Demand Considerations in PA Potential Studies

EEAC

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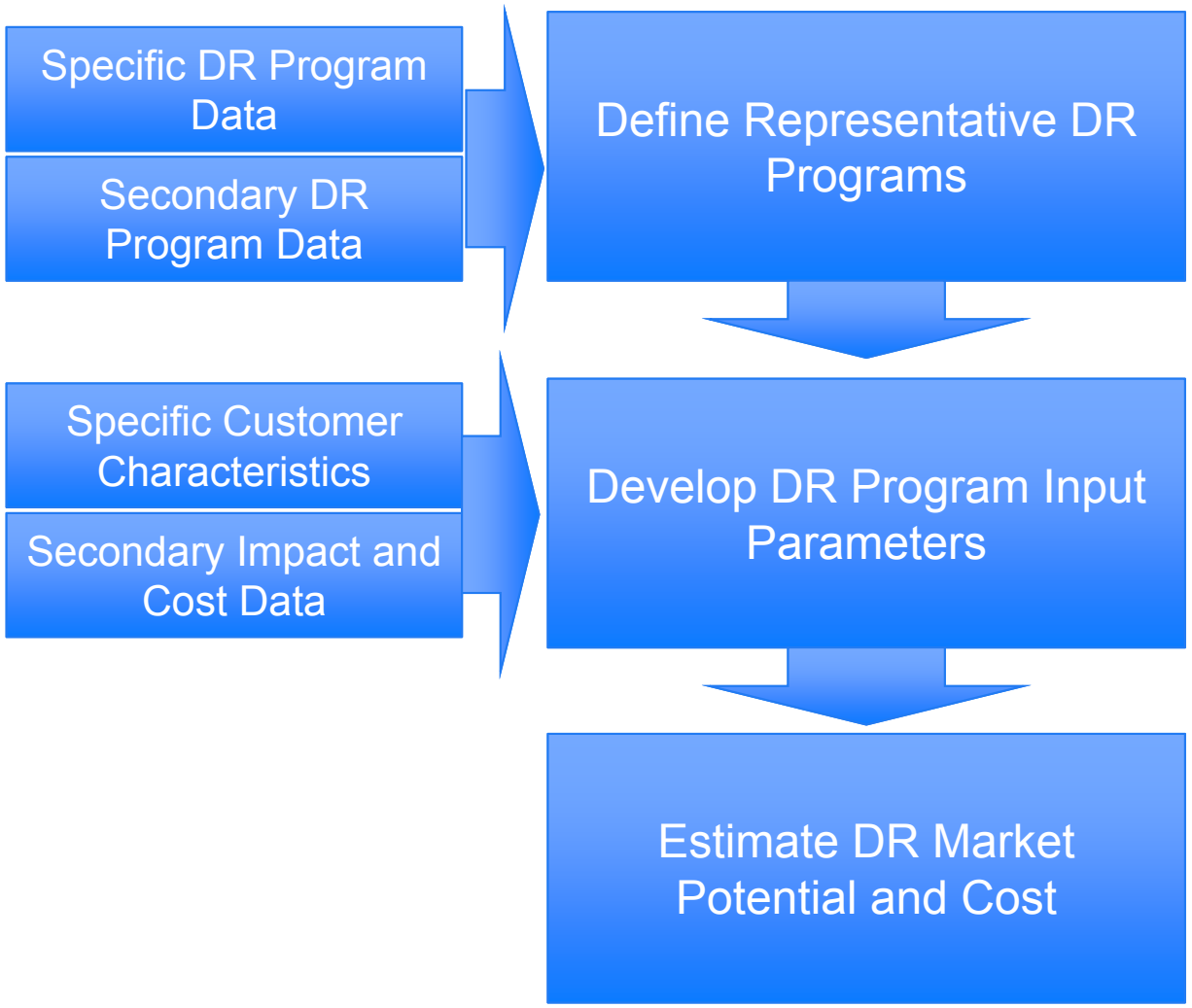
Demand Potential Study Framework



- Program designs/plans
- Focus of program
- Potential measures are identified

- Identify eligible customer populations
- Possible savings values
- Customer incentives
- Program costs

Source: Adapted from Navigant's *Assessing Demand Response (DR) Program Potential for the Seventh Power Plan*, prepared for the NPCC, 1/19/2015 (https://www.nwcouncil.org/media/7148943/npcc_assessing-dr-potential-for-seventh-power-plan_updated-report_1-19-15.pdf)

Demand in EE Potential Studies

- All electric PAs' potential studies estimate energy savings (kWh) and passive demand reduction (kW)
  - Studies started in January 2017
  - Expected Completion End of 2017
  - Sample of relevant language (from National Grid study):
    - *Savings Estimations: The annual energy consumption (in kWh and/or therms) and **demand (in kW)** per units of study (1000 sqft, household, unit, etc.) for the baseline, code, and energy efficiency condition of each technology will be defined and used to calculate annual savings. Effective useful life (EUL) for each measure will be used to calculate lifetime energy and **demand savings**. The effect of future changes to codes and standards will be considered to develop a savings profile over 2019 through 2021.*
    - *Seasonal Distribution of Savings: Summer/Winter/On/Off Peak energy and **demand savings** factors/percentages will be determined to accurately calculate avoided cost benefits for each measure.*
- Active demand potential being examined through Compact's potential study, as well as, separate active demand studies conducted by National Grid and Eversource

Active Demand Potential Research Plans

- The PAs' Active Demand Reduction potential research plans will:
  1. Characterize market for DR potential by quantifying the number of eligible customers and estimating coincident summer peak load by customer class and building type.
  2. Define and characterize DR options, and map applicable options to relevant customer classes and/or building types.
  3. Factoring in regional characteristics, develop participation, unit load reduction and cost assumptions for each DR option/customer class/building type combination.
  4. Identify measures, present potential estimates by DR option, customer class and building type, annual and levelized costs, and cost-effectiveness results.
- Compact started January 2017 and expected completion end of 2017
- National Grid started May 2017 and expected completion end of 2017
- Eversource started October 2017 and expected completion late February 2018

How the Potential Studies and Demonstrations Fit Together - Informing 2019-2021 Plan

- Potential Studies, conducted by firms with national expertise and research exposure, allow the PAs to understand:
  - Range of technical, economic and achievable potential given
    - Customer Counts & Loads by segment
    - Enabling Equipment Saturation by segment
    - Customer Value Sensitivity
    - Comparison to dollar value of Benefits from AESC 2015 & AESC 2018
- Demonstrations, which were informed by discussions with experts from across the nation, allow the PAs to understand
    - Implementation Considerations
    - Customer Acceptance
    - Cost to Acquire KW
    - Persistence of Customers Commitment
- PAs will share results of active demand potential studies and completed demonstration projects, which combined with information learned from experts over the past two years, will inform potential initiative designs, scale, and budgets for the PAs' 2019-2021 Plan