SOLAR ENERGY IN PALESTINE

Fact & opportunity

- 1-high potential for solar energy in Palestine, with a daily average solar radiation of 5.4 kWh/m^2
- 2- shortage in electricity supply in west bank & Gaza, with very high prices
- 3- Solar energy can be a major contributor to the future Palestinian energy supply, as Palestine receives 3000 hour of sunshine per year

Renewable energy can lay a strong foundation for an independent Palestinian state, generate employment opportunities, alleviate poverty and provide a visionary approach to the dreams of Palestinian youths

- Solar water heaters

1- Domestic solar water heating (SWH) is widely used in Palestine where almost 60% of houses and apartments have such systems.
2- Solar water heaters cover about 40% of hospital water heating needs and 25% of hotel needs

Solar energy projects in Palestine

Current situation of solar energy in Palestine
1- 25 MW current installed capacity
2- 135 MW licensed ,and expected 2020 to be energized
3- near 20MW is roof topes and 5 MW is small scale plants connected in the MV Grid

renewable energy targets till 2030
2020 target: 100 MW, mostly PV
2030 target - scenario A: 300 MW including only Area A and B.
2030 target - scenario B: 500 MW including Area A, B and C.

80% of the 2030 targets shall be achieved with solar PV, 10% with wind and 10% with biogas/biomass.

- Obstacles of solar energy deployments

1- land constraints according to the Oslo agreement (Pease agreement between Palestinian and Israelis 1994)
2- network limitations
3- financial constraints
4- legal & legislations constraints

- Land availability

1- according to Oslo agreement the lands in west bank and GAZA classified to Areas as follows
a- Area A full authority for Palestinians .
b- area B all authorities for Palestinians except the security .
c- Area C full authority for Israelis .
this classification of lands made west Bank as an Islands.
2- most of the land suitable for solar farms in area C
3- the networks needed for evacuation also need to pass from area C

Potential Available RE Capacity (MW)				
Utility scale PV or CSP[1]				
	Area A & B		Area C	Total
West Bank	103		3,374	3,477
Gaza				0
Palestinian Territories				3,477
Rooftop Solar[2]				
	Residential	Public	Commercial	Total
West Bank	490	13	31	534
Gaza	136	8	19	163
Palestinian Territories	626	21	50	697

- grid ability and limitations

1- according also to the political classification there are no interconnected networks able for seamless evacuation of energy
2- no dispatch center coordinate the energy dispatching in the local networks
3- the main lines under full control of (Israeli electricity company) IEC (which not provide the Palestinian areas with required energy quality suitable for stable evacuation from renewable energy farms

- Financing limitations

1- PA refusing provide sovereign guarantees to the IPPs
2- because of small scale projects still the price of KWH is high according to last direct offers received
3- most of international financing institution consider the current version of PPA not bankable

- Current legal frame work in Palestine

1- direct offers (Ground-based projects, IPPs)

2- competitive bidding (Ground-based projects, project developers, IPPs)

3- net-metering (Roof-top PV for SMEs and commercial clients with larger consumption, up to 1 MW)

THANK YOU