



# **Clean Energy: An Emerging Opportunity**

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MASSACHUSETTS  
TECHNOLOGY  
COLLABORATIVE

**RENEWABLE ENERGY TRUST**



# Renewable Energy Trust

- Funded by a system benefits charge as part of 1998 electricity restructuring (\$25 million annually)
- Mission:
  - Increase the supply of and demand for clean energy
  - Promote the development of a vibrant Massachusetts renewable energy industry
  - Maximize benefit to Massachusetts ratepayers
- Managed by the Massachusetts Technology Collaborative, the state's development agency for renewable energy and the innovation economy.

## Slide 2

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**M1** MTC, 3/3/2004

**M2** MTC, 3/3/2004

# Renewable Sources

- Wind
- Biomass
- Solar
- Hydroelectric
- Fuel cells
- Ocean Wave/Tidal
- Enabling Technologies





# Trust Accomplishments

As of December 2004:

- More than \$119 million invested in more than 350 projects serving Massachusetts
- Supporting approximately 226.52 MW of new renewables
- Planning and siting support for 7 projects expected to result in additional 630 MW
- 47 green buildings funded
- 93 green building feasibility studies funded

# RET Programs

- **Clean Energy**
  - Supporting large-scale clean energy development in the state
  - Educating Massachusetts citizens, teachers, and students about the benefits of clean energy
- **Green Buildings and Infrastructure**
  - Developing green building projects powered by clean energy
  - Promoting the use of renewable energy is distributed generation (DG) applications
- **Industry Support**
  - Accelerating job growth, economic development, and technological innovation in the state
- **Policy Unit**
  - Collaborating with interested stakeholders to address market and regulatory barriers to new clean energy development

# Industry Support Program

**Accelerate job growth and economic development in the Massachusetts Renewable Energy industry cluster**

## **1. Direct Investments (SEED and others)**

- Investments with companies that have yet to demonstrate commercial viability of their tech.

## **2. Massachusetts Green Energy Fund**

- A privately managed venture capital fund

## **3. Clean Energy Cluster**

- Networks and knowledge initiatives, studies and support

# RET Early-Stage Investments



Lilliputian Systems, Inc.



Over \$10 million in direct support – and increasing

## Economic Development Benefits

- Helping to support over 550 jobs
- \$26 million + in 2004 revenues
- \$50 million + co-investment leveraged



# MASSACHUSETTS GREEN ENERGY FUND

- Trust has committed \$15 million as lead limited partner in \$25 million fund
- Since June 04, has reviewed 60+ potential investments; investment in Konarka \$300K , Protonex \$500K, Lilliputian \$310K
- High quality deal flow - 70+ opportunities in pipeline
- High level of national and regional VC activity with good syndication potential

# SEED Program

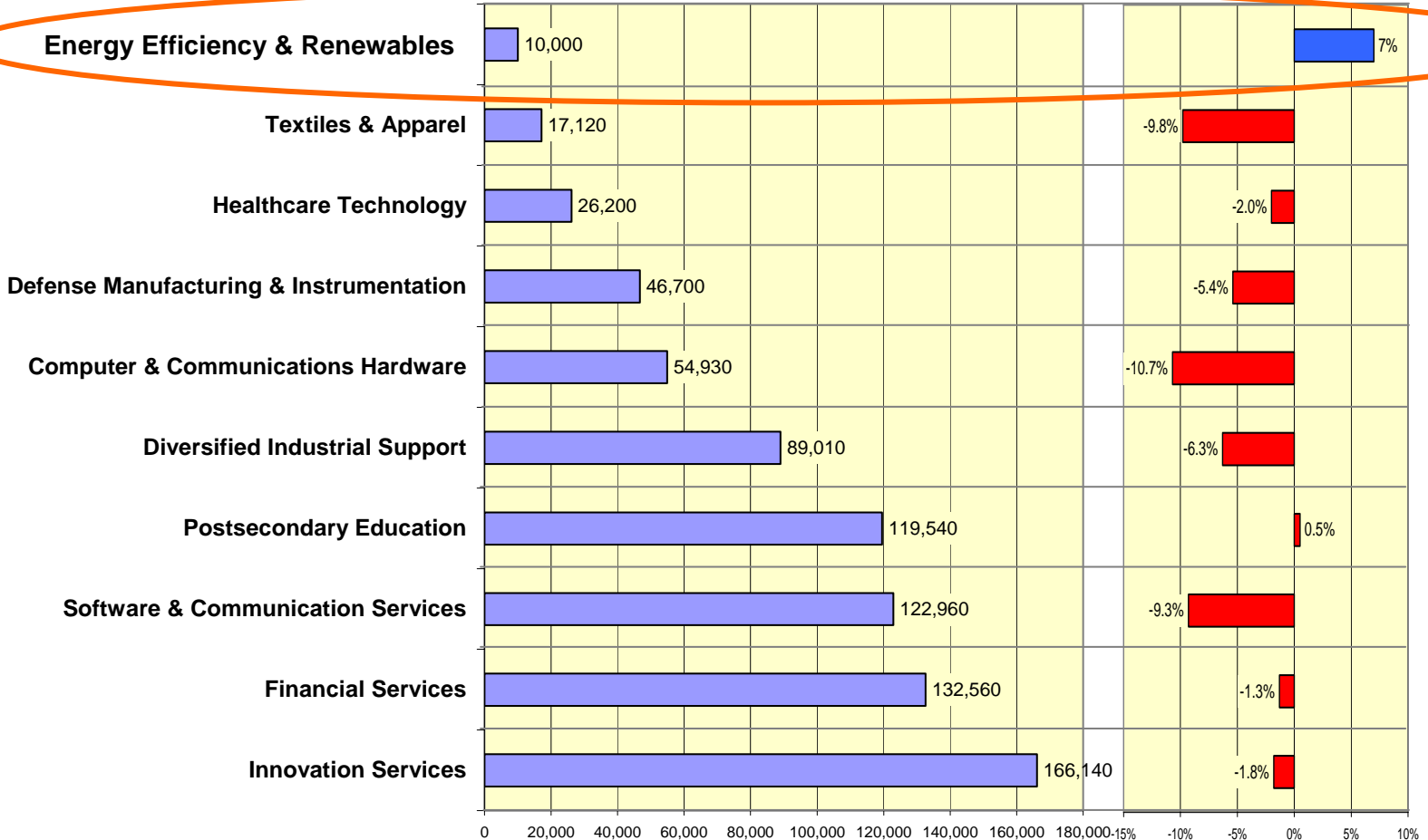
- \$8 million initiative, \$2 million in current round
- \$50,000 - \$500,000 convertible loan
- 5-yr, 8% Note
- Debt service is deferred for 2 years
- Convertible to equity
- Open to MA businesses developing technologies that produce or enable the production of renewable energy

Focus is on *commercialization*

# Is there an emerging Clean Energy Cluster?

- Is there an emerging Cluster?
  - UMass study – 8,000 efficiency, 2,000 renewable in 2002-2003
  - Can't be discerned through industry codes
  - Deserves closer study
- Employment “vectors”
  - Uptake of renewable technologies
  - Investment interest
  - More realistic business plans
  - Company expansions
  - Local deployment of renewable and efficiency technologies

# Efficiency and Renewables are a force in Massachusetts



Sources: John Adams Innovation Institute; UMass – based on 2002-2003 industry data

# Investing in the Clean Energy Economy

## Win-win

- Leverage MA strengths: technology, offshore resources, human capital
- Existing sectors of efficiency and renewable technology
  - Approx. 10,000 jobs today in MA between efficiency and renewables
  - One of top states in U.S. on per capita basis for investment and spending
  - Experienced double digit growth last year
  - Accelerates technology innovation and adaptation
- MRET can be a lead and patient investor where technology-intensive product development bears high costs

## ... And beyond Massachusetts

- A geographic focus can nevertheless have a regional and global perspective (e.g., Export, MGEF)
- Funding many technologies will prove more robust than a single “bet”
- Regional plays may be the most effective



# Massachusetts Technology Collaborative Renewable Energy Trust

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