

# Investing in Clean Energy

August 1, 2012

# MassCEC - History and Mission

- **The Massachusetts Clean Energy Center (MassCEC) was created to serve as the state's lead agency supporting the clean energy cluster**
- **MassCEC enabling legislation demands the following:**
  - Advancement of Technology
  - Job Creation
  - Workforce Development
  - Renewable Energy Generation

# History and Funding Source

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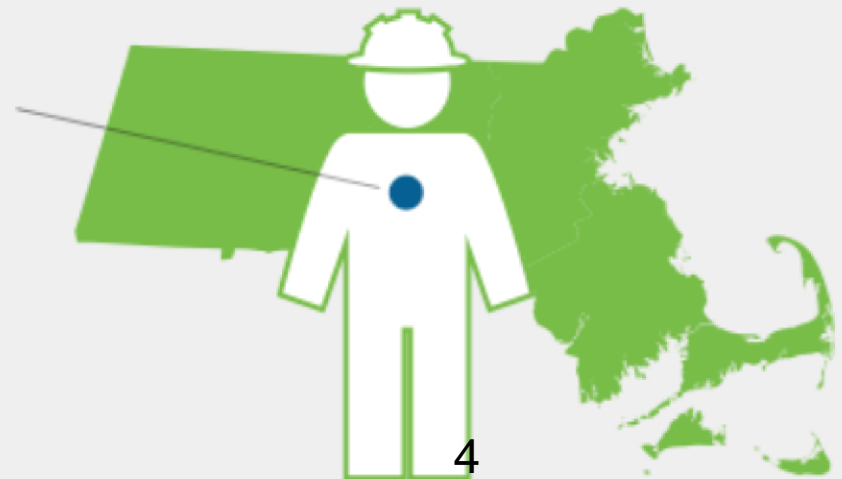
- The Massachusetts Clean Energy Center (MassCEC) was created by the Green Jobs Act of 2008 to serve as the state's lead agency supporting the clean energy cluster
- In November 2009, the Massachusetts Renewable Energy Trust was transferred to MassCEC
  - MassCEC is now the single agency responsible for fostering the development and installation of clean energy technologies in Massachusetts
- MassCEC funding
  - Alternative and Clean Energy Investment Trust Fund, created by Legislature in 2008
  - Renewable Energy Trust Fund, which is funded by a small renewable energy charge on ratepayers' electric bill

# Massachusetts Clean Energy Industry

- Large, Diverse and Growing
- Clean Energy is a Key Revenue Stream
- Small Businesses are prevalent
- Clean Energy Sector
  - Touches the entire Commonwealth
  - Supports Numerous Industries
  - Strong in Multiple Technology Areas
  - Employers Compete for Talent

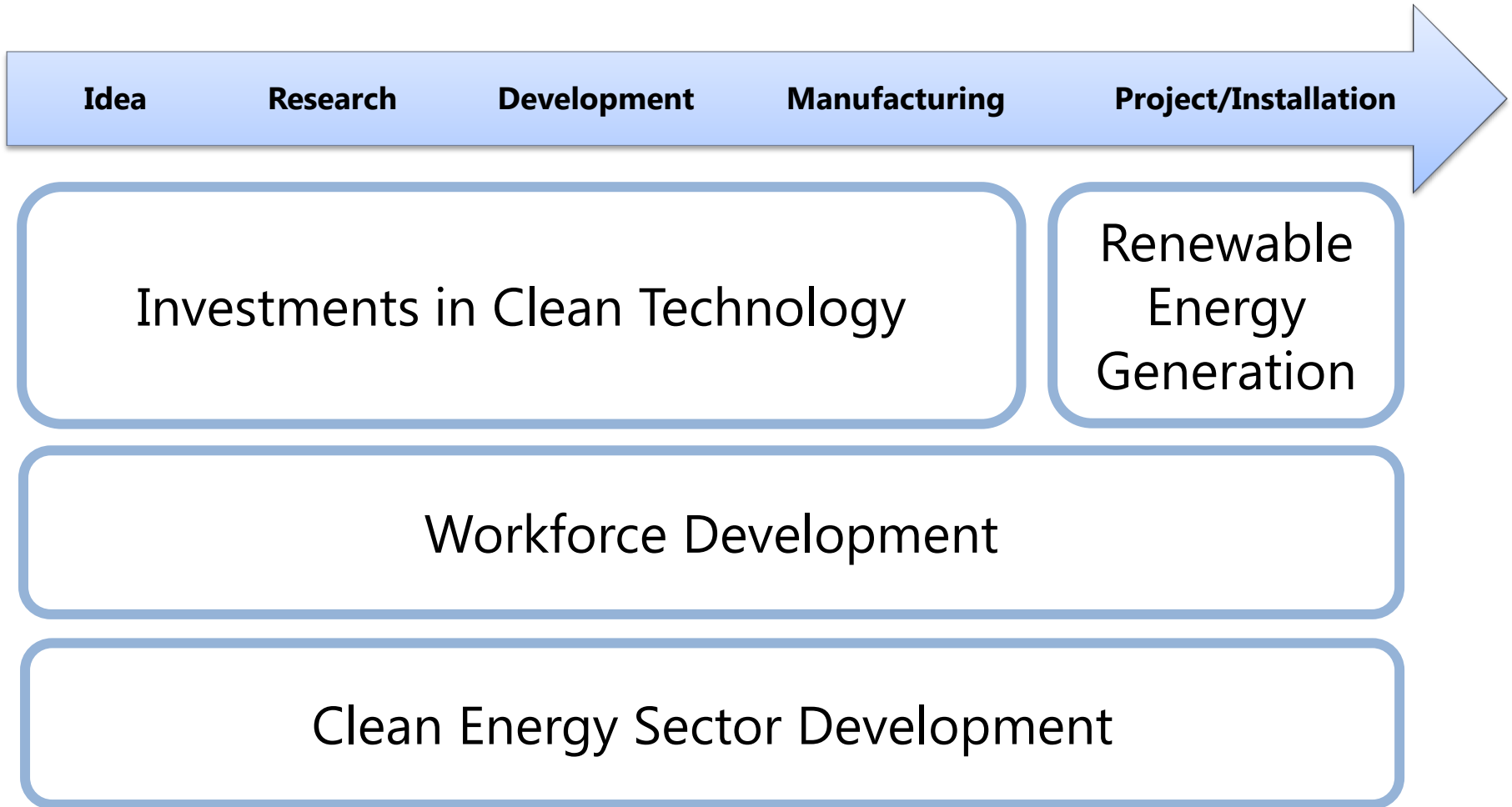
# Massachusetts' Clean Energy Sector is Large, Diverse and Growing

- 4,909 Clean Energy Firms
- 64,310 Clean Energy Workers
- Clean Energy workers in Massachusetts = 1.5% of all workers in the state



# MassCEC Areas of Focus

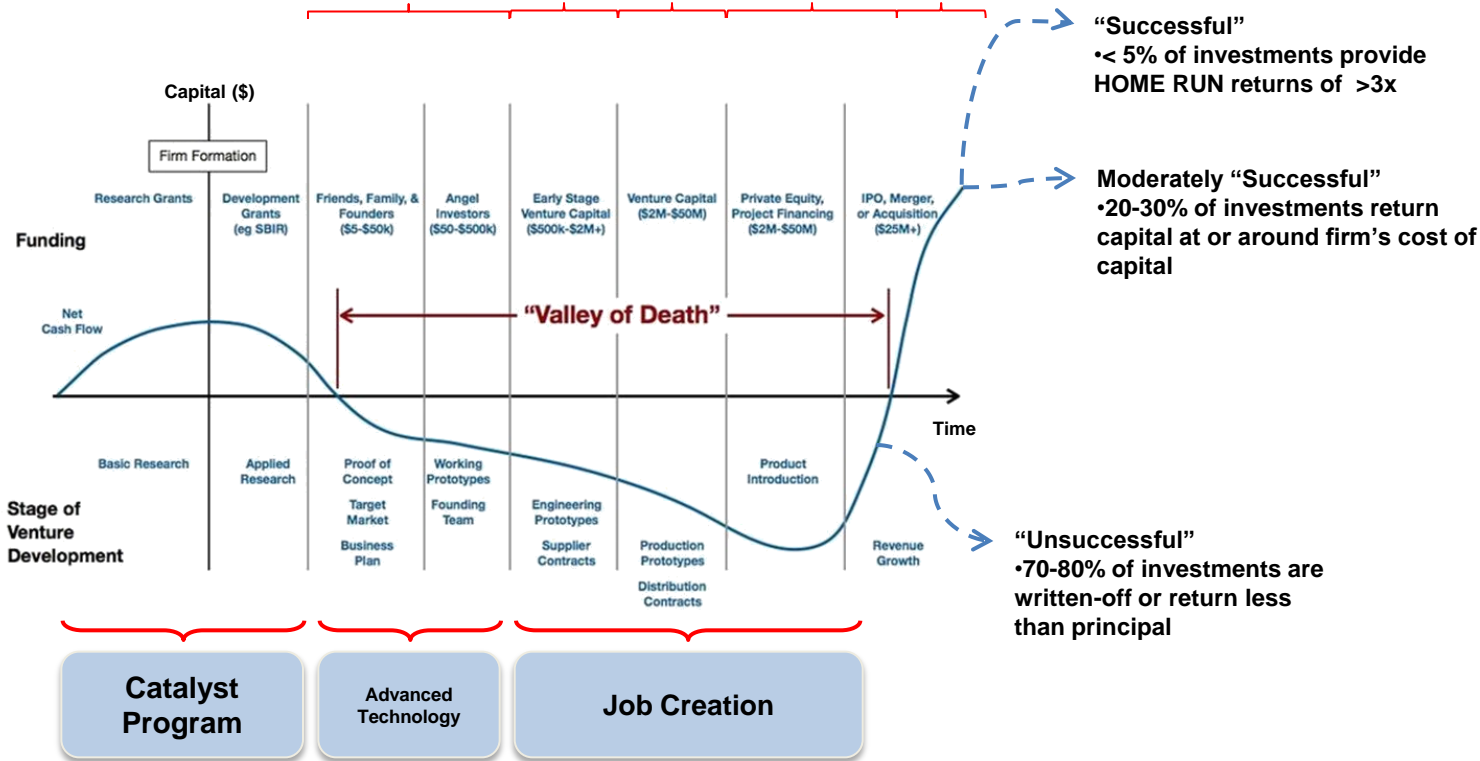
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# Cleantech's "Valley of Death"

Risk of Loss at Each Stage of Investment

Seed	Series A*	Series B*	Series C*	Growth Equity
66.2%	53.0%	33.7%	20.1%	20.9%

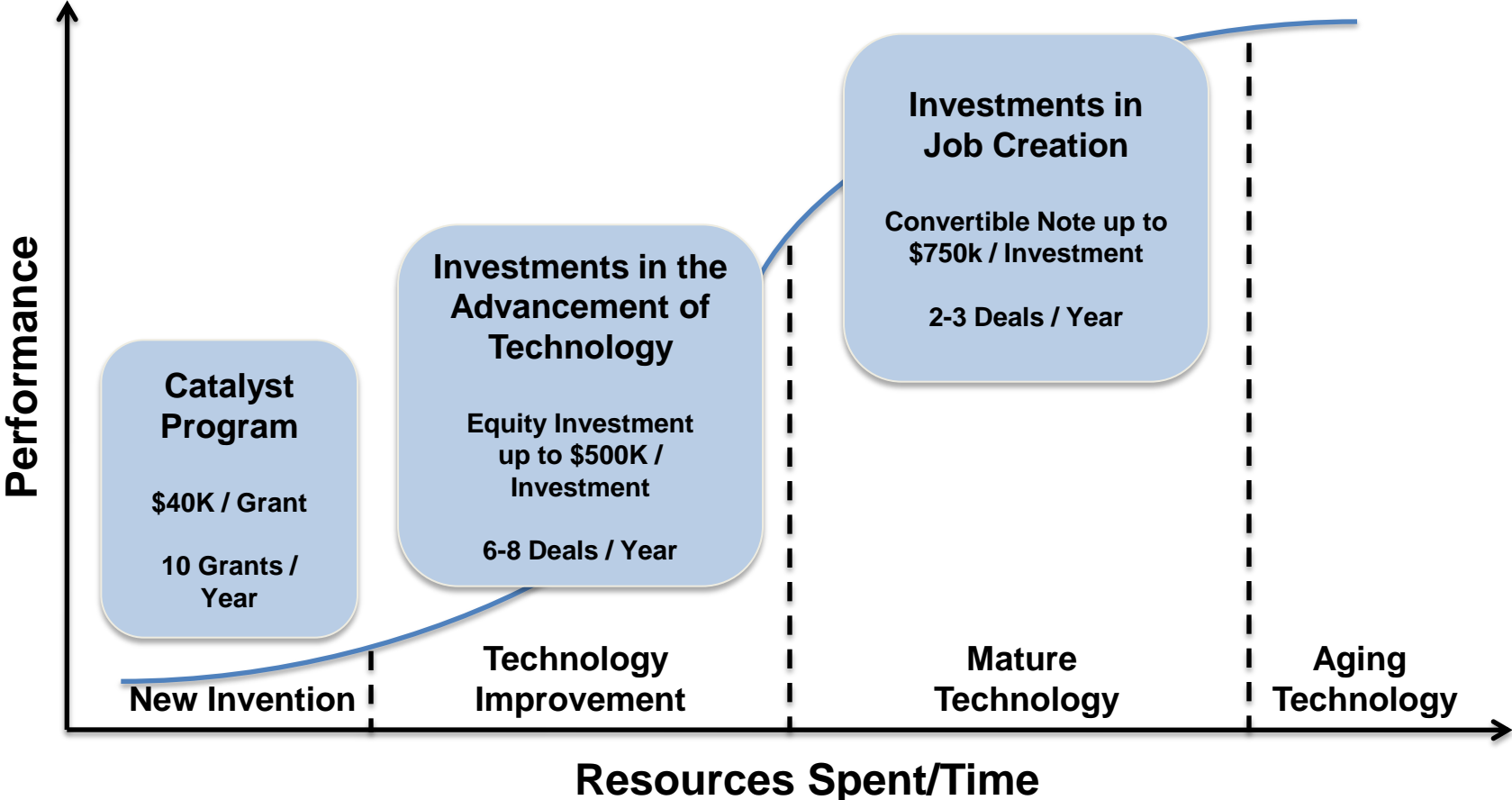


- High risk of loss in early stage companies due to the following risks:
  - Technology
  - Market
  - Liquidity
  - Business (e.g., operating, financial)
  - Regulatory/Legal
  - Environment

NOTES: \* May require more funding rounds depending on company's duration within the Valley of Death.

SOURCE: Kleiner Perkins Caufield & Byers; SRI International (Biosciences Division); Ruhnka, J.C., Young, J.E., "A venture capital model of the development process for new ventures," Journal of Business Venturing: Volume: 2, Issue: 2 (Spring 1987), pp: 167-184.

# Investments Along “Entrepreneurial” Life Cycle

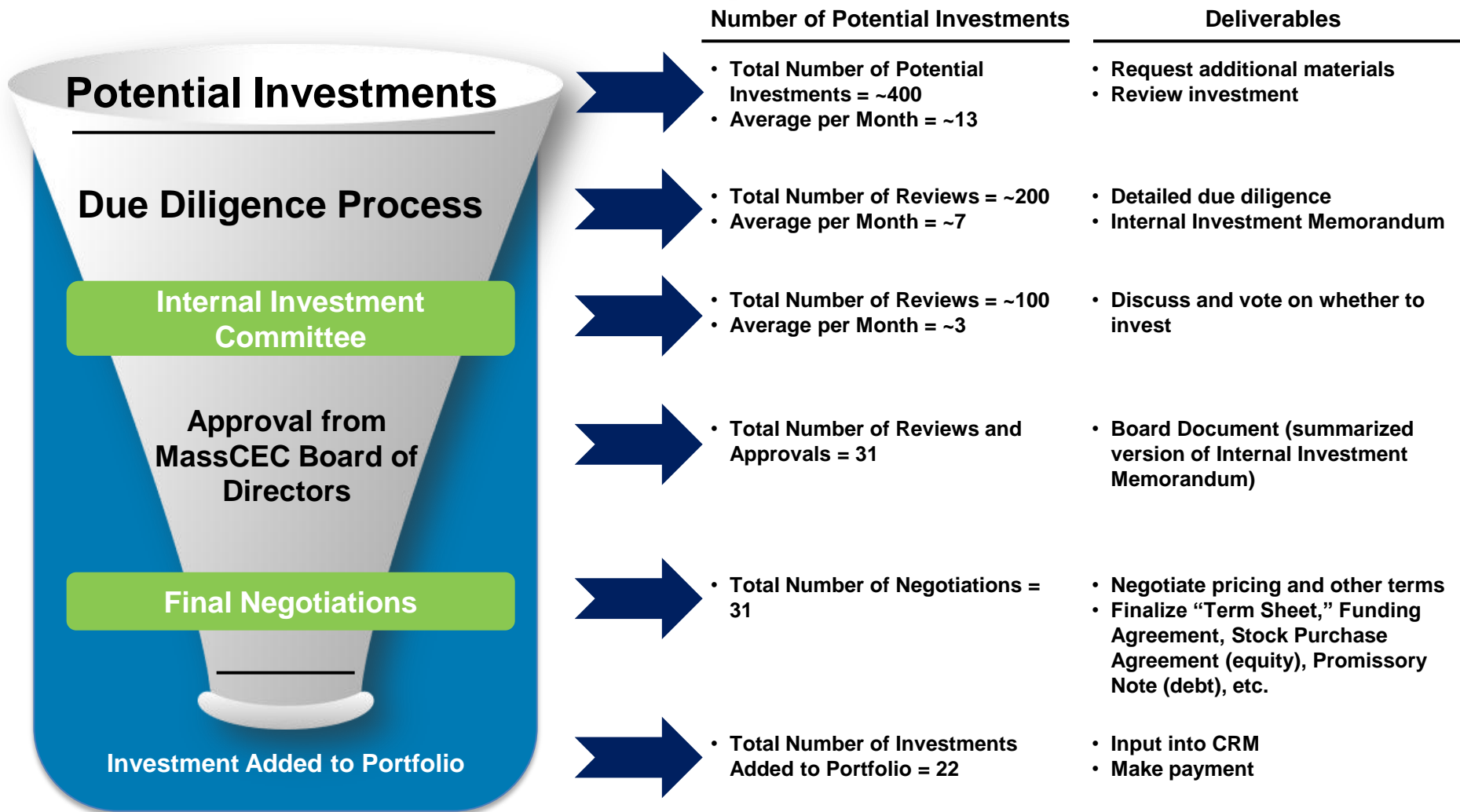




# Investment Programs

	Description	Process/Timeline
<b>Catalyst Program</b>	<ul style="list-style-type: none"><li>• Provides \$40K in grants to principal investigators at MA-based research institutions—expected to include ALL potential research projects in Spring 2012 Round</li><li>• Enables awardees to conduct research that shows the commercial viability of the invention or discovery</li></ul>	<ul style="list-style-type: none"><li>• Occurs twice a year to 5 awardees in the Fall and 5 awardees in the Spring:<ul style="list-style-type: none"><li>– Two stage review process: (1) initial review conducted by volunteer judges ; (2) the selected groups are then invited to present their invention and commercial viability</li></ul></li></ul>
<b>Investments in the Advancement of Technology</b>	<ul style="list-style-type: none"><li>• Invests up to \$500K in equity investments (syndicated) to early-stage clean technology companies</li><li>• Selects promising companies typical of “Seed” and “A” Round venture investment criteria</li></ul>	<ul style="list-style-type: none"><li>• Made throughout the year:<ul style="list-style-type: none"><li>– Due diligence typical of an institutional investor (2-3 month process)</li><li>– Approval from MassCEC’s Board of Directors required</li></ul></li></ul>
<b>Investments in Job Creation</b>	<ul style="list-style-type: none"><li>• Invests up to \$750K in convertible note<ul style="list-style-type: none"><li>– At least 100 new, full-time jobs are created over 2 years</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Made throughout the year:<ul style="list-style-type: none"><li>– Due diligence typical of an institutional investor (2-3 month process)</li><li>– Approval from MassCEC’s Board of Directors required</li></ul></li></ul>

# Investment "Funneling" Process\*



NOTES: \* Refers to MassCEC Investments Division's experience from May 2009 to November 2011 (31 months); excludes Catalyst Program.

# High Level Outline of Internal Process

Process Cycle (Based on ~8 Year Investment Period)

2-3 Weeks

## Pre-Screening

- Geography (MA focused)
- Industry (fits MassCEC mandate)
- Initial assessment of business idea/model
- Initial assessment of entrepreneur
- Initial assessment of management team
- Potential for high returns

<1 Day

## Initial Presentation

- 30-60 minute presentation
  - 50% presentation
  - 50% Q&A
- Problem being solved
- Market size/growth
- Solution
- Initial markets and/or customers
- Team track record
- Business model
- Capital needs and milestones
  - Now
  - Next rounds

4-12 Weeks

## Due Diligence

- Follow-up meeting: Meet with key management at company office/site
- Thorough due diligence
  - Personal references
  - Customer references
  - Competitive assessment
  - Financial review
- Negotiate term sheet
- Co-Investors
  - Introduce/Meet
  - Share diligence
  - Negotiate terms

~5-8 Years

## Investment and Support

- Board seat (case-by-case basis)
- Help recruit key management
- Introduce company to sources of follow-on financing
- Guidance on financial strategy
- Make key contacts for strategic partnerships
- Configure the company for an IPO or acquisition

# Summary of Investment Criteria

## TEAM

- Entrepreneurial experience
- Drive for success
- Seasoned management
  - Leadership skills, both business and technical
  - Advisory board and external relationships

## OPPORTUNITY

- Technical innovation
- Strong IP position, large barrier to entry
- Leads to high-value product business
- Generates a competitive product family
- Scalable



## MARKET

- Large and growing addressable market
- Limited competition, few or no incumbents
- Opportunity for market leadership (category killer)
- Opportunities for channel occupation and expansion
- Leverages existing platforms or products which dominate market

## FINANCE

- Attractive returns (high multiples)
- Sensible valuation and terms
- Low, sustainable burn rate
- Clearly defined, achievable milestones
- Strong and qualified syndicate

**Role of Government – Alignment w/MassCEC mission**

SOURCE: William (Bill) Sahlman from HBS (defined the Venture Capital and PE industry); the constructs presented are adapted from his fundamental framework for evaluating investible opportunities.

# Materials Used in Due Diligence Process

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## Description

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### Company Documents

- Business plan detailing: market opportunity, technology/product development plan, management team, board of advisors, go-to-market strategy, milestones (both business and financial)
- Financial projections (Do they match with company is planning to do?)
- Market research

### External Research

- Market research (e.g., industry reports and company research reports from investment banks and other research houses)
- Professional network of industry/technology experts
- Competitors
- Investors (What are their thoughts on the opportunity?)

### Co-Investors

- Internal analysis (e.g., due diligence)
- Market research

# Completed Investments by Strategies

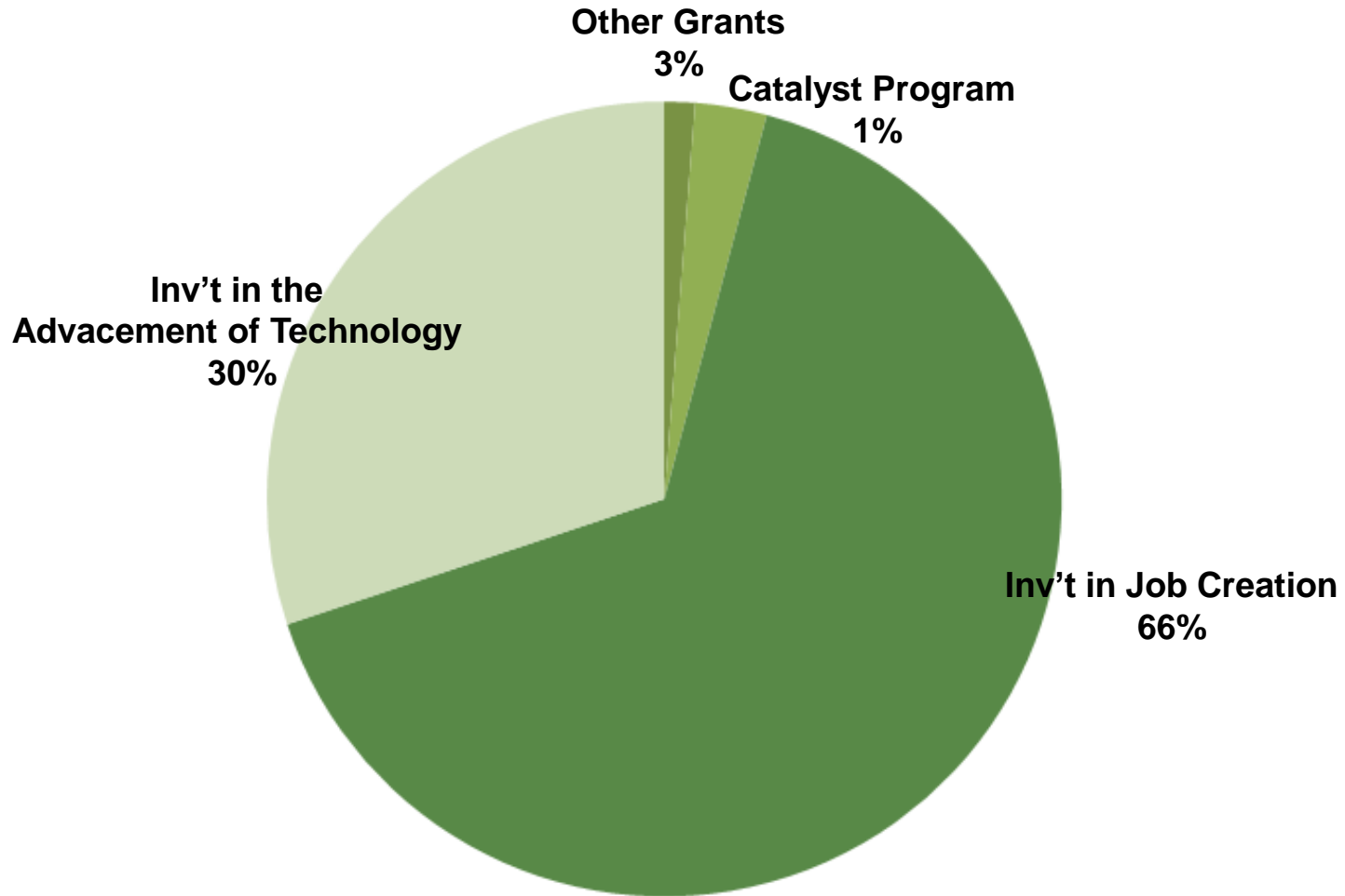
	<u>Principal Amount</u>	<u>Leveraged Funds Factor<sup>(1)</sup></u>	<u>Number of New Jobs<sup>(2)</sup></u>
Early Stage	\$19.1 Mn	31.3 x	217
Expansion Stage	\$20.3 Mn	2.8 x	696
	<b>\$39.4 Mn</b>	<b>16.6 x</b>	<b>913</b>

NOTES: (1) Defined as all disclosed federal, state and private funding received concurrent with and following MassCEC investments divided by Principal Amount

(2) Defined as most recent full-time employees reported in Massachusetts less full-time employees reported at the time of first MassCEC investment

# Distribution by Types of Investments

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# Any Questions?

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