

Capacity Design in a Large Global Enterprise

Engaging Lean and Financial stakeholders [Martin]

Valuing policy and investment [Chris]

A function of:

- ✓ Stakeholder paradigms
- ✓ Macro product demand through time
- ✓ Share, comparative capacity related competitiveness, e.g. capacity, marginal cost & lead time
- ✓ Capacity utilization through time, e.g. sizing, first pass yield, flexibility & variation management
- ✓ Capital and Activity Costs

Martin Lohn
Matias Gezan
Chris Johnson
Bruce Gladwin

GE Vernova Research
GE Vernova Corporate Strategy
Retired GE Research
Retired GE Research

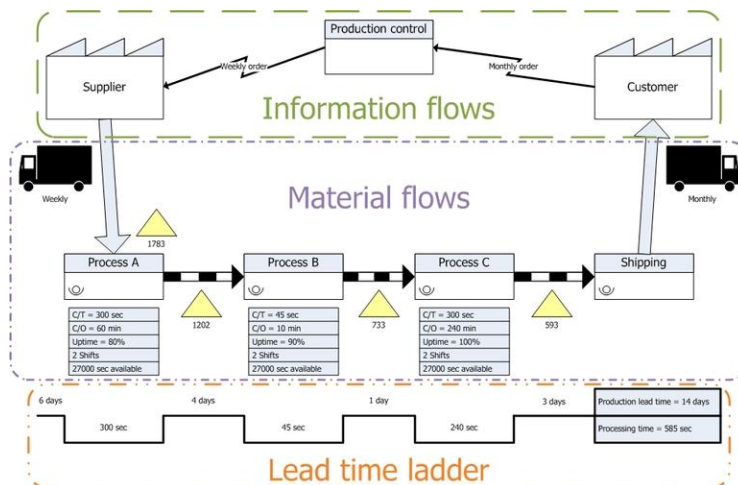
martin.lohn@gevernova.com

chris.johnson@realoptionsol.com

Augmenting Lean & Finance Stakeholders with Dynamics & Real Option Value

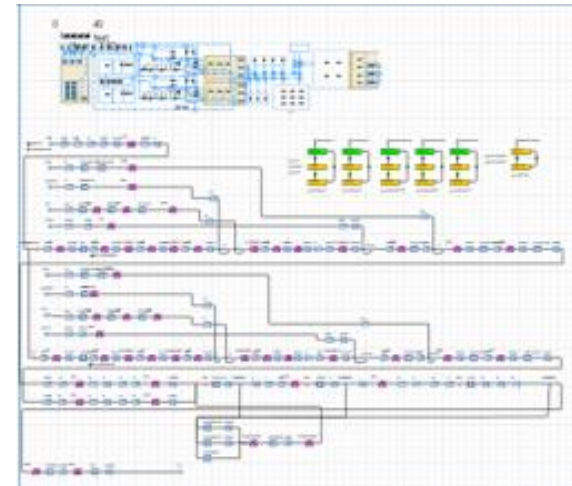
	Lean & Traditional Finance	Dynamical
Assumptions	Average, Best & Worst Case	Probabilistic, Conditional
Scenarios	Single	Switch During Life
Valuation	NPV, IRR	NPV _{rf} , Optionality

Value Stream Map



Purdue.edu

Simulation

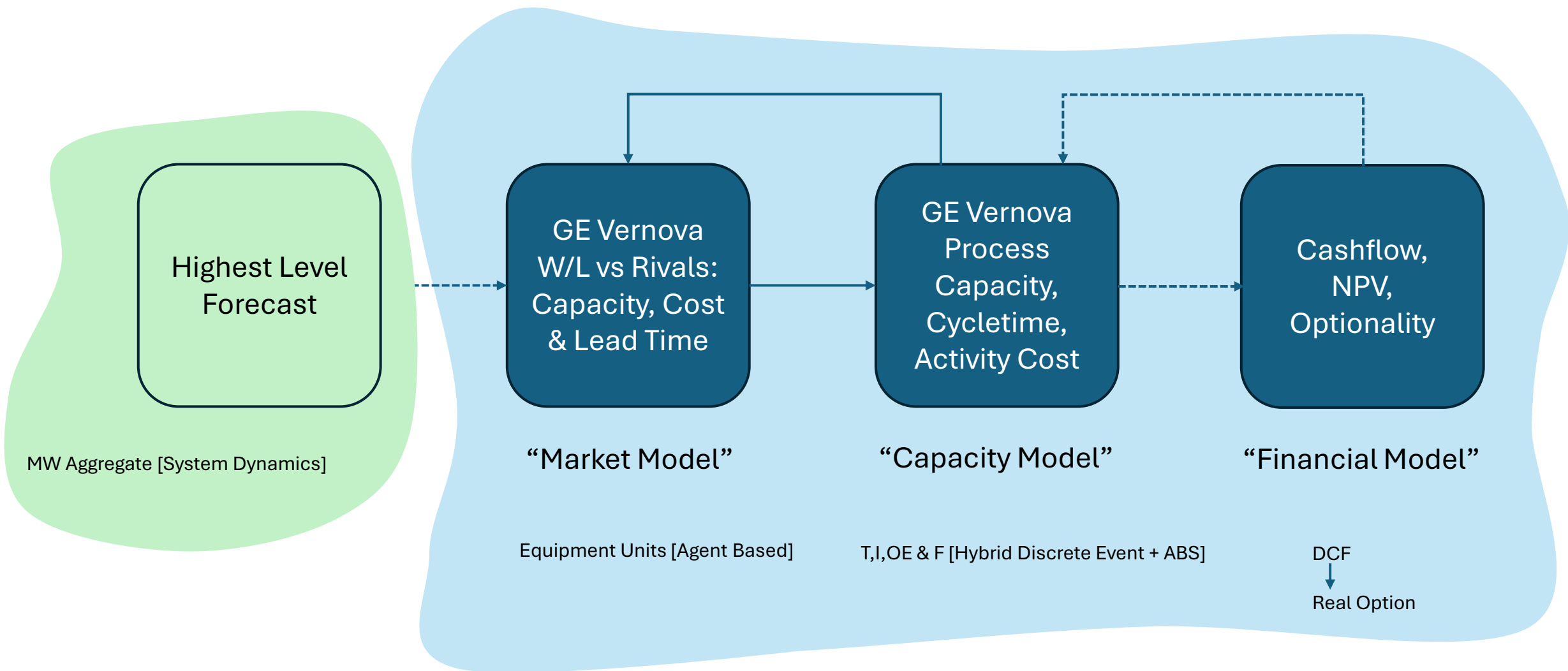


Analytical “What-If” Technology Selection

Evaluating	How		To Extend
	1. Set Scenario or 2. User in the If-Then-Else Loop, by Time Increment [Excel]	Participants Auto React To Conditions At Future Simulated Time [Dynamic Simulator]	
Defined Static Scenario Of Growth & Retirements			Add To Simulation Logic for... AI Tech & Adoption Change in Standards, Law, Fuel Price Renewable, Nuke Cost, Efficiency Storage Capacity, Cost, Efficiency Economics of Capital Cost, R/r Preference, Macro/ GDP
OEM Response Through Time			Add Scenario Logic and Replications to Excel w/ Monte-Carlo
If a Change in... [Growth, Retirements, OEM R/r Preference or Response, Capacity +/-, Technology, Efficiency, Finance (ROE, Capital Cost, Tax), Import/Export Restriction, Etc.] ... OEMs will do _____			Dynamic simulation with path dependent switching capability

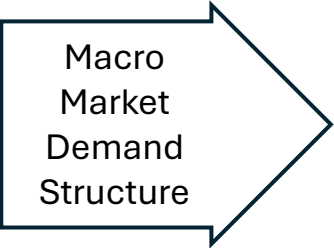
Choosing simulation through time w/ ability to respond to create options now for “what would we do”

Formulation & Scope

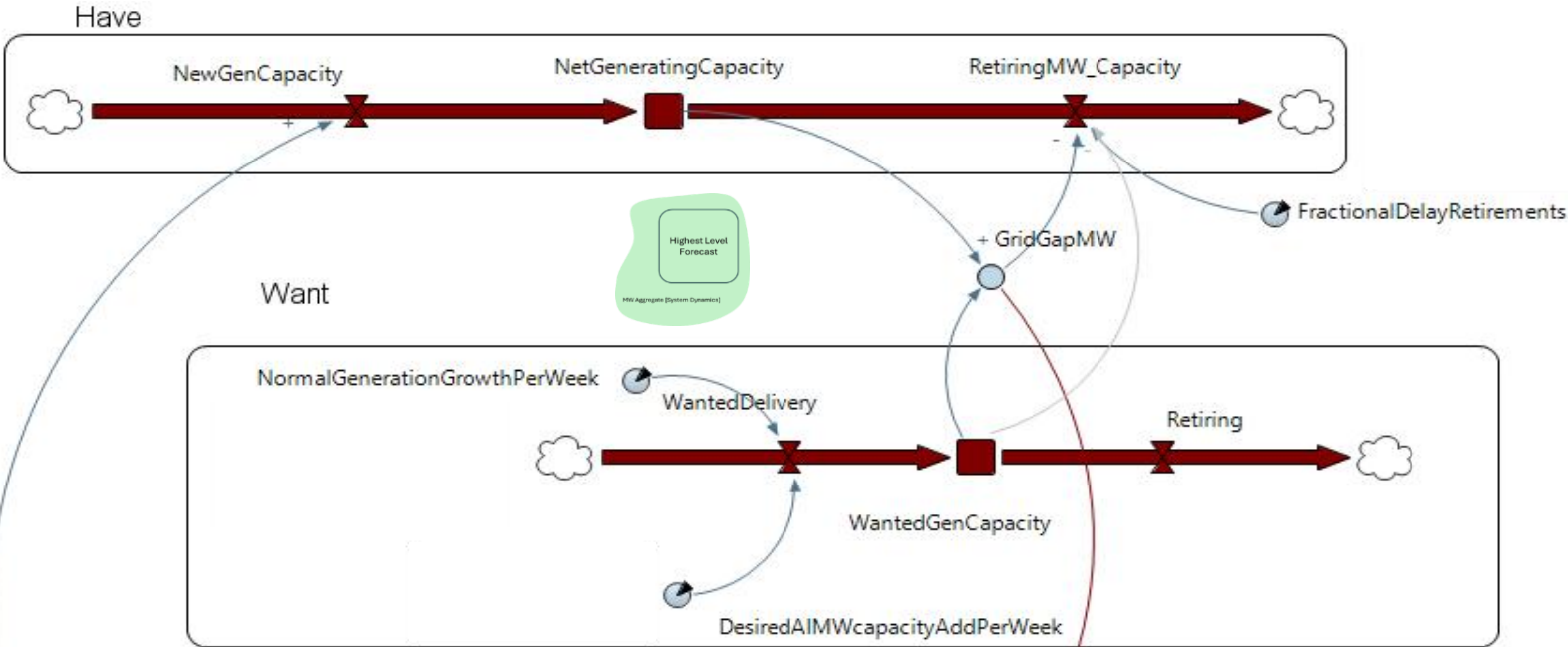
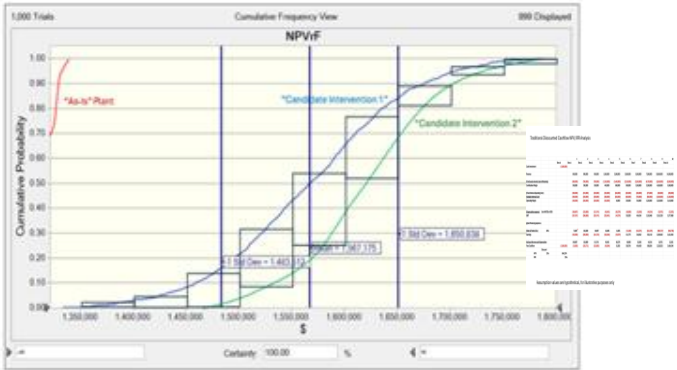


Responsibly Investing For Electrification, AI & Retirements

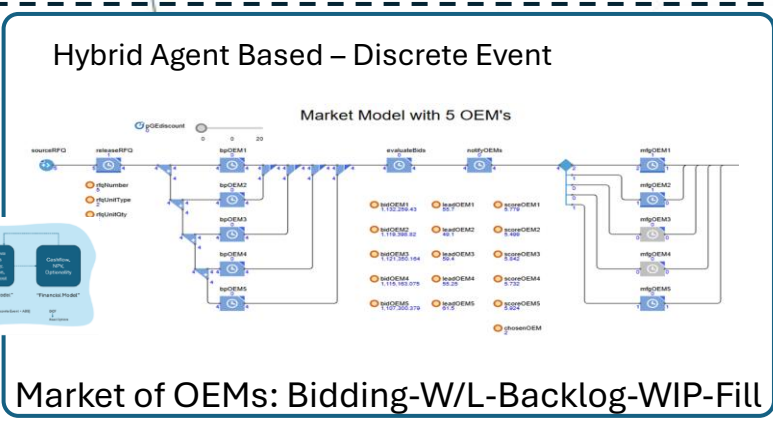
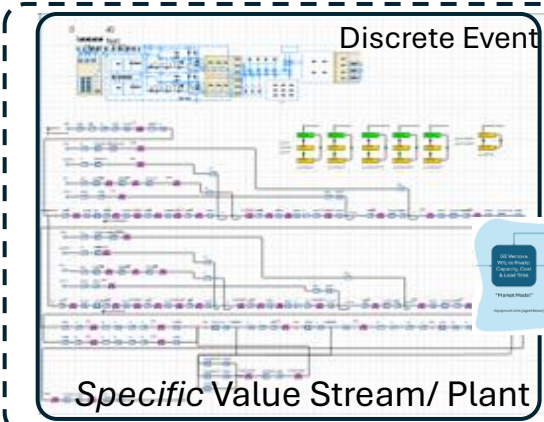
Business System



Financial Ramifications



Do

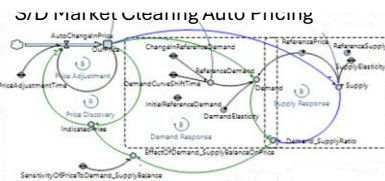


See

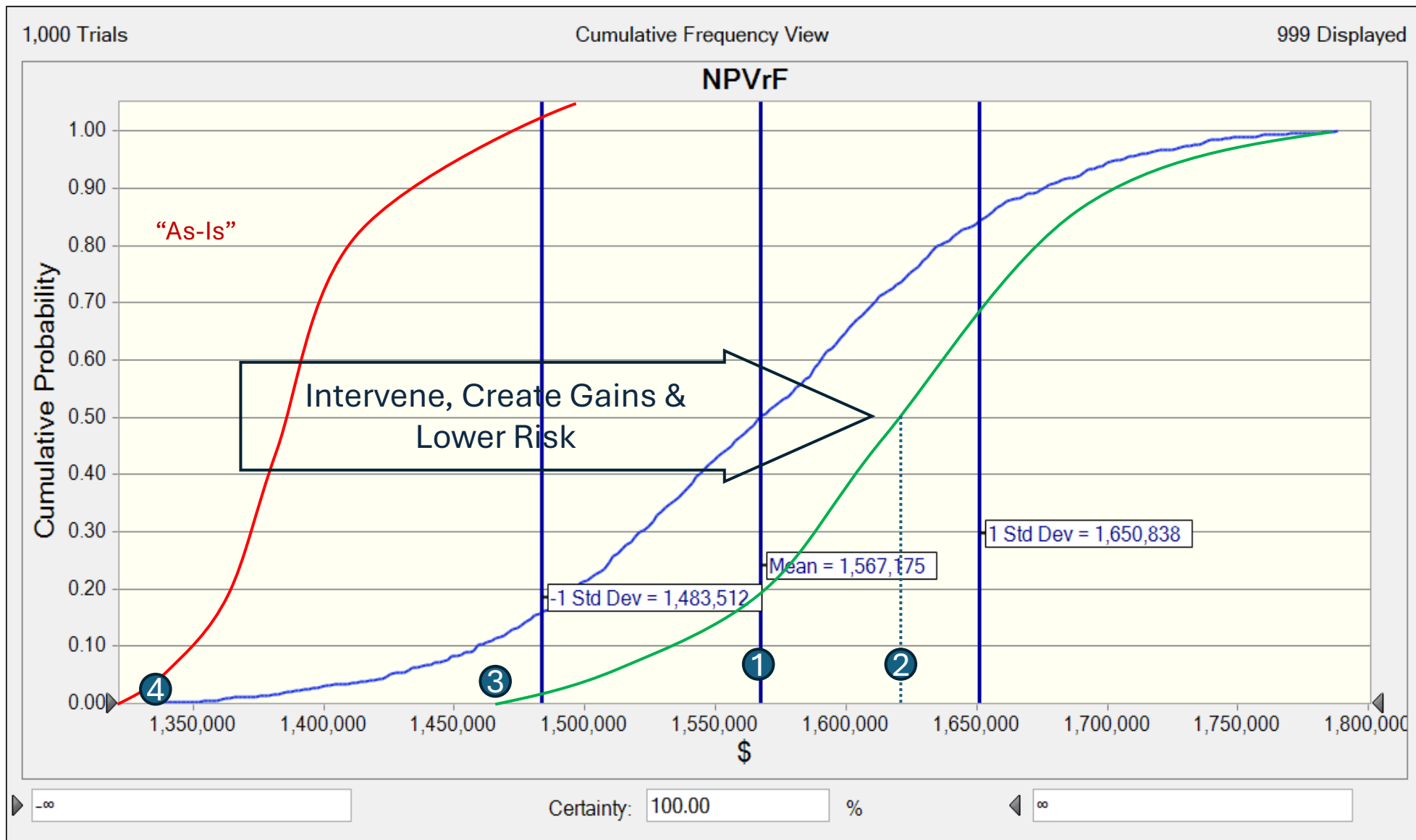
Demand Presented To OEMs For Bid-Award - Production

Macro Market Assumption

- RetiringOldApparatus
- AIdemandTable
- AI_DemandTable
- AI_DemandSlider



Underlying Demand → OEM Share → OEM Production → Cashflows



Intervention's Expected value is [1] \$1,567,175 NPV_{rF} Further improve to [2] \$1,625,000
with worst case [3] \$1.475MM vs [4] \$1.3MM

Q&A