

# RESPONSE TO NEW YORK ENERGY HIGHWAY RFI

*Submitted By*

## CLEAREDGE POWER, INC.

### **RESPONDENT INFORMATION**

Founded in 2003 and headquartered in Hillsboro, OR, ClearEdge Power designs and manufactures fuel cell systems which generate continuous heat and electricity cheaply, cleanly and reliably. These systems are available commercially for about \$9,000 - \$10,000 per kW before applying available incentives and generate less carbon dioxide (CO<sub>2</sub>) than conventional combustion-based power sources, with no traceable emissions of SO<sub>x</sub>, NO<sub>x</sub>, or particulates.

For commercial and residential customers with less than 100 kW load requirements, ClearEdge today provides combined heat and power without local subsidies at an all-in rate of less than \$0.16 per kWh. Similar to other emerging technologies, we expect to reduce our cost of goods significantly as we scale our manufacturing capabilities to meet regional and international demand. With scale manufacturing, ClearEdge projects its costs will decline to less than \$6,000 per kW. In the past two years, ClearEdge has installed a fleet of fuel cell systems in California and established agreements to begin developing markets in Austria.

### **PROJECT DESCRIPTION**

ClearEdge Power applauds the Energy Highway Task Force for undertaking this important effort to enhance and upgrade New York's electric power infrastructure. ClearEdge is not proposing a specific project, but rather proposing a possible public-private partnership to deploy ultra-clean fuel cells systems to meet New York State's goals of reducing energy costs, expanding clean energy and enhancing energy independence.<sup>1</sup>

If, through its efforts, the State of New York can provide a predictable level of future demand for distributed power generation technologies such as ClearEdge's clean, low-cost and highly reliable fuel cell systems, ClearEdge would be prepared to consider locating manufacturing facilities in the State, thus creating significant numbers of in-state jobs and establish a new source of tax revenue.

New York could facilitate this investment in multiple ways, including: environmental and energy mandates; procurement contracts; deployment of economic development funding or amending extant legislation in any number of ways to ensure a minimum level of demand exists for small-scale fuel-cell systems in the State.

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<sup>1</sup> At the RFI conference on April 19, 2012, members of the Energy Highway Task Force stated that comments and suggestions on the electric system and generation were encouraged to respond to the RFI.

## PROJECT JUSTIFICATION

ClearEdge's systems are well suited for New York's energy needs as our systems offer both economic and environmental advantages. ClearEdge systems improve reliability, reduce peak power demand and enhance the efficiency of the power grid. Moreover, ClearEdge systems do not have many of the disadvantages of many combustion-based distributed power technologies. ClearEdge systems do not increase local air pollution.

The proposed CEP public-private partnership would advance the core objectives of the New York Energy Highway initiative in at least the following ways.

i. Maintain long-term reliability of electric system

As a classic load pocket, New York City requires a significant amount of in-City capacity to reliably serve the City's peak load. However, New York City's baseload power plant fleet is aging. The average age of the baseload power generating plants is more than 40 years old. New York City needs new power generating capacity to replace existing, obsolete plants and meet local load growth.

Transmission lines linking New York to its neighboring regions (PJM, Ontario, Quebec, New England) has historically allowed the State to import between 6 and 11 percent of its power. However, both existing and new transmission lines have limited capacity and establishing routes for new transmission lines has proven to be difficult and cost prohibitive.

Distributed power is a compelling option for reducing the cost of electricity and enhancing the reliability of the power grid in New York City.<sup>2</sup> ClearEdge fuel cell systems are installed close to energy load, which results in reduced line losses and enhances the overall efficiency of the electricity distribution system. This is particularly valuable in places like New York City that suffer from a shortage of local generating capacity. ClearEdge systems are interconnected to the distribution grid through an advanced inverter technology that responds to grid conditions in real-time and allows utility workers to restore power safely in the event of a grid outage.

ii. Create jobs and opportunities for New Yorkers

At 14.51 cents/kWh, the aggregate price of electricity in New York State is already among the highest in the nation and it is likely to rise in the future. Businesses seeking to expand operations in New York City have reportedly expressed concerns about the prohibitively high costs for additional electric service.

*If New York can provide a predictable level of future demand for ClearEdge's clean, low-cost and highly reliable fuel cell systems, ClearEdge is prepared to build a facility capable of making those systems in the state. New York could facilitate this investment in multiple ways, including: environmental and energy mandates; procurement contracts, deployment of economic development funding or amending extant legislation in any number of ways to ensure a minimum level of demand exists for small-scale fuel-cell systems in the state.*

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<sup>2</sup> New York City Economic Development Corporation, "A Master Electrical. Transmission Plan for New York City," 2009.

The relentless rise of electric power prices in New York City will ultimately jeopardize future job growth and reduce tax revenues.

iii. **Contribute to an environmentally sustainable future for New York State**

Ranked 8<sup>th</sup> among States in gross CO<sub>2</sub> emissions, the majority of which comes from petroleum-based sources, in many parts of New York City, NO<sub>x</sub> levels are very high, which makes it difficult to install combustion-based forms of distributed generation like reciprocating engines. By contrast, ClearEdge Power's fuel cells produce untraceable amounts of NO<sub>x</sub> emissions and can be installed without adversely affecting local air quality. By producing the same amount of energy with less fuel input, CHP systems also deliver important environmental benefits at a relatively low cost compared with other clean energy technologies.

**FINANCIAL**

While we appreciate the need for transparency in the RFI process, ClearEdge is not providing financial information since it is not proposing a specific project. Furthermore, the non-confidential nature of this submission prevents ClearEdge from providing financial information that could be used inappropriately by competitors or other parties.

**PERMIT/APPROVAL PROCESS**

The small and ultra-clean aspects of the projects contemplated in ClearEdge's proposal would likely result in considerably less onerous permitting and approval requirements at the local, state and federal levels compared to other projects.

**CONCLUSION**

ClearEdge Power enthusiastically supports the Task Force's efforts to strengthen New York's electric power infrastructure and is eager to contribute to this effort as ClearEdge expands its presence in New York State and New England.