

ENO 2018 IRP  
DSM POTENTIAL STUDY

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TECHNICAL MEETING #1

JANUARY 22, 2018



# AGENDA

1. Study Objectives
2. Project Scope
3. Methodology



# STUDY OBJECTIVES

# 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

# 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

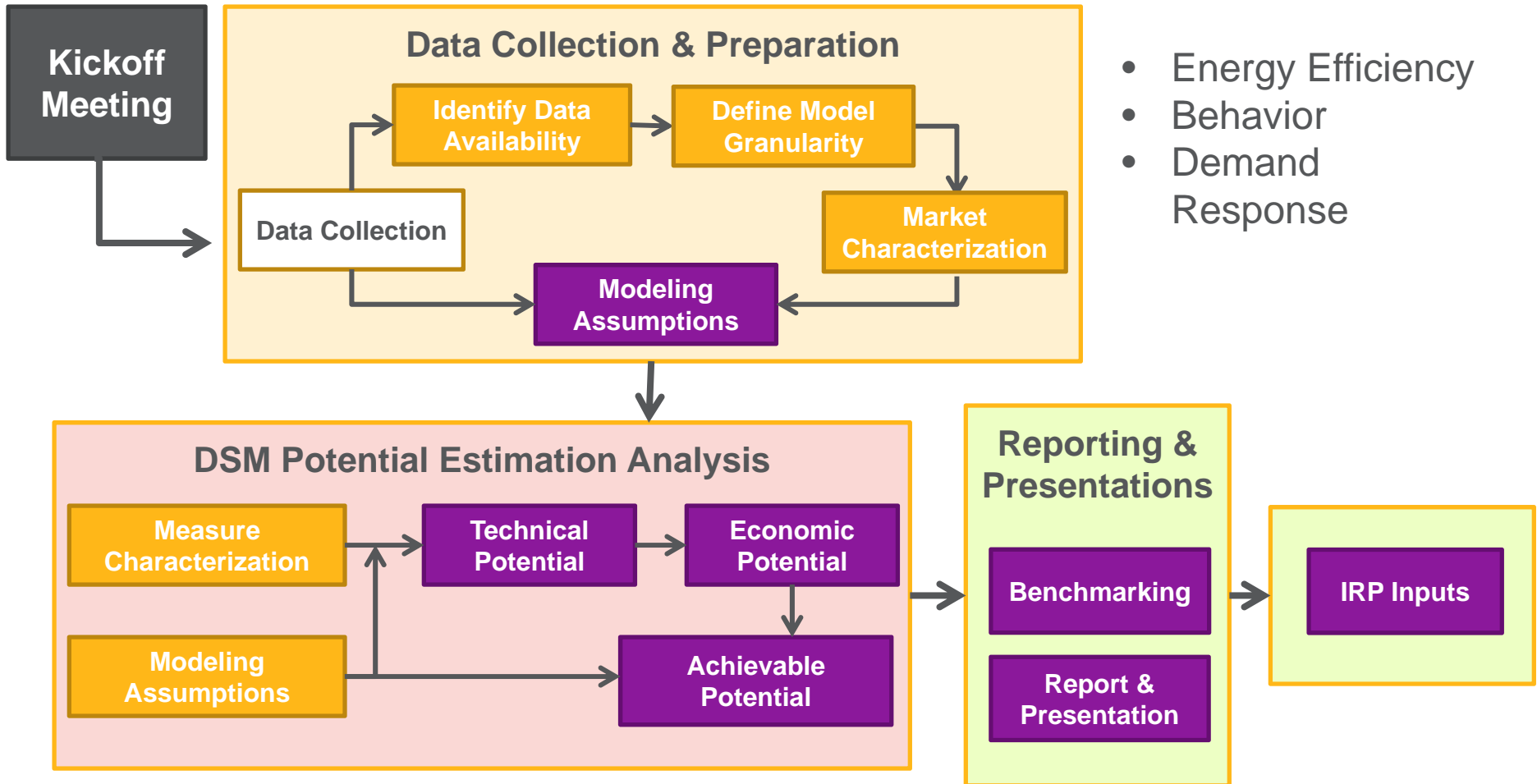
Engage stakeholders and obtain buy-in



# METHODOLOGY



# METHODOLOGY OVERVIEW



# DATA AND MODEL FLOW

## Types of Data Inputs

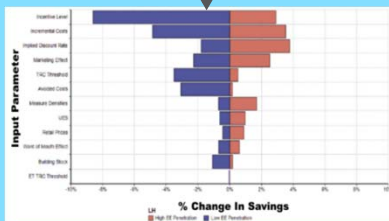
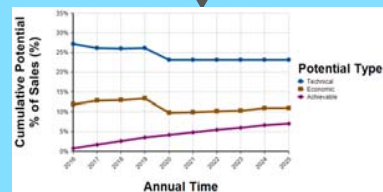
### ENO Primary Data Sources:

- 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  
Sector (Res, C&I)  
End-Use (Cooling, Lighting, etc.)  
Years (2018-2037)

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

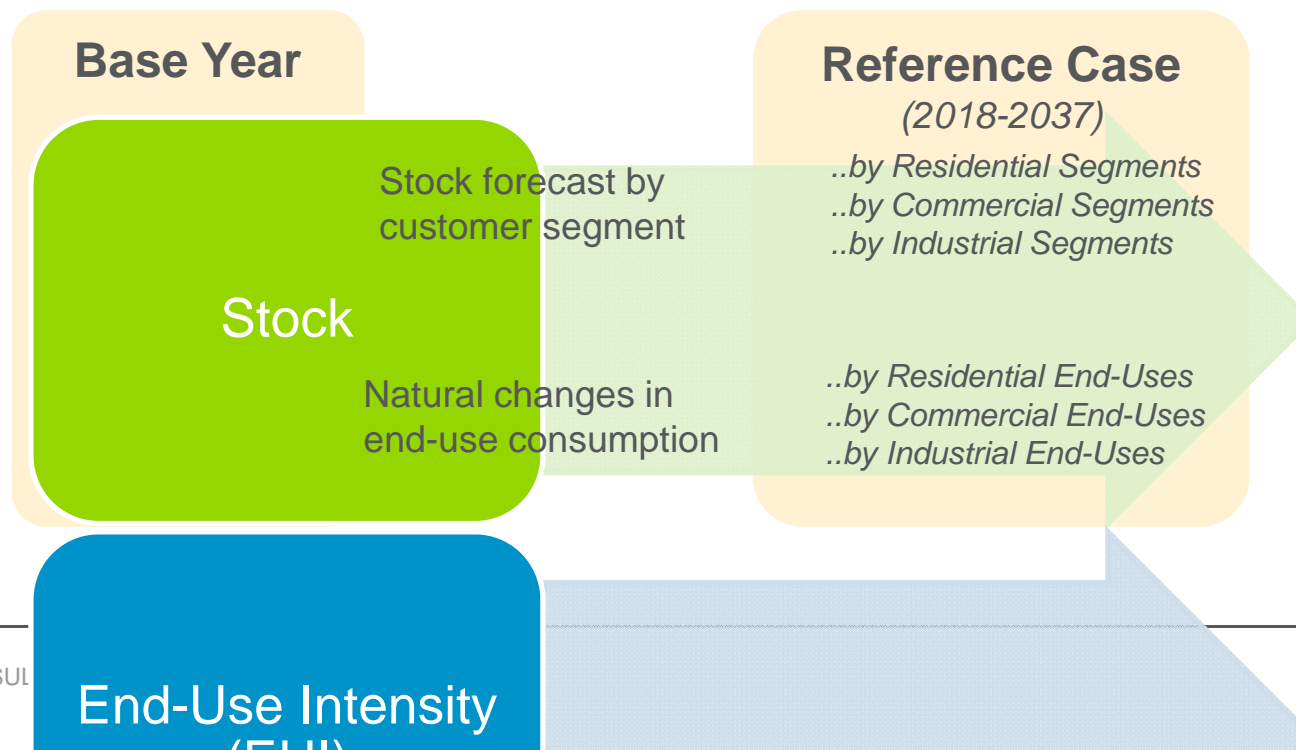
**Load Shapes**  
8760 hourly shapes (for input  
into ENO's IRP models)

# MARKET CHARACTERIZATION

## BASE YEAR & REFERENCE CASE ANALYSIS

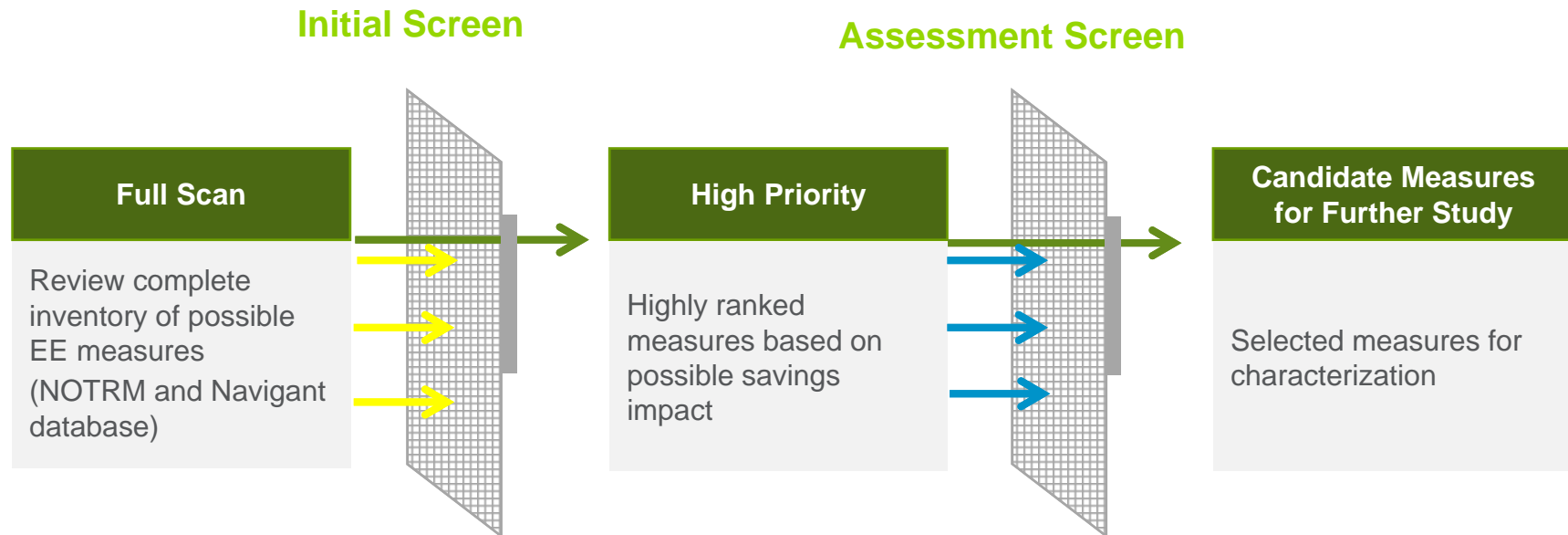
The **base year** analysis is the starting point of the study and represents a profile of energy consumption by ENO's customers

- 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



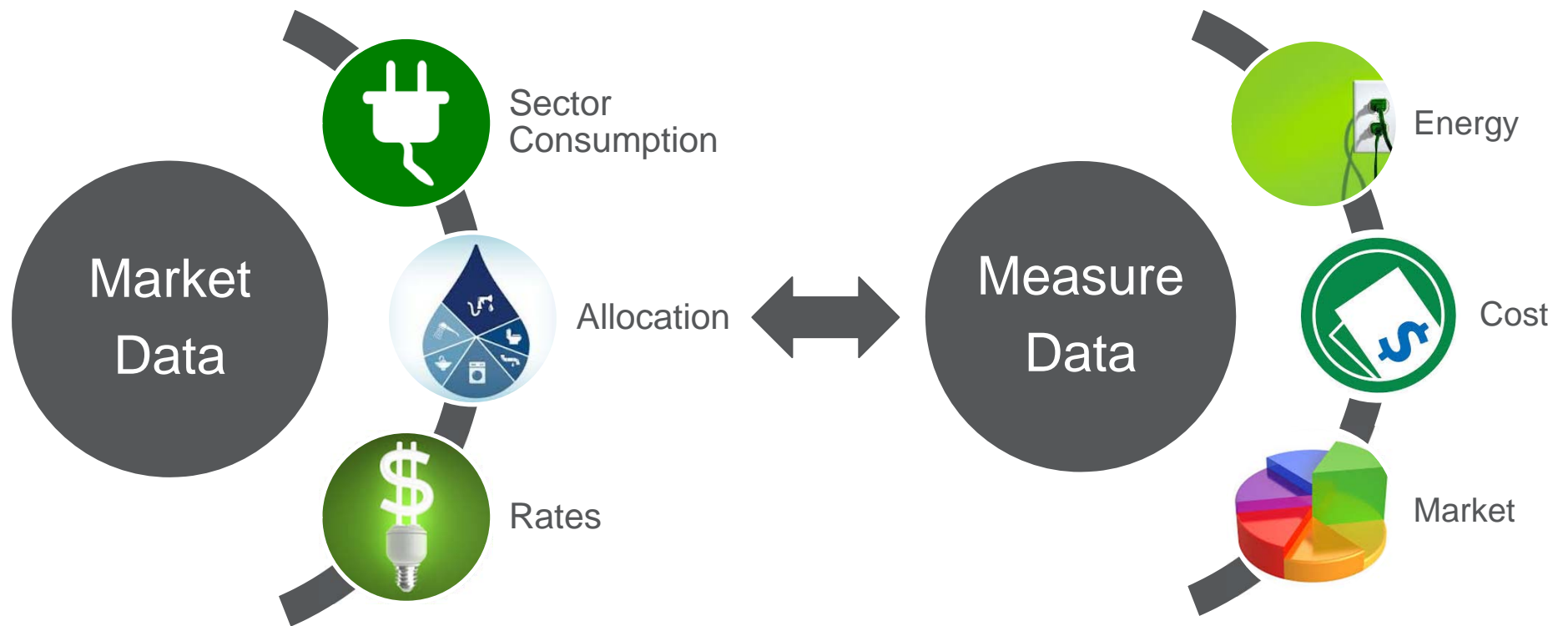
# MEASURE SCREENING METHODOLOGY

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



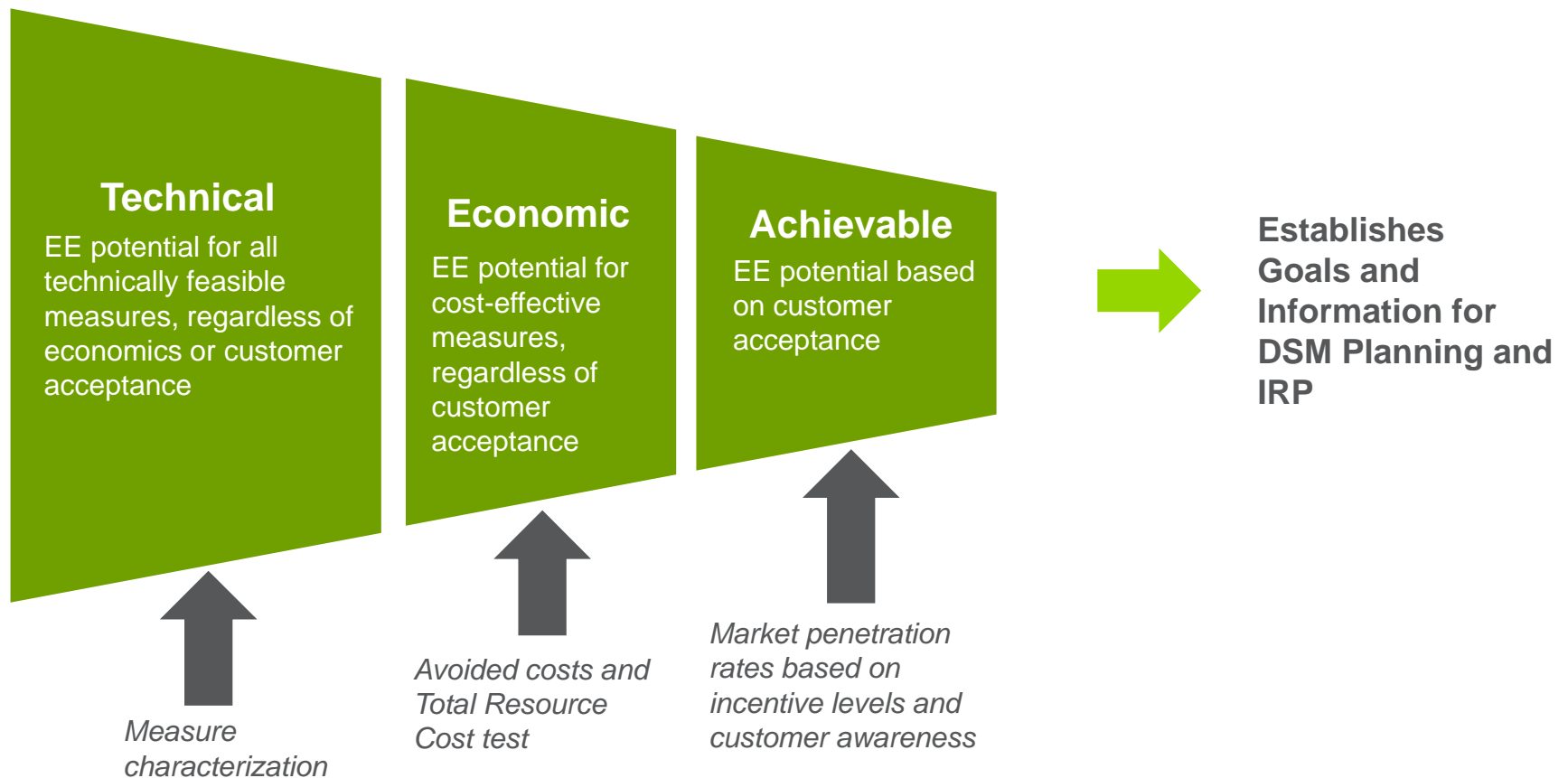
# MEASURE CHARACTERIZATION

## LINK BETWEEN MARKET AND MEASURE CHARACTERIZATION



# ANALYZE TECHNICAL, ECONOMIC, & ACHIEVABLE POTENTIAL

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



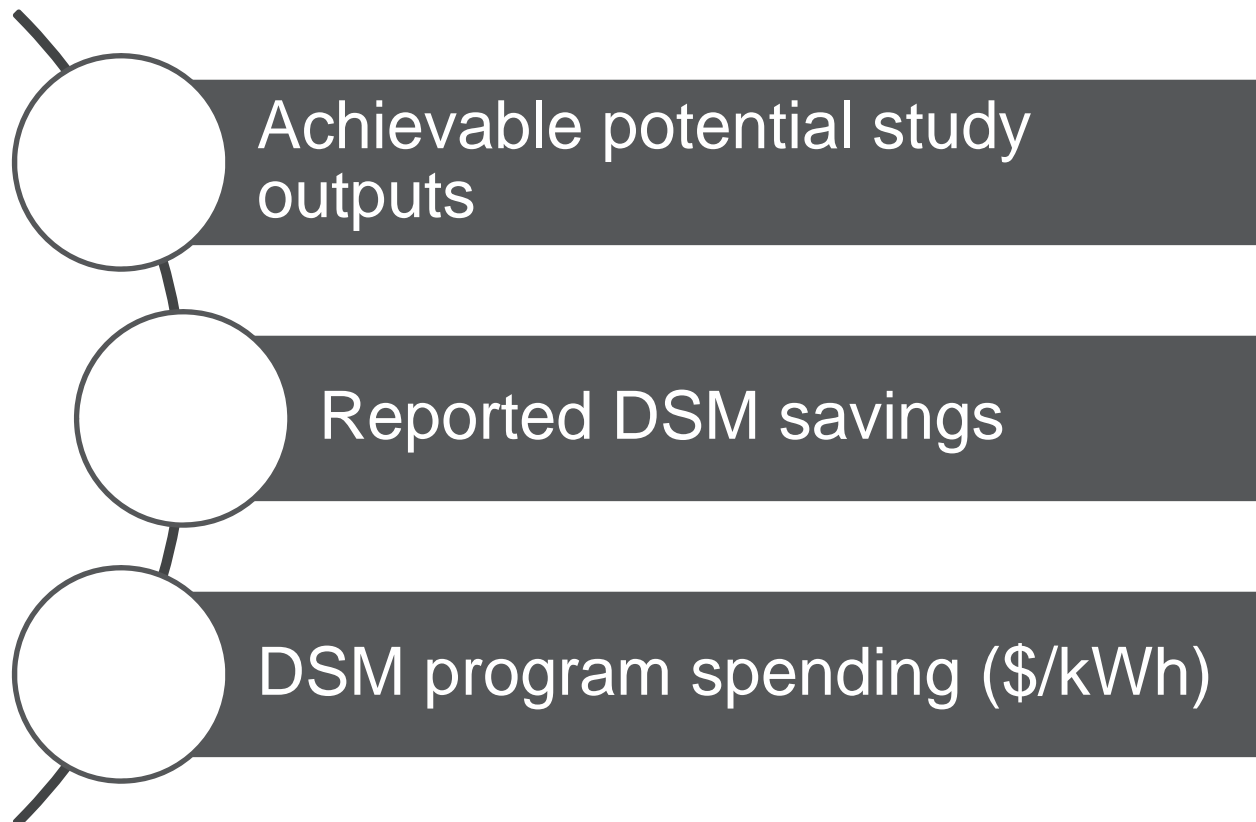
# SUPPLY CURVES FOR IRP INPUT

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





# 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/ Curtable Load	HVAC, Lighting, Process, Etc.	Manual Control	
			Automated DR (Auto-DR)	
Residential C&I	Dynamic Pricing Programs	HVAC, Lighting, Process, Etc.	With or without technology	
C&I				
C&I	Behind-the-Meter Generation Program	All	Backup generators	



QUESTIONS?

# CONTACTS

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