



# **Hashemite Kingdom of Jordan**

## **Success Stories of PPP and Further Investment Opportunities in the Energy Sector**

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## **Energy Strategy ( 2007-2020)**

### **■ MAIN GOALS :**

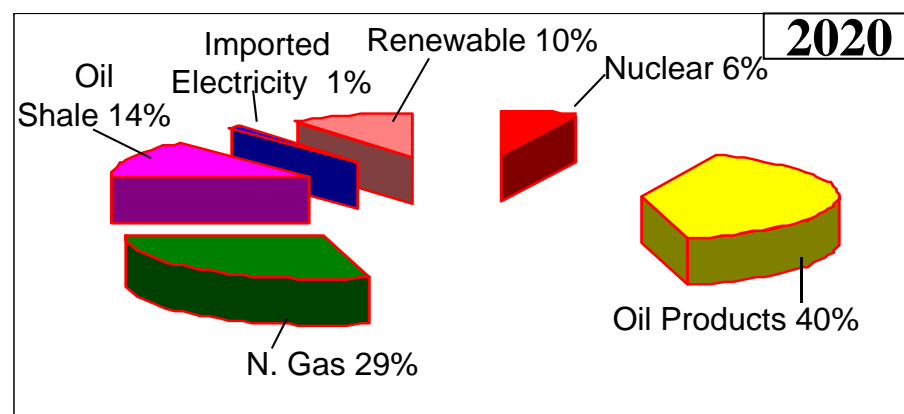
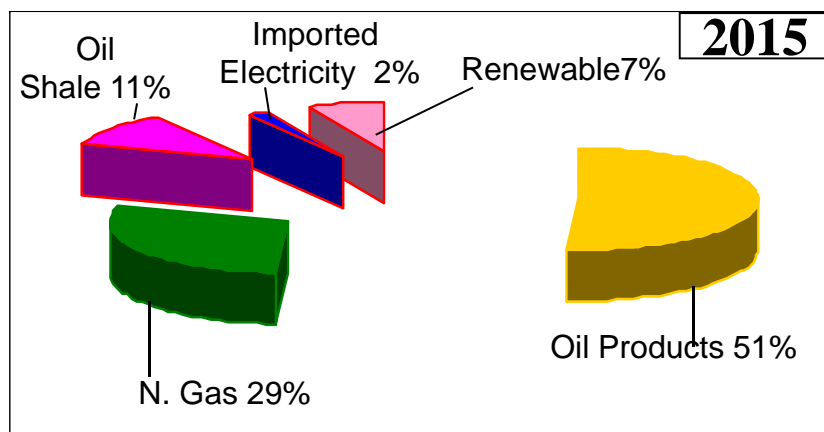
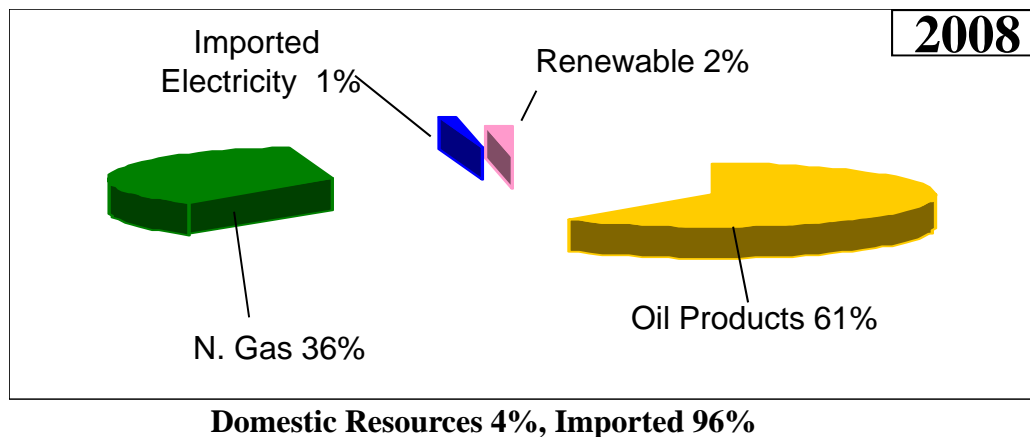
- Diversifying the energy resources**
- Increasing the share of local resources in the energy mix .**
- Reducing the dependency on imported oil**
- Enhancing environment protection**
- Attracting the private investment into the energy sector**



- **This will be achieved through :**
  - **Maximizing the utilization of domestic resources (oil shale, natural gas, etc.)**
  - **Expanding the development of renewable energy projects**
  - **Generating electricity from nuclear energy**

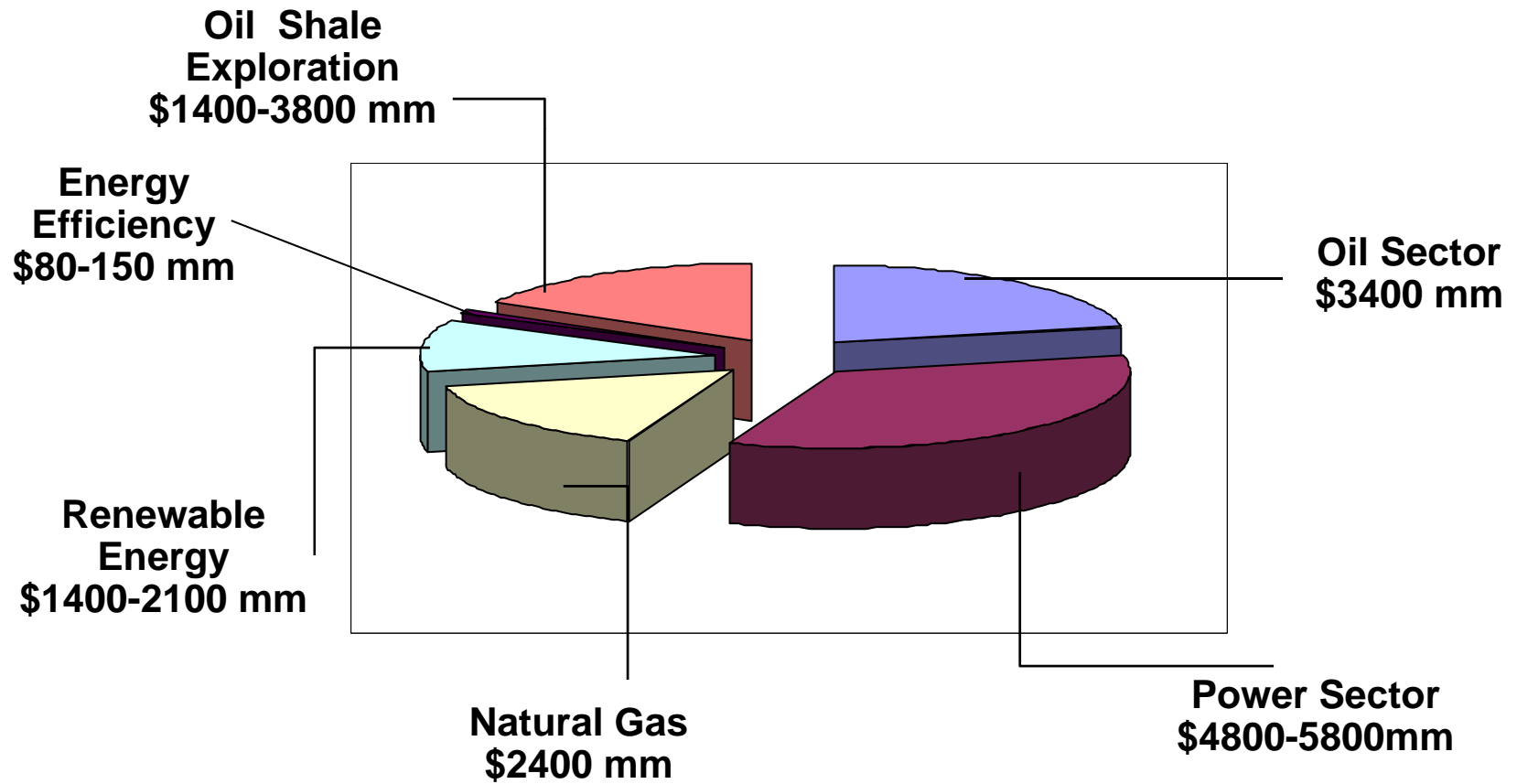


## The Energy Mix in Jordan (2008 – 2020)





**According to the Master Plan the required investment in the energy sector is around \$14-18 billion over the period ( 2008-2020)**





## **Electricity Sector**

- **4000 MW new additional generating capacity is needed until the year 2020.**
- **This Capacity will be implemented through Independent Power Producers (IPPs) based on BOO basis .**



- **First IPP- 370 MW CC Project is awarded to an American - Japanese consortium. The combined cycle of the project put into operation in September 2009.**
- **Second IPP- 370 MW CC Project is awarded to a Korean company. This project is under construction.**



- **Third IPP: 400 MW. Steam turbine on fuel oil. Tender will be issued in June 2010, the project is expected to be in operation in 2013.**
- **The future planned (IPPs) projects will be in average capacity of 300 MW/year and will be awarded through bidding process.**





## **Privatization**

### **– Generation**

**In 2007, Jordan took steps in privatizing the Generation Sector by selling 60% of its share in the largest Generation Central electricity Generating Co. Company ( CEGCO) which was privatized on 20/9/2007, as agreement of selling (51%) of the shares of CEGCO was signed in favor of “ENARA” Energy Arabia, (a company established by Jordan Dubai Energy, the energy in investment arm of Jordan Dubai Capital), the government has kept 40% of CEGCO, while 9% the possession of the social Security Investment Unit. The signed agreements have entered into force as of 18/10/2007.**



## **Privatization**

### **– Distribution**

**Irbid District Company has been privatized by selling 55.4% of its shares to Kingdome Electricity Company (KEC) which is owned by capital Dubai company. The ownership was transferred to (KEC) in 2/7/2008**

**The electricity distribution company was privatized by selling 100% of its shares to Kingdome Electricity Company (KEC) which owned by capital Dubai Company. The ownership was transferred to (KEC) in 2/7/2008.**



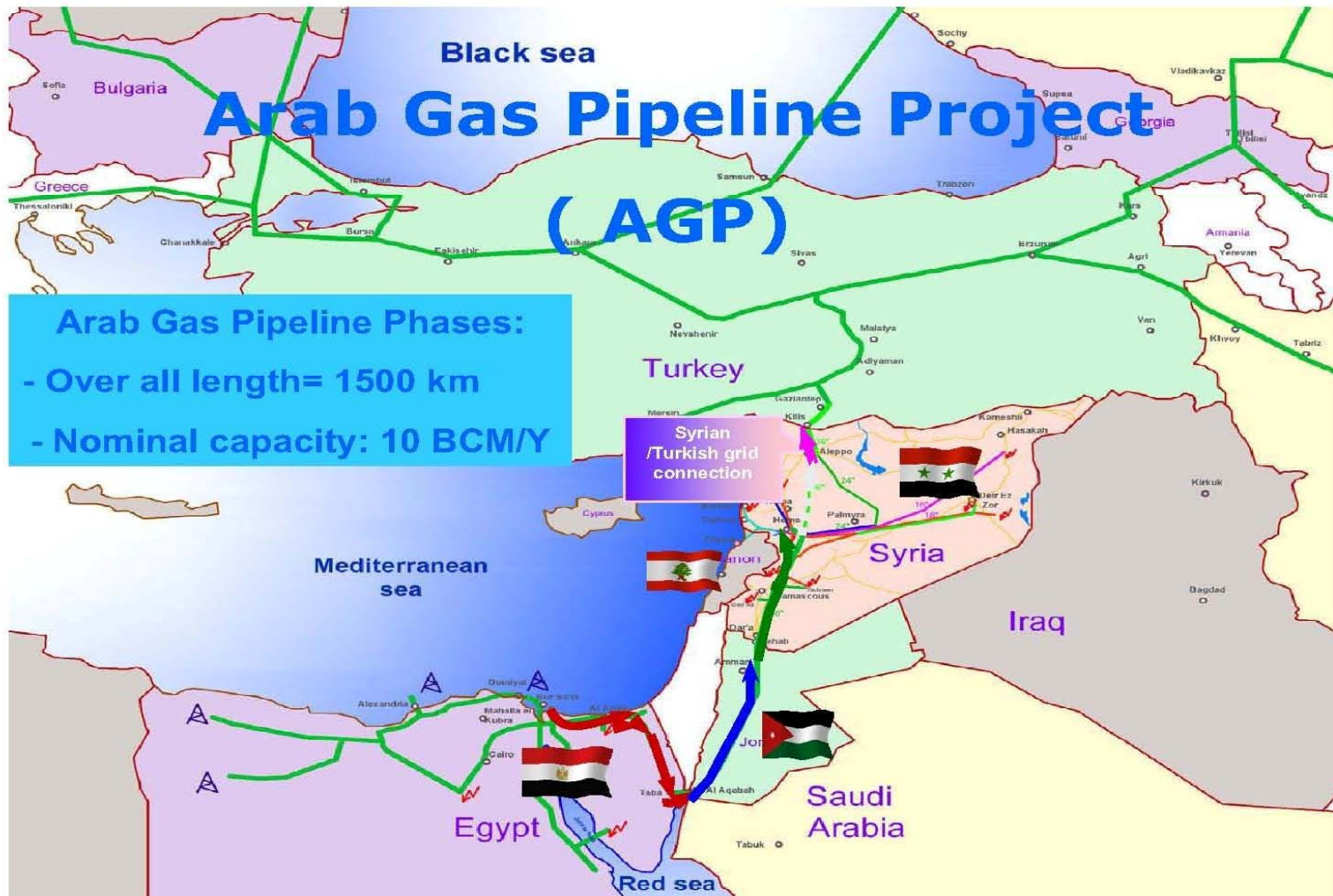
## **Natural Gas**

- **Currently, Jordan imports natural gas from Egypt through Arab Gas Pipeline Project which was built by private sector on BOO bases.**

**In 2009, 3.3 bcm were imported to generate 80% of our electricity .**

- **At present negotiation with Egyptian company to establish NG distribution networks in main cities is ongoing.**

- **Jordan is seeking for alternative sources of natural gas from other countries in the region.**



- Jordan is a transit country for Egyptian N.gas.
- Jordan was a transit country for Saudi and Iraqi Crude Oil.



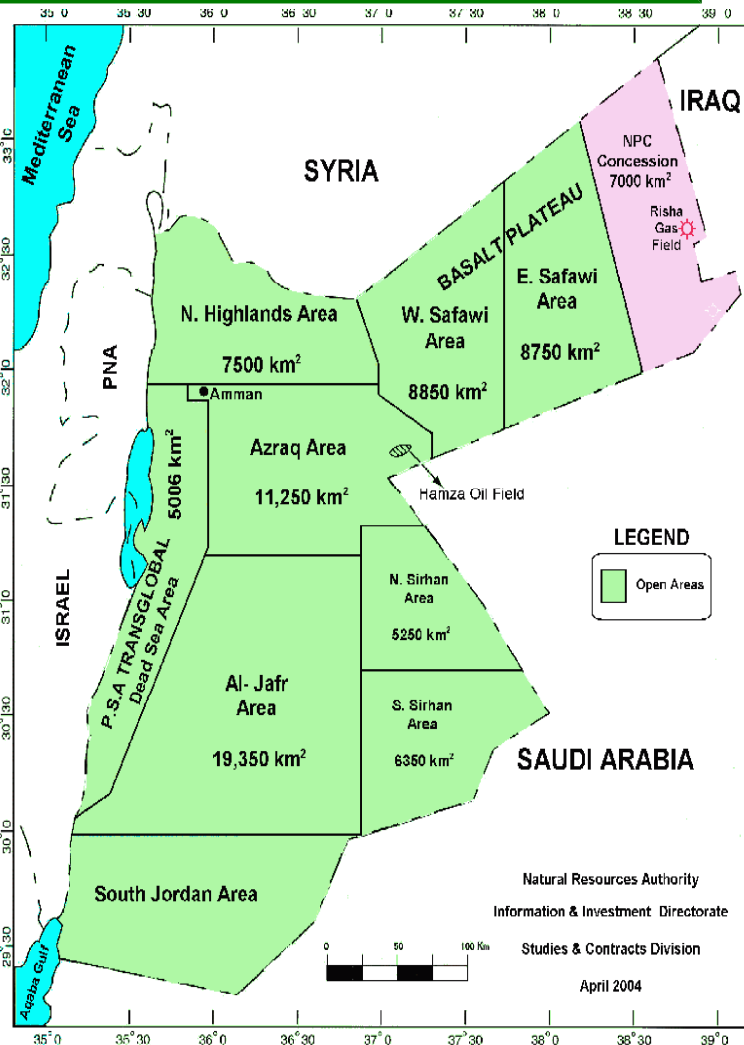
## **Local Natural Gas**

- **Concession has been granted to BP to develop the local sources of natural gas at Risha field.**
- **The development will be implemented in two phases:**
  - **Exploration and assessment with three years long (BP will spend 237 million US \$)**
  - **Development and Production.  
(BP will invest 8-10 billion US \$)**
- **The expected production is 330-1000 mcfd**



## Jordan's Oil and Gas Licenses

# The Investment in Oil and Gas Exploration



✓ The Kingdom is divided into 8 blocks according to its geological features.

✓ Five blocks are currently under concession agreements .

(NPC at Risha block ,Ireland Petril at East Safawi block, Indian British Petroleum at West Safwai block, American Sanoran at Azraq block and Indian Universal at Sarhan block).

✓ Dead Sea , Al-Jafer , and northern Highland areas are still opened for exploration.



## **Renewable energy**

**Promoting Renewable Energy to share 7% in the primary energy mix in 2015 , and 10% in 2020**

**600 - 1000 MW Wind Energy**

**300 - 600 MW Solar Energy**







## **Development Target: Wind Power**

**Jordan has an ambitious program in wind energy development, where about 600 MW of wind turbines to be installed by the year 2015, to be doubled by 2020 on BOO basis.**

### **First wind project**

**Al Kamshah (north of Jordan) 40 MW wind project is planned to be in operation during the year 2011.**







## **Second Wind Project**

**Al Fujeij, Shoubak (south of Jordan) 90 MW is already tendered for prequalification in April 2009 and planned to be in operation in 2011.**

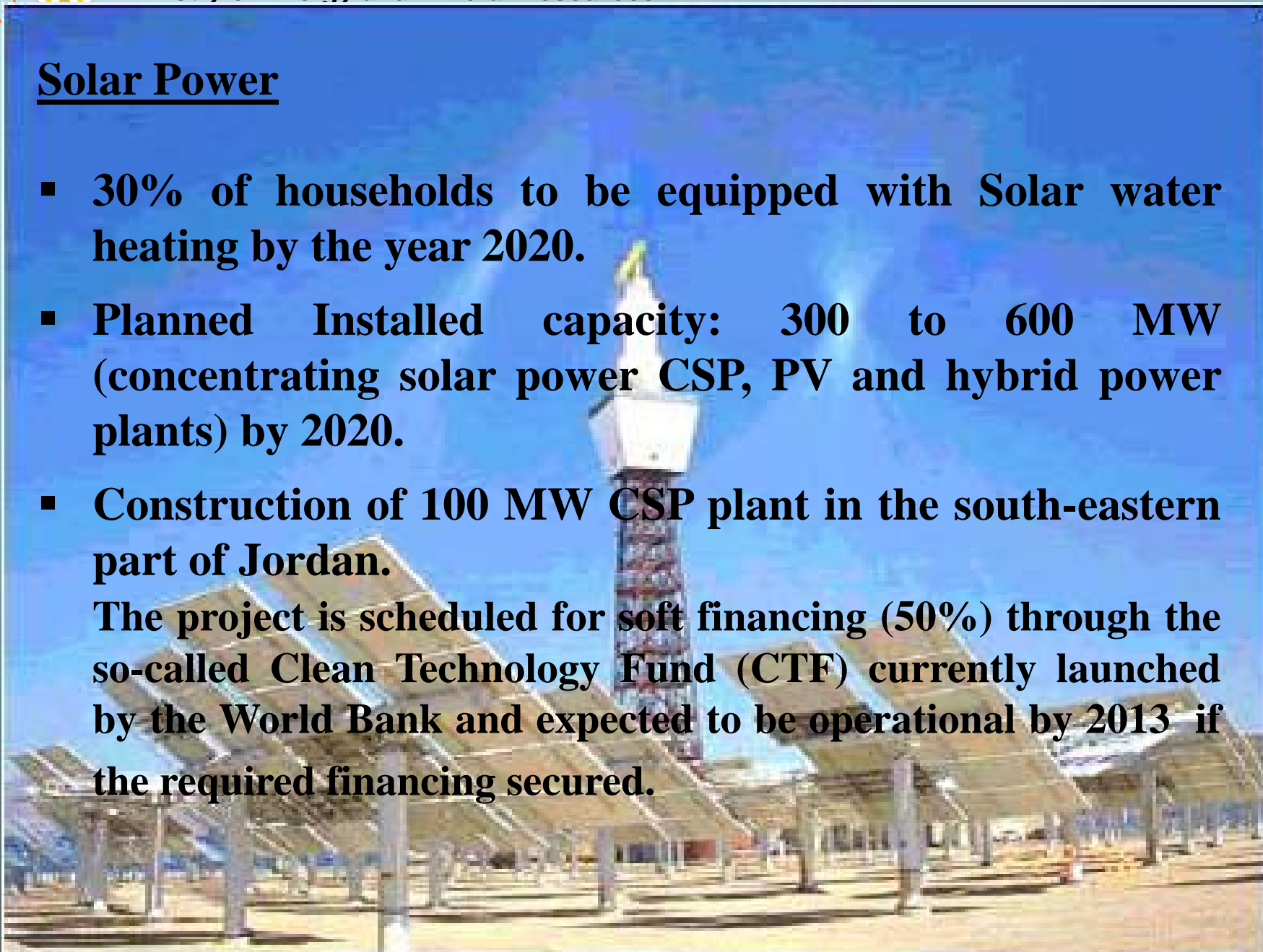




## **Solar Power**

- **30% of households to be equipped with Solar water heating by the year 2020.**
- **Planned Installed capacity: 300 to 600 MW (concentrating solar power CSP, PV and hybrid power plants) by 2020.**
- **Construction of 100 MW CSP plant in the south-eastern part of Jordan.**

**The project is scheduled for soft financing (50%) through the so-called Clean Technology Fund (CTF) currently launched by the World Bank and expected to be operational by 2013 if the required financing secured.**





## **Oil Shale**



- **Proven reserves is over 40 billion tons of surface oil shale.**
- **The Energy Strategy comprises promoting the Oil Shale as a new source of energy to share 11% in the primary energy mix in 2015 , and 14% in 2020.**
- **The GoJ is currently engaged with a three-tracks approach to deal with the Oil Shale development.**



## **1- Deep Reserves (Shell Project)**

- **A concession agreement was signed with Shell company to evaluate, develop and exploit the deep Oil Shale resources for extraction of oil in 2009.**



## **2- Surface Reserves**

- **The GoJ is currently engaged through MOUs with several international companies to prepare bankable feasibility studies to prove the feasibility of such investment and technologies. Concessions will be granted accordingly.**
- **The Eesti Energia has granted a concession agreement at Alattarat area. This agreement was approved by the Council of Ministers and signed on May 12<sup>th</sup> 2010.**
- **The Estonian Company (OSEJ) and the Jordan Mining and Energy Company (JMEL) is in the final stages of negotiations on the concession agreement , expected to be granted this year..**



### **3- Oil Shale Power Generation Project**

- **A Frame Work Agreement was signed with Eesti Energia of Estonia to develop a 600–900 MW on BOO basis project for power generation using direct combustion of oil shale. The expected commercial operation date is 2015.**



**Thank You**