# ROLE OF ENERGY EFFICIENCY IN EUROPE'S FLEXIBILITY AGENDA

## INDUSTRY TRENDS

IEA PARIS

OCTOBER 24, 2018



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# CAN EE BE USED IN PLANNING FOR GRID FLEXIBILITY

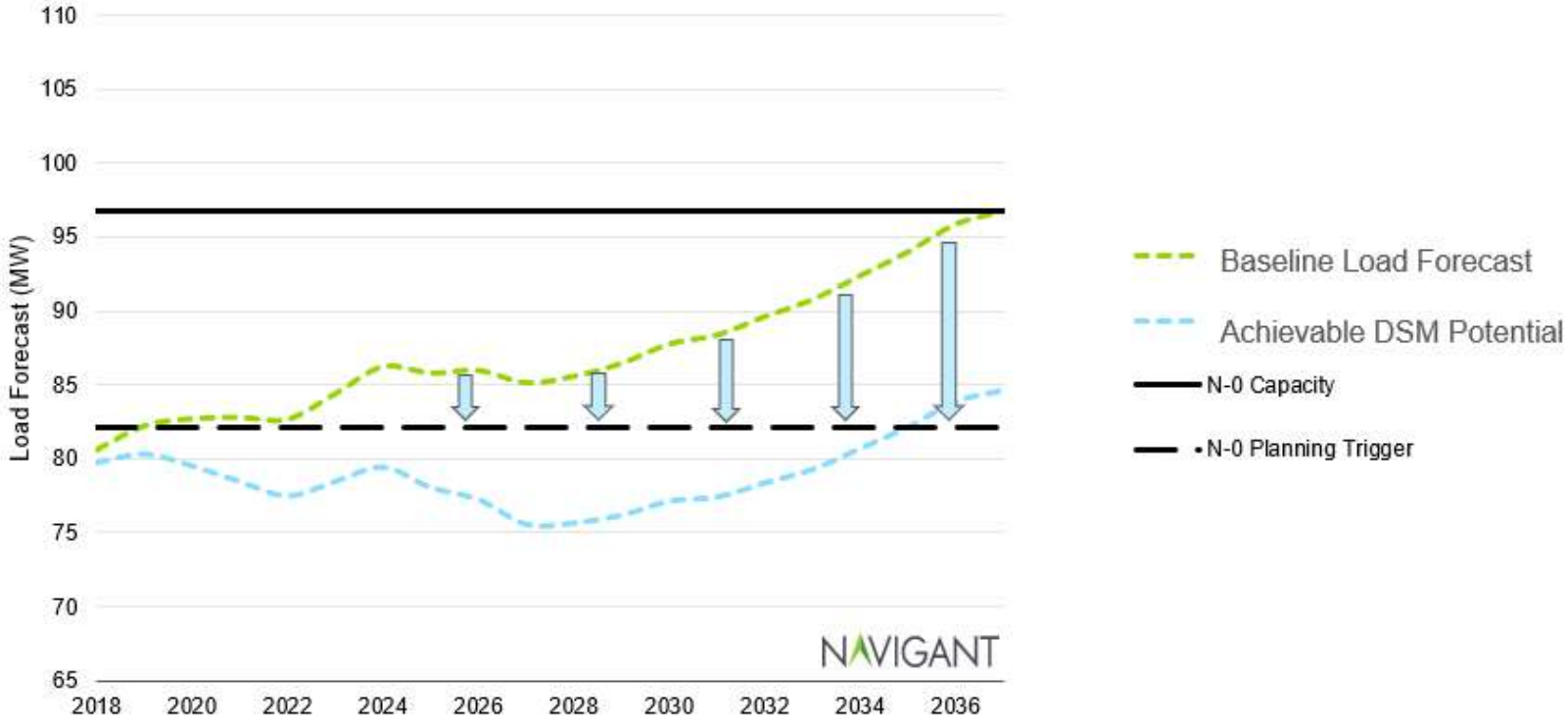
- Role of EE in planning Europe's flexibility agenda
- Other system benefits of EE programs
- EE in a low cost portfolio mix to meet capacity needs
- Innovative solutions to help EE implementation in Europe

# POTENTIAL/TECHNICAL ANALYSIS RESULTS

Needs Assessment and Problem Definition | Technical DER Potential | Economic Analysis | Recommended Solution

## Using EE and other DER resources to defer capacity upgrades



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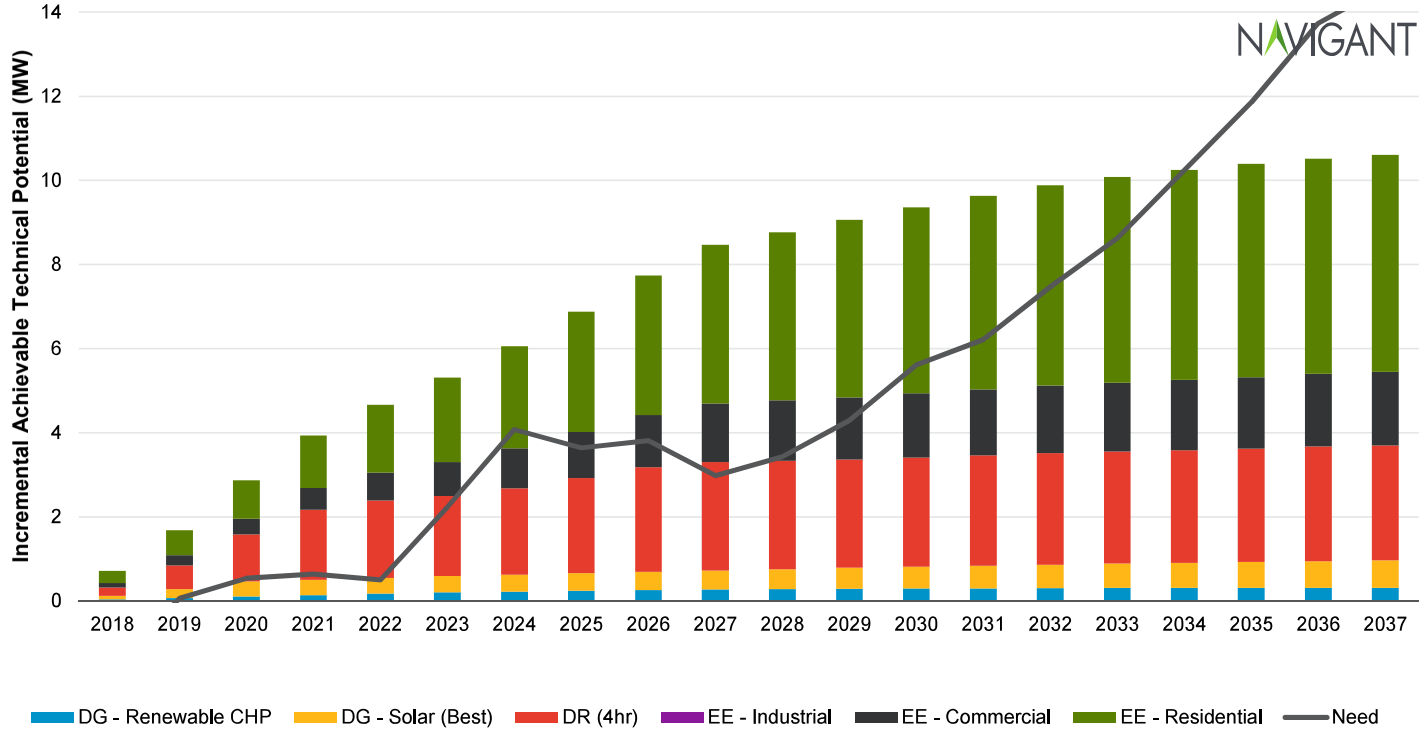
# POTENTIAL/TECHNICAL ANALYSIS RESULTS

Needs Assessment and Problem Definition | Technical DER Potential | Economic Analysis | Recommended Solution

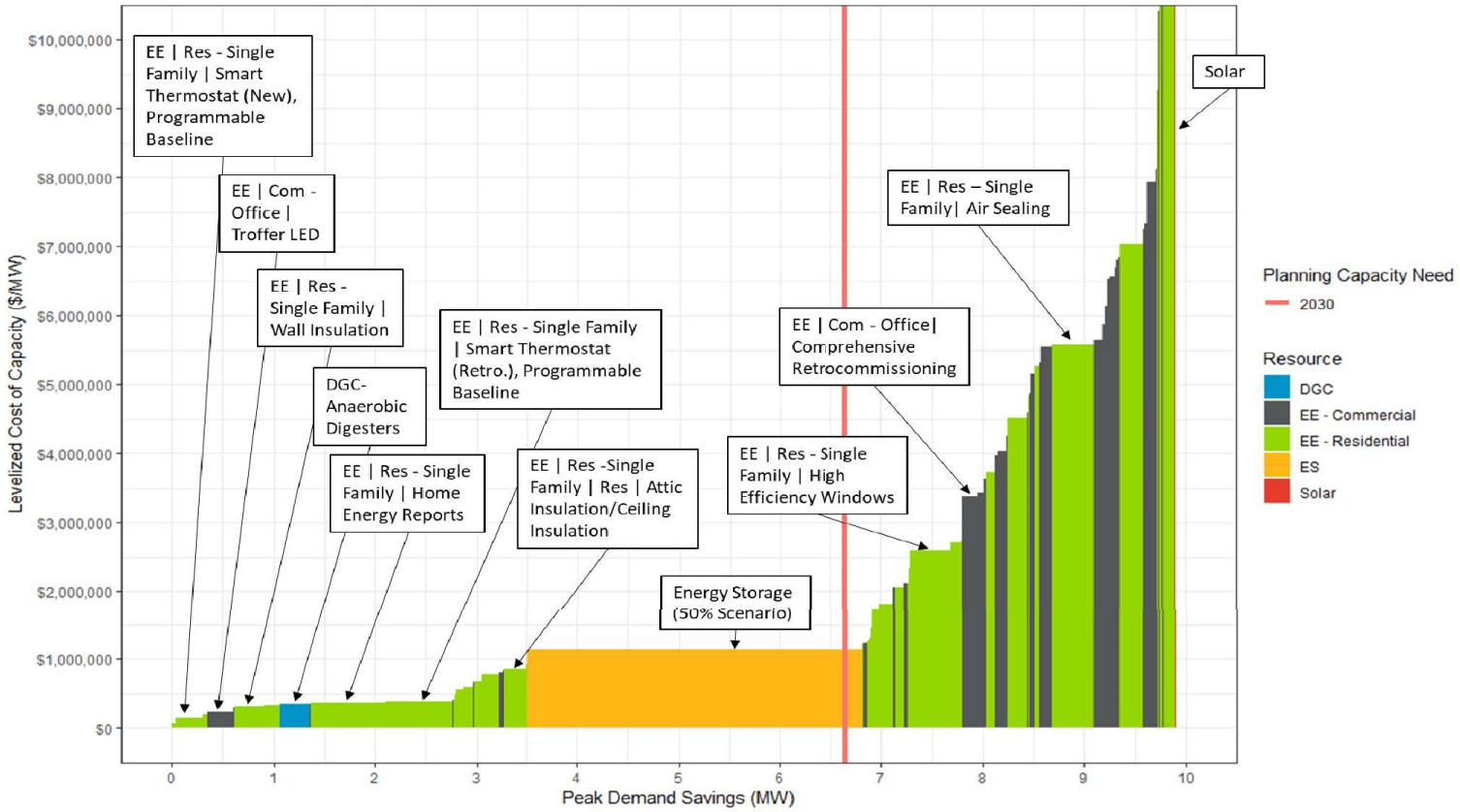
## EE represents the largest portion of achievable incremental capacity



# COMBINING STORAGE AND DER IN AN ECONOMIC ANALYSIS

Needs Assessment and Problem Definition | Technical DER Potential | Economic Analysis | Recommended Solution



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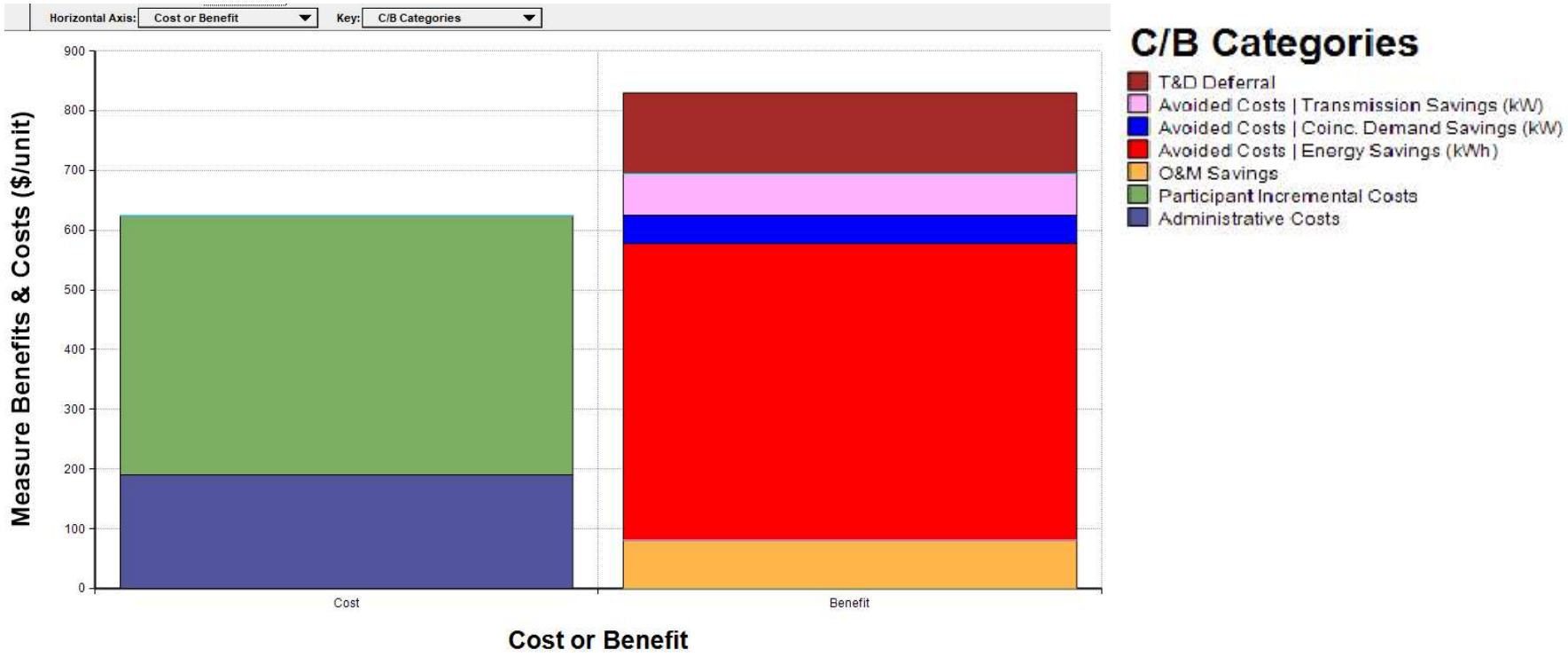
# CONSIDERING DISTRIBUTION, GENERATION, AND TRANSMISSION BENEFITS

In PROCESS, bulk system benefits from generation and transmission are layered on top of feeder/nodal locational benefits



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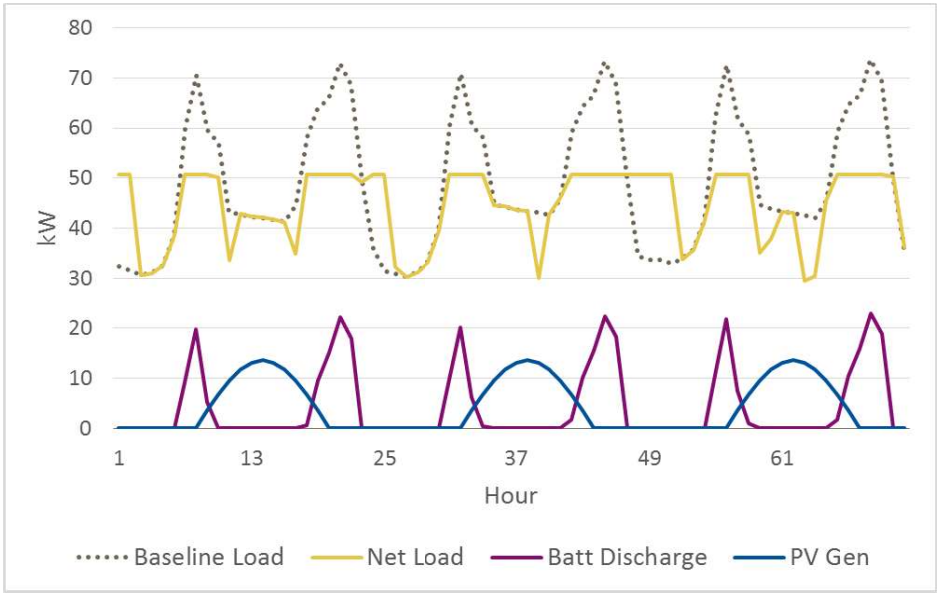
# STORAGE OPTIMIZATION

## The model contains criteria (problem formulation) for determining size/location/optimal schedules for storage assets

- **Size –**Optimization constrained by distribution planner inputs - considering feeder thermal constraints, cost of storage, and cost of distribution-side solutions – potential for scenario analysis
- **Location –** determined by distribution engineers and insights from CYME modeling
- **Schedule –** Analytica optimized schedule against customer energy/demand rates or nodal energy/capacity pricing



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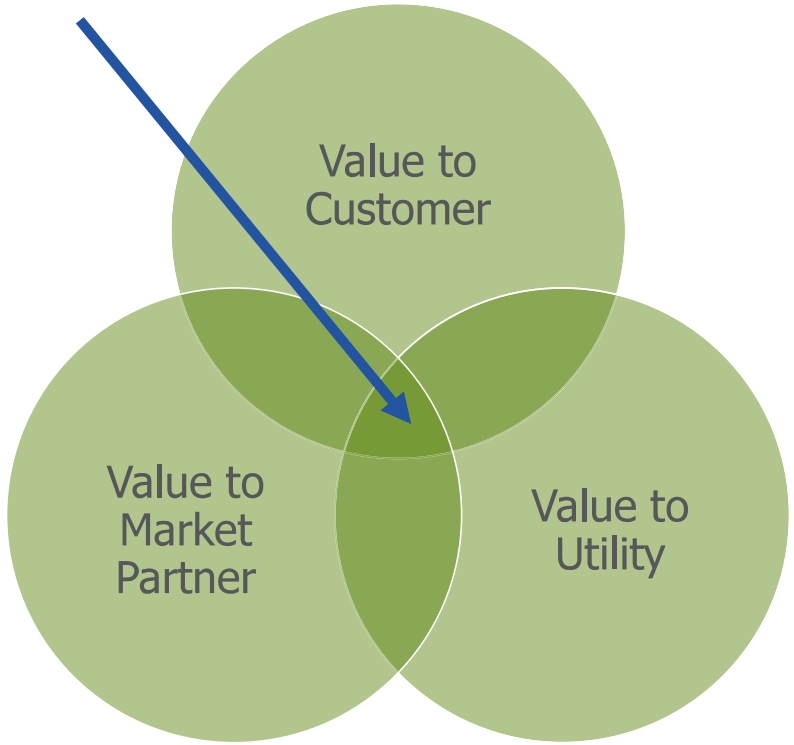
# WHAT IS REV CONNECT?

## REV CONNECT

- Brings companies and New York's electric utilities together to accelerate innovation, adopt new business models and technologies, and advance New York State's Reforming the Energy Vision (REV) goals.
- Helps companies that offer distributed energy and smart grid solutions connect with utilities to develop high quality REV demonstrations and other innovative projects.
- Shares good practices and convenes market participants to enhance the culture of innovation and collaboration in the energy sector.



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# INNOVATION SPRINT PROCESS

**REV Connect enables market participants to engage utilities in time-bound "innovation sprints", which accelerate the establishment of innovative partnerships.**

### KICKOFF

**Webinar** with key info for submitters

### SUBMIT

Submitters develop and submit ideas **responsive to the Innovation Sprint theme**

### FACILITATE

Discussions with REV Connect team to refine ideas and **better articulate value and the business model**

### CONNECT

Invitation-only workshop providing qualified submitters with **one-on-one time with utilities** to hear direct feedback and co-develop ideas

### ADVANCE

Progress ideas through the development of **business cases, demo projects, or other partnerships.** Submit refined ideas to **RFIs/RFPs.**

 

# NEW EFFICIENCY: NEW YORK

**New York State took a step closer to achieving its ambitious EE targets through an innovation**


- Advancing a **comprehensive energy efficiency initiative**
- A milestone 2025 statewide energy efficiency target:
  **185 TBtu end-use savings**
  **in buildings and industrial sector**
  below 2025 forecast
- Equivalent to fueling and powering more than
  **1.8 million New York homes** by 2025
- Read the *New Efficiency: New York* white paper at **nyserda.ny.gov/New-Efficiency**

 

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# INNOVATIVE EE SPRINT

**REV Connect launched a sprint focusing on "Innovative Energy Efficiency" over the summer; more than 60 ideas were submitted.**

## Examples of market-based business model and partnership approaches

### Shared Savings Models that Leverage Third-Party Capital

A contract structure in which savings achieved by energy efficiency projects both on the customer-side (bill savings) and the utility-side (non-wires or similar solutions) can be shared on the basis of the initial investment outlay.

### Pay-for-Performance

A contract structure between a utility and a service provider in which the timing and level of payments are determined by the actual delivery of energy savings – and which is coupled with a compelling value proposition to the customer.

### Leveraging Utility Data for System Value and Customer Acquisition

A mechanism that enables service providers access to data to target customers and model project financials (with consumer protections), thus reducing the cost of customer acquisition and total project cost. Data also enables projects that are responsive to system needs.

 

# SUMMARY

1. EE can be a significant contributor to technical potential for deferral
2. EE can be part of a portfolio that is more cost effective than traditional upgrades
3. Other system benefits are significant contributors to the total benefits from EE
4. It is important to allow DSO's to count other system benefits in their cost benefit analysis to encourage EE implementation
5. Platforms like REVConnect, that connect utilities with innovative solutions providers, are critical to leveraging market insights and ideas and successful implementation

 

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