

# USAID SUPER – Utility Involvement in Demand Side Management

June 2023



# USAID SUPER Program Overview

The **USAID SUPER program**, implemented by Deloitte Consulting LLP, aims to promote utility commercialization and equitable, effective reforms that will enhance the financial viability and long-term sustainability of developing countries' electricity systems.

## UTILITY-LED DEMAND SIDE MANAGEMENT (DSM)

The Work Assignment under the SUPER program will:

- Provide utilities with actionable steps they can take to **operationalize DSM efforts** and plans to implement them
- Provide enhanced **financial viability**, increased **grid stability**, alignment with national targets, and **reduced greenhouse gas emissions** for participating utilities.

**The USAID SUPER program is interested in partnering with your utility – please get in touch for further discussion.**

**\$12.9M**

SUPER Contract Ceiling

**9**

Countries supported by SUPER

**443**

Individuals Trained through SUPER

**11**

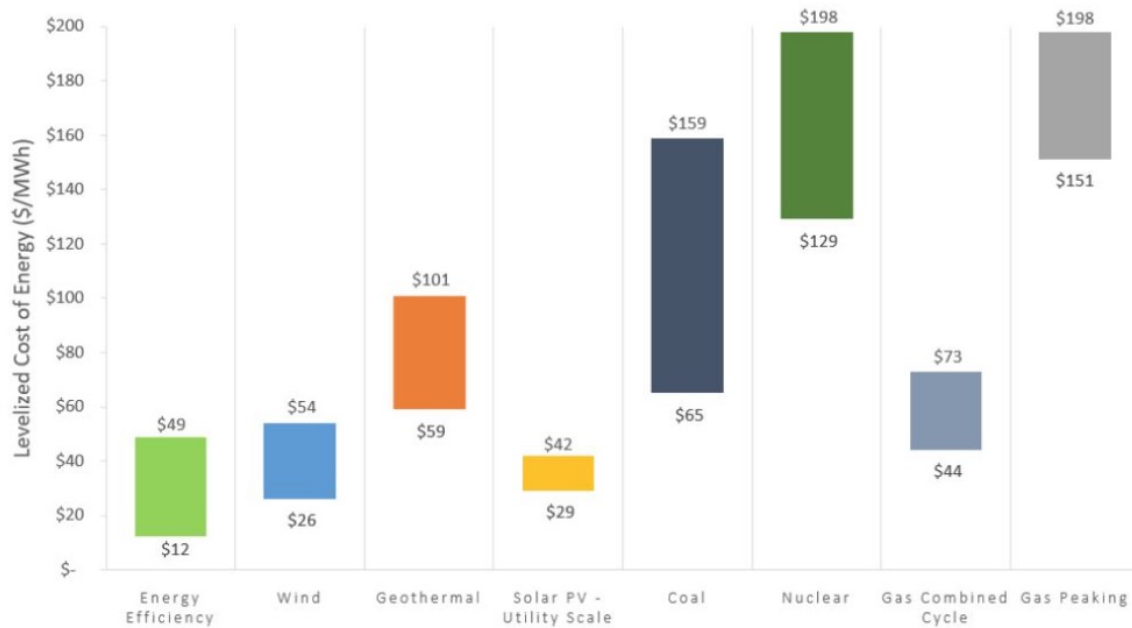
Institutions with the improved capacity to address clean energy issues, including utilities, regulators, government agencies, and others



## Additional Resources:

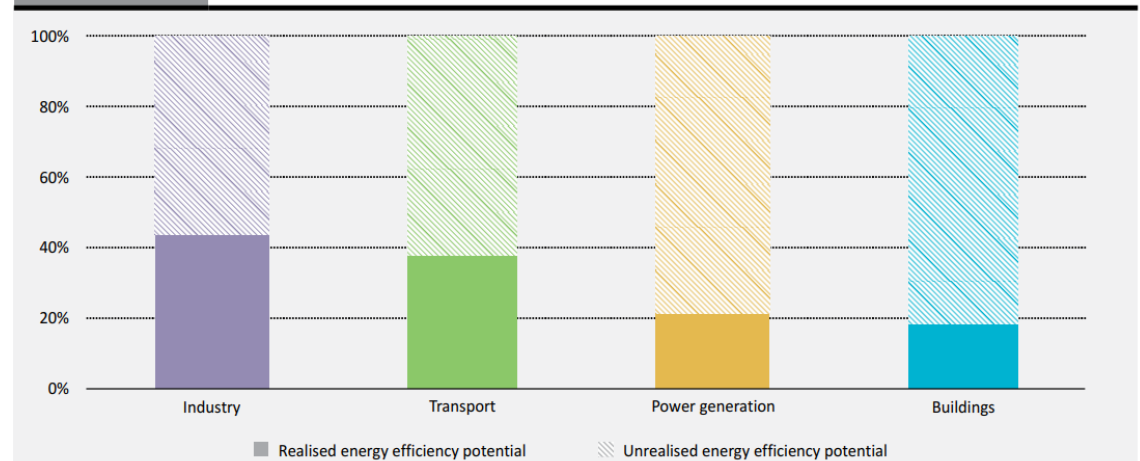
- [SUPER Website](#)
- [SUPER Factsheet](#)
- [Climate Finance Toolkit](#)
- [Cybersecurity Webpage](#)

# The Market Opportunity for DSM



Levelized cost of energy efficiency compared with unsubsidized supply-side resources (Data: ACEEE 2020, Lazard 2020)

Figure ES.1 Long-term energy efficiency economic potential by sector



Note: These energy efficiency potentials are based on the IEA New Policies Scenario outlined in the World Energy Outlook 2012. Investments are classified as "economically viable" if the payback period for the up-front investment is equal to or less than the amount of time an investor might be reasonably willing to wait to recover the cost, using the value of undiscounted fuel savings as a metric. The payback periods used were in some cases longer than current averages but they were always shorter than the technical lifetime of individual assets.  
Source: IEA (2012), World Energy Outlook 2012, OECD/IEA, Paris.

**Key point** IEA projections to 2035 show that as much as two-thirds of energy efficiency potential will remain untapped unless policies change.

## Market Potential

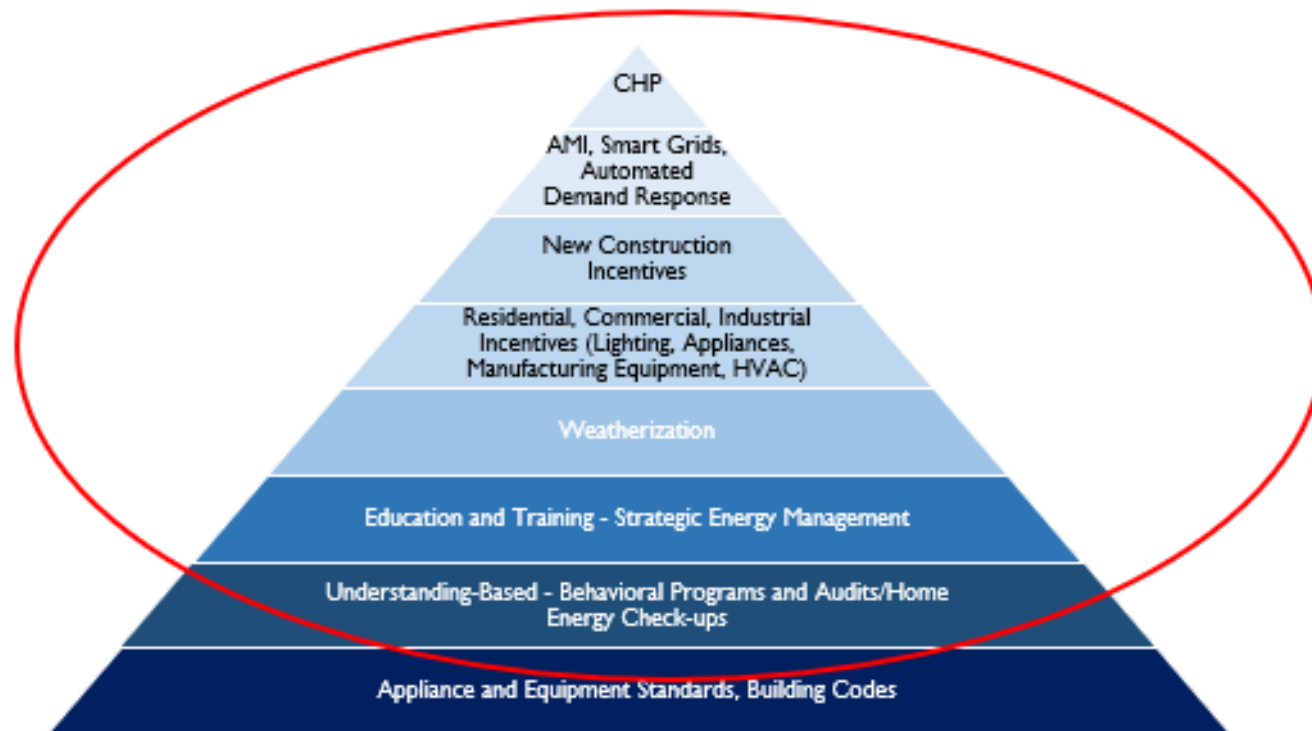
Southeast Asia has enormous potential for market-driven DSM. In Vietnam's industrial and residential sectors alone, energy efficiency measures could **reduce capacity additions by 11.7GW** by 2030, representing **\$19.1B in savings** and **reducing coal imports by 24 million tons** annually.

# Utilities as a Catalyst to Market Driven DSM

**Efforts in emerging markets have focused on longer-term policy efforts, such as resource target-setting, building codes and appliance standards.**

**Opportunities abound for unlocking DSM's potential faster and strategically through market-driven mechanisms where utilities can drive deeper impacts.**

**DSM programs range in complexity, scope, and cost and can be tailored to utility characteristics, including policy goals, business models, and consumption patterns.**



Utility-led market-driven programs drive consumer behavior to make smart energy choices or retrofit to high efficiency equipment and measures. Utilities in the U.S. with strong DSM programs can achieve 2% energy savings annually.

# Accelerating the Energy Transition Through Energy Efficiency

*DSM can accelerate the energy transition through targeted actions that reinforce grid reliability and resiliency. DSM can:*

## Reduce Energy Consumption

Energy intensity improvements avoided **257 Mtoe** in consumed energy globally.

## Fast Track Decarb Efforts

DSM represents **more than 40% of the emissions abatement needed by 2040** to achieve net zero by 2050.

## Create Skilled Labor Opportunities

**10.9 million people** globally are employed in DSM jobs related to buildings and industry.

## Increase Grid Reliability

**DSM contributes to reserve margins and distribution system reserve capacity** and increases the resilience of the power supply.

## Lower Costs for Consumers

DSM measures saved households and businesses approximately **\$680B** in 2022.

# The Untapped Opportunity for Utility-Led DSM

*Utilities can capture the DSM opportunity by implementing mechanisms that result in market-based, climate-friendly, and economic benefits and outcomes.*

## Mechanism

## Benefits



### **Enhancing customer relationships:**

- Digitalization
- Customer education and outreach
- Next-generation technology (e.g., smart grid, internet-of-things technologies)



### **Achieving operational efficiencies:**

- Demand response programs
- Bulk procurement
- Fuel switching (e.g., electric vehicles, heat pumps, water heaters)



### **Policy and Regulatory Imperatives:**

- Performance investment mechanisms
- Shared savings targets
- Decoupling



Increased customer empowerment and trust

Load shift and flatter demand curve

Enhanced utility financial sustainability

Emissions reductions and more rapid decarbonization

Though not necessary for DSM rollout, this tech can influence behavior change

# Case Study: New York's Reforming Energy Vision (REV)

## Problem Statement

New York's 2015 energy plan required a **40%** reduction in GHG emissions from 1990 level, **50%** generation from RE, and a **23%** decrease in building energy consumption from 2012 levels

## Solution

- Introduced a performance-based framework to increase grid resilience and reliability and encourage utilities to lead DSM programs.
- Adjusted the utility business model to compensate utilities for adopting alternatives such as DSM.
- Rewards investments that utilities make in system efficiency, such as **using performance-based rates** tied to system efficiency and customer results, creating **shared savings targets** to reward utilities for DSM investment, and **combined heat and power** to improve building DSM.

## Impact

REV adjusts the utility's role in the value chain to increase grid resilience and **encourage investment** in DSM and other sustainable solutions. REV allows utilities to remain energy distributors while also **becoming market operators**



## REV Success Story

- **Rev offers \$2 Billion** in estimated annual savings for NY residents.
- The Brooklyn/Queens Demand Management Program allowed the utility Consolidated Edison to use DSM and **to avoid infrastructure upgrades of \$1B**. ConEd ultimately **achieved \$748M in benefits for \$653M in costs**.

# Challenges to Robust Utility DSM Programs





## Questions from the Audience?

### Questions for the Audience:

- What is your experience with energy efficiency in the utility space?
- What aspects of energy efficiency are of the greatest interest to you?
- How can development partners support your goals related to energy efficiency?