

## MADRI CHP Incentive Pilot Program

### Rationale and Objectives

- There is a general consensus that distributed resources can provide significant benefits to ratepayers and should be promoted. Nevertheless, additional information is needed to:
  - Fully quantify the value of public benefits that typically are not considered in program evaluations, such as improved operational flexibility and reliability enhancements.
  - Determine the best methods for promoting these options to maximize ratepayer benefits.
- MADRI is sponsoring a study to analyze the impact of demand reduction on LMPs. While this study will be a major step in clarifying DR benefits, additional market research and analysis will be needed to determine the optimum mix of DR.
- The MADRI Business Case Sub-Working Group recommends conducting a series of pilot programs for promising DR technologies to help accelerate adoption and generate the information needed to better quantify benefits. One of these should be a CHP pilot program.
- Combined Heat and Power (CHP) addresses two pressing needs:
  - Reducing peak demand during critical peak periods – which is the primary focus of MADRI.
  - Helping mitigate the impact of electric rate increases by improving energy efficiency.
- While CHP provides numerous public benefits, adoption is inhibited by the fact that the economics are marginally attractive at best under current Mid-Atlantic rate structures.
  - Only 4 of the 20 benefits of CHP accrue directly to the user who pays for the system.
  - Developing a mechanism to compensate users who install CHP for a portion of the public benefits they provide should increase adoption rates and hence net ratepayer benefit.

### Pilot Program Structure

Conditions vary considerable across the Mid-Atlantic region, hence pilot program details must be tailored to meet each state's needs. Each utility commission must decide what program structure is best for their state. The main concerns to be resolved are:

- **Capacity Goals** – The Business Case Working Group recommends a target of 3% of peak demand for all MADRI DR programs with 15 to 25% of this amount being allocated to the CHP program (i.e., 0.5 – 0.8% of annual peak).

In addition, criteria should be established for prioritizing or ranking applications if the programs are oversubscribed. These would address:

  - Type of system/fuel – should give priority to systems powered with RPS fuels
  - Type of application – should prioritize applications that can be replicated easily
  - Size – limit to under 10 MW with at least 1 system under 500 kW in each distribution area
  - Location – give priority to systems located in congested or rapidly growing areas
- **Incentives** – Incentives are needed to make CHP projects financially feasible and ensure system performance. We recommend that commissions consider the following options for enhancing the CHP pilot program business case:
  - *Capacity Payment* (to ensure projects can be financed) – This payment should be equal to the carrying cost for utility investment in conventional utility generation that would be deferred

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- by CHP. Today, this would be approximately \$75/kW-year for a natural gas-fired simple-cycle CT. We recommend this incentive be paid for 10 years.
- *Energy Payment* (performance provision) – User would receive a payment for electricity produced during critical peak periods (i.e., whenever LMP exceeds a preset threshold).
  - *Waive standby charges* – This waiver could be contingent on the system meeting certain performance criteria
  - *Mandate expedited processing of interconnection applications* – per MADRI’s recommended procedure.
  - **Implementation Approach** – The three basic options for implementing this pilot program are:
    - *Include CHP in renewable portfolio standards* – This would eliminate or reduce the need for a ratepayer-funded incentives and the proposed CHP pilot program, but it would require Legislative action.
    - *Competitively select a provider* (UDC, ESP, or other 3<sup>rd</sup> party) to recruit participants and install system. The UDC would be responsible for administering the program. Incentives and administrative cost would be collected from ratepayers by the UDC.
    - *Direct UDCs to implement the program* – A firm commitment from the UDC would be required for this approach to be viable.

### **Implementation Plan**

Separate implementation plans consisting of the following steps would be developed for each state:

1. *Establish a pilot program steering committee to develop all of the program details, oversee implementation, and evaluate results* – Considerable work will be required to finalize the program structure and implementation plan. The first step in implementing a pilot program would be to form a steering committee that will define these details and present them to the utility commission for approval.
2. *Direct participating utility distribution companies to identify locations where installing CHP would alleviate the need for T&D system expansion or upgrades* – UDC participation is needed to identify the locations where these systems would provide maximum benefit and hence where recruitment efforts should be targeted.
3. *Obtain commitment to implement the program from UDCs or select a 3<sup>rd</sup> party provider to implement program* – Conduct a competitive solicitation to select the organization(s) to implement the program or assign responsibility to the UDC.
4. *Determine MW goal and identify target applications/priorities* – The steering committee would work with the utility commission to determine MW goal and select targets/priorities.
5. *Develop incentive structure & levels* – Establish levels based on the demand reduction LMP impact study being supported by MADRI and, if appropriate, other projections of prices during critical peak periods.
6. *Recruit participants and install systems* – CHP, energy services, and curtailment services industries will work with UDCs to implement the program.
7. *Monitor systems and issue periodic reports on public benefits provided by projects* – Reports will be issued every 12 months and an in-depth program review would be conducted at 5 years.