U.S. DEPARTMENT OF ENERGY

Small Business Innovation Research (SBIR) and Small Business Technology TRansfer (STTR)

Dave Goodwin
DOE SBIR/STTR Office
Physical Scientist
HBCU Meeting
July 9, 2009

DOE Mission Support

1. Advancing the Nation's Economic and Energy Security.
2. Promoting Scientific and Technological Innovation.
3. Ensuring the Environmental Clean-Up of the National Nuclear Weapons Complex.

Overview (1 of 3)

- $1.7 billion invested by DOE (since 1992), in over 7,000 grants, generated over 15,000 person-years of jobs.
- $2.4 billion in sales from 60% of Phase II companies, in addition to DOE Mission Needs; e.g., from FY05 thru FY07, the Phase II 172 companies generated 17,933 total jobs.
- National Conference, Nov 2-5, Reno, www.unr.edu/sbir-sttr2009/index.html.
- National Academy of Sciences (NAS) University Industry Demo Project, www.uidp.org.

Overview (2 of 3)

- Two Phased Approach:
  - $100K Phase I (9 months) - Feasibility,

    9/18/09 target for Request For Proposals (RFP), www.science.doe.gov/ (click on "grants),

    2 months to prepare proposals, ≥ 3 months for peer reviews and selections, and ≥ 3 more months for funds on –site (i.e., ≥ 6 months DOE turnaround).
  - $750K Phase II (2 years) - Development,

    3/18/10 target for RFP, same prepare, review/select, and funding.

Overview (3 of 3)

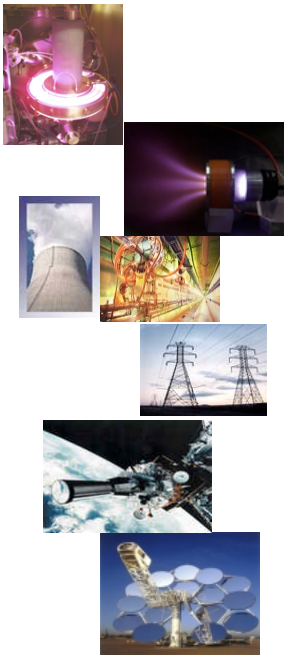
- Applications Accepted Only via www.Grants.gov
- Must Be Awarded DOE Phase I to Compete in Phase II
- SBIR: PI must be Employed by the Small Business
- STTR: PI may be Employed by the Small Business or Research Partner; e.g., university.

FY 2009 SBIR/STTR
13 Portfolio Managers + 60 Program Managers (many are PhDs)

Funding Program	Topics – Proposals
Energy Efficiency & Renewable Energy*	18 – 816
Fossil Energy	8 – 161
High Energy Physics (SC)	7 – 144
Biological & Environmental Research (SC)	6 – 110
Nuclear Physics (SC)	4 – 107
Basic Energy Sciences (BES; SC)	6 – 89
Fusion Energy (SC)	3 – 67
Advanced Scientific Computing Research (SC)	5 – 61
National Security (Nuclear Nonproliferation)	4 – 43
Electricity Delivery/Reliability	2 – 23
Science and Tech Info (research epubs; SC)	1 – 23
Nuclear Energy	1 – 10
Environmental Management	1 – 7
Totals	**66 – 1,661**

*Includes 4 topics co-funded with BES.

Note: Annual subtopic analyses (e.g., 214 in 2009, ≥ 10 proposals, ≥ 2 funding candidates, choices).



Success Rates
(3-Year Annual Average)

Phase I: **20%** of proposals received a grant.

NAS report (2008): **22%** for minority-owned firms (from 2001 -2005).

Phase II: **50%** success.

NAS: **19%** for minority-owned firms, recommend improve (e.g., commercialization staffer hired).

www.nap.edu/catalog/12052.html , 256 pages

FY **2009**
Phase I Grantee Stats

- 319 SBIR Awards to 181 Small Businesses. Of these:
  - 51 or 27% were **First-time** DOE Grantees
  - 22 or 43% of the 51 First-time Grantees were **First-time** DOE Applicants
  - Awards Made in **32** States

SBIR/STTR Budget/Awards

(in Millions $)

	SBIR		STTR		Totals
FY 2009 Budget	**$138**	**+**	**$17**	**=**	**$155**
Phase I Awards	**319**	**+**	**35**	**=**	**354**
Phase II Awards	**~154**	**+**	**~17**	**=**	**~171**
DOE R&D Set-Aside	*2.5%*	*+*	*0.3%*	*=*	*2.8%*

*Note: Approx. **$5.5 Billion** in DOE R&D.*

FY 2009 SBIR/STTR Most Popular Topics (Proposals)

Topic 23. Solar Energy (130)

Topic 46. Nuclear Physics Accelerator Technology (46)

Topic 18. Production of Biofuels from Biomass (44)

SBIR/STTR Proposal Evaluation Process

- **Administrative Review (complete proposal)**
- **First Step Review (responsive)**
- **External Peer Review**
- **Award Selection**
- **Grant Negotiations**
- **Formal Awards**
- **Debriefings (peer review comments)**

DOE SBIR/STTR Evaluation Criteria for Phase I and II Proposals

1.Strength of the Scientific/Technical Approach

a) To what extent does the proposed work build upon or move beyond the current state-of-the-art?
b) How new or unique is the idea?
c) How significant is the scientific and/or technical challenge?
d) Is a breakthrough possible?
e) Has the applicant demonstrated knowledge of the subject?
f) How thoroughly have the concepts been presented?

2.Ability to Carry out the Project in a Cost Effective Manner

a) Please comment on the qualifications of the Principal Investigator (PI), other key staff, and consultants, if any, and on the level of adequacy of equipment and facilities

3.Impact

a) Please comment on the significance of the technical and/or economic benefits of the proposed work, if successful
b) Please comment on the likelihood that the proposed work could lead to a marketable product or process, and on the size of the potential market.
c) Please comment on the likelihood that the project will attract further development funding (from private sector sources, Federal, non-SBIR/STTR sources) after the SBIR/STTR project expires.

Evidence of Commercial Potential (Phase II Only)

DOE SBIR/STTR Program Contact Information

- Web: www.science.doe.gov/sbir (being redone)
- Email: sbir-sttr@science.doe.gov
- Phone: 301-903-1414
- Technical Assistance Tools Web Site: http://doecapreg.foresightst.com

Technical Assistance (1 of 4)

- **Go/NoGo™ Assessment**
  - Answers Uniqueness & Usefulness of Your Technology
- **Tutorials -** To Improve Your Phase II SBIR Proposal
  - How to Use & Build Upon Your Go/NoGo™ to Write A Better Phase I Proposal
- **Marketing Fact Sheet**
  - Marketing Material Template For Potential Phase III Commercialization Partners, Experts, End-users, and Other Stakeholders

Technical Assistance (2 of 4)

- **Comm101™**
  - E-training Course - Commercializing New Technologies
- A Basic **Primer** on SBIR R&D Commercialization
  - *"What Every Researcher Needs to Know About Commercialization"*
- **Small Business Administration Phase I Proposal Preparation Handbook**
  - Primer on SBIR Proposal Preparation

Technical Assistance (3 of 4)

Centralized Web Repository: R&D-Specific Industry Data

- Market Overviews
  - Market Information Summaries For a Number of Industries
- Technology Roadmaps
  - Documents Developed By Governments, Industry Associations, and Other Authoritative Groups
  - Provide Consensus Technology Objectives Needed to Sustain Short-, Mid-, and Long-term Progress for Specific Applications
  - Addresses Wide Range of Industrial Sectors and Applications, including Company Names, Government Agencies, and Experts Who Participated In Their Preparation
- Regulations and Standards Applicable to SBIR
  - Searchable List of Standards - By Promulgators Or Topics Across A Wide Range of Industries And Technologies

Technical Assistance (4 of 4)

- **Trailblazer™ Assessment** (Initiated early in Phase I Award)
  - Identifies Major Market Niches for Commercialization
  - Develops a Value for the Technology ("Quick & Low Cost")
  - Identifies Commercialization Vehicles & Maps-Out Market Path
- **TNA™ Assessment** (Initiated mid-Phase II)
  - Assesses Potential Applications for an Innovation or Technology
  - Individualized Market Entry Strategy & Launch Tactics
- **Deal Advisories™**
- **Venture Capital Contacts**
  - Venture Contacts Searchable By State And Fields In Which they Invest
- **Pipeline Partners**
  - Catalogue of Companies & Key Individuals Interested in Licensing New Technology
- **K2™: Know-How Knowledge Basecamp**
  - Collaborative Wiki-Format, Knowledge-Sharing Site
  - "Tricks of The Trade . . . If We Do Not Capture It, It Gets Lost"