Tennessee Advanced Energy Business Council

Traditional + Innovative Financing Models for Distributed Generation

November 4, 2020

How do LPCs approach a new TVA landscape?

Industry partners offer their perspective …

AMERESCO
Green • Clean • Sustainable

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SILICON RANCH

Introductions + Overview

Presenters:

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Presentation Outline:

Distributed Energy
Aligning Definitions+Terminology
LPC Goals, Ownership, Partnership, etc.

Financing / Ownership Models
PPA
Design-Build-Finance
Other

Procuring the Optimal Partner +Solution
Goals
Procurement
Future Trends + Considerations

Questions & Answers
Moderated
Audience

“Distributed Energy Generation”

ASSUMPTIONS, ALIGNMENT & GOALS

1. For our conversations today “Distributed Generation” will relate to Solar PV and BESS
2. Whether we realize this or now, there are MANY differing Rationales and Goals … some with more complexity than others
3. However, as LPC’s we all share the same overarching challenge:

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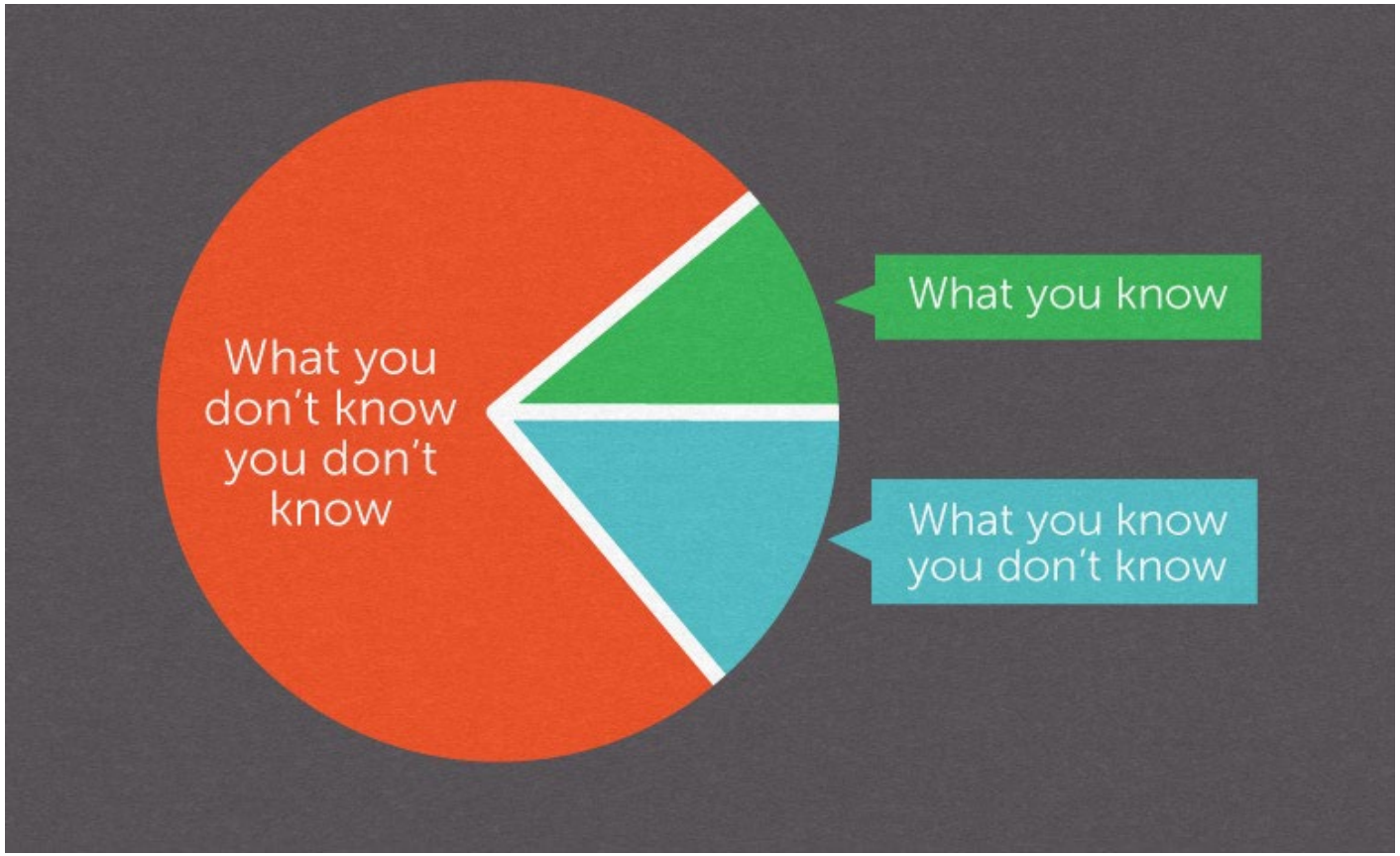


Key Considerations for Renewable Energy Procurement

Cost/Benefit Analysis of different procurement options:

- ✓ Economies of Scale vs. Distributed generation strategy
  - ✓ Land Rush
  - ✓ Operational Challenges/benefits of large vs small scale
- ✓ Pitfalls of EPC Contracting
  - ✓ Lowest $/Wdc vs. Long term Reliability
- ✓ Utility Owned vs. third Party Owned resources
  - ✓ ITC/MACRS Tax benefits
- ✓ Operations and Maintenance and long term risk management
- ✓ “Apples to Apples”
  - ✓ Wide disparity of business models
  - ✓ Developers vs. Owner/Operators vs. OEM’s
  - ✓ Credit Support
- ✓ Additionality” and Renewable Energy Credits (RECs)?

“Utility Scale” Solar

Ground Mounted, Utility Scale

A large-scale solar project not provides cost competitive resource in the service territories of the Local Power Companies

- ✓ Economies of Scale vs. Land assembly challenges
  - ✓ Land Rush
- ✓ Operational Challenges/benefits of centralized, intermittent resource
- ✓ “Additionality” and Renewable Energy Credits (RECs)?
- ✓ Wide disparity of business models that will seek PPA with LPC’s seeking in service territory
  - ✓ Developers vs. Owner/Operators

Community Solar

Useable Area

A community solar project can be utilized to reach customers who seek renewable energy, but unable to integrate within their own facilities.

- ✓ Commercial and Industrial Customers with Sustainability Initiatives
- ✓ Residential Customers that can not integrate on their primary place of residence
- ✓ Low/Moderate Income populations

Brownfield Solar

Useable Area

A distributed generation (DG) solar project can be opportunity to utilize a proven Adaptive Reuse strategy to re-position "useless to worthwhile" real estate assets, resulting in numerous local benefits:

- ✓ Reposition brownfield or blighted real estate
- ✓ Economic Development
  - ✓ Permitting fees
  - ✓ Property Taxes
  - ✓ FTE//PTE Employment
- ✓ Stronger fundamentals for Interconnection Studies
- ✓ Community Uplift

DePue Solar: 27MWdc/20MWac facility on US EPA Superfund Site in Illinois

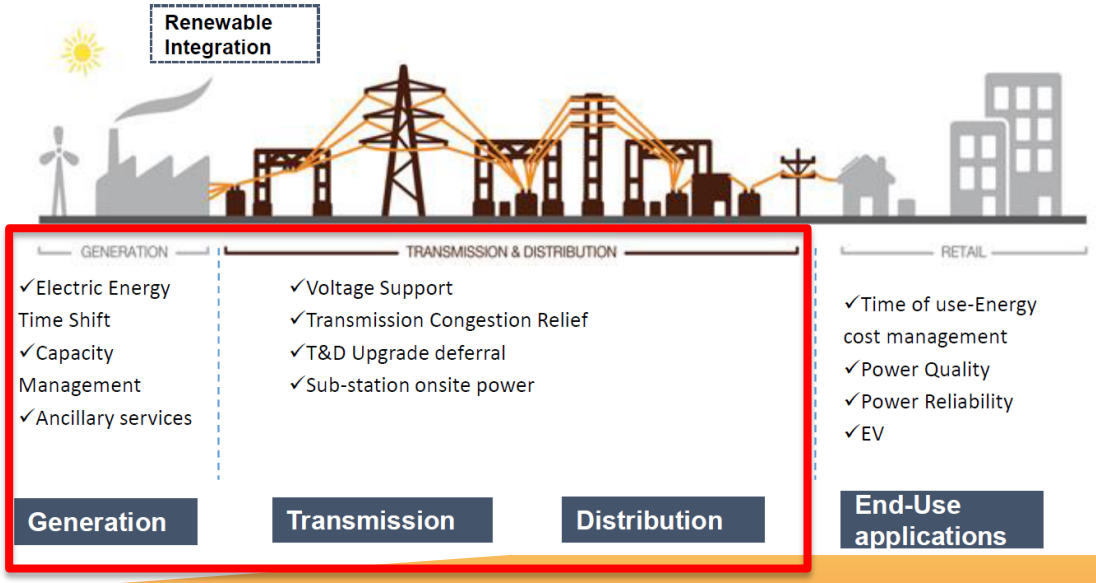
Battery Energy Storage Systems (BESS)

Energy Storage and Microgrids

The commercial viability of large-scale energy storage has reached a scale and "comfort" to facilitate financing

- ✓ Financially viable
- ✓ Prices declining rapidly
- ✓ Provides numerous operational capabilities
  - ✓ Peak Shaving/Load Shed
  - ✓ VAR Control/Grid Support
  - ✓ Resiliency in critical events
- ✓ Operational experience and controls Systems are critical!

Electricity Value chain



Applications offered by Energy Storage

Thank you & keep in touch …

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