



Funding Opportunities for On-Site Renewable Distributed Generation Projects in Connecticut

Paul R. Michaud

860-240-6131 | pmichaud@murthalaw.com

November 18, 2010

Murtha Cullina LLP | Attorneys at Law | www.murthalaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

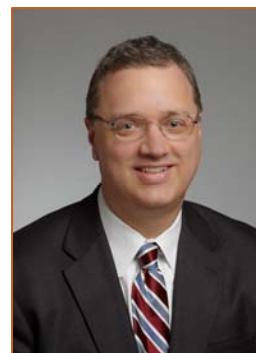
STAMFORD

WOBURN

Renewable Energy Practice Team



- Paul McCary - Energy
- Paul Michaud – Renewable Energy
- Mark Sussman – Environmental
- Richard Kanoff - Energy
- Andrew Lord - Environmental
- Debbie Albrecht – Energy
- Marcel Bernier – Corporate
- Thomas Daniells – Real Estate
- Michael McDonough – Commercial Finance & Lending
- David Menard – Private Equity & Venture Capital
- Robert Munnelly - Energy



Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN



Mission: To promote the sustainable deployment of renewable energy and energy efficiency in the region, and provide a unified voice for advocating for the removal of regulatory barriers and the establishment of legislative-based opportunities for renewable energy, demand response, and energy efficiency.

Vision: To be the region's premier resource for renewable energy, demand response, and energy efficiency advocacy, collaboration, networking, and information sharing.

Membership: Members include renewable energy, demand response, and energy efficiency businesses, municipalities, educational institutions, consultants and end-users.

Important Preliminary Concepts

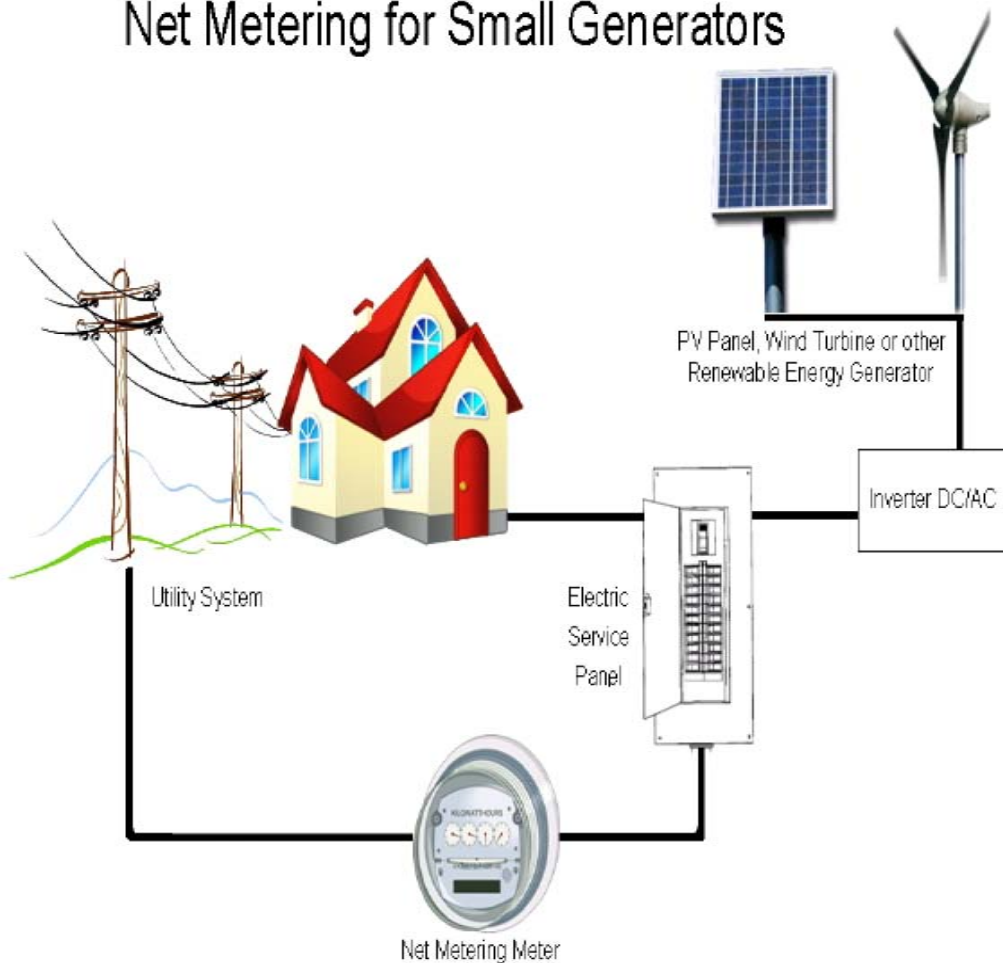


- On-Site Renewable Distributed Generation and Net Metering
- Renewable Energy Certificates (“RECs”)
- Federal Incentives

On-Site Renewable Distributed Generation



Net Metering for Small Generators



- Generation system located at the customer's site (self-generation)
- Systems generally sized to meet the Customer's load (generation consumed on-site)
- Generation system is located behind-the-meter
- Net Metering rules apply up to 2 MW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

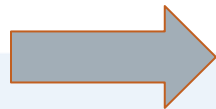
STAMFORD

WOBURN

Renewable Energy Certificates (“RECs”)



Energy



RECs



REC



All of the renewable attributes associated with one megawatt hour of energy produced by an eligible renewable energy generating facility in a specified vintage year or quarter.

- Two Options:

- Sell RECs in the REC market; or
- Retire the RECs and apply them towards lowering your carbon footprint.

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Renewable Energy Certificates (REC) - continued



State RPS
Requirements



Electric Utilities
And Suppliers



REC Market



Renewable
Energy
Projects

•Future CT Solar Carve-Out (SREC Market)?

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

Federal Tax Incentives



- **Investment Tax Credit (ITC):**

- A credit equal to 30% of the tax basis for certain renewable generating technologies may be claimed against federal tax liability for the year the property is placed in service.

- **Grant in Lieu of ITC:**

- Project that qualifies for ITC can elect to receive grant from Treasury
- Project Generally must be placed in service in 2009 or 2010
 - Unless construction begins in 2009 or 2010
 - 5% safe harbor for when construction begins
 - May be satisfied by contracted off-site work





CONNECTICUT
CLEAN ENERGY FUND

MURTHA
CULLINA

REQUESTS FOR PROPOSALS

- Best of Class

- Round 1 - \$4.43 MM
- Round 2 - \$5.73 MM

- Public Buildings

- Round 1 - \$1.35 MM
- Round 2 - \$1.35 MM

- American Recovery and Reinvestment Act (ARRA)

- Only 1 Round - \$3.00 MM



Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Types of RFPs



Best of Class

- Competitive RFP
- Two Rounds of Solicitations
- First Round Total \$4.43 MM
- Solar PV \$2.4 MM
- Fuel Cell \$1.8 MM
- Other \$0.23 MM

Public Buildings

- Competitive RFP
- Two Rounds of Solicitations
- First Round Total \$1.35 MM
- Solar PV \$1.2 MM
- Other \$0.15 MM

ARRA

- Non-Competitive RFP (rolling basis)
- Only One Solicitation Round
- First Round Total \$3.0 MM
- Solar PV \$3.0 MM
- Applications accepted until funding is exhausted

Eligible Technologies



Best of Class

- Solar Photovoltaic (PV)
- Wind
- Fuel Cell
- Landfill Gas
- Waste Heat Recovery – Power Generation
- Low-Emission Advanced Biomass Conversion Technologies
- Hydro Power

Public Buildings

- Solar Photovoltaic (PV)
- Wind
- Landfill Gas
- Waste Heat Recovery – Power Generation
- Low-Emission Advanced Biomass Conversion Technologies
- Hydro Power

ARRA

- Solar Photovoltaic (PV) only

Eligible Applicants



Best of Class

- For-profit companies
- Not-for-profit companies
- Municipalities
- State and Federal Government Agencies

Public Buildings

- Municipalities
- State and Federal Agencies
- School Districts

ARRA

- For-profit companies
- Not-for-profit companies
- Municipalities
- State and Federal Government Agencies

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Requirements



Best of Class

- Project not yet constructed
- CL&P or UI Service Area
- Solar PV projects 10 kW to 200 kW
- Power Purchase Agreement (PPA) term 10 to 20 years
- Project must generate electricity for use on-site
- Net Metering Allowed

Public Buildings

- Project not yet constructed
- CL&P or UI Service Area
- Solar PV projects 10 kW to 200 kW
- Power Purchase Agreement (PPA) term 10 to 20 years
- Project must generate electricity for use on-site
- Net Metering Allowed

ARRA

- Project not yet constructed
- All Utility Service Areas including CL&P, UI, and CMEEC
- Solar PV projects 50 kW to 200 kW
- Power Purchase Agreement (PPA) term 10 to 20 years
- Project must generate electricity for use on-site
- Net Metering Allowed

Funding for Solar PV Projects



Best of Class

For-Profit Owners
& PPA Providers:

- ≤ 100 kW
 - \$2,000/kW
- > 100 kW but ≤ 200 kW
 - \$1,250/kW
- > 200 kW
 - \$0.00/kW

Public Buildings

For-Profit Owners
& PPA Providers:

- ≤ 100 kW
 - \$2,000/kW
- > 100 kW but ≤ 200 kW
 - \$1,250/kW
- > 200 kW
 - \$0.00/kW

Funding for Solar PV Projects

continued



Best of Class

Not-for-Profit Owners:

- ≤ 100 kW
 - \$4,000/kW
- > 100 kW but ≤ 200 kW
 - \$3,500/kW
- > 200 kW
 - \$0.00/kW

Public Buildings

Not-for-Profit Owners:

- ≤ 100 kW
 - \$4,000/kW
- > 100 kW but ≤ 200 kW
 - \$3,500/kW
- > 200 kW
 - \$0.00/kW

Funding for Solar PV Projects

continued



ARRA

For-Profit Owners
& PPA Providers:

- ≤ 100 kW
 - \$3,000/kW
- > 100 kW but ≤ 200 kW
 - \$2,000/kW
- > 200 kW
 - \$0.00/kW

ARRA

Not-for-Profit Owners:

- ≤ 100 kW
 - \$4,500/kW
- > 100 kW but ≤ 200 kW
 - \$4,000/kW
- > 200 kW
 - \$0.00/kW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Funding for Non-Solar PV Projects



Best of Class

- Fuel Cells
\$2,500/kW
- Small Wind
40%
- Small Biomass
40%
- Landfill Gas
40%
- Hydro
40%

Public Buildings

- Fuel Cells
\$2,500/kW
- Small Wind
40%
- Small Biomass
40%
- Landfill Gas
40%
- Hydro
40%

ARRA

- Not applicable
(Solar RFP only)

Funding Limitations



Best of Class

- Generally, no single customer site owner may receive more than \$4 million during any two year period (2 RFP Rounds)
- **Solar PV:** Maximum aggregate grant for a customer site for multiple solar projects is limited to \$1 million in any 2-year period

Public Buildings

- Generally, no single customer site owner may receive more than \$4 million during any two year period (2 RFP Rounds)
- **Solar PV:** Maximum aggregate grant for a customer site for multiple solar projects is limited to \$1 million in any 2-year period

ARRA

- No single customer site owner may receive more than \$1 million in program funding under the program opportunity (1 RFP)
- No multi-family homes, condominium associations, apartment complexes, or any commercial enterprise based on housing.

Project Size Limitations

(All RFPs)



- Interval Data: The maximum system size will be the difference between the most recent 12 months' peak demand and the base load.
- No Interval Data: The maximum system size will be no larger than the maximum of the previous 12 months' peak demand.
- In other words, renewable energy generating projects should be sized to meet the Customer-Site's electric load.

Minimum Eligibility Requirements

(All RFPs)



- Commercial technologies only
- Applicant must be owner of the customer site or a third-party PPA Provider.
- Projects must be located in Connecticut
- Project must intend to generate energy primarily for consumption at the Customer Site

Murtha Cullina LLP | Attorneys at Law | www.murthalaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Minimum Application Documentation

(All RFPs)



- Utility Bills
- Financial Information
- Site Plan
- Site Energy Efficiency Measures
- Project Agreements
- Resource Information

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Selection (weighting)



Best of Class

- Project Economics
 - 40%
- Deployment of Technology
 - 20%
- Project Completion/Feasibility
 - 20%
- Public/Ratepayer Benefits
 - 20%

Public Buildings

- Project Economics
 - 40%
- Deployment of Technology
 - 20%
- Project Completion/Feasibility
 - 20%
- Public/Ratepayer Benefits
 - 20%

ARRA

- Completed Application
- Reservation numbers will be assigned to Applicants
- Applications will be reviewed and funded in order of reservation number until all program funds are exhausted

RFP Schedules



Best of Class

- 11/01/10 - RFP issued
- 11/01/10 –
12/17/10 – Questions
accepted
- 12/06/10 – Information
Session
- 02/28/11 – Proposals Due
- 03/07/11 –
Rejection/acceptance
- 04/22/11 – Funding letters
issued

Public Buildings

- 11/01/10 - RFP issued
- 11/01/10 –
12/17/10 – Questions
accepted
- 12/06/10 – Information
Session
- 02/28/11 – Proposals Due
- 03/07/11 –
Rejection/acceptance
- 04/22/11 – Funding letters
issued

ARRA

- Open until funds are
exhausted
- Applications accepted
on a rolling basis

Examples – CCEF Funded Projects



Middletown High School
Fuel Cell
200 kW



Essex Meadows Retirement Community
Solar PV
108 kW

Murtha Cullina LLP | Attorneys at Law | www.murthallaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Examples *continued*



Bell Power Systems
Solar PV
105 kW



Saybrook Point Inn & Spa
Solar Photovoltaic
44 kW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Examples *continued*



General Electric Company
Solar Photovoltaic
168 kW



Fairfield WPCA
Fuel Cell
200 kW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Examples *continued*



New Britain High School
Solar Photovoltaic
275 kW



Pilgrim Furniture
Solar Photovoltaic
342 kW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Examples *continued*



Yale Peabody Museum
Fuel Cell
250 kW



The Lee Company
Solar Photovoltaic
308 kW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Examples *continued*



Saint Francis Hospital
Fuel Cell
200 kW



Middlebury Animal Hospital
Solar Photovoltaic
12 kW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Project Examples *continued*



Meriden YMCA Mountain Mist Day Camp
Small Wind
6 kW



Newtown Youth Academy
Solar Photovoltaic
268 kW

Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

Financing Model – Solar Power Purchase Agreements



Purchase Renewable Energy

- 10 to 20 year terms
- Early purchase options at yr 7, 15 & 20
- Fixed annual & step-up escalators
- End-of-term: renew, purchase, have system removed

PPA Provider

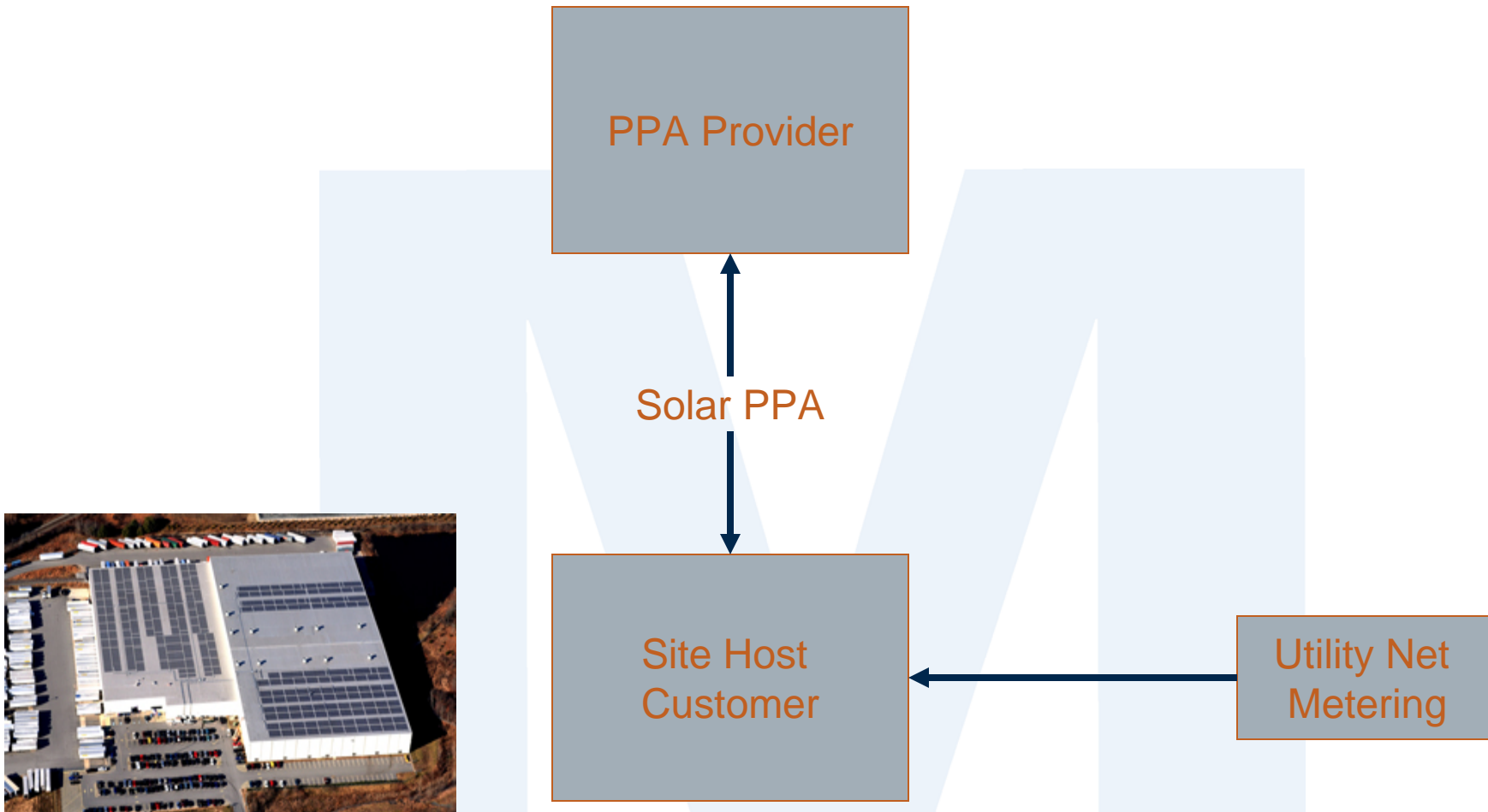
Provide Renewable Energy from PV

- Design, engineer, construct
- Financing & REC's
- Rebates & incentives
- Energy metering, billing & maintenance



CUSTOMER (Site Host)

Solar Finance Model From The Customer's View



Murtha Cullina LLP | Attorneys at Law | www.murthlaw.com

BOSTON

HARTFORD

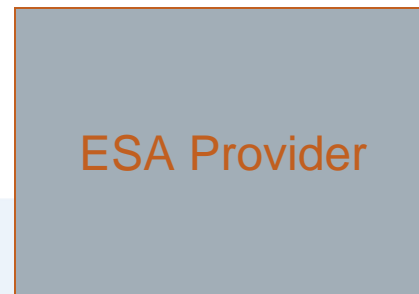
MADISON

NEW HAVEN

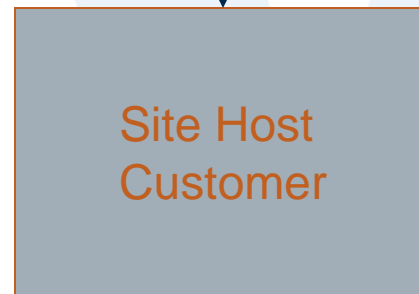
STAMFORD

WOBURN

Fuel Cell Finance Model From The Customer's View



Fuel Cell ESA



- Energy Services Agreement
 - ESA Provider Installs, Operates & Maintains the Fuel Cell System.
 - Customer is responsible for fuel supply.





Questions?

Murtha Cullina LLP | Attorneys at Law | www.murthalaw.com

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN