

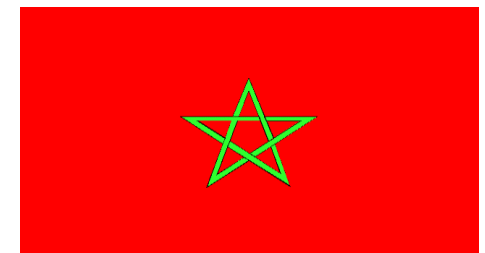


Moroccan Integrated Solar Plan

2nd Japan-Arab Economic Forum

Tunis, December 11, 2010

masen
Moroccan Agency
for Solar Energy



The Moroccan Solar Plan

An Audacious and Pro-active Project



National energy strategy focusing on RE

**Sustainable
economic growth**



Energy consumption
Increasing demand
x2 by 2020 and x4 by 2030

**Willingness to increase
energy independency**
Limiting import (today 95%)

Capacity increase



Stable offer
less volatile fossil based

**Sustainable
development conviction**

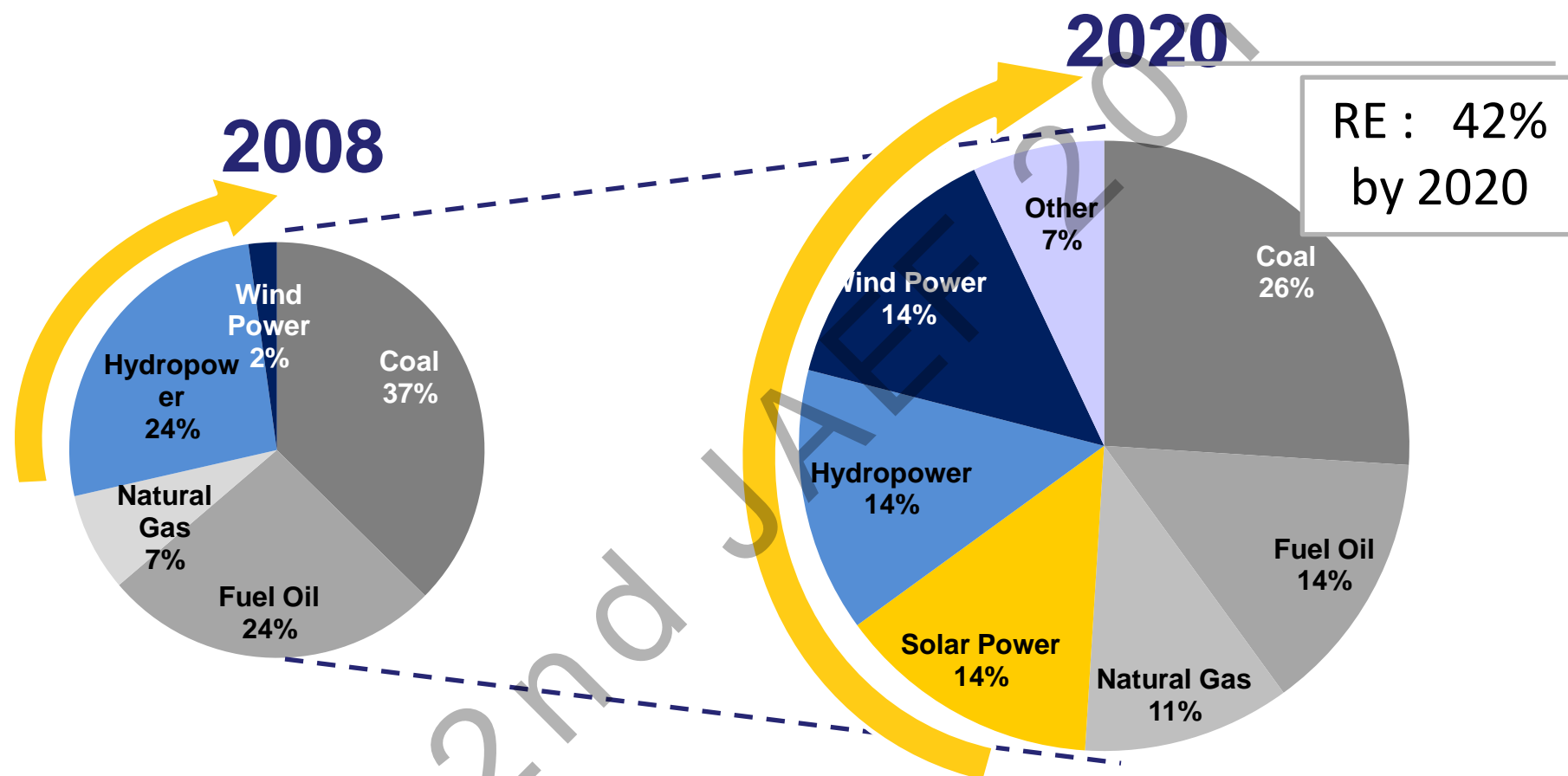
Diversification



ALL X COAL

**Promote renewable
energies**

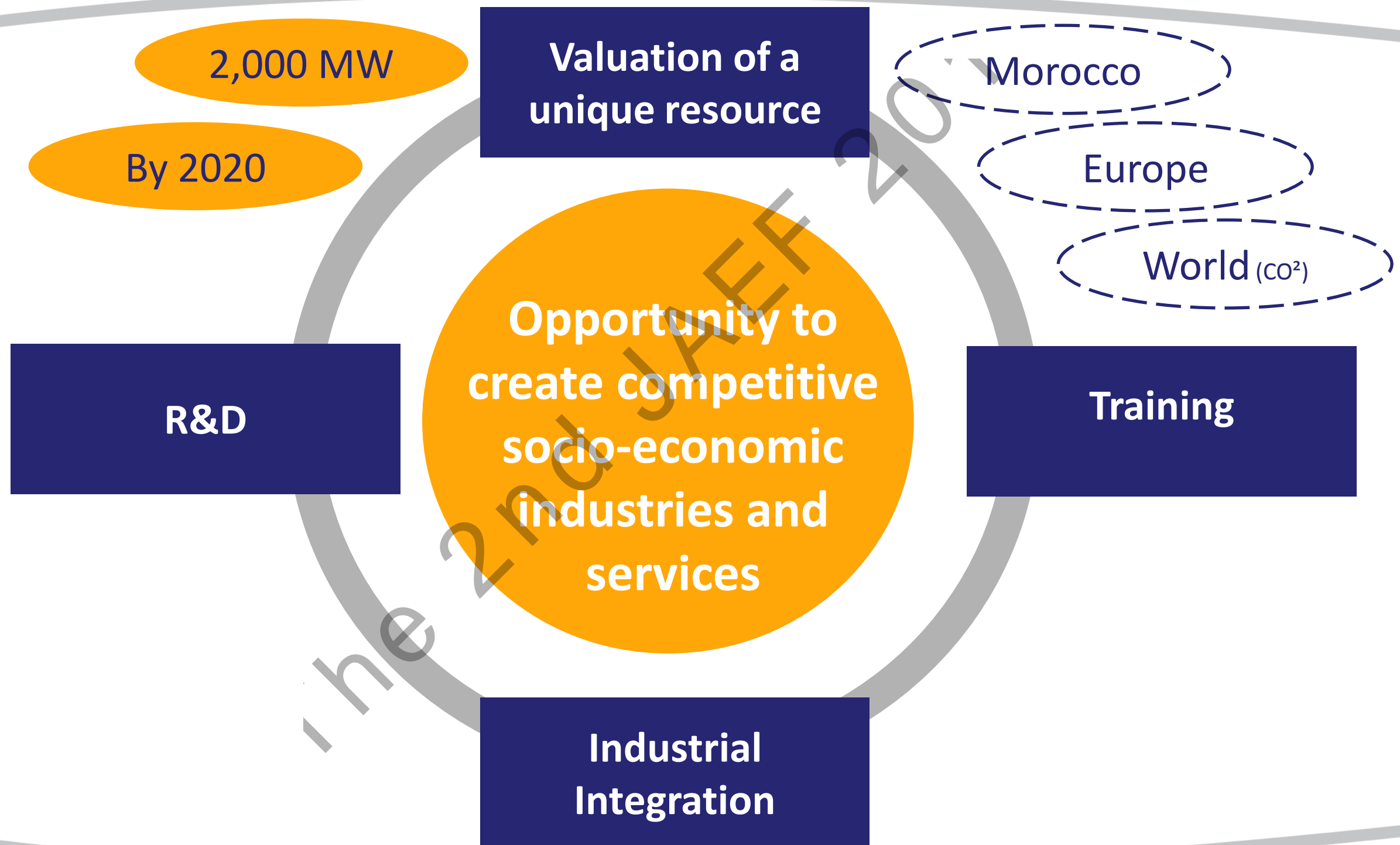
Strong commitment to the targeted mix



By 2020, the installed capacity from renewable sources shall represent 42% of the total capacity of which **14% for Solar**

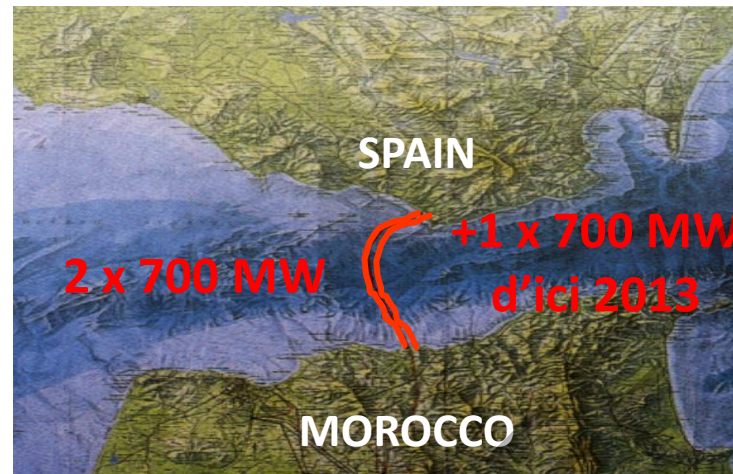
Solar : CO₂ emissions to be avoided add up to 3.7 Mt per year

An Integrated and Multi-dimensional Vision



Well-equipped to meet the ambitions level

Abundant solar
resources



Capacity to achieve large
projects



At the heart of energy
crossroads

Institutional

Clear support from the
Government
← reduction of fossil
compensation in progress

Legislative

Enactment of new laws :
ENR, ADEREE, MASEN
→ Increased liberalization

Operational

Creation of dedicated
entities: SIE, ADEREE, MASEN, ...

ENR : Renewable Energies

ADEREE : Agency for the Development of Renewable Energies and the strengthening of Energy Efficiency

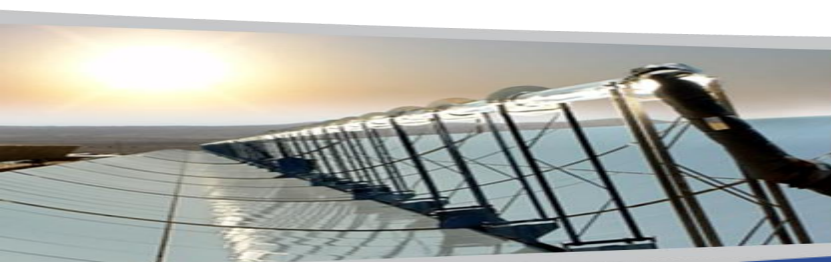
SIE : Company for Energy Investments

Objectif 2020
2000 MW

masen
Moroccan Agency
for Solar Energy

MASEN

A Dedicated, Dynamic, and “Forearmed” Actor



Three major missions, all in the framework of Tri-partite logic

MASEN's Missions

Contributing to
the development
of local expertise

Developing solar
power plants

Acting as a trigger
at national and
international scales

***...supported by 2 conventions which seal MASEN's relations with
the State and ONE (Office National de l'Electricité)***

State-MASEN

- Modalities, technical requirements and mechanisms designed to ensure financial balance of each project throughout the realization of the solar plan

ONE-MASEN

- Rules and terms for the supply, transportation, and the commercialization of the electric power produced

A joint stock company publicly funded

Objective

Achievement of a min of 2 000 MW of integrated solar projects by 2020.

(electric production of solar origin, industrial integration , R&D, Training...)

Legal Status

- Joint Stock Company

Governance

- Board of Trustees and Supervisory Board

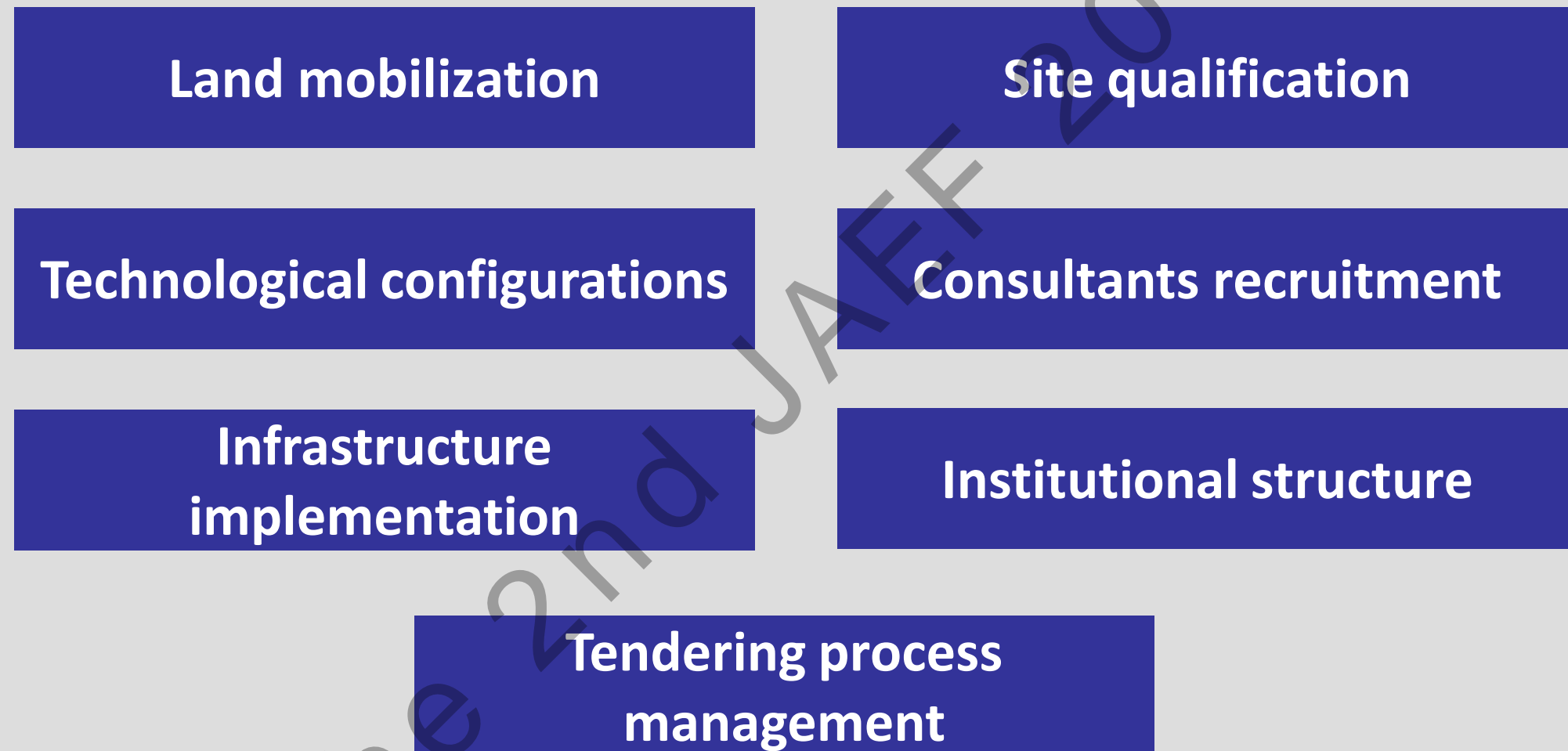
Initial Capital

- 500 000 000 MAD

Distribution of capital

- Government, ONE, Hassan II Fund and SIE (equal parts)

A global and rigorous methodological approach



Operational priority: Ouarzazate integrated complex



The Ouarzazate Complex

The First Project within the Moroccan Solar Plan

The Ouarzazate Complex: 500 MW by

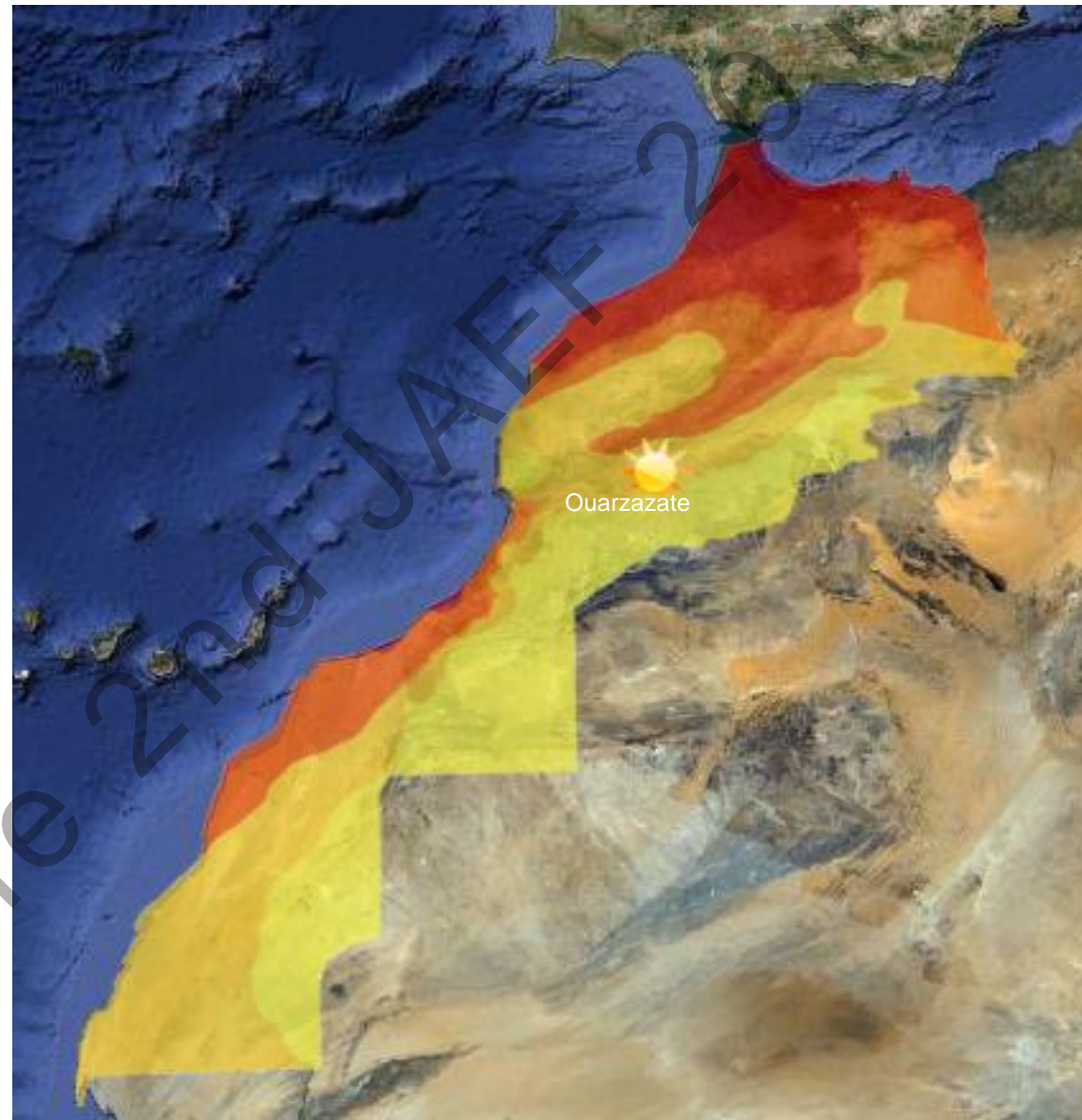
2015

Site



Ouarzazate City

Mansour Eddahbi Lake



Annual direct solar radiation

The Ouarzazate Complex: Several Steps Completed (1/2)

Land Mobilization

- A site of 2,500 hectares, located at 10 km North-east of Ouarzazate
- Contract for the acquisition of the site has already been signed

Site Qualification

- Qualification of the site is well underway, with confirmation of its perfect adaptability to a 500MW project

Solar Measurement	✓
Topography	✓
Seismicity	✓
Geotechnics	✓
Hydric resources	✓
Environmental impacts	✓ ...
Hydrological	...

Technological Configurations

- Phasing : 2 phases
- Capacity : 125 MW per project as a minimum at least for the first phase

Recruitment of Consultants

- Recruitment of leading consultants : (WorleyParsons; International Finance Corporation; Linklaters; Deloitte; Gide Loyrette Nouel; Valyans Consulting; Experts)

✓ Already completed

... underway

The Ouarzazate Complex: Several Steps Completed (2/2)

Infrastructure Development



- **Infrastructure development** (water carriage; power connection; road access; telecommunication network, basic structures) **of the site spearheaded by MASEN , preparing the site for developers**
- **The launch of works scheduled for 2011**

Institutional Structuring



- **Institutional Scheme has been defined : it is based on a public-private partnership (PPP) for the sake of a better distribution of risks among the various actors**

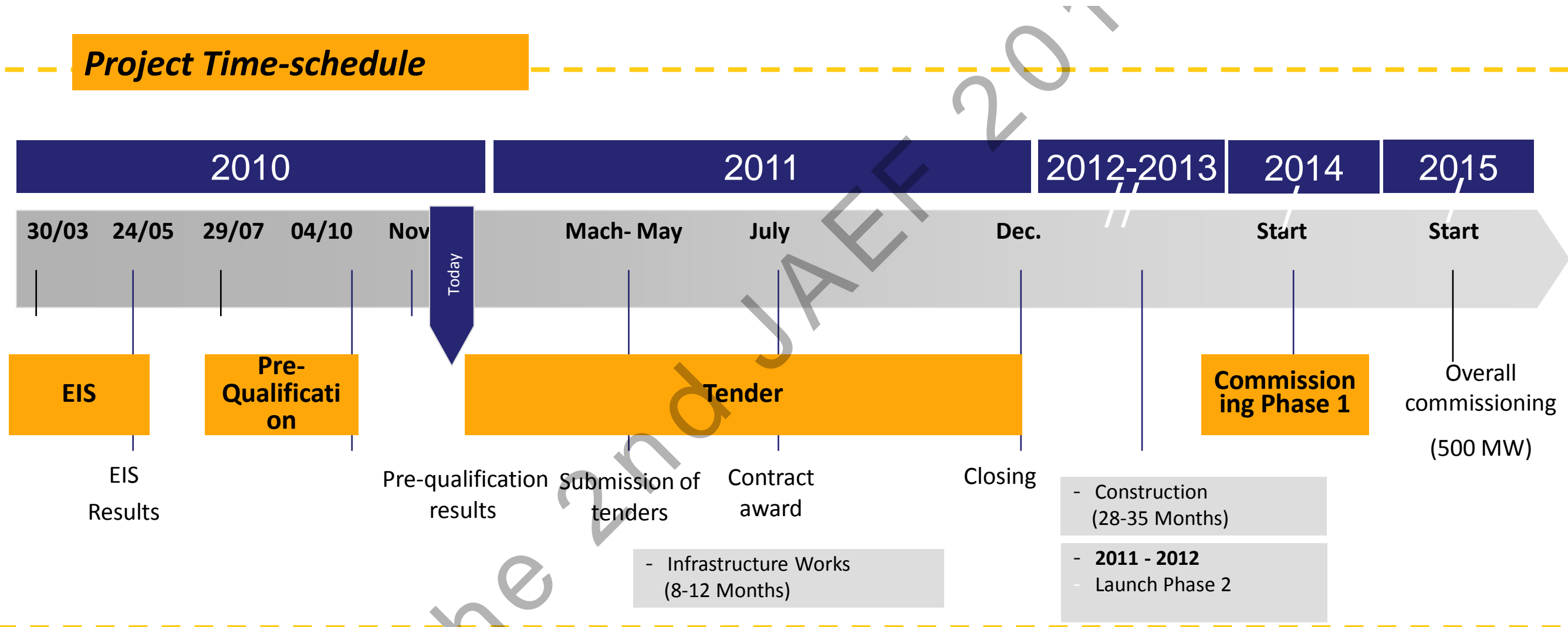
Launch of the Invitation to Tender



- **A Process in three stages:**
 - Call for Expression of Interest: scheduled in March 2010
 - RFQ for Phase 1: a process which is presently underway
 - RFP for Phase 1: launch date set for end of 2010

Program Schedule

Project Time-schedule



EIS : Expression of Interest Stage

Wide Adherence to the Project and its Structure

Local players and Population

Consultation meetings

- Rationale well understood
- Strong support
- Positive impact expected at different levels

Operators/Developers

Expression of Interest Stage

- 200 company bids
- Strong international presence
- Value chain covered

Pre-qualifying stage

- 19 candidates have responded to the Phase 1 RFQ launched by MASEN

International Financial Institutions

Exchange and Analysis already engaged

- Multilateral Development Banks
- Bilateral Development Banks

Many institutions have already expressed their interest in principle to participate in the financing of the Ouarzazate Program



**Thank you
for your attention**

