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Advanced Contracting for Renewable Projects

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Agenda

- Overview
- Project Development
- Land Use Issues
- Utility Service Issues
- Contract Issues

Overview

- Focus: DOD RE projects
- Project development process from the perspective of commercial developers, government-owned projects and power purchases.
- Assume you already have a good resource and site with no mission/environmental conflicts.
- We will highlight and discuss steps that we believe will be the most problematic.

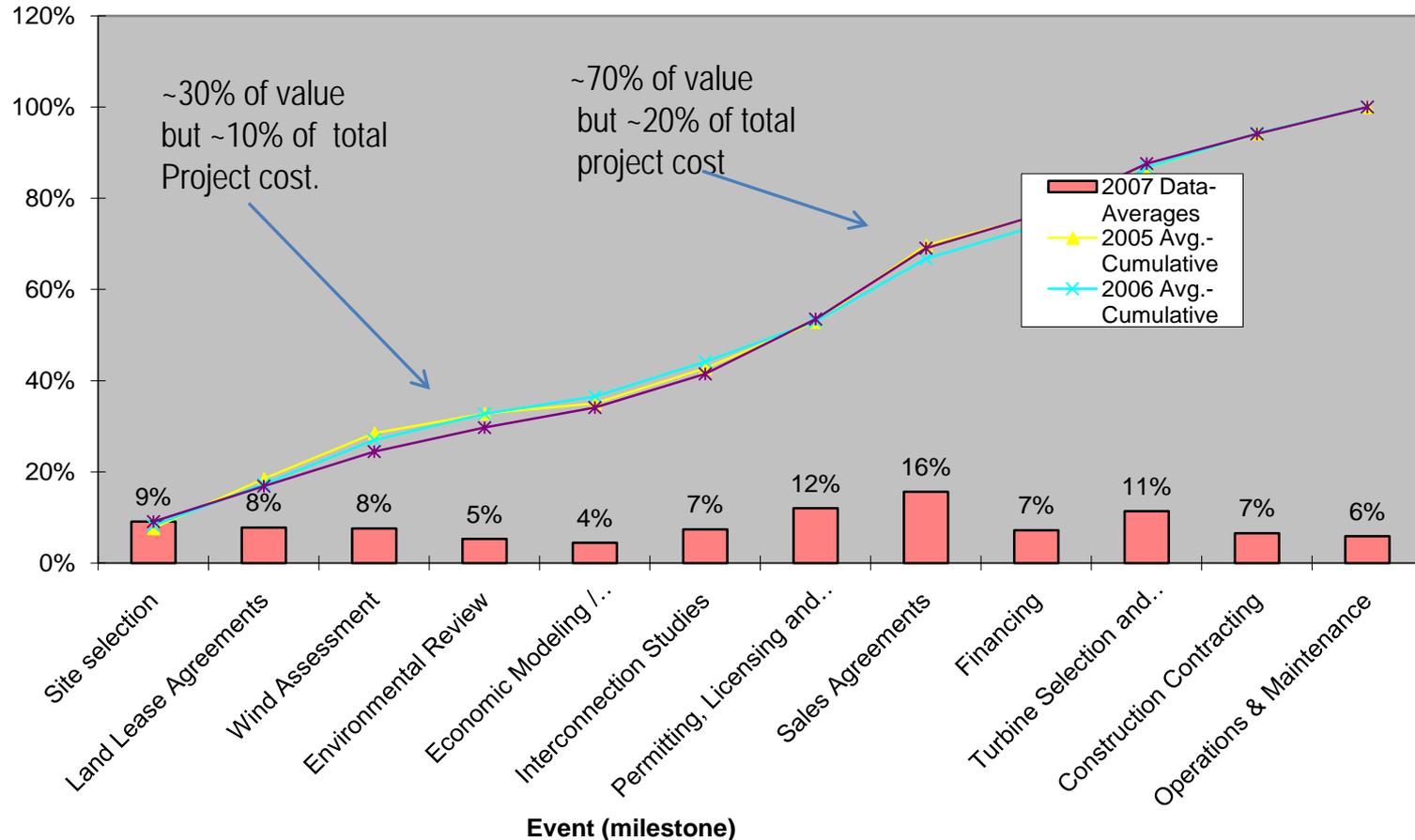
Private Development Process

- Site selection
- Land lease agreements
- Resource assessment
- Environmental review
- Economic modeling/engineering studies
- Interconnection studies
- Permitting, licensing, public support
- Sales agreements
- Financing
- Turbine selection and procurement
- Construction contract
- Operations & maintenance

Wind Project Value Chain

Slide (not text) courtesy of Anthony Edwards

2005 vs. 2006 vs. 2007 Perception of Value Created Through Each Step of the Wind Development Process



Government Owned Steps

- Site selection (Master Plan amendment)
- NEPA requirements
- Economic analysis/government cost estimate – BLCC/SIR
- Engineering studies
- Interconnection studies/agreement
- RFP for construction contract
- Construction
- Acceptance testing
- Generation
- Ongoing O&M
- Site restoration at end of project life

Purchase Agreement Project Steps

- Site selection (Master Plan amendment)
- Project economics analysis/government cost estimate
- NEPA
- Lease or other real estate agreement
- Engineering studies
- Interconnection studies/agreement
- RFP for PPA contract
- Contract negotiation/award
- Construction
- Acceptance testing – connection facilities
- Generation
- Ongoing O&M (by contractor)
- Site restoration at end of project life

Why PPA is Different

- All of the details regarding land use, environmental protection, construction, de-construction, output expectations, payment expectation, etc. must be spelled out in either the lease or the contract.
 - Lease should cover land issues
 - Contract should cover performance/payment issues
- Therefore, “required” elements must be in the RFP.
- That means the acquisition planning process needs to anticipate the needs of the vendor (acceptable commercial terms) as well as those of the installation (required contract clauses, etc.).

Mike and Jim's Top PPA Issues

- Land use agreements
- Utility issues
- Contract issues
 - Authority to contract
 - Assignment of contract/novation
 - Termination
 - Take or pay

Overview of Land Use Issues

- The lease should address
 - Site access and use for duration of contract
 - Environmental
 - Land valuation
 - Legal survey
 - Indemnification
 - Disposition of property at expiration of lease

Land Use Issues

- Consistency with mission and “master plan” for base
 - Base commander may reject, but most services now allow for “higher HQ” review
 - Projects must pass “mission conflict” reviews by FAA and all other services and nearby bases
- Authority is 10 USC 2667
 - Requires “fair market value” for use of land, but can include government benefits in lieu of cash payment
 - Most services now require “higher HQ” review of uses of real estate to ensure “highest and best use.” No longer a local decision.
- Installation Real Property staff critical to completion
- Still requires SECDEF approval and Congressional approval has been proposed.

Environmental Issues

- Environmental review
 - Required . . . period
- Study is a long lead time item
 - Crucial to investigate requirements early and get required studies started as soon as possible
 - Maintain flexibility in designating study area
 - Base environmental professionals are integral part of this step
 - Getting staff attention and/or paying for contractor support an issue

Site Access

- Site access required for
 - Financing (to secure underlying asset by financier)
 - Construction, operation and maintenance (by developer)
- Granted through a land use document referenced in the contract
- May be accompanied by an operating agreement
 - Local access requirements including security
- Indemnification is an issue
- End of contract issues (site restoration to what degree?)

Land Use Issues

- Mission conflicts can stop a project
- Mission conflict claims at the last minute aggravate everyone – especially when they come from some other facility!
- Identify potential conflicts
 - Early in project feasibility stage
 - Contact DOD “belly button” (Dave Belote)
 - Notify other DOD facilities in area, including those using airspace
 - Involve operations planning in project development
 - Secure approval from installation “owner” and operator

Utility Service Issues

- Interconnection
 - On-site (to base grid)
 - Off-site (to utility grid), UP issues?
- Tariff changes
 - Exit fees
 - Standby fees
 - Supplemental power fees (firming and shaping services)
 - QF sales conditions for “excess” production
 - Change in rate risks
 - Net metering

Interconnection Issues

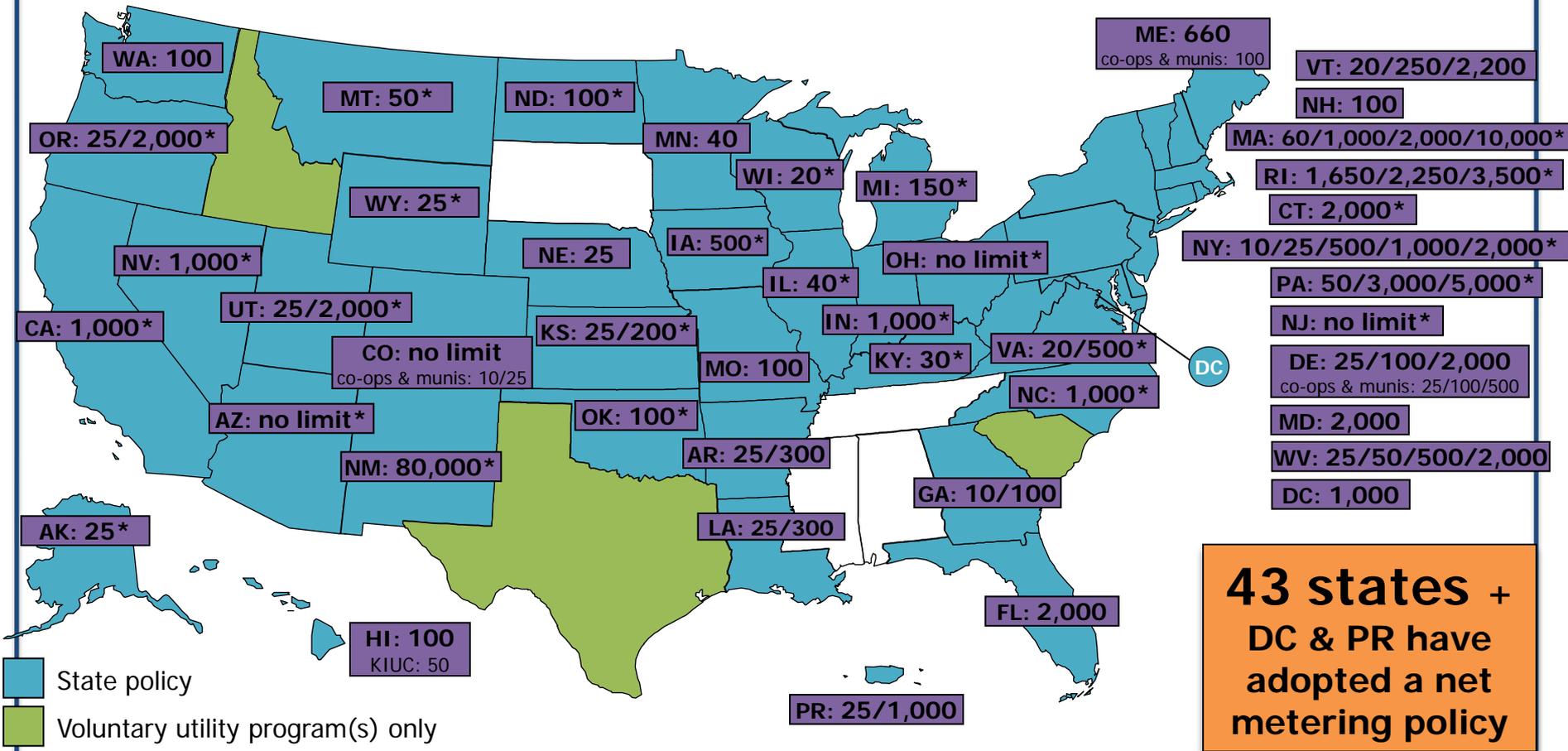
- Limitations on amount of generation that can be connected (circuit limit, “study” threshold limits, etc.)
- Interconnection study costs and timelines
- What about “excess” generation?
 - Is it allowed? On what basis (compensated or not)?
 - “Back feeding” to the utility
 - Available transmission capacity
- Indemnification issues. Who is at risk; developer or the site?

Net Metering

- What We Like
 - It avoids many fees (exit, standby, excess generation, firming and shaping, etc.)
 - Partnering with the local utility is a good thing
 - Avoids changes to current rate classification
- What We Don't Like
 - Limits on project size
 - Potential loss of RECs

Net Metering Status

From: dsireusa.org/June 2011



43 states + DC & PR have adopted a net metering policy

* State policy applies to certain utility types only (e.g., investor-owned utilities)

Note: Numbers indicate individual system capacity limit in kW. Some limits vary by customer type, technology and/or application. Other limits might also apply. This map generally does not address statutory changes until administrative rules have been adopted to implement such changes.

Contracting Issues

- PPA 101
- Contract authority
- Assignment of contract/novation
- Termination
- Take or pay
- Other headaches

PPA Basics:

What Developers Want

- Access to site and resource
- Long-term purchase contract
- Credit worthy buyer
- Easy transmission access/interconnection
- Access to maximum amount of incentives (federal, state, utility, REC and tax based)
- Indemnification
- Liquidated damages in case of default
- Financial partner to use tax credits (most firms, but not all)

PPA Basics: What Financiers Want

- Effective lien on assets
- Guarantee of physical access to assets
- Contract assignment for security and to monetize incentives and resell RECs
- Payment guarantees (take or pay or at least minimum take)

PPA Contract Basics

- A “PPA” is a retail utility contract under FAR Part 41 authority (PPA is a commercial term, federal reality is “utility contract”)
 - 41.201 (a): “...it is the policy of the Federal Government that agencies obtain required utility services from sources of supply which are most advantageous to the Govt., in terms of economy, efficiency, reliability or service.”
 - General contracting rules (i.e.. competition, conflict of interest, ethics) apply to these acquisitions

PPA Contract Basics

- The FAR encourages “commercial” products, but FAR clauses do not mirror commercial terms (and vice versa)
 - 41.501 (a) allows contracting officer (KO) to modify government clauses to conform with commercial terms if “substantially the same as...”
- However, “allowing” and getting that done aren’t the same!

Assignment/Novation

Why assignment/novation is needed

- Most incentives are tax-based
 - Tax credits/grants
 - Depreciation
- Tax incentives require tax obligation
 - Most developers don't have current tax obligations sufficient to use all available credits
 - Credits can be transferred to another party through assignment/novation
 - RECs are monetized the same way
- “Basis” (for taxes) is based on value as assigned, NOT original construction cost.

Assignment/Novation (cont'd)

Whose contract is it anyway?

- Contract award cannot be sold or transferred to another party (bait and switch), but
 - Claims (payments) can be assigned .
- Contract can be assigned to new owner of the firm.
- Contract can be novated to 3rd party if
 - Assets required to perform the contract are transferred
 - And/or a partnership is formed to perform the contract (must include original party)

Termination

- Government retains unilateral right to terminate any contract for convenience (as well as cause), but
- It is also obligated to make the vendor “whole” (except for lost profits).
- Taken together, termination plus “making whole” is functionally equivalent to liquidated damages in commercial contracts, although industry doesn’t believe it.

Termination: What is the Big Deal?

- Assume a 20 year PPA at 10 cents/kWh from 10 MW PV array that produces 15,000 MWh/yr, or \$1.5 Million/yr.
- Contract amount = $20 * \$1.5 \text{ MM}$, or \$30 Million.
- However, assume project cost equivalent of 20 cents before incentives and REC sales.
- Now, contractor's cost is \$60 Million!

Termination Realities

- Assume Project cost of \$60 Million
- 30% ITC
- Accelerated depreciation
- 35% income tax rate
- REC sales at \$30 MWh
- Power sales at \$100 MWh for 20 years
- 2.5% escalation in power and REC prices
- Face value of contract \$55.3 Million

After Year	T4C cost (MACRS) \$Millions	T4C cost (SL) \$ Millions
1	53.0	58.0
2	25.5	36.0
3	18.6	32.0
4	13.1	27.9
5	7.5	23.7
6	3.4	19.5
7	0.2	15.2
8	-	10.7
9	-	6.2
10	-	1.7

Partial Termination

A more likely situation, but less anticipated

- Output may need to be reduced for a variety of reasons
 - Load reduction from conservation or mission realignment
 - Obstruction of resource for mission reasons (new structures blocking sunlight or winds, etc.)
- Output can also be reduced from reduced system performance
 - “Cheap” solar arrays
 - Unanticipated repairs to wind turbines
- Provisions should be made to negotiate partial termination rather than all.

Terminating Termination

- Conventional practice is to limit termination costs to contract amount. Clearly that isn't sufficient to protect investors' interest.
- The government's obligation is also greater than the contract amount.
- However, termination costs can be prescribed in a "schedule" or "negotiated" to ensure cost recovery. Two points to remember
 - First, T4C is rare and typically benefits the vendor
 - Second, as evident on a preceding slide, by year 7, the vendor has recovered over half of the original cost. Therefore, power from the project could be sold commercially at a profit.
- Termination can be mitigated from a "resale" provision, as it is on fuel contracts.

Take or Pay Terminations Ugly Cousin

- Government can't guarantee specific contract payments or purchase amounts.
- Risk to vendor is decrease in demand leading to under-recovery of revenues.
- Government can guarantee minimum purchase amounts, but these may be lower than the size many project economics can support.
- Plus, they are difficult to get agreement on.

Take or Pay

Terminations Ugly Cousin, cont'd

- One remedy is a “resale” provision for “over-generation,” although resale price may be lower than in contract, especially in early years.
- Another is to guarantee purchase quantity, but not period of performance. Thus, a 20-year sale may take 25 to fulfill.

Other Headaches

- Capital lease issue at end of term
- Scoring
- Housing privatization conflicts (interconnection, etc.)
- Incentive thresholds
 - Caps
 - Size limits

Implications for RFPs

Need to include

- Performance expectations
- Assignment process
- Termination risks/expectations (schedule, negotiation,?)
- Purchase expectations (or lack thereof)
- Resale provisions to mitigate risk, but not allow commercial production?

RFP Review/Selection

- Need to attract sophisticated vendors and reflect that in selection factors.
 - Vendor experience with projects of similar scale. Direct experience, not as general contractor to a subcontractor or vice versa.
 - Partnership with a financier. Real partnership, not one by “staple.”
- Need to provide clear parameters for project development timelines. Don't allow “squatting” via the RFP.

Questions and Answers

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