



# **Palestinian Investment Promotion Agency**



**Building A Better Future**

**Solar Energy sector**

# Table of contents

- Country overview
- Sector overview
- Defined regulatory framework
- Enabling environment
- Special considerations
- Investment opportunities
- Projects pipeline
- Investment considerations
- Licensing process
- Success stories
- Why Invest in Palestine
- Palestine's commitment to investors
- PIPA's role

## Country overview

Area	6,450 Km <sup>2</sup>
Population	4.8 Million
Palestinians including Diaspora	12 Million
GDP	7.7 USD Billion
GDP per capita	1,744 USD
Exports (2015)	958 USD Million
Imports (2015)	5,225 USD Million
Average wage (daily)	22.2 USD
Spoken languages	Arabic, English widely spoken, Other languages: (French, German, Hebrew, Italian, and Spanish).
Used currencies	USD, JD, NIS, EUR

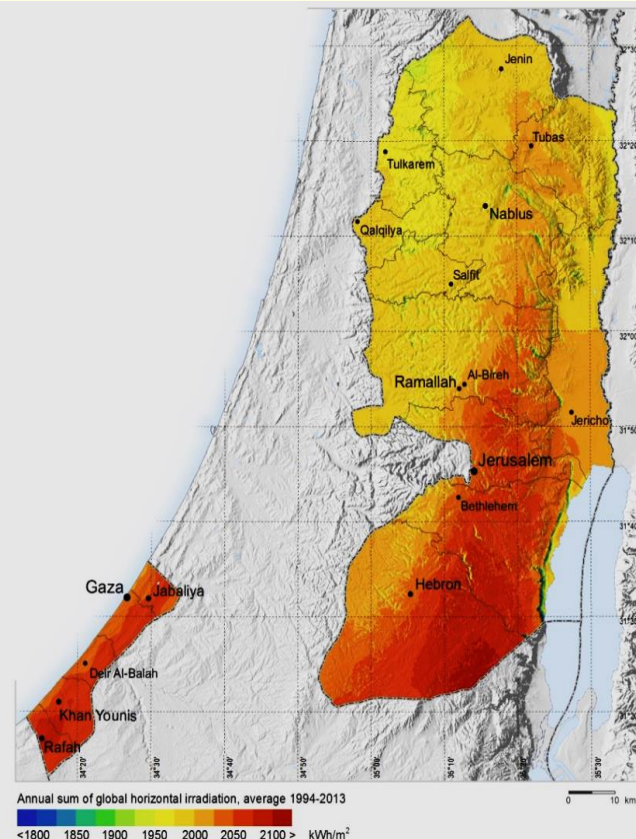


Fig. 7.1: Global Horizontal Irradiation - long-term yearly average. Period 1994-2013; source data: SolarGIS.

- vital crossroads of the three continents (Africa, Asia, and Europe), with a Mediterranean climate of hot summers, and cool rainy short winters
- 300 sunshine days, annual Global Horizontal Irradiation (GHI) above 2,000 KWh/m<sup>2</sup>
- Priority and commitment to develop sustainable renewable energy sector

## Sector overview

- Energy security is one of the major challenges that Palestine faces today and considered as a critical obstacle towards realizing sustainable political and economic independence
- The sector is almost fully dependent on electricity imports; majority imports come from Israel, and marginally from Jordan and Egypt
- Historically fragmented distribution grids with more than 250 connection points, this will be consolidated by Palestine Electricity Transmission Company (PETL) to 10 connection points only
- Electricity prices in Palestine are the highest in the MENA region, forming a large portion of household disposal income



- Current consumption of 1,300 MWp (900 MWp in WB and 400 MWp in Gaza Strip)
- 46% expected demand increase by year 2020 (~1,900 MWp)

90% imported electricity  
 140 MWp current generation capacity in Gaza strip and only 70 MWp is in operation  
 450 MWp plant in Jenin area is underway by 2020



## Sector overview capacity and price

Installed capacity	140 MWp
Peak demand	1,300 MWp
Peak demand by 2020 <small>est.</small>	1,900 MWp
Installed renewable energy capacity	Less than 25 MWp
Target generation of renewable energy 2020	5% of Peak Demand
Implied renewable energy capacity by 2020	130 MWp
Power retail prices –Min	0.12 USD/KWh
Power retail prices – Max	0.18 USD/KWh



## Sector overview electricity sector stakeholders

**Palestine Energy & Natural Resources Authority**  
**Policy Maker**

**PERC**  
Regulator

**Electricity Generation**

**Private sector**  
**Independent Power Producers (IPPs)**

**Electricity Transmission**

**Public sector**  
**Palestine Electricity Transmission (PETL)**

**Electricity Distribution**

**Private, public sector**  
**Electricity Distribution Companies and LGUs**



## Sector overview Potential renewable technologies

- Potential for Wind – Generated energy is relatively small and limited to elevated areas (above 1,000 meters), utilization of wind could be feasible in specific locations, the estimated installed capacity is around 700 KW in Hebron
- Waste to Energy is also part of the national strategy, however, no projects had been identified yet
- Roof top Solar Water heating panels are widely used in residential sector in Palestine as more than 70% of households use solar water heaters
- Energy efficiency measures and tools start taking place recently and officially promoted



340 KW licence granted to generate electricity from Bio- methane and expected to reach 990 KW in the second stage to serve company farm and attached factory



## Defined regulatory framework

- Palestine has the highest price incentive in the region, as the country fully relies on imports of its energy needs
- The Government had set the energy sector strategy with strong emphasis of efficient and green power generation, where the vision is to build an integrated Palestinian National Energy System, which will be capable of securing energy from various sources, and will be sufficient to meet local consumption needs as well as comprehensive and sustainable development, targeting local generating of 50% of electricity needs by the year 2020, out of which 10% would be from renewable energy sources (approx. 130 MW)
- The 2015 Renewable Energy and Natural Resources Law came into effect to promote the exploitation and development of renewable sources, and to increase the proportion of its contribution to total energy mix, and also regulates the power purchase agreements with carriers

2020  
Electricity  
generation  
targets

50 %

5 %



## Defined regulatory framework pricing

Renewable Energy and Natural Resources Law defined pricing strategy for the generated electricity from solar energy resources:

Scheme	Counterparts	Pricing
<b>Palestine Solar Initiative</b> <i>Feed-in tariff</i>	Electricity Distribution Companies	NIS 0.54 /KWh (\$ 0.145)
<b>Net metering</b> <i>Below 1 MWp</i>		Sale of surplus energy generated back to the electricity company distribution grid
<b>Solar Stations</b> <i>Direct proposal 1-5 MWp</i>	Palestine Electricity Transmission Company (PETL)	Max price of 90% of conventional electricity purchase price (the 90% currently corresponds to 9 cents / KWh)
<b>Solar Stations</b> <i>Competitive bidding</i>		

## Enabling environment

14 %

Financial sector value added increase

- **Financing Environment:** 14 active banks are in operation (4 local commercial banks, 3 Islamic banks, and 7 foreign banks), and all are active in extending financing solutions to the private sector developments
- **Palestine Monetary Authority (PMA)** is stressing on the launch of an awareness campaign on the importance of renewable energy use and financing
- **Fiscal:** All systems and equipment for renewable energy projects are exempted from custom duties, incentive package contracts that includes quality projects including alternative energy services projects
- **Land:** Availability of state lands and (Awqaf) owned lands for long term lease arrangements, which can reduce the upfront investment needed for lands purchase
- **PPP:** Local governorates being empowered to be engaged in the PPP model; Renewable Energy projects would benefit from this model

# Enabling environment Incentives contract package initiative (one year)

- **Incentive package contract:** A contract by which the agency grants the investor incentives, whether tax or non-tax incentives, including (fees on transactions, support services, training and logistic services) pursuant to a decision issued by the board of directors in exchange of commitment from the investor to implement the project in accordance with the terms and conditions stipulated in this contract.

- **Incentives listed in the contract**

## I. Net metering for projects less than (1) Megawatts/h

**Scheme 1:** projects still receiving incentives as following criteria:

- Generates 20 kilowatts/h, receives extension for one year
- Generates 40 kilowatts/h, receives extension for two years
- Generates 60 kilowatts/h, receives extension for three year

**Scheme 2:** projects never received incentives or finished their incentives and generates 40 Kilowatts/h, receives incentive of 5% income tax for two years

## II. Utility scale more than (1) Megawatts/h

Stage 1: 0% income tax for 7 years

Stage 2: 5% income tax for 5 years following stage 1

Stage 3: 10% income tax for 3 years following stage 2 and later on implement available income tax rate

## III. Finance programs

Loans granted by financial institutions, banks to finance electricity generation from alternative resources will be treated as SME loans as per the income tax law

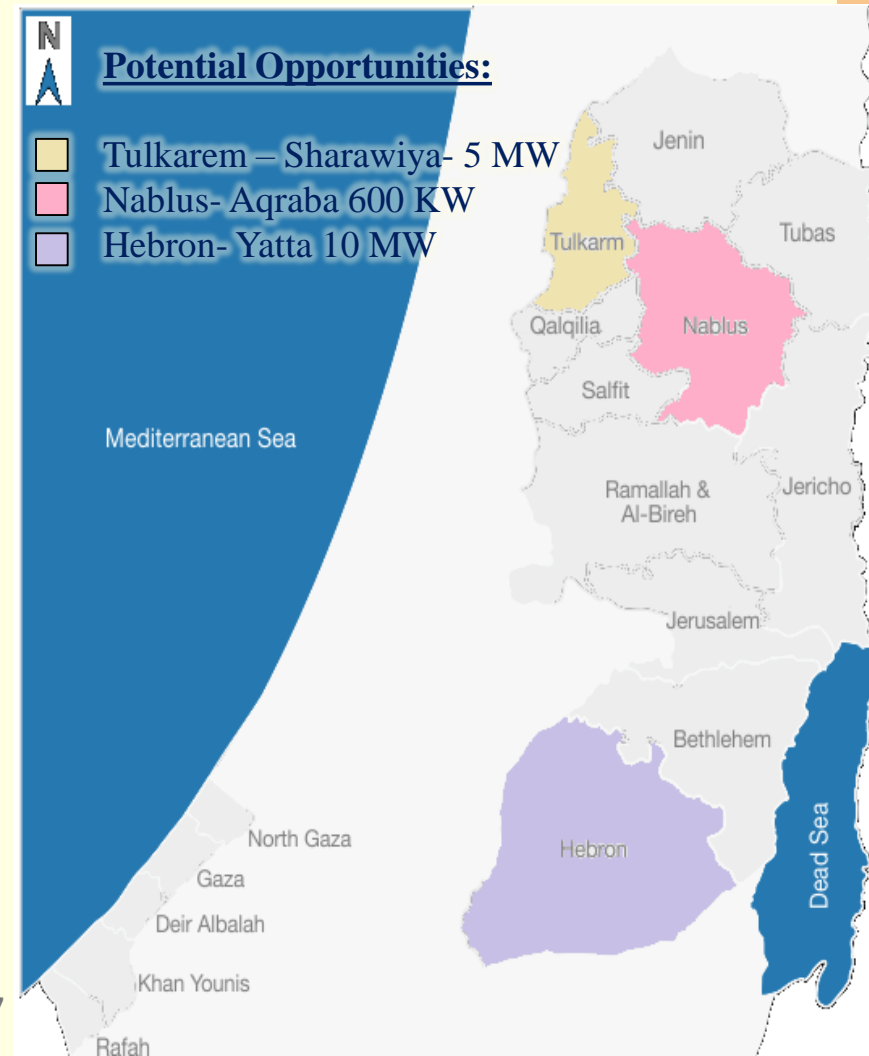


## Special considerations

- **Topography:** Northern governorates (West Bank) topography is characterized as hilly with few plain areas; this may require more civil work for large utility scale solar parks in one location, Southern governorates (Gaza strip) topography is different and coastal plain, however, it lacks large land parcels for large utility scale projects
- **Power Offloading:** Currently possible through Medium Voltage (MV) lines and substations due to the unavailability of High Voltage (HV) transmission lines

# Investment opportunities Available

- **Utility Scale:** A Portfolio of potential projects comprising of small to medium solar parks (capacity 2-5 MWp each) spread over the 16 governorates in Palestine
- More focus on prime locations with the best yield and most suitable and available lands



## Projects pipeline Under development

Seven projects (above 1 MW Capacity) were licensed:

**Jenin**, Maythaloona: 1.5 MW

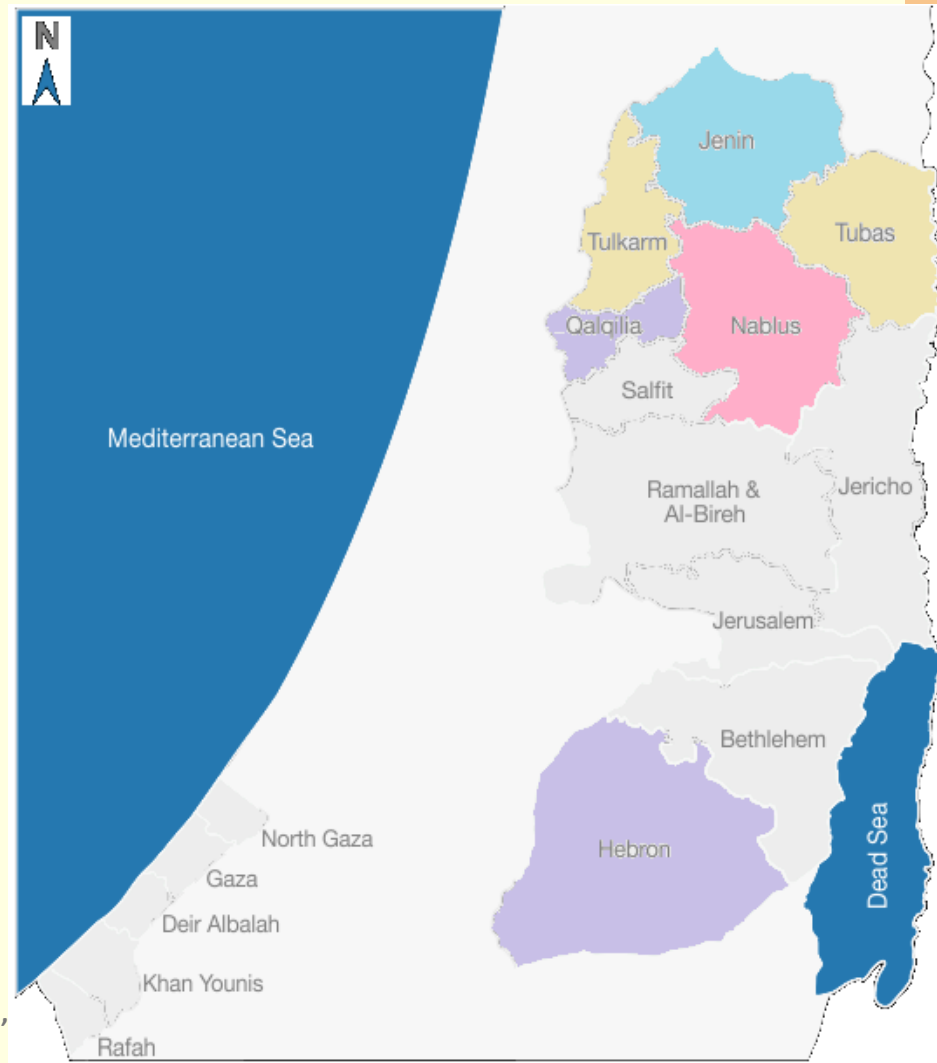
**Qalqiliya**, Hableh: 1 MW

**Tubas**: 5 MW

**Tubas**, Fara': 3 MW

**Hebron**, Ramadeen: 1 MW

**Hebron**, Bani Ne'm: 8 MW



## Investment opportunities potential

**Rooftop PV Systems** to generate electricity under the net metering scheme, prioritized industrial and high electricity consumers (Hotels/ Factories/ Agriculture, Industrial zones)



**Energy Efficiency** projects (tools and inspections) targeting lowering consumption and reducing the CO2 emissions as per the National Energy Efficiency Action Plan (NEEAP), aiming to achieve 6% reduction of national energy consumption



**Vocational Training:** Opportunity for vocational training and certification by implementing internationally-recognized standards and qualifications







## Investment considerations Utility scale projects

**130 MWp:** Implied Solar Energy  
Installed Capacity by 2020

**1 USD Million:** Avg. Investment  
cost for 1 MWp capacity

**~ 9 US cents/KWh:** Power purchase  
agreement price

**~ 25 years with attainable  
degradation rates below 20%:**  
Project life time

**2-5 MWp:** Most appropriate single  
project capacity, to meet special  
considerations listed

### 1 MWp capacity project

**12-15 Dunams:** Avg. land size

**1,700,000 KWh/ year:** Avg. output

**8 years:** Payback period

**10%-15%:** Investors IRR

**Financing structure:** 50% Equity: 50% Bank  
Loans with Potential more aggressive debt  
financing

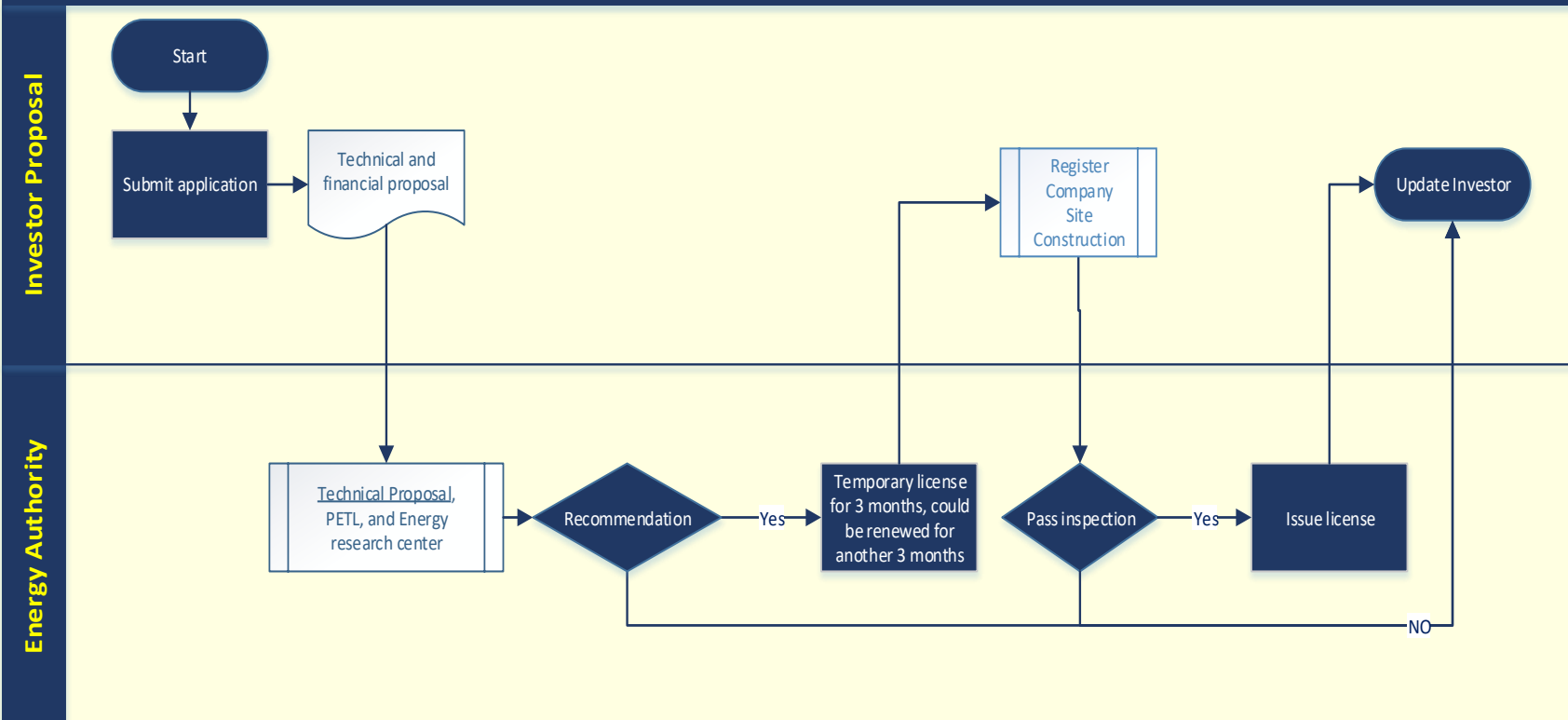
### **Projects' locations:**

All through the country

Not to focus on Mega scale projects in one  
area to accommodate the current grid capacity

# Station licensing process Direct proposals

## Investor steps to register Solar energy station



## Success stories

**Utility Scale Projects:** 7 initial licenses to developers were granted and in the pipeline of capacity over 20 MWp in different areas in the West Bank, and other developers are assessing additional projects in different areas as well.

**Rooftop PV Systems:** Palestinian industrial and Tourism sectors are shifting to Green Energy; Coca-Cola bottler in West Bank, and Poultry Company (AZIZA) in Uja (Jordan Valley) had installed rooftop systems under the net metering scheme, moreover, a Hotel in Bethlehem had also installed his own PV system. Additionally, a gradual increase in residential and commercial rooftop systems are being witnessed

**JAIP first 300 KW station**



**Al-Jebrini 340 KW Bio- methane facility, expandable to 990 KW**



**Coca-Cola 320 KW rooftop**





# Why Invest in Palestine

- Strategic **Location**, linking Asia, Africa, and Europe, with access to wide spectrum markets through more than 11 commercial agreements
- 300 sunshine days yearly, with annual Global Horizontal Irradiation(GHI) of above than 2,000 KWh/m<sup>2</sup>
- Dynamic **Economy**, representing a variety of investment opportunities for a growing country and market
- Access to **Finance** through a well-established financial system, suitable work environment, and a qualified labor force
- Specific **Incentives** for projects creating or expanding economic activities in certain sectors
- Supportive **Ecosystem** and commitment
- Qualified **Industrial Zones** strengthening the success of investment through offering services, advanced infrastructure and rewarding incentives for investments
- **Priority** to developing sustainable renewable energy sector

## Palestine's commitment to investors

- **Profitable** return on investment
- **Modern framework** of economic laws to encourage and support foreign and local investments
- **Free investments** in all sectors and in any ownership percentage
- **Free transfers** of generated profits and freedom of repatriation of income generated from investment
- Protection of investors, no expropriation, nationalization.
- **Equal treatment** for investors of all nationalities.
- **Protection** of all confidential information.

## PIPA's role

- Represents Palestine vision and its policies to promote the private sector and to define an appropriate investment environment
- Contributes to maintain and continuous development of friendly Investment environment
- Provides constantly improved customer service to foreign and domestic investors; through utilizing an effective One-Stop-Shop
- Facilitates cooperation between the private sector and the government, thereby creating and maintaining a more competitive investment environment
- Offers investors the necessary information to support their decisions to invest and start their investments including assistance in obtaining all necessary licenses. Offers updated information and data related to investment opportunities, expenditure and funding in Palestine
- Continuous relationship with investors through PIPA's After Care program





#### Why Invest in Palestine?

Palestine, with its strategic location and need for widespread infrastructure development is an untapped emerging market with enormous investment potential. The Palestinian economy is a market-based economy with the private sector playing the leading role.

#### News & Events

- Call For MedGeneration Project - Palestinian Diaspora  
3/15/2016
- Kuwaiti businessmen visit to Palestine  
3/7/2016
- Closure of awareness meetings on the Encouragement of Investment Law and its amendments in Salfit and Jenin Governorates  
2/21/2016
- PIPA held a training workshop on "Developing the Organizations Work plans"  
2/16/2016

#### Facts & Figures



**For your inquiries and suggestions,  
please do not hesitate to contact us:**

**Palestinian Investment Promotion Agency "PIPA"**

**Ramallah**

**P.O Box 1984, Palestine**

**Toll Free: 1800 250 250**

**Phone: +970 22988791/2**

**Fax: +970 22988793**

**Portal: [www.pipa.ps](http://www.pipa.ps)**

**E-mail: [info@pipa.gov.ps](mailto:info@pipa.gov.ps)**



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