

# EERE Technology Commercialization and Deployment Programs

**Craig Tyner, Sandia National Laboratories**  
**Tom Brennan, ARCH Venture Partners**

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# Industrial Partnerships and Strategy



Technology Commercialization

Licensing

Agreements

Business Intelligence

Market Analysis

Entrepreneurial

Science and Technology Park

Intellectual Property

Partnership Development

Business Planning

International Partnerships

Small Business

## Helping Sandia

- achieve its strategic objectives
- fulfill its mission
- build constituencies
- generate revenues

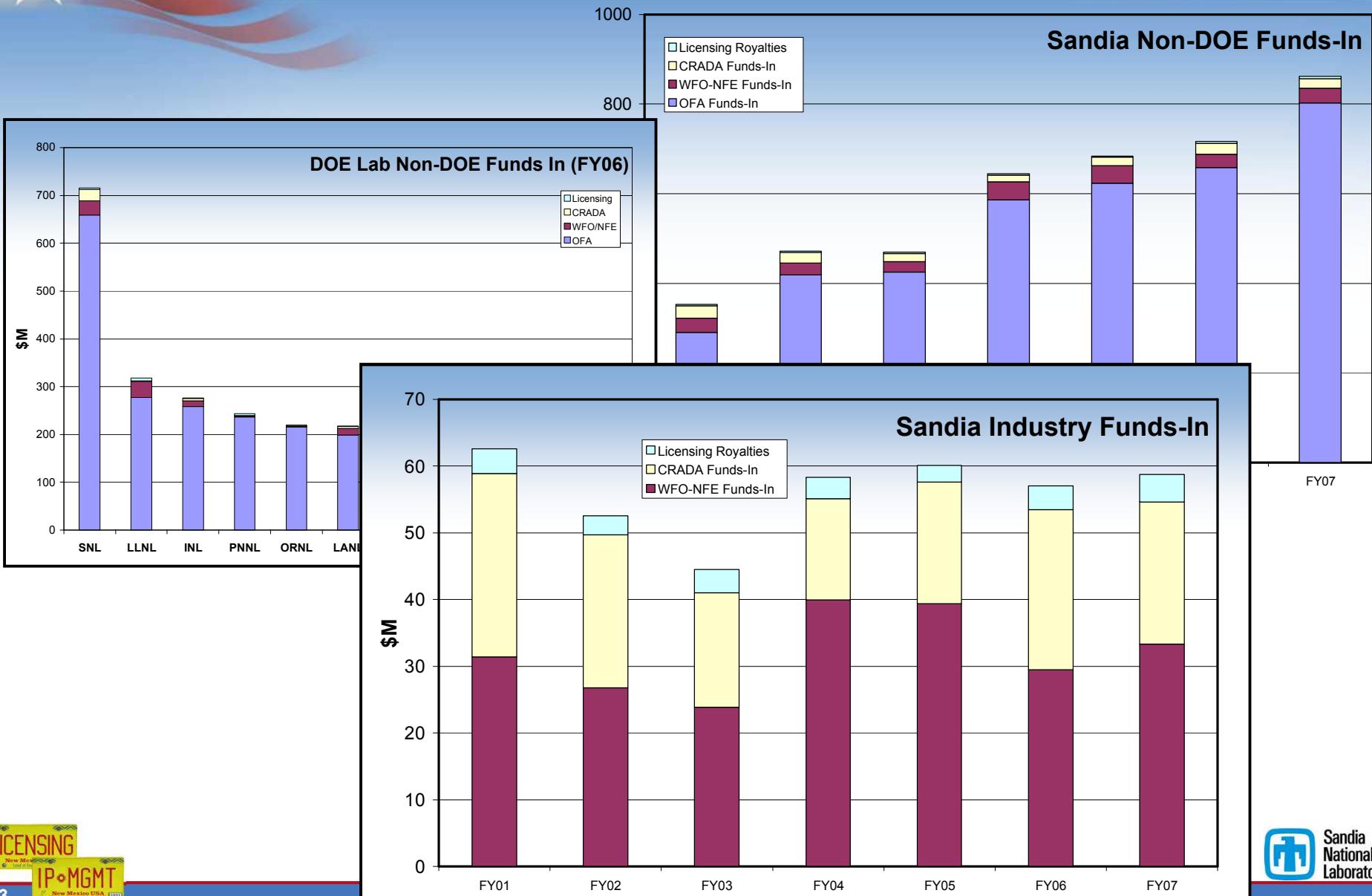
## Craig E. Tyner



[cetyner@sandia.gov](mailto:cetyner@sandia.gov)  
505-844-3340



# Sandia's Non-DOE Funds In





# Energy Policy Act of 2005 Tech Transfer Requirements

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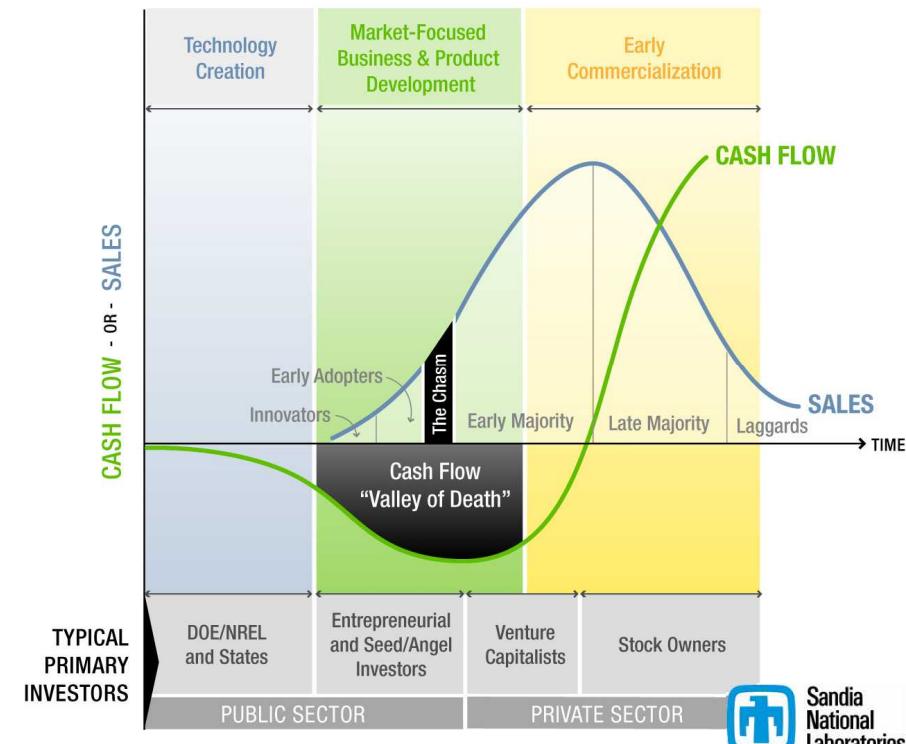
## Improved Technology Transfer of Energy Technologies

- **Technology Transfer Coordinator**
  - Principal advisor to DOE Secretary on technology transfer and commercialization matters, overseeing
    - ◆ Technology Transfer Working Group
    - ◆ Technology transfer funding
    - ◆ Private sector engagement, including venture capital firms
- **Technology Transfer Working Group**
  - Coordination of TT activities at National Labs
  - Exchange of TT practices information
  - Dissemination TT information to the public and prospective technology partners
- **Energy Technology Commercialization Fund**

# Energy Policy Act of 2005 Technology Commercialization Fund

- Directs that 0.9% of DOE funding for applied research, development, demonstration, and commercial application be used to
  - “Provide matching funds with private partners to promote promising energy technologies for commercial purposes”

- EERE’s Implementation
  - Venture Capital Technology Showcase
  - Technology Commercialization and Deployment Fund (TCDF)
  - Entrepreneur in Residence (EIR)



The EERE Commercialization Team is building four bridges across the “Commercialization Valley of Death”



### ➤ **Talent**

- DOE traditionally hires scientists – not businessmen
- Developing technologies requires different skill sets than building businesses

### ➤ **Information**

- Commercialization is impossible if a businessman never learns of a technology
- Effective communication is a fundamental prerequisite of commercialization

### ➤ **Capital**

- Competition is stiff for venture capital funding
- Venture capitalists are more likely to fund business plans and prototypes than research papers

### ➤ **Strategy**

The Venture Capital Technology Showcase introduced leading investors to the most commercially promising EERE technologies developed



## Need

- Many EERE funded technologies stall in the “commercialization valley of death” simply because the innovation has not been clearly communicated to the business community

## Structure

- Challenged EERE Program Managers to identify 8-10 most promising technologies in their portfolio
- Created simple, layman's descriptions of the innovation opportunity
- Invited prominent venture capital firm to come to Washington DC for a 2-day conference full of technology presentations

## Venture Capital Firms Represented





TCDF is designed to provide funding for highly-focused projects that move early-stage technologies past the R&D stage by removing specific commercialization hurdles.

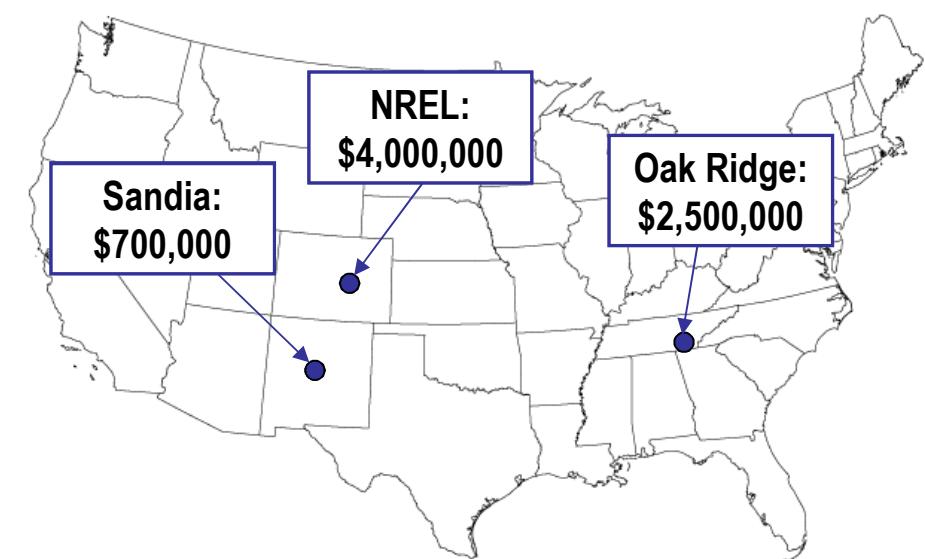
## Need

- Innovations struggle to find financing post-research and pre-venture capital funding as described by the “Commercialization Valley of Death”

## Structure

- 50-50 industry matched funds required to participate
- Designed to complement angel investment, venture capital series A financings or early stage corporate product development
- Funds restricted to prototype development, demonstration and deployment – not further basic science research
- Rolling basis funding decisions

### FY07 TCDF Funding



## Decision criteria

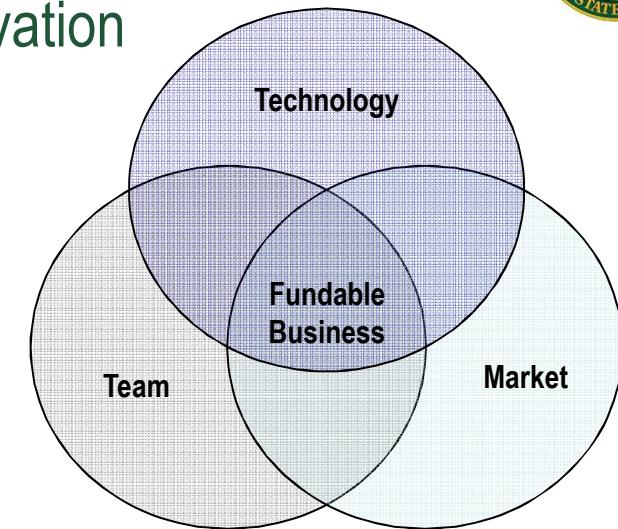
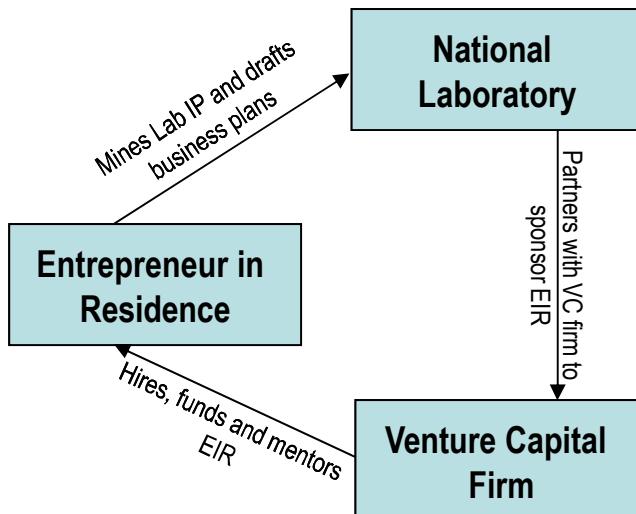
- Potential market opportunity
- Likelihood of commercial success
- Management team
- DOE priorities
- Private sector partners

The Entrepreneur in Residence (EIR) program will bring business talent along side research scientists to amplify and accelerate the market impact of energy innovation



## Need

- Researching innovative technologies requires a vastly different skill set than creating new businesses. National laboratories traditionally employ research scientists who excel at delivering research reports, white papers and patents rather than a business plans.



## Structure

- DOE partnership with Venture Capital Firm
- EERE will provide \$100k and full access to selected labs
- Pre-negotiated standard equity share license agreement
- Venture Capital Firm will identify, hire, manage and mentor “best-of-breed” EIRs
- 2008 EIR Pilot National Laboratories:
  - National Renewable Energy Laboratory (Golden, CO)
  - Oak Ridge National Laboratory (Oak Ridge, TN)
  - Sandia National Laboratory (Albuquerque, NM)





# Entrepreneur-in-Residence Program

- Winning VC firms announced Feb 27 by the Ass't Secretary
  - NREL (Kleiner Perkins Caufield & Byers)
  - Oak Ridge (Foundation Capital)
  - Sandia (ARCH Venture Partners)
- EIR Objective: Identify promising EERE-related technologies and spin out start-up company(ies) to commercialize those technologies
  - Fairness-of-Opportunity met by competitive solicitation (allowing exclusive licensing)
  - Technologies across the EERE space available to the EIR under terms of the solicitation
  - Direct researcher/EIR interactions on a daily basis



# Entrepreneur-in-Residence Program

- Extended briefing for ARCH on March 18
  - Sandia's EERE and Partnerships programs
- Sandia's EIR is Tom Brennan
  - Former Sandia Member of Technical Staff (and former EIR)
  - Successfully spun out Sandia technology in the past
  - Started March 31
- Regular updates with DOE and other labs on EIR Progress
- Ancillary benefit for Sandia
  - Feedback to Sandia's TT programs – what works, what doesn't