Powering The Innovation Economy
Today

- Who is NWETC
- The opportunity in new energy technologies
- The challenges
- Some solutions
NWETC At A Glance

Mission
The Northwest Energy Technology Collaborative is a joint effort of business, government, non-profit and educational institutions determined to accelerate the emergence and growth of the energy technology industry in the Pacific Northwest region.

What We Do
We promote synergies between businesses, educational institutions, nonprofits and the government. The Collaborative focuses its efforts in three areas:
1. Research and development
2. Commercialization Services that will move intellectual property from the laboratory to market
3. Regional Branding/Marketing
NWETC Membership

- Innovators
- Entrepreneurs
- VC’s
- Energy Companies
- Technology Developers
- Energy Users
- State and Local Organizations
Accelerating the benefits

Chart 1: Relative Size of Clean Energy Industry
(Sources: Rolls Royce, IEA, ADL, ONL, EREN, EU ATLAS)

Global Sales from 2000 to 2020 ($ Billions)

- Renewable Generation
- Power Systems Technologies
- Fuel Cells
- Energy Efficiency

Graph from Poised for Profit November 2001 @ www.nwetc.com
Accelerating the benefits

Chart 2: Projected Global Clean Energy, 2000 to 2020
(Sources: IEA, ADL, ONL, EREN, EU ATLAS)

Value of Installed Clean Energy Capacity

- Wind
- Solar
- Biomass
- Geothermal
- Small Hydro
- Fuel Cells
- Power Systems
- Energy Efficiency (Annual Sales)

Bars represent change in value of total installed capacity between 2000 and 2020.

$US Billion

Graph from Poised for Profit November 2001 @ www.nwetc.com
Technologies and markets

Promising market ready technologies

- Micro combined heat and power, fuel cells, and smart energy represented by companies like:

Mariah Energy Corp.
Clean Energy Solutions
Soluciones Energéticas Limpias

ReliOn
Hydrogen Fuel Cells

3TIER Environmental Forecast Group
The Players

- Inventers of innovation
- Utilities of all sizes
- Consumers - large and small
- Government - regulators and policy makers
- Venture capitalists
Challenges

Chart 6: Perceived Barriers: Industry (n=25)

Barriers to Growth - Industry Leaders

- Government policies
- Financing
- Utility policies
- Market size & growth
- Skilled employees
- Market information
- Distribution channels
- Consumer awareness
- Proximity to markets
- High labour costs / taxes
- Technical risks
- Competition
- High start-up costs
- Access to raw materials
- Language and cultural

% of Respondents

Graph from Poised for Profit November 2001 @ www.nwetc.com
Challenges

- Risk adverse market
- 19th century regulation system
- No identified process to adopt new technologies for utilities or consumers
- Access to capital
Solutions

- **NWETC process**
  - Collaborate in helping small startups access R&D programs
  - Incubations – create network of support products to incubate through valley of death
  - Test Bed to establish an identified process to beta test new products with utilities and consumers
  - Energy Angel investors bridge gap to sales and manufacturing
  - Showcase – Help products that are market ready
  - Venture Capital – deliver healthy well managed companies to VC community with initial account receivables in place.
  - Public policy that encourages innovation and early adoption
POWERING THE INNOVATION ECONOMY...™

12 EMERGING ENERGY INNOVATORS

The Pacific Northwest region of the U.S. and Canada is a world leader in innovation research and product development for new energy technology. The Northwest Energy Technology Collaborative is pleased to provide you with the Emerging Energy Innovators Guide. This guide is produced by the Northwest Energy Technology Collaborative to promote a dozen of the most promising new energy technology companies in the Pacific Northwest each year.

- AquaEnergy Group Ltd.
- Heuristic Engineering Inc.
- In PowerSoft
- Lignol Innovations Corporation
- Mariah Energy Corporation
- Pacific Northwest National Laboratory
- PCS UtiliData
- ReliOn Inc.
- Serveron Corporation
- Tantalus Systems Corporation
- 3TIER Environmental Forecast Group Inc.
- Westtech Energy

For more information, visit our website at www.nwetc.com
Solutions

- **Public Policy - some examples**
  - Standardize interconnection standard
  - Positive net metering laws
  - Encourage utilities to spend a percentage of capital on new technologies and do not punish them for early adoption
  - Require that local permit officials become familiar with new energy technologies
  - Make state governments lead purchasers/early adopters
  - Encourage and support public awareness projects
BPA’s EnergyWeb
The Bonneville Power Administration is a world leader in understanding and advancing the concept of an intelligent, decentralized power system, as illustrated in this concept drawing. Such a system will require new products for connecting distributed power sources to the grid.

Source: BPA
Microfabrication Laboratory

Ensuring the success of emerging microtechnology companies and academic researchers

Thin film deposition
Metallization
Atmospheric Furnace Processing
Etching/Cleaning
Wafer Characterization
Photolithography
Backend Processing & More

For use in the creation and production of:
MEMS • Microfluidics • Micro-optics • Sensor Devices

Our experienced staff can meet your prototype and foundry needs or you can come use our facilities

For more information, visit our website at www.microfab.watechcenter.org
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Washington Technology Center

Microfabrication Laboratory Facilities

- A 15,000-square-foot cleanroom facility
- Public-private shared R&D facility
- Access to facilities and specialized equipment for MEMS research
- Primary-stage product development and product manufacturing
- Contract processing or use of lab
Washington Technology Center
Regional Technical Services

- **Small Business Services**
  - In house consulting fee for service

- **Angel investor network**
  - Connection of investment groups and early-stage funding

- **SBIR/STTR assistance**
  - Statewide promotion of the Small Business Innovation Research (SBIR) program

- **RTD Grant Program**
Washington Technology Center

WTC Research & Technology Development (RTD) Program

- **Academic-Industry research** grant that is designed to produce results that the industry partner can commercialize.

- Up to $300,000 per partnership in 3 Phases

- 2 rounds/ year - Spring and Fall
How does it work?

- **Company defines the general scope of work**
- **Industry-Academic team forms (we may be able to help)**
- **Team jointly develops proposal**
- **Compete for funding**
- **Academic or Nonprofit Researcher receives the funding**
www.nwetc.com

More information at our web site!

www.nwetc.com

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