
POISED FOR PROFIT II:
DIRECTORY OF SMART ENERGY RESOURCES
IN OREGON AND WASHINGTON

Preliminary Draft
July 30, 2003

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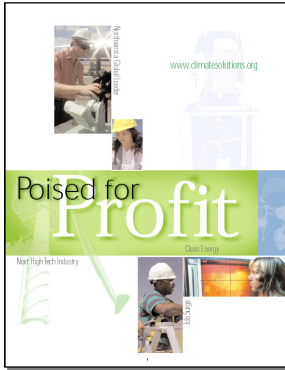
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PREFACE

POISED FOR PROFIT: PROMOTING A NORTHWEST CLEAN ENERGY INDUSTRY



In 2001, eight economic development and energy agencies from Oregon, Washington, and British Columbia commissioned a study: *Poised for Profit: How Clean Energy Can Power the Next High-Tech Job Surge in the Northwest*. The resulting report revealed that the clean energy sector could be twice the size of the aircraft industry within 20 years. What's more, it could generate tens of thousands of new jobs. That first report is available at www.climatesolutions.org in the publications section.

A new partnership has come together to fund follow-on research to support a world-class clean energy industry in the Northwest. *Poised for Profit II*, launched in November 2002, is producing a series of reports containing critical information for investors, entrepreneurs, and policymakers. These tools include:

- Research and analysis to pinpoint the biggest and best opportunities
- Surveys of investor and utility plans
- Inventories of related research reports, companies and support services

This document is an inventory of Smart Energy-related resources in Oregon and Washington. It is one of a series of Athena SuccessDex™ inventories, which are the first steps in the Athena *Regional Competitiveness Program*.

ACKNOWLEDGEMENTS: SPECIAL THANKS TO OUR STEERING COMMITTEE

The Athena Institute would like to recognize the following companies and individuals for their direct contributions to the Poised for Profit initiative in general and this report in particular.

Climate Solutions for conceiving and catalyzing the project and providing oversight, with special thanks to Rhys Roth.

The co-funders and members of our Steering Committee, who provide initial research targets, plus ongoing advice and assistance. In alphabetical order, they are:

- Joe Barra, Portland General Electric
- Lee Cheatham, NW Energy Technology Collaborative
- Ann Griffin, Portland Development Commission
- Mike Hoffman and Kevin O’Sullivan, Bonneville Power Administration
- Paul Johnson, U.S. Department of Energy
- Mark Kendall, Oregon Office of Energy
- Mike Lawrence, Pacific Northwest National Laboratory
- Curt Nichols, Portland Office of Sustainable Development
- Howard Thurston, Oregon Institute of Technology
- Tony Usibelli and Tim Stearns. Washington Office of Trade and Economic Development
- Ben Wolters, Seattle Office of Economic Development

INTRODUCTION

PURPOSE OF THIS DIRECTORY

This directory identifies organizations that provide resources, programs, and information that can accelerate the growth of the Smart Energy marketplace in the Pacific Northwest. It includes five sections:

- **Introduction**, which defines Smart Energy and explains how to use this directory
- **Index by Type of Organization**, which lists resource organizations by type – trade alliance, policy maker, etc.
- **Table of Specific Services**, which lists all the resources providing particular programs
- **Index by City**, which lists the resources by location
- **Alphabetical Resource Profiles**, which provides detailed information on each organization

DEFINITION OF SMART ENERGY

In simplest terms, Smart Energy is the application of digital technology to the electric power industry. Typically, that technology automates and optimizes the power grid. Smart Energy compares in many ways to previous digital revolutions, such as the application of digital technology to computer networks, telecommunications networks and the Internet.

As with those previous examples, Smart Energy is a collection of technologies. Those technologies a) relate to the generation, transmission, distribution or use of electricity and b) include “embedded intelligence” in the form of software, hardware or both.

The electric power industry traditionally talks about a value chain that goes from Generation to Transmission to Distribution to End Use. Smart Energy spans all four categories, as shown in

*Figure 1
Electricity Value Chain*
“Smart Energy” (automation and optimization) extends throughout the electricity value chain.

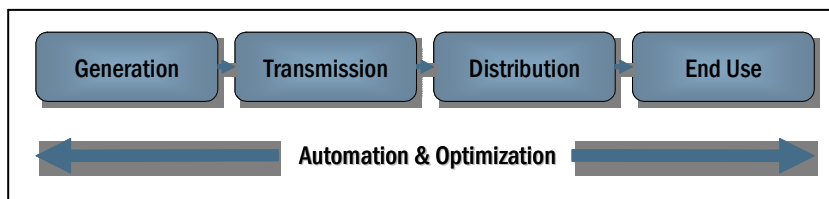


Figure 0.

- **Generation.** Smart Energy products can remotely dispatch, monitor and control generation, and connect it safely to the grid. Software can automate parts of the generation process, from resource planning to asset management.
- **Transmission.** Smart Energy products help to design, analyze, transform, control, condition, switch, monitor, protect and optimize electricity transmission.
- **Distribution.** Smart Energy plays an important role in the distribution of electricity with products such as advanced meters, digital relays and intelligent switches.
- **End use.** Smart motors and appliances can increase efficiency and reduce peak loads. Building automation systems can streamline operations while saving energy.

HOW TO USE THIS DIRECTORY

If you want to understand the nature of the organizations serving the Northwest's Smart Energy sector, browse through the Alphabetical Resource Profiles. You will quickly gain an understanding of the number, the diversity and the strength of the resources supporting this rapidly growing market.

If you are searching for a particular resource, turn to the appropriate index. For instance, you might want to find all of the relevant trade associations (Index by Type of Organization), all of the organizations providing funding (Table of Specific Services) or all of the resources in your immediate locale (Index by State and City). Once you've found what you need, you can get further details by turning to the Alphabetical Resource Profiles at the back.

HOW YOU CAN HELP KEEP THIS DIRECTORY CURRENT

Information in this directory comes from a variety of sources, and every effort is made to make it accurate and up to date. However, change is constant in this fast-paced, emerging market. If you have ideas, additions, changes or updates, please send them to SmartEnergy@theathenainstitute.com.

INDEX BY TYPE OF ORGANIZATION

This section will help you find all of the resources of a particular type. It sorts organizations into ten categories:

- Consulting and Advisory Service Provider
- Federal Agency
- Information Services/Publisher
- Networking Forum
- Policy Group
- Regional Economic Development Group
- Research Laboratory
- State Agency
- Trade Alliance/Trade Association
- University/Educational Institution

Some organizations may fall into more than one category. However, this section lists each organization only once, under its primary category. Once you've found the organization(s) you were looking for, you can turn to the Alphabetical Resource Profiles in the back for more details.

Type of Organization	Name of Organization
Consulting and Advisory Service Provider	Center for Smart Energy Center for Business Intelligence Clean Edge, Inc
Federal Agency	National Technology Transfer Center (NTTC) DOE Distributed Energy and Electric Reliability Program (DEER) DOE Department of Electric Transmission and Distribution (ETD) Bonneville Power Administration DOE Energy Efficiency and Renewable Energy (EERE) DOE Office of Fossil Energy (FE) DOE Office of Power Technologies (OPT)
Information Services/Publisher	Energy Central Energy NewsData Power Online The Utility Connection Energy Prospects Collective Intelligence
Networking Forum	Cleantech Venture Network, LLC MIT Enterprise Forum of the Northwest
Policy Group	Northwest Power and Conservation Council (NWPCC)
Regional Economic Development Group	PNNL Technology Assistance Program Technology Alliance INTEC Northwest Energy Technology Collaborative (NWETC) Spokane Intercollegiate Research and Technology Institute (SIRTI)

Type of Organization	Name of Organization
	Applied Process Engineering Laboratory (APEL)
Research Laboratory	University of Washington Advanced Power Technologies Idaho National Engineering and Environmental Laboratory (INEL) GridWise Alliance National Renewable Energy Lab (NREL) Pacific Northwest National Laboratory (PNNL) Washington State University (WSU) Energy & Power Systems Program
State Agency	Oregon Office of Energy WSU Energy Program Energy Trust of Oregon Washington State Office of Trade & Economic Development (OTED), Energy Policy Division Economic Development Council of Seattle & King County
Trade Alliance/Trade Association	Institute of Electrical and Electronics Engineers (IEEE) WSA Investment Forum National Alliance of Clean Energy Business Incubators Association of Energy Engineers (AEE) Association of Energy Services Professionals (AESP) Smart Energy Business Alliance Automated Meter Reading Association (AMRA) Industrial Customers of Northwest Utilities (ICNU) AeA Washington Council AeA Oregon Council Electric League of the Pacific Northwest Northwest Energy Efficiency Council (NEEC)

Type of Organization	Name of Organization
	<p>Northwest Energy Efficiency Alliance (NWEAA)</p> <p>Northwest Public Power Association (NWPPA)</p> <p>Portland Business Alliance</p> <p>National Business Incubation Association</p> <p>Clean Energy Group</p> <p>Western Energy Institute (WEI)</p>
<p>University/Educational Institute</p>	<p>Washington Technology Center (WTC)</p> <p>Northwest Energy Education Institute</p> <p>Oregon State University School of Electrical Engineering and Computer Science (EECS)</p>

TABLE OF SERVICES OFFERED

This section lists each organization and identifies whether it offers one or more of the following ten services:

- **Business Advice.** Provides advice to aid with the commercialization, management, and growth of a Smart Energy business
- **Education (for Smart Energy companies).** Targets topics for its own members
- **Education (for end-users/customers)** Targets education topics to promote the use of Smart Energy by end-users/customers
- **Funding.** Has its own funds that it can allocate to Smart Energy businesses
- **Funding Support.** Aids Smart Energy businesses in finding funding sources
- **Networking Forums.** Provides opportunities for Smart Energy businesses to network with each other and (sometimes) with customers
- **Policy.** Makes policy that directly affects Smart Energy businesses
- **Policy Recommendations.** Not a policy-making body per se, but does advocate policy changes
- **Prototype Testing.** Supports prototype testing, either through test sites, technical expertise, facilities, or some other method
- **Research.** Provides insights into the market, product and technology issues associated with Smart Energy

Once you've found the organization(s) you were looking for, you can turn to the Alphabetical Resource Profiles in the back for more details..

Name	Business Advice	Educ (members)	Educ (end users)	Funding	Funding Support	Netwrk Forums	Policy	Policy Recomm	Proto-type	Research
AeA Oregon Council	X	X			X	X		X		X
AeA Washington Council	X	X			X	X		X		X

Name	Business Advice	Educ (members)	Educ (end users)	Funding	Funding Support	Netwrk Forums	Policy	Policy Recomm	Proto-type	Research
Applied Process Engineering Laboratory (APEL)	X					X			X	
Association of Energy Engineers (AEE)		X	X			X				
Association of Energy Services Professionals (AESP)	X	X				X				X
Automated Meter Reading Association (AMRA)		X				X		X		X
Bonneville Power Administration			X	X					X	X
Center for Business Intelligence	X		X			X				
Center for Smart Energy	X	X	X		X	X		X		X
Clean Edge, Inc	X		X		X	X		X		X
Clean Energy Group	X		X					X		
Cleantech Venture Network, LLC	X		X		X	X				

Name	Business Advice	Educ (members)	Educ (end users)	Funding	Funding Support	Netwrk Forums	Policy	Policy Recomm	Proto-type	Research
Collective Intelligence			X			X				X
DOE Department of Electric Transmission and Distribution (ETD)			X	X			X	X		X
DOE Distributed Energy and Electric Reliability Program (DEER)			X	X					X	X
DOE Energy Efficiency and Renewable Energy (EERE)				X	X		X			X
DOE Office of Fossil Energy (FE)				X			X			X
DOE Office of Power Technologies (OPT)				X						X
Economic Development Council of Seattle & King County	X			X	X	X				
Electric League of the Pacific Northwest		X	X			X		X		

Name	Business Advice	Educ (members)	Educ (end users)	Funding	Funding Support	Netwrk Forums	Policy	Policy Recomm	Proto-type	Research
Energy Central			X			X				X
Energy NewsData			X					X		X
Energy Prospects			X			X				X
Energy Trust of Oregon			X	X				X		X
GridWise Alliance			X							X
Idaho National Engineering and Environmental Laboratory (INEL)	X		X						X	X
Industrial Customers of Northwest Utilities (ICNU)			X					X		
Institute of Electrical and Electronics Engineers (IEEE)		X				X				X
INTEC			X			X				X
MIT Enterprise Forum of the Northwest		X	X		X	X				
National Alliance of Clean Energy Business Incubators	X	X	X	X	X	X				

Name	Business Advice	Educ (members)	Educ (end users)	Funding	Funding Support	Netwrk Forums	Policy	Policy Recomm	Proto-type	Research
National Business Incubation Association	X	X				X		X		X
National Renewable Energy Lab (NREL)	X		X	X	X	X			X	X
National Technology Transfer Center (NTTC)	X					X				X
Northwest Energy Education Institute			X							
Northwest Energy Efficiency Alliance (NWEEA)	X			X		X		X		X
Northwest Energy Efficiency Council (NEEC)		X				X		X		
Northwest Energy Technology Collaborative (NWETC)			X		X	X			X	
Northwest Power and Conservation Council (NWPCC)		X	X			X		X		X

Name	Business Advice	Educ (members)	Educ (end users)	Funding	Funding Support	Netwrk Forums	Policy	Policy Recomm	Proto-type	Research
Northwest Public Power Association (NWPPA)		X				X		X	X	X
Oregon Office of Energy				X						
Oregon State University School of Electrical Engineering and Computer Science (EECS)		X								X
Pacific Northwest National Laboratory (PNNL)	X			X					X	X
PNNL Technology Assistance Program	X		X		X	X				
Portland Business Alliance	X	X	X			X				
Power Online			X			X				X
Smart Energy Business Alliance		X	X					X		
Spokane Intercollegiate Research and Technology Institute (SIRTI)	X				X					X

Name	Business Advice	Educ (members)	Educ (end users)	Funding	Funding Support	Netwrk Forums	Policy	Policy Recomm	Proto-type	Research
Technology Alliance	X		X	X	X	X				X
The Utility Connection			X			X				X
University of Washington Advanced Power Technologies		X							X	X
Washington State Office of Trade & Economic Development (OTED), Energy Policy Division	X			X	X					
Washington State University (WSU) Energy & Power Systems Program		X								X
Washington Technology Center (WTC)				X		X				X
Western Energy Institute (WEI)	X	X				X				X
WSA Investment Forum	X	X	X		X	X				
WSU Energy Program	X		X							X

INDEX BY STATE AND CITY

Use this section to find all the Smart Energy resources in a given locale. For details about those companies, turn to the Alphabetical Resource Profiles at the back of this document.

In the table below, we've first identified those organizations located in Oregon and Washington that have programs relevant to the Smart Energy Sector. We've also identified a select number of organizations outside the region that have some connection back into our local Smart Energy sector.

RESOURCES LOCATED INSIDE THE REGION

State	City	Name of Organization
OR	Corvallis	Oregon State University School of Electrical Engineering and Computer Science (EECS)
	Eugene	Northwest Energy Education Institute
	Lake Oswego	AeA Oregon Council
	Portland	Industrial Customers of Northwest Utilities (ICNU)
		Bonneville Power Administration
		Energy Trust of Oregon
		Western Energy Institute (WEI)
Salem	Northwest Energy Efficiency Alliance (NWEEA)	
	Northwest Power and Conservation Council (NWPPCC)	
WA	Bellevue	Portland Business Alliance
	Olympia	Oregon Office of Energy
		Electric League of the Pacific Northwest
	Pullman	WSU Energy Program
Redmond	Washington State Office of Trade & Economic Development (OTED), Energy Policy Division	
	Washington State University (WSU) Energy & Power Systems Program	
	Center for Smart Energy	

State	City	Name of Organization
		Smart Energy Business Alliance AeA Washington Council
	Richland	PNNL Technology Assistance Program GridWise Alliance Applied Process Engineering Laboratory (APEL) Pacific Northwest National Laboratory (PNNL)
	Seattle	University of Washington Advanced Power Technologies WSA Investment Forum Washington Technology Center (WTC) Northwest Energy Efficiency Council (NEEC) Technology Alliance Northwest Energy Technology Collaborative (NWETC) MIT Enterprise Forum of the Northwest Energy NewsData Energy Prospects Economic Development Council of Seattle & King County
	Spokane	INTEC Spokane Intercollegiate Research and Technology Institute (SIRTI)
	Vancouver	Northwest Public Power Association (NWPPA)

RESOURCES LOCATED OUTSIDE THE REGION WITH A REGIONAL CONNECTION

State	City	Name of Organization
CA	Oakland	Clean Edge, Inc
	San Francisco	Collective Intelligence
CO	Denver	Energy Central

State	City	Name of Organization
	Golden	National Alliance of Clean Energy Business Incubators National Renewable Energy Lab (NREL)
DC	Washington	DOE Distributed Energy and Electric Reliability Program (DEER) DOE Department of Electric Transmission and Distribution (ETD) DOE Energy Efficiency and Renewable Energy (EERE) DOE Office of Fossil Energy (FE) DOE Office of Power Technologies (OPT)
FL	Jupiter	Association of Energy Services Professionals (AESP)
	Kissimmee	The Utility Connection
GA	Atlanta	Association of Energy Engineers (AEE)
ID	Idaho Falls	Idaho National Engineering and Environmental Laboratory (INEL)
IL	Northbrook	Automated Meter Reading Association (AMRA)
MA	Woburn	Center for Business Intelligence
MI	Ypsilanti	Cleantech Venture Network, LLC
NY	New York	Institute of Electrical and Electronics Engineers (IEEE)
OH	Athens	National Business Incubation Association
PA	Horsham	Power Online
VT	Montpelier	Clean Energy Group
WV	Wheeling	National Technology Transfer Center (NTTC)

ALPHABETICAL RESOURCE PROFILES

Below is an alphabetical listing of Washington and Oregon organizations providing resources to the Smart Energy sector, along with details about their operations in this region.

To find all the organizations in a certain category, turn to the Index by Type of Organization. To find particular programs, turn to the Table of Specific Services. To find companies in a particular vicinity, turn to the Index by City.

In addition to contact information and basic company demographics, resources were coded into organization types, and major program categories. You will also find detailed descriptions of specific Smart Energy programs and membership information, where available.

AEA OREGON COUNCIL

5285 SW Meadows Rd, Suite 200
Lake Oswego, OR 97035
Phone: (503) 624-6050
Fax: (503) 624-9354
[www.aeanet.org/AeACouncils/ORCouncilStart.a
sp](http://www.aeanet.org/AeACouncils/ORCouncilStart.asp)

**Organization
Type:**

Trade Alliance/Trade Association

**Major
Services:**

- Funding Support
- Policy Recommendations
- Education of SE Companies
- Research
- Business Advice
- Networking

Membership: AeA Corporate members: Companies whose principal business either designs, manufacturers, or conducts research in electronics, electronic components, telecommunications, software, the Internet and/or related information technology products and services.

AeA Associate members: Financial or business organizations who do not qualify for Corporate membership, but who maintain important business relationships with the high-tech industry.

Established in 1943, AeA has grown to be the nation's largest high-tech trade association. AeA represents 3,000+ companies spanning the high-technology sector, with products ranging from software, semiconductors, medical devices and computers to Internet technology, advanced electronics and telecommunications systems and services. With 17 regional U.S. councils--including Lake Oswego, Oregon--and offices in Brussels and Beijing, AeA offers global policy grassroots capability and a wide portfolio of business services and products for the high-tech industry.

AeA provides publicly traded technology companies the opportunity to present their technologies, strategic missions, trend analysis and other significant information to technology investors in annual public conferences. AeA offers members executive management training programs and other education venues to strengthen leadership and business performance. Members can access AeA's online Member Directory and Small Business Resources including newsletters; the Small Business Advisory Task Force; online networking forums and professional events throughout the year; HR services and tools to build small businesses, and information on how to improve the small business' bottom line. AeA SPAN (State Policy Action Network) identifies emerging trends in state legislatures and tracks major legislation in all 50 states online. AeA also provides a subscription-based, on-demand salary survey product for the high-tech industry, with the current pay and benefit data.

AeA WASHINGTON COUNCIL

8575 154th Ave NE
Redmond, WA 98052
Phone: (425) 497-1707
Fax: (425) 497-1709
www.aeanet.org/AeACouncils/WACouncilStart.asp

Organization

Type: Trade Alliance/Trade Association

Major Services:

- Funding Support
- Policy Recommendations
- Education of SE Companies
- Research
- Business Advice
- Networking

Membership: AeA Corporate members: Companies whose principal business either designs, manufacturers, or conducts research in electronics, electronic components, telecommunications, software, the Internet and/or related information technology products and services.

AeA Associate members: Financial or business organizations who do not qualify for Corporate membership, but who maintain important business relationships with the high-tech industry.

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AeA provides publicly traded technology companies the opportunity to present their technologies, strategic missions, trend analysis and other significant information to technology investors in annual public conferences. AeA offers members executive management training programs and other education venues to strengthen leadership and business performance. Members can access AeA's online Member Directory; Small Business Resources including newsletters; the Small Business Advisory Task Force; online networking forums and professional events throughout the year; HR services and tools to build small businesses, and information on how to improve the small business' bottom line. AeA SPAN (State Policy Action Network) identifies emerging trends in state legislatures and tracks major legislation in all 50 states online. The AeA Washington Council conducts and publishes surveys within electronics, software, and information technology companies to establish financial and operational benchmarks--such as common-sized income statements, balance sheets and staffing by department--to provide members with objective standards for comparable company performance.

APPLIED PROCESS ENGINEERING LABORATORY (APEL)

350 Hills Street, Suite 101
Richland, WA 99352
Phone: (509) 372-5146
Fax: (509) 372-5143
www.apel.org

Organization

Type: Regional Economic Development Group

Major

Services:

- Prototype Testing
- Business Advice
- Networking

APEL is an Eastern Washington incubator focusing on science, technology & manufacturing. One of APEL's primary purposes is to promote development of new businesses and product lines leading to new jobs in the local communities. APEL encourages collaboration and cross fertilization among new business startups, companies developing new products, entrepreneurs, university and national laboratory research staff, and vendors demonstrating new technologies.

APEL offers space for engineering and manufacturing, wet labs, bio labs, and electronics labs. APEL's utilities, services, and permits may be used to test and conduct initial manufacturing for prototypes or pilot plants. APEL supplies process and hood off gas connections, compressed air, vacuum, water and power, as well as air and water discharge permits, a waste storage permit, and an RCRA Research and Development permit.

APEL is supported and sponsored by major Tri-Cities' institutions including the Port of Benton, the Department of Energy, Energy Northwest, Washington State University, Battelle Memorial Institute, Pacific Northwest National Laboratory, the City of Richland, and the Tri-Cities Industrial Development Council.

APEL could be an excellent springboard for a Smart Energy startup willing to locate in Eastern Washington. It provides not just space and facilities, but access to ideas, technologies and advice from nearby labs.

ASSOCIATION OF ENERGY ENGINEERS (AEE)

4025 Pleasantdale Rd, Suite 420
Atlanta, GA 30340
Phone: (770) 447-5083
Fax: (770) 446-3969
www.aeecenter.org

**Organization
Type:**

Trade Alliance/Trade Association

**Major
Services:**

- Education of SE Companies
- Education of End Users/
Customers
- Networking

Membership: AEE membership is available on an individual and corporate basis in the national organization, as well as through affiliated divisions. Over 9,000 professionals in 67 local and regional chapters currently comprise the AEE membership.

**Membership
Fees:**

- Senior Member. \$155.00 - Graduate of an engineering college or university or a registered Professional Engineer or Architect with six years' experience in energy engineering or energy management.
 - Member. \$155.00 - Holding an engineering, architectural, business, or law degree, or a registered Professional Engineer or Architect.
 - Affiliate Member. \$155.00 - Interested in the objectives of AEE, not meeting the criteria to be a full member.
 - Student Member. \$15.00 - A full-time matriculated student (send evidence of full-time student status).
 - Retired Member. \$15.00 - A retired full-time Engineer or Architect who is no longer involved in any career activity.
-

The Association of Energy Engineers is committed to helping members' firms or clients increase energy efficiency, utilize innovative energy service options, enhance environmental management programs, upgrade facility operations, and improve equipment performance--while increasing the firm's or client's bottom line. Member benefits include newsletters and technical journals, VIP member discounts, and an invitation to participate in certification programs, conferences and trade shows.

Each year, AEE polls its members on vital issues impacting the energy, facility management, utility, environment, and power industry. Results of the survey in areas such as Salaries, AEE Member Opinions, Energy Services, and the Cogeneration & Competitive Power Institute Survey, are published in issues of the member publication "AEE Energy Insight." AEE gives special recognition locally, regionally, and nationally, to individuals and companies who have demonstrated notable contributions to the profession and exceptional service to the Association. The Energy Managers' Hall of Fame recognizes individuals for their lifetime achievements in promoting both the practices and principles of energy management. Undergraduate scholarship assistance is provided through the Foundation of the Association of Energy Engineers, a nonprofit organization dedicated to furthering education in energy and management. AEE membership includes discounts on training programs, subscriptions to technical publications, discounts on professional services, and industry networking opportunities.

ASSOCIATION OF ENERGY SERVICES PROFESSIONALS (AESP)

17610 128th Trail N
Jupiter, FL 33478
Phone: (561) 575-2334
Fax: (561) 575-4688
www.aesp.org

Organization Type: Trade Alliance/Trade Association
Major Services:

- Education of SE Companies
- Research
- Business Advice
- Networking

Membership: Members come from a variety of disciplines including marketing, engineering, economics, planning and market research, and work for organizations such as utilities, consulting firms, energy service companies, utility marketing affiliates, manufacturers, governmental agencies, financial institutions and trade associations.

Membership Fees:

- One year: \$195
- Two years: \$360
- Three years: \$525

Founded in 1989, the Association of Energy Services Professionals (AESP) International offers information and events of interest to the field of energy services. Separate topic committees address areas such as intelligence concerning marketing, customer research, energy services technologies, pricing and load profiling, and communications. In addition to publications, training courses and conferences, the AESP provides networking opportunities which lead to the frequent formation of alliances and partnerships among AESP members.

AESP members receive "Strategies," a quarterly newsletter of energy services events, interviews, key issues, case studies, job opportunities, and professional directory. The "Utility Restructuring Weekly Update" provides an email summary of the latest developments in restructuring, mergers, and state-by-state information. The AESP Member Directory functions as a comprehensive "yellow pages," both in print and online, for energy services professionals. The annual National Energy Services Conference, co-sponsored by EPRI and EEI, brings together utilities, ESCOS, manufacturers, regulators, large energy consumers and others to share insights and experiences in the field. AESP members, and others, are invited to submit abstracts for consideration to be included in the conference program.

AUTOMATED METER READING ASSOCIATION (AMRA)

60 Revere Dr, Suite 500
Northbrook, IL 60062
Phone: (847) 480-9628
Fax: (847) 480-9282
www.amra-intl.org

Organization

Type: Trade Alliance/Trade Association

Major

- Services:
- Policy Recommendations
 - Education of SE Companies
 - Research
 - Networking

Membership: Membership is required to gain access to AMRA benefits.

- Membership Fees:**
- Full voting members: \$225
 - Associate members (from companies already represented by a full member): \$175
-

AMRA is a nonprofit organization founded to address standardization, justification and deployment practices in the application and advancement of enhanced customer-service and resource-management technologies. AMRA's mission is to provide AMR information and educational resources worldwide by advocating standards and the use of advanced metering technologies.

AMRA is a resource for corporations, utility departments or authorities, associations, public interest groups and others interested in the development and application of advanced metering and communications services. Members include representatives of electric, gas and water utilities, telemetry service users, communications carriers, manufacturers of communications systems and components, standards organizations, industry associations, regulatory agencies, vendors of utility automation products and services, consulting companies, research organizations, and investment analysts. AMRA members receive newsletters, AMR Trials & Installations reports and updates, and discounted registration fees for educational events. The AMRA online directory lists representatives from every major AMR provider as well as technology experts from nearly 400 utilities. An annual International Symposium gathers top international utility innovators and vendors and provides educational sessions covering recent topics of interest to the industry.

BONNEVILLE POWER ADMINISTRATION

905 NE 11th Ave
Portland, OR 97232
Phone: (503) 230-3000
Toll Free Phone: (800) 282-3713
www.bpa.gov
www.bpa.gov/energy/n/tech/

Organization Type: Federal Agency

Major Services:

- Funding
- Prototype Testing
- Education of End Users/ Customers
- Research

A federal agency headquartered in Portland, Oregon, the BPA markets wholesale electricity and transmission to the Pacific Northwest's public and private utilities (and to some large industrial customers).

BPA provides about half the electricity used in the Northwest and operates over three-fourths of the region's high-voltage transmission.

In addition to its power marketing, BPA conducts several programs related to conservation, efficiency and distributed generation. Examples include the Conservation and Renewables Discount Program, the Energy Star program and the Fuel Cell Partnership.

BPA's Demand Exchange is a pilot program that provides benefits to customers who curtail load during critical times. Its Energy Web initiative is a concept and loose coalition of those interested in the Smart Energy program.

Along with the nation's other three power marketing administrations, BPA is a distinct and self-contained entity within the Department of Energy, much like a wholly owned subsidiary of a corporation. Although BPA is part of the Department of Energy, it is not tax-supported. Instead, BPA recovers its costs through sales of electricity and transmission and repays the U.S. Treasury in full with interest for any money it borrows.

BPA has been a pioneer in the smart, interconnected, interactive grid. It has led the way with key concepts, meetings and demonstration projects. Recent financial challenges brought about by the Enron/California power crisis have reduced its ability to fund new programs, but it continues to play an important role in conceiving and catalyzing Smart Energy initiatives.

CENTER FOR BUSINESS INTELLIGENCE

500 West Cummings Park, Suite 5100
Woburn, MA 01801
Phone: (781) 939-2429
Fax: (781) 939-2495
Toll Free Phone: (800) 817-8601
www.cbinet.com

**Organization
Type:**

Consulting and Advisory Services

**Major
Services:**

- Education of End Users/
Customers
- Business Advice
- Networking

The Center for Business Intelligence (CBI) is dedicated to developing conferences in pharmaceuticals\biotech, domestic and international energy, risk and insurance and managed care. CBI's International and Domestic Energy Division was launched in 1995 and produces 30-40 events a year for this industry, with international energy conferences focused on privatization and development opportunities in specific countries, regions or industry sectors. CBI's domestic energy conferences examine the most current issues arising from the ongoing deregulation of electric and gas markets. The Center for Business Intelligence is an affiliate of the international business conference and exposition producer, World Congress, LLC.

CBI's seminars, taught in an academic setting, are a series of highly focused courses that highlight practical and advanced technical fundamentals within each arena covered, which include pharmaceuticals\biotech, domestic and international energy, risk and insurance and managed care industries. These courses are for both entry level and seasoned professionals to explore, learn and discuss the latest methods and technologies. CBI provides a speakers' bureau and rental of mailing lists from CBI's database of over 700,000 names of conference attendees in domestic and international power, finance, telecommunications, transportation, logistics, infrastructure development, the environment, pharmaceuticals and managed healthcare industries.

CENTER FOR SMART ENERGY

15127 NE 24th St, Suite 358
Redmond, WA 98052
www.centerforsmartenergy.com

**Organization
Type:**

Consulting and Advisory Services

**Major
Services:**

- Funding Support
 - Policy Recommendations
 - Education of SE Companies
 - Education of End Users/
Customers
 - Research
 - Business Advice
 - Networking
-

The Center for Smart Energy is building North America's competitiveness in the Smart Energy Sector. The Center provides research and tools to investors, energy businesses, traditional utilities, and regional leaders to help commercialize energy technologies for the grid and end-use.

For investors, smart energy businesses, and utilities: Market research series on various smart energy product areas, Smart Energy company profiles, Market Watch newsletters, Industry Insider networking events, custom research and consulting.

For regional leaders: Regional competitiveness program that includes research, action-oriented roundtables, newsletters, and economic development support to grow smart energy sectors.

The Center for Smart Energy is managed by The Athena Institute.

CLEAN EDGE, INC

6 Hillwood Place
Oakland, CA 94610
Phone: (510) 451-3100
www.cleannedge.com

Organization

Type: Consulting and Advisory Services

Major Services:

- Funding Support
 - Policy Recommendations
 - Education of End Users/ Customers
 - Research
 - Business Advice
 - Networking
-

Clean Edge provides a variety of research services focused on clean energy to help investors, policy makers, companies, and nonprofits understand and profit from emerging clean-energy technologies. Clean Edge offers insight and intelligence on and analysis of clean-energy trends through industry research reports; online publications and databases; technology, policy, and financial trends analysis; and co-sponsored conferences and events.

Clean Edge's Research Services track and analyze global clean-energy investment, technology, and market trends and opportunities. CleanEdge publishes "CLEANWATCH," a free twice-monthly e-newsletter; researches and publishes publicly available reports--some free, others by subscription--focusing on clean technology issues for both innovators and investors; conducts proprietary client research and publishes findings for a range of investment and market-driven organizations; provides business consulting services for "green" organizations facing the challenges of growth; tracks the stocks of leading clean-technology companies traded on major US exchanges; and co-produces clean-energy focused conferences and events.

Co-founder Joel Makower is creator of Greenbiz.com, a nonprofit organization providing free online environmental resources and tools to help the mainstream business community align environmental responsibility with success. Makower is also editor of The Green Business Letter, a monthly publication that helps companies, associations, universities, and others go beyond environmental compliance and integrate environmental thinking throughout their organizations in profitable ways.

Co-founder Ron Pernick is founder and a principal in a separate environmental business consulting practice, Web Strategies, to help Internet-based companies and non-profits develop strategic communication and business development programs.

Affiliate sites include www.greenbiz.com , www.greenbizletter.com., and www.webstrategies.com.

CLEAN ENERGY GROUP

50 State Street, Suite 1

Montpelier, VT 05602

Phone: (802) 223-2554

Fax: (802) 223-4967

www.cleanegroup.org

www.cleanenergyfunds.org

Organization

Type:

Trade Alliance/Trade Association

Major

Services:

- Policy Recommendations
- Education of End Users/
Customers
- Business Advice

Clean Energy Group (CEG) is a non-profit organization dedicated to greater use of cleaner energy technologies, such as fuel cells and solar, in newly restructured energy markets. CEG also promotes policies and programs that support replacement of the existing electricity generation system with new, less polluting power generation technologies. CEG operates as a "market assist" catalyst to build a clean energy marketplace by working with engineers, policy analysts and economists, and other energy consultants to provide information, advocacy and analysis to develop market opportunities for clean energy. CEG is funded by the Energy Foundation, the Rockefeller Brothers Fund, Surdna Foundation and the Emily Hall Tremain Foundation.

CEG established the Clean Energy Funds Network (CEFN), a project to coordinate the public clean energy funds of 14 states. Through CEFN, CEG serves as a strategic broker to increase the quantity and quality of clean energy deals for state investment. CEG educates corporate and industrial customers about fuel cells by presenting economic and engineering expertise in industry forums. CEG develops energy market reform initiatives, including public education on green power, creative financing, new economic value markets and business development strategies.

The Clean Energy Funds Network (CEFN) operates through the Clean Energy States Alliance (CESA), a non-profit project that provides information and technical services to the 14 states that have established funds to promote renewable energy and clean energy technologies. CESA works with those states to build and expand clean energy markets across the US. CESA members have requested a meeting with the White House Office of Homeland Security and the Federal Emergency Management Agency to propose a new partnership that links distributed clean energy and energy security.

CLEANTECH VENTURE NETWORK, LLC

Ypsilanti, MI 48197
Phone: (734) 528-2979
Fax: 734) 528-2961
www.cleantechventure.com

**Organization
Type:**

Networking Forum

**Major
Services:**

- Funding Support
- Education of End Users/
Customers
- Business Advice
- Networking

Membership: CLEANTECH Venture Forum membership is open to all companies that are commercializing clean technologies.

Membership Fees: No cost for Member Companies to join and post executive summaries.

The Cleantech Venture Network helps investors and others profitably facilitate the growth of young companies with the potential to deliver major economic, environmental and social benefits. CLEANTECH organizes venture forums, provides deal flow, publishes its venture monitors and offers related services to investors and entrepreneurs as it develops a community of money managers, business executives, professional advisors, and other stakeholders active in the cleantech venture arena. The Cleantech Venture Network uses the following industry segments in its definition of Cleantech: Energy Generation; Energy Storage; Energy Infrastructure; Energy Efficiency; Transportation & Logistics; water Purification & Management; Air Quality; Materials & Nanotechnology; Manufacturing/Industrial; Agriculture & Nutrition; Materials Recovery and Recycling; Environmental IT and Enabling Technologies.

All companies who are commercializing clean technologies may become Member Companies and advertise their executive summaries to Member Investors initially for no cost. Member Companies control their own future updates and what information they want investors to see.

For companies ready to attract venture capital, the CLEANTECH Venture Forum provides selected applicants the opportunity to present to and network with a large audience of interested and qualified investors. The CLEANTECH Venture Forum will assist selected companies to prepare a targeted presentation for appropriate audiences. For companies at earlier stages of development, the network provides training, consulting services, and business plan reviews at modest cost. Venture 501 training seminars provide entrepreneurial companies an intensive introduction to the dynamics of raising capital. In addition, a CLEANTECH service provider directory assists companies in identifying others who may be of particular assistance in capital raising and business development efforts.

COLLECTIVE INTELLIGENCE

2130 Fillmore St, Suite 283
San Francisco, CA94115
Phone: (415) 440-4602
www.collectiveintelligence.net

Organization

Type: Information Services/Publisher

Major

Services:

- Education of End Users/
Customers
- Research
- Networking

Collective Intelligence transforms isolated knowledge into a network of freely shared information to accelerate the flow of capital and other resources to companies and projects that positively impact social and economic problems and help create sustainable local businesses. Through tailored consulting services, market information, newsletters, analysis, and networking events, CI's team of entrepreneurs is building a portfolio of offerings designed to help link capital to important entrepreneurial initiatives, both in the US and overseas.

Collective Intelligence's current and proposed projects provide market research to increase the flow of capital to companies that provide both competitive financial and social returns--so-called double bottom line, or 2BL companies. The 2BL arena currently lacks a variety of key mechanisms to link buyers and sellers through intermediaries, such as social venture funds and philanthropic networks. Collective Intelligence's Double Bottom Line (2BL) Market Tool is a project coordinated by the Milken Foundation and a variety of leaders in the social capital marketplace. The 2BL project involves developing a prototype for an accessible, web-based tool to provide potential 2BL investors with a broad spectrum of data that will help them make better investment decisions, and graphic portrayals of 2BL investment options differentiated by common financial and social metrics. These mechanisms are being developed to bring to the 2BL marketplace the same kinds of mature mechanisms that enable the mainstream venture arena, and to motivate potential 2BL investors to increase their investment activity. The 2BL Market Tool is the first of a number of proposed mechanisms that address the question, "What causes investors to make or avoid investments in 2BL?"

Collective Intelligence was co-founded by Kevin Jones, Marc Beam, and Gary A. Bolles, well known for their collective expertise in emerging technologies and global and social entrepreneurship. Collective Intelligence's website provides links to CI's "Social Capital Map: the Virtue Marketplace," an operating system for an open source economy; an early version of "the Appropriate Technology Map"; and a full version of the "Clean Technology Map," an "open source view of the landscape."

DOE DEPARTMENT OF ELECTRIC TRANSMISSION AND DISTRIBUTION (ETD)

DOE
1000 Independence Ave, SW
Washington, DC 20585
Fax: (202) 586-4403
Toll Free Phone: (800) 342-5363
www.doe.gov

Organization Type: Federal Agency

Major Services:

- Funding
- Policy Recommendations
- Policy
- Education of End Users/ Customers
- Research

The DOE's newly formed Office of Electric Transmission and Distribution will promote policies and research in support of a reliable, intelligent power grid. As of this writing, the department has been formed and partially staffed, but has not yet established a Web site.

As it comes on line, ETD will spend tens of millions each year on Smart Energy research in a variety of different programs -- some new, some transferred from other departments. It will play a major role in restructuring markets and transmission agreements. It has begun work on a National Grid Vision document and a National Grid Roadmap, both of which should be available in the fall of 2003.

The majority of ETD's programs will relate directly to Smart Energy. We expect this department to become an important source for standards, research grants, demonstration projects and other programs of value to Smart Energy companies.

DOE DISTRIBUTED ENERGY AND ELECTRIC RELIABILITY PROGRAM (DEER)

Mail Stop EE-1
Department of Energy
Washington, DC 20585
Phone: (202) 586-9220
www.eere.energy.gov/deer.html

Organization Type: Federal Agency

Major Services:

- Funding
- Prototype Testing
- Education of End Users/ Customers
- Research

Formerly known as the Distributed Energy Resources Program, DEER has a goal of seeing 20% of new electrical generation accomplished through distributed generation by 2010. It seeks to enhance the effectiveness of research, development, demonstration, education, and implementation of distributed energy. It conducts research, outreach and collaborative technology transfer partnerships.

DER supports research into a national grid; works to eliminate barriers to Combined Heat and Power (CHP); and helps to develop advanced microturbines, reciprocating engines and fuel cells with a vision towards an integrated energy system. It conducts supporting R&D in enabling technologies, including power electronics, sensors and controls and DG interconnection.

The Distribution & Interconnection R&D program (www.eere.energy.gov/distributedpower) supports research into standards, barriers and other interconnection issues.

One of the many overlapping/interlocking DOE offices that has relevance to Smart Energy. As of this writing, the DOE is undergoing a reorganization and often has both old and new Web sites operational at the same time.

DOE ENERGY EFFICIENCY AND RENEWABLE ENERGY (EERE)

Mail Stop EE-1

Department of Energy

Washington, DC 20585

Phone: (202) 586-9220

Toll Free Phone: (800) 363-2211

www.eere.energy.gov

Organization

Type: Federal Agency

Major

Services:

- Funding
- Funding Support
- Policy
- Research

EERE creates public-private partnerships to enhance energy efficiency and bring clean energy technologies to the marketplace.

EERE manages eleven programs that invest in high-risk, high-value research. Much of EERE's funding is distributed to private firms, educational institutions, nonprofit organizations, state and local governments, Native American organizations, and individuals through competitive solicitations. It focuses on partnerships to ensure the eventual market acceptance of the technologies.

EERE offers a variety of partnership mechanisms including such high profile examples as Allied Partners, Clean Cities, EnergySmart Schools, FreedomCar, and Million Solar Roof Initiative.

DOE's Seattle Regional Office publishes a monthly compilation of solicitations related to energy efficiency, renewable energy, and sustainable development (www.eere.energy.gov/sro/solicitations.html).

EERE also works with stakeholders to develop programs and policies to facilitate the deployment of clean energy technologies and practices.

DOE's regional EERE offices in Atlanta, Boston, Chicago, Denver, Philadelphia and Seattle work with states and communities to promote EERE programs by identifying and engaging community and state partners and integrating EERE programs with public and private sector activities.

For Smart Energy companies with a strong energy efficiency angle, EERE can be a great source of funding and a link to valuable partnerships. Patience is required to successfully navigate the lengthy solicitation process. If you don't find a program just to your needs, then you must find an internal champion to design and propose a new program -- an even longer process.

DOE OFFICE OF FOSSIL ENERGY (FE)

US Department of Energy
1000 Independence Ave SW
Washington, DC 20585
Phone: (202) 586-6503
Fax: (202) 586-5146
www.fossil.energy.gov

Organization
Type: Federal Agency
Major
Services:

- Funding
- Policy
- Research

This DOE department focuses on four areas: (1) Research to promote the efficient and environmentally sound production and use of fossil fuels; (2) Industry partnerships to advance the commercialization of clean and efficient fossil energy technologies toward; (3) Management of the Strategic Petroleum Reserve; and (4) Information and policy options that ensure access to adequate supplies of affordable and clean energy.

FE's goals are to enhance US leadership in affordable and environmentally sound energy technologies; reduce greenhouse gas emissions; contribute to the Nation's energy security; and ensure the availability of affordable fossil fuels.

FE is comprised of about 1000 scientists, engineers, technicians and administrative staff. Headquarters offices are in downtown Washington, DC, and Germantown, Maryland, with field offices in Morgantown, West Virginia; Pittsburgh, Pennsylvania; Tulsa, Oklahoma; New Orleans, Louisiana; and Casper, Wyoming.

FE conducts more than 500 active research and development projects focused on improving the environment and increasing oil security. Most projects are conducted by private companies, universities, research institutions, and national laboratories under partnership agreements with the DOE Fossil Energy Program, including activities in the areas of power generation from natural gas, coal, renewable sources, nuclear fission and fusion; liquid and gaseous fuels from conventional and alternative sources; and end-use efficiency. Projects support the development of economically viable and environmentally compliant technologies that, without government financial assistance, would otherwise emerge far more slowly, if at all.

NOTE: The FE's Strategic Plan is dated 1998 and does not include focus on development of newer technologies.

Affiliate sites include DOE's E-Center: Business Opportunities with Energy (<http://e-center.doe.gov>) and DOE's National Energy Technology Laboratory (NETL) Electronic Business Center (www.netl.doe.gov/business/solicit/index.html).

Despite the "fossil fuels" label, this department does a lot of work in the areas of energy efficiency and emission reduction. It is just beginning to understand how Smart Energy could reduce the reliance on foreign oil and improve efficiency, and may finance research in those areas as we go forward.

DOE OFFICE OF POWER TECHNOLOGIES (OPT)

Forrestal Building, 5H-021
1000 Independence Ave SW
Washington, DC 20585
www.eere.energy.gov/power

Organization Type: Federal Agency
Major Services:

- Funding
- Research

OPT encourages electricity suppliers to deploy renewable energy and energy efficiency technologies. Programs address constraints that impede adoption. OPT works with industry, state and local governments, universities, and the DOE's national research and development laboratories to enhance the commercialization of renewable energy and clean power.

OPT offers nine comprehensive programs focused on solar energy, wind, biopower, superconductivity, geothermal, hydrogen, distributed energy resources, hydropower, and technology access.

OPT posts solicitations and awards funds to help states, individuals, and businesses reduce energy consumption, enhance economic competitiveness, reduce environmental impacts of power technologies, and promote development of new sources of power.

Other affiliate sites include:

- DOE's E-Center: Business Opportunities with Energy (e-center.doe.gov)
- DOE's Inventions and Innovation (I&I) Program (www.oit.doe.gov/inventions)
- DOE's Office of Industrial Technologies Program: National Industrial Competitiveness through Energy, Environment, and Economics (NICE3) (www.oit.doe.gov/nice3/)
- DOE's StePP Foundation (Strategic Environmental Project Pipeline) (www.steppfoundation.org/main.htm)

OPT is also Part of the DOE's Office of Energy Efficiency and Renewable Energy (see separate listing).

Recent DOE reorganizations make it unclear just where OPT will aim its future efforts. In theory, Smart Energy products and services can provide immense help to OPT's mission, which tends to focus on a specific industry (e.g. Chemicals) or a specific technology (e.g. Geothermal).

ECONOMIC DEVELOPMENT COUNCIL OF SEATTLE & KING COUNTY

1301 5th Ave, Suite 2400
Seattle, WA 98101
Phone: (206) 389-8650
Fax: (206) 389-8651
www.edc-sea.org

**Organization
Type:**

State Agency

**Major
Services:**

- Funding
- Funding Support
- Business Advice
- Networking

The Economic Development Council of Seattle & King County, part of Washington State's Office of Trade & Economic Development (OTED), works in conjunction with the State's Business and Finance Unit to provide technical assistance, financing services and targeted lending to assist Washington State small and medium-sized businesses in obtaining loan capital for start-up and expansion projects that create or retain jobs, stimulate private investment, increase the local tax base, and strengthen community economic vitality.

OTED's Community Development Finance (CDF) programs help Washington State businesses and industries secure long-term loans for business expansions through the use of private financial resources combined with federal and state lending assistance. CDF programs identify and assess the feasibility of projects, structure financing alternatives, and prepare loan packages for the business and for the bank to facilitate planned economic development, job creation, and job retention. There are five Community Development Finance (CDF) staff serving specific areas of Washington State.

Other affiliate sites include Washington State Office of Trade & Economic Development (OTED) (www.oted.wa.gov) and OTED's Business Finance Unit, (www.oted.wa.gov/ed/bfu).

ELECTRIC LEAGUE OF THE PACIFIC NORTHWEST

1500 - 114th Avenue SE Suite 105
Bellevue, WA 98004
Phone: (425) 646-4727
Fax: (425) 646-4729
www.electricleague.net

**Organization
Type:**

Trade Alliance/Trade Association

**Major
Services:**

- Policy Recommendations
- Education of SE Companies
- Education of End Users/
Customers
- Networking

Membership: The Electric League of the Pacific Northwest is an association of businesses in the electrical industry, including electrical manufacturers, distributors, contractors and engineers.

A non-profit organization that promotes the business interests of the electrical industry. It conducts educational programs, research programs, trade shows, joint marketing and policy advocacy around electrical codes and other issues.

Holds councils and networking meetings. Conducts a variety of classes at locations around Washington State. Sponsors the Electrical Industry Exposition (EIE) once every four years in the Seattle area.

The Electric Motor Management program provides technical assistance that helps industrial users audit and evaluate their electric motors and cost-justify the purchase of today's smarter, more efficient products.

Publishes the annual Northwest Electrical Buyers' Guide, which lists products, services and manufacturers (www.electricleague.net/memberdir.htm)

Membership in this organization and inclusion in their buyers' guide could be valuable ways to increase visibility for Smart Energy products and services.

ENERGY CENTRAL

2755 S Locust St, Suite 201
Denver, CO 80222
Toll Free Phone: (800) 459-2233
www.energycentral.com

**Organization
Type:**

Information Services/Publisher

**Major
Services:**

- Education of End Users/
Customers
- Research
- Networking

Energy Central teams with companies serving the energy industry to provide an Internet hub for electric power information, products, and services related to the energy industry. Energy Central provides a broad base of information products: news, directories, events, databases, books, periodicals, and reports focused on the electric power industry.

Energy Central offers free subscription-based energy industry related services including customizable email news summaries, conference and report notification, and job search information. Free access to databases and electronic Instant Reports on key electric power industry issues and regulations are available online. Downloadable or hard copy energy industry reports are available for purchase online.

Energy Central Professional is a subscription-based monthly online global energy resource divided into four major sections: 1) Power and Gas News, Prices, and the Stock Market; 2) Industry Data (Mergers and Acquisitions, Power Plants, Nuclear Data, and Power Marketing Data, Load Growth, Deregulation Status, and Legislation); 3) Company Profiles (IOUs, Merchant Power Producers, Cooperatives, Municipals, and State/Federal Plants); and 4) E-Mail Setup (customizable daily news service).

EnergyPulse is an online forum and channel for experts and energy industry thought leaders to discuss the latest developments, insights and analysis of the industry.

Affiliate sites include:

- Energy Central Professional (www.pro.energycentral.com)
- EnergyPulse (www.energypulse.net)
- EnergyCentralJobs.com (www.energycentraljobs.com)

ENERGY NEWSDATA

117 W Mercer St, Suite 206
Seattle, WA 98119
Phone: (206) 285-4848
Fax: (206) 281-8035
www.newsdata.com

**Organization
Type:**

Information Services/Publisher

**Major
Services:**

- Policy Recommendations
- Education of End Users/
Customers
- Research

Energy NewsData is an independent provider of electric and utility industry information. Founded in 1982 and based in Seattle and San Francisco, Energy NewsData issues print and online fee-based publications written by independent journalists who provide news and commentary about several areas: energy efficiency, market transformation, and balancing ecosystems with power systems.

Energy NewsData's two major reports, "California Energy Markets" and "Clearing Up," provide intelligence sources on energy policy, market news, litigation and resource development in western North America. Energy NewsData also distributes two public purposes newsletters on line. "Con.WEB" covers demand-side management, energy efficiency, renewables and market transformation in the Pacific Northwest. (The Northwest Energy Efficiency Alliance, a regional consortium, supports Con.WEB as part of its mission to plan and implement energy efficiency and market transformation.) "NW Fishletter" twice monthly covers Pacific Northwest fish and wildlife policy news, important to the Northwest energy industry because of obligations and efforts to balance Pacific Northwest ecosystems and power systems. "EnerNet" is a comprehensive online guide to the energy industry in Western North America, with emphasis on the Northwest Power Pool area and special features focused on the four states that comprise the Pacific Northwest. "Energy Prospects" is a weekly news service that tracks energy resource development and highlights new technologies and approaches now changing the dynamics of energy development, planning, deployment and markets.

Affiliate sites include EnerNet (www.newsdata.com/enernet) and Energy Prospects (www.energyprospects.com--see separate listing).

ENERGY PROSPECTS

117 W Mercer St, Suite 206
Seattle, WA 98119
Phone: (206) 285-4848
Fax: (206) 281-8035
www.energyprospects.com

**Organization
Type:**

Information Services/Publisher

**Major
Services:**

- Education of End Users/
Customers
- Research
- Networking

Membership: Membership subscription rates (individual or site licenses) are available upon request.

Energy Prospects is a weekly online news service that tracks energy resource development and highlights new technologies and approaches now changing the dynamics of energy development, planning, deployment and markets. The fee-based biweekly publication presents independent analysis of emerging and transforming technologies, development and deployment timelines, financing mechanisms and market penetration, and how these resources and technologies are being used to gain competitive advantage in the marketplace. Energy Prospects is published by Energy NewsData, an independent provider of energy industry information.

Energy Prospects provides news channels and indexed websites focused on new energy industry technologies that are smaller, greener, scaleable, efficient, demand-managed, super-reliable and sited closer to customers. "The Shadow" is an online biweekly publication highlighting conference listings, quick-reading summaries by topic, and a full-text searchable article database. Energy Prospects' publications are available in both online and downloadable print versions.

Affiliate site includes Energy NewsData (www.energynewsdata.com).

ENERGY TRUST OF OREGON

733 SW Oak Street, Suite 200
Portland, OR 97205
Phone: (503) 493-8888
Fax: (503) 546-6862
www.energytrust.org

**Organization
Type:**

State Agency

**Major
Services:**

- Funding
- Policy Recommendations
- Education of End Users/
Customers
- Research

An independent nonprofit organization dedicated to energy efficiency and renewable energy development. It invests in efficient technologies and renewable resources that develop new sources of clean energy, help Oregonians lower their electricity bills, stimulate the economy, and protect the environment.

Offers services and incentives through the following programs:

Building Efficiency - For businesses investing in energy efficient equipment for existing facilities.

Home Energy Savings - For people who want energy efficiency improvements in their homes.

Solar Electric - For homeowners, business owners and public agencies interested in generating their own electricity with new solar electric (Photovoltaic) systems.

Solar water Heating - For homeowners, business owners and public agencies interested in heating their water with new solar thermal systems.

Production Efficiency - For businesses with manufacturing processes.

New Building Efficiency - For businesses doing new construction or major remodel projects.

Open Solicitation - For innovative applications of renewable energy technology, including wind, solar, biomass and geothermal generation.

Additional programs are in the works. The Energy Trust of Oregon also sponsors seminars.

Companies with Smart Energy products or services that have energy efficiency implications should investigate the Energy Trust of Oregon for possible incentive programs or other activities that could boost sales.

GRIDWISE ALLIANCE

Pacific Northwest National Laboratory
630 Battelle Blvd
Richland, WA 99352
Phone: (509) 372-6736
www.pnl.gov
www.pnl.gov/news/2003/03-30.htm

**Organization
Type:**

Research Laboratory

**Major
Services:**

- Education of End Users/
Customers
- Research

Pacific Northwest National Laboratory (PNNL) is working towards integrating the nation's energy system into a cohesive network. The GridWise Alliance is a new private-public partnership created to support the PNNL's visionary work. The GridWise Alliance Board is comprised of Sempra Energy Solutions; PJM Interconnection, LLC; Alstrom Esca Corporation; IBM Global Energy & Utilities Industry; The Rockport Group; and the CEO Coalition.

The GridWise Alliance is working on new technology to bring about more affordable and stable energy prices, new and cleaner technologies, and optimized systems and facilities control by interconnecting and networking traditional utility systems, facilities, equipment, and even home appliances in a revolutionary way. To devise new ways to collaborate among generators, the grid, and customer loads, PNNL engineers are designing smart chips for appliances that monitor power grid fluctuations. Under periods of grid stress, the chips would shut down appliances briefly to give grid operators time to stabilize the system.

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY (INEL)

2525 Fremont Avenue
P.O. Box 1625
Idaho Falls, ID 83415
Toll Free Phone: (800) 708-2680
www.inel.gov
<http://energy.inel.gov/eenr/default.shtml>

Organization Type: Research Laboratory

Major Services:

- Prototype Testing
- Education of End Users/ Customers
- Research
- Business Advice

INEEL is a multi-purpose national laboratory delivering science and engineering solutions to the world's environmental, energy, and security challenges.

The structure of INEEL's R&D organization mirrors the DOE's four mission areas of environmental management, energy resources, national security, and science. The Environmental and Energy Sciences Division is the most directly relevant to Smart Energy.

INEEL's Energy Efficiency and Natural Resources Directorate researches a diverse array of energy efficiency and fossil energy technologies. Its Renewable Energy and Power Technologies investigates power system reliability and control, hybrid power applications, sensors, and distributed power. Its Building Technologies and Energy Management program researches energy efficiency and energy conservation for buildings.

INEEL's Technology Transfer and Commercialization program provides technology and technical assistance to industry. It actively identifies and pursues commercialization and business partnership opportunities. See www.inel.gov/techtransfer for more on this program.

Bechtel operates the lab for the DOE. Inland Northwest Research Alliance (INRA) is a partner with Bechtel in the education and research decisions at the laboratory.

Although INEEL has historically been strongest in nuclear power and energy efficiency, several of its research efforts now apply directly to Smart Energy.

INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES (ICNU)

825 NE Multnomah, Suite 180
Portland, OR 97232
Phone: (503) 239-9169
Fax: (503) 239-0466

**Organization
Type:**

Trade Alliance/Trade Association

**Major
Services:**

- Policy Recommendations
- Education of End Users/
Customers

Industrial Customers of Northwest Utilities (ICNU) is a nonprofit organization formed in 1981 and based in Portland, OR. ICNU represents 40 industrial companies with facilities throughout the Northwest. Members purchase power from public agencies and investor-owned utilities, rather than directly from the Bonneville Power Administration (BPA). ICNU focuses on policy and works to obtain reliable power at the least delivered cost (including transmission costs). Additional areas of interest include conservation, cogeneration, forecasting and reliability.

ICNU supports competition at all levels and for all customers; the separation of generation from transmission and distribution; and a fair resolution of the stranded cost issue. ICNU envisions a future based on customers choosing their own electric power supplier. ICNU represents its members' interests to the BPA, to utilities, to the Northwest Power and Conservation Council (NWPCC) and in other forums to advocate a customer-focused, competitive electric future.

Closely affiliated with the Association of Public Agency Customers (APAC), which represents members on rate issues.

Could be an important ally for Smart Energy companies that seek regulatory changes to open up the market.

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

3 Park Avenue, 17th Floor
New York, NY 10016
Phone: (212) 419-7900
Fax: (212) 752-4929
www.ieee.org

Organization

Type: Trade Alliance/Trade Association

Major

Services:

- Education of SE Companies
- Research
- Networking

Membership: Open to all, but composed largely of engineers and engineering students.

IEEE is the world's largest technical professional society with more than 380,000 members in 150 countries.

The IEEE produces 30 percent of the world's literature in the electrical and electronics engineering and computer science fields, and has developed more than 900 active industry standards. The organization also sponsors or cosponsors more than 300 international technical conferences each year.

The IEEE has 300 local sections and 1,150 technical chapters, including chapters in Portland, Richland, Seattle, Spokane and Wenatchee.

The IEEE has dozens of publications, events, and standards efforts directly relevant to Smart Energy. It has and will continue to play an important role in the development of standards for distributed generation and Smart Energy.

INTEC

**159 South Lincoln St, Suite 211
Spokane, WA 99201
Phone: (509) 444-6832
Fax: (509) 444-6836
www.intec-center.org**

**Organization
Type:**

Regional Economic Development
Group

**Major
Services:**

- Education of End Users/
Customers
- Research
- Networking

The Inland Northwest Technology Education Center (INTEC) is a non profit organization working to generate an economic and intellectual capital driver for the region by expanding the growth of the region's energy related companies and organizations. The near term vision involves working with Gonzaga University and other regional educational institutions to develop a certificate program in Transmission and Distribution Engineering. The longer term vision expands this basic program into energy research, technology transfer and commercialization. To meet these goals, INTEC partners with more than 80 organizations representing business, education and government.

INTEC sponsors an Energy Technology Consortium in three phases: Transmission & Distribution Engineer training; Joint Research with the Northwest Technology Collaborative; and an Energy Commercialization Center, a project with SIRT1 and PNNL. Beginning August of 2003, INTEC began a one-year collaborative effort with the University of California San Diego CONNECT group to develop a program to stimulate entrepreneurial efforts in the Spokane area. CONNECT will work with Eastern Washington area business leaders, educators and others in the formation of a business plan aimed at helping create successful and growing companies. The CONNECT model uses networks of local and national financial resources, entrepreneurs and research facilities, which will be used to tailor a business development plan for Inland Washington.

MIT ENTERPRISE FORUM OF THE NORTHWEST

1319 Dexter Avenue N, Suite 370
Seattle, WA 98109
Phone: (206) 283-9595
Fax: (206) 283-4287
www.mitwa.org

**Organization
Type:**

Networking Forum

**Major
Services:**

- Funding Support
 - Education of SE Companies
 - Education of End Users/
Customers
 - Networking
-

The MIT Enterprise Forum of the Northwest is a volunteer, non-profit organization that is part of an 18-chapter international network of MIT Forums to promote technology industries in local economies. It offers programs that educate entrepreneurs, investors and service companies. Comprised of over 250 volunteers in industry, venture capital firms, corporate sponsors and support service firms, the MIT Enterprise Forum of the Northwest focuses on helping entrepreneurial businesses develop and refine strategic plans through participation in monthly Enterprise Forums.

The MIT Enterprise Forum of the Northwest emphasizes high-quality education on business and technology. The Forum sponsors the following programs: Dinner programs held at the Hyatt Regency, Bellevue; Venture Lab workshops held at the One Union Square Boardroom in Seattle; Satellite Broadcasts held at Fisher Plaza in Seattle and at SIRTl (Spokane Intercollegiate Research and Technology Institute) in Spokane.

Many topics related to technology startups such as Smart Energy companies are covered by the MIT Enterprise Forum, which produced a Smart Energy specific program on 9/24/03.

The MIT Enterprise Forum of the Northwest is one of 24 worldwide chapters affiliated with the Alumni Association of MIT and the second largest MIT Forum in the US.

An excellent venue for meeting startup-savvy entrepreneurs, consultants and angel investors.

NATIONAL ALLIANCE OF CLEAN ENERGY BUSINESS INCUBATORS

NREL Lawrence M. (Marty) Murphy, Manager, Enterprise Development Programs 1617 Cole Boulevard Golden, CO 80401 Phone: (303) 275-3050 www.incubator.com/alliance	Organization Type: Trade Alliance/Trade Association Major Services: <ul style="list-style-type: none">▪ Funding▪ Funding Support▪ Education of SE Companies▪ Education of End Users/ Customers▪ Business Advice▪ Networking
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An alliance of incubators dedicated to providing business and financial services to the clean energy community.

Participates in several NREL programs for clean energy startups, including the NREL Growth Forum, which brings startups together with investors. Also participates in NREL's Growth Link, a Web-based directory of clean energy companies and investors.

Although there is no affiliated incubator in the Pacific Northwest, many of the programs link companies from any region with investors that operate nationwide.

Could be a source of advice and funding suggestions for Northwest organizations that would like to expand into support of clean energy businesses. Or for the creation of a new Smart Energy/Clean Energy incubator in this region.

NATIONAL BUSINESS INCUBATION ASSOCIATION

20 E Circle Dr, Suite 37198
Athens, OH 45701
Phone: (740) 593-4331
Fax: (740) 593-1996
www.nbia.org

**Organization
Type:**

Trade Alliance/Trade Association

**Major
Services:**

- Policy Recommendations
- Education of SE Companies
- Research
- Business Advice
- Networking

Membership: NBIA membership is composed primarily of incubator developers and managers, but also includes technology commercialization specialists, educators, and business assistance professionals.

**Membership
Fees:**

- For economic development agencies and other nonprofit groups, and organizations that operate, sponsor or develop incubation programs, NBIA membership for staff, partner and boardmembers is available in the following two categories: Incubation Professional (\$350 for 1 to 3 members + \$100 for each additional member); Associate (\$225 for single member)
 - For commercial entities that do not operate incubators, membership for staff, partner or boardmembers is available in one of the two following categories. The size of the organization determines which category applies, and unique additional benefits are included in each membership category: Consultant/Service Provider with 5 or fewer employees (\$500 for 1 to 2 members + \$250 for each additional member); Corporate organizations with 5 or more employees (\$1,000 for 1 to 3 members + \$250 for each additional member)
-

NBIA is a private, non profit group dedicated to advancing business incubation and entrepreneurship. It provides the information, education, advocacy and networking resources to assist early-stage companies worldwide. Its mission is to provide training and a clearinghouse for information on incubator management and development issues and on tools for assisting start-up and fledgling firms. An elected, 15-member voting board of directors representing the world's leading incubators governs the association.

Throughout the year, NBIA offers development activities and training to help business assistance professionals create and administer effective incubation programs. NBIA also conducts research, compiles statistics, and produces publications that provide hands-on approaches to developing and managing effective programs. In addition, the association tracks relevant legislative initiatives and maintains a speakers' bureau and referral service. It creates partnerships with leading private- and public-sector entities to further the interests of the industry and its members.

NATIONAL RENEWABLE ENERGY LAB (NREL)

1617 Cole Blvd
Golden, CO 80401
Phone: (303) 275-3000
www.nrel.gov

Organization

Type: Research Laboratory

**Major
Services:**

- Funding
 - Funding Support
 - Prototype Testing
 - Education of End Users/
Customers
 - Research
 - Business Advice
 - Networking
-

NREL is a national laboratory owned by the US Department of Energy and managed by the Midwest Research Institute, Battelle Memorial Institute, and Bechtel National, Inc. DOE's Office of Energy Efficiency & Renewable Energy (see separate listing) has primary responsibility for NREL activities. DOE's Golden Field, CO office manages the lab locally. NREL develops renewable energy and energy efficiency technologies and practices and transfers knowledge to address the nation's energy and environmental goals.

NREL performs research in renewable energy, energy efficiency technologies and systems, advanced material and prototype components. The institution also establishes partnerships for renewables and energy efficiency market and technology development. NREL creates and coordinates innovative partnerships with clients ranging from small businesses and Fortune 500 companies to entire industries. NREL returns about half of its funding each year directly to the private sector through subcontracts, cost-shared research, and procurements. Research partners include more than 70 universities, 250 companies, 25 state energy offices and 80 not-for-profit organizations.

NREL is more than just a source of research grants and technology concepts. In recent years, it has taken a leadership role in encouraging the growth of clean energy incubators. It helped to spin out the TK TK (see separate listing) and sponsors an annual venture forum where clean energy startups present their business plans to investors.

NATIONAL TECHNOLOGY TRANSFER CENTER (NTTC)

Wheeling Jesuit University
316 Washington Ave
Wheeling, WV 26003
Fax: (304) 243-2523
Toll Free Phone: (800) 678-6882
www.nttc.edu

Organization
Type: Technology Transfer Organization

Major
Services:

- Research
- Business Advice
- Networking

The National Technology Transfer Center (NTTC) is a full-service technology-management center, providing access to federal technology information, knowledge management and digital learning services, technology assessment, technology marketing, assistance in finding strategic partners, and electronic-business development services. The NTTC fosters relationships with federal clients, showcases technologies, and facilitates partnerships between clients and U.S. industry.

NORTHWEST ENERGY EDUCATION INSTITUTE

Science Division-Lane Community College
4000 East 30th Avenue
Eugene, OR 97405
Phone: (541) 463-3977
Fax: (541) 463-4723
Toll Free Phone: (800) 769-9687
www.nweei.org/

Organization Type: University/Educational Institute
Major Services: Education of End Users/
Customers

Offers for-fee packaged and custom learning opportunities and a certification program in energy management. Oriented toward building operations, energy efficiency and auditing.

Annual Energy Management Certification Program. Two-week resident training held in Eugene in July.

Ongoing Certification Programs. Building Operator Certification (BOC) is a professional development program for operations and maintenance staff working in public and commercial buildings. Residential Energy Auditor Certification includes training in energy auditing, and interaction with utility customers. Residential Inspector Certification teaches how to conduct home inspections after residential weatherization.

Typical programs cover many Smart Energy and energy efficiency topics, including controls, motors, lighting, HVAC and energy auditing.

A division of Lane Community College. funded in part by the Northwest Energy Efficiency Alliance. Accredited by Building Owners and Managers Institute for continuing professional development points towards all BOMI designations.

This type of program addresses workforce training issues that can stall cluster development.

NORTHWEST ENERGY EFFICIENCY ALLIANCE (NWEEA)

529 SW Third Ave, Suite 600
Portland, OR 97204
Phone: (503) 827-8416
Fax: (503) 827-8437
www.nwalliance.org

Organization

Type: Trade Alliance/Trade Association

Major

Services:

- Funding
- Policy Recommendations
- Research
- Business Advice
- Networking

NWEEA is a non-profit group that supports regional programs in Oregon, Idaho, Washington and Montana to make affordable, energy-efficient products and services available in the marketplace. Most of its programs seek to transform markets by changing buying behavior to favor energy efficient products.

NWEEA projects support products or services that use electricity more efficiently. Target audiences may be residential, commercial, industrial, and agricultural sectors. Examples have included a variety of Energy Star initiatives to encourage energy efficient appliances and lighting, and the BetterBricks program to educate builders and architects about energy efficiency. For more information about past and current projects, see www.nwalliance.org/projects/index.asp. For more information about new projects currently being solicited by NWEEA, see www.nwalliance.org/proposals/solicited.asp. To learn how to submit unsolicited project proposals, see www.nwalliance.org/proposals/unsolicited.asp.

NWEEA energy efficiency projects provide information and training resources across many sectors. The organization also provides funding, market research, marketing support, evaluation, feedback on project activities, and connections to marketing channels and customers.

NWEEA is funded by eleven electric utilities, the Bonneville Power Administration (on behalf of its electric utility customers) and public benefit money from the states of Montana and Oregon. This money is pooled and used to fund projects approved by the Board of Directors. A total of \$165 million has been contributed since inception through 2004.

The NWEEA has an excellent track record of making meaningful and positive changes in regional building and buying habits. To date, however, it has not supported very many Smart Energy projects, despite the energy efficient implications of many Smart Energy technologies.

NORTHWEST ENERGY EFFICIENCY COUNCIL (NEEC)

157 Yesler way, Suite 409
Seattle, WA 98104
Phone: (206) 292-5592
Fax: (206) 292-4125
www.neec.net

Organization

Type: Trade Alliance/Trade Association

Major

- Services:**
- Policy Recommendations
 - Education of SE Companies
 - Networking

Membership: Mmembers include energy service companies, engineering and design firms, equipment sales companies, policy consultants, and energy efficiency program designers, managers and evaluators.

A non-profit trade association representing businesses providing energy efficiency goods and services in the Pacific Northwest. NEEC promotes expanded market opportunities for energy efficiency products and services.

Programs include a newsletter, networking events, member directory, policy advocacy. Also conducts educational and professional development seminars in conjunction with the Electric League of the Pacific Northwest.

Although many efficiency products are "passive" (for example, energy-efficient windows), many others achieve efficiency through embedded intelligence (for example, programmable thermostats). Organizations such as NEEC are a valuable means to educate designers, auditors, installers and operators about Smart Energy options.

NORTHWEST ENERGY TECHNOLOGY COLLABORATIVE (NWETC)

Washington Technology Center
300 Fluke Hall
Seattle, WA 98195
Phone: (206) 685-1920
Fax: (206) 543-3059
www.watechcenter.org/nwetc

Organization

Type: Regional Economic Development Group

Major

Services:

- Funding Support
- Prototype Testing
- Education of End Users/ Customers
- Networking

Membership: The NWETC is composed of eight technology and energy organizations.

The NWETC is a joint, voluntary effort of Pacific Northwest business, government, non-profit, industry and educational institutions to focus attention and resources on the rapid growth of the Energy Technology Industry.

The goal of the NWETC is to contribute to a vibrant Energy Technology Industry employing more than 20,000 people, in more than 500 companies, contributing more than \$3B annually to the Pacific Northwest.

Participation in the Collaborative is expected from a variety of organizations and individuals: innovators, venture capitalists, manufacturers, consultants, energy suppliers (including utilities), energy consumers, government and research institutions.

NWETC activities may include market analyses and communication, creation and promotion of demonstration projects, product testing and evaluation, and networking and educational events to increase visibility and investment into the industry.

The NWETC is planning a shared test-bed for new technology to benefit not only utilities companies, but also innovators, funders and customers.

Currently the NWETC is headquartered at the Washington Technology Center (www.watechcenter.org--see separate listing) on the campus of the University of Washington.

NORTHWEST POWER AND CONSERVATION COUNCIL (NWPC)

851 SW Sixth Ave, Suite 1100
Portland, OR 97204
Phone: (503) 222-5161
Fax: (503) 820-2370
Toll Free Phone: (800) 452-5161
www.nwcouncil.org

Organization

Type: Policy Group

**Major
Services:**

- Policy Recommendations
- Education of SE Companies
- Education of End Users/
Customers
- Research
- Networking

Formerly known as the Northwest Power Planning Council, NWPC is a non profit organization that maintains a regional power plan to balance the Northwest's environment and energy needs. The Council was created by Congress to give Idaho, Montana, Oregon and Washington citizens a stronger voice in determining the future of key resources such as the electricity generated at, and fish and wildlife affected by, the Columbia River hydropower dams.

NWPC programs address three main areas: 1) a 20-year electric power plan to guarantee reliable energy at the lowest economic and environmental cost; 2) a program to protect and rebuild fish and wildlife populations affected by Columbia River hydropower; 3) educating and involving the public in the Council's decision-making.

NWPC provides analysis and information about electricity demands and new technologies.

The bulk of the NWPC's efforts and announcements over the past few years have been related to the challenges of supplying hydropower while preserving endangered fish. Nonetheless, Smart Energy does offer solutions to the efficiency goals of the group and it could take a larger role in future NWPC-funded research.

NORTHWEST PUBLIC POWER ASSOCIATION (NWPPA)

9817 NE 54th St
Vancouver, WA 98662
Phone: (360) 254-0109
Fax: (360) 254-5731
www.nwppa.org/web/home/index.shtml

Organization Type: Trade Alliance/Trade Association

Major Services:

- Prototype Testing
- Policy Recommendations
- Education of SE Companies
- Research
- Networking

Membership: 200 Utility members
237 Association members

Membership Fees:

- Utilities: Dues are calculated with a formula based on the utility's retail kilowatt hour sales and number of employees at the utility.
- Associations: Dues are based on the number of employees. Less than 4 = \$415 annually. 5 and above = \$570 annually.

NWPPA is an association serving some 200 consumer-owned, locally controlled public/people's utility districts, electric cooperatives, municipalities and crown corporations in the Western states and Canada. NWPPA also serves the sales and networking needs of over 200 Associate Members across the US and Canada who are allied with the electric utility industry, and serves as an advocate at the national level for public power in the Pacific Northwest region.

NWPPA provides training and education, surveys, communications, federal legislative coordination, networking opportunities, products and services for the utility industry. NWPPA has established an 80-acre National Utility Training Services (NUTS) facility in Richland, Washington, to provide state-of-the-art, performance-based, hands-on industry training.

NWPPA has a variety of wholly-owned subsidiary organizations focused on training and education, networking, wage and hour information, and lobbying information.

Programs such as the National Utility Training Service could play a valuable role in a) test-beds for new Smart Energy projects and b) workforce training for Smart Energy technologies.

OREGON OFFICE OF ENERGY

625 Marion St. N.E.
Salem, OR 97301
Phone: (503) 378-4040
Fax: (503) 373-7806
www.energy.state.or.us

**Organization
Type:**

State Agency

**Major
Services:**

- Funding
- Education of End Users/
Customers

The mission of the Office of Energy is to protect Oregon's environment by saving energy, developing clean energy resources, and cleaning up nuclear waste.

Major activities include a) conservation and renewable energy, including education, loans, incentives and demo programs , b) facility siting and c) nuclear safety.

Energy evaluations for residential, business and industry. Renewable energy programs and tax credits. Demonstration projects that hook alternative energy sources to the grid.

OREGON STATE UNIVERSITY SCHOOL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE (EECS)

220 Owen Hall
School of Electrical Engineering & Computer
Science
Oregon State University
Corvallis, OR 97331
Phone: (541) 737-3617
Fax: (541) 737-1300
<http://eecs.oregonstate.edu/index.html>
<http://eecs.oregonstate.edu/msrf>

**Organization
Type:** University/Educational Institute
**Major
Services:**

- Education of SE Companies
- Research

Membership: The program contains about 1400 undergraduate students and more than 300 graduate students.

A top-25 engineering and computer science institution with Smart Energy-related coursework and research programs.

A strong undergraduate program, a large graduate program and internationally recognized research programs in various computer and engineering topics.

Among its many engineering and computing activities, the EECS hosts a research program in Energy Systems. It is also home to the Motor Systems Resource Facility, one of the country's top research and testing laboratories for motors, drives, power electronics and power quality.

Offers graduate education on the Corvallis campus and in the greater Portland area.

PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

630 Battelle Blvd
Richland, WA 99352
Phone: (509) 372-6736
www.pnl.gov
www.pnl.gov/main/sectors/energy.html

Organization
Type: Research Laboratory

Major
Services:

- Funding
- Prototype Testing
- Research
- Business Advice

PNNL is one of nine Department of Energy multi-program national laboratories around the country. Located in Eastern Washington, it has 2M square feet of facilities and a staff of nearly 4,000.

As a DOE laboratory, PNNL conducts dozens of energy and electricity-related research projects. The largest concentration is found within the Energy Science & Technology Directorate, which is a national leader in such areas as the smart grid, grid-friendly appliances, grid simulation and modeling, building diagnostics and solid oxide fuel cells.

PNNL has been managed for the DOE by Battelle Memorial Institute since 1965. Pacific Northwest is managed by the DOE's Office of Science, but performs work for many other DOE departments as well as other government agencies.

PNNL maintains many ongoing research programs in collaboration with universities, laboratories, technical associations and industry consortia.

It has also established Technology Entrepreneurship programs at the University of Washington and the University of Oregon. The programs provide business students with access to PNNL inventions. The students assess their marketability and, in some cases, develop commercialization plans.

PNNL TECHNOLOGY ASSISTANCE PROGRAM

Economic Development Office

PO Box 999, K9-87

Richland, WA 99352

Phone: (509) 372-4296

Fax: (509) 372-4589

www.pnl.gov/edo

Organization

Type: Regional Economic Development Group

Major

Services:

- Funding Support
- Education of End Users/ Customers
- Business Advice
- Networking

Pacific Northwest National Laboratory (PNNL) offers Eastern Washington and Northwest area small businesses a variety of services to help them ramp up. Services include licensed technology, technical and business assistance, support for financing, PNNL staff on entrepreneurial leave of absence to start the new companies, use of PNNL's facilities, networking and educational events, and access to equipment. Small businesses that use PNNL's Technology Assistance Program can get a royalty-free license for four years for any inventions made in the course of technical assistance.

PNNL's Technology Assistance program helps Tri-Cities, Washington and Northwest area small businesses and entrepreneurs get started with up to five days of free technical help from engineers and scientists each year. Examples of assistance provided at no charge include testing and recommending product materials; creating new software/hardware applications; improving production and manufacturing processes; and resolving technical problems.

PORTLAND BUSINESS ALLIANCE

520 SW Yamhill Street Suite 1000
Portland, OR 97204
Phone: (503) 224-8684
Fax: (503) 323-9186
www.portlandalliance.com/

Organization

Type: Trade Alliance/Trade Association

Major

- Services:**
- Education of SE Companies
 - Education of End Users/ Customers
 - Business Advice
 - Networking

Membership: Represents more than 1,600 member companies in the Greater Portland region.

The Portland Business Alliance is a broad-based association with a mission to ensure economic prosperity in the Portland region. Provides numerous educational, networking and joint marketing programs. Often focuses on technology issues. Has sponsored energy-related forums in the past.

Educational programs: Expert Connection, bi-monthly workshops on business success topics. CEO Connection, five forums per year for CEOs, presidents and partners. Small Business Idea Exchange, monthly meetings to share concepts. Tech Connect, bi-monthly programs on using office technology.

Networking Programs: Business Leads Exchange, twice-monthly focused networking and facilitated group discussion. Tech2Tech, monthly networking for technology companies. Forums, meetings on major issues of interest, including the Oregon Technology Alliance.

Marketing: Advertising, sponsorship and direct mail opportunities to member companies.

Policy: Policy advocates active in city, county and state governments.

Oregon Technology Alliance and Industry Collaborative Series have covered energy-related businesses in the past and expects to return to this topic on a regular basis.

Affiliations include Oregon Technology Alliance, Portland Metropolitan Small Business Alliance.

A "next-generation" chamber of commerce with a wide range of activities and a bent toward high-tech and emerging markets such as Smart Energy. Membership includes several of Portland's leading Smart Energy companies.

POWER ONLINE

5 Walnut Grove, Suite 301
Horsham, PA 19044
Phone: (215) 675-1800
www.poweronline.com

**Organization
Type:**

Information Services/Publisher

**Major
Services:**

- Education of End Users/
Customers
- Research
- Networking

Membership: Free online registration required.

Power Online is a free membership-based Internet community and sourcing site for technical, operational, product, management, and regulatory information and analysis for the global power generation industry. Online marketplace services include newsletters, trade publications, job search services, and a consultant locator.

Power Online's marketplace is geared to serve the power generation and transmission industry. E-commerce services include self-service marketing tools for buying and selling products and services online; online product information library featuring manufacturers, consulting firms, societies and education vendors; customized business operations services; job search services; calendar of global power generation events; and discussion forums.

Power Online is an e-commerce marketplace owned by VertMarkets, Inc. (www.vertmarkets.com).

SMART ENERGY BUSINESS ALLIANCE

8575 154th Avenue N.E.
Redmond, WA 98052
Phone: (425) 497-1509
Fax: (425) 497-1709
www.smartenergyalliance.org

**Organization
Type:**

Trade Alliance/Trade Association

**Major
Services:**

- Policy Recommendations
- Education of SE Companies
- Education of End Users/
Customers

Membership: SEBA members include utilities, suppliers, professional services organizations, government, consumers, research organizations, economic development entities and venture capital firms.

The Smart Energy Business Alliance is a newly-formed membership-based trade association that brings together all the stakeholders in the application of Smart Energy technology to the electrical power system.

SEBA provides education and outreach for all stakeholders in the power industry. SEBA will provide advocacy for public policy that supports the timely adoption of Smart Energy. SEBA will sponsor several events each year to promote the use of Smart Energy. It will also provide a newsletter to keep its membership informed.

SEBA is associated with AeA, the largest high-technology trade association in the U.S.

SPOKANE INTERCOLLEGIATE RESEARCH AND TECHNOLOGY INSTITUTE (SIRTI)

665 North Riverpoint Blvd
Spokane, WA 99202
Phone: (509) 358-2000
Fax: (509) 358-2092
www.sirti.org

Organization Type: Regional Economic Development Group

Major Services:

- Funding Support
- Research
- Business Advice

SIRTI is a Washington State-funded, economic development agency that provides services to accelerate the development and growth of innovative technology companies in eastern Washington. SIRTI offers comprehensive, hands-on business commercialization services to help early-stage companies bring new technologies to market, attract public- and private-sector funding, and achieve sustainable growth.

SIRTI's services--market research, business plan development and access to top management capabilities--help client companies build a competitive advantage, improve investment return, and fuel expansion that contributes to regional economic growth.

SIRTI also offers a 5-point program to help emerging companies grow their markets: Opportunity Appraisal, Technology Assessment, Marketing Services, Business Development, and Financial Analyses and Positioning.

SIRTI offers commercialization strategies and hands-on assistance to create a growth-based market position; flexible incubator facilities; and critical business services to get emerging companies up and running faster and with more effective management.

SIRTI compiles a bi-monthly electronic newsletter on events regarding technological developments, government initiatives, and commercial endeavors for hydrogen-based fuel cell technology.

An excellent source of advice, assistance and temporary facilities for companies located in the greater Spokane area.

TECHNOLOGY ALLIANCE

Rainier Tower Building
1301 Fifth Ave, Suite 2400
Seattle, WA 98101
Phone: (206) 389-7320
Fax: (206) 903-3430
www.technology-alliance.com

Organization

Type: Regional Economic Development Group

Major

Services:

- Funding
- Funding Support
- Education of End Users/ Customers
- Research
- Business Advice
- Networking

The Technology Alliance (TA) is a Washington State-wide consortium founded in 1996 by Bill Gates, Sr. to bring together leaders from Washington's diverse high-tech sectors, research institutions, education, government, and the community. A CEO-level board from high-tech companies and research institutions directs the TA's work, which has identified research, education, and entrepreneurship as the drivers of Washington's economic future.

The Technology Alliance employs three main strategies to promote awareness and foster support for Washington's economic future: 1) Provide reliable research through the publication of free, downloadable studies and reports; 2) Educate leaders and citizens through newsletters and special events; 3) Implement programs such as the Science and Technology Roundtable, monthly presentations on cutting edge developments in science and technology; the Smart Tools Academy, a program of the TA and the University of Washington that trains Washington State school leaders on the effective use and integration of technology in school settings; and The Alliance of Angels (AoA), a membership program for accredited investors and representatives of investment corporations interested in financing technology startups. Organizations, businesses, and individuals can become involved with the Technology Alliance by sponsoring the TA's annual spring technology luncheon, and by becoming members in the Science and Technology Roundtable and/or the Alliance of Angels.

In the fall of 2003, the Technology Alliance is hosting a conference for investors focused on the Smart Energy sector.

THE UTILITY CONNECTION

Michael Metzler 1755 Harbor Blvd
Kissimmee, FL 34744
Phone: (407) 419-3575
www.utilityconnection.com

**Organization
Type:**

Information Services/Publisher

**Major
Services:**

- Education of End Users/
Customers
- Research
- Networking

Membership: No registration or membership is required.

The Utility Connection (TUC) is a portal providing links to over 4,000 electric, gas, water and wastewater utilities, utility associations, organizations, news, magazines, financial resources, and related state and federal regulatory and information sites.

The Utility Connection provides links to four main categories of resources: Electric and Gas Utilities; Electric and Gas Resources; water and wastewater Utilities; and Utility Financial Resources. TUC also maintains a job bank with links to open positions in the power and utility industries.

The Utility Connection is a portal only, with archives dating 1999 or earlier. The latest copyright on the site is dated 2000, so content may not completely current.

UNIVERSITY OF WASHINGTON ADVANCED POWER TECHNOLOGIES

Department of Electrical Engineering

University of Washington

253 EE/CSE Building

Campus Box 352500

Seattle, WA 98195

Phone: (206) 543-2150

Fax: (206) 543-3842

<http://www.ee.Washington.edu/>

<http://www.ee.Washington.edu/research/groups.html>

Organization

Type:

University/Educational Institute

Major

Services:

- Prototype Testing
- Education of SE Companies
- Research

The Advanced Power Technologies (APT) program is part of UW's Department of Electrical Engineering. It covers the nationally critical technologies of power systems, power electronics, electric drives and intelligent systems. The APT is a multi-institutional, multi-disciplinary center of excellence for advanced research and education in electric power engineering.

Sensors, Energy, and Automation Laboratory has as its mission to create new sensor technology for non-destructive testing, power engineering, and manufacturing control.

Member of Combined Research Curriculum Development (CRCDC), a National Science Foundation program dedicated to the improvement of power system industry through the application of intelligent systems.

Other Smart Energy related programs and facilities include The Electric Energy Research Laboratory, the Power Electronics Laboratory and the Systems, Electronics, Simulation, and Applied Mathematics for Energy Laboratory.

Electric Energy Industrial Consortium (EEIC), a collaborative program between industry and the university to provide funding and other support.

UW's degree programs in power engineering typically enroll about 50 students per year (roughly 20 graduate students).

WASHINGTON STATE OFFICE OF TRADE & ECONOMIC DEVELOPMENT (OTED), ENERGY POLICY DIVISION

Raad Building
128 10th Avenue SW
Olympia, WA 98504
Phone: (360) 725-4000
Fax: (360) 586-8440
www.energy.cted.wa.gov

Organization Type: State Agency
Major Services:

- Funding
- Funding Support
- Business Advice

The Washington State Office of Trade and Economic Development (OTED) works to enhance and promote sustainable economic vitality throughout the state.

OTED's Energy Policy Division

- provides energy planning, analysis and strategy. It is also responsible for emergency response and federal grants management.
- Provides the Governor, Legislature, and other agencies with information, analysis, and expert testimony.
- Coordinates emergency responses to petroleum and electricity supply shortages.
- Manages the Federal State Energy Program (SEP) and Oil Funds Settlement Agreements.
- Provides seed funding to selected associations and demonstration projects.
- Serves on the board or as an observer to several Smart Energy-related associations, including the Northwest Energy Efficiency Alliance, the Northwest Energy Technology Collaborative, the Poised for Profit research initiative and the Smart Energy Business Alliance.

The Energy Policy Division is one of four divisions of the Washington Office of Trade and Economic Development (OTED) (www.oted.wa.gov). OTED is itself a part of the Washington State Department of Community, Trade & Economic Development (CTED) (www.cted.wa.gov).

This agency is well aware of Smart Energy and its potential for the region and has been one of the early leaders in helping the sector grow and prosper.

WASHINGTON STATE UNIVERSITY (WSU) ENERGY & POWER SYSTEMS PROGRAM

School of Electrical Engineering & Computer Science

Washington State University
PO Box 642752

Pullman, WA 99164

Phone: (509) 335-6602

Fax: (509) 335-3818

www.eecs.wsu.edu/power/

Organization Type:

Research Laboratory

Major Services:

- Education of SE Companies
- Research

Washington State University's energy and power systems program is one of the largest and strongest in the country, typically enrolling about 40 students per year, half at the undergraduate and half at the graduate level. WSU is also a member of the Power Systems Engineering Research Center, which is funded through the National Science Foundation. In addition to its power engineering programs, WSU operates the Energy Program for the State of Washington. That program includes a library and clearinghouse services for energy professionals worldwide, industrial services and numerous other technology and consulting services, mostly geared to energy efficiency.

Power engineering at Washington State University is one of the strongest and largest programs in the country. The number of research projects is now at record levels and the program continues to be called on for research of national consequence.

One of the program's hallmarks is a public-private consortium called the Power Professorship. Private sector members include utilities, power vendors and consulting companies. Both faculty and students work closely with these industrial partners on technical projects of direct relevance.

Pullman graduates are heavily recruited within the industry. And Washington's Inland Empire has seen the rise of a growing cluster of energy-related businesses. Several of these companies were founded by, or rely heavily on, professors and graduates from WSU.

The comprehensive curriculum includes courses in power systems analysis, power transmission, distribution, and protection. The university's professors conduct major research initiatives in all of these areas.

Member of Power System Engineering Research Center (PSerc), a National Science Foundation consortium of 11 of the top university power programs and about a dozen power companies.

Funding is provided by the power industry, the National Science Foundation, the Department of Energy, and the Electric Power Research Institute.

The industry needs a new breed of power engineers, people who are comfortable with innovation and knowledgeable about new technologies. WSU is one of the few universities in the country positioned to meet this new challenge.

WASHINGTON TECHNOLOGY CENTER (WTC)

300 Fluke Hall
Seattle, WA 98195
Phone: (206) 685-1920
Fax: (206) 543-3059
www.watechcenter.org

Organization Type: Technology Transfer Organization
Major Services:

- Funding
- Research
- Networking

The Washington Technology Center (WTC) is a state science and technology organization. WTC stimulates growth in the state by helping Washington companies develop commercially viable technology.

Provides companies access to technical expertise; funding for company projects jointly with universities; access to federal R&D, small business, and product development grants; microfabrication facilities and services; and technology seminars.

Host organization for the Northwest Energy Technology Collaborative.

WESTERN ENERGY INSTITUTE (WEI)

827 NE Oregon Street
Portland, OR 97232
Phone: (503) 231-1994
Fax: (503) 231-2595
www.powerin.org

**Organization
Type:**

Trade Association

**Major
Services:**

- Education of SE Companies
- Research
- Business Advice
- Networking

Membership: WEI's membership comprises nearly 40 energy companies, including gas pipeline companies, electric and gas distribution businesses, electric generation companies, power marketers and over 170 industry service providers.

Membership Fees:

- Service Companies: \$750 US Funds per Fiscal Year (October 1st to September 30th)
- Individual: \$50 US Funds per Fiscal Year (October 1st to September 30th)

WEI is a regional association serving public and private electric and gas industries throughout the Western US and Canada. The organization educates, develops skills and leadership, and facilitates information exchange and networking among member companies' employees.

WEI offers over 50 educational and networking programs each year to help member companies thrive in increasingly competitive energy markets. These programs address strategic issues, informal benchmarking of business practices, leadership development, and hands-on technical training.

WSA INVESTMENT FORUM

2200 Alaskan way, Suite 390

Seattle, WA 98121

Phone: (206) 448-3033

Fax: (206) 448-3103

www.wsa1.org

www.wsa1.org/events/event.asp?EventID=228

Organization

Type: Networking Forum

Major

- Services:
- Funding Support
 - Education of SE Companies
 - Education of End Users/ Customers
 - Business Advice
 - Networking

Membership Fees:

Regular WSA Investment Forum Registration Pricing:

- WSA Member Single: \$550
- Non-Member Single: \$750

Late Registration Pricing (less than 4 working days prior to the event)

- WSA Member Single: \$650
- Non-Member Single: \$850

Selected Presenters' Commitments:

- Fee: \$700 (WSA member companies) and \$900 (non-member companies)
-

The WSA (Washington Software Alliance) sponsors the annual WSA Investment Forum to support promising Northwest technology companies. The Investment Forum identifies the region's emerging technology companies seeking funding at all levels, encourages them to present their business plans, and provides presenter coaching during the process.

Northwest technology companies may apply to the WSA Investment Forum for the opportunity to present their company's business plan to an audience of local and national investors with capital to invest in nascent technologies and entrepreneurial leadership. Selected winners, investors, and interested industry representatives gather for the annual WSA Investment Forum day-long event, which features Company Presentations, Investor Panel, Networking Lunch and Keynote Address. The 2003 WSA Investment Forum advisory panel of investors and lawyers selected 15 companies representing a range of technology products and services. The 2003 selected presenters included business plans from wireless, software, biomedical devices and energy organizations from around the northwest in British Columbia, Oregon, and Washington. The WSA Investment Forum attracts investors, VCs and angels from the Puget Sound region, eastern Washington, western Canada, Oregon, California and New York.

WSU ENERGY PROGRAM

925 Plum Street SE Bldg No 4
Box 43165
Olympia, WA 98504
Phone: (360) 956-2000
Fax: (360) 956-2217
www.energy.wsu.edu

**Organization
Type:**

University/Educational Institute

**Major
Services:**

- Education of End Users/
Customers
- Research
- Business Advice

The WSU Energy Program is a self-supported department within the university's Cooperative Extension Service. It provides energy research, publications and technical assistance to industrial plants, consulting firms, businesses, government agencies, and utilities.

Building Science, Distributed Generation, Efficiency Engineering, Renewable Energy, Resource Efficiency Management and Technical Assistance Clearinghouses.

The Technical Assistance Clearinghouses are specialized collections of print and electronic resources, maintained by a staff of research librarians.

The Office of Industrial Technologies Clearinghouse serves U.S. industries.
(www.oit.doe.gov).

The EnergyIdeas Clearinghouse serves commercial and industrial customers of Pacific Northwest utilities. (<http://www.energyideas.org/>).

The Energy Services Clearinghouse serves commercial and industrial customers of the Western Area Power Administration in 15 Western states. (www.es.wapa.gov).

The WSU Energy Program is funded by federal government agencies, federal power marketing agencies, the nonprofit Northwest Energy Efficiency Alliance, and several other sources.

It collaborates with a variety of agencies, universities and non-profits in dozens of different programs.

APPENDIX A: ABOUT THE PROJECT

ABOUT THE METHODOLOGY

Athena analysts are experts in the growth of emerging markets. We have developed the *Regional Competitiveness Program* designed to aid leaders in growing an industry in their region. Our program combines our emerging markets expertise with a systematic research methodology:

- Multiple interviews, discussions and research roundtables with regional and national players: energy companies, utilities, investors and policy/program leaders
- Extensive review of secondary data and industry reports
- In-house technical sessions to map information, generate market scenarios, and establish key findings
- Review of draft reports by a committee of advisors and industry experts

For our company inventories, Athena draws on a number of resources:

- Generate lists of relevant resources from lists from associations, trade journals, investors, previous company research, Steering Committee members, and other relevant sources.
- Research each resource using the website and phone interviews where necessary or useful
- Input fields into a database, cleanse/validate the data, generate relevant lists
- Combine lists and indexes into a document that is reviewed by outside experts and the Steering Committee

THE ROLE OF THIS REPORT

This document is part of a series of directories and inventories. It reports on the existing base of resources in the region. It is designed to help companies operating in this space, as well as investors, policy-makers, and others who may be interested in understanding who is operating here.

ABOUT CLIMATE SOLUTIONS

Climate Solutions is a public interest group that works to make the Pacific Northwest a global warming solutions leader. Since 1998, the group has targeted development of a Northwest clean energy technology industry as a globally significant contribution to reduce greenhouse emissions into the atmosphere. Climate Solutions generates leading-edge information and knowledge on clean energy technology and economic opportunities it presents. The organization issues reports, organizes conferences and builds cross-cutting alliances to further the goal of rapid energy transition.

ABOUT THE ATHENA INSTITUTE AND THE CENTER FOR SMART ENERGY

The Athena Institute is a research organization that helps executives and organizations find success in emerging markets. Its methodologies and insights have been implemented by many organizations, ranging from Fortune 1000 corporations to public policy agencies.

Athena's *Market Power* program helps organizations take advantage of new opportunities. Its *Partner Assets* program helps them use partnerships as a source of competitive advantage. Its *Strategic Leadership* program strengthens corporations and helps individual leaders position their companies to win. Its *Regional Competitiveness Program* helps governments and regions find the best sources of economic development.

The Center for Smart Energy (www.centerforsmartenergy.com) is operated and maintained by Athena. It is dedicated to making North America the leader in Smart Energy innovation. Center activities provide information and tools to support investors, businesses, technology owners, and regional policy makers as they work toward commercial success in Smart Energy.

ABOUT THE ANALYSTS

PS Reilly is a noted expert, researcher, and advisor on commercial success in emerging markets. Her insights and predictions are regularly featured in articles, columns, and keynotes. Most recently she was Vice President of Emerging

Markets for Ziff Davis Media, where she provided strategic advice to leading technology companies, including IBM, Peoplesoft, and many others. She has designed and led numerous large-scale research projects, from analysis of a single market, to investigating the economic impact of regional policy and infrastructure changes.

Jesse Berst is an internationally known technology and business analyst. He has authored or co-authored more than a dozen books on technology topics, written hundreds of articles for leading publications and keynoted dozens of business events in the U.S. and abroad. He combines two decades of professional experience in emerging markets with a personal interest in environmental and energy issues.