

Metropolitan Business Plan for Energy Efficiency:

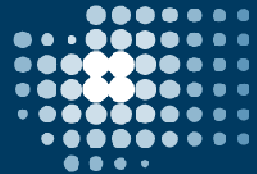
The Building Energy-efficiency Testing & Integration (BETI) Center and Demonstration Network



Metropolitan Business Plan - Background

Selected by Brookings Institution to be 1 of 3 regions to pilot “Metropolitan Business Plan” project

- **The concept:** Can you apply the discipline of business planning to regional economic development?
- **Chosen focus area:** Energy efficiency
- **Goal:** Identify a catalyzing investment to promote exports and job creation in energy efficiency
- **Leadership:**
 - **Co-Chairs** - Mayor Ray Stephanson, Phyllis Wise (UW), John Gardner (WSU) , Norm Rice (Seattle Foundation), Phil Bussey (Greater Seattle Chamber of Commerce)
 - **Steering Committee** - 40 representatives from industry and community (McKinstry, Microsoft, Battelle/PNNL, utilities, workforce, economic development, architecture)



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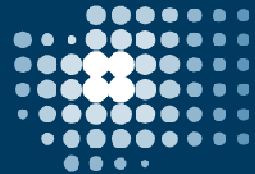
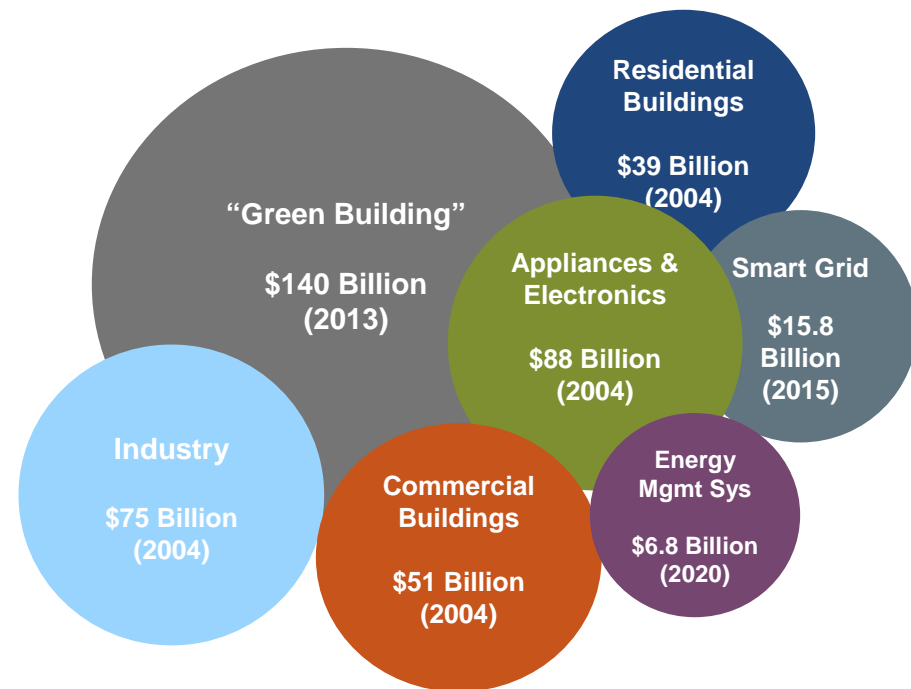


Metropolitan Business Plan – Market Analysis

**What does the energy efficiency market look like?
What are people buying?**

U.S. market 2004
\$300 billion
invested in energy
efficiency technologies
and infrastructure

\$700 billion
projected U.S.
spending in 2030

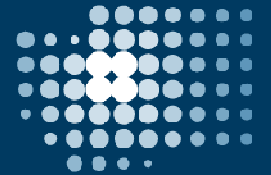


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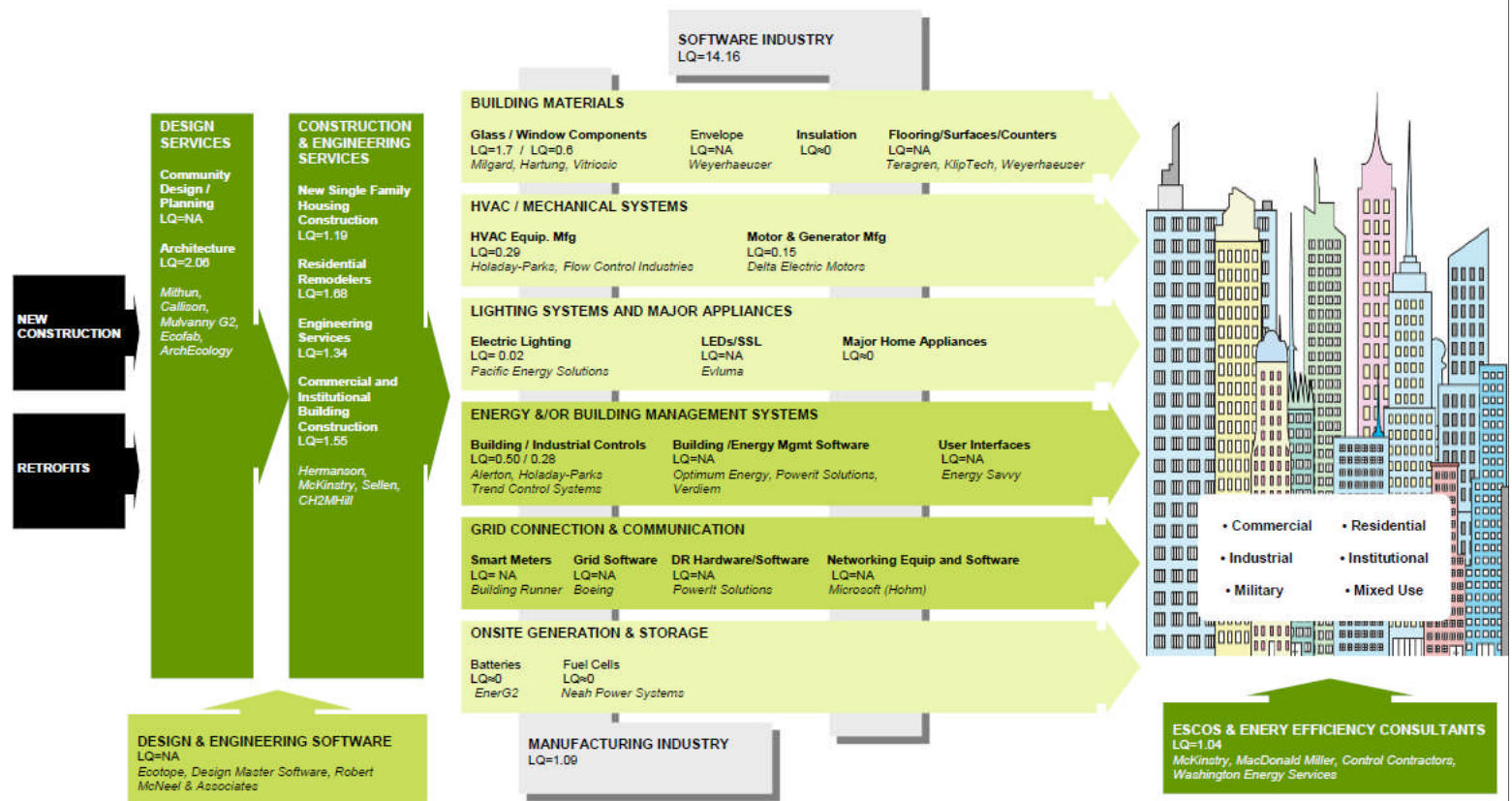


Metropolitan Business Plan – Market Analysis

What do we have to sell?



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Metropolitan Business Plan – Market Analysis

Where do our strengths align with market opportunities?

Macro Market Opportunities

- Energy Services
- Building/Energy Mgmt Systems
- ICT Enabled Integrated Systems
- Building Materials
- Sensors & Sensor Systems
- Smart Appliances
- Green Design , Construction Services, and Software

Puget Sound Assets

- Energy Services industry
- Software industry
- Architecture industry
- Construction industry
- Building / Energy Systems
- Machining expertise

Opportunities for the Puget Sound

- Energy Services
- Building/Energy Mgmt Systems (Software)
- ICT Enabled Integrated Systems
- Green Design, Construction Services, and Software

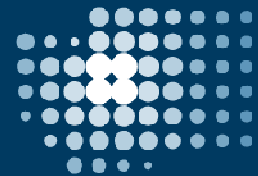
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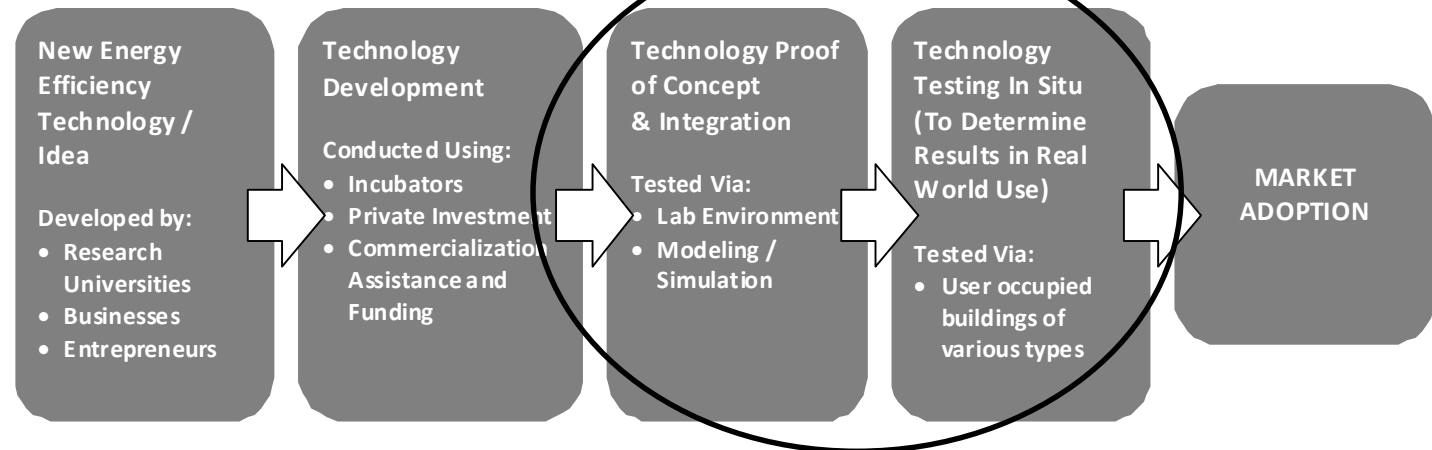
Metropolitan Business Plan – Market Analysis

What sort of investment can we make to tap this market opportunity?



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Energy Efficiency Path to Market



Strategy: Create the Building Energy Efficiency Testing and Integration (**BETI**) Center and Demonstration Network to address market barriers

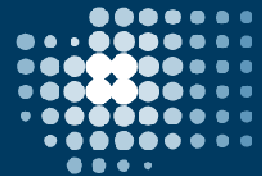
- “first buyer” challenges
- integration

and support product/service commercialization



BETI Services

- **Controlled (laboratory) testing** using a contractor-operated lab with a focus on energy management and automation software and technology
- **Real-world (field) demonstration and testing** via statewide network of residential, commercial, industrial, and institutional buildings
- **Facilitated industry collaboration** bringing together large and small businesses, researchers, utilities, the building industry and others to develop new technological solutions to be launched into the marketplace
- **Business development, commercialization, and regulatory assistance referrals** to connect entrepreneurs and companies to needed support services



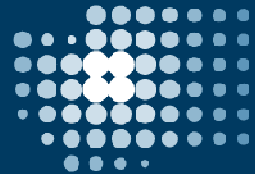
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BETI - Filling Areas of Unmet Need

BETI in Comparison to Related Testing Labs and/or Demonstration Programs

	BETI	NAHB Research Center	Oak Ridge National Lab BTRIC	EPRI Industry Demonstration Projects	Pacific Energy Center	Better Bricks
Location	Puget Sound	MD	TN	across U.S.	CA	ID, MT, OR, WA
Focus on building design / geared toward design professionals	limited focus	no	no	no	yes	yes
Focus on building materials / building envelope innovations	limited focus	yes	yes	no	no	no
Focus / capability to test software solutions	yes	very limited	no	unknown	unknown	no
Programs primarily utilities-serving	direct & indirect service	no	no	direct service	indirect service via customers	indirect service via customers
Fee-for-service	yes	yes	yes	yes	yes*	yes*
Technology development focus	yes	yes	yes	implementation focus	implementation focus	design focus
Specialized laboratory facilities/equipment	yes	yes	yes	no	limited	yes
On-site engineers / technical professionals	yes	yes	yes	no**	yes	yes
In situ technology demonstration component or focus	yes	yes	unoccupied buildings only	yes	no	no
Regulatory support	yes***	yes	no	no	no	no
Provides standard certifications	yes	yes	no	no	no	no
Linkage to commercialization and business development services	yes	no	no	no	no	no
Facilitated industry programs	yes	no	no	no	no	no
Linkage to export assistance	yes	no	no	no	no	no



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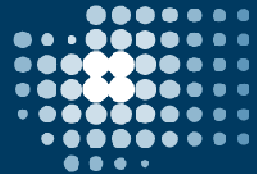
The BETI Center – Who uses it?

“Customers” - clients requiring product testing and demonstration services

- researchers
- start-up businesses / entrepreneurs
- established product and service providers
- established service firms

“Members” – industry stakeholders that will benefit from BETI programming and services

- utilities
- ESCOs
- architecture, construction, engineering firms
- cleantech investors
- large energy efficiency companies / integrators
- PNNL
- universities



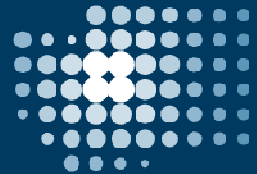
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The BETI Center – Operations

- **Legal Structure** –public development authority (PDA)
- **IP Policies** – IP of customers protected; jointly developed IP to be handled on case-by-case basis
- **Organizational Plan** – limited BETI staff (5), lab contractor (9)
- **Facilities** – 60,000 SF of warehouse space, 10,000 SF office space
- **Marketing** – targeted “customer” marketing (conferences, website, ads, PR outreach); direct outreach to potential “members”



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The BETI Center – Financials

Anticipated annual operating costs: \$7.9 million

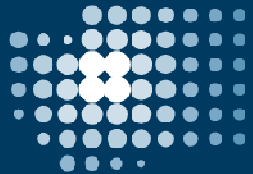
- BETI staff
- rent
- lab contract
- equipment
- marketing
- demonstration network
- operating / overhead

Estimated annual revenue potential: \$8.1 million

- fee-for-service (lab and demonstration network)
- membership fees
- research grants
- event fees

Upfront costs: \$6.8 million

- Fundraising efforts will target federal grants, foundations, 2010 state appropriation, and, if needed, low-interest credit



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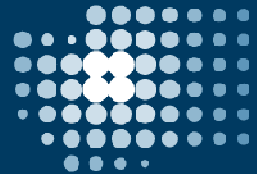
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BETI Implementation Plan

Phased implementation to launch programs and demonstration network in 2010; open BETI Center in 2011:

- **Phase 1** - create legal frameworks and raise upfront costs
 - 6 months (October 2010 – March 2011)
- **Phase 2** - hire initial BETI staff, begin industry outreach, fully transition BETI from PSRC to BETI Board and staff
 - 4 months (April 2011– July 2011)
- **Phase 3A** - select BETI lab contractor, work toward opening site in 2011
 - 5 months (August 2011 – December 2011)
- **Phase 3B** – hire additional staff, launch initial programs
 - 5 months (August 2011 – December 2011)



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