



Maine Distributed Generation Successor Program Study

Distributed Generation Stakeholder Group

Workshop #3: Successor Program Modeling Choices

For October 4, 2022

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Sustainable Energy Advantage:

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Modeling Configuration Considerations

Modeling Process Overview

- The primary results of the modeling will be a benefit-cost analysis (BCA) and rate impact analysis (which was the focus of August 31 meeting) for each of five program options, plus additional sensitivities chosen (as described in slides below)
 - And the primary goal of today's meeting is to elicit Stakeholder input on the program options and sensitivities to model
- Two major inputs to the BCA, include outputs from sub-models
 1. A customized version of [CREST](#) which using production and capital and financing costs inputs for a specific project type (i.e., supply block as described in slides following) making up a program option, produces a levelized cost of energy (LCOE). The LCOE along with additional inputs on risk-adjusted revenue streams, produces a "missing money" or level of incentive needed to provide sufficient revenue to spur the modeled project type (and program option) development
 2. MW goal for the successor program. Levering the methodology and updating the inputs (e.g., projected load) used in the Interim Report, we will calculate the 7% target as specified in LD 936 and then net out the estimates of ultimate NEB installations
 - Note the MW modeled for each program option modeled will vary (slightly) as the average capacity factor for each program option modeled will vary (slightly)

Notes on Proposed Modeling Option Development

- Modeling Choices \neq Program Preferences
 - Quantitative modeling configurations allows direct BCA comparisons between different program options within the domain of program choices that have been quantified to inform stakeholder discussions
- Method to the Proposed Modeling Options (next two slides)
 - Consultants (Synapse & SEA) in consultation with GEO have proposed five major program options (i.e., designs) to be modeled taking into consideration both the interim report and recent stakeholder feedback
 - Instead of blank slate, felt it is easier for Stakeholders to react to a full set of proposed program options to model
 - Program options become progressively more financially hedgeable (from a project developer's viewpoint). That is Program Model Option #1 is the most difficult to financially hedge and Program Model Options #4 & #5 are the least difficult to financially hedge
 - Program Model Option #1 is included to provide a business-as-usual perspective as a more informative apples-to-apples substitute for a retrospective analysis of original NEB program design
 - Only change one major component choice at a time in order to facilitate comparisons of how a change in a component will impact BCA between model options

ME DG Successor Program: Proposed Modeling Options

Program Title	Option 1 Original Tariff Program	Option 2 Fixed Future Payments	Option 3 Moderate Hedge	Option 4 Fully Hedged	Option 5 Wholesale PPA	Choices
Eligible customers for offtakers	C&I	all	all	all	none	all, C&I, Res, none
Setting initial payments to developers	rates	competitive bids	competitive bids	competitive bids	competitive bids	administratively set, competitive bids
Setting future payment to developers	varies with rates	fixed	fixed	fixed	fixed	fixed, variable
Developer hedging	minimal hedge	minimal hedge	moderate hedge	full hedge	full hedge	-----
Attributes that go to utility	Energy	Energy	Energy, RECs	Energy, RECs, Capacity	Energy, RECs, Capacity	Energy, RECs, Capacity
Impacts on offtakers bills	bill credits	bill credits			not applicable	bill credits, kWh reduction on bill, direct payment by developer separate from utility bill, none.
Cost shifting associated w/ utility lost revenues or bill credits	yes	yes			no	yes, no
Bill credit period	month	month			not applicable	year, month, season, hour,
Bill credit type	monetary	monetary			not applicable	kWh, monetary
Bill credit use at end of year	rollover for 1 year	rollover for 1 year			not applicable	rollover, expire, rebate at some value, expire and use money for something else
Contract term (years)	20	20			20	10, 15, 20, 25
Offtaker enrollment	developer	developer			not applicable	utility, developer
Diversity dimension	none	model with sensitivities			none	none, technology type, project size, offtaker type
Diversity mechanism	none	model with sensitivities			none	MW carve-out, different incentives
Storage paired with DG	none	model with a sensitivity			none	Stipulate: performance-based incentives for defined periods
Value enhancing strategies	none	discuss qualitatively			none	TOU, location, wholesale mkt, green bank, interconnection

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Program elements column

These two element settings are more a function of lack of offtakers, than modeling choice

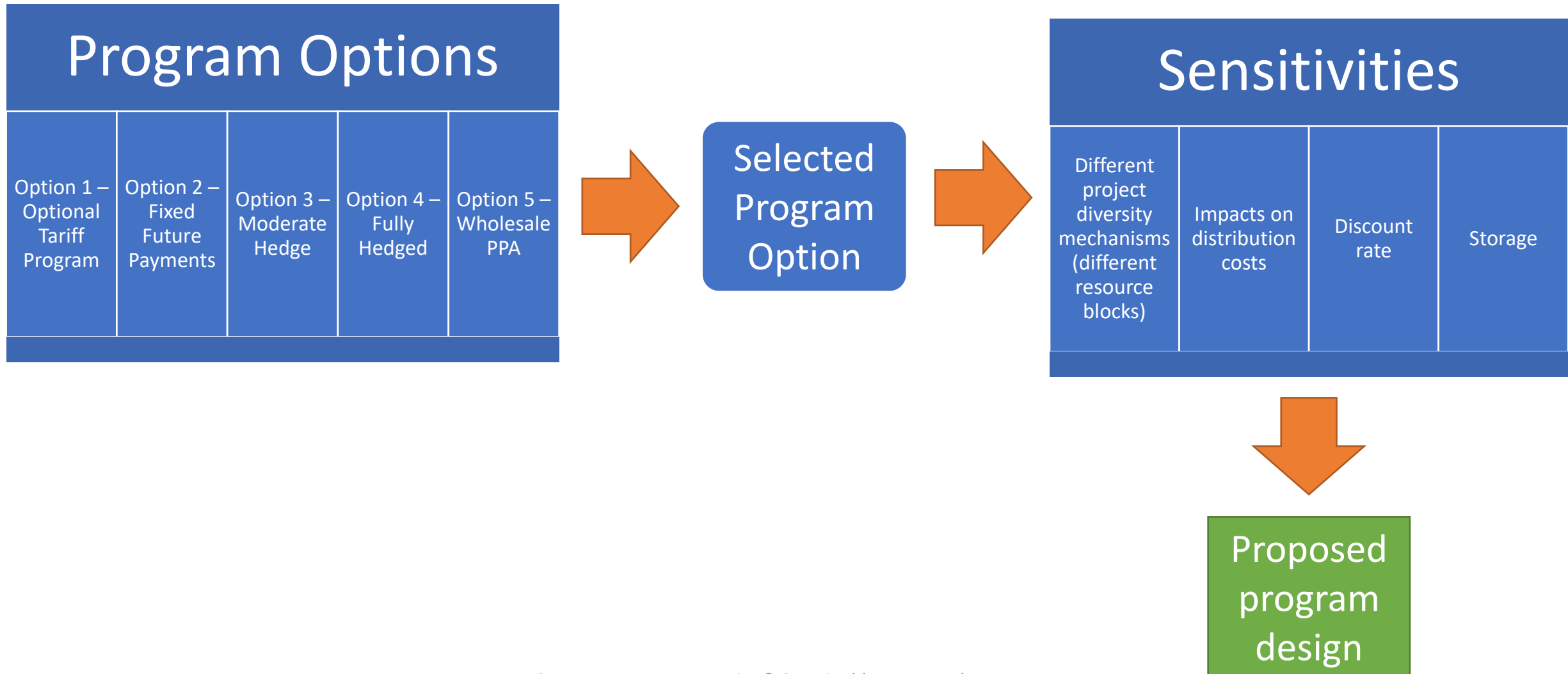
Shading indicates change in component choice from previous option

For modeling purposes no difference between administratively set and competitive bid

No change for straw model options. Model choices w/ additional sensitivities

Initial modeling to four (and at a maximum five) options. After choosing one model option to focus on, additional sensitivities can be contemplated. In practice each initial model option is a sensitivity of the previous option.

Modeling Sensitivities & Design Process



Proposed Supply Blocks for Modeling Options

PV Modeled Size (kWac)	Block Name	BTM or FTM?
1000	Medium Commercial Roof Mounted	BTM
5000	Large Ground Mount	FTM
5000	Large Ground Mount (LMI)	FTM
5000	Large Ground Mount (Brownfield/Other Energy Community)	FTM
5000	Large Ground Mount (LMI Located in Low-Income/Disadvantaged Community)	FTM
5000	Large Ground Mount (LMI + Low Income Benefit Project)	FTM

- Supply Blocks are groupings of projects types with varying size, offtake, and financing characteristics that are used as inputs to the modeling Options
 - Each supply block could be modeled w/ & w/o storage
- Six blocks to be used in the modeling
- Consistent with feedback from the group incorporating block configurations to handle enactment of IRA

Block type variation to handle IRA incentives. SEA assumes that most viable large roofs already developed, and large carport opportunities are limited

Modeling Option #5 “Wholesale PPA” only applicable to FTM type projects

Given constraints, number of modeled blocks will be limited. Given low cost blocks already included, the more blocks added the higher the modeled program costs.

Homework for October 4th Meeting

- Review
 - September 20th meeting material
 - Come with any questions on structure of modeling
- Be prepared to discuss views on proposed modeling options
 - From a modeling perspective are Options #2 thru #5 appropriate?
 - If not appropriate or desired
 - What major changes or minor changes would you propose to make? That is, what modeling option(s) would you change or sacrifice for a substitute(s)?
 - Per your preference for Options #2 thru #5 would only one component choice sets change between adjacent Options (facilitating comparisons) or would multiple choice sets change between adjacent Options (making modeling comparisons difficult / unclear)?
 - Initially (and given your preference of modeling options), how would you rank additional sensitivity analyses you would like modeled?

Clarifying question and initial preferences are encouraged to be asked / stated prior to the October 4th meeting to Ethan Tremblay, so GEO and consultants can come better prepared to address and discuss questions & preferences.

Next Steps

Next DG Stakeholder Meeting

Target date

- November 1

Agenda for next meeting

- Discuss draft results for the five modeled program options

Homework assignment:

- None currently - TBD

Acronyms

Benefit-Cost Analysis (BCA)

Behind-the-Meter (BTM)

Commercial & Industrial (C&I)

Cost of Renewable Energy Spreadsheet Tool (CREST)

Front-of-the-Meter (FTM)

Maine Governor's Energy Office (GEO)

Inflation Reduction Act (IRA)

Low-Moderate Income (LMI)

Net Energy Billing (NEB)

Power Purchase Agreement (PPA)

Residential (Res)

Renewable Energy Certificates (RECs)

Sustainable Energy Advantage (SEA)

To be Determined (TBD)

Time-of-Use (TOU)