



DPPA's for Vietnam: Business Case Studies

Vietnam Low Emissions Energy Program

June 12, 2019

Business Cases for the DPPA Pilot Program

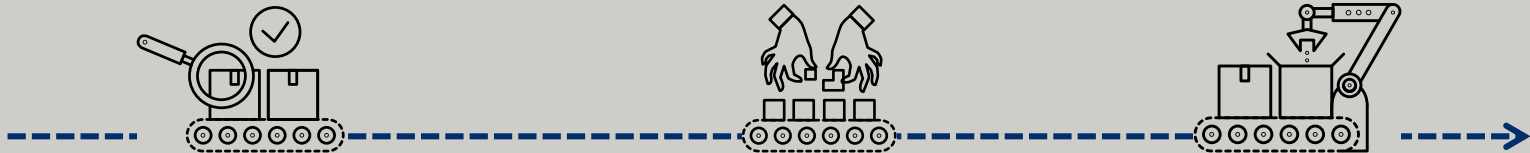
OBJECTIVE

Develop DPPA “business cases” to understand how to optimize value created and mitigate various risks under the DPPA pilot program.

GOALS

1. Facilitate private-public collaboration around market rules
2. Develop a consensus list of “Must Have” conditions and requirements
3. Use business case models to understand viability/ bankability of projects

PILOT DESIGN SUPPORT



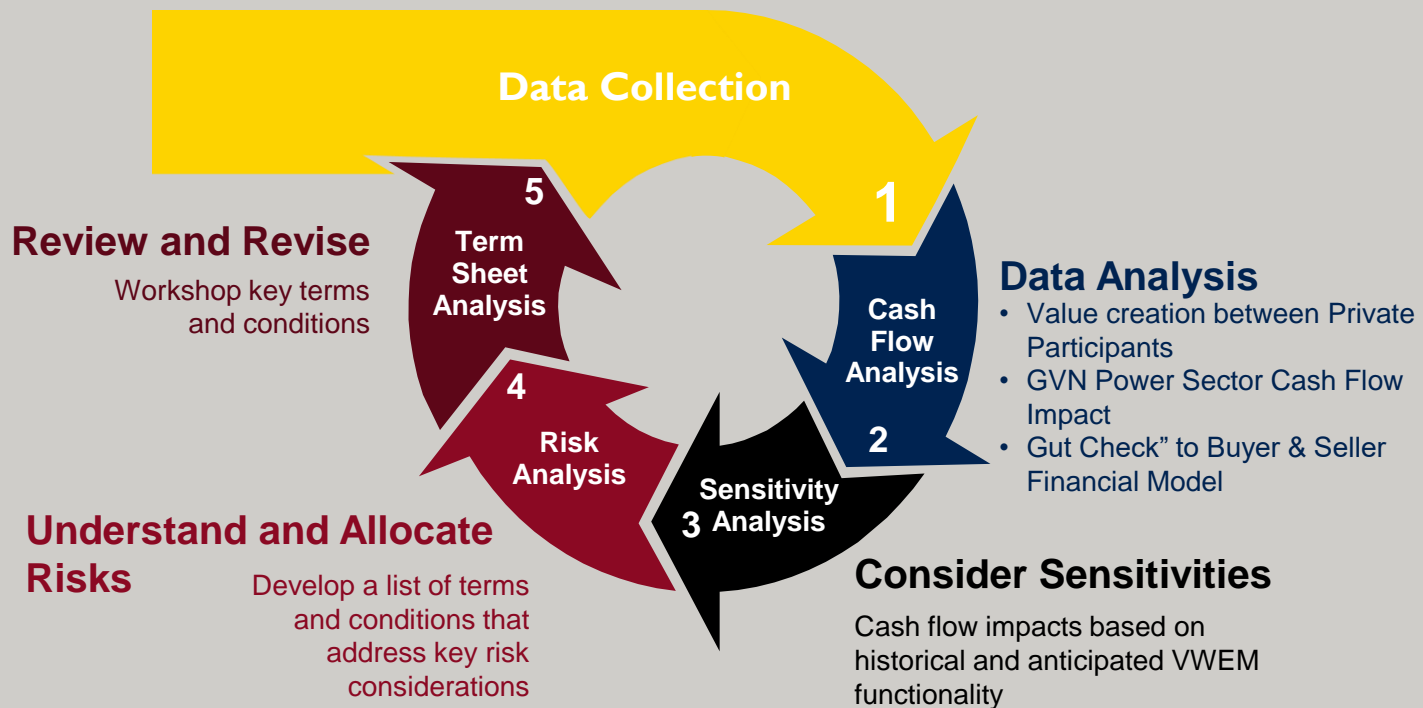
Build awareness, share market data, formulate potential projects and transactions

Create projects, analyze and discuss outputs, sensitize outputs, develop requirements

Inform DPPA Program design and market rules

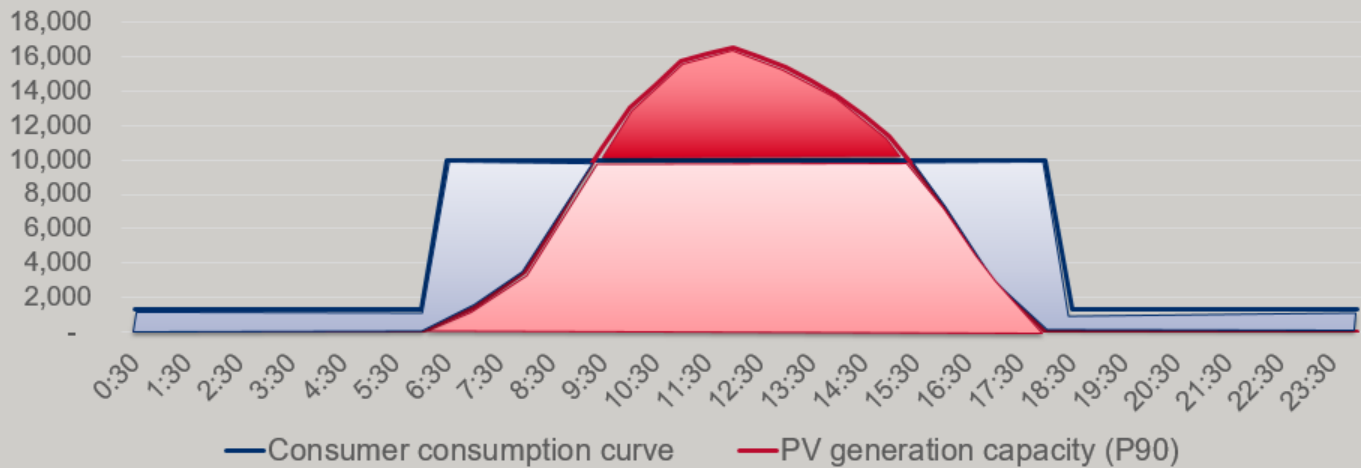
DPPA Business Case Analysis to support DPPA pilot design

The Business Case process encourages key stakeholders to take ownership of the pilot design during its development



Step I:V-LEEP data request to Buyers & Sellers

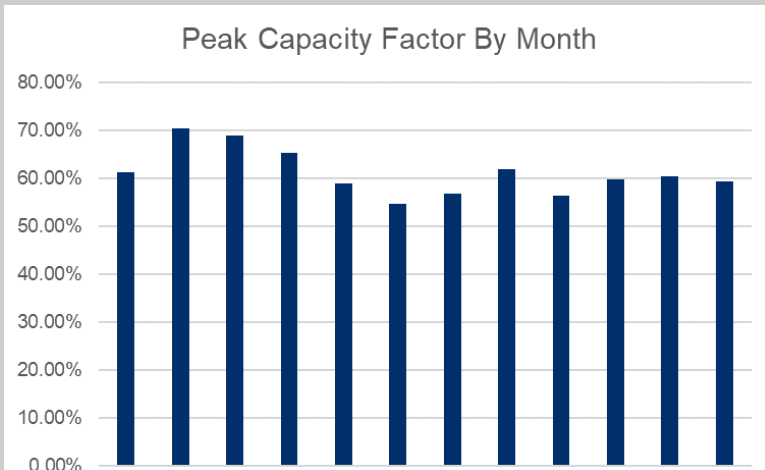
Energy demand and supply in one 24-hour period



- $Q_{P,U}$ = Unscheduled RE production, for which the RE GENCO only receives spot market payments
- $Q_{P,S}$ = Scheduled RE production, for which the Consumer provides support payments
- $Q_{C,U}$ = Unscheduled consumption
- $Q_{P,T}$ = Total RE production ($Q_{P,S} + Q_{P,U}$)
- $Q_{C,T}$ = Total Consumer load ($Q_{P,S} + Q_{C,U}$)

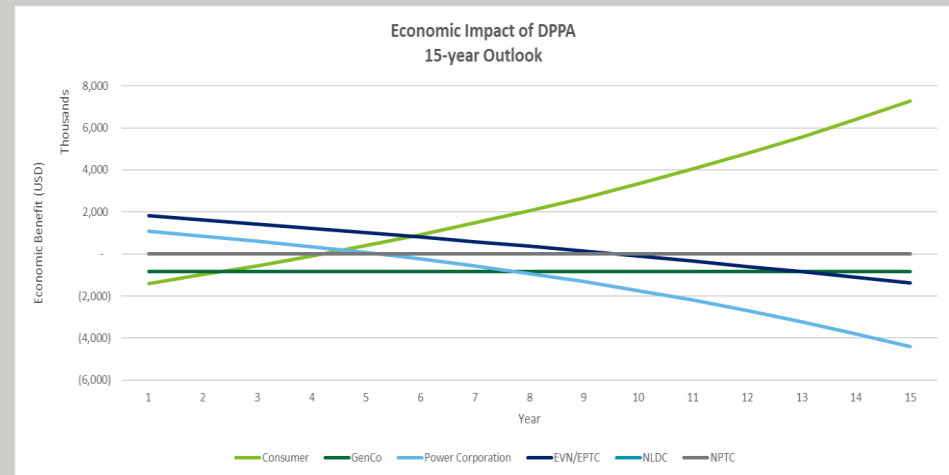
Step 2: Apply V-LEEP's Financial Impacts Model

The Financial Flows/ Stakeholder Impact Model uses decision-based modeling techniques to assess the economic impact of entering into a DPPA program on all four relevant stakeholders: RE developers, consumers/ corporates, EVN/ Power Corporations, EVN/EPTC. There are also considerations for NLDC and NPTC



The model calculates the impacts of seasonal load and production changes.

A 15-year outlook incorporates medium- and long-term impacts



Step 3: Sensitivity Analysis

Each case study will address short- and long-term impact and sensitivity to key variables (price, performance) including “stress cases”. Each case study will also address identification and allocation of risks as well as the policies and market rules needed for bankability. Examples of Key Project Design issues include:



GENCO

- Over/under sizing GENCO risk/impact
- Over/under production risk/impact
- Congestion risk/impact
- Assumption of risk, remedy
- Risk/impact of VWEM on project financing
- Strike Price negotiations



Buyers

- Impact of retail price increases/decrease
- Minimum size requirements/minimum number of members on consortia members
- Sensitivity to DPPA charge

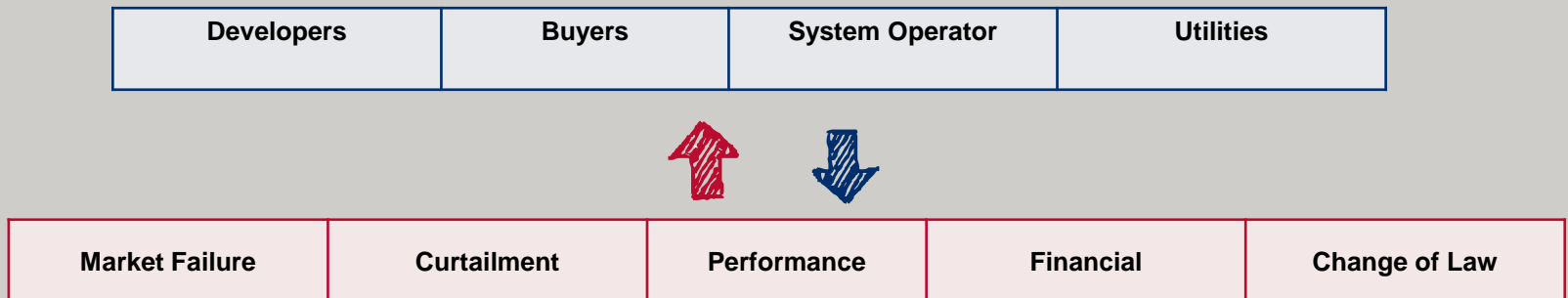


VWEM

- Forecasting spot market price caps
- Forecasting daily price curves
- Forecasting seasonal price differentials due to weather and power demand
- Identifying and characterizing market risks
- Optimizing GENCO and Buyer production and consumption schedules to fit the VWEM

Step 4: Risk Identification and Allocation

- V-LEEP will work with Participants to catalogue, quantify, and suggest allocations for each category of risk associated with the Vietnam DPPA Pilot Program
- Where possible and appropriate V-LEEP will work with GOV to develop risk mitigation policies and regulations



Step 5: Review Terms for Incorporation into Pilot

KEY TERMS

- Guarantees
- Strike Price
- Metering/invoicing
- Force Majeure
- Assignment and Transfer
- Arbitration/Dispute
- Termination

MARKET RULES & ENABLING POLICIES

- Credible metering of RE deliveries
- Space for 3rd party registries
- Priority dispatch
- Matching tenures
- DPPA Charge stability
- Access to VWEM data
- Non-Disclosure Agreements for disclosure of Term Sheets data to Power Sector Authorities
- Disruption rules/ remedies

PILOT PROGRAM PREPARATION

- Meeting Project Eligibility Criteria
- Coordination with potential financing partners



Thank you!

Gary Zieff

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