MENA CSP KIP: the Tunisian energy context and CSH Initiative

Presented by: Ing. BACCOUCHE Abdelkader,
Deputy Director, CSH Expert, ANME
The Tunisian Energy Balance

Objective and National commitment

National Final Energy Share, Industry Focus.

Solar Heat in Industrial Process in Tunisia

The New Energy Transition funds, FTE

MENA CSP KIP CSH initiative in Tunisia
The Tunisian Energy balance

Continuous deficit since 2000
4.7 Mtoe in 2017

Deficit of 49% in 2017 against 40% in 2016

Source: CNE 2017

MENA CSP KIP : the Tunisian CSH Initiative
Objective & national commitment

The energy sector is the largest contributor to the NDC goal (EE & ER) with 73% of emissions reductions.

NDC: 41% decrease of carbon intensity by 2030 referring to 2010
Important potential, especially in the south region...

Thermal: 5 Millions m² of solar collector

Electrical: 900 GW

MENA CSP KIP: the Tunisian CSH Initiative
RE state of the Art

- **245 MW**
- **Hydro** 65 MW (limited)
- **50 MW** Connected to the grid
- **970000 m² SWH**
- **14000 off grid houses**
- **And 200 school**
- **130 PV pumping stations**
With a total surface of **970,000 m²** of installed solar thermal collector, Tunisia is ranked in the **Top 20** of solar thermal capacity installed in 2017 in the World, using the technology of flat collectors, in terms of kW_{thermal}/1000 inhabitants better than Spain, Italy and France for example.

National Final Energy Share –2016
Total: 7689 Ktoe

Industry: 2124 Ktoe

Source: ONE
The average of solar irradiation in Tunisia is about 2000 KWh / m² / year

Tunisian industry has more than 75% of thermal Energy consumption

A significant theoretical potential: more than 3 millions m²

The Real potential: 400,000 m²

60 000 m² (15%)
Low Temperature

340 000 m² (85%)
Medium Temperature
CSH
PROSOL Industry goal in 2020 and 2030

Cumulative objectives of solar thermal in the industry in the short and medium term

14 000 m² to be installed 2016 - 2020

2015
2016
2020
2030

1000 m²

Objectif

Cost of energy
Communication
Funding

IFDD, Séminaire en ligne
CES, 2018
The first project using solar thermal energy in the industrial process

1000 m² in BENETTON, Sousse (2016)
The new Energy Transition Fund, FTE: a new Tool to stimulate the CSH Market

Chapter 2
- **30%** of subsidy on With a cieling of 250 DT/m² of installed Solar collector
- **70 %** of the technical assistance cost with a max. of 70 kDT
- **70 %** of studies cost with a cieling of 30 kDT

Chapter 3
- **35%** of the investment as a loan with a cieling of 350 kDT
- **10%** of subsidy with a cieling of 200 KDT
- Plus immaterial Subsidies.
  - 70 % of the technical support cost with a max. of 70 kDT
  - 70 % of the study cost with a max. of 30 kDT

MENA CSP KIP: the Tunisian CSH Initiative
MENA CSP KIP CSH INITIATIVE IN TUNISIA

The determination of the detailed potential of using CSH in the industrial branches of food, textile, chemical, bricks, and papers industry,

The technical faisability study

The Identification of some key CSH projects in the Tunisia for small grant support

MENA CSP KIP : the Tunisian CSH Initiative
Thank you for your attention

Ing BACCOUCHE Abdelkader
Solar Energy deputy Director and Expert, ANME
Mail : baccoucheabdelkader@gmail.com
abdelkader.baccouche@anme.nat.tn

MENA CSP KIP : the Tunisian CSH Initiative