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Proposal for Evaluation of the Feasibility of Erecting Regional Wind Energy System within the East Bay of Rhode Island

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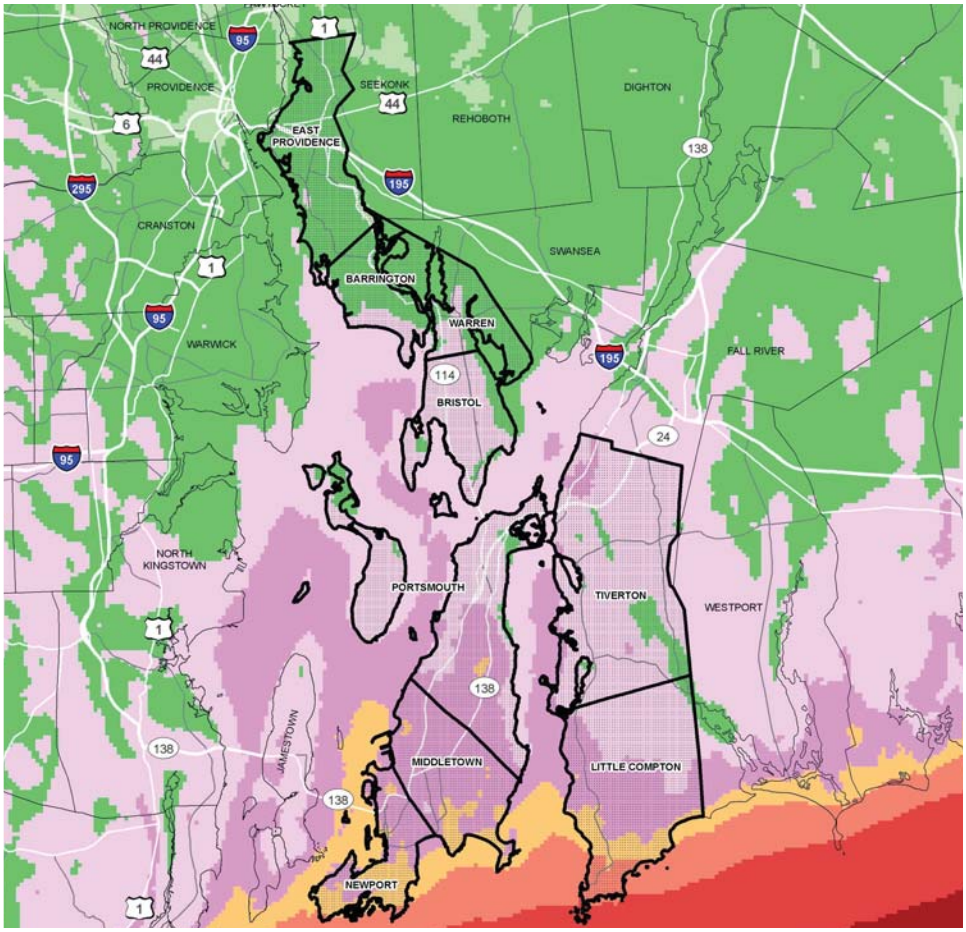
ESS Group, Inc. Proposal for East Bay Energy Consortium

Evaluation of the Feasibility of Erecting a Regional Wind Energy System Within the East Bay of RI



Prepared for:

East Bay Energy Consortium
Bristol Town Hall
10 Court Street
Bristol, RI 02809

Prepared by:

ESS Group, Inc.
401 Wampanoag Trail, Ste 400
East Providence, RI 02915

www.essgroup.com

ESS Proposal No. 13828

August 28, 2009

PROPOSAL FOR THE EVALUATION OF THE FEASIBILITY OF ERECTING A REGIONAL WIND ENERGY SYSTEM WITHIN THE EAST BAY OF RHODE ISLAND

Prepared For:

East Bay Energy Consortium
Bristol Town Hall
10 Court Street
Bristol, Rhode Island 02809

Prepared By:

ESS Group, Inc.
401 Wampanoag Trail, Suite 400
East Providence, Rhode Island 02915

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EXECUTIVE SUMMARY

Contents of Proposal

ESS Group, Inc. (ESS) is pleased to provide the East Bay Energy Consortium (EBEC) with this regional wind energy system feasibility evaluation proposal for East Bay, Rhode Island. This Proposal is organized to provide the EBEC with a clear picture of our organization, the qualifications of the outstanding professionals ESS has selected to support this effort, and our approach for working with the EBEC to provide a comprehensive feasibility assessment for the development and operation of utility-scale wind turbines, constituting a regional wind energy system, in several locations throughout the East Bay of Rhode Island.

Specifically, the Qualification Statement includes the following:

- Executive Summary
- Description of ESS Group and its Key Personnel
- Relevant Experience
- References
- Resumes of Key Staff (Attachment A)
- Project Descriptions (Attachment B)
- Scope of Work
- Project Schedule
- Cost Proposal
- Insurance
- Assurances

Overview of ESS Team

ESS has been performing feasibility and siting evaluations for wind energy generating projects since 2001 and we have assembled a highly experienced team of professionals to support this assignment. All have been selected because of their depth and breadth of experience, anticipated role on the assignment, and proven records of excellence. Our subcontractors will be fully integrated into our team, with technical leadership and team member roles and responsibilities corresponding directly to ESS counterparts. As further described in Section 1.0 (Firm Descriptions and Key Personnel) and Section 2.0 (Relevant Project Experience and References), the proposed team consists of ESS in association with Dennis Esposito, Esq. and La Capra Associates (La Capra). Mr. Esposito is a Roger Williams University (RWU) School of Law faculty member and a recognized expert in environmental law with regional specialization in Rhode Island and Massachusetts. La Capra is an established leader in providing consulting services supporting energy market analysis, economic forecasting, and regulatory and policy development strategies.

Summary of Response to Evaluation Criteria

Table A was developed to summarize our compliance with the evaluation criteria specified in Section VII of the RFP. In reviewing this Proposal, ESS believes you will find our strong experience and demonstrated expertise combined with our reasonable rates to be the “best value” for the EBEC.

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Table A: Evaluation Criteria Table

Evaluation Criteria	ESS Response
1. Professional background and caliber of previous experience of each person of the firm and (sub)consultants assigned to the project.	Our team has academic, economic, technical, and operational experience in a wide range of scientific, engineering, and public policy disciplines. More detailed information is provided in the resumes in Attachment A. The team and individual staff have demonstrable records of success with the development, review, permitting, and regulatory analysis needed to support this project. Dennis Esposito has over 30 years of experience in environmental law and regulation including work on renewable energy projects in Rhode Island. La Capra is a leading, reputable energy services consulting firm providing objective, strategic advice and expertise to utilities, regulators, consumers and market participants within the electricity, natural gas, and water industries.
2. Capacity and capability of the firm to perform the work, including any specialized architectural, engineering, or related services.	Our team has provided energy, environmental, technical, legal/regulatory, and economic policy consulting to public sector and private clients throughout New England and the Mid-Atlantic region. Each member of the team offers expertise in the specialty areas of environmental planning, science, economics and law applicable to EBEC's RFP. The team is made up of firms and individuals whose primary focus is providing services to the energy industry. We typically work on many assignments concurrently and staffing levels for the team are more than sufficient to successfully execute the scope of work desired by EBEC.
3. Past record of performance on similar projects working with municipal and state governments or private industry, including National Grid, with respect to cost controls, quality of work, ability to meet schedules, and effectively direct multiple, simultaneous assignments.	ESS's project team has a track record of providing consulting services for the development of wind energy projects. ESS has performed similar scopes of work for the Massachusetts Technology Collaborative, Town of Hull (Massachusetts) and several wind developers as described further below. The core ESS staff offered in this Proposal have considerable experience in performing the scope of work in the RFP which will ensure delivery in accordance with Project schedules and milestones.
4. Proposed scope of work – understanding of scope, responsiveness of approach, and familiarity with the East Bay.	Our team has the unique qualifications and demonstrated experience in development, analysis, and implementation of renewable energy projects, as well as with federal regulation, economic and market drivers, and technical assessments, to respond to every aspect of this RFP in a comprehensive, efficient, and innovative manner. ESS, which was founded in Providence in 1979 and maintains one of its two offices in East Providence, Rhode Island, has been providing environmental services to clients for 30 years including consulting in renewable energy development, planning, design, construction management, and operations. ESS is particularly familiar with the regulatory, policy, environmental, and economic conditions in and affecting the cities and towns within the EBEC, as evidenced by our record of success with previous projects in the East Bay area (e.g., Tiverton Power) and more broadly within Southeastern Massachusetts and Rhode Island.

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SECTION 1.0 FIRM DESCRIPTIONS AND KEY PERSONNEL

This section of the Proposal includes a summary of ESS's history and expertise as well as that of its associated subcontractors. The relevant experience of the ESS Team is presented in Section 2.1 of this Proposal.

1.1 Firm Descriptions

1.1.1 ESS Group, Inc.

ESS is a full-service environmental consulting and engineering firm that was founded in Providence, Rhode Island 30 years ago. ESS has deep expertise and long experience in environmental matters affecting planning, design, construction management, and operations, particularly within the energy market sector. Our team is comprised of approximately 60 scientists, engineers, and environmental specialists operating from two offices in East Providence, Rhode Island and Wellesley, Massachusetts. Our firm delivers services ranging from regulatory strategies and interpretation, strategic planning, comprehensive environmental impact assessment and mitigation to ecological investigations and civil/site planning to impact assessment, permitting, and remediation strategies.

ESS has pioneered regulatory policy development and implementation, as well as precedent-setting approaches to federal, state, and local project permitting for a variety of renewable energy projects and initiatives in Massachusetts, Maine, Vermont, Rhode Island, Connecticut, New York, and Delaware. These project assignments have included renewable energy technologies such as offshore wind, near-shore and land-based wind energy, biomass energy source technologies, tidal energy generation, as well as federal and state environmental assessment and regulatory analysis and recommendations. ESS is working on or has completed planning, permitting, and construction of over 750 MW of wind generation and is continuing its role, which began in 2001, as the lead environmental and engineering consultant for the Cape Wind Offshore Wind Energy Project. We are also providing environmental review and permitting support for the Town of Hull, Massachusetts, which is developing up to four offshore wind turbine generators to interconnect with the Town's distribution system. We were responsible for permitting the single wind turbine facilities that have been installed at the Massachusetts Maritime Academy and the Woods Hole Research Center as well as for preparing community wind feasibility studies for Massachusetts municipalities, including the City of Lynn, the Town of Paxton, and the Town of Fairhaven, through the Community Wind Program of the Massachusetts Technology Collaborative (MTC). ESS was also recently selected by the New York Power Authority to provide environmental consulting services for the development of offshore wind projects in Lake Erie and Lake Ontario which include site selection and feasibility analysis. Finally, ESS assisted the Massachusetts Office of Coastal Zone Management in the development of the screening analysis employed to identify feasible offshore sites for utility-scale wind energy facilities for integration into the Massachusetts Ocean Management Plan.

1.1.2 Dennis Esposito, Esq.

Dennis Esposito draws on 30-plus years experience in environmental law and regulations to help quickly determine pragmatic strategies that win regulatory favor for wide-ranging Rhode Island

and Massachusetts clients. He was the first legal counsel to Coastal Resources Management Council and the former Chairman of the Adler Pollock & Sheehan Environmental Practice Group, a large multi-state law firm.

1.1.3 La Capra Associates

La Capra is an energy services consulting firm providing objective, strategic advice and expertise to utilities, regulators, consumers and market participants within the electricity, natural gas, and water industries. They have operated as an independent consulting business since 1980. La Capra serves both a national and international client base from its offices located in Boston, Massachusetts and Portland, Maine.

La Capra provides consulting services regarding energy planning and risk management, market analysis, ratemaking, and regulatory policy in the electricity, natural gas, and water industries. Their services help clients to address broad-based industry issues as well as specific transactions in both retail and wholesale markets. La Capra specializes in objectively analyzing the changes that have resulted from the deregulation of the power and gas markets and the restructuring and privatization of utilities.

La Capra also deploys their experience and knowledge in litigation support, power contract reviews, and audits, asset valuations including project financial analysis, and renewable energy policy and analysis. Their experts draw from their interdisciplinary backgrounds in economics, finance, law, management, and engineering to provide a full range of professional services for the energy industry and associated sectors.

1.2 Key Personnel

The ESS Team is built upon a core of scientists, engineers, economists, regulatory and policy specialists, and technical writers with proven success records in similar assignments. Our team has the unique qualifications and strong experience in offshore wind energy developments and submarine cable projects.

The key staff identified in this proposal are considered essential to the disciplines required and are critical to the satisfactory completion of the project deliverables. The following section profiles key staff who would be assigned to the contract. Copies of full resumes are found in Attachment A.

1.2.1 Qualifications of Key ESS Staff

Steve Wood, Project Manager: Steve will have overall responsibility for the direction of Project staff and sub-contractors, management, budget control, and communications. He will serve as the senior quality reviewer for all research, analysis, and deliverables. Mr. Wood has more than 30 years of experience in the planning, siting, and permitting of base load and renewable energy projects, high voltage electric transmission facilities, and gas transmission facilities. Mr. Wood routinely provides feasibility assessments, permitting strategies, and licensing services for these major and complex projects. He has lead several ESS wind energy projects for commercial onshore and offshore facilities and community-scale installations, as well as third-

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party review of proposed wind facilities under state and federal environmental programs ranging from 100 kW to over 450 MW in size. As more fully described in the resume provided with this proposal, Mr. Wood has served as Project Manager for the siting and licensing of a number of wind and conventional generation projects throughout New England and New York.

Jeff Nield, Senior Scientist: Jeff will serve as lead scientist and facilitator. He has over 15 years of experience in natural resource management and environmental regulatory permitting. A resident of Barrington and a native Rhode Islander, Mr. Nield has worked for the Rhode Island Department of Environmental Management on a wide range of regional planning and environmental management initiatives including watershed management, smart growth, sustainable (liveable) communities, and greenspace protection. As a professional consultant, he oversees environmental and ecological assessments for a variety of projects and provides regulatory support for the licensing and permitting of a range of projects including land-based and offshore wind energy facilities, electric transmission lines, natural gas pipelines, and ecosystem restoration throughout the Northeast United States.

Payson Whitney, P.E.: Payson will be on point for any engineering questions that may arise. He has more than 14 years of professional engineering experience in a wide range of public and private sector projects, including project design and management activities in coastal permitting/shoreline assessment, and the planning and permitting of electrical transmission projects. He has extensive experience in the routing and permitting of submarine electric transmission cables and has managed the routing and permitting efforts of offshore energy projects.

Greg Rowe, Senior GIS Specialist: Greg will be the lead spatial analyst and conduct any visual simulations required. He has more than 11 years experience operating and developing geographic information systems (GIS). Mr. Rowe manages the development, oversight, and integration of GIS at ESS. Greg has been involved primarily in creating, designing and utilizing resources to support a wide variety of ESS projects principally in the energy and ecological services markets. He has been responsible for the GIS mapping and analyses associated with environmental impact assessments, siting and alternative evaluations for linear energy facilities, siting wind turbine arrays, wind resource evaluations and the visual impact assessments.

1.2.2 Qualifications of Dennis Esposito, Esq.

Mr. Esposito is considered one of the “go to” environmental lawyers in Rhode Island. His experience includes extensive involvement in marine renewable energy efforts in New England. As a faculty member of the RWU School of Law Marine Affairs Institute, he was involved with the year-long planning effort for an international symposium entitled “A Viable Marine Renewable Energy Industry: Solutions to Legal, Economic, and Policy Challenges (Oct 2008) and coordination of Rhode Island efforts for a first-in-the-nation Ocean Zoning Plan.

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1.2.3 Qualifications of Key La Capra Staff

Alvaro E. Pereira, Ph.D., Senior Consultant: Alvaro is an accomplished energy professional with over 15 years of experience in economic, technical, and policy analysis with expertise in rate design, power markets, and climate change policy. Dr. Pereira joined La Capra in 2008, following nearly a decade with the Massachusetts Division of Energy Resources (DOER) as the head of a group responsible for economic and technical analyses of policies, programs, and regulatory filings. His most recent work at DOER involved the development of regulations and market monitoring procedures for the Regional Greenhouse Gas Initiative carbon allowance auctions. Dr. Pereira is an experienced expert witness, having testified on numerous occasions before regulatory commissions, and he has provided expert-witness research to support winning arguments in cases involving environmental quality and demand resources. He has expertise in renewable policy and project evaluation, energy procurement, demand side management programs, and economic impact modeling and forecasting. Dr. Pereira has an M.S. in Transportation and a Ph.D. in Urban and Regional Economics and Studies, both from M.I.T.; and two bachelor degrees in Economics and Finance from UMass Amherst.

Shawn Carraher, Principal Consultant: Shawn recently joined La Capra, bringing over 20 years of experience in strategic planning, business development, and research capacity, and over 12 years in global energy. Her past work and responsibilities have included evaluating assets and corporate acquisitions, creating market studies and price forecasts, participating in policy development, and developing renewable energy business plans. Prior to joining the firm, Ms. Carraher held senior positions with Cambridge Energy Associates and Edison Mission Energy. Ms. Carraher has an M.B.A. in Finance from Wharton and an M.A. in International Relations focusing on energy and the environment from Johns Hopkins University.

Brian A. Tracey, Consultant: Brian brings almost 10 years of experience as an energy professional, focusing on integrated resource planning, wind energy project development, and power and natural gas markets analysis. His technical background includes market price forecasting, contract negotiations, and financial analysis, along with extensive knowledge of renewable energy policy, emissions credit trading, and renewable energy markets. Mr. Tracey runs La Capra's proprietary North American Electricity Market Model which is based on AURORA™ planning software, a state–of-the-art planning tool, which can simulate dispatch of the North American power system. Mr. Tracey held the position of energy technology officer at General Compression, Inc., a wind development and compressed air energy storage company, leading the site identification, design, and storage pre-development efforts for the dispatchable wind power system; and prior to that, he was the senior power markets analyst at the Massachusetts Department of Energy Resources for over four years. He has a Civil and Environmental Engineering degree from the University of Michigan and a Masters degree in Earth Resources Engineering from Columbia University.

Carrie Gilbert, Consultant: Carrie joined La Capra in 2007, bringing over nine years of experience in renewable energy, environmental business strategy, and engineering consulting. She is an expert in northeast renewable energy activities; and her recent work includes

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facilitating the renewable discussion during the Connecticut Procurement planning process, analyzing a southern state's renewable energy potential, developing future New England renewable supply mix scenarios, and estimating renewable energy credits process for New York and New England clients. Prior to joining the firm, Ms. Gilbert's strategy consulting experience included work for U.S. and European wind turbine manufacturers, including a U.S. market sizing analysis and market entry study and transportation logistical analysis for two different manufacturers. She holds a B.E. from the Thayer School of Engineering at Dartmouth College and an M.B.A. from the University of Michigan.

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SECTION 2.0 RELEVANT PROJECT EXPERIENCE AND REFERENCES

2.1 Relevant Project Experience

The ESS Team's relevant experience is demonstrated by the list of public and private clients to whom the ESS Team has provided similar services, as set forth in Table B.

In addition to the projects described in Table B, we have selected several profile project descriptions that are described in detail and clearly demonstrate our ability to successfully respond to scope of work requirements envisioned for this project, which are included in Attachment B.

The projects that we have chosen to highlight ESS's experience include the following:

- Cape Wind Associates, LLC, Cape Wind Renewable Energy Project, Nantucket Sound, Massachusetts
- Deerfield Wind, LLC 45 MW Wind Project, Searsburg and Readsboro, Vermont
- Massachusetts Maritime Academy 660kW Wind Turbine Generator Siting, Buzzard's Bay, Massachusetts
- Town of Hull, Offshore Wind Energy Project: Siting Constraint and Constructability Analysis, Hull, Massachusetts
- Massachusetts Technology Collaborative Wind Project Feasibility Study, Fairhaven, Massachusetts

The projects that we have chosen to highlight La Capra's experience include the following:

- Rhode Island Renewable Energy Markets, Rhode Island Office of Energy Resources
- Cape Wind Associates, LLC, Cape Wind Renewable Energy Project, Massachusetts
- Massachusetts Technology Collaborative Community Wind Program
- Town of Hull Offshore Wind Energy Facility, Hull, Massachusetts
- Delaware In-State Generation RFP, Delaware Public Service Commission

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Table B: Listing of Public and Private Clients for Whom the ESS Team has Provided Similar Services

Project Name	Client	State	Capacity (MW or kV) Length (miles)	Site / Route Evaluation and Mapping	Wetland Surveys	Threatened & Endangered Surveys/Avian Risk Assessment	Marine Resource Surveys	Air & Noise Studies	Cultural Resource Surveys	Soil & Groundwater Contamination	State Siting Board Application	Agency Negotiations and Stakeholder Meetings	Federal, State, and Local Environmental Permits	Preparation of NEPA/State EIS Documents	Environmental Engineering	Environmental Inspection	Visual Impact Assessment
Cape Wind Renewable Energy Project Nantucket Sound, Cape Cod, MA	Cape Wind Associates, LLC	MA	468 MW, 115 kV, 18 miles	√	√	√	√	√	√	√	√	√	√	√			√
Deerfield Wind Searsburg & Readsboro, VT	USFS	VT	35 MW									√		√			
Delaware Offshore Wind Project Delaware	Bluewater Wind	DE	350MW	√													
Dutch Hill Wind Steuben County, NY	CPP	NY	40 MW	√				√	√				√	√			
Fairhaven Wind Turbine Feasibility Town of Fairhaven, MA	MTC	MA	3 MW	√		√						√					√
Hull Offshore Wind Project Hull, MA	Town of Hull, Massachusetts	MA	15MW	√	√	√	√		√			√		√			
Lynn Wind Turbine Feasibility City of Lynn, MA	MTC	MA	1.65 MW	√		√						√					√
Marble River Wind Clinton & Ellenberg, NY	Marble River LLC	NY	200 MW	√				√	√				√	√			
Massachusetts Maritime Academy Wind Turbine Buzzards Bay, MA	Mass Maritime Academy	MA	660 KW	√	√	√		√				√	√			√	√
Niagara Wind Power Project Somerset, NY	AES New York Wind LLC	NY	75 MW											√			
Paxton Wind Turbine Feasibility Town of Paxton, MA	MTC	MA	3 MW	√		√			√			√					
Wood's Hole Research Center Wind Turbine Falmouth, MA	WHRC	MA	100 KW	√	√	√		√									√
Acushnet River Submarine Cable New Bedford, MA; Acushnet River	NSTAR/ComElectric	MA	115 kV		√	√						√	√				
Bayonne Energy Center Submarine Cable Project Hudson River	Bayonne Energy Center	NJ/NY	345kV 6.6 miles	√		√	√		√		√	√	√				
Big Wind Transmission Lanai to Oahu & Molokai to Oahu	Anbaric Transmission Hawaii, LLC	Hawaii	38 miles: 37 miles	√			√					√					

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Project Name	Client	State	Capacity (MW or kV) Length (miles)	Site / Route Evaluation and Mapping	Wetland Surveys	Threatened & Endangered Surveys/Avian Risk Assessment	Marine Resource Surveys	Air & Noise Studies	Cultural Resource Surveys	Soil & Groundwater Contamination	State Siting Board Application	Agency Negotiations and Stakeholder Meetings	Federal, State, and Local Environmental Permits	Preparation of NEPA/State EIS Documents	Environmental Engineering	Environmental Inspection	Visual Impact Assessment
Cross Erie Transmission	TransÉnergie, LTD	NY, PA, OH	1000 MW, 75 miles	√													
Cross Hudson Project Ridgefield, NJ to Manhattan; Hudson River	PSEG Power, LLC	NJ ,NY	600 MW, 8 miles	√	√	√	√	√	√	√	√	√	√				√
Cross Long Island Sound Cable (CLIC) Norwalk, CT to Northport, NY; Long Island Sound	Northeast Utilities	CT, NY	150 HVDC, 11 miles	√	√		√				√	√	√				
Cross Sound Cable Project New Haven, CT to Brookhaven, NY	TransÉnergie, LTD	CT, NY	150 HVDC, 23 miles	√	√		√				√	√	√			√	
Electric Transmission Cable Project Nantucket, MA	NEES Global Transmission	MA	46 kV	√	√	√	√					√	√				
Green Line Wiscassett, ME to Boston, MA	New England Independent Transmission Co.	ME, MA	140 miles	√								√					
Hudson River Green Hudson River – Albany to NYC	Anbaric NE Transmission Development Company	NY	130 miles	√								√					
Hudson Transmission Project Hudson River	Hudson Transmission Partners, LLC	NJ/NY	660 MW, 8 miles	√	√		√	√	√	√	√	√	√				√
Long Island Replacement Cable	LIPA-CL&P	NY, CT	138 kV, 11 miles	√	√	√	√		√	√	√	√	√				
Martha's Vineyard Cable Project Cape Cod, MA; Martha's Vineyard, MA	ComElectric Company	MA	23 kV, 6.5 miles	√	√	√	√						√				√
Upstate NY Power Transmission Project Oswego and Jefferson County	Upstate NY Power Corp	NY	230kV 51 mi	√		√	√		√	√	√	√		√			
Connecticut Energy Advisory Board	CEAB	CT	Support for the review and evaluation of energy projects proposed in response to CEAB solicitations as part of the siting process														
Independent System Operator – New England	ISO-NE	MA	Energy Facility Permitting review of the siting and permitting requirements in the New England States														
Massachusetts Ocean Planning – Massachusetts	MA CZM	MA	Development of screening analysis to identify offshore wind power development in federal waters adjacent to the Massachusetts Ocean Planning Area														
Federal Facility Managers Training: Environmental Review and Permitting of Wind Energy Facilities on Federal Land	U.S. DOE, National Renewable Energy Laboratory (NREL)		Development and presentation of workshop training addressing environmental review and permitting of wind energy facilities on federal and public trust land														

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2.2 References

ESS has been providing sound environmental and engineering services to private and public sector clients for 30 years. Our positive performance record providing consulting services will directly translate into efficient execution and quality deliverables. We are proud of our record of consulting excellence and our reputation for providing personal attention and effective project solutions. ESS's goal has always been to establish and maintain a standard of performance excellence that keeps our clients coming back. Our repeat business is strong evidence that our clients have been and continue to be satisfied with our ability to delivery technically superior projects in an economical and timely fashion.

The references identified below can speak directly to our past performance under which we have performed similar scopes of work.

2.2.1 ESS Client References

Project:	Hull Offshore Wind Energy Project
Contact person:	Phil Lemnios, Hull Town Manager
Address:	253 Atlantic Avenue, Hull, Massachusetts 02045
Phone number:	(781) 925-2000
Relevant Services Provided:	Planning, siting, environmental studies and licensing/permitting of offshore wind generation and transmission.
Project:	National Renewable Energy Laboratory, U.S. Department of Energy
Contact person:	Robi Robichaud
Address:	1617 Cole Boulevard, MS 3811, Golden, Colorado 80401
Phone number:	(303) 384-6969
Relevant Services Provided:	Researching, developing, and presenting workshop training program addressing federal requirements for the siting and construction of wind energy facilities on federal land, public right-of-ways, and offshore.
Project:	Cape Wind Offshore Wind Energy Project
Contact person:	Craig Olmsted
Address:	75 Arlington Street, Suite 704, Boston, Massachusetts 02116
Phone number:	(617) 904-3100
Relevant Services Provided:	Planning, siting, environmental studies and licensing/permitting of offshore wind generation and transmission.
Project:	Massachusetts Offshore Wind Energy Ocean Planning
Contact person:	Deerin Babb-Brott, Executive Director, Massachusetts Office of Coastal Zone Management
Address:	251 Causeway Street, Suite 800, Boston, Massachusetts 02114
Phone Number:	(617) 626-1207
Relevant Services Provided:	Development of screening criteria and regulatory analysis for feasibility screening of utility-scale offshore wind energy sites.

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2.2.2 Dennis Esposito, Esq. Client References

Project:	RWU School of Law Marine Affairs Institute's 7th Marine Law Symposium "A Viable Marine Renewable Energy Industry: Solutions to Legal, Economic, and Policy Challenges" (October 2008)
Contact person:	Susan Farady, Director, Marine Affairs Institute
Address:	10 Metacom Avenue, Bristol, Rhode Island 02809
Phone number:	(401) 254-4613
Relevant Services Provided:	Organized and coordinated presentation on overall development of topics for an international conference of experts on all aspects of renewable energy feasibility and siting.

Project:	Rhode Island Coastal Resources Management Council: Member – Ocean Special Area Management Plan (January 2008-June 2009)
Contact person:	Grover Fugate, Executive Director
Address:	Stedman Government Center - Suite 3 4808 Tower Hill Road, Wakefield, Rhode Island 02879-1900
Phone number:	(401) 783-3370
Relevant Services Provided:	Coordinated with agency staff, Rhode Island Economic Development Corporation, and other state agencies to address legal issues and development of interagency funding and relationships addressing permitting for Marine Renewable Energy in Rhode Island's coastal regions.

Project:	Deerpath Energy (January 2009 – April 2009)
Contact person:	Tim Dittrich, Deerpath Energy
Phone number:	(617) 886-5424
Relevant Services Provided:	Consulted and coordinated with company to determine legal and policy issues and the feasibility of siting micro wind power turbines in coordination with state and local cities and towns in southeast New England and to determine Renewable Energy Portfolio demands.

2.2.3 La Capra Client References

Project:	Connecticut Energy Advisory Board
Contact person:	Michael Cassella, Chairman
Address:	Connecticut Municipal Electrical Energy Cooperative, 30 Stott Avenue, Norwich, Connecticut 02131
Phone number:	(860) 965-2526
Relevant Services Provided:	Consolidated consulting and advisory services regarding economic power generation and transmission needs assessments, Independent System Operator-New England and Federal Energy Regulatory Commission procedures and planning activities, integrated resource plan development.

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Project:	Delaware Public Service Commission, Office of Management and Budget, Energy Office, and Controller General Multi-Agency RFP
Contact person:	Bruce Burcat, Executive Director
Address:	861 Silver Lake Boulevard, Cannon Building, Suite 100, Dover, Delaware 19904
Phone number:	(302) 736-7516
Relevant Services Provided:	Development of RFP process for securing long-term contracts for in-state generation, either renewable or conventional.

Project:	North Carolina Renewable Portfolio Standard Cost and Benefit Analysis
Contact Person:	Sam Watson, Staff Attorney
Address:	430 N. Salisbury Street, Raleigh, North Carolina 27611
Relevant Services Provided:	Analyzed potential of different types of renewable energy and energy efficiency, associated costs, and rate impacts of enacting a Renewable Portfolio Standard for North Carolina.

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SECTION 3.0 SCOPE OF WORK AND SCHEDULE

The following sections describe our team's approach to implementing the project, as well as the assumptions associated with the proposed scope of work as outlined in the RFP. The description and associated assumptions are intended to clarify our technical approach and define the associated level of effort. For ease in reference they are presented by task consistent with the details identified in the RFP.

3.1 Task 1: Pre-feasibility Study

3.1.1 Task 1a: Site Screening Analysis

The objective of Task 1a will be to identify and measure any critical flaws with the proposed regional wind energy system concept. The ESS Team will meet this objective by gathering and evaluating existing information that will help to assess any obstacles and challenges confronting the project concept. A key part of this effort will be to review EBEC's municipally owned wind turbine sites using appropriate filter criteria for identification. Under this task several key factors will be considered in an analysis consisting of wind turbine site screenings, preliminary system feasibility assessment, and shall include the following:

- Wind Resources at each site will be assessed based on available public information to identify areas with adequate generating potential.
- Environmental constraints including avian and bat impact issues, noise, wildlife (threatened and/or endangered species), Federal Aviation Administration clearance, communications, wetlands and other land use constraints.
- Regulatory constraints including current federal, state, and local statutes, regulations, and guidance concerning wind development, permitting and zoning.
- Physical constraints including geological conditions, site access, transportation of turbine components to site, availability of sufficient land area, and infrastructure restrictions including electrical interconnections.
- Large electric load opportunities including the identification of public and private large, on-site electricity users (e.g., Bristol Sewer Commission, East Providence Waste Water Treatment Facility, United Water – Newport and Warren, Bristol County Water Authority, Tiverton High School, industrial facilities).
- Project economics including an analysis of municipal facility electrical consumption (current and proposed) and cost; and a preliminary financial model based on existing information and models addressing avoided costs, pro forma financial projections, ownership structure, electrical demand, financing options, insurance and warranties, economic enhancements, and necessary or advisable legislative or regulatory changes.
- Power planning considerations including wind turbine size, generation capacity, equipment price, transportation/delivery, and installation.

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The screening analysis will utilize publicly available GIS data layers to identify suitable locations for wind energy facilities in East Bay, as well as contemplate barriers and opportunities for a regional system or network. Maps will show the potential human use conflicts, natural resource constraints, and relevant infrastructure for each turbine location and the regional system within the study area. Altogether these data will graphically illustrate where the siting of a utility-scale wind turbine system appears feasible. Factors that influence the siting of land-based wind energy facilities including wind speed, surficial geology, proximity to transmission facilities, parcel size, access, existing infrastructure, and topography will be utilized in the GIS screening. Visits will be made to sites determined to be potential locations for turbines to verify local conditions.

3.1.2 Task 1b: Coordination with EBEC Legal Consultant and Roger Williams University School of Law

With Dennis Esposito as the lead, ESS will closely coordinate our efforts under Task 1 with the EBEC Legal Consultant (Andrew Teitz) and RWU School of Law fellows. He will monitor the progress of the legal and regulatory review conducted by these parties and serve as a liaison between the ESS effort and the EBEC/RWU School of Law legal review. When advantageous to the process, ESS and La Capra will make its specialists available for meetings or conference calls with the EBEC Legal Team in order to coordinate efforts and advance the overall EBEC effort. ESS believes that this proposed approach will generate additional value for EBEC given Dennis Esposito's expertise in the legal aspects of renewable energy development in Rhode Island and his professional relationship with Andrew Teitz, RWU School of Law, and state regulatory agencies.

3.1.3 Task 1c: EBEC Presentation and Consensus-Building

ESS will provide the EBEC with a presentation of the preliminary findings of the screening analysis and feasibility assessment at one of the bi-weekly technical committee or monthly EBEC meetings. This presentation will also be the opportunity for the EBEC to contemplate conceptual scenarios for the regional wind energy system moving forward. During the discussion segment of the meeting, ESS proposes to use a group facilitator to assist the EBEC with building consensus about 'next steps' including Task 1 Wrap-up and the potential for embarking on Task 2. ESS will take meeting minutes from this event and distribute them along with the next bi-weekly progress report.

EBEC 'In-kind' Opportunity: In addition to these efforts spearheaded by ESS, we suggest that the EBEC consider the development and implementation of a Public Involvement Program in support of its regional wind initiative. This effort would make up a significant portion of EBEC's 'in-kind' contribution to the project. For example, EBEC may choose to hold one or more regional public information sessions to present information about the project and to identify issues from stakeholder feedback that should be addressed in order to advance the project. Based on ESS's experience on large- and small-scale wind energy projects, a proactive approach like this to engage the community can help to avoid contentious public relations and possible project opposition in the future.

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3.1.4 Task 1d: Reports

ESS will prepare a draft written report containing a brief, but detailed, explanation of the key analytical factors described above and supporting spatial screening analysis. The report will give consideration to the findings of EBEC/RWU School of Law legal review team and incorporate its findings into the discussion about the viability of the regional energy system in addition to providing recommendations for future activities. ESS will submit to EBEC a draft report for comment in addition to an electronic version of the document, tables and figures for posting on the RWU document server site. The pre-feasibility study will rank potential sites for consideration by EBEC as a part of its assessment of the overall viability of the project and recommendations for the future. ESS will finalize the report, based on EBEC comments, and distribute hard and electronic copies as directed by the EBEC.

3.1.5 Task 1: Assumptions

- The development of the critical flaw analysis assumes the use of existing, readily available data and information to be provided to the ESS Team by EBEC, as well as existing studies and models developed for current and proposed wind energy projects in Rhode Island and adjacent areas.
- EBEC will provide ESS with a list of potential municipally owned wind turbine sites. ESS will assist the EBEC to identify a reasonable number of additional sites based on selection criteria.
- No new models or detailed field activities will be developed or implemented for this task.
- The EBEC/RWU Legal Team will complete its efforts and provide its recommendations on the East Bay Regional Wind Energy System to ESS within a reasonable timeframe given the proposed project schedule.
- Preparation and attendance at four meetings has been included in the proposal. These can be allocated as best meets the needs of the EBEC. We are suggesting at this time these would be allocated: two (2) biweekly technical subcommittee meetings, one (1) monthly EBEC meetings, and one (1) meeting with the EBEC Legal Team. ESS assumes that one of the meetings will serve as a “project kickoff” at the beginning of the project while another one of the meetings later on involves a presentation and discussion about the preliminary findings of the site screening analysis and system feasibility assessment.
- Regular, email and phone correspondence and project coordination with the EBEC Project Manager as well as the EBEC/RWU legal review team, will occur as needed.

3.1.6 Task 1: Deliverables

- Two (2) biweekly progress reports to be submitted electronically to the EBEC Project Manager and project technical committee. The draft and final project reports will serve as project progress reports for the latter part of the project timeline.

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- Ten (10) hard copies of the draft summary report for presentation to and discussion with the EBEC and select stakeholders.
- Ten (10) hard copies and one (1) CD-R containing the digital files of the final summary report for presentation to and discussion with the EBEC and select stakeholders

3.2 Task 2: Detailed Feasibility Study

If EBEC's decision to pursue a detailed feasibility study, outlined as Task 2 in the RFP, is a "Go", then ESS will be prepared and ready to advance the project to the next level. From both a workload and technical capacity perspective, ESS would seamlessly advance its efforts to complete Task 2 of the project. The objective of Task 2 is to provide detailed technical and economic analyses of the EBEC-selected sites that would constitute the regional energy system. This effort will ultimately lead to the development of recommendations concerning ownership and operation models. Feasibility analysis will focus on the following criteria:

- Wind Resources based on available public information compiled through wind resource modeling, meteorological data, and other available, accessible information.
- Financial Model based on existing information and models addressing avoided costs, pro forma financial (revenue) projections, ownership structure, electrical demand, financing options, insurance and warranties, economic enhancements, and necessary or advisable legislative or regulatory changes.
- Calculation of Key Figures of Merit including net present value, internal rate of return, simple payback, benefit to cost ratio, and annual and cumulative cash flow analysis.
- Regulatory Environment based on current federal, state, and local statutes, regulations, and guidance concerning environmental assessment, avian and bat impact issues, noise, light, and shadow flicker, wildlife impact (corridors), electrical interference, permitting, zoning, and land use constraints.
- Physical Construction based on current, existing information addressing geological conditions, foundation requirements, site access, transportation of turbine components to site, availability of turbines, and infrastructure restrictions.
- Community Issues including potential visual issues, noise, recreational effects, and other issues identified by stakeholders. ESS suggests that the EBEC could conduct a public involvement process to inform the public and gather community and stakeholder feedback regarding the project.

ESS will conduct a site visit to a select quantity of wind turbine locations identified in order to verify data obtained from public sources, including GIS information, to understand any site-specific conditions such as terrain, access, existing structures, nearby development, wetlands, and proximity to electric interconnection points. As a result of the field evaluation, each site will be characterized as to its potential for wind development, production potential, environmental impacts, permitting

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requirements and appropriate ownership model in the context of the regional wind energy model selected. A final scope and budget would be determined based on the outcome of Task 1 and recommendations from the EBEC.

3.2.1 Task 2: Assumptions

- The development of the identified filter criteria for Task 2 assumes the use of existing, readily available data and information to be provided to the ESS Team by EBEC, as well as existing studies and models developed for current and proposed wind energy projects in Rhode Island and adjacent areas.
- A fixed number of sites will be selected by EBEC as a result of a meeting to review the outcome of the Task 1 pre-feasibility assessment that will be advanced to Task 2 analysis.
- Application of existing regulatory performance standards, constraints, and requirements.
- Currently existing production incentives, financial incentives, and legal requirements for ownership and operational structures.
- Current and reasonably foreseeable economic constraints.

3.3 Proposed Project Schedule

Following the bid award, ESS anticipates that within one month of receipt of an executed contract and Notice to Proceed, as well as receipt of EBEC's list of potential municipally owned wind turbine sites, ESS will develop and complete a critical flaw analysis based on filter criteria discussed in Task 1 above. To meet the aggressive EBEC Target Schedule, ESS proposes the following timetable to complete the pre-feasibility study:

Milestones	Timeframe
Data Gathering and Screening Analysis	Day 0 – 30
Biweekly Progress Report #1	Day 15
Presentation of Preliminary Results	Day 30
Biweekly Progress Report #2	Day 30
Draft Report to EBEC	Day 35
EBEC Comments to ESS	Day 50
Final Report to EBEC	Day 60

The schedule for ESS's participation at EBEC meetings will depend on the Consortium's meeting schedule and its preference for our attendance. Bi-weekly progress reports will be submitted electronically to the EBEC during the first, thirty days of the project.

Within one month of EBEC's "Go" or "No Go" decision, assuming timely receipt of an executed contract for Task 2, ESS will begin the necessary data analysis and modeling to support the Detailed Feasibility Analysis (Task 2). As described above, the scope of work, budget and schedule for Task 2

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will be determined by the outcomes of Task 1. However, ESS will work with EBEC at that time to construct a project completion timeline that satisfies its needs and the needs of the project grantors, the Rhode Island Foundation and Rhode Island Economic Development Corporation, as appropriate.

3.4 Assurances

ESS has laid out a practical and realistic scope of work that it believes can be implemented within EBEC's target schedule.

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SECTION 4.0 COST PROPOSAL

As directed by guidance provided in the RFP, the cost proposal is submitted as a separate document.

4.1 Insurance Requirements

ESS maintains at least $1,000,000 professional liability insurance coverage and, if selected for this Project, will provide the relevant certificates to the EBEC.

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Attachment A

Resumes of Key Staff

ESS Group, Inc.

Engineers
Scientists
Consultants

Stephen B. Wood
Project Manager

EXPERIENCE

Environmental Science Services, Inc. – January 2000 to Present
Years of Prior Related Experience – 22

EDUCATION

JD, Southern New England School of Law, 1996
MBA, Western New England College, 1985
BA, Biology, North Adams State College, 1975

SUMMARY OF PROJECT EXPERIENCE

Mr. Wood is a Vice President and Senior Project Manager with more than 29 years of experience in environmental licensing and permitting and in project management. Prior to joining ESS, he was the Director of Environmental Affairs for Commonwealth Energy System, a major electric and gas utility company in Massachusetts where he was responsible for directing and managing all aspects of environmental policy, programs and licensing for electric and gas operations including: generation, transmission, and distribution functions and environmental licensing and permitting for construction and operation of gas and electric facilities.

At ESS, Mr. Wood utilizes his extensive experience to develop and implement site design and permitting strategies for large-scale, multi-disciplinary development projects. He also manages licensing and permitting of major and complex projects, including traditional and renewable power generation including wind, gas storage and electric and gas transmission facilities. Representative project experience includes:

- **Cape Wind Associates LLC – Cape Wind Offshore Renewable Electric Generation and Submarine Cable Project, Nantucket Sound.** Mr. Wood was the responsible project manager for the preparation of a Petition before the Massachusetts Energy Facility Siting Board for approval to construct and operate two-115kV transmission lines which would bring the power generated by the 454M W off-shore wind farm to an interconnection with the Massachusetts and New England transmission system. He was responsible for the assessment of alternative approaches to bring the power generated in Nantucket Sound to the transmission system and for preparing a comprehensive routing analysis that examined the need for the facility, costs and environmental impacts. Mr. Wood provided expert testimony before the Massachusetts Energy Facility Siting Council for the 17-mile 115kV transmission interconnection.

- **Hull Wind Offshore Expansion, Hull, MA**. ESS Principal-in-Charge for developing siting and feasibility analysis, regulatory analysis and permitting strategy for proposed Harding Ledge four-turbine (14 MW) offshore wind turbine project. This project, which is being developed as a public/municipal/academic partnership between the Town of Hull Massachusetts, the Massachusetts Technology Collaborative, and the University of Massachusetts Renewable Energy Research Laboratory, will be the first community-based offshore project in New England and is being used as a model for the U.S. Department of Energy National Offshore Wind Energy Collaborative.

- **Wood Hole Research Center - 100kW Wind Turbine – Cape Cod, MA.** Project manager for a community-scale wind power development on Cape Cod. Responsible for developing the scope of environmental analyses and supervising the conduct of analyses.

ESS evaluated the potential environmental impacts of particular concern for community based wind projects: noise, visibility, cultural resources, land use, zoning, avian and property value impacts evaluation and conducted the environmental analysis for the Permitting of the project.

- **Fairhaven Wind - 3.6 MW Wind Project - Fairhaven, MA.** Project manager for the feasibility analysis of a community scale wind project which included the assessment of wind resource, turbine siting, noise impacts, wetlands evaluation, avian impact assessment and zoning for a 2 turbine 3.6 MW project proposed on town owned land.

- **Marble River Wind Project – Clinton County, NY.** Serves as Project Manager for a 218 MW wind project in the towns of Clinton and Ellenburg. The project involves the completion of a Draft and Final environmental impact statement (EIS) under the New York SEQR process. The DEIS was submitted and the FEIS is in preparation. ESS is conducting or providing oversight for supporting studies, regulatory guidance and strategy in addition to preparing the EIS.

- **Dutch Hill Wind Project – Steuben County, NY.** Project Manager for a 40 MW wind project in Steuben County, New York. ESS prepared the Draft and Final environmental impact statements under the New York SEQR process and conducting or providing oversight for supporting studies, regulatory guidance and strategy in addition to preparing the EIS. The project is in construction.

- **GenWy Wind Project - Genesee County, NY**. Performed a critical review of the Bethany Wind Turbine Study prepared by the local committee as part of a local by-law process and provided recommendations to the client.

- **New York Regional Interconnect – High Voltage DC Transmission Line - NY**. Mr. Wood is serving as the project manager for the preparation of an Article VII filing to the New York Public Service Commission for a 450 kV dc transmission project in New York State that is over 190 miles in length. The project includes a routing evaluation, the assessment of the environmental impacts for the project route and alternatives, a public participation program and the preparation of the Article VII application to the NYSPSC. Mr. Wood is providing expert testimony in the Article VII proceedings.

- **Northeast Utilities - 345 kV Transmission Line, Connecticut.** Mr. Wood was the Project Manager for the preparation of an application to the Connecticut Siting Counsel (CSC) for a 38-mile long 345 kV transmission line. The project includes the assessment of the environmental impact for the project route and alternatives, preparation of the municipal consultation filing, and the application to the CSC.

- **Deerfield Wind Project – Searsburg and Readsboro, VT.** Mr. Wood is managing the development and preparation of an EIS in conformance with the NEPA requirements as the third-party contractor to the U.S. Forest Service. In addition to preparing the Draft and Final EIS, ESS is reviewing the existing studies performed for the project and advising the Forest Service on their adequacy for NEPA compliance, advising on additional environmental assessment that may be required, conducting the public involvement plan, and providing regulatory analysis to ensure compliance with NEPA and the Forest Service implementing regulations.

Jeffrey A. Nield
Project Scientist

EXPERIENCE

ESS Group, Inc. – October 2007 to Present
Years of Prior Related Experience - 17

EDUCATION

MA, Environmental Studies, Brown University, Providence, RI 1999
BS, Environmental Sciences, Union College, Schenectady, NY 1992

SUMMARY OF PROJECT EXPERIENCE

Mr. Nield has over 15 years of natural resource management and environmental regulatory experience. He is a trained biologist with expertise in the evaluation of fish and wildlife populations and in the assessment of surface water resources. Mr. Nield has worked in state government and has practical experience in environmental policymaking and governance. Capable of wearing many hats, Mr. Nield has served as project manager, scientist, and facilitator for many state and federal agency clients as well as private sector clients in the energy and land development sectors. Mr. Nield's recent project experience includes:

- **Upstate New York Power Corp. – 50-mile Overhead/Underground Electric Transmission Line Article VII – Jefferson and Oswego Counties, New York.** Mr. Nield served as lead project scientist on transmission line routing, resource evaluations, regulatory reviews, and coordination with the electrical engineering team, all for the preparation of the Article VII Application. Will serve as expert witness during PSC evidentiary hearings in support of the Application.

- **Confidential Client - 30-mile Gas Transmission Pipeline - Upstate New York.** Mr. Nield served as assistant project manager and project scientist in support of a routing and compressor station siting study for a 30-mile gas transmission project. He was responsible for working hand-in-hand with the project engineers to incorporate design concerns into key routing decisions in preparation of an Article VII Application. The project focused on the assessment of the environmental impacts for the project route and alternatives.

- **New York Regional Interconnect – High Voltage DC Transmission Line, New York**. Mr. Nield served in the role of project scientist and routing expert in support of the preparation of an Article VII filing to the New York Public Service Commission for a 450 kV dc transmission project in New York State that is over 190 miles in length. The project included a routing evaluation, the assessment of the environmental impacts for the project route and alternatives, a public participation program and the preparation of the Article VII application to the NYSPSC. Mr. Nield provided expert testimony in the Article VII proceedings.

- **Hudson Transmission Partners, LLC – Hudson Transmission Energy Project, New Jersey to New York.** Served as Project Scientist and oversaw the preparation of a consistency document for the New York State Department of State Division of Coastal Resources Coastal Zone Management Program. Also provided technical and regulatory review support for the Article VII application submitted to the New York State Public Service Commission.

- **BG North America - Lake Road Generating Company Unit 4 Addition, Killingly, Connecticut.** Mr. Nield was responsible for assessing site constraints as the proposed site of a new combined cycle generator at the Lake Road Facility. Work involved review of site constraints and an existing forest management plan to establish the project's potential regulatory issues. He was responsible for developing the *Petition for Declaratory Ruling* to the Connecticut Siting Council.

- **Cape Wind Associates, LLC - Renewable Energy Project, Nantucket Sound, Massachusetts.** Served as Project Scientist and project lead on marine mammal management concerns for a proposed renewable electric generating facility involving installation of 130 offshore wind turbine generators with a potential to generate 454 MW in Nantucket Sound, Massachusetts. The proposed wind park is sited on Horseshoe Shoal, and will interconnect with the regional power grid through an AC submarine cable system between the wind park and the southern shore of Cape Cod.

- **Marble River Wind Project – Clinton County, New York.** Mr. Nield served as Project Scientist for a 218 MW wind project in Upstate New York. The projects involve the completion of an environmental impact statement under the New York SEQR process. The DEIS has been submitted and the FEIS is in preparation. ESS is conducting or providing oversight for supporting studies, regulatory guidance and strategy in addition to preparing the EIS.

- **Alabama Power Company - Coosa and Warrior Rivers Re-licensing, Birmingham, Alabama.** Mr. Nield served as a coordinator on a multi-disciplinary project team working on this effort to file a license for several hydropower generation projects (1,171 MW total capacity) along the Coosa and Warrior Rivers in Alabama. He was responsible for organizing and facilitating stakeholder input from state and federal partners and other interests. His work contributed to the overall licensing strategy for these projects.

- **Alabama Power Company - Martin Dam Re-licensing, Birmingham, Alabama.** Mr. Nield served as a coordinator on a multi-disciplinary project team working on this effort to file a license for this 182.5 MW hydropower project on the Tallapoosa River in Alabama. He was responsible for organizing and facilitating stakeholder input from state and federal partners and other interests. His work contributed to the overall FERC re-licensing strategy for these projects.

- **NEPA Environmental Impact Statement – Vermont Wind Project.** Mr. Nield supported the project team in the development and preparation of an EIS in conformance with the NEPA requirements as the third-party contractor to the U.S. Forest Service for the Deerfield Wind Project is southeastern Vermont. In addition to preparing the Draft and Final EIS, ESS is reviewing the existing studies performed for the project and advising the Forest Service on their adequacy for NEPA compliance, advising on additional environmental assessment that may be required, conducting the public involvement plan, and providing regulatory analysis to ensure compliance with NEPA and the Forest Service implementing regulations.

Payson R. Whitney, III, PE
Coastal Engineer

EXPERIENCE

ESS Group, Inc. – October 1998 to Present
Years of Prior Related Experience – 4

EDUCATION

BS, Civil Engineering, Lehigh University, 1994

SUMMARY OF PROJECT EXPERIENCE

As a Coastal engineer and Project Manager, Mr. Whitney has more than 14 years of experience in a wide range of public and private sector projects, including project design and management activities in coastal permitting/shoreline assessment, and the planning and permitting of electrical transmission projects. He has extensive experience in the routing and permitting of submarine electric transmission cables. Mr. Whitney's representative project experience includes the following:

- **Bayonne Energy Center, LLC – Bayonne Energy Center Project, Bayonne, New Jersey to New York City (Brooklyn).** Project Manager responsible for environmental consulting and regulatory permitting for the submarine electric transmission cable aspect of the Bayonne Energy Center Project. The project entails the construction of a 512 MW electric generating plant in Bayonne, NJ. The plant will be connected to the New York electrical grid via a 6.5 mile long, 345 kV submarine electric transmission cable with an interconnection at the ConEdison Gowanus substation in Brooklyn. Responsible for day-to-day coordination of ESS services, coordination with the client and its project team, coordination with the project engineers, providing technical services related to submarine cable route design and construction, and for planning, directing, and overseeing marine geophysical and geotechnical field investigations. Was responsible for developing the proposed submarine cable route and identifying from project survey and constraints information. Responsible for overseeing preparation of New York Article VII filing and U.S. Army Corps of Engineers permit application, as well as various separate supporting reports and responses to comments. During the project's initial planning stages, Mr. Whitney was responsible for preparation of a Desktop Routing Study to identify possible submarine cable routes and landfalls.
- **PSEG Power LLC – Cross Hudson Project, Ridgefield, New Jersey to New York City (Manhattan).** Served as project manager for environmental consulting and engineering services related to the PSEG's proposed Cross Hudson Project. The project entailed the construction of a submarine electric cable system between New Jersey and New York City. Was responsible for day-to-day coordination of ESS services, coordination with PSEG, coordination with the project engineers, providing technical services related to submarine cable route design and construction, and for planning, directing, and overseeing multiple marine geophysical and geotechnical field investigations. Was responsible for developing the proposed submarine cable route from project survey and constraints information. Responsible for overseeing preparation of New York Article VII filing and U.S. Army Corps of Engineers permit application, as well as various separate supporting reports and responses to comments.
- **Hudson Transmission Partners, LLC – The Hudson Project, Ridgefield, New Jersey to New York City (Manhattan).** Responsible for providing and coordinating engineering support for regulatory permitting efforts for The Hudson Project. From the Converter

Station a new 345 kV AC electric transmission cable system will be routed in an overland underground configuration from Ridgefield to Edgewater, NJ where it will then cross the Lower Hudson River estuary in a buried submarine cable configuration to make landfall at Piers 92 – 94 at the Mid-town Manhattan waterfront where it will then interconnect via upland underground cable to the existing Con Edison West 49th Street Substation.

- **Cape Wind Associates, LLC – Cape Wind Project, Nantucket Sound, MA.** Responsible for preparing conceptual facility layouts and evaluating geologic conditions for a project baseline environmental impact and feasibility study. Responsible for planning, directing, and overseeing extensive marine geophysical and geotechnical field investigation programs, included hydrographic, sub-bottom profiling, side-scan sonar, and magnetometer surveys; as well as advancing vibracores and surface sediment grabs, to evaluate surface and shallow/deep subsurface sediment/geologic conditions in the area of the proposed offshore renewable electric generating facility and the submarine electric cable links to the mainland electric grid. Prepared a detailed Navigational Risk Assessment for the proposed wind park. This Navigational Risk Assessment was the first such assessment submitted to the U.S. Coast Guard's First District, and assessed the possibility for project impacts to marine vessel traffic and USCG search and rescue operations.
- **Connecticut Light & Power Company and its Project Partners – Submarine Replacement Cable Project, Norwalk, CT to Northport, NY.** Responsible for planning, directing, and overseeing an extensive marine geophysical and geotechnical field investigation program for an 11-mile, 300 MW Alternating Current (AC) submarine cable. The field investigation program included bathymetric, sub-bottom profiling, side-scan sonar, and magnetometer surveys; as well as advancing vibracores and surface sediment grabs, to evaluate surface and shallow subsurface sediment/geologic conditions along the proposed alternative routes. The program consisted of over 400 miles of geophysical survey tracklines, over 30 vibracores, and approximately 100 surface sediment grabs.
- **TransEnergieUS, Ltd. – Cross Sound Cable Project, New Haven, CT to Brookhaven (Shoreham), NY.** Responsible for planning, directing, and overseeing geophysical and geotechnical field investigation programs; developing proposed cable route alignments, and dredging design/construction oversight for the Cross Sound Cable Project that crosses Long Island Sound between New Haven, Connecticut and Brookhaven, New York. Responsible for developing the final proposed cable route from project survey and constraints information, and coordinating development of project plan sets. Provided engineering support for proposed construction methodologies and regulatory permitting application preparation. Served as an expert witness during Connecticut Siting Council proceedings. Responsible for designing and managing a 12,000 cubic yard hydraulic dredging operation at the Shoreham landfall to facilitate cable embedment. Responsible for planning and executing a post-installation cable and obstruction survey to field locate the cable and to identify and characterize obstructions encountered during installation. Responsible for determining proposed remedial cable burial means and methods.
- **Nantucket Cable Electric Company, Inc. – Nantucket Cable Project, Harwich to Nantucket, MA.** Provided technical support for completion of preliminary engineering and analysis of coastal engineering structures and other various project design issues necessary to complete design and permitting for the $28 million Nantucket Submarine Cable Project on Cape Cod, Massachusetts.
- **Commonwealth Electric – Martha's Vineyard Cable, Vineyard Haven, MA**. As project manager, conducted research on existing bottom sediment, navigational, and anchorage conditions for the existing Commonwealth Electric Martha's Vineyard Cable located within Vineyard Haven Harbor. Coordinated production of plans showing general navigation and anchoring conditions in Vineyard Sound and Vineyard Haven Harbor.

Gregory A. Rowe
Senior Geographic Information System Specialist

EXPERIENCE

ESS Group, Inc. – October 1999 to Present
Years of Prior Related Experience – 3

EDUCATION

MS, Environmental Studies, University of Charleston/Medical University of South Carolina
BS, Marine Affairs, Minor, Fishery Science and Technology, Minor, Political Science, University of Rhode Island

SUMMARY OF PROJECT EXPERIENCE

Mr. Rowe has more than eleven years experience operating and developing geographic information systems (GIS). Mr. Rowe manages the development, oversight, and integration of GIS at ESS. In this role, Mr. Rowe is responsible for GIS project design, management, implementation, software evaluations, and development of GIS formats and templates. Mr. Rowe has been primarily involved in creating, designing and utilizing resources to support a wide variety of ESS projects principally in the energy and ecological services markets. He has been responsible for the GIS mapping and analysis associated with environmental impact assessments, siting and alternative evaluations for linear energy facilities, siting wind turbine arrays, wind resource evaluations and the visual impact assessments. Mr. Rowe's representative project experience includes:

- **Cape Wind Associates, LLC, Renewable Electric Generating Facility Siting, Eastern MA.** Responsible for providing GIS services related to the siting of a proposed renewable electric generating facility in Nantucket Sound, Massachusetts. The GIS analysis includes the creation and management of GIS data related to the following regulatory permits and reviews: Environmental Impact Reports for Massachusetts Environmental Policy Act (MEPA) review, Environmental Impact Statements for US Army Corps of Engineers, Development of Regional Impact Report to the Cape Cod Commission, Coastal Zone Management Federal Consistency Certification to MassDEP, and Certification of Environmental Impact and Public Need for Massachusetts Energy Facilities Siting Board. Also responsible for the GIS development of the Navigational Risk Assessment for the proposed wind park. This Navigational Risk Assessment will be the first such assessment submitted to the USCG First District, and assesses the possibility for project impacts to marine vessel traffic and USCG search and rescue operations.

- **Jay Cashman Inc. - Offshore Wind Feasibility Studies, Eastern MA.** Responsible for conducting a series of GIS desktop assessments for potential wind generation facilities in offshore waters in several offshore regions of Massachusetts. The desktop assessments were a comprehensive screening evaluation of environmental and geophysical issues that affect the ability to install wind turbines.

- **Massachusetts Technology Collaborative (MTC), Community Wind Program, MA.** Purpose of project was to provide services to the MTC under a Master Services Agreement for the preparation of Feasibility Studies for communities in Massachusetts that have potential sites for 1 to 3 wind turbines. Responsible for GIS analysis of environmental assessments, turbine sitings, wind resource evaluations and the creation of photo simulations of the proposed projects. Locations: Bourne, Fairhaven, and Lynn, MA

- **Massachusetts Environmental Office of Environmental Affairs, Statewide Water Budgets and Report Development Project, MA.** Responsible for collaborating with federal, state, and municipal agencies in developing an automated GIS tool to assess water budgets for all basins and communities in Massachusetts with the Charles River Watershed Association. The purpose of the project is to evaluate potential human impacts on stream flow. The water budget model accounts for regulated human derived water inputs and outputs as well as irrigation loses and total recharge loss from impervious area. The budget analyzes the data at the sub-basin level (HUC-14) on a monthly basis. The model will be able to perform the sub-basin analysis, create maps showing impact, and summarize the results by table with only a click of a few buttons. The final product of the project will be 350 municipal and 74 watershed customized reports.

- **Northeast Utilities System, Connecticut to Rhode Island Project, Northeast CT.** Responsible for the development and management of GIS projects required for the Connecticut Municipal Consultation Filing of a 40-mile transmission route in Northeast Connecticut. The Filing requires GPS and field mapping of vegetative cover, wetlands, waterways, geology and soils, statutory facilities, and cultural/historic and archaeological locations.

- **TransÉnergie U.S., Ltd., Cross Sound Cable Project, New Haven, CT to Brookhaven (Shoreham), NY.** Purpose of project was to permit the installation of a 600 MW submarine electric power cable between CT and NY. Responsible for creating an environmental GIS assessment based on data related to aquatic resources (fisheries, benthos, shellfish), avian resources, and the endangered and threatened species.

- **Town of Hull, Nantasket Beach Coastal Storm Damage Reduction Project Beach Nourishment/Sandfill Material Transportation Study, Hull, MA.** Purpose of the project was to constructing a 50 foot wide sand fill berm seaward of the existing seawall to protect the beach from storm damage. Responsible for completing a GIS transportation study to determine the most economic and feasible method to deliver sand by trucks or barges from upland sources to the Nantasket Beach Reservation while assessing environmental and cultural receptors.

DENNIS ESPOSITO
ATTORNEY-AT-LAW

Dennis Esposito is a nationally recognized author and lecturer specializing in Providence area environmental issues. Mr. Esposito draws on 30-plus years experience in environmental law and regulations to help quickly determine pragmatic strategies that win regulatory favor for wide-ranging Rhode Island and Massachusetts clients. Former Chairman of the Adler Pollock & Sheehan Environmental Practice Group, a large multi-state law firm, he has worked to site and permit the largest marina on the East Coast. Mr. Esposito was instrumental in drafting legislation that revamped Rhode Island's environmental and wetlands regulatory agencies to include extensive involvement in marine renewable energy efforts in New England. As faculty member of the Roger Williams School of Law Marine Affairs Institute, he was involved with the year long planning effort for an international symposium entitled "A Viable Marine Renewable Energy Industry: Solutions to Legal, Economic, and Policy Challenges (Oct 2008); and coordination of Rhode Island efforts for a first-in-the-nation Ocean Zoning Plan.

Some of Mr. Esposito's other honors and distinctions include:

- Named to Best Lawyers in America® for environmental law, 2006, 2007, 2008, 2009, and 2010
- Former member Rhode Island Environmental Study Commission and Governor's Commission on Wetlands
- Appointee to numerous state commissions developing environmental regulations
- Former longstanding chairman Rhode Island Bar Committee on Environmental Law
- Member Senior Advisory Committee of the University of Rhode Island Sea Grant Program
- Appointed administrative hearing officer by the Rhode Island Department of Environmental Management to rule on a large, regional landfill siting application in Richmond, Rhode Island
- Martindale Hubbell AV rated

La Capra Associates

Alvaro E. Pereira, Ph.D.

Senior Consultant

Alvaro Pereira is an accomplished energy professional with over 15 years of experience in economic, technical, and policy analysis with expertise in rate design, power markets, and climate change policy. Dr. Pereira joined La Capra Associates in 2008, following nearly a decade with the Massachusetts Division of Energy Resources (DOER) as the head of a group responsible for economic and technical analyses of policies, programs, and regulatory filings. His most recent work at DOER involved the development of regulations and market monitoring procedures for the RGGI carbon allowance auctions. Dr. Pereira is an experienced expert witness, having testified on various occasions before regulatory commissions, and he has provided expert-witness research to support winning arguments in cases involving environmental quality and demand resources. Dr. Pereira also has expertise in rate design and analysis, energy procurement, demand side management (DSM) programs, and economic impact modeling and forecasting. He has an M.S. in Transportation and a Ph.D. in Urban and Regional Economics and Studies, both from M.I.T.; and two bachelor degrees in Economics and Finance from UMass Amherst.

SELECTED PROFESSIONAL EXPERIENCE

Renewables/RGGI

- Evaluated the financial feasibility of a proposed offshore wind installation in Hull, Massachusetts. Forecasting and analyzing different revenue streams (energy, renewable energy certificates, and capacity) and examining financing options, while incorporating new federal and state incentive programs and policies.
- Researched forward capacity market rules in New England regarding qualification requirements, auction administration, financial assurance, and resource availability adjustments as regards to renewable resources and other intermittent generators. Co-authored study that examined the feasibility and impacts of restricting imports of renewable generation into New England and for participation in the Massachusetts RPS.
- Co-authored Massachusetts regulations for state auction of Regional Greenhouse Gas Initiative (RGGI) CO_2 allowances. *Note:* Massachusetts was the first state to draft regulations related to auctioning of carbon allowances.
- Supervised the economic modeling and impact analysis of changes in regional energy systems, including the expansion of renewable and DSM activities, due to the establishment of a regional cap and trade system for carbon emissions through the RGGI program. This work led to ratification and approval of the cap and trade system by a majority of the Northeastern states.

Procurement

- Providing expert advice to state and federal agencies regarding their participation (load and generation assets) in wholesale energy, capacity, and reserve markets.
- Forecasted capacity market prices (in New England and New York) for use in project evaluation and impacts on retail rates. Included discussion of bidding strategies for generators given different projections for auction clearing prices. Forecast work included determination of future implementation levels of energy efficiency and other demand-side resources as capacity resources.
- Assisted in writing expert testimony assessing the impacts of wholesale congestion costs on Pennsylvania default service customers. Investigated market mechanisms for financial transmission rights and made recommendations concerning procurement of relevant hedging products.

- Participated in statewide procurement of electric, gas, and petroleum products for Commonwealth agencies and facilities. Forecasted gas and electric prices for use in procurement decisions.
- Managed procurement of long-term renewable electricity for use by Commonwealth agencies and facilities. Calculated and compared costs of long-term renewable power versus short-term brown power procurements to inform state agency budgets.
- Managed technical assistance to municipalities seeking to aggregate their customers for purposes of procuring electricity.

Demand Side Management

- Designed time-of-use rates for municipal utilities in order to provide incentives for reductions during summer peak. Calculated potential impacts of dynamic rates on both capacity payments by the utilities and bill savings to customers.
- Enrolled demand-side resources (energy efficiency and distributed generation) of various Commonwealth agencies into the New England Forward Capacity Market. Wrote monitoring and verification plans for a variety of demand-side resources.
- Lead author on annual report for Massachusetts that chronicled the cost-effectiveness, customer allocation of funds, short and long-term savings goals and the development of a competitive market for energy efficiency services.
- Developed modeling approach and methodology to estimating the energy system and economic impacts of DSM activities conducted in the Commonwealth.

Expert Witness

- Testified before the Massachusetts Department of Public Utilities on behalf the Massachusetts Attorney General regarding the proposed solar program filed under the Green Communities Act by Western Massachusetts Electric Company *(D.P.U. 09-05, July 2009.)*
- Testified before the Massachusetts Department of Public Utilities on behalf of the Massachusetts DOER regarding rate structures that will promote efficient deployment of demand resources. *(D.P.U. 07-50, October 2007.)*
- Testified (direct and surrebuttal) before the Massachusetts Department of Telecommunications and Energy on behalf of the Massachusetts DOER regarding the performance-based rates and earnings sharing mechanism proposed by Bay State Gas Company. *(D.T.E. 05-27, July 2005.)*
- Testified (direct) before the Massachusetts Department of Telecommunications and Energy on behalf of the Massachusetts DOER regarding the appropriateness of standby distribution rates proposed by NSTAR Electric. *(D.T.E. 03-121, March 2004.)*

Policy and Planning Analysis

- Conducted analysis of state energy entities in Connecticut in terms of structure and functional roles. Performed survey of other states and compared and contrasted alternative structures with existing state structure. Wrote sections of Phase I report describing results of this work. Contributed to Phase II report that recommended changes to agency structure and roles, including analysis of a power authority option.

- Contributed to all phases of proceeding before Connecticut Siting Council regarding the 2008 Forecasts of Load and Resources. Prepared discovery and wrote comments to draft report. Recommended changes to promote consistency between forecast and 2008 Integrated Resource Plan that was in review and to clarify assumptions underlying different utilities' forecast for conservation and load management programs

- Wrote appendix detailing existing procurement processes and programs available to Connecticut policymakers. Appendix served as component of La Capra Associates' review of the 2008 Integrated Resource Plan submitted by the utilities.

EMPLOYMENT HISTORY

La Capra Associates, Inc. Boston, MA
Senior Consultant *2008 – Present*

Consultant

Massachusetts Division of Energy Resources Boston, MA
Manager, Energy Supply & Pricing Group (December 1999 – 2008) *1999 – 2008*

Senior Economist (March 1999 – November 1999)

Massachusetts Institute of Technology Cambridge, MA
Lecturer in the Department of Civil Environmental Engineering *1998 – 1999*

Independent Consultant Somerset, MA
Economist and Data Modeler *1998*

Massachusetts Institute of Technology Cambridge, MA
Visiting Lecturer in the Department of Urban Studies and Planning *1997 – 1998*

Research Associate, Department of Urban Studies and Planning (September 1991 – August 1997)

Research Assistant, Department of Civil Engineering (September 1989 – August. 1991)

EDUCATION

Massachusetts Institute of Technology Cambridge, MA
Ph.D., Urban and Regional Economics and Studies *1997*
M.S., Transportation *1991*

University of Massachusetts Amherst, MA
B.B.A., Finance (Summa Cum Laude) *1989*
A.B., Economics (Summa Cum Laude) *1989*

PROFESSIONAL TRAINING & SKILLS

Proficient in STATISTICA, Forecast Pro, and comparable statistical analysis programs, tsMetrix™ and comparable neural network programs, REMI and comparable economic-modeling packages, ENERGY2020 and comparable energy market simulation modeling programs. Familiar with C programming language and Visual Basic. Fluent in Portuguese. Working knowledge of Spanish.

RELEVANT PUBLICATIONS, PRESENTATIONS & CONFERENCES

Publications

"Electricity Price, Reliability and Markets Report 2005." A Report to the Great and General Court on the Status of Restructured Electricity Markets in Massachusetts. Commonwealth of Massachusetts, December 2006 (lead author).

"Electricity Price, Reliability and Markets Report 2002-2004." A Report to the Great and General Court on the Status of Restructured Electricity Markets in Massachusetts. Commonwealth of Massachusetts, Spring 2006 (lead author).

"Meeting New England's Future Natural Gas Demands: Nine Scenarios and Their Impacts." A Report to the New England Governors, Boston, Massachusetts, March 2005 (lead author).

"2002 Energy Efficiency Activities." An Annual Report to the Great and General Court on the Status of Energy Efficiency Activities in Massachusetts. Commonwealth of Massachusetts, Summer 2004 (lead author).

"2001 Energy Efficiency Activities." An Annual Report to the Great and General Court on the Status of Energy Efficiency Activities in Massachusetts. Commonwealth of Massachusetts, Summer 2003 (lead author).

"Economic Development of the Boston Harbor: Informing the Process." Written for Boston Harbor Conference, May 11, 1998.

"Regional Economic Modeling and the REMI Model Evaluation." Commissioned Manuscript for Appalachian Regional Commission, September 4, 1998 (co-author).

"Transportation Policy and the 1990 Clean Air Act." In Research in Urban Economics, New Urban Strategies in Advanced Regional Economies, 1996 (co-author).

"Regional Rail Planning in New England." Proceedings of the Transportation Research Board, 1994 (co-author).

Presentations & Conferences

"RGGI Auction Process." Presentation to RGGI Implementation at the State Level: Regulations, Requirements & Strategies, Northeast Energy and Commerce Association Workshop, June 19, 2008, Boston, MA.

"Meeting New England's Future Natural Gas Demand." Presentation to the Center for LNG & U.S. Energy Association, LNG Conference, June 16, 2005, National Press Club, Washington, D.C.

"The Intradependence of Natural Gas & Electricity Markets in New England." Presentation to Northeast Energy Efficiency Council and the Association of Energy Service Professionals Annual Conference, October 25, 2004, Marlboro, Massachusetts.

"Retail Treatment of Zonal Generation Prices in Massachusetts." Presentation to the Massachusetts Electric Restructuring Roundtable, September 13, 2002, Boston, Massachusetts.

"Future of Retail Competition in Massachusetts, Just the Facts, Massachusetts." Presentation to the Massachusetts Electric Restructuring Roundtable, January 18, 2002, Boston, Massachusetts.

"Developing an Effective Demand Response." Presentation to the Electric Power Supply Association State Issues and Membership Meeting, July 24, 2001, Washington, D.C.

"Emergency Prevention, Monitoring, and Communication." Presentation to the New England Disaster Recovery eXchange Meeting, June 13, 2001, Boston, Massachusetts.

"Logistics and Transportation Use in the Chicago Metalworking Sector: Implications for Transportation Planning." Presentation to the 43rd North American Meeting of the Regional Science Association International, November 16, 1996, Washington, D.C.

"A Study of STAA Truck Safety in New England." Presentation to a Conference of the New England Transportation Infrastructure Research Programs, June 14, 1993, The New England Center, Durham, New Hampshire.

La Capra Associates

Shawn Carraher

Principal Consultant

Shawn Carraher recently joined La Capra Associates as a Principal Consultant, bringing over 20 years of experience in strategic planning, business development and research capacity; and over twelve years in global energy. Her past work and responsibilities have included evaluating assets and corporate acquisitions, creating market studies and price forecasts, participating in policy development, and developing renewable energy business plans. Prior to joining the firm, Ms. Carraher held senior positions with Cambridge Energy Research Associates (CERA) and Edison Mission Energy (EME). Ms. Carraher has an M.B.A. in Finance from Wharton, and an M.A. in International Relations focusing on energy and the environment from Johns Hopkins University.

PROFESSIONAL EXPERIENCE

Strategic Planning

- Served as advisor to clients across a broad backdrop of corporate and investor-related strategic issues.
- Led a team to evaluate potential growth strategy and acquisition targets for a major North American utility, resulting in approval of a large strategic acquisition.
- Analyzed mergers and acquisitions (M&A) track record in the U.S. power sector and commensurate "lessons learned" for a major investment bank, resulting in reframing of best practices.
- Conducted a strategy review for major North American utility, including an assessment of their regulated/unregulated businesses and development of commensurate growth strategies, resulting in overhaul of client's business plan.
- Evaluated prospect for introduction of Independent Power Producers (IPPs) for an international utility.
- Led multi-disciplinary teams to help impact public policy by preparing and presenting research to Members of Congress, policymakers and peer (non-profit) agencies on a global scale.

Market Analysis

- Evaluated market dynamics and valuation of various power generation assets; including coal, gas, oil and wind plants.
- Developed price forecasts and key inputs on various market models.
- Created strategic, in-depth market studies for PJM and New York. Evaluated key drivers and risks, including current and projected generation, fuels analysis, transmission constraints, regulatory issues, environmental climate, and taxes.

Renewables

- Led global, multi-stakeholder study on the future of clean energy, focusing on supply-side options. Participants included utilities, financial investors, oil companies and regulators. Study included technical, economic and market and regulatory review for wind, solar, geothermal, and biomass as well as clean coal, nuclear and hydropower generation. Clean technologies were then evaluated in the context of 20-year, global energy scenarios.

- Identified attractive wind development opportunities and potential partners for wind developer.
- Developed business plan focused on wind power in North America and Europe for large American utility.
- Created market survey for renewables in New York and Pennsylvania.
- Developed comprehensive study on prospect for renewable power in the U.S. and European markets.

Global Power Research

- Served as group executive for a line of key offerings for an international research and consulting firm, which included Global Power Forum.
- Developed power scenarios and key implications with group of energy stakeholders.
- Developed training program on utility best practices for international utility.

EMPLOYMENT HISTORY

La Capra Associates, Inc. — Boston, MA
Principal Consultant — *June 2009 – Present*

Cambridge Energy Research Associates (CERA) — Cambridge, MA
Senior Director, Global Power Group (GPG) — *2002 – 2008*

Edison Mission Energy (EME)* — Boston, MA
Director, Business Development — *1997 – 2002*

* *Originally Citizens Power; first licensed power marketer; pioneer in asset restructuring*

OXFAM America — Boston, MA
Public Advocacy Program Coordinator — *1989 – 1993*

EDUCATION

The Wharton School of the University of Pennsylvania — Philadelphia, PA
M.B.A.., Finance — *1996*

Johns Hopkins University — Washington, D.C./Bologna, Italy
School of Advanced International Studies (SAIS)
M.A., International Affairs — *1996*

- Concentration in International Economics and Energy & Environmental Studies

Bowdoin College — Brunswick, ME
B.A.., Art History (cum laude) — *1988*

ADDITIONAL SKILLS

Proficient in Italian and French.

RELEVANT PUBLICATIONS, RESEARCH, PRESENTATIONS & CONFERENCES

Publications & Research

Private Equity International special Energy supplement – "Mega Trends" – 2008

"Crossing the Divide: The Future of Clean Energy" – 2008

"Dawn of a New Age: Global Energy Scenarios for Strategic Decision Making" – Power input for multi-client Study, 2006

"Executive Power Survey" – On key industry trends and risks, 2006

"PUHCA Repeal and Utility M&A: One Big Obstacle Down, Many Remain" – 2005

"The Five Year Hangover" – Future prospects for merchant power, 2004

"Day of Reckoning for the US Merchant Power Business" – 2003

"Renewables: Challenging the Energy Mix, Winds of Change, Rays of Hope" – 2003

Presentations & Conferences

CERA Weeks (2002–2008): hosted *Leadership Breakfast on Global Power;* chaired both Power Finance and Insights Panels

Various Global Power Forum and Round Table presentations (2002–2007), including topics on biases in strategic planning, the expanded role of energy security for power, merchant power, and M&A

Keynote speech on *Climate Change at Euromoney Energy Carbon Investment Forum,* London 2008

Chaired *Private Equity International Energy Forums* in New York City and London (2007–2008)

La Capra Associates

Brian A. Tracey

Consultant

Brian Tracey, one of our Consultants, recently joined La Capra Associates as an energy professional bringing over a decade of experience in integrated resource planning, wind energy project development, and power and natural gas markets analysis. His technical background includes market price forecasting, contract negotiations, and financial analysis, along with extensive knowledge of renewable energy policy, emissions credit trading, and renewable energy markets. Mr. Tracey runs La Capra Associates' proprietary North American Electricity Market Model which is based upon the AURORA™ planning software, a state-of-the-art planning tool, which can simulate the dispatch of the North American power system. He has a Civil and Environmental Engineering degree from the University of Michigan and a Masters degree in Earth Resources Engineering from Columbia University. Mr. Tracey held the position of energy technology officer at General Compression, Inc. – a wind development and compressed air energy storage company – leading the site identification, design and storage pre-development efforts for the dispatchable wind power system (DWPS); and prior to that, he was the senior power markets analyst at the Massachusetts Department of Energy Resources (MA DOER) for over four years.

PROFESSIONAL EXPERIENCE

Renewable Energy Markets

- Managed wind profile data, power price strips, North American renewable energy and storage developments to inform project and company Pro forma models, project development siting assessment and business development strategy.
- Drafted submittals in response to state environmental and energy agency forums to advance client goals, educate RPS policymakers of technology-specific eligible green content, and participate in resource planning workshops.

Integrated Resource Planning

- Supported production cost modeling effort for City of New York IRP, including model input updating, central and distributed resource cost analysis, and delivered fuel price projections.
- Provided economic analysis for expert witness testimony on several prudency cases relating to management of PPA portfolios by multiple Vermont utilities.

Market Analysis

- Provided fundamental power, natural gas and petroleum product market analysis for various Commonwealth of Massachusetts energy strategies, including RPS eligibility modifications, emission control technology evaluation, and peaking energy facility development proceedings.
- Spearheaded efforts to register and manage state-owned Demand Resource assets into the ISO-NE Forward Capacity Market and maintained electricity price curves for state facility contracting requests.

EMPLOYMENT HISTORY

La Capra Associates, Inc. Boston, MA
Consultant *2008 – Present*

General Compression, Inc. Newton, MA
Energy Technology Officer *2007 – 2008*

Massachusetts Division of Energy Resources Boston, MA
Senior Gas and Power Markets Analyst *2003 – 2007*

Resource Insight, Inc. Cambridge, MA
Research Analyst *2000 – 2003*

Environmental Resources Management Group Boston, MA
Project Engineer *1996 – 1998*

EDUCATION

Columbia University New York, NY
School of Engineering and Applied Science
M.S., Earth Resources Engineering *2000*

University of Michigan Ann Arbor, MI
College of Engineering
B.S., Civil & Environmental Engineering *1996*

RELEVANT PUBLICATIONS

"Electricity Price, Reliability and Markets Report 2005." A Report to the Great and General Court on the Status of Restructured Electricity Markets in Massachusetts. Commonwealth of Massachusetts, December 2006.

"*Electricity Price, Reliability and Markets Report 2002-2004*." A Report to the Great and General Court on the Status of Restructured Electricity Markets in Massachusetts. Commonwealth of Massachusetts, Spring 2006.

"Meeting New England's Future Natural Gas Demands: Nine Scenarios and Their Impacts." A Report to the New England Governors, Boston, Massachusetts, March 2005.

"2002 Energy Efficiency Activities." An Annual Report to the Great and General Court on the Status of Energy Efficiency Activities in Massachusetts. Commonwealth of Massachusetts, Summer 2004.

"Energy Plan for the City of New York" (with Paul Chernick, Susan Geller, Jon Wallach, Adam Auster, and Peter Lanzalotta). 2003. New York: New York City Economic Development Corporation.

"Peak-Shaving–Demand-Response Analysis: Load Shifting by Residential Customers" (with Jon Wallach). 2003. Barnstable, Mass.: Cape Light Compact.

"Costs and Environmental Effects of Wind Turbines and Natural-Gas Generation" (with Paul Chernick and Susan Geller). 2003. Barnstable, Mass.: Cape Light Compact.

La Capra Associates

Carrie Gilbert

Consultant

Carrie Gilbert joined La Capra Associates in 2007, bringing over nine years of experience in renewable energy, environmental business strategy, and engineering consulting. She is an expert in northeast renewable activities; and her recent work includes facilitating the renewable discussion during the Connecticut Procurement planning process, analyzing a southern state's renewable energy potential, developing future New England renewable supply mix scenarios, and estimating REC prices for New York and New England clients. Ms. Gilbert has conducted economic analyses of an offshore wind farm and a landfill gas facility and developed financial models for several onshore wind facilities. Ms. Gilbert has provided guidance to NYSERDA on the cost of the customer sited renewable energy program and evaluated the financial impact of solar photovoltaic (PV) installation for commercial customers. She also contributes to integrated resource planning activities at the firm.

Prior to joining the firm, Ms. Gilbert's strategy consulting experience included work for US and European wind turbine manufacturers including a US market sizing analysis and market entry study and transportation logistical analysis for two different manufacturers. She also assessed environmental market opportunities for a Fortune 500 company. As an environmental engineer at Camp Dresser and McKee, Ms. Gilbert conducted planning and design work for municipal water and wastewater systems. This work included wastewater treatment plant facilities plans and water distribution system master plans. She holds a BE from the Thayer School of Engineering at Dartmouth College and an MBA from the University of Michigan.

RELEVANT EXPERIENCE

Utility Planning

- Facilitated discussion and developed analysis around New England renewable supply to lead stakeholders to common understanding of the key renewable issues during the Connecticut Procurement Planning Process.
- Developed an Integrated Resource Plan for a Vermont Utility.
- Created 20-year water system master plans for several municipalities.
- Coordinated function groups for a wastewater treatment facility upgrade planning study and created security plans for water utilities.

Renewable and Clean Energy Expertise

- Evaluates wind projects and monitors the RFP process in Oklahoma as an independent evaluator.
- Completed a renewables potential study for a utility client in southern state.

- Updated an extensive study on renewable energy potential and costs to meet current RPS targets for NYSERDA.
- Developed extensive spreadsheet model to determine the bill impact of Solar PV installation for commercial customers in NY.
- Analyzed New England renewable energy supply curve for the Maine Governors task force. Analysis led to re
- Developed and evaluated financial models for both wind farms and landfill gas facilities
- Published peer reviewed paper illustrating the connection between greenhouse gas reduction and waste reduction.

REC Price Forecasting

- Periodically updates La Capra Associates' Renewable Energy Certificate (REC) market forecast for New England and New York
- Estimated the REC price impact of a large New England wind farm on the New England market in future
- Monitors status of renewable energy project and renewable energy policies in the Northeast

EMPLOYMENT HISTORY

La Capra Associates Boston, MA

Consultant *2007 – present*

Independent Consultant Boston, MA

Consultant to Emerging Energy Research and Esty Environmental Partners *2006-2007*

- Conducted U.S. market entry study for European wind turbine manufacturer.
- Conducted U.S. logistics and market sizing study to determine manufacturing strategy for European wind manufacturer.
- Evaluated environmental business opportunities and created a new market entry strategy for a Fortune 500 High Tech company.

Environmental Operating Solutions, Inc. Falmouth, MA

Marketing and Business Development Intern *2005*

- Spearheaded outreach to potential customers, including online and print journal articles resulting in inquiries from China, India, Spain and the U.S.

GE Energy Wind Americas Tehachapi, CA

Consultant *2005*

- Co-led strategic, competitive analysis of transportation in wind turbine industry.

EMPLOYMENT HISTORY – *cont'd.*

Camp Dresser and McKee, Inc. Cambridge, MA

Environmental Engineer *2000–2004*

- Developed and proposed solutions for municipal drinking water and wastewater systems for international engineering consulting firm; and improved water system efficiency through water distribution system modeling.

Tellus Institute Boston, MA

Research Analyst *1998–2000*

- Researched benefits of solid waste management alternatives at non-profit.
- Developed model to quantify the environmental and economic impact of waste reduction. Model was valued at $35,000 and used as an in-kind contribution for projects.

EDUCATION

University of Michigan Ann Arbor, MI

Stephen M. Ross School of Business
Master of Business Administration *2006*

- Emphases in Finance and Corporate Strategy
- Member of Community Consulting Club, Net Impact, and Energy Club

Dartmouth College Hanover, NH

Thayer School of Engineering
Bachelor of Engineering *1998*

Dartmouth College
Bachelor of Arts, Engineering and Earth Science *1997*

- Participated in the Language Study Abroad program in Mainz, Germany.

AWARDS and ASSOCIATIONS

University of Michigan

- Awarded Zell Lurie Institute Entrepreneurial Scholarship.
- Inducted into Business School Honor Society. (Top 20% of Class.)

Attachment B

Project Descriptions

Cape Wind Associates, LLC
Cape Wind Renewable Energy Project
Nantucket Sound, Massachusetts

ESS Group, Inc. is the lead environmental engineer and consultant chosen by Cape Wind Associates, LLC (CWA) for the development of a significant renewable resource power generation project to be sited in the federal waters of Nantucket Sound off of Cape Cod, Massachusetts.

CWA is proposing the development of an offshore wind turbine park, capable of generating up to 468 MW of power. The project involves the siting, permitting, and construction of up to 130 wind turbines, an offshore electric service platform, as well as the submarine cable transmission link, and the upland cable interconnection with New England's power grid. Once completed the project will be one of the largest offshore wind power generation facilities in the world. In support of the Cape Wind Project, ESS successfully completed the permitting for and installation of a site-specific Scientific Measurements Station.

ESS has assisted CWA with the preparation, coordination, and/or completion of numerous federal, state, and local permits, provided Energy Facilities Siting Board (EFSB) technical support and expert witness testimony, and responded to scoping requests by the Department of Interior Minerals Management Service (MMS) during the development of an additional National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS).

ESS also conducted extensive avian field surveys (aerial, boat and land-based), ground truthing of migratory radar studies, and assessment of risk to birds to evaluate potential impacts from the Project. ESS has assisted MMS and USFWS to address Endangered Species Act (ESA) Section 7 consultation issues, and has developed an Avian and Bat Monitoring Plan for the Project as well as an Incidental Harassment Authorization (IHA) for marine mammals. ESS has also supported CWA during Section 106 of the National Historic Preservation Act (NHPA) consultations.

ESS also prepared and submitted the first-ever detailed Navigational Risk Assessment to the US Coast Guard's (USCG) First District, in order to evaluate the possibility for project impacts to marine vessel traffic and USCG search and rescue operations. ESS has also filed and obtained Determinations of No Hazard with the Federal Aviation Administration (FAA).

ESS has prepared an application for a permit for air emissions from project activities that are subject to the Outer Continental Shelf Lands Act. The application has been submitted to the US Environmental Protection Agency (USEPA). Additionally, ESS also provided an air quality conformity analysis and conducted air quality modeling of construction activities to demonstrate that those activities would not cause or contribute to a violation of federal ambient air quality standards.

Relevant Services Include:

- Wind Farm Siting Evaluation
- Transmission Interconnection Study
- Land Fall Alternatives and Upland Cable Linear Routing Analyses
- Environmental Impact Assessments
- Geophysical/Geotechnical Survey Program Management
- Agency Outreach
- Preliminary Siting and Routing Design
- Federal Permitting:
  - US Army Corps of Engineers (USACE) Section 10
  - NEPA EIS
  - USACE Draft Environmental Impact Statement/Report (DEIS/DEIR)
  - MMS Scoping Requests
  - ESA Section 7
  - Section 106 NHPA
  - IHA
  - FAA Determination of No Hazard
  - USEPA Air Permit
- State Permitting:
  - Expanded Environmental Notification Form (ENF) for Massachusetts Environmental Policy Act (MEPA)
  - MEPA Environmental Impact Report (EIR)
  - Energy Facility Siting Board (EFSB)
  - Notice of Project Change for MEPA
  - Final EIR
  - Chapter 91 Waterways License
  - 401 Water Quality Certificate (WQC)
  - MassHighway Department (MHD) Access
  - Executive Office of Transportation (EOT)
  - Federal Coastal Zone Management Consistency – Massachusetts CZM
- Regional Permitting:
  - Cape Cod Commission Development of Regional Impact (DRI) Review
- Avian Field Studies and Monitoring Plan
- Navigational Risk Assessment
- Air Quality Impact Modeling

Please visit: www.capewind.org for more information on the Cape Wind project.

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Deerfield Wind, LLC
45 MW Wind Project
Searsburg and Readsboro, Vermont

ESS Group, Inc. is providing environmental services to the United States Forest Service to prepare the Environmental Impact Statement required under the National Environmental Policy Act for the Deerfield Wind project.

Deerfield Wind is proposing an expansion of the existing 11 turbine Searsburg Wind project which was placed in service in 1997 on 35-acres of private lands adjacent to Green Mountain National Forest (GMNF) land. It consists of eleven, 550 kW wind turbines capable of producing 6 MW of electricity. Deerfield Wind has applied to the Forest Service for a Special Use Permit for authorization to use public lands under the management of the Forest Service for construction and long-term operation of a wind generating facility.

Deerfield Wind is proposing to construct up to 24 wind turbines on Federal land in the Manchester District of the GMNF in the towns of Searsburg and Readsboro, Vermont. The Project would utilize approximately 80-acres of National Forest land generally lying on two separate ridge lines east and west of Vermont Route 8. The expansion would utilize certain facilities and infrastructure of the existing Searsburg Wind Farm including the access road, underground electric collector system, substation, and transmission line. Renewable electric power from the Project is intended to be distributed to the GMP electric grid which is connected to the larger regional transmission grid operated by ISO-New England.

ESS along with co-team member EDR is responsible for assisting the Forest Service as the third party contractor with the preparation of the Draft and Final Environmental Impact Statement. This assistance will include review of studies completed to date and determination of any additional studies required to support the EIS, public outreach, scoping, writing the DEIS, responding to comments, preparation of the FEIS, and Record of Decision.

Relevant Services Include:

- Preparation of a NEPA DEIS and FEIS
- Public Involvement Plan
- Review of Existing Studies and Recommendations for Additional Studies Required for the EIS
- Agency Outreach
- Project Management and Coordination

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Massachusetts Maritime Academy
Wind Turbine Generator Siting
Buzzard's Bay, Massachusetts

ESS Group, Inc. is providing environmental assessment and permitting support for the installation of Massachusetts' first state-owned wind turbine at the Massachusetts Maritime Academy (MMA) in Buzzard's Bay, Massachusetts. The wind turbine will be the first land-based turbine on Cape Cod and will reach approximately 250-feet in height and have a capacity of 660 kW of energy.

ESS has identified local, state, and federal wetland resources in the project vicinity in accordance with the Massachusetts Wetlands Protection Act (MWPA), the Army Corps of Engineers (ACOE) Wetland Delineation Manual (1987), and the Town of Bourne Wetland Protection By-Law and Regulations. ESS will prepare a Notice of Intent (NOI) application for submission to the Bourne Conservation Commission for the proposed work.

A Notice of Proposed Construction or Alternation form (FAA Form 7460-1) will be filed with the FAA Regional Air Traffic Division Office to initiate review of any potential air navigation issues.

ESS will conduct a preliminary assessment of the possible noise impacts of the proposed turbine to predict noise levels at nearby sensitive receptors.

ESS will prepare a Phase 1 Avian Impact Assessment to evaluate potential avian impacts including but not limited to flight patterns and susceptibility to impact with the proposed wind turbine as well as components and identify possible measures such as lighting alternatives that may minimize risk to avian species.

ESS will prepare several simulations from nearby locations to assess visual impacts of the proposed turbine installation and will prepare site plans, suitable to support regulatory permit applications, depicting the nature and extent of the proposed site improvements.

Relevant Services Include:

- Wetland Resource Area Delineation
- Notice of Intent (NOI) Filing
- Noise Analysis
- Avian Impact Assessment
- Visual Simulations
- Federal Aeronautic Administration Review
- Site Plan Preparation

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Town of Hull

Hull Offshore Wind Energy Project: Siting Constraint and Constructability Analysis Hull, Massachusetts

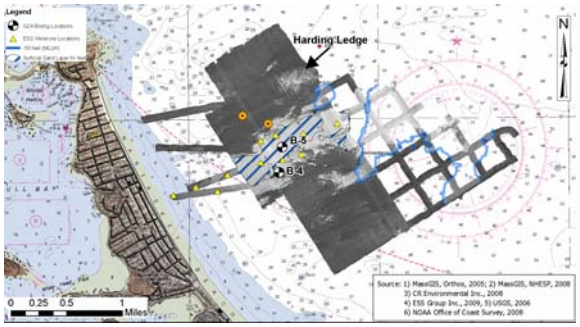
ESS Group, Inc. conducted a siting constraint and constructability analysis on behalf of the Town of Hull, Massachusetts for a proposed offshore wind energy project. The Town is currently assessing the feasibility of constructing and operating up to four 3 MW-class wind turbine generators (WTGs), to be located approximately 1.5 miles off of Nantasket Beach.

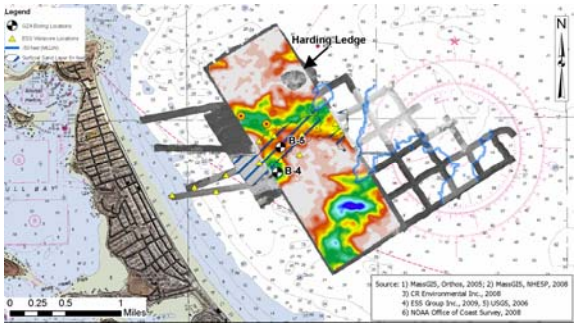
ESS reviewed available published information as well as project-specific geophysical and geotechnical field data to gain insight into the existing geologic conditions. This data included bathymetry, side scan sonar imagery, subbottom acoustic data, vibracores, and borings.

ESS evaluated the presence of critical habitat for threatened and endangered species and performed a real-time video survey to evaluate lobster habitat and other important commercial fisheries in order to incorporate natural resource and economic constraints into the overall siting analysis.

ESS conducted a site visit to assess proposed landfall locations, system interconnection points, and potential upland cable routes. The recommended landfall location will provide substantial cost savings to the Town and will minimize potential impacts to existing natural resources from construction of the Project.

ESS presented its findings to the Town, which included potentially feasible locations for siting the WTGs, proposed submarine cable routes, and recommendations for a phased scope of work to advance the next stage of Project development.





Relevant Services Include:

- Wind Turbine Siting Evaluation
- Geophysical/Geotechnical Data Interpretation
- Submarine Cable Routing Analysis
- Landfall Alternatives, System Interconnections, and Upland Cable Routing Analysis
- Geophysical/Geotechnical Data Interpretation

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Massachusetts Technology Collaborative
Wind Project Feasibility Study
Fairhaven, Massachusetts

ESS Group, Inc. has been retained by Massachusetts Technology Collaborative (MTC) to conduct a wind turbine site screening and feasibility analysis for a town-owned site located adjacent to the Department of Public Works (DPW) Wastewater Treatment Center in Fairhaven, Massachusetts. The purpose of the screening and analysis is to evaluate issues that may affect the ability to site turbines on the municipal property.

ESS evaluated the site wind resource through analysis of data collected on-site and available from other sources. A wind resource profile was developed and the wind resource was evaluated at 80 meters above ground. The Site was also evaluated for any obstructions or characteristics that might impact the wind resource.

ESS assessed the Site physical characteristics including: topography, land cover, land use, access roads, and buildings. The Site electrical infrastructure was evaluated, including existing transmission and/or distribution system line locations and voltages.

ESS identified key visual and noise receptors and characterized the potential level of impact, identified potential airspace restrictions, and estimated the anticipated level of community acceptance. Visual simulations were prepared from several sensitive receptors to present the anticipated appearance of the project

Environmental concerns were also evaluated including the likely presence of rare or endangered species and wetlands, through site inspection and publicly available databases.

The required local, state, federal, and utility interconnection permits and approvals were identified including the level of information necessary to prepare and file necessary permit applications.

A conceptual wind plant configuration was prepared, including number, size, and location of wind turbines. Additionally, ESS prepared a project site plan with preliminary layout of two 1.5 MW wind turbines, components, and interconnection point.

ESS assisted in the preparation of the anticipated energy production and the economic feasibility analysis.

Results were presented in a report and meeting with the MTC and town of Fairhaven Selectmen.

Relevant Services Include:

- Preparation of Wind Turbine Feasibility Study
- Wind Resource Evaluation
- Physical Characteristics Evaluation
- Electrical Infrastructure Assessment
- Noise Analysis
- Site Characteristics
- Environmental Issues Identification
- Permits and Approvals Identification
- Conceptual Wind Plant Configuration
- Project Site Plan
- Meeting and Report Preparation
- Assist in the Estimated Wind Plant Energy Production
- Assist in the Preparation of the Economic Analysis

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RELEVANT PROJECTS

CLIENT:	Town of Hull
PROJECT:	Financial Assessment of Hull Offshore Wind

La Capra Associates is currently performing a financial assessment of installing 12-14 MW of offshore wind, which is scheduled to be one of the first off-shore wind facilities to come online in the United States. The analysis features different capital and operating cost scenarios and utilizes the firm's proprietary energy, REC, and capacity forecasts. Important consideration is being given to different public and private financing options, including incorporation of all available state financial incentives and federal stimulus opportunities.

CLIENT:	Delaware Public Service Commission, Office of Management and Budget, Energy Office, and Controller General
PROJECT:	Independent Consultant for Delaware In-State Generation RFP

By law, four Delaware agencies were required to oversee Delmarva Power & Light's (DPL's) RFP process in procuring long-term contracts for in-state generation, either renewable or conventional. The bidders consisted of an off-shore wind project, an integrated coal gasification project, a gas combined-cycle project, and a gas peaker. La Capra Associates and New Energy Opportunities (NEO) served as the independent evaluator from RFP development through two rounds of PPA negotiations. As part of the effort, we provided the agencies our views on various contract issues and created our independent analysis of project economics and ratepayer impact, separate from Delmarva. The final power purchase agreement with Bluewater's offshore wind project has been approved.

CLIENT:	Massachusetts Technology Collaborative
PROJECT:	Community Wind Program

MTC initiated a program to assist towns that are considering the installation of small wind projects around Massachusetts. La Capra Associates provided analysis and guidance on several of these potential projects as part of a team. We addressed overall project financials and all major components of revenue and expenses. The report for Lynn (MA) is available for review.

http://www.mtpc.org/Project%20Deliverables/Comm_Wind/Lynn/Lynn_Feasibility_Study.pdf

CLIENT:	Oklahoma Commission Corporation (OCC) and Attorney General
PROJECT:	Independent Evaluator for Oklahoma Gas & Electric (OG&E) Wind RFP

La Capra Associates was part of the IE team to work with OG&E to prepare a Wind Only RFP by providing advice and recommendations on all aspects of the RFP, including the economic analysis approach. We also reviewed the entire RFP process, from issuance of the RFP to evaluation and selection.

CLIENT:	Cape Wind Associates
PROJECT:	Provide Market Analysis in Siting Case

Cape Wind's proposed 468 MW off-shore wind project required approval from the Massachusetts Siting Board for a transmission line to deliver the power from the offshore wind farm to the mainland. La Capra Associates analyzed the project's impact on both the renewable energy market and the general wholesale power market, including the project's suppression effects on gas and electricity prices.

CLIENT:	Rhode Island Office of Energy Resources
PROJECT:	Evaluation of renewable energy markets, including off shore wind

La Capra Associates (in cooperation with New Energy Opportunities) advised the energy office during the RFP process to select a project developer to build an offshore wind farm in preselected areas in state and federal waters adjacent to Rhode Island. The project team examined the economics of the project as well as financing requirements and the capabilities of the potential developers.

CLIENT:	Massachusetts Division of Energy Resources
PROJECT:	Feasibility Study Relating to the Renewable Portfolio Standard (RPS)

The Massachusetts Department of Energy Resources (DOER) commissioned La Capra Associates to assist them with assessing the feasibility of instituting certain proposed requirements for Renewable Portfolio Standards (RPS) eligibility as set forth in the Green Communities Act of July 2, 2008 (the Act). The legislation required the DOER to study the feasibility of implementing a capacity requirement for renewable resources outside of New England and a second requirement where certain exports could net out imports of RECs. La Capra Associates conducted an extensive and expedited review of capacity, power market, NEPOOL-GIS rules and operations in New England as input to determining feasibility. The study included certain issues associated with such requirements and the options to address these issues when possible. The report can be found at the following web site:

http://www.mass.gov/Eoeea/docs/doer/gca/rps_import/feas-study-lacapra.pdf

CLIENT:	Massachusetts Division of Energy Resources
PROJECT:	Economic Impact of Energy Efficiency Activities

Alvaro E. Pereira was the project manager and lead author of the annual report on energy efficiency activities produced by the Massachusetts Division of Energy Resources. The legislatively mandated report chronicles the results of the energy efficiency programs installed in a particular program year. The report uses data from the utility program administrators in the Commonwealth to evaluate and calculate the programs' impacts on electric prices, customers' bills, job creation and economic development in the Commonwealth, and the environment, as well as determine how well utilities are meeting their savings goals. A multiregional economic model, REMI, was used to estimate job and economic impacts on the Commonwealth of the energy efficiency programs.

CLIENT:	Massachusetts Division of Energy Resources
PROJECT:	Analysis of Renewable Energy Jobs in Massachusetts

Alvaro E. Pereira conducted an evaluation of the size of the clean energy cluster in Massachusetts related to renewable generation. The work measured the direct job impacts of expanding demand for renewable power both in-state and from other regions. These direct job impacts were then fed into a state-level regional model to calculate indirect and induced impacts.

CLIENT:	Regional Greenhouse Gas Initative States
PROJECT:	Economic Analysis of RGGI Cap

Alvaro E. Pereira, assisted in the economic modeling of the RGGI cap using a multi-state regional economic modeling (REMI). In addition to modeling the economic impacts of price changes to residential and commercial and industrial customers, the team also modeled the economic impacts of shifting from conventional generation to greater use of renewable generation and demand-side measures in order to meet expected overall and peak energy demands over time.

CLIENT:	Connecticut Energy Advisory Board
PROJECT:	Energy Planning and Procurement Services

Various Energy Issues Study

La Capra Associates conducted a two-part study of Connecticut's and other states' energy policies and strategies in light of the overall objective of promoting indigenous energy resources. In Phase I, we developed an understanding of how various state energy entities, and entities with energy- related roles, currently function and interact with one another in energy-related planning and implementation processes. Phase II utilized the jurisdictional gaps, overlaps, and inefficiencies identified in Phase I to make recommendations to fill these gaps and minimizing overlaps in order to enhance organizational, operational and substantive interactions among state entities.

Technical and Policy Development Consulting Services

La Capra Associates provides the Connecticut Energy Advisory Board ("CEAB") with advisory and staff services regarding electric power generation and transmission needs assessment and projects within Connecticut, ISO-NE procedures and planning activities, the impact on the State of Connecticut of FERC rulemaking dockets, monitoring of state regulatory proceedings, and renewable energy generation policies.

Utility Procurement Plan Review

La Capra Associates provides the CEAB with staff and advisory services regarding the annual review of the joint utility electric resource procurement plans. These annual plans are required to consider maximizing peak demand reduction programs, energy efficiency programs, renewable energy generation, combined heat and power facilities, and reliability considerations including generation site utilization, transmission projects and minimizing the risks of dependence on natural gas for electric generation. The inaugural plan was submitted on January 2, 2008 and La Capra Associates' role is on-going in working collaboratively with the utilities on additional options and analyses to arrive at a CEAB endorsed procurement plan.

CLIENT:	Central Maine Company – Maine Power Reliability Program
PROJECT:	Non-Transmission Alternatives and Economic Evaluation of the Maine Power Reliability Program

La Capra Associates was hired by Central Maine Power Company ("CMP") to perform a financial and economic evaluation for a newly-formed project team charged with the responsibility to conduct a comprehensive assessment of the reliability of CMP's 345kV and 115kV transmission system, and the ability of that system to comply with mandatory regional and national reliability standards. In that role, we developed combinations of alternatives to the transmission project that could address the identified reliability needs, and compared financial and economic performance of those resource options to the proposed transmission upgrades. Our analysis considered how each option performed under the societal cost test and the impact on electric rates. We also evaluated the impact on losses and congestion of each alternative. These analyses were supported by extensive market modeling, using PROSYM™, a licensed power market software tool.