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# Opportunities for JVs and Partnerships in India

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**Key Questions facing a foreign player**

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**Partnership opportunities in the value chain**

## Three things will drive solar power in India

### 1. Large Incremental Power Demand

2. Well endowed solar radiation – among the best in the world

3. Emerging grid parity

*India needs to add:*

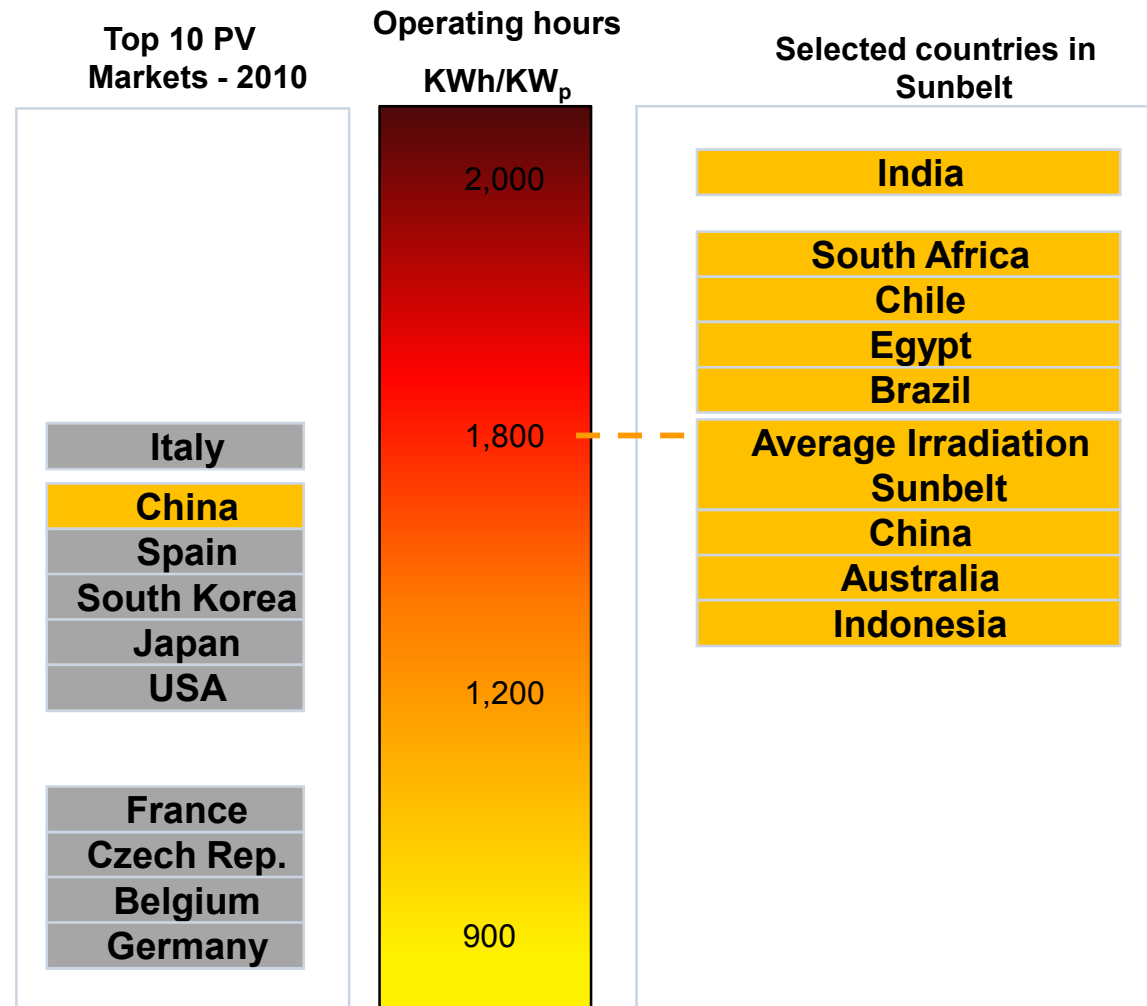
- *80 GW (conventional power equivalent) in next five (5) years*

- *200 GW (conventional power equivalent) in next ten (10) years*

# Three things will drive solar power in India

1. Large Incremental Power Demand
2. Well endowed solar radiation – among the best in the world
3. Emerging grid parity

India's solar insolation ~ 1800-2000 kwh/m2/year



# Three things will drive solar power in India

1. Large Incremental Power Demand
2. Well endowed solar radiation – among the best in the world
3. Emerging grid parity

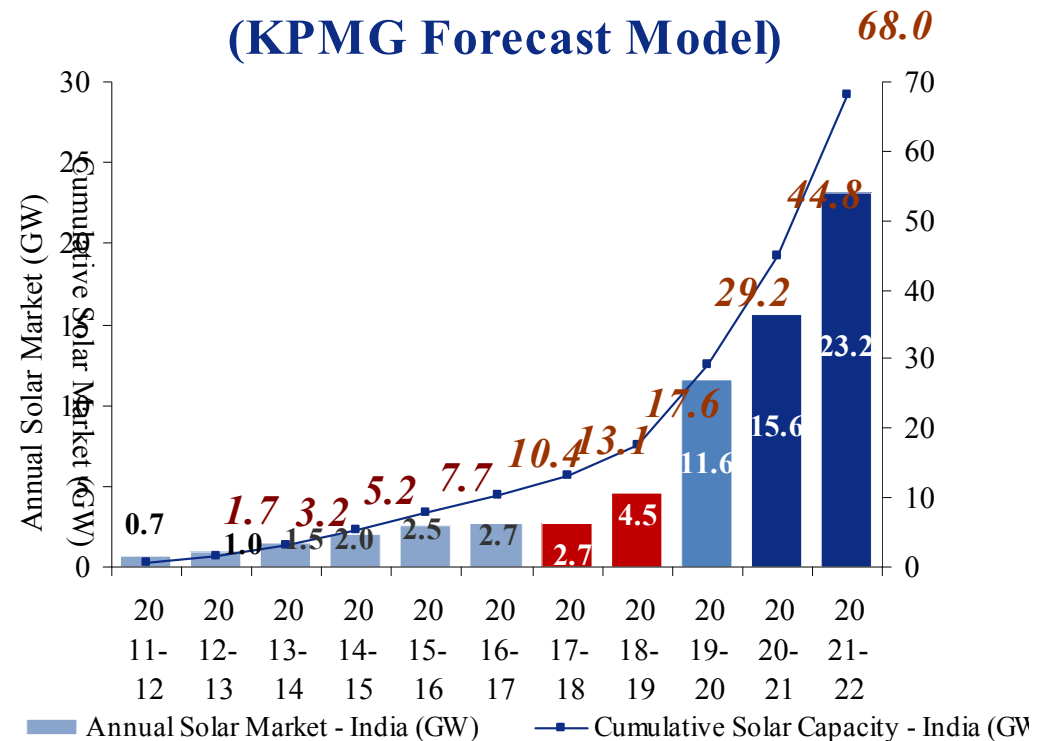
*With our analysis of grid parity suggesting 2017 to 2019 timeframe, we expect solar power to start making significant contributions to incremental demand by 2015*



# According to a KPMG study, these three drivers could mean the following...

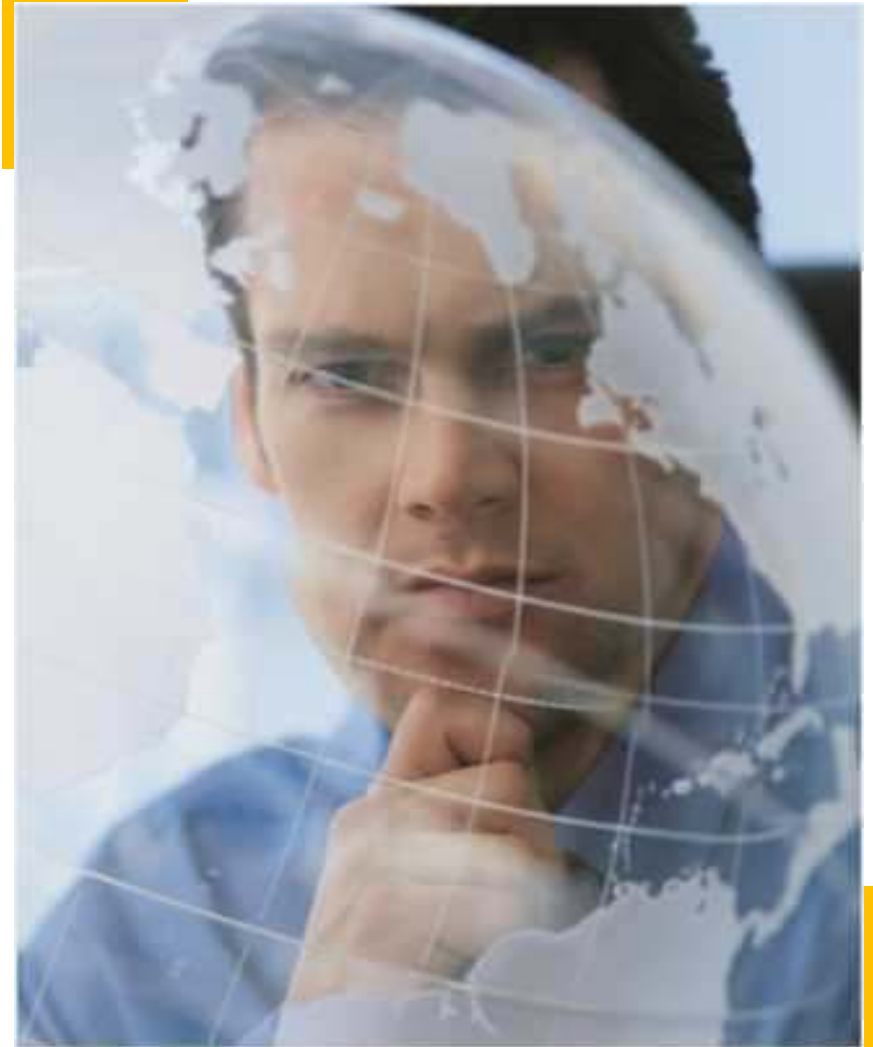
1. Solar power can potentially meet 7% of India's power requirement in next ten years
2. It can mitigate 2.6% of India's carbon emissions
3. It can enhance India's energy security by reducing dependence on energy imports
  - Oil imports stand at around 75%
  - Coal imports expected to increase from 15% to 30% in next 5 years

**Solar Market - India  
(KPMG Forecast Model)**



## Key questions before a foreign player...

- **What is the best way to enter the Indian market?**
- **What are the critical success factors and key considerations for success in India?**
- **What are the foreign investment guidelines?**
- **What is the most efficient way to structure the investments from a tax angle?**



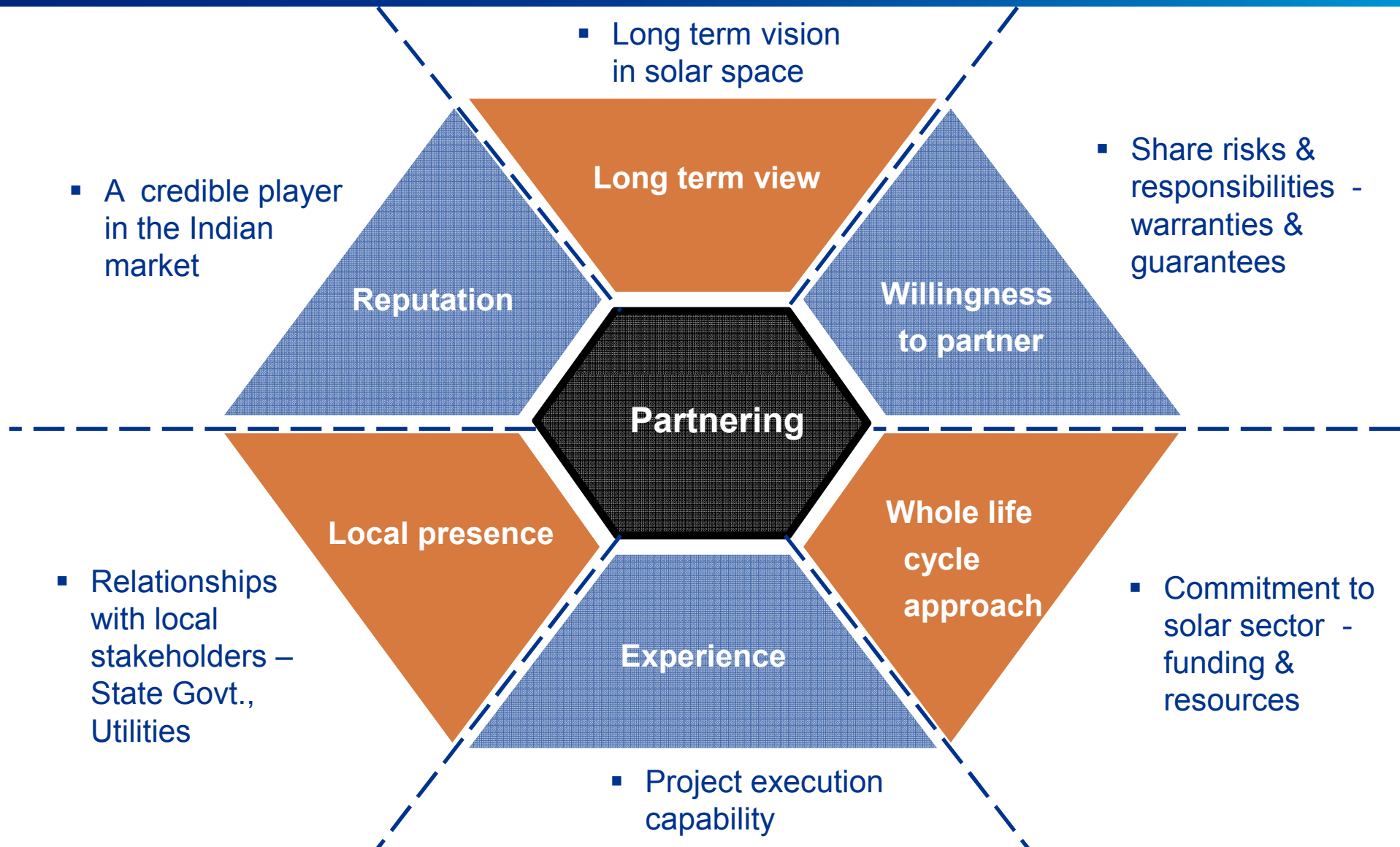
## Why partnerships could be useful

- **Helps get access to the market**
- **Helps in cost reduction due to localisation benefits that the Indian partner can bring**
- **The local partner will bring in ability to manage risks in the Indian environment better**





# Partner Selection Criteria



# Possible Entry Models

## Option 1

### Joint Venture - Equity

- Provides opportunity for long-term partnership – good option for downstream segment (EPC)
- Likely good option for Cells/ Modules – helps get access to projects due to market access capabilities of domestic player

## Option 2

### Licensing

- Advantage is no financial commitment and non-exclusive arrangements possible
- Could be considered for BOS components such as inverters, battery etc.

## Option 3

### 100% Subsidiary

- Can keep IP/ technology within the company
- Suitable for upstream and integrated play in certain thin-film technologies

- Some M&A opportunities may also be possible especially in cell/ module manufacturing space – this can help overseas players get a quick entry into the Indian market

# Forms of entity – Tax Considerations

## Operating as a foreign company in India

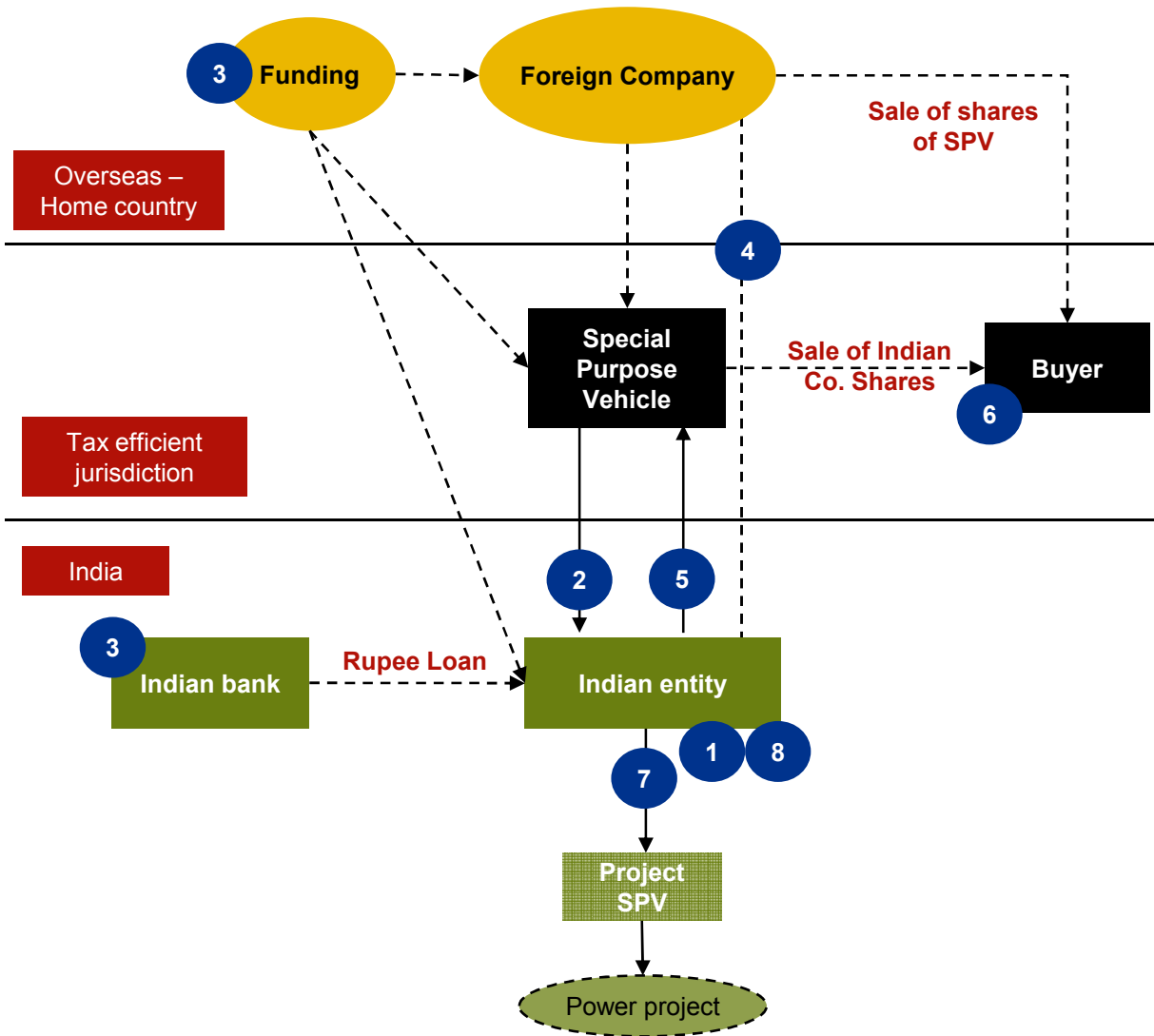
Liaison office	Branch office	Project office
Useful for liaising activities	Useful for trading activities	Useful for project execution
Not allowed to undertake commercial activities	Generally manufacturing cannot be undertaken	Only project related activities are permitted
Generally not taxable in India	Branch profits taxable	Project office profits taxable

## Operating as an Indian Company

Company under “Companies Act”	Treated as Indian tax resident company for Indian regulations – Income tax, Foreign exchange regulations, Companies Act, etc
Limited liability partnership (‘LLP’)	Treated as Indian tax resident firm under Income tax

- Project Office preferred for short duration;
- Company usually preferred over Branch especially to curtail business liability in India;
- LLP preferred over Company in light of clarity by the Foreign Exchange regulations

# Key Tax and Regulatory Considerations



## 1. Form of entity

- Company / Limited Liability Partnership / Other forms of business presence

## 2. Investment route

- Foreign Direct Investment Norms – Power Sector - Automatic Route
- Entry through tax-efficient jurisdiction
- Substance needs to be proved

## 3. Funding

- At what level ?
- Which country ?– Home country/ Tax efficient jurisdiction/ India
- Exchange Control Regulations
- Withholding tax on Interest

## 4. Deputation of personnel

- Permanent Establishment issue
- Taxation of Personnel

## 5. Repatriation

- Various tax-efficient forms of repatriation to be analysed

## 6. Exit strategy

- Capital Gains Tax in India

## 7. EPC Contract Structuring

## 8. Tax incentives available to Solar Developers

## Upstream PV Manufacturing – Polysilicon and Wafers

-- Good location and incentives key for this segment

### Limited Presence in poly-silicon and wafer manufacturing



**Poly Silicon**      **Solar Silicon Wafer**

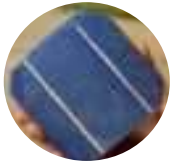
- Capacity under construction ~ 1500 tons/ annum (polysilicon)
- Announcements ~ 5000 tons/ annum (polysilicon)

- Domestic content mandate? Currently NO
- Large size of domestic market? YES
  - Next 5 years estimate: 8 GW
  - Polysilicon requirement: 56,000 tons cumulative (5 years)
- Is India a good location to manufacture?
  - Good successful case studies in energy intensive manufacturing – steel, aluminum
  - Renowned global companies in precision engineering components – fasteners, forgings etc.
  - Good incentives can be negotiated with some State Governments
  - Federal Government offers fiscal incentives for export oriented manufacturing - SEZs

**“India among world's top 10 manufacturing nations” - *International Yearbook of Industrial Statistics 2011, published by the United Nations Industrial Development Organization (UNIDO).***

## Cells and Modules Manufacturing

Indian players are predominantly present in the module segment of the solar PV value chain



**Photovoltaic  
Cell**

**Photovoltaic  
Modules**

- **Manufacturing capacity of around ~600 MW (cells) and ~1000 MW (modules) already present**

- **Domestic content mandate? “Yes” for national program. “No” for some state programs. However, states keen to promote manufacturing within state.**
- **Large size of domestic market? “Yes”**
- **Is India a good location to manufacture?**
  - Good technical skill sets in electronics industry
  - Number of industrial clusters for electronics
- **M&A opportunities may exist providing an entry route for global players**
- **JV for greenfield capacities is a good entry model. Silicon presence would be a distinct advantage for such strategies**

## Downstream Services

### EPC/ System Integration – Immediate Opportunity



#### System Integration & EPC

- EPC
- Technical Services – O&M, OE/ LE, Resource Studies
- India has a well developed EPC industry in conventional power sector – strong engineering and construction players present
- Many small-to-medium size companies (Turnover < Euro 500 mn) exist in this space
- Few large companies also present
- JV option would enable quick access to the market and also benefit from low cost of local partner

## **Downstream Manufacturing & Services**

### **BOS - Significant potential for localisation exists**

#### **Balance of Systems**

- **Inverters**
- **Battery**
- **Tracking Systems**
- **Cleaning systems**
- **Control & Instrumentation**

- **Well developed domestic industry in electronics and industrial automation systems**
- **Good opportunities for partnerships with Indian companies**

**...Indian players are looking for partnerships with credible players**



## Manufacturing Opportunities in CSP (1/2)

Component	Strength of Indian Industry	Opportunity for collaboration
<b>Parabolic trough structure</b>	<p><u>Medium</u></p> <ul style="list-style-type: none"> <li>• 1-2 players have the capability</li> <li>• Others like transmission tower manufacturers can enter with some help</li> </ul>	<p><u>High</u></p> <ul style="list-style-type: none"> <li>• To impart design skills</li> <li>• Given one time nature of skill transfer equity participation preferred</li> </ul>
<b>Mirrors</b>	<p><u>Medium</u></p> <ul style="list-style-type: none"> <li>• Global biggies – St Gobain, Guardian have Indian presence and keen to invest in setting up facility</li> </ul>	<p><u>High</u></p> <ul style="list-style-type: none"> <li>• Indian glass and mirror industry is closely evaluating this space.</li> </ul>
<b>Civil Works</b>	<p><u>High</u></p> <ul style="list-style-type: none"> <li>• Strong in conventional but solar thermal requires high precision in structure mounting</li> </ul>	<p><u>Medium</u></p> <ul style="list-style-type: none"> <li>• To impart skill transfer</li> <li>• Given one time nature of skill transfer, equity participation preferred</li> </ul>

## Manufacturing Opportunities in CSP (2/2)

Component	Strength of Indian Industry	Opportunity for collaboration
<p><b>Tracking devices</b></p>	<p><u>Medium</u></p> <ul style="list-style-type: none"> <li>India has a well developed industry in the area of industrial automation.</li> </ul>	<p><u>High</u></p> <ul style="list-style-type: none"> <li>Given the specialized nature of these components, the players should be able to exercise a strong influence</li> </ul>
<p><b>Turbines/Heat Exchangers</b></p>	<p><u>High</u></p> <ul style="list-style-type: none"> <li>ABB, Siemens, L&amp;T are best known global brands</li> </ul>	<p><u>Low</u></p> <ul style="list-style-type: none"> <li>Global players can easily get a facility set up in India</li> <li>Heat exchangers are generic and can be indigenously supplied.</li> </ul>

# Thank You



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