ENO 2018 IRP
DSM POTENTIAL STUDY

TECHNICAL MEETING #1

JANUARY 22, 2018

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AGENDA

1. Study Objectives
2. Project Scope
3. Methodology

STUDY OBJECTIVES

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POTENTIAL STUDY OBJECTIVES

- Provide transparent approach, assumptions, and results
- Provide information on EE and DR market adoption based on level of programmatic spend, payback acceptance, and marketing efforts
- Provide estimates of EE and DR potential
- Provide information to be used for:
  - ENO's IRP analysis
  - Assessing long-term energy conservation goals & targets
  - Considering modifications to existing programs and establishing new energy efficiency and conservation programs or initiatives, including behavior-based programs

PROJECT SCOPE

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SCOPE OF THE POTENTIAL STUDY

Element	Dimensions
Energy Type	Electricity
Base Year	2016
Time Horizon	2018 to 2037
Sectors	Residential and Commercial/Industrial
Types of Potential	Technical, Economic and Achievable
Measure Focus	Energy Efficiency, Behavior, Demand Response

TASK OVERVIEW

Task 1. Review Data & Analyze Gaps	Identify data needs and gaps to be used as inputs for the analysis
Task 2. Characterize Existing Market	Create a base year model output and a reference forecast calibrated to ENO's historical consumption by sector and end-use
Task 3. Characterize EE Measures	Identify range of energy efficiency measures, conduct screens, and then characterize representative savings, costs and lifetimes
Task 4. Analyze EE Potential	Forecast various levels of potential and associated budget scenarios using the DSMSim model
Task 5. Develop IRP Inputs	Provide supply curves to be incorporated into ENO IRP
Task 6. Benchmark Potential Results	Conduct assessment of the identified savings and compare to similar studies
Task 7. Analyze DR Potential	Model DR potential for various programs and strategies
Task 8. Report Results	Compose report summarizing the study approach, assumptions, and findings
Task 9. Engage Stakeholders	Engage stakeholders and obtain buy-in

METHODOLOGY

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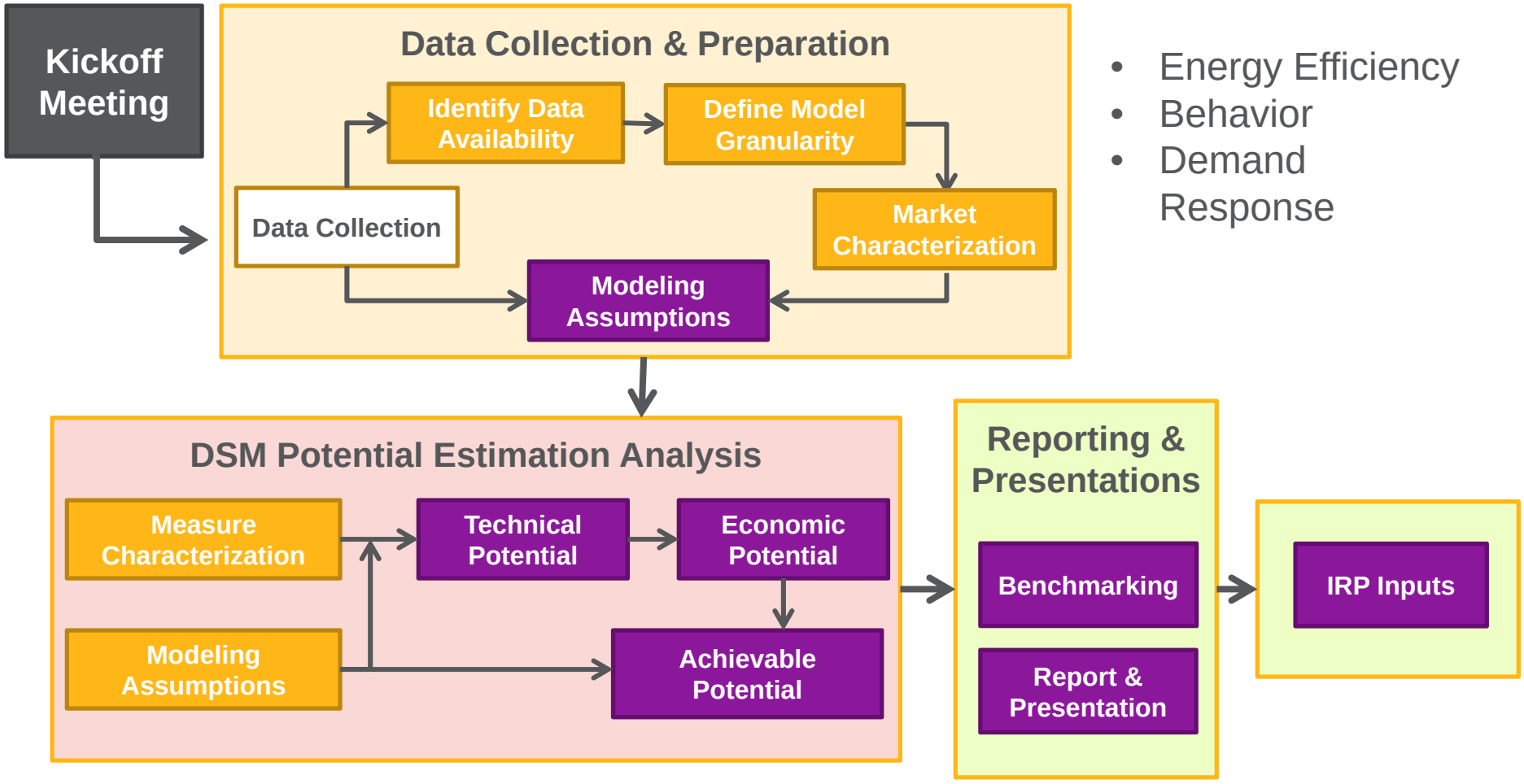
METHODOLOGY OVERVIEW



- Energy Efficiency
- Behavior
- Demand Response

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DATA AND MODEL FLOW

Types of Data Inputs

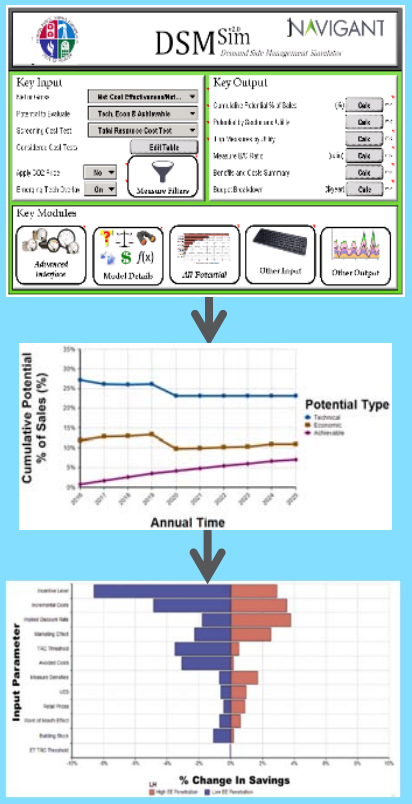
ENO Primary Data Sources:

- Customer characteristics
- Historical loads
- Load forecasts
- New Orleans TRM
- Past program accomplishments
- EM&V study results
- Avoided cost

Secondary Data Sources:

- Equipment stocks
- Floor area estimates
- Additional measure savings and costs

Resource Potential Analysis Tools



Outputs

Types of Potential:
Technical
Economic
Achievable (3 strategies)

Represented by:
ENO Service Territory
Fuel (Electric)
Sector (Res, C&I)
End-Use (Cooling, Lighting, etc.)
Years (2018-2037)

Units
Electric Energy Impact (GWh)
Peak Demand Impact (MW)

Load Shapes
8760 hourly shapes (for input into ENO's IRP models)

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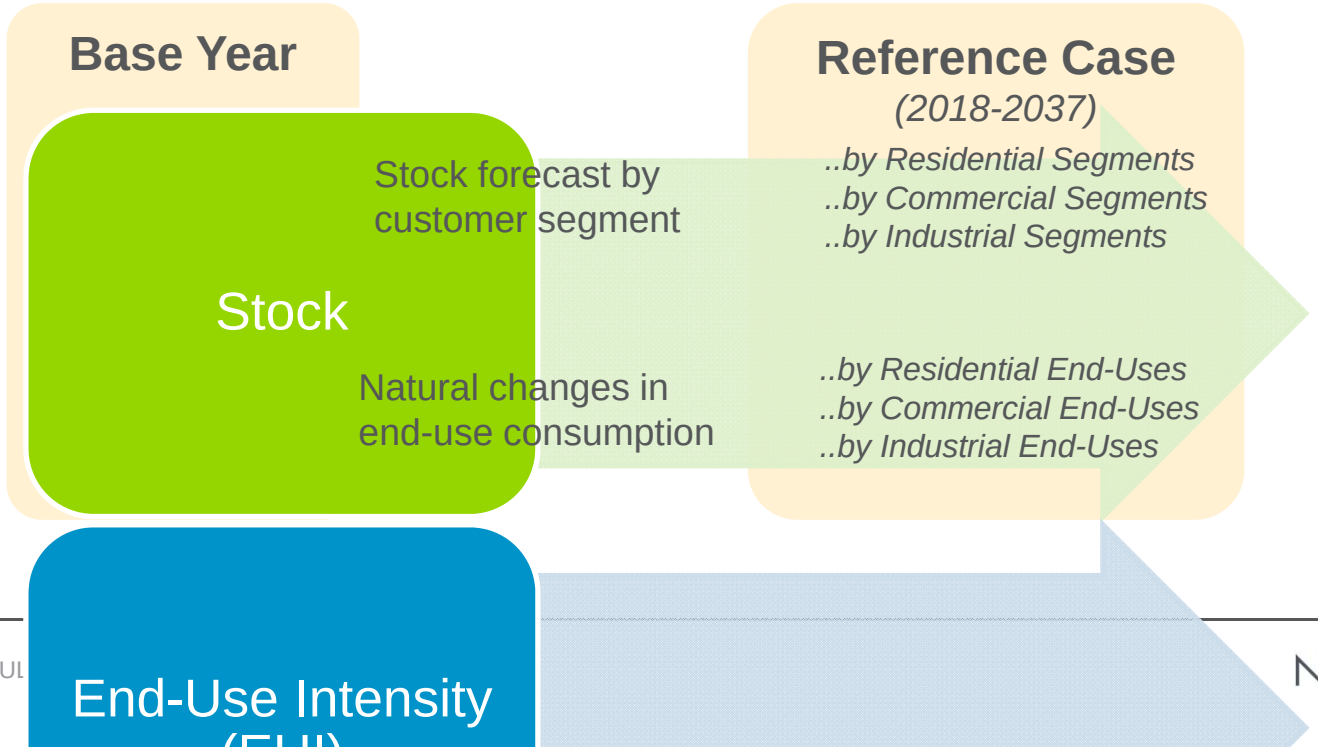
MARKET CHARACTERIZATION
BASE YEAR & REFERENCE CASE ANALYSIS

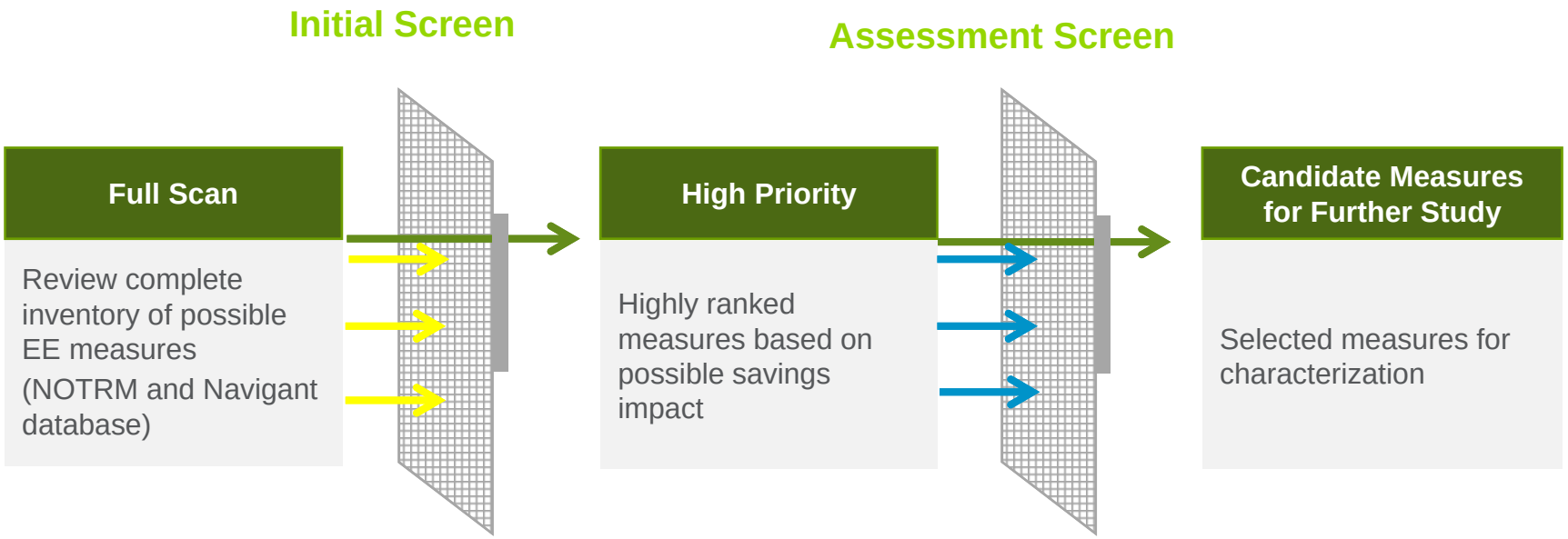
The **base year** analysis is the starting point of the study and represents a profile of energy consumption by ENO's customers

- Base year energy consumption is disaggregated by customer sector, segment, and end-use category, based on data availability
- The base year acts as the foundation to develop a forecast of energy consumption, or **reference case**, which provides the "baseline" for estimating future savings



MEASURE SCREENING METHODOLOGY

Using the New Orleans TRM as a foundation, the initial list of measures is taken through several screening stages to identify a final list of high-priority measures



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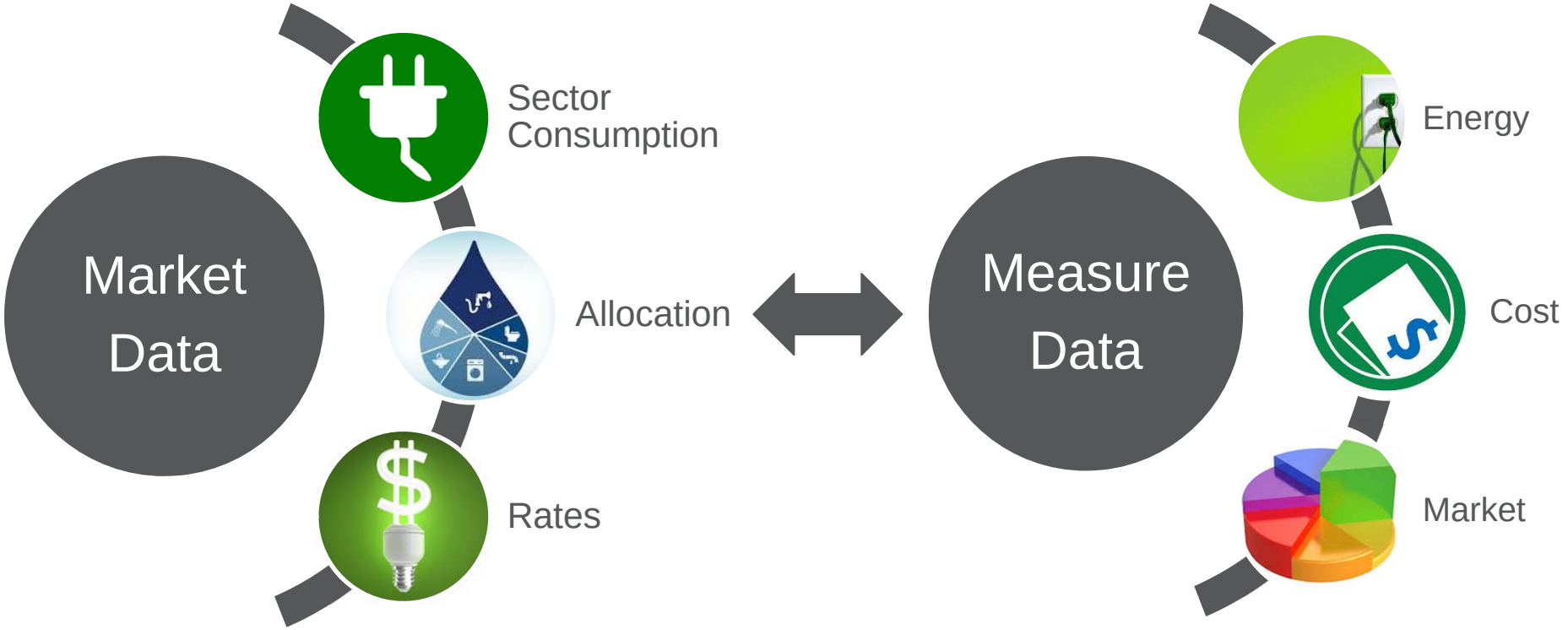
MEASURE CHARACTERIZATION

LINK BETWEEN MARKET AND MEASURE CHARACTERIZATION



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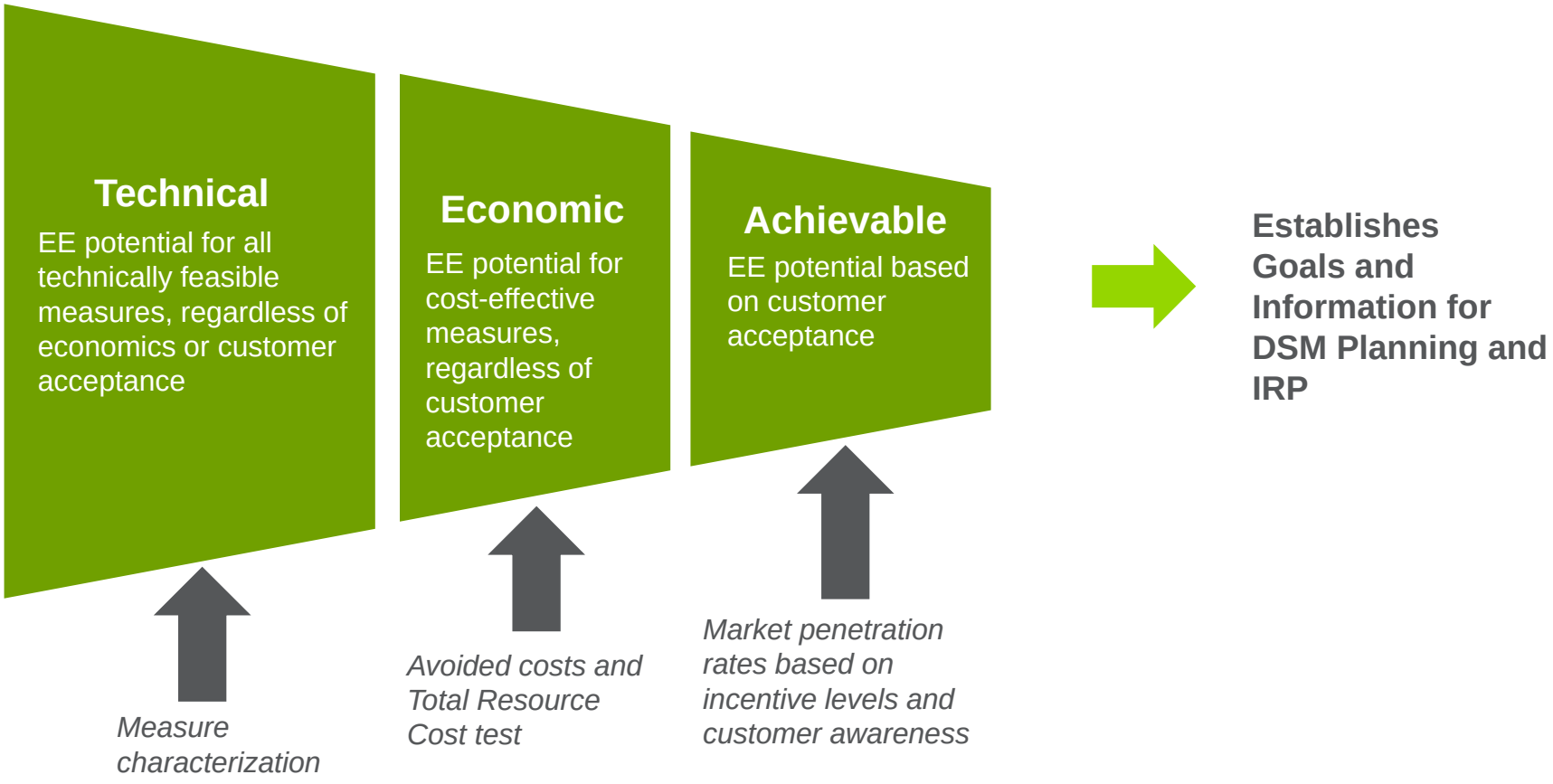
ANALYZE TECHNICAL, ECONOMIC, & ACHIEVABLE POTENTIAL

Assesses potential energy and demand savings that could ultimately be realized through ENO's energy efficiency programs



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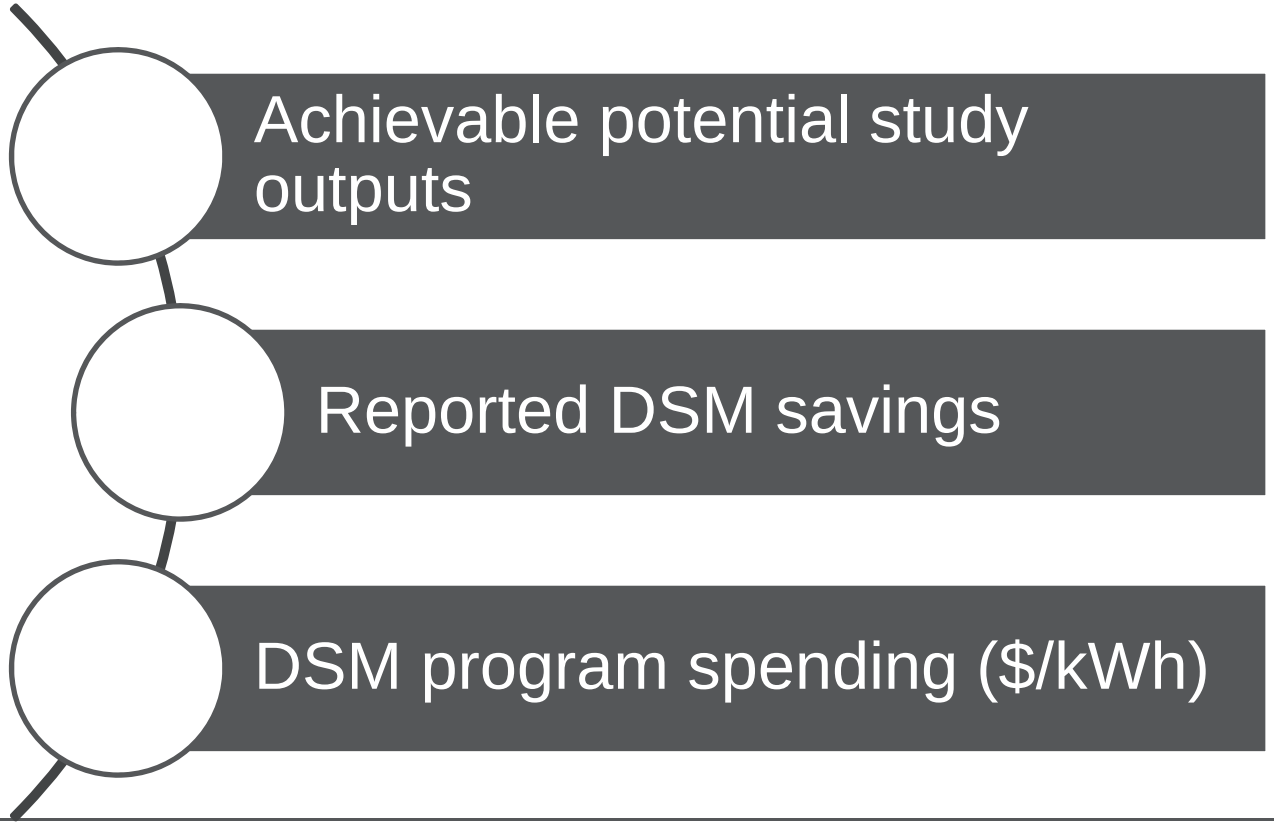
SUPPLY CURVES FOR IRP INPUT

Using the DSMsim™ model, Navigant will provide conservation supply curves that can be leveraged for ENO's IRP modeling

- Supply curves provide information on the level of conservation savings available at progressively higher costs
- Measure outputs such as $/kW, $/kWh, and benefit cost ratios for all supply curves
- Measures are grouped into programs for IRP assessment

BENCHMARKING COMPARISONS

After developing draft results, Navigant will conduct a benchmarking analysis, comparing ENO's potential estimates to past ENO potential studies and projections and past accomplishments from other studies in the region and around the country



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DEMAND RESPONSE PROGRAM ANALYSIS

Navigant will also estimate the potential for use of demand response as a capacity resource to reduce customer loads during times of peak load constraint

- Each program will be modeled from two perspectives: (1) assuming the planned ENO AMI rollout and (2) assuming the DR program must support the cost of enabling technologies
- The following illustrative list of sectors, programs, end uses, and technologies is representative of the analysis to be performed for the DR potential modeling effort:

Customer Sector	Program Type	End Use	Technology
Residential	Direct Load Control	Space Cooling	Thermostat
			Switch
		Appliances	Automated DR
		Water Heating	Switch
Small C&I		Space Cooling	Thermostat
		Appliances	Automated DR
		Water Heating	Switch
C&I	Interruptible Rate/ Curtailable Load	HVAC, Lighting, Process, Etc.	Manual Control
			Automated DR (Auto-DR)
Residential	Dynamic Pricing Programs	HVAC, Lighting, Process, Etc.	With or without technology
C&I			
C&I	Behind-the-Meter Generation Program	All	Backup generators

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