SOLAR PV IN SUB SAHARAN AFRICA

Case for a development of an ambitious industrial program in Sub Saharan Africa

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Karim Megherbi, CEO
1. HELIOS ENERGIE
2. EXAMPLE OF BENIN
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A unique Business Model in the industry

• Three activities:
  - ✓ Project development in Sub Saharan Africa and the Caribbean
  - ✓ R&D projects
  - ✓ Advisory for institutions and EPC contractor

• 100 MWc pipeline in Benin, Mali, Burkina Faso, Mauritania, Haiti, Senegal, …
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2. EXAMPLE OF BENIN
Location (1/2)

6 MWp plant located north of Benin
2. EXAMPLE OF BENIN
Location (2/2)

18 M EUR – AFD as lender– Meeco as lead investor
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3. EXAMPLE OF BURKINA FASO

Location

PV Plant / Gold mine

20 MWp plant located West of Burkina Faso
3. EXAMPLE OF BURKINA FASO

Status of the project

55 M EUR – BAFD as MLA – SEMAFO as lead investor
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Ex. of Central Africa: grids and hydro

- The vision of the regional interconnection system exists.
- The vision is structured around the huge potential of hydro, especially RDC.

Given the grid conditions, FIT may not be adapted as such to achieve the real goal of the energy sector in Africa.
Implementing a FIT in a country generates speculative behaviors difficult to manage.
It is possible to achieve today **20 cEUR/kWh** in Uganda.
4. SUPPORT FRAMEWORK PROPOSAL

Another vision

• Creation of a **Solar Committees** with high skills to be developed through training, workshops, plant and lab visits. Financing through DFI.

• Setting up of a regional strategy/national strategies **by these committees**.

• Validation with external experts once it is drafted.

• Call for proposals, projects consideration

• Choices based not only on price but on the overall impact and participation in the implementation of the strategies.

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We would like to suggest to African countries to set up project-approval procedures conducted by national/regional committees
5. CASE FOR A PROGRAM IN NIGERIA

The Energy Mix

Nigerian government targets: priority = Gas and Hydro
Meeting ambitious targets is a challenge given the time frame.
Excellent radiation areas
5. CASE FOR A PROGRAM IN NIGERIA

Grid consideration

Radiation matches the grid requirements
5. CASE FOR A PROGRAM IN NIGERIA

kWh Price

- PV Electricity Generation Price: around 38 NGN/kWh (17 – 18 cEUR/kWh)

- Highly dependant on the Business Model:
  - Guarantee framework
  - IRR targets
  - Loan Financial conditions
  - Social targets (local industry, off grid sector...)

Set up targets in terms of PV kWh price and social impacts to define the best way to achieve them
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6. CONCLUSIONS
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PV has to be part of the regional strategy (1/2)

• We would like to suggest an objective of **10% of the electricity generated in Central Africa with PV**.

• **Small market – legislation should be adapted.** Best sites and key projects should be identified. Several projects with strong impacts could be quickly developed.

• Huge opportunity to increase the penetration rate of EnR with the development of interconnections.
6. CONCLUSIONS

PV has to be part of the regional strategy (2/2)

- Strong partners should be selected, preferably specialized in energy in emerging markets with a strong expertise in energy infrastructure management.

- Financing of program is key: the project structures (guarantees, contracts, technical choices) should be in accordance with the highest standards of the energy sector in Africa.

PV projects should be dimensioned in accordance with national and regional energy strategies.
THANK YOU
FOR YOUR ATTENTION!

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