

Technology Commercialization





TECHNOLOGY COMMERCIALIZATION: BRIDGING THE GAP

JAMES ROBBINS
ENVIRONMENTAL BUSINESS CLUSTER

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ENVIRONMENTAL BUSINESS CLUSTER

- First U.S. Environmental Incubator
- 2008 National Incubation Award Winner
- Technology Commercialization Center
- 90% Clean & Renewable Energy Start-ups
- 25-30 Companies Throughout California
- Both Resident and Non-Resident Programs
- Partnerships with NREL, CA Energy Comm



ENVIRONMENTAL BUSINESS CLUSTER MISSION

- Increasing Start-up Success & Accelerating Growth
- Reducing Barriers To Commercialization
- Bringing Environmental Products & Services to the Market



EBC Services

- Access to business expertise
 - 1:1 coaching
 - Entrepreneurial programs and services
- Technology Commercialization Program
- Furnished offices and conference rooms

- Network of contacts/referrals
- Entrepreneurial community/cluster



“GREEN” INVESTMENT SOURCES

- CALPERS - \$300M Green Fund
- CALCEF - \$30M for Clean Energy
- California Energy Commission -
 - \$60M/yr of PIER-Funded Research
 - \$120M/yr for Clean Transportation Research
- CA Budget includes:
 - \$120M for Clean Fuels and Vehicles
 - \$200M for Clean School Buses
 - \$95M for “Green” Research and Innovation



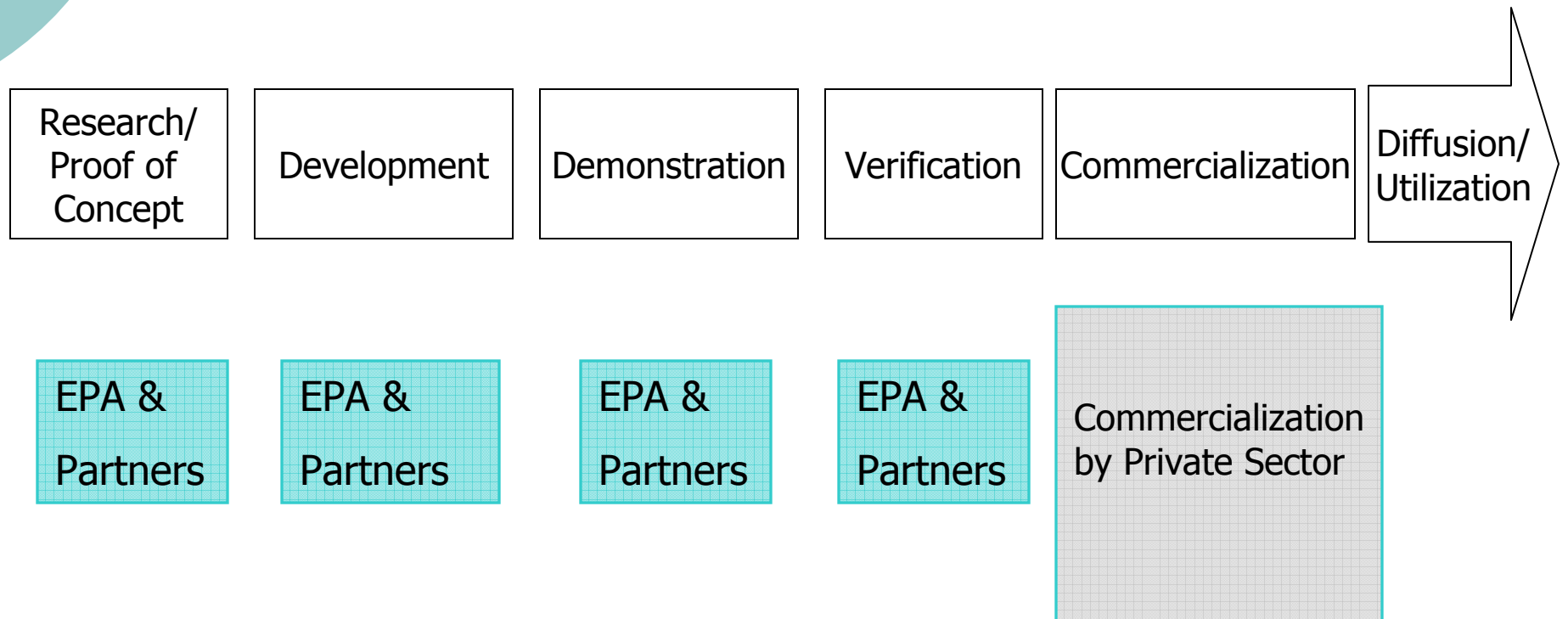
What Is the Problem? □

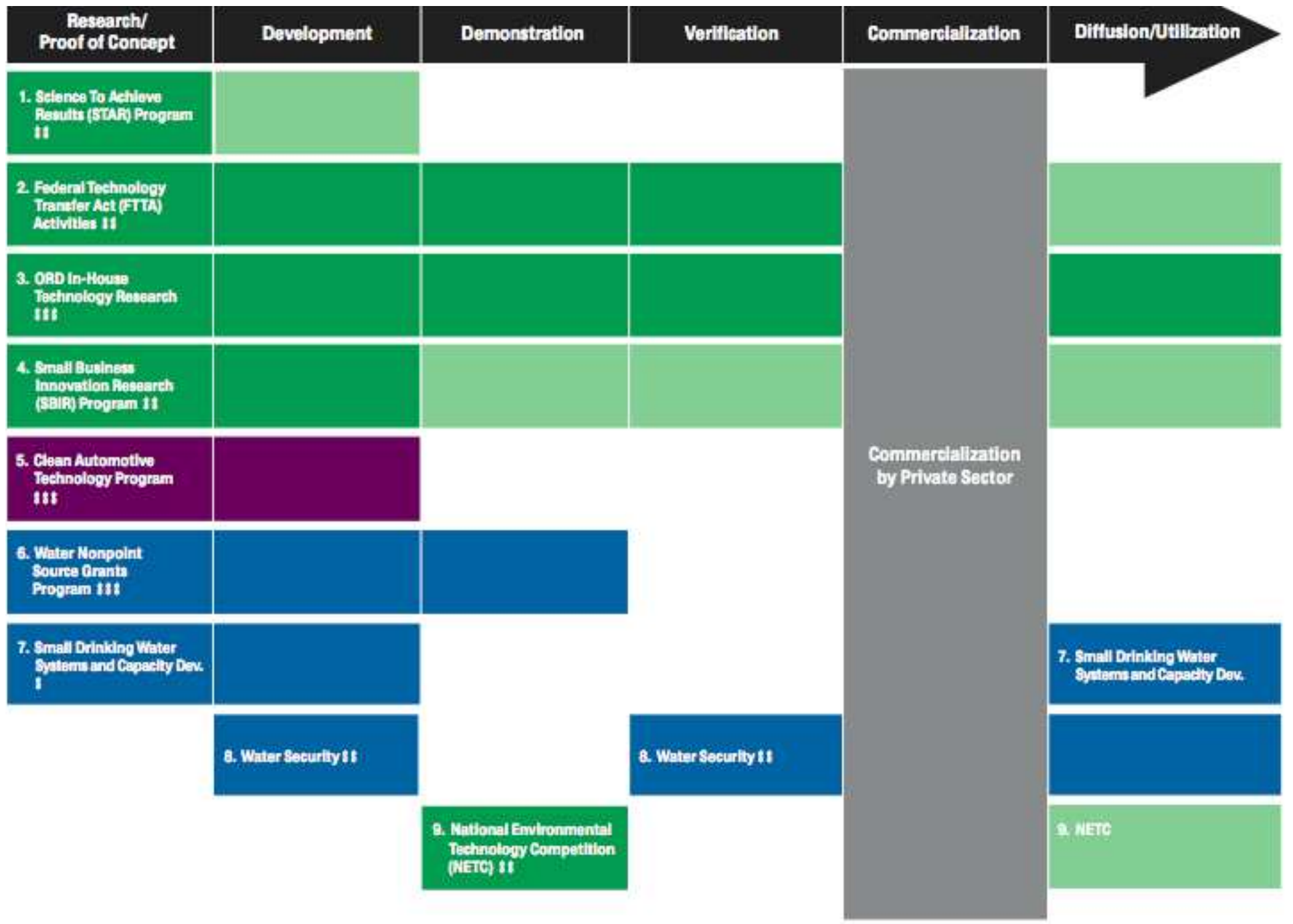
Applied Research Funding Stops
Before Private Investment Starts

Creating a Gap:

“The Valley of Death”

Successful EPA Ventures: What are the odds?





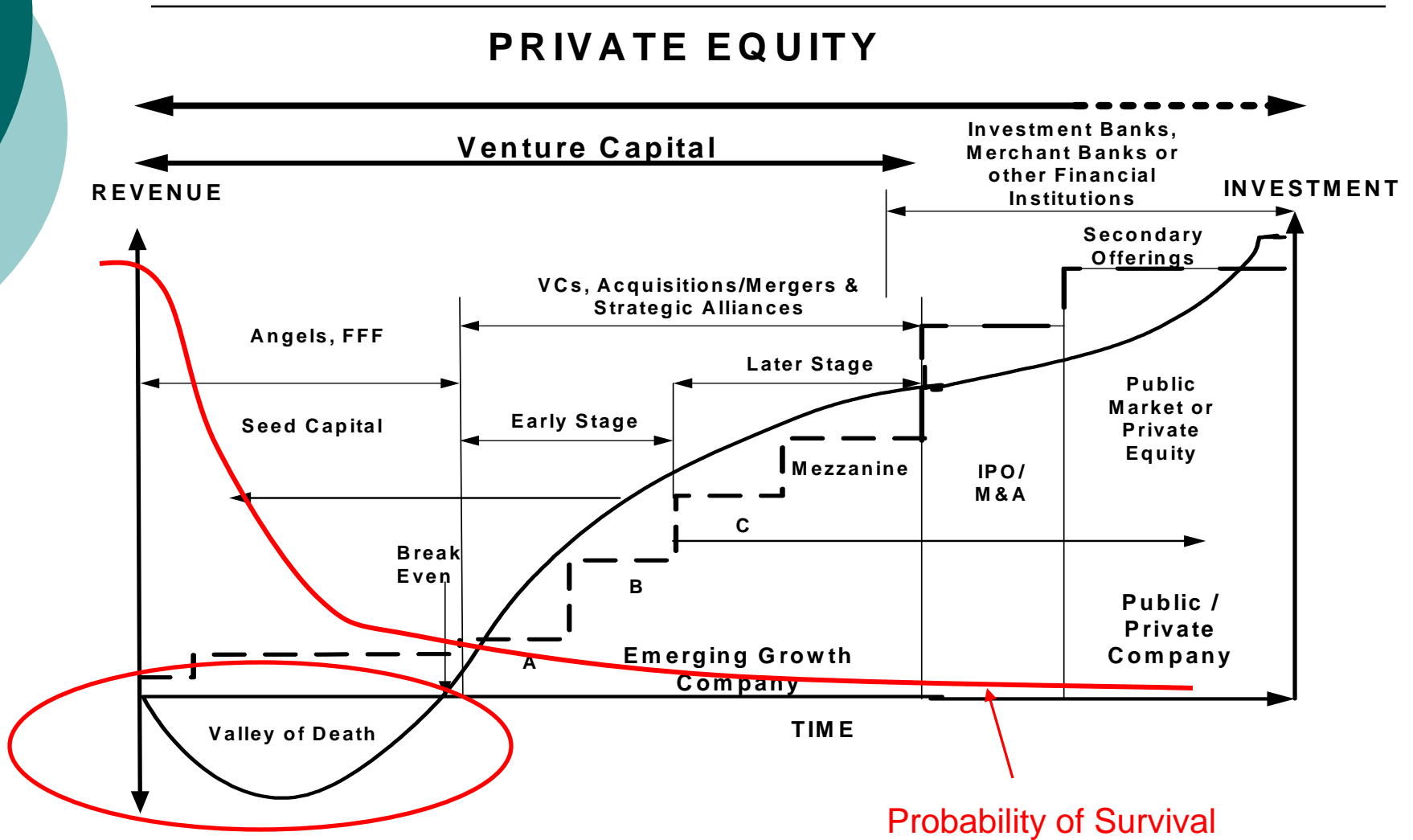
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Media

EPA Resources



PRIVATE EQUITY





What Is The Solution?

Change Behavior

- Shift More Public Funding Into Technology Demonstrations
 - Move 1% of Research Funding
- Get The Private Sector Involved Earlier By Picking Winners
 - Demonstrate Success
- Create More Public/Private Partnerships



EBC Technology Commercialization Program

- Assisted 60 start-up companies over past 4 years; 140 companies over 14 years
- Funded by California Energy Commission & U.S. Dept. of Energy, City of San Jose & Private Sector
- Provide \$25K in assistance per company



Environmental Business Cluster Case Study

- Work with companies receiving research grants and developing technology from universities, labs and private sector
- Provide assistance to help companies commercialize their technology
- Achieve market entry – the EBC rated #1 in the world by UK study of 110 clean tech centers



Public/Private Partnerships: San Jose Green Vision Goals

- 1. Create 25,000 Clean Tech jobs.**
- 2. Reduce per capita energy use by 50%.**
- 3. Receive 100 percent of our electrical power from clean renewable sources.**
- 4. Build or retrofit 50 million square feet of green buildings.**
- 5. Divert 100% of the waste from our landfill and convert waste to energy.**
- 6. Ensure that 100% of public fleet vehicles run on alternative fuels.**



Shift More Public Funding Into Technology Demonstrations

California Energy Commission Commercialization Program

- EBC is funded to assist PIER grant-funded companies reach the market
- More CEC funded companies are reaching the market
- CEC funded companies are mentored and introduced to private investors



Get The Private Sector Involved Earlier By Picking Winners

- California Clean Tech Open
 - Private sector cleantech business plan competition
 - \$50,000 prizes and start-up assistance from the EBC
 - CEC, CARB & City of San Jose are sponsors
 - CEC-funded companies are introduced in the competition



**A NEW ECONOMIC DEVELOPMENT INITIATIVE:
SAN JOSE
ELECTRONIC TRANSPORTATION DEVELOPMENT CENTER**

Build a clean electronics transportation sector in San Jose focused on the development of vehicles that use clean and renewable energy by integrating San Jose and Silicon Valley technologies



Electronic Transportation Development Center

A place where:

- Established and early-stage companies focus on the design, development, commercialization and prototype manufacturing of alternate fuels and hybrid electronic commercial vehicles, &
- Companies can collaborate on projects, share labs, manufacturing, demonstration, & office space

A Silicon Valley Battery Dominant Bus could save up to 11,000,000 Gallons of fuel or \$45M/yr in California



The first demonstration project is an electric school bus. Over 80 Silicon Valley technology companies have been identified that can contribute technology to the design of new clean and renewable energy vehicles.



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