

KINGDOM OF MOROCCO

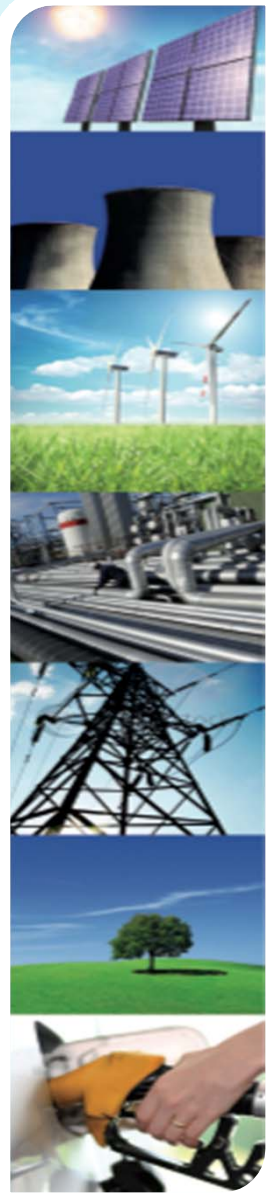


**RENEWABLE ENERGY IN MOROCCO  
COLLECTING DATA**

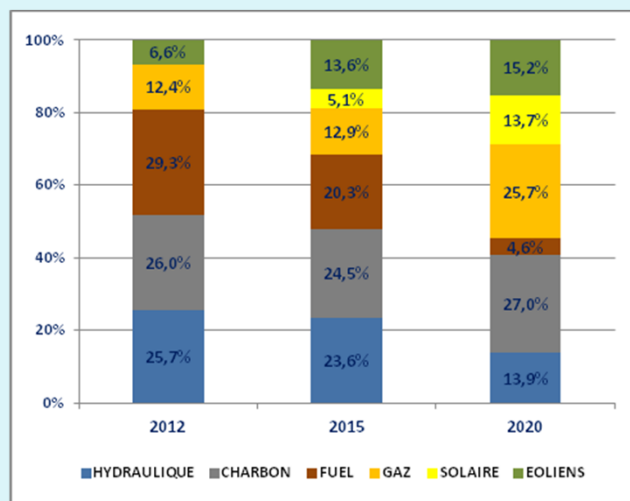
**REDAF IRENA WORKSHOP  
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# By 2020, 42% of the installed capacity will come from renewable sources



# WIND AND SOLAR INTEGRATED PROJECTS

## 1 SOLAR ENERGY PROGRAMME

## 2 WIND ENERGY PROGRAMME

Capacity	> 2 000 MW	> 2 000 MW (dont 1 000 MW déjà en fonction ou en développement)
annual Production	> 4 500 GWh	> 6 600 GWh
Investissement	> 9 milliards de USD	> 3,5 milliards de USD
Sites	> 5 sites identifiés (Ain Beni Mathar, Ouarzazate, Sebkhate Tah, Fom Al Ouad, Boujdour, ~10 000 ha)	> 5 nouveaux sites (Taza, Koudia Al Baida, Seudouk, Tiskrad, Boujdour)
Calendary	> 1ère centrale solaire: 2015 > Finalisation du programme : 2019	> 1er parc éolien : 2014 > Finalisation du programme : 2020
	> 1 million de tep/an > 3,7 millions d'émission de tonnes CO2/an	> 1,5 million de tep/an > 5,6 millions d'émission de tonnes CO2/an

**Launching programs with a vision of integration:  
industrial development, skills training, research and innovation, local development**

# Morocco is defining its position on the green energy value chain

## Potential positioning



Wind power

- Components of wind turbines (pales, mats, generators, transformers, others)



Solar power

- Components of PV plants (cells, strata, slides, panels, supports, others)
- Components of CSP plants (structure, flat mirrors, conducts, thermal storage, electrical equipment and command mechanisms, others)



Energy efficiency

- Energy saving equipment for the industry
- Energy saving lights, LED lamps
- Solar water heaters

## The implementation of the new energy strategy relies on three institutional and legal axis



- Adoption of legal texts to
  - endow the sector with an ad hoc governance,
  - reorganize the electricity sector
  - implement a national regulation scheme

- Creation of entities to lead the implementation of the strategy
  - MASEN
  - SIE
  - \_Reorganisation of the national Electricity Office ONE

This mechanism is supported by promotional measures, communication campaigns and proximity policies on : training, R&D development, improving the general public's awareness to energy issues

## a body of legal and regulatory texts was adopted to serve as a base for the implementation of the new energy strategy

### Law 13-09 related to renewable energies<sup>1</sup>

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- > Opening up for competition
- > Access to the electricity network
- > Green electricity exports
- > Construction of a direct line for exports

### Law of finance 40-08 instituting the Energy Development Fund<sup>2</sup>

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- > Creation of the Energy Investment Company (SIE)

1) BO n°5822 of March 18, 2010

2) BO n° 5695 bis of December 31, 2008

### Law n 16-09 related to the National Agency for the Development of Renewable Energies and Energy Efficiency<sup>1</sup>

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- > Promotion of the renewable energies' projects
- > Reinforcement of energy efficiency
- > Maps of wind and solar energy
- > Demonstrators for applied research

### Laws on energy efficiency

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- > Loi 47-09 relative to the Energy Efficiency
- > Law repealing the December 13, 1954 Dahir relative to the price of electricity
- > Decree n°528-09 relative to the «-20%,-20%» rate

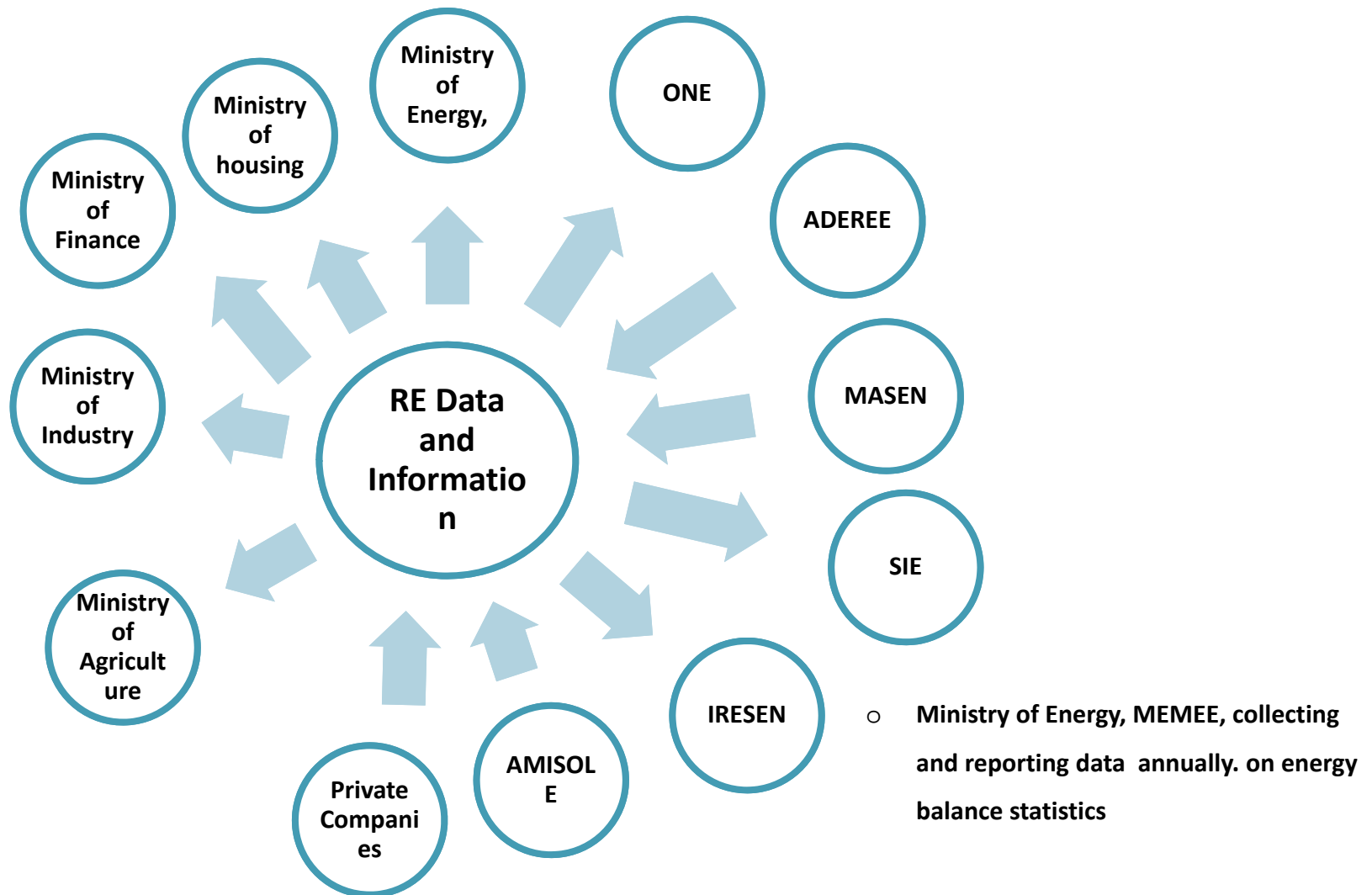
### Law 57-09 related to the creation of the "Moroccan Agency for Solar Energy"<sup>1</sup>

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- > Study and conception of projects
- > Promotion, placement, financing et implementation of projects
- > Contribution to the development specialized expertise, research and solar industry
- > Steering of the solar program implementation

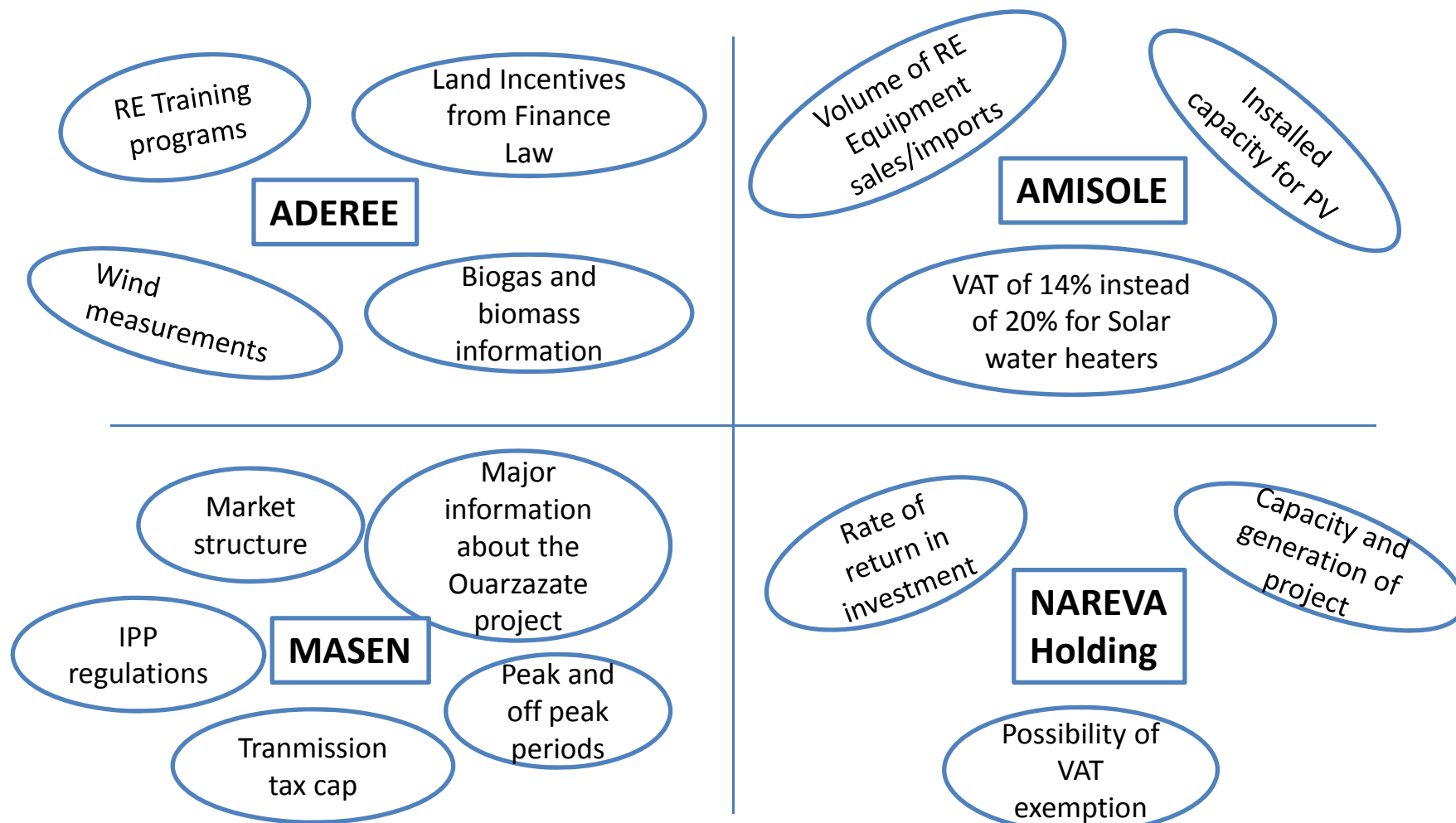
Le projet REDAF vise à développer un outil normalisé de collecte de données pour la création d'une base de données aussi bien qualitative que quantitative sur l'évolution et le progrès effectués dans les différents sphères liées aux énergies renouvelables au niveau national. L'élaboration du projet est faite par IRENA et REN21 et en collaboration avec les divers acteurs du domaine des énergies renouvelables dans le pays en question. Dans un premier temps, 18 pays ont été sélectionnés pour une phase pilote et ceci dans trois régions notamment l'Afrique, L'Asie-Pacifique et l'Amérique Latine et les Caraïbes.

## Major Actors in the Data Collection process





### 3. Lack of Consolidated Qualitative Data: Scattered Data and Information



Lack of Consolidated Qualitative Data: Scattered Data and Information Stemming from:

1. No firm mechanism in place for to compile information at the national level
2. Data and Information not consolidated within organizations

Results in data and information being gathered that is not reported published

#### **4 . Gaps in data and information due to communication**

- Data is available but actors aren't aware of it or how to find it
- Data holders not publishing or promoting their information
- Lack of open exchange between various stakeholders

No **ONE STOP SHOP** to find  
Renewable Energy Related Data and  
Information

## The Way Forward and Next Steps :Morocco case

- The **REDAF** questionnaire and interviews **facilitate the consolidation of scattered data and information on RE** from various actors in MOROCCO
- Need to **compliment the data collection system for energy balance statistics** with qualitative data compilation and reporting
- Need for a **comprehensive, holistic and regularly updated database** in Morocco and the region to promote RE deployment
- With the support of the National Focal Point, (MEMEE) **IRENA can** help Morocco to build that renewable energy database and accompany them in the whole **process of collection, consolidation and reporting** of data and information

## GOALS

**IRENA assistance in order to get:**

**Well Established Data Collection Processes at National Level**

- **Precise Picture of Energy Situation**
- ***to* standardize the energy collection process**
- **coordination and interaction among different institutions who collect and analyze data.**
- **To have a mechanism to collect regional data and information**



**Thank you for  
your attention**

**[www.mem.gov.ma](http://www.mem.gov.ma)**