



الجمهورية الجزائرية الديمقراطية الشعبية
République algérienne démocratique et populaire

وزارة البيئة والطاقة المتجددة
Ministère de l'Environnement et
des énergies renouvelable

Le 1er Salon International de l'Environnement et des Energies Renouvelables en Algérie «SIEERA»

26-28 Mars 2018 SAFEX, Alger
Renewable Energy Partner

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About us



Who we are



Passion for
renewable
energies

Hands-on
approach

Experience
and Insight

Building long
lasting
relationships

Devoted to carrying out large scale solar PV project development as well as building, owning and operating bespoke solar energy or hybrid projects for C&I clients in Middle East and Africa

Also developing containerised power solutions for remote and off-grid areas in Middle East and Africa

Advisory boutique firm providing a full range of services at all stages of the development of renewable energy projects in Africa and Middle East

We aim to create long-term relationships with our partners and provide a continuous, dedicated and high quality support to our projects or investments



Advisory



What we do (1/2)



Strategic Advisory

- Renewable energy strategy definition;
- Preparation of renewable energy production tenders;
- Advisory on renewable energy program deployment; and
- Support during negotiation with private investors.



Corporate Advisory

- Origination of renewable energy investment opportunities;
- Market entry strategy into new renewable sectors and/or new countries;
- Buy-side or sell-side advisory; and
- Arranging funding (equity and debt) and fundraising for projects.



Deal execution

- Management of the deal team /external advisors;
- Structuring and negotiation of acquisition (e.g. SPA) /project contracts
- Negotiation of the construction contracts (EPC);
- Negotiation of the operations contracts (O&M).



What we do (2/2)



Technical Advisory

- Due diligence analysis and coordination;
- Assessment of greenfield and brownfield projects acquisition opportunities;
- Technical studies: feasibility, grid, topographical, geotechnical, civil works, environmental impact assessment, etc...; and
- Management of bidding processes on IPP/EPC projects (technical, financial and commercial optimization, etc...).



Manufacturing

- Project definition;
- Technical specification of all necessary equipment for module manufacturing;
- Procurement;
- Installation and commissioning;
- Project Management;
- Technology transfer (process);
- Training;
- Product engineering;
- Bill of Material; and
- Certification application.



Post-investment support

Supervision of the construction management until commercial operations date



Project development



Project development activity in Algeria

- ➔ **Grid-connected PV project of a multi-MWc scale for a large industrial group in Algeria**
 - Involved in all stages of the project from inception
 - First project of its kind in the country

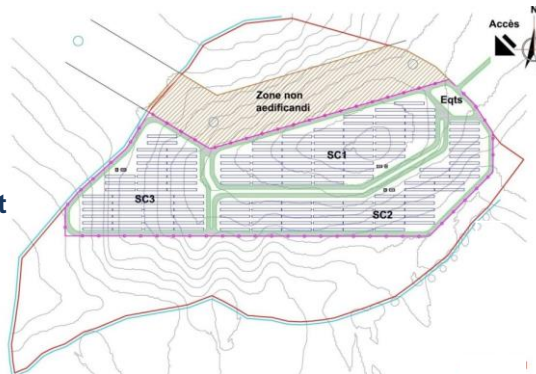


Location of the Project



Photograph of the site

Design of the PV plant



Integrated power solutions

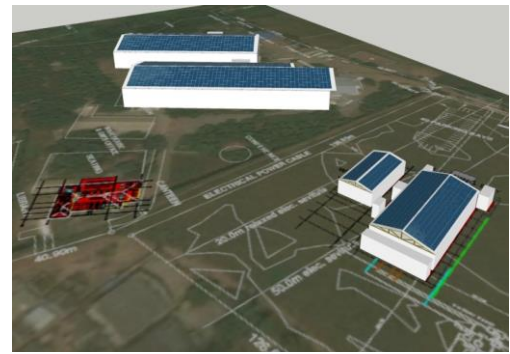


Solar rooftops

➤ 450 kW rooftop in Morocco

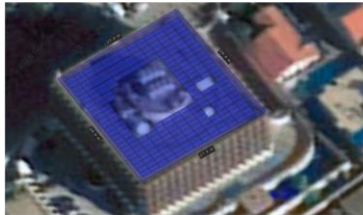


➤ 3 MW hybrid in Ghana

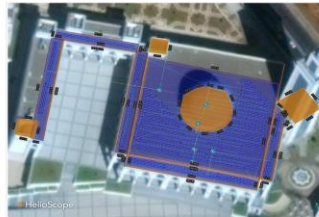


Solar rooftops

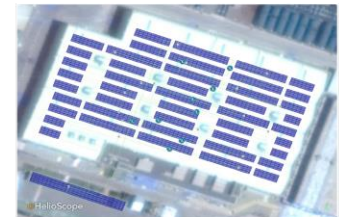
PROJETS EN COURS DE REALISATION



**BANQUE,
ALGER**



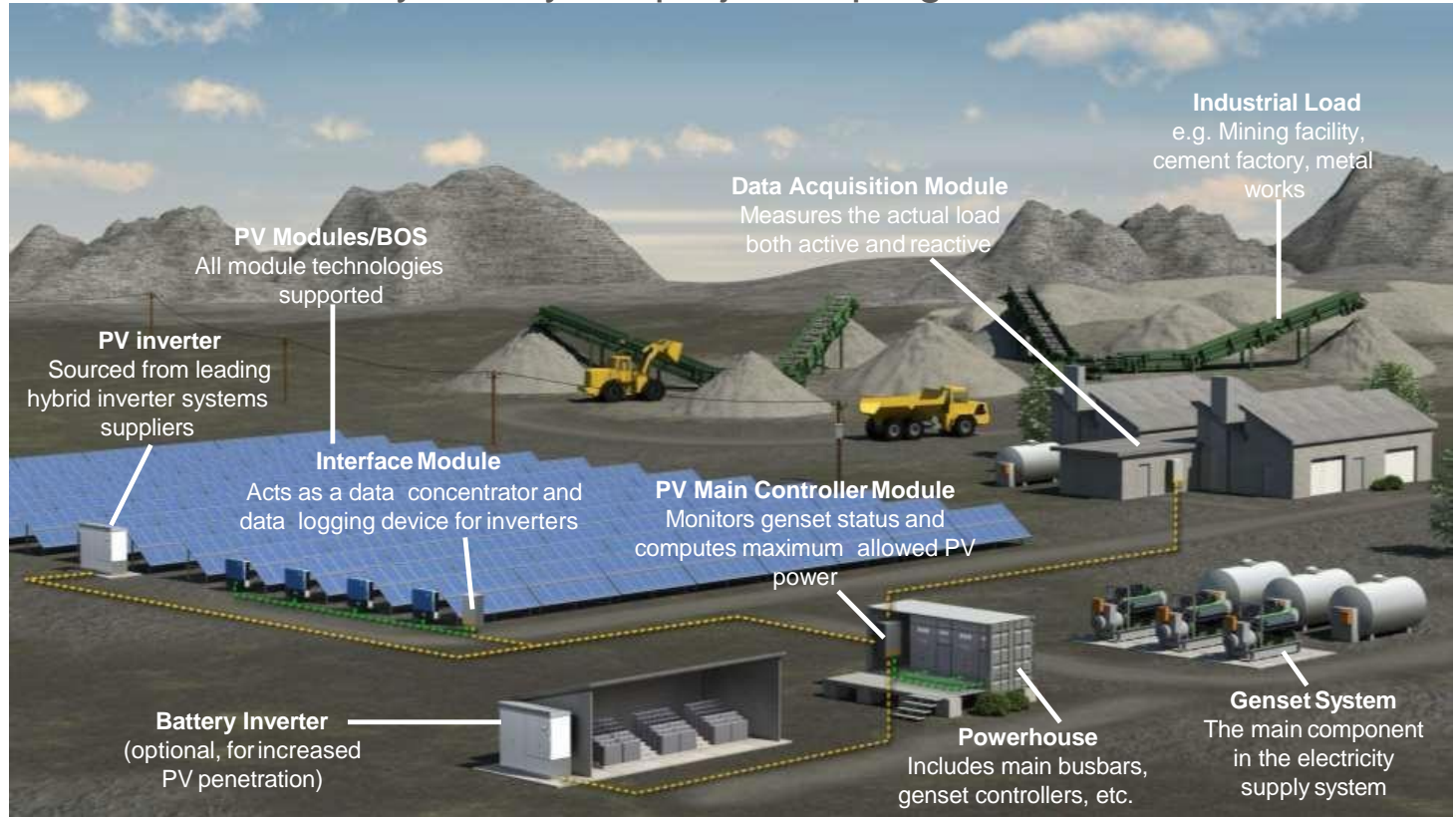
**GRANDE MOSQUEE,
ORAN**



**UNITE DE DESSALEMENT
D'EAU, AIN TEMOUCHENT**

Mining

Case study of a hybrid project in progress in Soudan



Algeria's renewable energy program



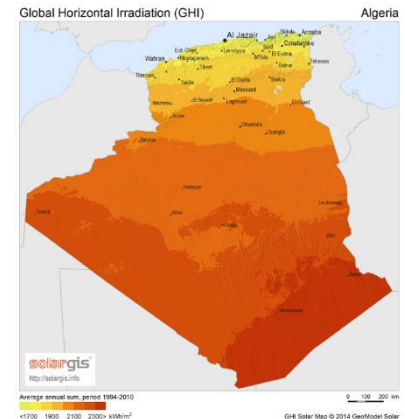
Algeria context

- Growing domestic demand for electricity has been constantly rising in the last five years, driven mainly by household consumption, with the country record annual rise of 13.6% in 2015. Electricity consumption is anticipated to reach 75 to 80 TWh in 2017 and attain 130 to 150 TWh in 2030.
- Electricity production in Algeria is principally achieved by the conversion of natural gas (well over 90%). At the current rate, the level of natural gas volumes, produced for the domestic energy market would need to be 45 billion m3 in 2020 and 55 billion m3 in 2030.



Average solar energy of **5.70 kWh/sqm/day**
Solar potential of about **170 000 TWh / year**

REGIONS	COASTAL	HIGHLANDS	SAHARA
Area (%)	4	10	86
Average duration of sunshine (hours / year)	2650	3000	3500
Average energy received (kWh/sqm/year)	1700	1900	2650



Algeria's renewable energy program

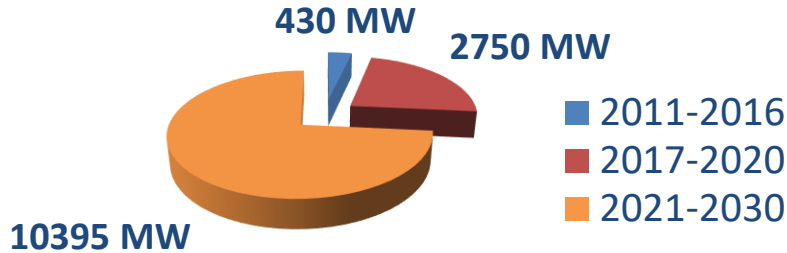
- The Algerian government has adopted a REN program in 2011 which was updated in 2015
- The aim is to diversify the energy mix in order to reduce the domestic consumption of natural gas and maximize the export capacity
- Approximately 300 bn m3 of expected total natural gas savings over the period of 2011 and 2030
- The ambition is to connect 22 GW of REN by 2030 representing then around 25% of the national electricity production
- Of those 22 GW over 60% (13,575 MW) shall correspond to PV

The deployment stages of the program

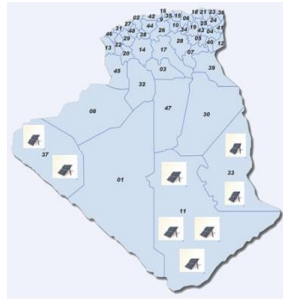
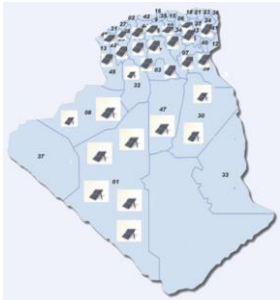
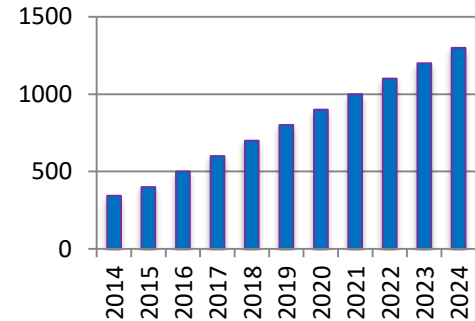


Algeria's solar PV market

PV power capacity to be installed



Solar PV (MW)



Completed Projects :

- 1.1 MW solar PV plant testing four different technologies (monocrystallin, polycrystallin, amorphous and thin film)
- 243 MW solar PV plants awarded to YINGLI SOLAR
- 100 MW solar PV plants allocated to BELECTRIC
- 10MW wind project in Adrar
- 25MW CSP in Hassi R'Mel

Lessons learned



- After being at a forefront of solar PV power generation (1st in Maghreb, 1st in MENA and 2nd in Africa) we have in the last 2 years lost ground to many of our neighbours (currently down to being at the bottom of the top 20)
- Why?
- The countries that have been most successful are those:
 - with clear and consistent REN policy/framework,
 - have followed up with open and transparent process, &
 - put in place favourable conditions to attract investors
- Its is crucial to encourage local private sector initiatives in renewables and will foster job and wealth creation, build local capacity and help the government to meet its targets
- Hope?



Global off-grid sector



What is off-grid?

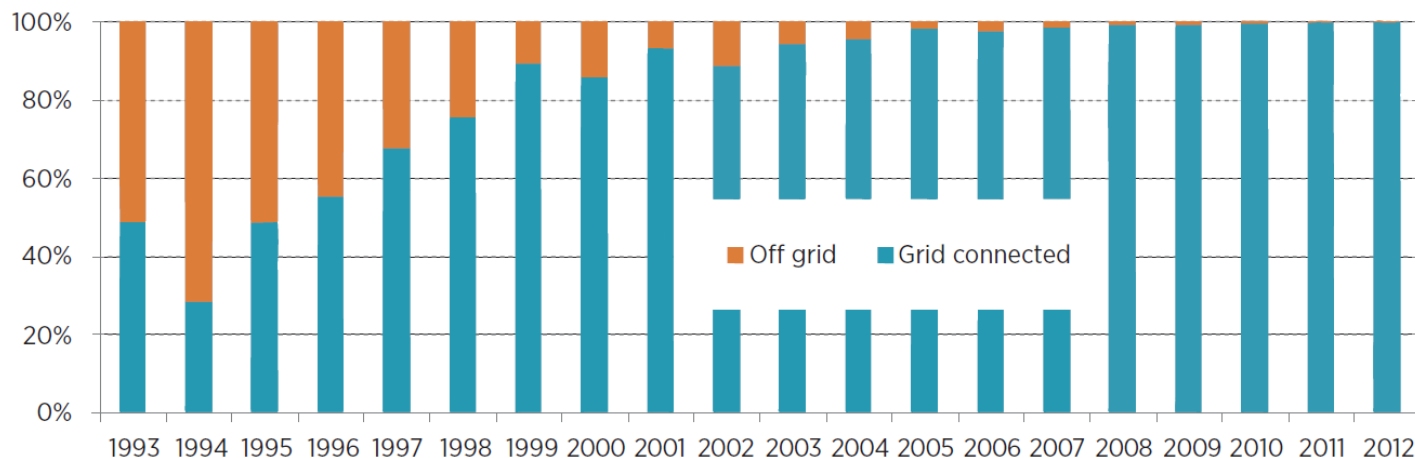
- PICO solar
- SHS
- PAYGO solar
- Micro-grids/Mini-grids
- Self-consumption

Why is it important?

PV was developed in the most industrialized nations; however, most of the potential customers of off-grid PV are not in the developed nations.

This technology has an enormous and eager potential customer base in the developing world where nearly 1.5 billion people, representing 22% of the earth's population, do not have access to electricity.





Source: IEA PVPS, 2013a

➔ **\$276 million** invested in the off-grid solar industry in 2015, a 15-fold increase since 2012

➔ **\$3.1 billion** market opportunity for the off-grid solar industry by 2020

Containerised solar solutions



Remote and off-grid areas

Our subsidiary **ABM Glolal Energy** provides containerised mobile solar solutions perfect for remote and off-grid areas in Middle East and Africa



Complete PV Solution

Product Advantage:

- Easy to install
- Low cost of electricity
- High integration
- Fast mobility



- High reliability
- Clean energy
- Convenient transportation



Recommendations



- net metering for residential
- forcing by law high consumers of energy (industrials) to install EE/RE measures in order to reduce carbon footprint
- giving farmers incentives/subsidies for solar water pumping
- tax breaks for commercial solar rooftops
- COS incentive
- local content – tax imported goods & no tax on “made in Algeria”
- financement – FNEREE & Need for Local Capital
-



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Your renewable energy partner in the Middle East and Africa