USAID SUPER – Utility Involvement in Demand Side Management

June 2023
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
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:*

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<tr>
<th>Reduce Energy Consumption</th>
<th>Fast Track Decarb Efforts</th>
<th>Create Skilled Labor Opportunities</th>
<th>Increase Grid Reliability</th>
<th>Lower Costs for Consumers</th>
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<td>Energy intensity improvements avoided <strong>257 Mtoe</strong> in consumed energy globally.</td>
<td>DSM represents more than <strong>40%</strong> of the emissions abatement needed by <strong>2040</strong> to achieve net zero by <strong>2050</strong>.</td>
<td><strong>10.9 million people</strong> globally are employed in DSM jobs related to buildings and industry.</td>
<td>DSM contributes to reserve margins and distribution system reserve capacity and increases the resilience of the power supply.</td>
<td>DSM measures saved households and businesses approximately <strong>$680B</strong> in 2022.</td>
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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.

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<tr>
<th>Mechanism</th>
<th>Benefits</th>
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<td><strong>Enhancing customer relationships:</strong></td>
<td>Increased customer empowerment and trust</td>
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<td>• Digitalization</td>
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<td>• Customer education and outreach</td>
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<td>• Next-generation technology (e.g., smart grid, internet-of-things technologies)</td>
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<td><strong>Achieving operational efficiencies:</strong></td>
<td>Through not necessary for DSM rollout, this tech can influence behavior change</td>
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<td>• Demand response programs</td>
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<td>• Bulk procurement</td>
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<td>• Fuel switching (e.g., electric vehicles, heat pumps, water heaters)</td>
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<td><strong>Policy and Regulatory Imperatives:</strong></td>
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<td>• Performance investment mechanisms</td>
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<td>• Shared savings targets</td>
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<td>• Decoupling</td>
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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.

- 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.

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

**Focus on Capital Projects**

The culture of some utilities indicates a preference for new construction, infrastructure investment, or other more tangible projects.

**Uncaptured Externalities**

DSM investments may not account for positive externalities such as reduced emissions, improved air quality, water conservation, or delayed infrastructure investment.

**Lack of Stakeholder Consensus**

Well-executed, utility-led, market-driven DSM programs demonstrate potential benefits and savings to customers, regulators, and policymakers via market potential studies, cost effectiveness and documented value of long-term results, but it can be difficult to get the right people “in the room” to deliver.

**Customer Participation**

DSM programs do not exist without end-user investment; higher efficiency solutions face steeper upfront investment and longer paybacks that may hinder participation. Customer surveys, including market studies, inform cost differentials to overcome cost barriers to retrofit equipment.

**Customer Awareness**

Customers may not understand the benefits of DSM without sufficient communication and may push back on utility-led DSM programs.

**Customer-Centric Lens**

Utilities may struggle to invest in forming the necessary partnerships with customers and encouraging them to embrace policy goals and customer experiences oriented towards utility business goals.

**Traditional Utility Business Models**

The volumetric-based sales model for many utilities can sometimes work at cross-purposes with DSM. “Decoupling,” or separating utility financial recovery from sales volumes, is one solution.
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?