

# PV Power Plant Certification



VDE Testing & Certification  
Institute

# What is a Certification Body

- Certification needs to be performed by appropriately accredited certification body within purview of the standard
- Example VDE accredited by DAKKS per regulation 765/2008 and ISO/IEC 17011 across the PV field..... competence, impartiality, performance
- Transparent process... public interest assured, trusted certification and test reports etc.



# Plant Level Certification Already Being Applied

- VDE in collaboration with our partner Fraunhofer ISE has developed a comprehensive set of technical requirements for plant level certification
- Macho Springs, a 50MW plant designed and built by First Solar in Luna County New Mexico was the first plant in the US to receive certification towards the end of last year
- Anticipating IEC standards developed by IECRE working groups



# Objective Plant Level Certification

- Reduce risk by providing internationally recognized and understood certification
- Covers asset quality as built and expected performance e.g. over 20 year life



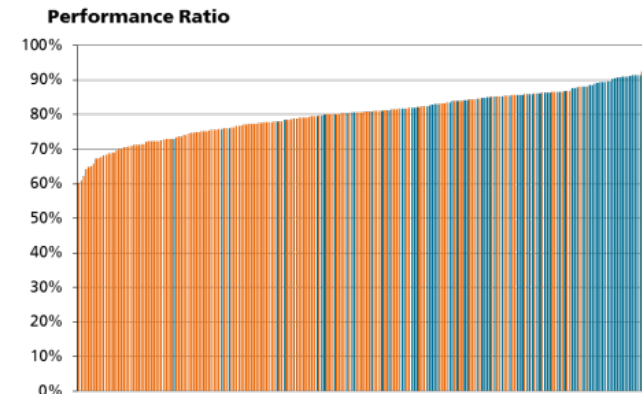
# Scope of Plant Level Certification

- Technical not financial
- Defined requirements for documentation, component selection, overall design, **safety**, execution, commissioning report protocol, yield forecast, O&M procedures etc.
- As an example, VDE QT certification is a 300 point specification including detailed site visit, module through grid connect level performance confirmation and projection etc.
- Scope is scale dependent but minimum requirements for all



# Performance Reporting & Measurement

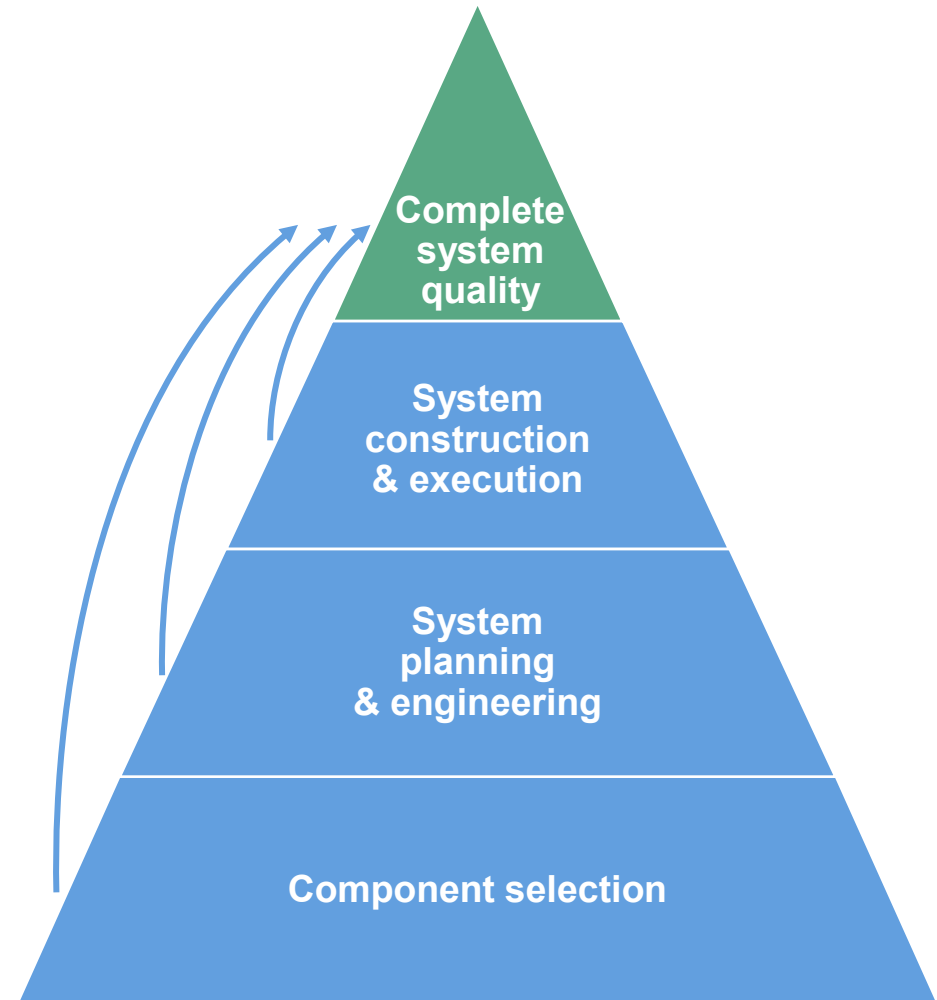
- Performance checks
  - ✓ Module performance using modules taken from the field. e.g. irradiance and temperature dependence
  - ✓ String level performance at the combiner box
  - ✓ Soiling/O&M effectiveness
  - ✓ Monitoring Equipment
  - ✓ Etc.
  
- Net result is yield assessment and performance ratio – including uncertainty



# Achieving Invest-ability Through Certification

## Achieving invest-ability needs:

- A professionally designed, **comprehensive quality assurance concept**
- Covers the core requirements of lenders, investors and insurers
- Leverages synergies in stakeholder requirements in a **streamlined** way
- Must verify other important aspects e.g. planning, engineering and, if applicable, training of installers



# Scope of Plant Level Certification

- Unambiguous and understood set of technical requirements and performance assessments
- Simple pass fail criteria and certified parameters





# It's all About Return on Investment

- You can't add cost you have to reduce costs
  - Confirm known quality standard c.f. module
  - Reduce risk and increase asset value,
  - Provide initial and ongoing cost savings – catch mistakes early, avoid overlaps QA
  - Increase confidence in yield over asset life
  - Reduce cost of capital and insurance as more entities willing to participate
  - Improve ROI for all participants



# Questions & Discussion



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