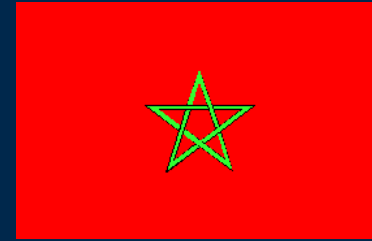




شركة الإستثمارات الطاقية
SOCIÉTÉ D'INVESTISSEMENTS ÉNERGÉTIQUES



RENEWABLES IN MOROCCO

SIE A STATE OWNED ACTOR



“ Considering the extensive development these new energy sources are bound to experience, they must be adopted today and integrated in the investment decisions and technological choices throughout all key economic sectors and specifically in the industrial, building and transport sectors.

This is the reason why we strongly advise our Government to speed up the implementation of the legislative and regulatory framework we need to institutionalize the relevant mechanisms for energy efficiency and the use of renewable energies in all economic and social sectors.”

*Excerpt from the Royal Letter addressed to the National Energy Forum on **March 6, 2009***

LAW FOR RENEWABLE ENERGY

Objectives

- Increase the share of Renewable Energies
 - Promoting Investment for Export
 - Assistance in site selections, permits and authorization
 - Access to National Grid and Interconnections
- Access to Regional Markets (OMEL, MIBEL, POWERNEXT,...)
 - Possible Equity partnership
 - Promoting Investment in the field of Renewable Energies to meet local demand

AGENCY FOR THE DEVELOPMENT OF RENEWABLE ENERGY AND ENERGY EFFICIENCY

- Objective: development of renewable energies and Promotion of energy efficiency.

ENERGY EFFICIENCY (Law under promulgation)

- Improve energy efficiency

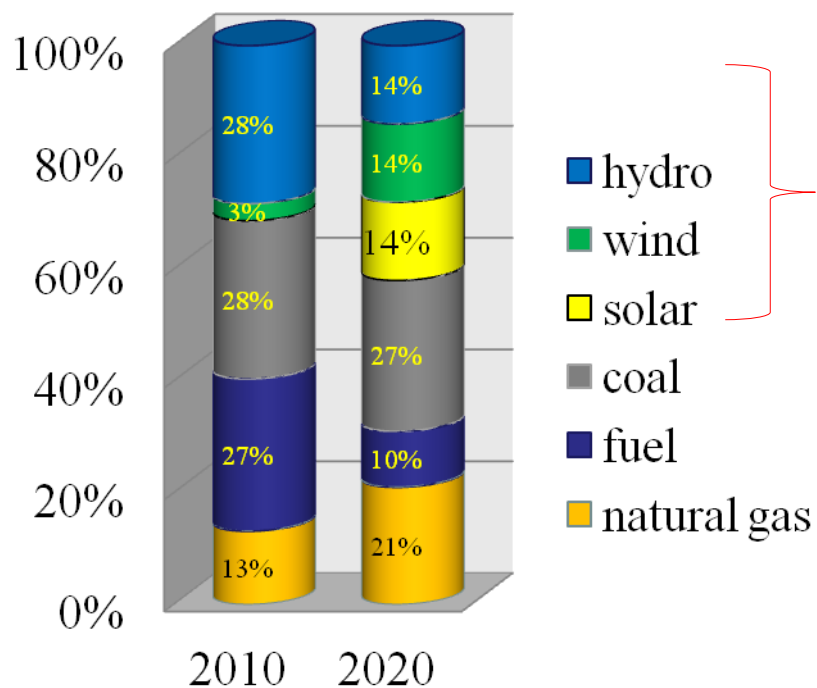
LAW FOR MOROCCAN AGENCY FOR SOLAR ENERGY

- Conduct overall project (design, choice of operators, implementation, management)
- Coordinate and supervise other activities linked to this program.

Energy Investment Company / **SIE**

- Financial incentives for RE and EE programs
 - Equity in projects
- Supported by the **Energy Development Fund**

EVOLUTION OF THE ENERGY MIX



**RENEWABLE ENERGY 42 %
INSTALLED POWER CAPACITY
BY 2020**

- **IMPLEMENTATION OF CLEAN COAL POWER PLANTS**
- **INCREASED USE OF NATURAL GAS**
- **MAXIMIZED SHARE OF RENEWABLE ENERGY**



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Created in February 2010 (decree n°2-09-410 from June 30, 2009), the SIE is today the reference tool for the State to invest in the energy sector and more specifically in renewable energies and energy efficiency. The SIE is an important element of the national scheme aiming at reaching the objectives of the national strategy issued by the Ministry of Energy, Mines, Water and Environment and driven by His Majesty the King Mohammed VI, God bless Him

At the heart of the national energy strategy, the SIE's missions are the following



Support large scale national programs



Cover the medium voltage sector mainly with photo voltaic mini-plants



Drive the investment in energy efficiency (public buildings, public lighting, industry)



Support the relevant industry upstream

M I S S I O N S / S E C T O R

ELECTRICITY PRODUCTION WITH RENEWABLE ENERGY



•Large capacity programs and projects:

- Moroccan Solar Program
- National Integrated Wind Project
- Private wind projects

MEDIUM VOLTAGE



The SIE is developing small scale medium voltage projects mainly with photovoltaic plants distributed on the national territory. It will fund directly or indirectly profitable solar projects of average generating capacity. The SIE will fund as well directly or indirectly profitable projects in other renewable energy sectors, specifically using waste as an energy source.

ENERGY EFFICIENCY



- Public lighting
- Public buildings
- Industry
- Activity zones, new cities

UPSTREAM INDUSTRY



•Equity participation to support the development of industrial value chains in the Kingdom within the SIE's scope of intervention:

- Wind energy
- Solar energy
- Biomass
- Energy efficiency

Principles for the SIE to act as facilitator for PRIVATE sector

STRATEGIC INVESTOR, CO-DEVELOPER

Contribute in the emerging and development of new markets not suitable for private investment.

Make the emerging industries viable and sustainable thanks to a strategic control of the project owners

INVESTOR AS A TRUSTED PARTNER

Provide institutional support to optimize the projects' structuring

SUSTAINABLE INVESTOR

Protect its equity with a balanced portfolio of assets of different maturity and with different risks/profitability profiles



Co-developer in RE and EE



Reference State investor



Financial Leverage

Social Return systematically considered, each time it is feasible



- **Moroccan Solar Program**
- **National Wind Program (PNEI)**



**NATIONAL
PROGRAMS**

National Wind Program (PNEI)

The SIE supports the ONEE (Moroccan Electricity and Water Board) in the implementation of the PNEI and provides equity directly or indirectly to project owners.



Moroccan Solar Program

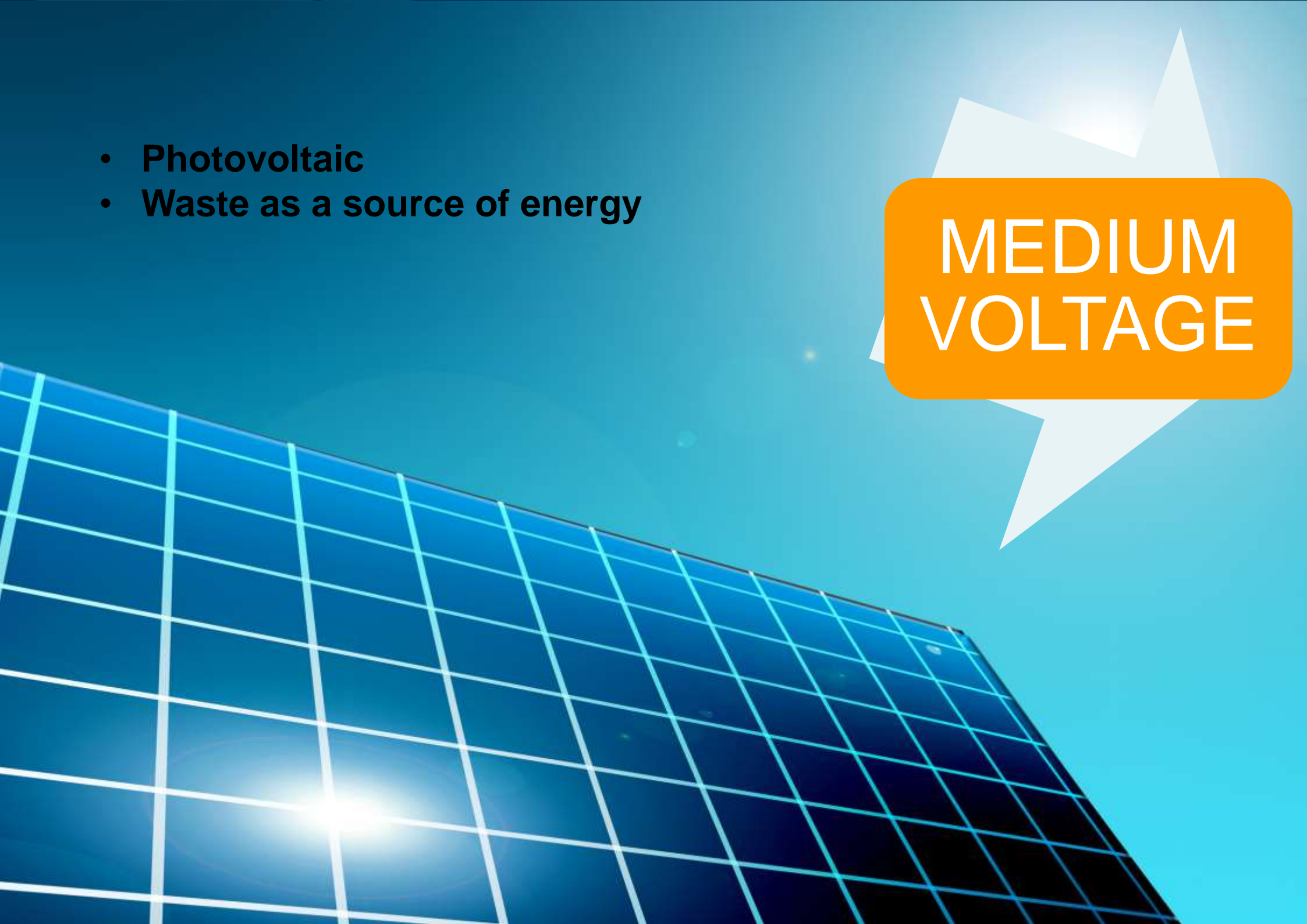
The SIE has been a 25% shareholder of the Moroccan Solar Agency ever since its creation and participates in its governance as a member of the Supervisory Board. This project is in line with the large scale projects launched within the framework of the High Royal Directives aiming at mobilizing the national resources in renewable energies and at protecting the environment.



Private Wind Projects

- SIE is supporting its **Partners** initiatives

- **Photovoltaic**
- **Waste as a source of energy**



**MEDIUM
VOLTAGE**

Ministère de l'Énergie, des Mines, de l'Eau et de l'Environnement



The Ministry of Energy, Mines, Water and Environment is about to **open the Medium Voltage Market** in Morocco (*Second phase of National Energy Strategy - First step*).

Current planning : Latest discussions are underway.

Official announcement at **PHOTOVOLTAÏCA** by the Minister of Energy

Photovoltaic solar



Waste as a source of energy

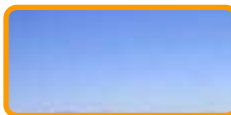


SIE projects' portfolio (extract)



Solar farms :

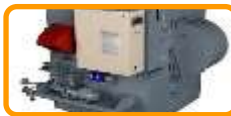
Photovoltaic mini plants in the integrated industrial platform at Kénitra (PII), Marrakech, Taroudant, ... [PV4ALL Program](#)



Development of a small 10 MW plant at Dakhla and of a 5 MW plant in Souss Massa Region



Electricity production using waste from the Tiznit landfill through new and innovative technology



"Biogaz" to CNG in Médiouna City, Resource Centre in Fes City

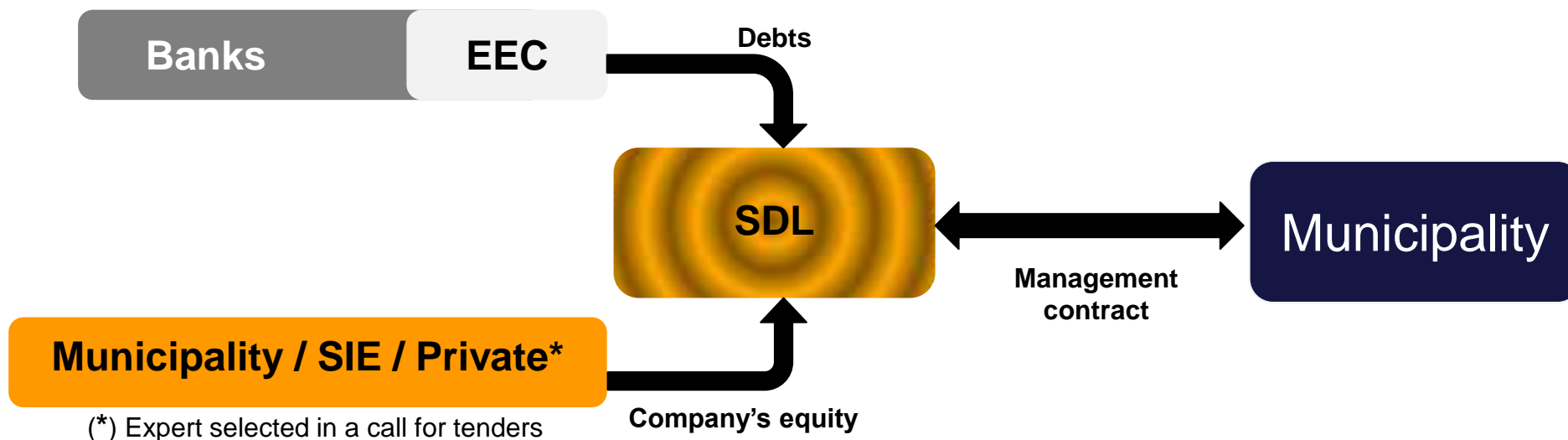
In two sectors:

- **Public buildings**
- **Public lighting**



**ENERGY
EFFICIENCY**

Public Lighting: development of a PPP model



First projects



Pilot project:

Public lighting management of the Salé municipality by a SDL (pilot project to be duplicated in several cities in the Kingdom)



Public lighting management in other municipalities by SDL (initiated)

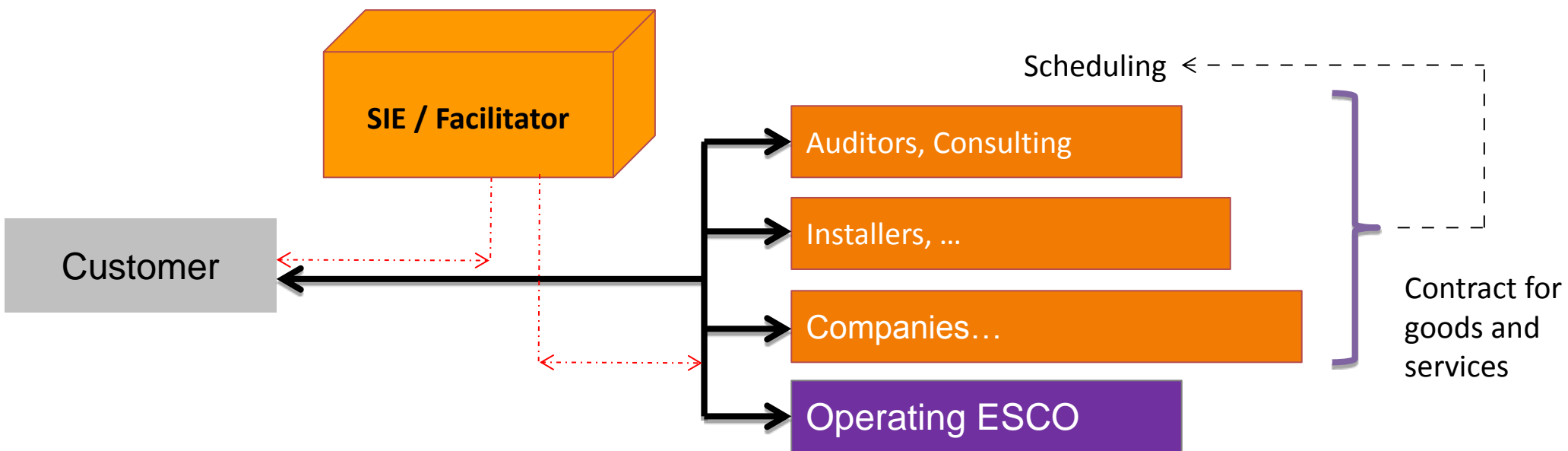




This pilot project aims at equipping all the electricity poles in the city of Salé with low consumption bulbs (i.e. LED or Light-Emitting Diode). The lighting network infrastructures will be updated and the city will roll out an operational lighting policy suiting its needs. The objective is to dramatically reduce the energy bill of the municipality. Short term results: energy saving by about 60% and reduction of the power demand by 3 MW.





The public lighting management and the project's operational steering will be entrusted to a SDL with delegated management calling upon high level private expertise. This project's success will set a milestone to be used as a reference rolled out in several cities of the Kingdom to reduce the overall energy bill of Moroccan municipalities.

Public Buildings: sustainable approach



SIE projects' portfolio (Extract)



- 
First ESCO dedicated to energy efficiency
- 
Program for Green Mosques
- 
Program for Hospital Buildings
- 
New Cities (Case study on going)



Creation of one or more energy services providers dedicated to the management of energy efficiency projects in public buildings (*performance based contracts*).

- **Objective** : Reduce energy consumption in public buildings and drive the ESCO market in Morocco
- **Approach** : Support international partnerships with skills transfer.
- **SIE's involvement** : Minority participation with short term exit strategy.



The SIE is signing a partnership agreement with the **Ministry of Habous and Islamic Affairs** to assess the mosques' energy profile and reduce their energy bill. The positive energy mosques will be certified « Green Mosques ».



Royaume du Maroc
Ministère des Habous
et des Affaires Islamiques

- **Objective** : energy rehabilitation of the 15 000 mosques managed by the Ministry of Habous and Islamic Affairs
- **Customer** : Ministry of Habous and Islamic Affairs
- **Developer** : SIE
- **Investment required** : 200 million MAD



The SIE is investigating the medical field with the CNSS (Moroccan Social Security) to assess the hospital buildings' energy profile and reduce their energy bill. An audit is in progress in cooperation with the European Bank for Reconstruction and Development (EBRD).



- **Objective** : Energy rehabilitation of the CNSS polyclinics as well as the associated administrative buildings.
- **Customer** : CNSS
- **Developer** : SIE
- **Investment required** : being investigated





**INDUSTRIAL
UPSTREAM**



SIE projects' portfolio (*Extract*)



Industrial unit producing photovoltaic panels



Production of street lamps (LED, ...)



Solar water heater

This project is about developing the first production unit of photovoltaic panels « made in Morocco ».

The objective is to launch an industrial unit specialized in the production of photovoltaic modules, possibly photovoltaic cells, market permits.

On-going contacts.



This project is about developing the first production unit of solar and LED street lamps « made in Morocco ».

The objective is to launch an industrial unit specialized in addressing the local and regional market of public lighting with a comprehensive product range also designed for the domestic market.

On-going contacts.



This project is about developing the first production unit of solar water heaters « made in Morocco ».

The objective is to launch an industrial unit specialized in addressing the local and regional market with a comprehensive product range also designed for social housing.

On-going contacts.





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THANK YOU !



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