Key Factors Influencing Decision to Manufacture in US

• Scale of Production Line
• Location
• Government Incentives
• Financing: Equity and Debt
• Corporate Partners
Scale of Production Line

- Different technologies have different sweet spots
  - Equipment throughput considerations
  - Capex ($/W) considerations
  - Manufacturing Cost ($/W)
- Solexant sweet spot is 100MW scale for commercial production line that can be replicated to increase capacity to GW level
- About $100M is necessary to build the plant and fund the operating expenses until the high volume production launch
Key Factors Influencing Location Decision

• Close Proximity to R&D Facility
• Close Proximity to Pilot Manufacturing Line
• Ease of Technology Transfer from Pilot Line to Production Line
• Low taxes (preferably tax exemptions)
• Skilled but low cost labor pool
• Low cost electricity
• Low cost land and building
• Lack of regulatory burden
• Markets served (close to the customer)
• Low shipping cost
Government Incentives

- Cash is king – need upfront cash
- Upfront cash grant is the best mode of incentive. This will help attract equity dollars which are extremely difficult to raise.
- Tax Credits such as 48C do not help start-up companies
- Cashable tax credits such as BETC in Oregon are more helpful but require significant equity be invested first to build the plant
- Government backed loans can help if they are structured properly
- Enterprise zones with tax exemptions are necessary
- Training grants
- R&D grants
Financing

- $100M total investment necessary for most solar companies
- $50M incentives. $50M equity + debt.
- Very difficult to get equity financing
  - Too late a stage for most VCs
  - Too early a stage for private equity investors
- Debt financing is extremely challenging for most startups
  - Start-ups do not have the necessary balance sheet strength
  - Banks do not lend
  - Government backed loans such as Oregon SELP are necessary but must be structured appropriately to provide cash when needed during the construction and ramp (not when profitable)
Corporate Partnership

• Corporate partnerships are being used by some start-ups. Double edged sword. Some VCs like it but many don’t.

• Asian based companies are much more active than US based companies in establishing such partnerships with start-ups.

• Utilities can be encouraged (or mandated) to invest in start-ups to set-up production lines.