

## BACKGROUND/EXPERIENCE SUMMARY

NWEAC, a consortium of towns, villages and cities dedicated to reducing GHG while enhancing regional clean economy, retains a breadth and depth of expertise and engagement on efficiency and on electricity markets, dynamic and static. More information is available at [www.nweac.org](http://www.nweac.org).

## PROJECT DESCRIPTION

While NWEAC has projects underway and in process (i.e. “Energize Northern Westchester” [www.energizeny.org](http://www.energizeny.org), storage/solar balancing pilot, Commercial Property Assessed Clean Energy offering), we intend with this submission to:

- A. Outline a market approach to solving some of the basic challenges outlined in the RFI as well as some emerging challenges we believe were less well delineated.
- B. Briefly sketch, as an example, an emerging northern Westchester initiative that could be scaled, were the market approach to be implemented.

## TYPE OF PROJECT/PROBLEM DEFINITION

We observe that transmission system opportunities are clearly excellent, and we welcome the import of power from outside our region, particularly if the power is cleanly generated, cradle to grave.

We are concerned that many of our reliability issues that hamper economic growth emerge not from the transmission system, but from the more local distribution systems.

Most important is the opportunity we see we’ve the potential to create islands of economic activity, with very high and consistent power quality, providing quite sophisticated services, (i.e. black start, frequency regulation, synchronous and asynchronous reserves), as well as more pedestrian services (capacity, energy). We’ve also the potential to finance this primarily through private sector funds. This opportunity will benefit:

1. All technologies, including distributed generation, storage and management approaches including
  - Solar,
  - Geothermal,
  - Hydro generation and
  - Battery,
  - Water,
  - Flywheel storage and
  - Pinpoint/general management of consumption
2. All demographics including
  - Small and medium incumbent commercial facilities and businesses
  - Residential single and multifamily property owners and renters, of all economic stripes

as it encourages market entry for service, software and manufacturing companies.

#### MARKET POTENTIAL SIZE

We have not conducted a market potential study. We have sized and surveyed two potential sites, from which a market potential study could be built.

With limited public funding, we would report on this potential by reporting on all resources offered, aggregated by the above categories, disaggregated by the distribution loop.

#### LOCATIONS

Our initial proposed locations are each in Con Edison territory, respectively located on the Mt. Kisco/Bedford border, and in Peekskill, NY. They, respectively, peak at approximately 13 and 10 MW's, with approximately 2,000 end use customers served out of each locale.

#### FUEL SOURCES

As outlined above, we favor resources that reduce GHG emissions, when we calculate cradle to grave impacts.

#### OPERATIONAL LEAD TIME

We consider our pilot projects to be near shovel –ready.

Critical to that analysis is that our utility has agreed, in principle, that we can “meter” our chosen distribution loops with real-time equipment, yielding data that is ours to access real-time, and retain over the long-term (for settlement and other purposes).

We characterize as “near shovel-ready” because we recognize that we still face hurdles to installing meters on Con Edison’s distribution lines. In particular, we must satisfy Con Edison with an engineered study that metering the lines will cause neither safety nor reliability impacts that are anything but positive.

We believe a funded study could be completed in three months and distribution loop metering could be installed in another four months, paving the way for a distribution loop market that would expand through private investment over the next several years.

#### TECHNOLOGY AVAILABILITY

Technology envisaged in this project is all commercially available, though NWEAC is convinced that scaling this initiative would encourage cost-effective migration to smaller storage, generation, control and monitoring technologies that can be more effectively distributed.

GOALS AND OBJECTIVES of our proposal dovetail with those of the Energy Highway Initiative. We aim to:

1. Build commerce in our local and regional “green economies”
2. Expand the diversity of the power supply downstate with renewables, storage and demand response, to mitigate the current natural gas-heavy mix, ensuring we “right-size” any transmission system upgrade
3. Create local jobs through
  - a. Energy market cash flows
  - b. Introducing service and financial models for the industry and through
  - c. Importing demonstration products followed perhaps, in its wake, with demonstration and scaled manufacturing facilities for those products and beyond (and for other products)
  - d. Enhancing market penetration to smaller and more diverse users and to associated technologies
  - e. Establishing “premium power” service level agreements, potentially followed by premium rate classifications
4. Enhance the reliability of our local power delivery system, offering cascading benefits for the neighboring distribution and transmission system(s) and
5. Ensuring that our larger investments are “right-sized”.

Part and parcel of our proposal is to offer as “public good” orienting and contractual materials for all stakeholders to navigate the “market rules and procedures” process. These materials will include not only contracts for goods, software and services, they will also include financing contracts, as well as tools to compare offers and extract all tax and market benefits.

#### SOCIO-ECONOMIC IMPACT

NWEAC is convinced that scaling a distribution loop upgrade strategy would not only localize and democratize market benefits, it would offer its greatest potential benefit in the poorest communities, and private financing would be as available in these communities as in others.

It is our intent to build the necessary financial and legal structures, then offer these template contracts as a “public good”.

#### PERMITS

Beyond the specific issues related to metering the distribution loop outlined above, we intend to build more traditional contractual infrastructure (i.e. interconnection study agreements, permitting study agreements) and offer these contract templates out as a public good.

#### ADDITIONAL ISSUES/OPPORTUNITIES

Many of the spot lit RFI issues are opportunities to create template approaches and contracts that are themselves a public good. How do neighbors share property rights? What information is accessible re which interconnection points are most valuable to or constrained for the utility? What are the advantages/disadvantages of feeding directly into the transmission system? What might the impact of a regulatory change be (e.g. democratization of net metering)?

## FINANCIAL

We are proposing a

- \$50,000 engineering feasibility study, \$25,000 of which will be dedicated to studying the two potential pilot sites (line drawings are available), and \$25,000 of which will be dedicated to outlining the more general challenges and scoping needs that other potential sites will face.
- \$100,000 dedicated and expandable fund for smart meter infrastructure, available for systems or combinations of systems that measure consumption of electricity in two second increments, available in real peak time (two seconds) at a cost of less than\$5,000/MW

followed by a public benefits fund (less than \$2,000,000) that would create public good contract and process templates that would be available to the public, as they are produced.

## PUBLIC FUNDING AND BEYOND

NWEAC would like to reserve judgment on the degree of public funding that can and should be cost-effectively deployed beyond that which is outlined above. Further, while NWEAC is confident that high risk, high reward as well as low risk private financing will be deployed in the wake of completion of the projects delineated above, we have yet to calculate the volume of projects that would easily support different leverage ratios of private to public funding, i.e. How much at 5 to1 private to public leverage, how much at 4 to1, etc. One analytic document could help determine what the optimal level of public funding could be as well as what level of private funding we may attract, even without public support. NWEAC would welcome the opportunity to contribute to that document which could be funded through a portion of the above fund. That analytic document would "size the market" for beneficial distribution loop interventions by preparing a "tornado chart" of opportunities with total annual kW grid benefits on the X axis and annual per kW NPV net of project costs on the Y axis, by project type, i.e. control systems installed on small and medium commercial facilities, storage systems integrated into the residential communities.

Feel free to contact NWEAC for questions/clarifications through Mike Gordon, Program Director, or through Herb Oringel NWEAC Chair, via email at [mgordon@jouleassets.com](mailto:mgordon@jouleassets.com) and [herbert@oringel@gmail.com](mailto:herbert@oringel@gmail.com) or via phone at Mike (914) 282-7000 and Herb at (914) 277-5370.