HORIZON STE

Implementation of the Initiative for Global Leadership in Solar Thermal Electricity

A TWO-FOLD APPROACH TO THE DEPLOYMENT OF CST IN EUROPE

Marcel Bial
Secretary General of ESTELA

The project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 838514.

CONTENT

1. HORIZON-STE introduction

2. A 2-fold country-based approach to the deployment of CST aiming at combining:

   - a **national policy** environment with
   - The R&D perspective
   - The industry perspective

3. Our (preliminary) findings about Turkey

KEY FEATURES OF THE PROJECT

- **HOW?**
  As competence centre of the Implementation Working Group on CSP within the Strategic Energy Technology Plan (SET Plan) of the European Commission,
- **WHY**?
  To support European countries through political, legislative, and institutional decisions that will impact solar thermal energy.
- **WHAT?**
  Opening doors for the best procurement of CST solutions and achieving increased public funding for close to market CST related R&D activities.
- **WHERE?**
  In “relevant” European countries (such as Spain, Italy, Germany, Turkey, France, the Netherlands, Luxembourg, Portugal, etc., that show natural, technological or industrial capabilities for the STE/CSP markets, and/or as potential off-takers.

PROJECT PARTNERS

1. Project Coordinator:

ESTELA

2. Project Partners:

Ciemat PSA

DLR Deutsches Zentrum für Luft- und Raumfahrt e.V. in der Helmholtz-Gemeinschaft

ENEA Italian National Agency for New Technologies, Energy and Sustainable Economic Development

METU

THE R&D PERSPECTIVE

The project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 838514.

THE R&D PERSPECTIVE

Recognized technological/R&D capacities?

Structural dependency on funding from:

- National funding agencies
- Direct contracts with local industries
- Participation in international projects

R&D operate under different:

* Governance models
* Public funding levels
* Direct contracts with industry..

Potential risk of redundancies, unalignment on short-term industry needs,..

Threat on funding → on research excellency

Need to showcase benefits to..

THE INDUSTRY PERSPECTIVE

Re-launching STE Industry

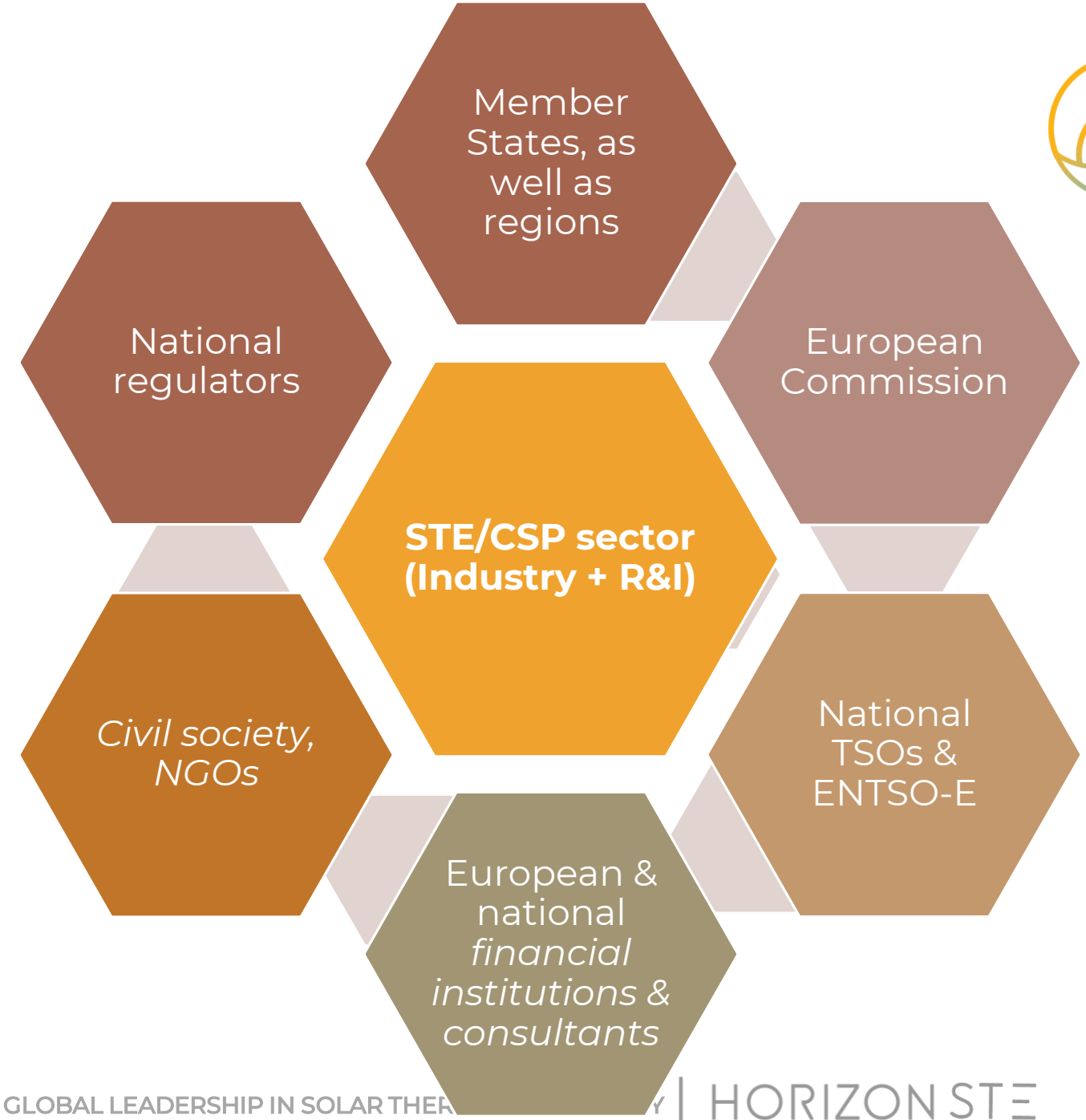
The project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 838514.

THE INDUSTRY PERSPECTIVE

But such a market for CST encompasses:
- utility-scale CSP or CSP+PV power plants with CST storage capabilities that may become an export asset beyond the own power market
- many types of small medium size hybrid applications in the field of industry heat applications

TARGET GROUPS

Morocco is the country that best demonstrated how **sound features of the institutional framework attracts both private investors and international institutions**



MASEN FRAMEWORK (CASE NOOR I)

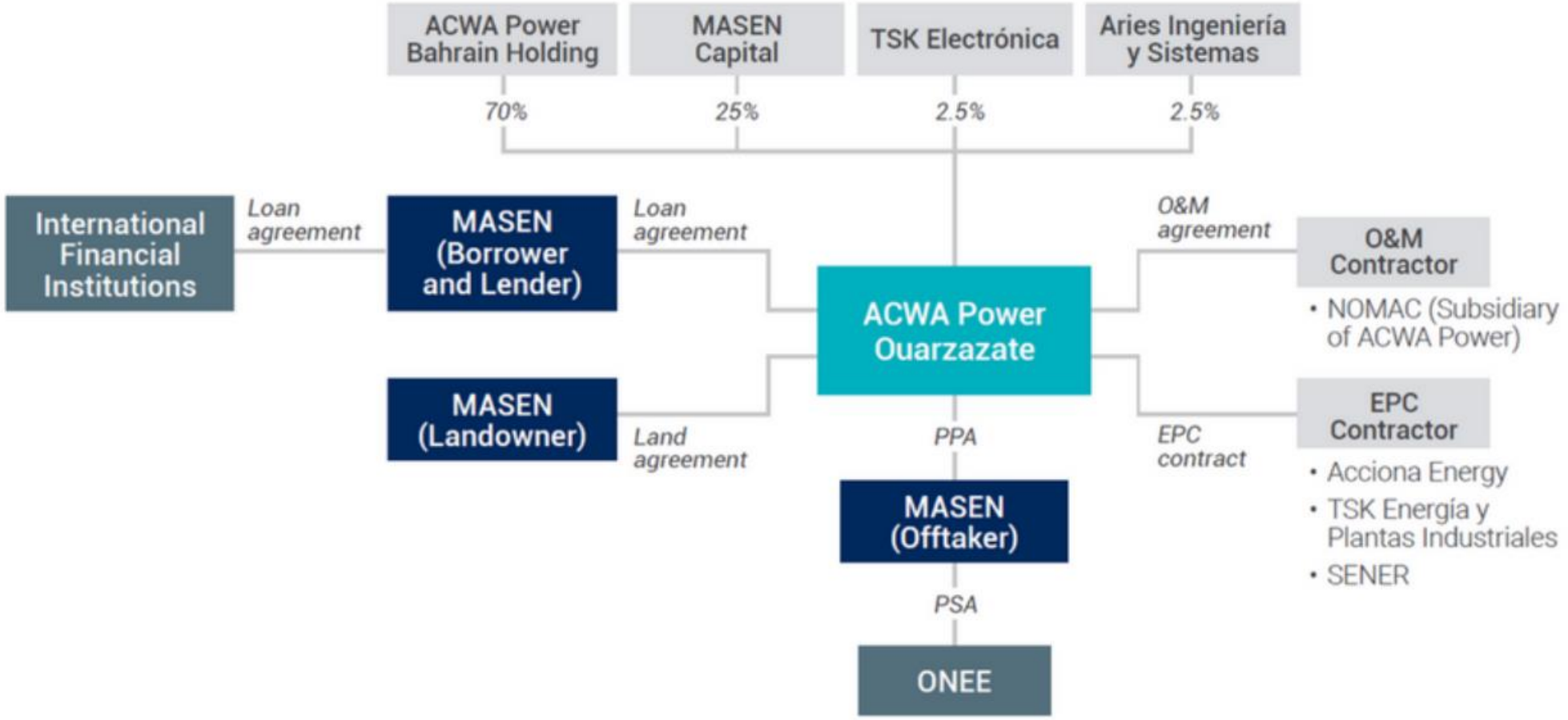


Diagram acknowledgement: Norton Rose Fulbright

THE METHODOLOGICAL APPROACH

- Need for manageable RES energy & their respective strategies on its procurement
- Possible (future) changes in the relevant framework conditions

Analysing and assessing relevant countries' energy needs & stakeholders

Map & Match

- Contacting national political decision-makers
- Cross-checking with R&I community and other projects/activities

- Preparation of agendas and documents
- Setting up of delegations
- Pre-briefing
- Presentation of potential solutions using STE/CSP

Meeting with national main stakeholders officials

The Outcome

- Media outreach
- country reports
- Events: Joint Industry-R&I events, site visits, EU Coop Event

COUNTRY PERSPECTIVE

Turkey

The project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 838514.

FIRST FINDINGS ABOUT TURKEY

- **R&D:**
  - **Today is entirely dedicated to the R&D perspective and achievements in Turkey and with Turkish participation..**
- **Industry (main aspects)**:
  - Turkey doesn't "close the door" to CST
  - Cost remains an essential criteria, but still to assess the ratio cost/value ("LCOE dogma")
  - Energy policy sets 3 key conditions for the industry:
    - Use of national technological capacities
    - Localisation of industrial deployment
    - Matching current power system + economy needs on the way to reduce env. footprint
  - Regulatory and financing reported a high degree of flexibility along the governmental energy policy guidelines , new legislation is in preparation about storage and hybrid projects;
  - TSO foresee specific storage needs of the power system to accommodate with more VarRES

PREL. FINDINGS ABOUT TURKEY

- **Practical shorter-term perspectives:**
  - Interest in demonstrating /deploying **first** heat applications (more detailed project types to be presented in **Istanbul at SolarEx on 2nd April**)
  - Triggering **private investment** appetite
  - **Hybridizing technologies** will be key to match needs at best costs depending on local needs;
  - **Substantial storage needs** (approx. 4 GW) **in the power system** to be solved in 2025-2027 along the further deployment of VarRES,
    - Many solutions may be considered (pump hydro, ??) and might/should be evaluated more in a wider, macro economic range
    - For CO2 night-time bulk power in sunny countries, CSP is already competitive

CONTACT

contact@horizon-ste.eu

@ESTELA_SOLAR ; #HORIZON_STE

Project page: https://www.linkedin.com/showcase/horizon-ste
or ESTELA (https://m.estela.solar/LinkedIn)

www.horizon-ste.eu

The project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 838514.