

TURI “Green Jobs”

Clean Energy: Opportunities for Boots and Suits

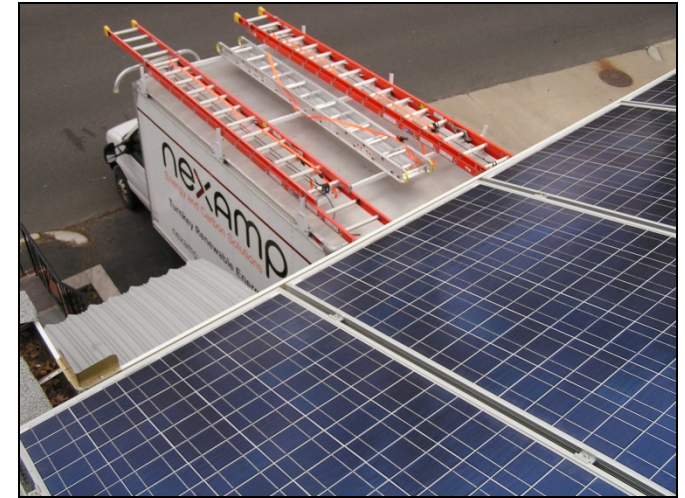
May 2009

nexamp
Energy and Carbon Solutions



Agenda

- **Who** is Nexamp? (The clean energy integrators business model)
- **What** is the opportunity?
- **Why** is investment in clean energy projects growing?
- **Where** are the jobs?



Who is Nexamp? Turnkey Clean Energy Solutions

PLAN

Clean Energy & Carbon Advisory Services

Project Development & Management Services

BUILD

REC/Carbon Trading

Energy Supply

Demand Response

Continual Diagnostics

Energy Optimization

Building Controls

Energy Conservation Measures

Retro-commissioning

Lighting

CHP

Geothermal

Solar Thermal

Wind

Solar PV

Energy Management Solutions

Energy Efficiency Solutions

Renewable Energy Solutions

MANAGE

Project Life Cycle Management Services

CASE STUDY

CLEAN ENERGY

ROAD MAP

CUSTOMER'S OBJECTIVES

1. Reduce Energy and Carbon Footprint
2. One Stop Clean Energy Master Plan inclusive of RE, EE, and EM
3. Understand technical, financial, and operational elements.



ROAD MAP SPECIFICATIONS AND RESULTS

Scope of Work	Conducted a complete supply/demand chain energy and carbon footprint audit. Analyzed and prioritized the feasibility of all renewable energy, energy efficiency, and energy management options. Facilitated Leadership Visioning exercises to help focus senior leaders' objectives into a manageable Road Map.
Solutions – Completed and In Progress	73 kW Solar PV to power two buildings 3 kW Solar Thermal to heat hot water for the cafeteria LED Lighting Retrofit program Nexamp energy and carbon management system Feasibility analysis for Hydro and CHP LEED and Energy Star Ratings
Results	Company will reduce its energy usage 46% and carbon footprint 50% over the next 4 years. The weighted payback of all measures is less than 5 years. The CEO and senior managers will have control and visibility into energy and carbon footprint



CASE STUDY

COMMERCIAL

DESIGN/BUILD

CUSTOMER'S OBJECTIVES

1. **Energy Savings**
2. **Return on Investment**
3. **Environmental Sustainability**
4. **Community Leadership**



SOLAR PROJECT SPECIFICATIONS

Size and Cost	109 kW _{DC}
Estimated Annual Energy	120,000 kWh (75% of electricity usage)
Annual CO ₂ Reduction	188,255 pounds (based on U.S. EPA national average)
Payback and Rate of Return	4.2 year payback and 14% after-tax rate of return
Incentives	Commonwealth Solar rebate Federal and State Tax incentives
Components	Evergreen Solar panels Sollectria Renewables Inverter Custom engineered mounting system
Other	Nexamp, Inc. www.Nexamp.com



What is the Opportunity? Built Environment Alone

- Buildings consume **70%** of the electricity load in the U.S.
- Buildings account for **38% of CO2 emissions** in the United States -- more than either the transportation or industrial sectors.
- Over the next 25 years, CO2 emissions from buildings are projected to **grow faster than any other sector**, with emissions from commercial buildings projected to grow the fastest -- 1.8% a year through 2030.
- Buildings have a **lifespan of 50-100 years** during which they continually consume energy and produce CO2 emissions.
 - If half of new commercial buildings were built to use 50% less energy, it would save over 6 million metric tons of CO2 annually for the life of the buildings -- the equivalent of taking more than 1 million cars off the road every year.
- The U.S. population and economy are projected to grow significantly over the coming decades, increasing the need for new buildings. To meet this demand, approximately **15 million new buildings** are projected to be constructed by 2015.

Source: U.S. Green Building Council

Why: Clean Energy is Very Universal



Note: Cutting back trees on East side and Southwest of array would increase production.

Array Detail:

Size: 103.15 KW DC (STC)
 Modules: Evergreen Solar ES A 195 (529)
 Racking: PanelClaw
 Inverter: (1) Solectria PVI 95KW

nexamp	Roof Mounted Photovoltaic Array			
Drawn By: Samina Ali	SIZE	FSCM NO	DWG NO	REV
03/12/09		NTS	001	1 OF 1

Why: Clean Energy is Profitable

	Total	\$/Watt
Turnkey Fixed Price	\$ (670,475)	\$ (6.50)
Rebate (State Pays Directly to Nexamp)	\$ 325,523	\$ 3.16
Price After Rebate (Out of Pocket Expense)	\$ (344,953)	\$ (3.34)
After-Tax Value of Other Yr. 1 Incentives: 30% Federal Tax Credit, Federal Bonus and Accelerated Depreciation, 100% Mass. State Tax Deduction, and Yr. 1 Energy Savings	\$ 239,818	\$ 2.32
Unrecovered Investment at End of Yr. 1	\$ (105,135)	\$ (1.02)
% of Total Investment Recovered at End of Yr. 1	84%	

Other Assumptions

Electricity Rate/kWh in Yr. 1	\$0.14
REC Revenue/kWh	\$0.035
Project Life (years)	25
Demand reduction, capacity value are potential upside, but not included in financial model	

Why: Clean Energy is Profitable

- Estimated Payback and after-Tax Rate of Return (accounting for increase in taxes due to reduced energy expenses):

Sensitivity Analysis: Electricity Annual Inflation Rate			
Electricity Annual Inflation Rate	After-Tax Rate of Return	Simple Payback (Years)	Total Cash Flow After Payback (After-Tax)
2.5%	12.5%	4.28	\$ 240,870
5.0%	14.1%	4.21	\$ 356,091
7.5%	15.8%	4.14	\$ 527,774
10.0%	17.5%	4.08	\$ 785,043

Why: They Really Do It



Nexamp Installation
170 kW Solar
Osgood Landing, North Andover





Nexamp Installation
15 kW Wind
Barre, MA





Nexamp Installation
106 kW Solar
Arlington Center Garage and Service Corporation
Arlington, MA

Nexamp Installation

67 kW Solar

Non penetrating, ballasted mounting system
East Mill, North Andover





Nexamp Installation
67 kW Solar
Non penetrating, ballasted mounting system
Heritage Place, Lawrence

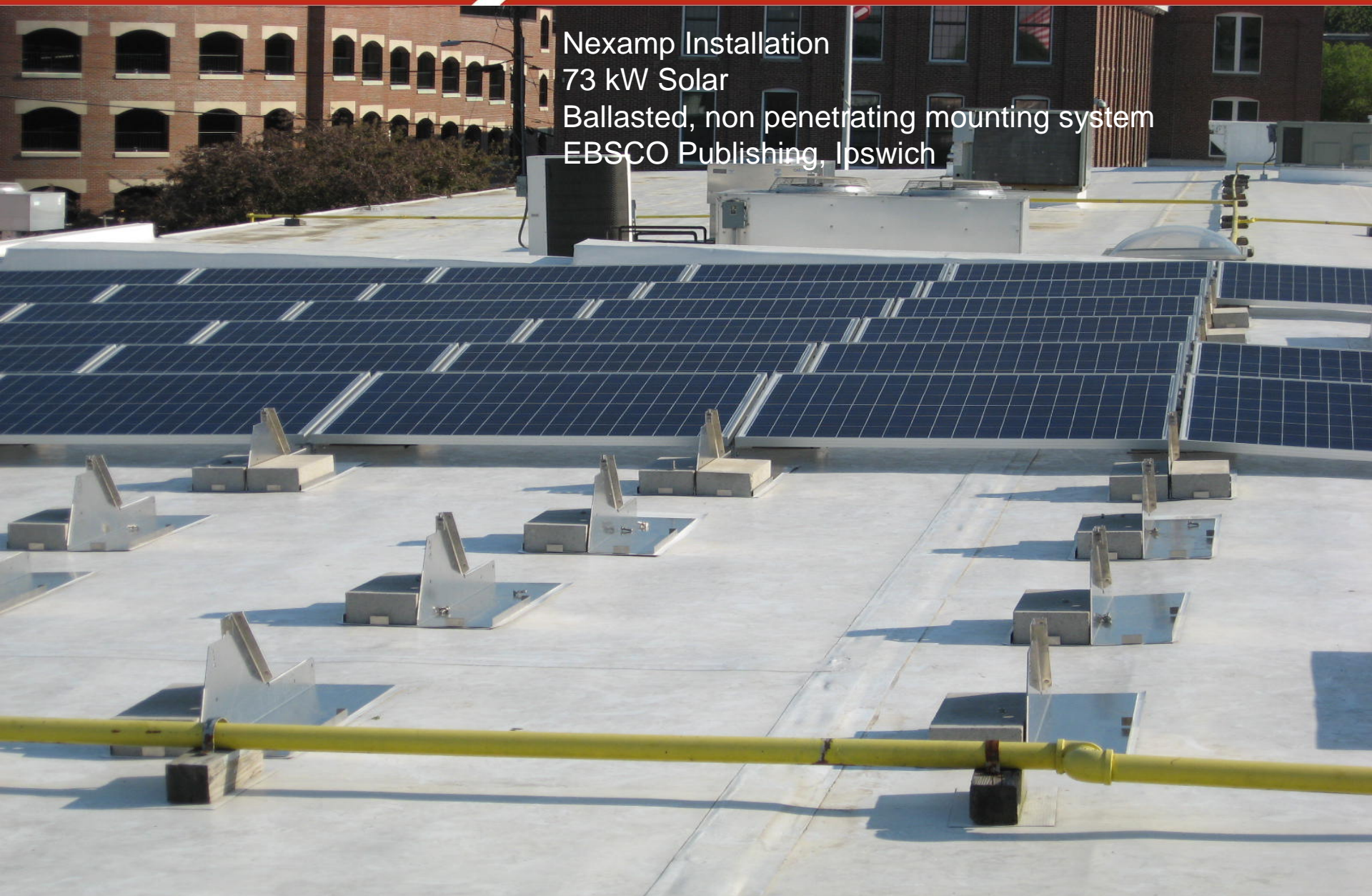
Nexamp Installation
15 kW Wind
Phillipston, MA



Nexamp Installation
67 kW Solar
Non penetrating, ballasted mounting system
Heritage Place, Lawrence



Nexamp Installation
73 kW Solar
Ballasted, non penetrating mounting system
EBSCO Publishing, Ipswich





Nexamp Installation
15 kW Wind Turbine
Kensington, NH



Nexamp Installation
12 kW Solar
Pitched roof mounted
Truro

Why: Clean Energy Makes People Happy



THE ARLINGTON CENTER GARAGE & SERVICE *Corporation*

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"We selected Nexamp for our solar project because we liked their approach. Nexamp was outstanding in managing and implementing our solar installation – on time and within budget - a fully turnkey effort from design and rebate application to permitting, installation and commissioning. We view the project as a major success and Nexamp made it happen."

Dean M. Boylan, Jr., President, Boston Sand & Gravel

"Working in the property management business for over 22 years, I would have to say that this project was by far the smoothest and most well run of the many that I have been involved in. Each member of their team was extremely knowledgeable, and dedicated to the project. Nexamp can be very proud of their employees and a job well done."

Gary Spence, Property Manager, Arlington Center Garage and Service Corporation

Where are the jobs?

- **Nexamp has 30 full time employees:**
 - Veteran owned
 - Engineers, designers, project managers, installers, electricians, sales, etc.
 - 7 trucks on the road
 - 1 employee in 2005
 - 5+ more hires in 2009
- **Recent Hires/ Hiring:**
 - Licensed Electricians
 - Licensed HVAC Tech.
 - Energy Engineers
 - Construction Project Managers
 - Technical Sales
 - Clean Energy System Designers
 - Controls and Monitoring Expert
- **Nexamp University!**



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