pilot a sectoral crediting mechanism** in at least one of the two sectors.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Thank you