Presentation to
Delaware Renewable Energy Taskforce

DuPont Photovoltaic Solutions

December 1, 2010

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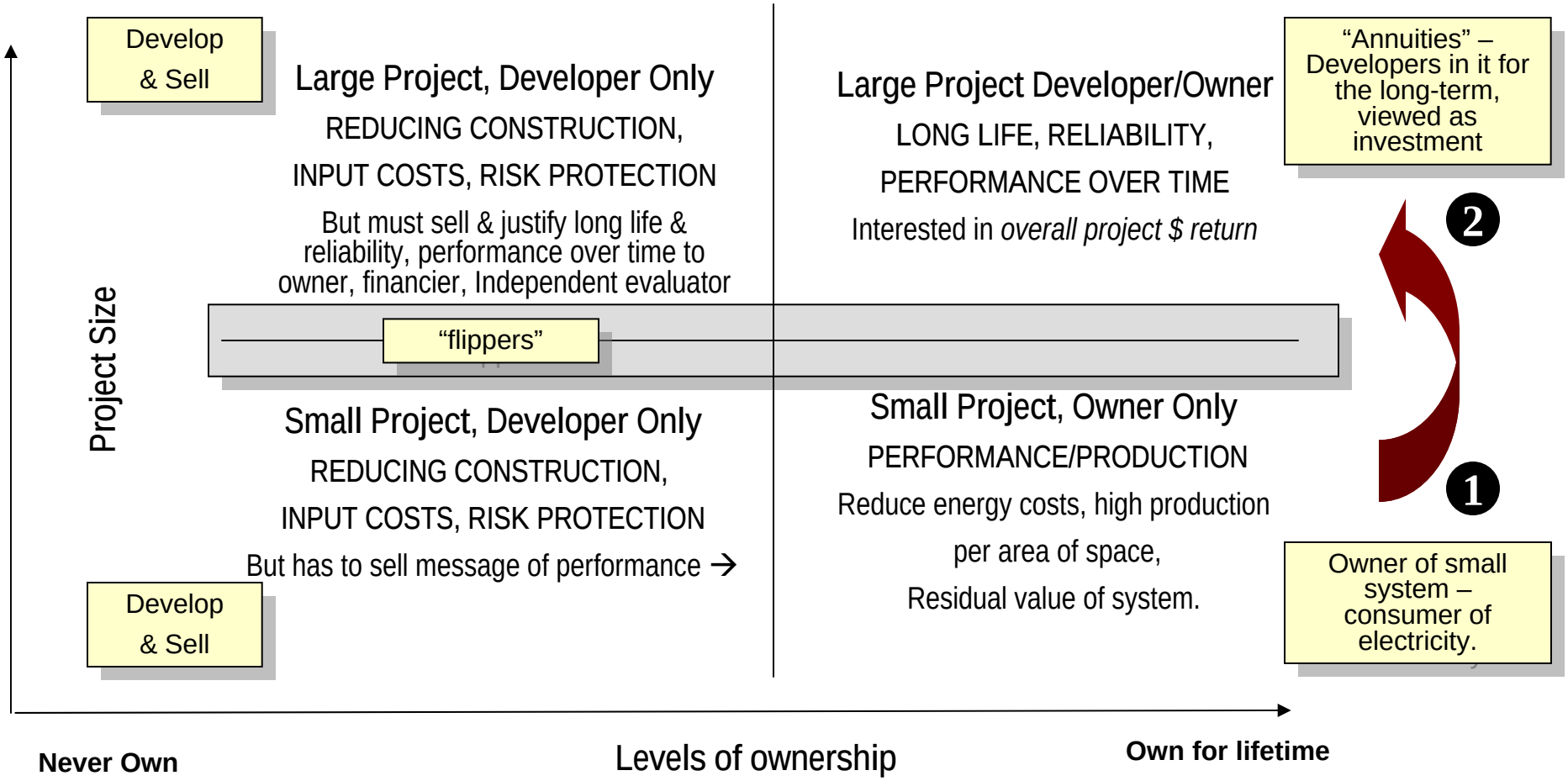
Solar Industry Research: Enabling Sustainable Growth

- Industry Behaviors Influenced by Ownership Model and Scale
- All Modules are Not Created Equal
- Managing Reliability, Performance, and Risk

Industry Behaviors Influenced by Ownership Model and Scale

Incentives Contribute to Business Model Decision



Focus on model that drives sustainable growth and jobs

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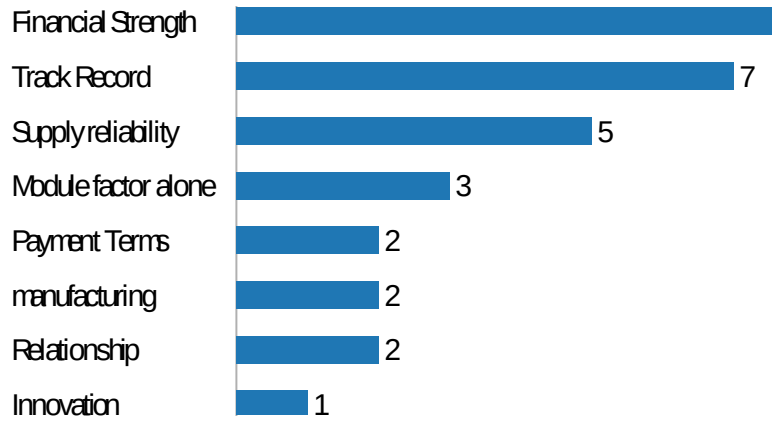
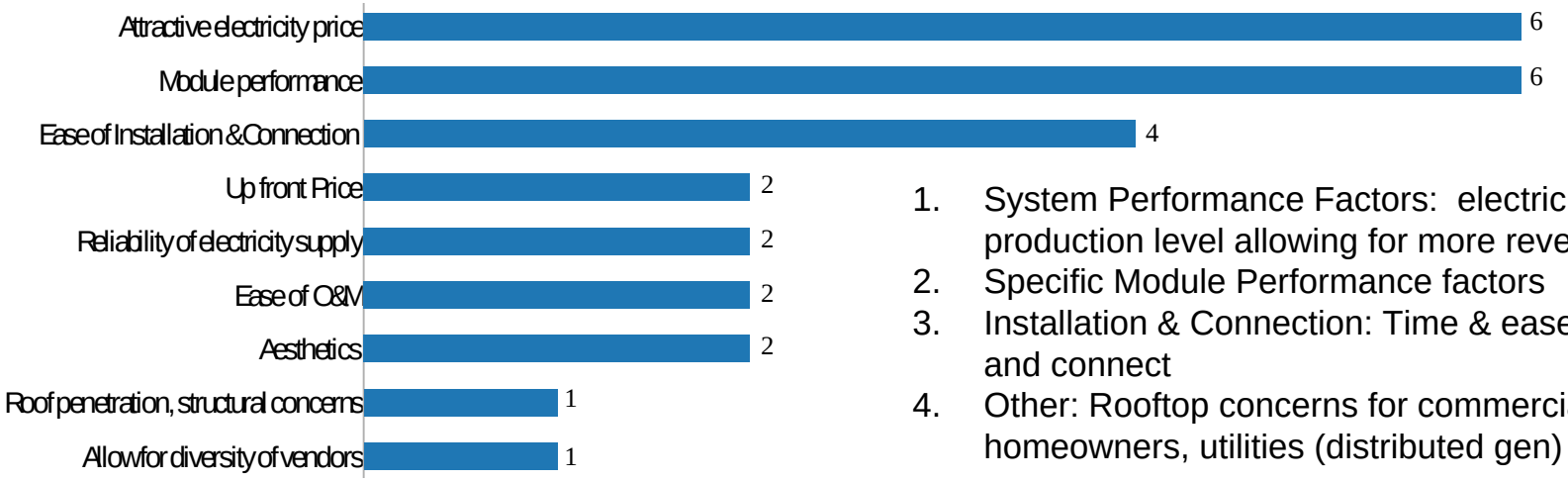
Module Supplier Decision Drivers



1. Financial Strength: Strong balance sheet,, diversified, able to back warranty, will be around long-term.
2. Track Record: History with the industry, trusted brand, modules have been in the field, general reputation & operating history.
3. Supply Reliability: Manufacturing/ production capacity, history of delivering on time, sufficient resources to manage logistics of suppliers.

Trust and reputation

System Purchase Decision Drivers



1. System Performance Factors: electricity savings or production level allowing for more revenue.
2. Specific Module Performance factors
3. Installation & Connection: Time & ease to install and connect
4. Other: Rooftop concerns for commercial & homeowners, utilities (distributed gen)

Production: kW-hr harvesting

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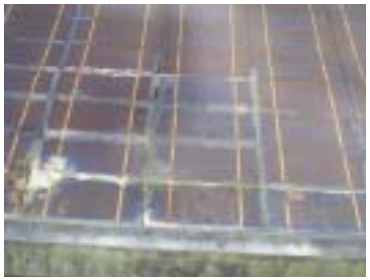
All Modules are Not Created Equal:
Sample Fielded Module Investigation

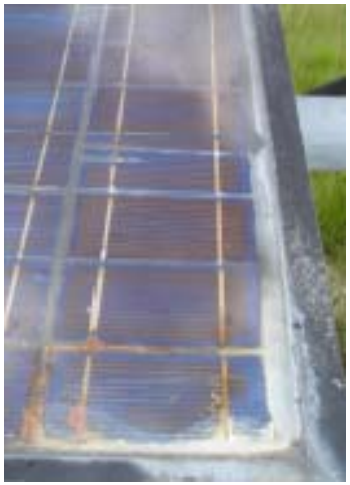
- Examples of findings in field
- All these modules were “qualified” using accepted industry tests
- Module reliability, performance and risk are not easy to quantify at project outset

Cracked Cells

Browning Encapsulant

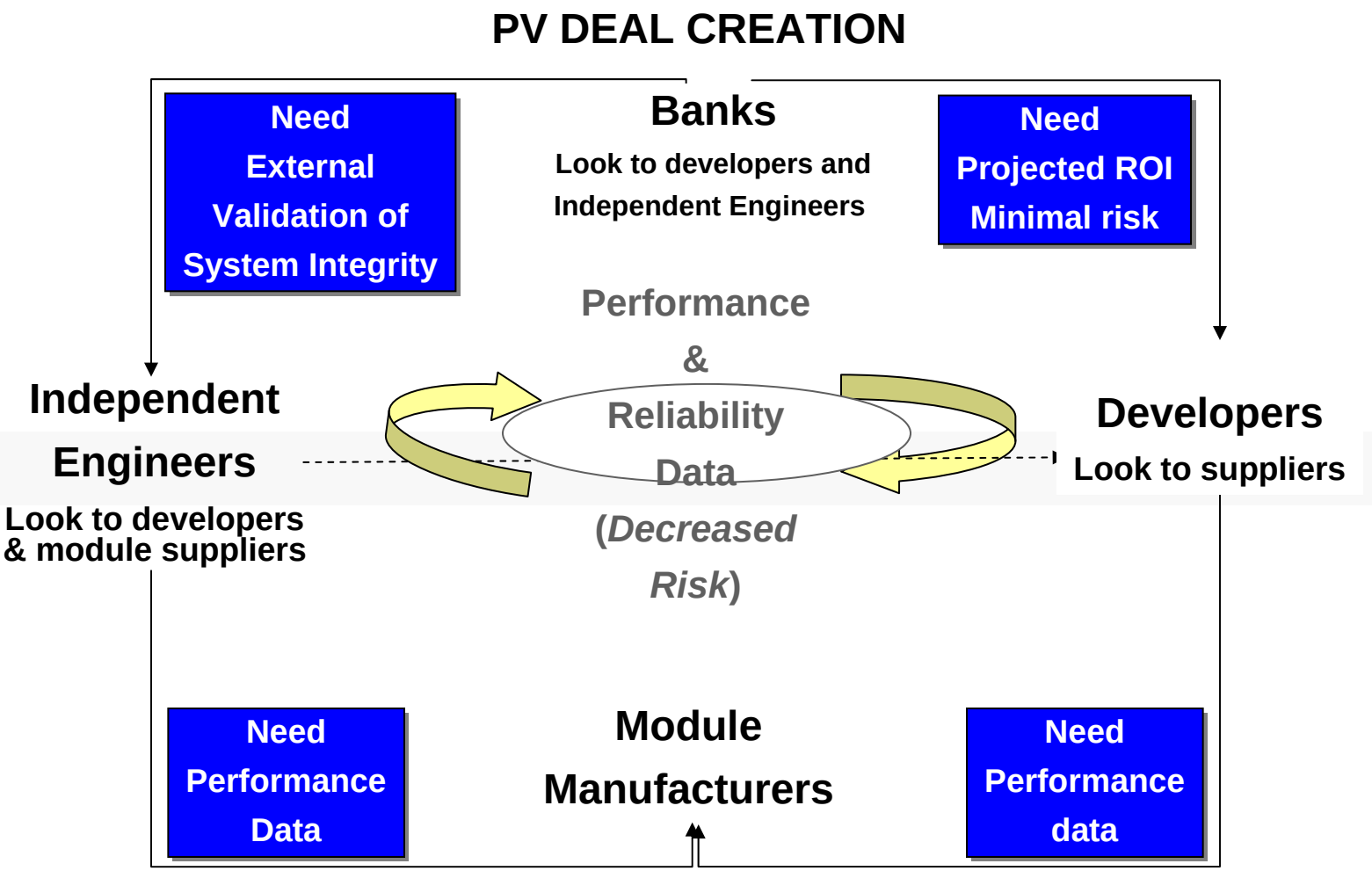


Cell Corrosion



Seal Failure

Managing Reliability, Performance, and Risk:
Building Long-Term Industry Confidence and Ensuring Sustainable Growth



There is Significant *Appetite for* and *Lack of* Acceptable Module Performance Measurement Systems & Data

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Conclusions

Industry Behaviors Influenced by Ownership Model and Scale

- Decision-Makers for Module Selection are Systems Integrators & PV System Developers
  - Large scale owners highly involved in module evaluation
  - Energy EPC firms becoming more involved
- Financial Strength, Track Record and Supply Reliability Drive Module Supplier Selection

All Modules are Not Created Equal

- Qualification tests alone do not guarantee reliable performance over time

Managing Reliability, Performance, and Risk

- Performance, Price and Business Risk Factors Drive Module Purchase Decisions
  - Differences Corresponded to Project Size & Level of Ownership
  - Downstream Players Make Decisions Based on “Overall Project Economics”
- There Lacks “Best Practice” or Commonly Accepted Standard for Measuring Performance Risk Factors for PV Modules & Systems

Thank You

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