

Advanced Manufacturing Initiative


Third Thursday at 3:00 P.M.

**Third Frontier/
Bipartisan Job Stimulus**

Norm Chagnon, PhD
Executive Director, Third Frontier Commission
norm.chagnon@development.ohio.gov

Third Frontier Vision

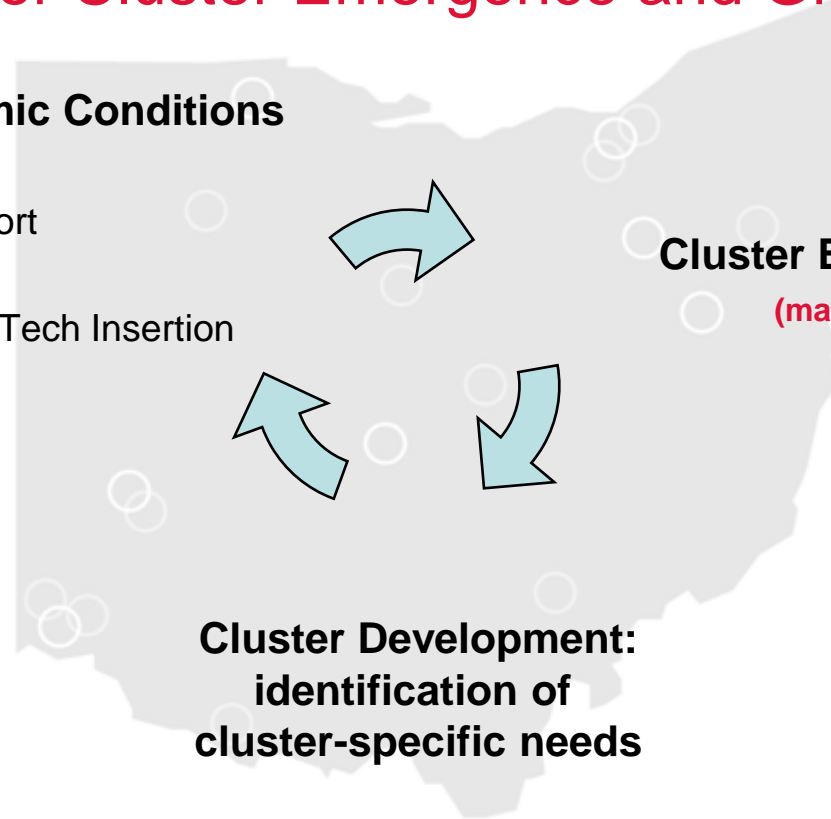
In targeted areas of technology, Ohio has established regional and statewide clusters of innovation that sustain our global competitive advantage in company and product formation, job creation and economic growth



Third Frontier Creates A Virtuous Cycle For Cluster Emergence and Growth

Promotion of Economic Conditions

- Knowledge Creation
- Entrepreneurial Support
- Capital Formation
- Product Innovation & Tech Insertion
- Company Attraction
- Workforce



Cluster Emergence/Growth
(market determined)

**Cluster Development:
identification of
cluster-specific needs**

Focus Areas

- Biomedical
- Advanced/Alternative Energy
- Instruments-Controls-Electronics
- Advanced Materials
- Advanced Propulsion

Information Technology is being recognized as a critical enabling technology important to all focus areas above

Ohio Third Frontier Strategic Goals

Guided by a focus on Ohio research and industrial strengths:

- Increase the quantity of high quality research that has commercial relevance for Ohio.
- Expand the availability of investment capital needed to form and grow new companies.
- Grow and nurture an increasingly experienced pool of entrepreneurial management talent supported by organized systems of services and networking.
- Expand the availability of capital and assistance to support product innovation in established companies.
- Attract new-to-Ohio company activity that grows and strengthens the function of specific clusters of innovation.
- Contribute to the expansion of a technically competent workforce that can support innovation and company growth in specific clusters of innovation.

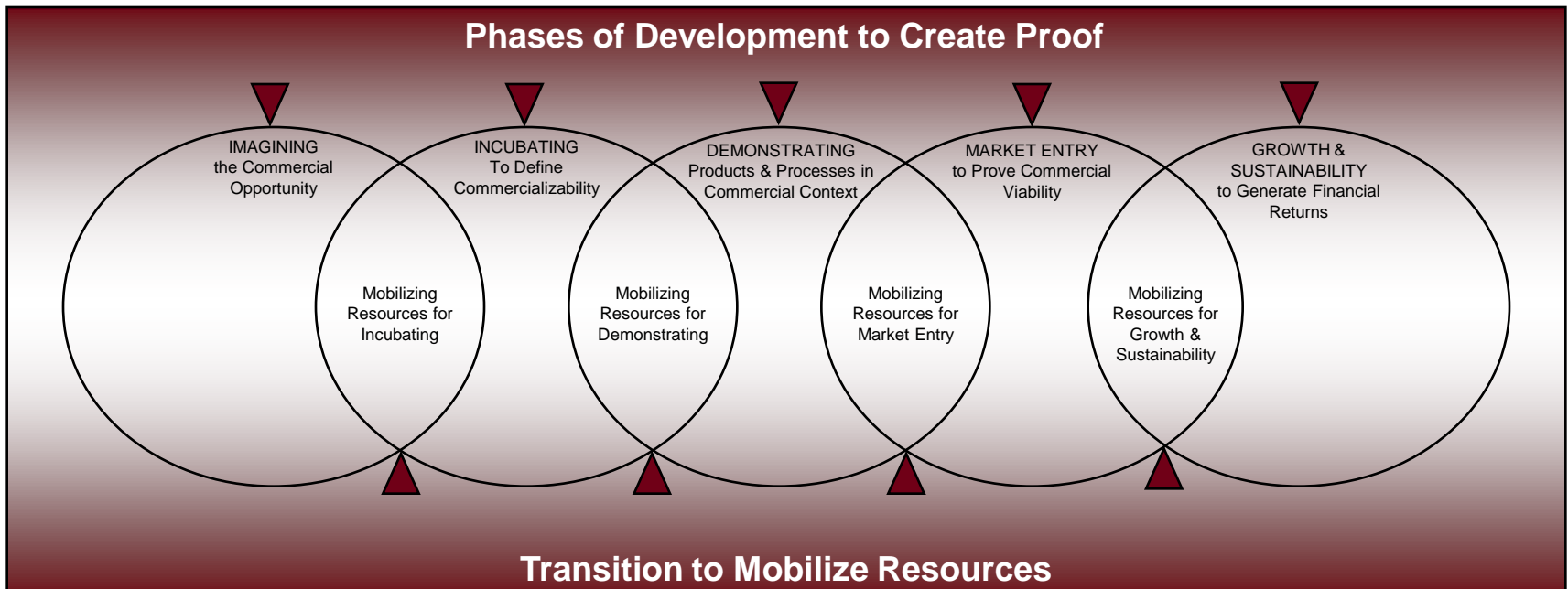


Performance Metrics

Performance Criteria	As of 12/31/07	As of 06/30/08	Percentage Change
State Funds Awarded	\$637,944,547	\$873,462,907	36.9%
State Funds Expended	\$291,397,713	\$343,299,994	17.8%
Cost Share Reported	\$759,436,761	\$891,522,131	17.4%
Leveraged Dollars	\$2,406,888,869	\$3,075,785,242	27.6%
Leverage Ratio*	8.3 : 1	8.9 : 1	8.0%
Direct Jobs Created and Retained	5,641	6,795	20.5%
Companies Created, Attracted, Capitalized	383	466	21.7%
Average Salary	\$67,277	\$64,237	-4.5%
Cost Per Job**	\$51,657	\$50,520	-2.2%

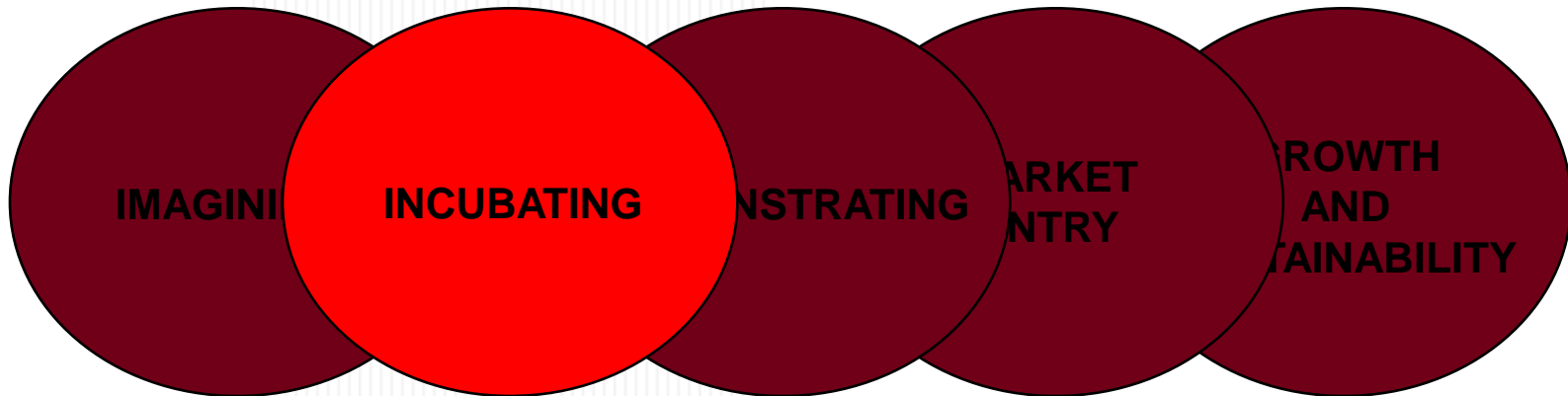
Guiding Principle of TBED

Develop, implement and manage programs designed to catalyze economic development through the technology commercialization pipeline.



Ohio Incubates Companies, Technologies and Products

- IP Development
- Proof of Concept
- Prototype Development
- Clinical Trials
- Initial Market Assessment



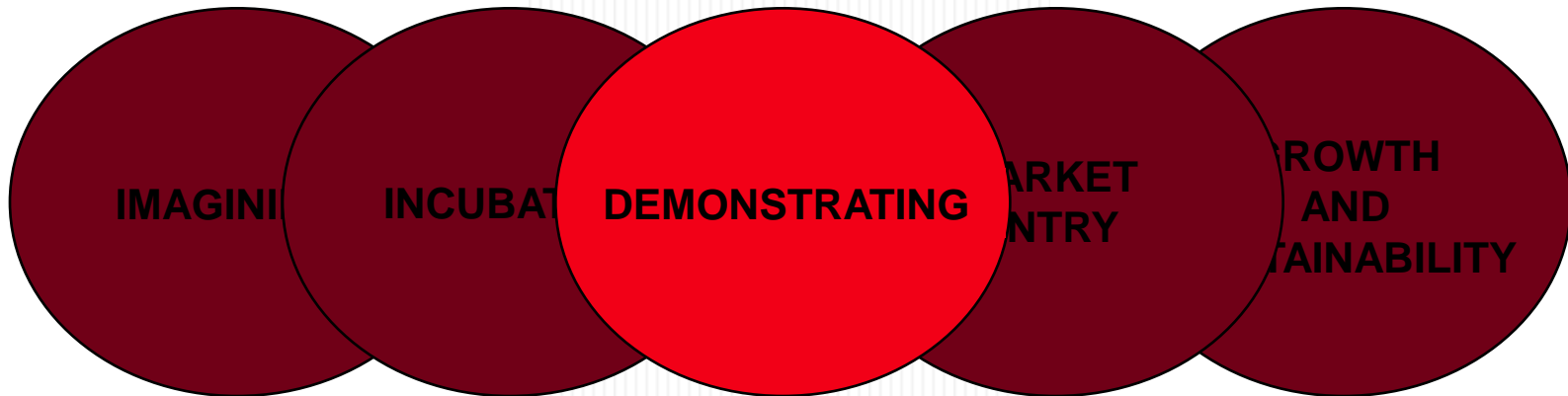
- Biomedical and Engineering Research Comm. Program
- Wright Projects
- Edison Incubators
- Technology Investment Tax Credit
- Entrepreneurial Signature Program
- Pre-Seed Funds

Examples:

- Hamilton County Business Center
- HTP, Inc.
- Rocket Ventures
- Jump Start Pre-Seed Fund
- Chrome Finish Deposition
- Thermal Management in Electronics

Ohio Helps Demonstrate the Potential

- Alpha/Beta Testing
- Performance Data
- Customer Feedback
- Manufacturing Scale-up
- Regulatory Certification



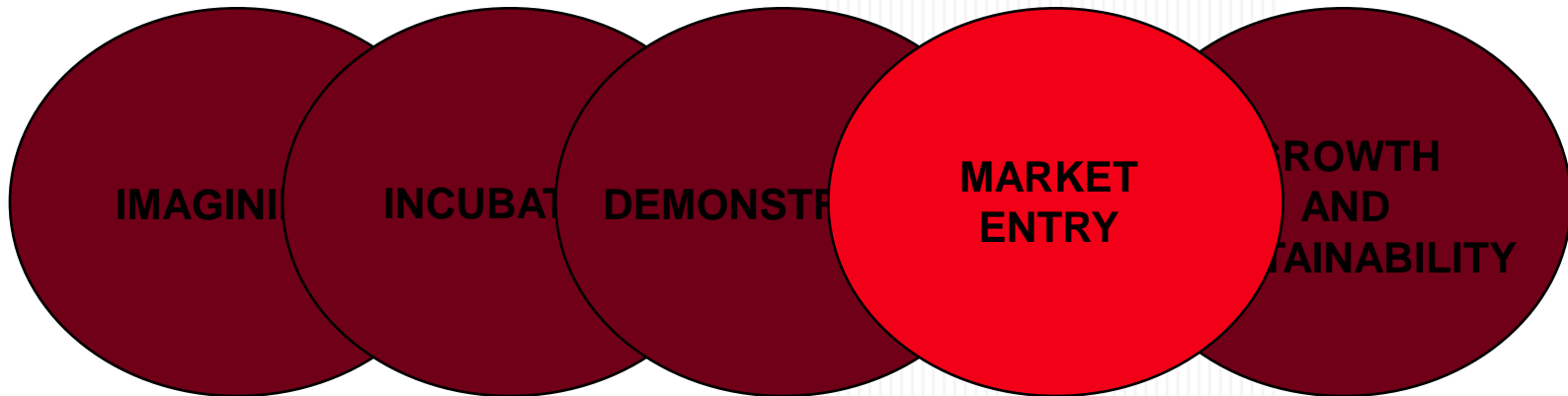
- Fuel Cell Program
- Advanced Energy Program
- Ohio Venture Capital Authority
- Ohio Research Commercialization Grant Program

Examples:

- Solid Oxide Fuel Cell
- Wind Turbine Gearing
- HyperTech Superconducting Wire
- Powdermet Nanoengineered Powders
- Ohio Capital Fund

Ohio Supports Market Entry

- Commercial Product
- Business Plan
- Revenues
- Manufacturing Plan
- Supply Chain



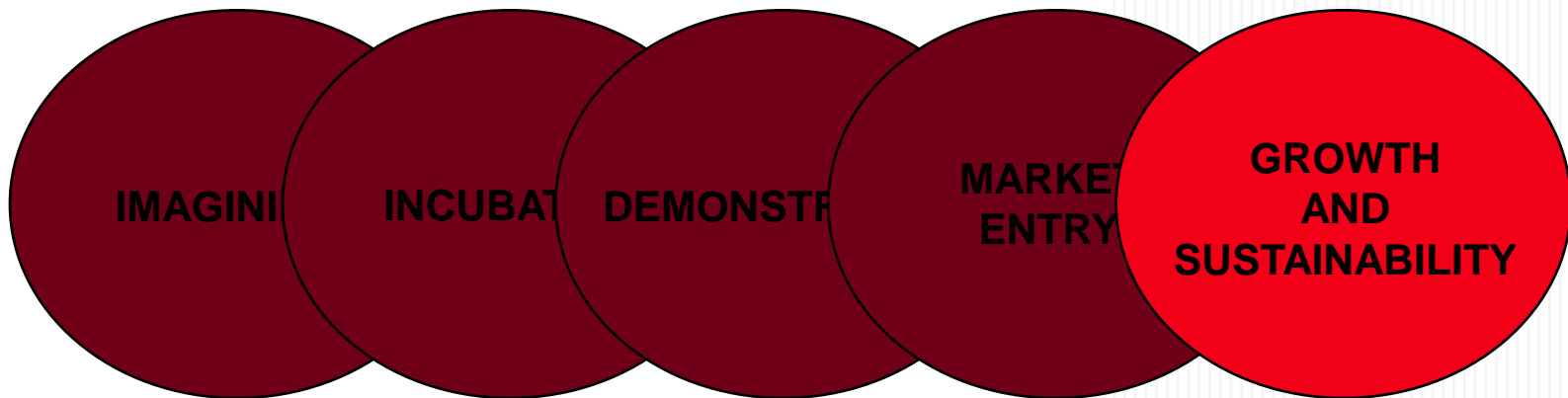
Examples:

- PolymerOhio
- Third Frontier Internship Program
- UltraCell
- Zyvex

- Edison Centers
- Worker Training
- Internships
- Targeted Industry Attraction

Ohio Finances Growth and Sustainability

- Research & Development
- New Product
- Efficiency



Examples:

- Lean Manufacturing
- Software R&D Loans
- Federal Procurement Centers
- Networking

- Manufacturing Extension Partnership
- Innovation Ohio Loan Program
- Job Stimulus

Ohio Third Frontier: Programming

- To achieve the vision and strategic goals, the following program categories have been adopted:
 - **Research and Commercialization Collaborations**
 - **Entrepreneurial Support**
 - **Cluster Development**
 - **Product Innovation and Technology Insertion**
 - **Work Force**

Ohio Third Frontier: Programming

General Process:

- RFP materials released on web site: www.thirdfrontier.com
- Letters of Intent required
- Bidders conference held**
- Email submission of questions, online FAQ response
- Independent External Evaluators
- Third Frontier Commission approval
- State Controlling Board final approval

FY 2009 Independent Evaluators

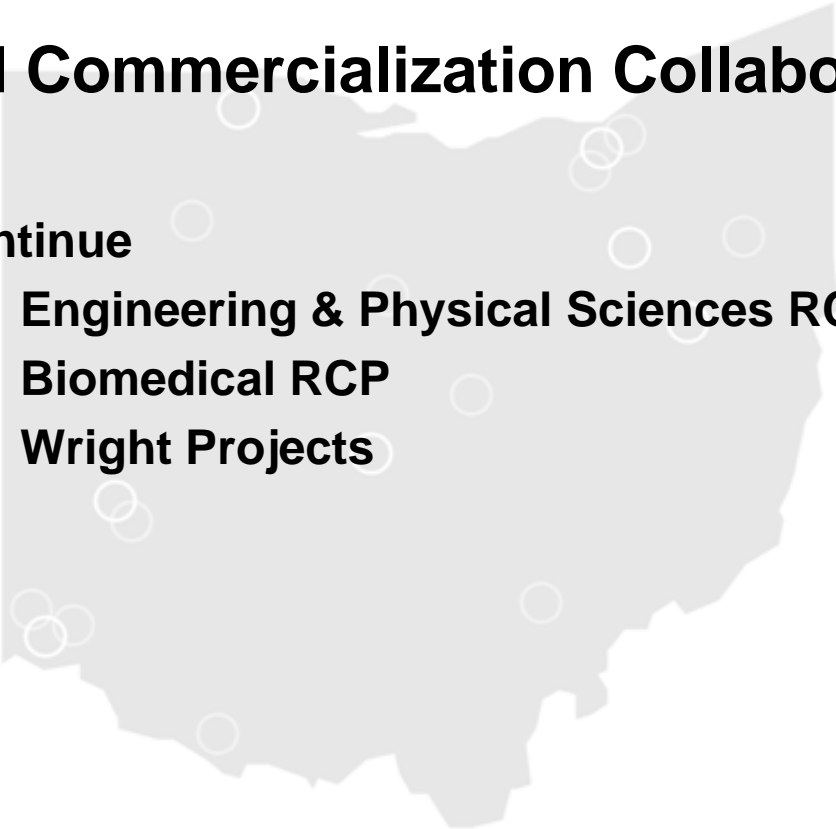
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- **National Academies**
 - Engineering & Physical Sciences RCP
 - Biomedical RCP
 - **Taratec Corporation**
 - Wright Projects
 - Third Frontier Advanced Energy Program
 - Third Frontier Fuel Cell Program
 - Ohio Research Commercialization Grant Program
 - **BizlogX**
 - ESP Success Fund/Pre-seed Fund Initiative



FY 2009 Programs

FY 2009 Programs

Research and Commercialization Collaborations

- Continue
 - » Engineering & Physical Sciences RCP
 - » Biomedical RCP
 - » Wright Projects
- 

FY 2009 Programs

Research and Commercialization Collaborations

**Engineering & Physical Sciences Research and Commercialization Program
- \$23 million**

Eligibility	Award Amount	Cost Share	Collaborators
Ohio-based organization	\$2 - 5 million	1:1	At least 1 Ohio-based organization (for profit if not lead)

Program Purpose: advance scientifically unique applied research projects that can sustain the development of new innovative products

Schedule

RFP Open	RFP Close	Review Period	Award Date
Aug	Nov	Nov-Mar	April

CLOSED

FY 2009 Programs

Research and Commercialization Collaborations

Biomedical Research and Commercialization Program: \$23 million

Eligibility	Award Amount	Cost Share	Collaborators
Ohio-based organization	\$2 - 5 million	1:1	At least 1 Ohio-based organization (for profit if not lead)

Program Purpose: advance scientifically unique applied research projects that can sustain the development of new innovative products

Schedule

RFP Open	RFP Close	Review Period	Award Date
Aug	Nov	Nov-Mar	April

CLOSED

FY 2009 Programs

Research and Commercialization Collaborations

Wright Projects: \$21 million

Eligibility	Award Amount	Cost Share	Collaborators
State Supported/Assisted College/University or Non-profit	\$1- 3 million Up to 25% project award in operating funds (\$500 K max)	1:1	At least 1 Ohio-based for profit

Purpose: Support near term commercialization projects requiring major capital acquisitions and improvements at Ohio higher education institutions and non-profit research organizations; secondary benefit that capital acquisitions support technical workforce training

Schedule

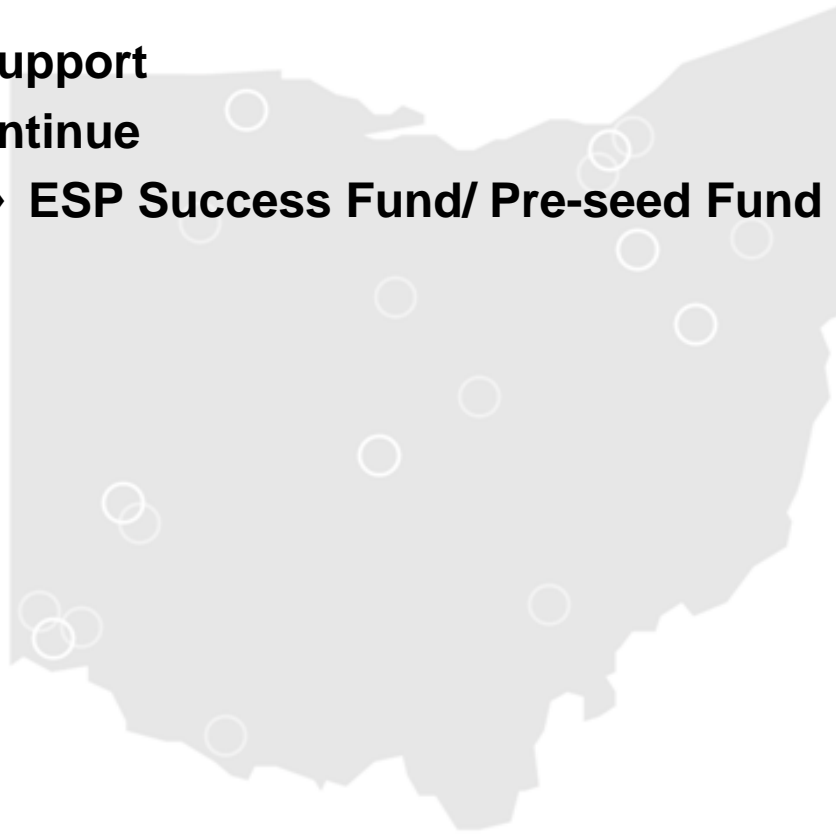
RFP Open	RFP Close	Review Period	Award Date
Oct	Jan	Jan-Apr	May

FY 2009 Programs

Entrepreneurial Support

- Continue

- » **ESP Success Fund/ Pre-seed Fund Initiative**



FY 2009 Programs

Entrepreneurial Support

ESP Success Fund/ Pre-seed Fund Initiative: \$8 million

Eligibility	Award Amount	Cost Share	Collaborators
<p>Existing ESP organization</p> <p>For profit or non-profit fund manager</p>	<p>Up to \$2 million per project</p>	<p>1:1</p>	<p>None</p>

Purpose: Support new pre-seed fund formation and provide continued funding for high performing funds or service activities associated with the Entrepreneurial Signature Program

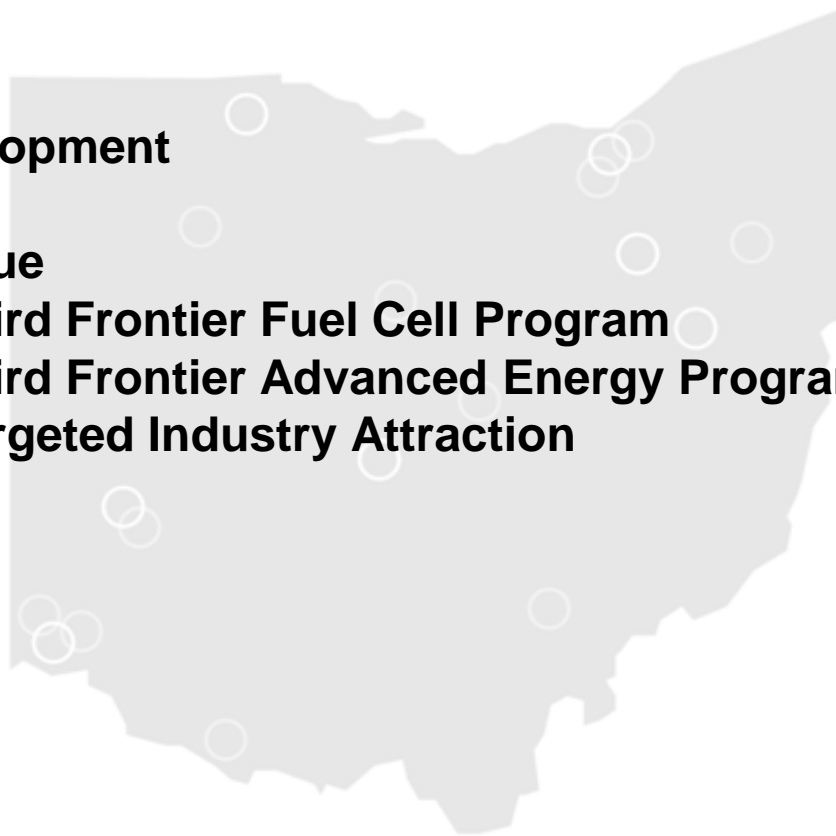
Schedule

RFP Open	RFP Close	Review Period	Award Date
Nov	Jan	Feb-Apr	May

FY 2009 Programs

Cluster Development

- **Continue**
 - » **Third Frontier Fuel Cell Program**
 - » **Third Frontier Advanced Energy Program**
 - » **Targeted Industry Attraction**



FY 2009 Programs

Cluster Development

Third Frontier Fuel Cell Program: \$11 million

Eligibility	Award Amount	Cost Share	Collaborators
Ohio-based organization	\$250,000 to \$1 million	1:2	At least one Ohio-based organization

Purpose: Support research and development that addresses technical and cost barriers to commercialization and adapting fuel cell components produced in Ohio for use in fuel cell systems

Schedule

RFP Open	RFP Close	Review Period	Award Date
July	Sept	Sept-Dec	Dec

CLOSED

FY 2009 Programs

Cluster Development

Third Frontier Advanced Energy Program: \$13 million

Eligibility	Award Amount	Cost Share	Collaborators
Ohio-based organization	\$250,000 to \$1 million	1:2	At least one Ohio-based organization

Purpose: Support research and development that addresses technical and cost barriers to commercialization and adapting Advanced Energy components produced in Ohio for use in AE systems

Schedule

RFP Open	RFP Close	Review Period	Award Date
July	Sept	Sept-Dec	Dec

CLOSED

FY 2009 Programs

Cluster Development

Targeted Industry Attraction Grant Program: at least \$3 million

Eligibility	Award Amount	Cost Share	Collaborators
New to Ohio for profit company activity related to OTF focus areas	Up to \$1 million	N/A	N/A

*** Potential opportunities developed in consultation with ODOD ***

Schedule

RFP Open	RFP Close	Review Period	Award Date
Rolling	N/A	TBD	TBD

FY 2009 Programs

Product Innovation and Technology Insertion

- **Continue**
 - » **Ohio Research Commercialization Grant Program**



FY 2009 Programs

Product Innovation & Technology Insertion

Ohio Research Commercialization Grant Program: \$2 million

Eligibility	Award Amount	Cost Share	Collaborators
For profit company receiving SBIR II, STTR II or ATP award	Up to \$350,000	None	None

Purpose: Support activities of small companies that increase the commercial viability of R&D funded by selected federal programs

Schedule

RFP Open	RFP Close	Review Period	Award Date
Nov	Jan	Jan-Apr	April

FY 2009 Programs

Workforce

– **Continue**

» **Third Frontier Internship Program**



FY 2009 Programs

Third Frontier Internship Program: at least \$2 million

Up to \$3,000 per internship; STEM students up to doctoral level

Brokered through regional affiliate organizations

www.thirdfrontierintern.ohio.gov



Technology Investment Tax Credit

Technology Investment Tax Credit

- The Technology Investment Tax Credit was created in 1996
- The program:
 - Was created to stimulate the formation of new Ohio ventures that utilize technology to create new products, services, and new processes for commerce in global markets.
 - Provides a tax credit to taxpayers who invest in small, Ohio-based research and development and technology companies
 - +Has a ceiling of \$30 million in authorized tax credits
 - There is a requested change to \$45 million to provide an adequate ceiling to carry the program through calendar year 2011
- Since 1996:
 - **\$29 million** in tax credits have been **approved**
 - **\$26.1 million** have been **issued** for investments in eligible Ohio businesses
 - Has leveraged **\$104 million in private investment capital** in a total of **419 Ohio companies**
- Thresholds
 - Qualifying companies must be small technology companies with scalable business models
 - Companies may have no more than \$2.5M in revenues or more than \$2.5M in net book value.
 - Investors can be located outside of Ohio, but all tax credits issued are towards Ohio taxes, so an external investor must have some tax in the State.



Bipartisan Jobs Stimulus

Background

- 2007 State of the State: Governor proposed a \$1.7 billion “Building Ohio Jobs” jobs stimulus package
- Established in House Bill 554, the “Bipartisan Jobs Stimulus Program” passed May, 2008
- \$1.57 billion investment program
- Projected to create 57,000 jobs
- Largest infrastructure/jobs program in 30 years
- Funded through primarily existing/anticipated revenue sources, less on new bonds.

Investments, Timing and Source of Funds

	Total Available	2009	2010	2011
Advanced Energy	\$150 Million	Bond capacity spread over 3 years		
<i>Funded through Coal Development Funds & Facilities Establishment Loan Fund</i>				
Biomedical	\$100 Million	\$40 million	\$40 Million	\$20 Million
Funded through Tobacco Settlement Funds				
bioproducts	\$50 Million	\$20 Million	\$20 Million	\$10 Million
Funded through Tobacco Settlement Funds				
Logistics/Distribution	\$100 Million	\$50 Million	\$25 Million	\$25 Million
Funded through Facilities Establishment Loan Fund				

Clean Ohio


- Clean Ohio Fund:
 - Total: \$400 Million
 - Clean Ohio Revitalization Fund for brownfield remediation
 - \$200 Million
 - Green Spaces (Ag Farmland, Natural Resources Trails and Public works, Greenspace)
 - \$200 Million
- Issue 2 on ballot in November, 2008.



Historic Preservation Tax Credit

- Extends program for two years.
 - \$120 Million total
 - \$60 Million per year in FY 2010 and 2011.
 - \$45 Million reserved in each year for projects “in the queue.”
 - Per project awards capped at \$5 Million.
 - First \$3 Million credit refundable.
 - Director to consider economic impact and geographic balance in making awards.
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Workplace Coop / Internship Programs at Colleges and Universities

- To encourage internships and co-ops at Ohio businesses for Ohio university students
 - Through the University System of Ohio
 - \$250 million over five years
 - FY 2010 through FY 2014
 - \$50 million per year
- 

Local Infrastructure Improvement

- Ohio Public Works Commission
 - Total: \$400 Million
 - Local Infrastructure Development Fund
 - \$80 Million
 - State Capital Improvements Fund
 - \$120 Million
 - Local Transportation Improvement Program Fund
 - \$200 Million
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Strategic Investments

- Leverage existing strengths and build on existing infrastructure
 - Position the state as a leader in key industries
 - Make investments that grow industries and that have value beyond the impact of individual projects that contribute to long-term job creation and the growth and sustainability of the industry cluster
 - Develop public/private partnerships
 - Support regional economic strengths
- 


Emerging and Growing Industries

- **Biomedical:** In 2006, the total economic impact of Ohio's Bioscience and Healthcare industry was \$146 Billion, 17.6% of the state's economic output.
- **Bioproducts:** Ohio is a leader in the agricultural, polymer, chemical, and advanced materials industries. By aligning these sectors, the state is poised to be the world leader in a new market – products made from biobased materials.
- **Advanced Energy:** Ohio's Renewable Portfolio Standard provides a unique opportunity to grow the advanced energy industry. Ohio is also a leading state for wind components, fuel cells, solar cells and instrumentation, and biofuels.

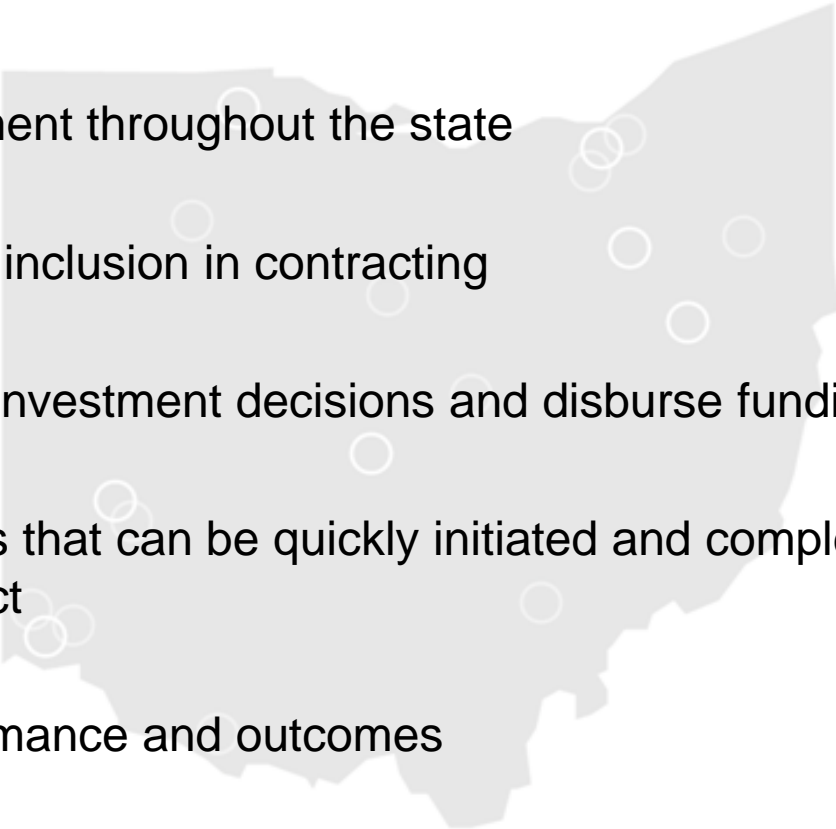
http://www.ohioairquality.org/advanced_energy_program/default.asp

- **Logistics and Distribution:** Ohio has a central location reducing transportation costs, with 80 public airports, eight interstate highways, 36 freight railroads & 25 waterfront ports and 10 Foreign Trade Zones

Create Near Term Jobs for Ohio Citizens

- New jobs creation
 - Primarily in the private sector, also non profit and institutional
 - Near term (within 5 years) jobs
 - Job retention, construction employment, and indirect jobs will be a factor in evaluation, but not a determinant factor.
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Invest Taxpayers Dollars Wisely

- 
- Support investment throughout the state
 - Assure minority inclusion in contracting
 - Make informed investment decisions and disburse funding quickly
 - Support projects that can be quickly initiated and completed and have a near-term impact
 - Measure performance and outcomes
 - Operate with efficiency, transparency, and accountability



Biomedical JS Program

Biomedical JS

Funding:

- Source - Tobacco Settlement Fund
- \$100M
 - \$40M in FY 09; \$40M in FY 10; and \$20M in FY 11
- Funding tied up in Tobacco Settlement litigation; time to resolution uncertain
- Current JS legislation defines the expiration date for any remaining funds as the end of FY 2011

Biomedical JS Governance

- **7 member Third Frontier Biomedical Advisory Board created by statute**
 - Appointments to Advisory Board by Governor, Speaker, Senate President, Director of Development
 - Role in defining strategy, programs, budget, and metrics
- **9 member Third Frontier Commission created by Third Frontier statute**
 - Approval authority for Biomedical JS strategy, programs, budget and award of funds
- Shared roll of Advisory Board and Commission in monitoring progress and performance
- Development staff presents recommendations to Third Frontier Commission for approval
- Project funding disbursed and monitored by Development

Biomedical JS Advisory Board Appointees

- Mark Barbash, Chief Economic Development Officer, Ohio Department of Development
- Tony Dennis, PhD, President, BioOhio (Chair)
- William Hicks, MD. Professor of Clinical Medicine, OSUMC
- David Kay, MD, Crystal Clinic
- Kenneth Preston, Assoc. VP for Research and Director Technology Center, UA
- Baiju Shah, President and CEO, BioEnterprise
- David Scholl, PhD, President and CEO, Diagnostic HYBRIDS, Inc.



Bioproducts JS Program

Bioproducts JS

Funding:

- Source - Tobacco Settlement Fund
- \$50M
 - \$20M in FY 09; \$20M in FY 10; and \$10M in FY 11
- Funding tied up in Tobacco Settlement litigation; time to resolution uncertain
- Current JS legislation defines the expiration date for any remaining funds as the end of FY 2011

Third Frontier Bioproducts Governance

- 7 member Bioproducts Advisory Board created by statute
 - Appointments to Advisory Board by Governor, Speaker of the House, and Senate President
 - Role in defining job stimulus strategy related to bioproducts programs, budget, and metrics
- 9 member Third Frontier Commission created by Third Frontier statute
 - Approval authority for Job Stimulus strategy related to both bioproducts and biomedical programs, budget, and award of funds
 - Staff from Agriculture and Development presents specific project recommendations to Third Frontier Commission for funding approval
- Shared roll of Advisory Board and Commission in monitoring progress and performance

Third Frontier Bioproducts Advisory Board Appointees

- Mark Barbash, Chief Economic Development Officer, Ohio Department of Development
- James Blank, Ph.D., Department Chair, Biological Sciences, Kent State University
- Robert Boggs, Director, Ohio Department of Agriculture
- Wayne Earley, President & CEO, PolymerOhio, Inc.
- Jack Fisher, Executive Vice President, Ohio Farm Bureau Federation
- David Jones, Director of bioproducts, Ashland Inc.
- John Lumpe, Executive Director, Ohio Soybean Association/
Ohio Soybean Council

Bioproducts Job Stimulus Funding

- Source - Tobacco Settlement Fund
 - \$50M - (\$20M in FY 09; \$20M in FY 10; and \$10M in FY 11)
 - Funding tied up in Tobacco Settlement litigation; time to resolution uncertain
- 

