

Product Innovation Grants

**Request for Proposals
Solicitation #4**

22 January 2009



**In collaboration with the
Pennsylvania Green Growth Partnership**

Key Dates:

February 20, 2009

April 3, 2009

June 30, 2009

Idea Form Deadline (Optional)

Proposal Submission Deadline

Projected Grant Award Announcement

All awards are subject to the terms of a mutually acceptable Statement of Work and any applicable government regulations, institutional policies, and other governing law.

ACKNOWLEDGEMENTS

GREEN BUILDING ALLIANCE FUNDERS

HAWKSGLEN FOUNDATION
THE HEINZ ENDOWMENTS
RICHARD KING MELLON FOUNDATION

GREEN BUILDING PRODUCT INITIATIVE FUNDERS

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PENNSYLVANIA GREEN GROWTH PARTNERSHIP

FOUNDERS

GREEN BUILDING ALLIANCE
PHILADELPHIA UNIVERSITY

PARTNER ORGANIZATIONS

DELAWARE VALLEY GREEN BUILDING COUNCIL
GREEN BUILDING ASSOCIATION OF CENTRAL
PENNSYLVANIA

RESEARCH NETWORK

CARNEGIE MELLON UNIVERSITY
DREXEL UNIVERSITY
PENNSYLVANIA STATE UNIVERSITY
TEMPLE UNIVERSITY
VILLANOVA UNIVERSITY
UNIVERSITY OF PITTSBURGH

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Green Building Alliance's Product Innovation Grants

Request for Proposals, Solicitation #4

Green Building Alliance

Green Building Alliance (GBA) is a nonprofit organization that advances economic prosperity and human wellbeing in Western Pennsylvania by driving market demand and facilitating green building practices and products that have minimal impact on the natural environment.

Please direct all questions and clarifications regarding Green Building Alliance's Product Innovation Grants to Aurora Sharrard, Research Manager, at research@gbapgh.org or (412) 431-0709.

More information about Product Innovation Grants is also available at http://www.pa-greenbuildingproducts.org/product_innovation_grants.aspx.

Background

Green Building Alliance's Product Innovation Grants operate under GBA's Green Building Products Initiative (GBPI) program. GBA officially launched the GBPI in November 2006. GBPI is the first program of its kind in the country to strategically target product manufacturers as the primary supplier of the rapidly growing green building market. GBA-led analysis indicates that by 2010, the green building product market will be worth at least \$30 to \$40 billion annually. Given its leadership in the construction of green buildings, Pennsylvania is uniquely positioned to capture a large share of this market. In Pennsylvania, there are 5,000 building product manufacturers; within Western Pennsylvania alone, there are 1,850. Additionally, \$119 million in federal research awards has supported private company and university innovation in Western Pennsylvania, and the Pittsburgh region is an established national leader in green construction. Combined with world class universities and a geographic advantage, Pennsylvania is already a national leader in green building product manufacturing. Information supporting this perspective is fully documented in GBA's November 2006 report, "Green Building Products: Verifying and Defining the Opportunity for Western Pennsylvania," which can be found at http://www.pa-greenbuildingproducts.org/market_opportunity_for_green.aspx.

The GBPI is funded in part by the Commonwealth of Pennsylvania, Ben Franklin Technology Development Authority, the Richard King Mellon Foundation, and The Heinz Endowments.

Product Innovation Grant Focus

Through a competitive selection process, GBA intends to award funding for one or more projects that seek to develop new or introduce revamped existing building products as green building products to the marketplace. Projects may address key product development challenges, address engineering or design challenges, show a significant degree of innovation, and, most importantly, identify a clear path to commercialization with the potential to significantly impact innovation-based companies in the region.

Green Building Alliance's Product Innovation Grants are intended to help provide the gap funding required to bring products from the research and development phase to the building product market so local specifiers can start using local green building products in local green building projects. The intent of GBA's Product Innovation Grants is to support the final commercialization steps for tangible building products or processes that contribute to the economic, environmental, and social benefits of green buildings. For a list of past Product Innovation grant recipients, please reference the "Past Product Innovation Grant Recipients" section on Page 9.

Proposals are solicited from:

- Established Pennsylvania companies looking to develop innovative green building products and the processes to produce them;
- Start-up Pennsylvania companies looking to enter the green building product marketplace; and
- Pennsylvania university researchers / teams developing innovative green building products and the processes to produce them.

Important Dates

- | | |
|------------------------|--|
| • February 20, 2009 | Idea Form Deadline (<i>Optional</i>) |
| • March 4, 2009 | Green Building Alliance Idea Form Feedback |
| • April 3, 2009 | Final Proposal Submission |
| • April 27, 2009 | Fund Match Verification Letters Due |
| • June 30, 2009 | Proposed Award Announcement |

Funding Levels and Requirements

This RFP (#4) opens GBA's fourth round of Product Innovation Grants. Since the program's inception, GBA has awarded a total of \$828,000 to fifteen grant recipients.. GBA does anticipate that this fourth funding round will be the last opportunity to offer this program through State funding. Commercial firms and universities located in Pennsylvania are eligible to propose and perform projects. Collaborative efforts are strongly encouraged. Projects **must** be clear regarding the commercial opportunity of the project.

To provide a portfolio of projects of varying character and complexity, projects will be awarded through a competitive peer-review process. Each project should be proposed by a team with complementary expertise. The final duration and funding level awarded to individual projects will be determined with input from reviewers and in consideration of available funds and the needs of other projects. Fund availability will also determine the frequency and funding levels of future solicitations.

GBA funds two types of Product Innovation Grants: Full grants and Proof of Concept grants. Full Product Innovation Grant awards are capped at \$100,000 per project. Proposed research cannot exceed 12 months in duration. Applicants may also submit proposals for Proof of Concept level research, which is capped at \$20,000 per project and cannot exceed 12 months. GBA will invest in up to three proof of concept projects in 2009.

A summary of GBA's two Product Innovation Grant types and their respective requirements is provided below:

- ***Full Product Innovation Grants – Up to \$100,000***
 - Proposals must have direct correlation to, relevance to, or impact on the built environment.
 - Proposals must include collaboration between private sector companies and university researchers / teams.
 - The private sector company, university partners, and commercializing entity must all be located in the Commonwealth of Pennsylvania. GBA will give preference to partnerships located in its Western Pennsylvania service area.
 - The Principal Investigator for each project should have the expertise necessary to conduct the proposed activities.
 - All projects must have a duration of one year or less.
 - All projects must provide matching funds at a 1:1 ratio.
 - If awarded a Full Product Innovation Grant, the private company part of the applying partnership will be required to sign a contractual agreement with GBA. The private company will also need to

- sign a subagreement with their university partner/team; this subagreement must be attached to private company's contract with GBA.
 - **Proposing teams are highly encouraged to schedule a face-to-face meeting or conference call with GBA's Research Manager; please schedule these via (412) 431-0709 or research@gbapgh.org.**
 - ***On Friday, May 1, 2009, a member of the proposing project team should be available via phone to field possible questions from the Review Committee.***
- ***Proof of Concept Product Innovation Grants*** – Up to \$20,000
 - Proposals must have direct correlation to, relevance to, or impact on the built environment.
 - Proposers are not required to include collaboration between private sector companies and university researchers / teams
 - Either of these entities may apply on their own for a Proof of Concept Product Innovation Grant. However, collaboration between private sector companies and university researchers / teams is encouraged.
 - Academic proposers are encouraged to use part of their funds to support graduate student inclusion on their proposed projects. If possible, graduate students should be identified by name if possible.
 - The proposing entity and any partners must be located in the Commonwealth of Pennsylvania. GBA will give preference to those partnerships located in its Western Pennsylvania service area.
 - The Principal Investigator for each project should have the expertise necessary to conduct the proposed activities.
 - All projects must have a duration of one year or less.
 - All projects must provide matching funds at a 1:1 ratio.
 - If awarded a GBA Product Innovation Grant, the proposing entity will be required to sign a contractual agreement with GBA. If the proposing entity is a partnership between a private company and a university, the private company will be required to sign a contractual agreement with GBA. The private company will also need to sign a subagreement with their university partner/team; the subagreement must be attached to private company's contract with GBA.
 - **Proposing teams are highly encouraged to schedule a face-to-face meeting or conference call with GBA's Research Manager; please schedule these via (412) 431-0709 or research@gbapgh.org.**
 - ***On Friday, May 1, 2009, a member of the proposing project team should be available via phone to field questions from the Review Committee.***

Grant Eligibility

GBA's Product Innovation Grants are focused on supporting projects that will enable expedited market adoption in one year or less. Proposed Product Innovation Grant projects may include a product, process, or research that tangibly reduces the economic, environmental, or social impacts of status quo building (and green building) product market alternatives through its manufacture, installation, or operation; end-of-life issues may also be considered.

Applicable green building product innovation projects might include, but are not limited to, the following:

- Creating green building products from existing building products by
 - Using reused, reclaimed, recycled, or renewable materials; or
 - Improving a product's design, function, and/or manufacturing process.
- New products or processes that
 - Increase the use of clean or renewable energy in buildings;
 - Are composed of or increase the use of reused, reclaimed, recycled, or renewable materials;
 - Are made from green building products;
 - Have a sustainable supply chain;

- Promote building efficiency through operations, materials, or products; or
- Reduce the air, water, or waste emissions during building design, construction, operation, or deconstruction.
- Improving a product's manufacturing process to allow for green product labeling or certification.
- Research to assist manufacturers in decreasing the cost of producing green building products.
- Proof of concept research towards a solution for any of the project examples provided above and/or to demonstrate the feasibility of a proposed approach

Green Building Product Definition

As no single national definition, standard, or validation process exists to describe or rate all green building products, GBA has developed its own broad working definition of areas that a “green building product” could consider. This definition considers a product’s potential for reducing impact on economic, environmental, and/or social elements of the status quo, as well as the way a product is manufactured, installed, or operated. End-of-life issues may also be considered.

Material Content

A building product could be green if its material content or components are from a source that is:

- Reused/salvaged materials or components
- Recycled content from post-consumer waste or pre-industrial byproducts
- Rapidly renewable feedstocks that can regenerate in less than 10 years
- Responsibly harvested materials
- Biobased content from renewable plant, animal, forestry, or marine materials
- Nontoxic content, whether in material composition or installation

Processing/Manufacturing of Materials

Building products may have raw material processing, product manufacture, and product assembly and distribution processes that:

- Minimize
 - Energy use
 - Water use
 - Air emissions
 - Waste
- Improve
 - Water quality
- Reduce
 - Material needs
 - Negative impacts from production
 - Assembly time
 - Worker health impacts
 - Safety risks

Impact Reduction During Use or Operation

Building products may improve upon building performance in terms of helping to create:

- More efficiently operated buildings that have:
 - Less energy use
 - Less water use
 - Better water quality
 - Better site water management
- Reduction of building impact from a variety of sources:
 - Energy source
 - Waste streams
 - Maintenance demands
 - Replacement frequency
- Improved occupant impacts due to reduction in emissions or improved indoor spaces and outdoor access.
 - Human health
 - Indoor air quality
 - Worker Satisfaction
 - Absenteeism
 - Productivity

Life Cycle

Assessing a product’s entire life cycle is an increasingly important process. However, what happens to a product at the end of its life is one of the most overlooked aspects in product development

- Materials
 - Reusability
 - Longevity/durability
- End-of-life
 - Deconstruction
 - Reuse or salvage potential
 - Recyclability (upcycle or downcycle)
 - Product and/or packaging takeback
 - Ultimate disposal

Proposal Ideas / Idea Forms

All potential applicants are encouraged to submit an "Idea Form" to GBA by February 20, 2009. Potential applicants who are unsure if a specific idea is eligible for a Product Innovation Grant are especially encouraged to submit an "Idea Form" to GBA for feedback.

The "Idea Form" template at the end of this document allows applicants an efficient means to express the key points of their proposed project and get feedback from GBA. To allow enough time for viable feedback, "Idea Forms" must be submitted to the GBA Research Manager in PDF form via email at research@gbapgh.org no later than February 20, 2009. The GBA Research Manager will provide feedback to all "Idea Form" submitters by March 4, 2009; potential topics GBA may be address include:

- Whether or not the project idea applies to this request for proposals,
- Recommendation of a project partner (if requested), and/or
- Issues that may require more detail / focus for a final proposal.

Where necessary, the "Idea Form" can also be used to pursue partnering opportunities with either private industry or University partners. Where partners are requested, the GBA Research Manager will attempt to help match private company and university qualifications and needs. There is no guarantee that an appropriate match will be available for every requested counterpart. However, the GBA Research Manager will keep all "Idea Forms" on file for a minimum of one year to help facilitate future connections between private companies and universities.

Please note that submitting an "Idea Form" is not a required prerequisite for submitting a final Product Innovation Grant proposal to GBA by the April 3, 2009, deadline, but it is strongly encouraged.

Use of GBA's Product Innovation Grant Funds

Per IRS requirements, GBA grants must fund "scientific research," which requires some type of analysis. Scientific research must adhere to the following requirements:

- 1) Be designed and supervised by professionals,
- 2) Solve a problem through a search for a demonstrable truth, requiring the use of scientific method of hypotheses, design, testing, and data analysis, and
- 3) Discover a demonstrable truth. Ordinary testing that can be performed by a lay person does not qualify. Placing emphasis on how testing and/or marketing will be scientific in nature is highly encouraged.

GBA's Product Innovation Grants may not be directly used to support indirect costs for any project proposed under RFP #4. Per the sample budget table provided on the proposal template, matching funds may be used to cover indirect costs, but Product Innovation Grant funds may not.

Matching Funds

Matching effort in direct support of the proposed project is required at a minimum 1:1 ratio for the proposed grant funds (e.g., If the total proposed project cost is \$200,000, then at least \$100,000 of funds from other sources must match GBA's \$100,000 grant.) Examples of acceptable types of matching effort include cash, in-kind labor, laboratory expense, tuition waiver, and overhead rate cost reduction. Organizations may use indirect and overhead costs to match GBA's Product Innovation Grant funds.

While it is preferred that match letters are submitted with the final proposal on April 3, 2009, match letters will be accepted through April 27, 2009. Please contact the GBA Research Manager at research@gbapgh.org with any questions about acceptable types of matching effort.

Grant recipients should be in good standing under the Commonwealth laws of formation/organization. Prior to being awarded a grant and finalizing any contract, the Recipient will need to provide GBA with true and complete

copies of Recipient's financial statements for two years and verification of the Recipient's Pennsylvania Employer Identification Number.

Recipient Selection Process

Award decisions will be made at the discretion of the GBA on the advice of the Product Innovation Grants Review Committee. The Review Committee is composed of individuals with a variety of relevant experience, expertise, and background, including consultants, industry, investors, economic development stakeholders, and academic researchers. To ensure a fair and open competition, reviewers representing proposing organizations will not take part in the review and selection deliberations involving their affiliated organization. Prior to reviewing any proposal, reviewers are required to identify any conflict of interest. Additionally, reviewers are required to respect the confidentiality of the information provided in the proposals.

As part of your submission, you may identify any competing organizations and institutions that should not review your proposal. GBA reserves the right to select for award all, some, or none of the proposals received. GBA also reserves the right to select portions of individual proposals for awards.

Past Product Innovation Grant Recipients

The following projects are past Product Innovation Grant recipients. Per Product Innovation Grant requirements, full grant recipients negotiated subagreements with their partnering organizations, which have helped pave the way for future partnerships with these institutions.

Grant Round	Grant Title	Grant Recipients	Grant Level
Fall 2007	Ductmate GreenSeam Pipe	Ductmate University of Pittsburgh	Full Grant
	GreenSim: A Process Simulator for Green Product Decision-Making	Burt Hill Pennsylvania State University	Full Grant
	Improved Production of Pigment as a Byproduct of the Treatment of Coal Mine Drainage in Western Pennsylvania	Iron Oxide Recovery University of Pittsburgh	Full Grant
	Investigating the Environmental Life Cycle Assessment, Performance, and Life Cycle Costing of Expanded Polystyrene for Construction Materials and Supplies: Focus on Insulating Concrete Forms	Tegrant Corporation University of Pittsburgh	Full Grant
	A Low-Impact, High-Performance District System for New and Existing Buildings	Geothermal Energy Systems, Inc. Carnegie Mellon University	Full Grant
	Development of a Superlattice Solar Cell Prototype	Villanova University	Proof of Concept
	Low-Energy Luminous Surfaces: Residential Lighting Using CeeLite LEC Technology	Drexel University	Proof of Concept
	Energy Wall™: A Passive Heat and Moisture Transfer Membrane for Ventilation Air Recovery	Energy Wall Pennsylvania State University	Full Grant
Spring 2008	Flexible Floor Plans: A Modular, Reconfigurable, & Sustainable Floor & Wall System	Drexel University	Proof of Concept
	ReD: A Responsive Daylighting Panel Integrating Phase Change Material	Temple University	Proof of Concept

Grant Round	Grant Title	Grant Recipients	Grant Level
Fall 2008	Sustainable Composite Materials	Bedford Reinforced Plastics, Inc. University of Pittsburgh	Full Grant
	Energy Efficient Geothermal Air Conditioning	Thar Process, Inc. Carnegie Mellon University	Full Grant
	CoBi: Bio-sensing Wearable Controls for Individualized Thermal Comfort	Carnegie Mellon University	Proof of Concept
	REDirt™ Topsoil: Fabricating Low Cost Soil Utilizing Waste Material for Building Site Landscapes and Green Roofs	GTECH Strategies	Proof of Concept
	Smart Facade: High-Performance and Sustainable Enclosure Web Portal	Carnegie Mellon University	Proof of Concept

Proposal Evaluation

Proposals will be assessed according to the following criteria:

- 1) **Green Building Product Innovation and Leadership** – Relevance of the research topic to the field of green building, furthering the goals of the Green Building Product Initiative, and improving the economic, environmental, and social impacts of the status quo.
- 2) **Technical Merit** – Overall technical merit and level of innovation of the proposed work and deliverables outcomes.
- 3) **Viability of Commercialization Plan** – Reviewers will be asked to evaluate each proposal on the quality of the commercialization section, as well as explicitly consider how well the proposal addresses GBA’s economic development mission. This evaluation will include how well the applicant makes a case in terms of:
 - a) Market Potential,
 - b) Path to commercialization (who, when, how much, and how long), and
 - c) Potential economic development impact (company collaborations, startups, spinouts, new or enhanced product offerings, job creation, licensing opportunities, etc.)
- 4) **Partnership & Resources** – Applicants’ capability and experience relative to the proposed work.
 - a) Appropriateness of budget, project duration, and level of effort proposed. The level of matching effort / funds will be interpreted as a demonstration of the proposers’ commitment to the project, as well as the project’s commercial viability.
- 5) **Impacts** – Proposals will be assessed according to the following impact categories:
 - Promoting collaboration between academic and industry partners throughout the Commonwealth of Pennsylvania;
 - Creation and retention of jobs in Pennsylvania;
 - Commercialization of new technologies by Pennsylvania producers;
 - Promoting the growth of Pennsylvania’s small to mid-size, technology-based manufacturing firms (those with fewer than 500 employees); and
 - Providing other environmental or social benefits (environmental improvement, energy-efficiency, etc.) in Pennsylvania.

Project Management

The GBA Research Manager will monitor each project’s progress, schedule periodic reviews, and facilitate interaction among project participants and GBA partners.

- 1) **Initial Payment:** After awards have been announced and a contract has been signed with GBA, the recipient may invoice for up to one-third of the grant amount. The invoice format is provided on Page 19.

- 2) **Mid-Point Status Report:** At the mid-point of the project, the recipient must submit a Status Report in the format provided on Page 20. The recipient may invoice for a second grant installment, not to exceed one-third of the grant funds.
- 3) **Final Status Report:** When the project is complete and GBA has received a final status report, a separate transmittal letter from the University partner supporting the final status report, and the final invoice in the formats on Pages 20 and 19, respectively, GBA will pay the final one-third of the grant funds.
 - a. GBA has the right, in its sole discretion, to withhold up one-third of the total amount of the Grant until the Recipient submits its Final Status Report and a University letter in support of that Final Status Report per contract requirements.
- 4) **Impact Surveys:** For a period of five (5) years after the end of the Grant Term, Recipient shall complete and submit to GBA an "Impact Survey" on or before June 15th of each year. Such report shall be on a GBA-provided form and shall include information for the period ending on June 30th of the year in which the report is filed.
- 5) **Site Visits:** GBA may conduct site visits to verify project progress.
- 6) **Site Tours:** To demonstrate progress and impact of the project, Recipient may periodically be asked to provide site tours for visiting officials and funders. Participation in these events is at the convenience and discretion of the Recipient.
- 7) **Demonstration & Display Models:** GBA may ask for display and demonstration models of the funded technology to promote the activities of the Research Grants and to provide additional marketing for the Recipient.
- 8) **Promotional Materials:** Recipient agrees to allow GBA use of their corporate name and logo in communications, press releases, case studies, and presentations regarding GBA's Product Innovation Grants and to describe the job creation and resulting commercial products and activities that have resulted from the Project. These communications may be in print, electronic, or internet formats.
- 9) **First Announcement of Award:** GBA retains the right of first announcing grant disbursements in a public forum, including press releases, press conferences, and web postings. Recipients shall refrain from issuing any press release or making any other public announcement regarding their receipt of a grant until GBA has issued its formal announcement, which will be shared with all recipients.

Selected Contract Stipulations

The following list summarizes some of the major contractual stipulations attached to GBA's Product Innovation Grants. All of the above stipulations are further detailed in the aforementioned contractual agreement with GBA, to which the private company portion of the grant recipient will be subject. The intellectual property and reporting requirements will also apply to proof of concept grants that are awarded directly to a University.

1) Intellectual Property

GBA will hold no rights to any intellectual property or technology that results from this funding. All rights will remain with the partners and be governed by such terms and agreements between those partners. Repayments will only be required from this grant if the applying partnership does not meet the Pennsylvania Manufacturing or Pennsylvania Presence Requirements described below.

2) Pennsylvania Manufacturing Requirement

A significant portion of the technology, products, and/or processes developed or produced in whole or in part as a result of the Product Innovation Grant shall be manufactured or produced in the Commonwealth of Pennsylvania from the first date of the manufacture or production until the third anniversary of the manufacture date. This Pennsylvania Manufacturing Requirement shall be satisfied if the grant recipient: (i) manufactures or produces components of the technological advances in Pennsylvania, even though the final technological advances are assembled elsewhere, or (ii) the technological advances are manufactured or produced outside of Pennsylvania, provided that the final assembly of the technological advances occurs in Pennsylvania.

3) Pennsylvania Presence Requirement

In addition to the Pennsylvania Manufacturing Requirement, the Product Innovation Grant recipient must, at a minimum, maintain employees and a commercial facility dedicated to Recipient's business within the Commonwealth of Pennsylvania for a period of three (3) years after the expiration of the Grant Term.

4) Reporting Requirements

Product Innovation Grant recipient acknowledges and agrees that GBA is obligated to file certain status and other periodic reports with the Commonwealth and that GBA requires information from Product Innovation Grant recipient in order to fulfill such reporting obligations. Product Innovation Grant recipient shall provide the GBA with such information as may be necessary for the GBA to timely comply with such reporting obligations.

5) Violation of Grant Terms

In the event that the Product Innovation Grant recipient violates or becomes aware of circumstances that will lead to the violation of the Pennsylvania Manufacturing or Pennsylvania Presence Requirements, the grant recipient shall immediately provide written notice to GBA. Promptly following Recipient's violation of either the Pennsylvania Manufacturing or Pennsylvania Presence Requirement, the Product Innovation Grant recipient shall reimburse GBA the full balance of their Product Innovation Grant amount. The terms of the Product Innovation Grants will not be violated if the Product Innovation Grant recipient dissolves or ceases to do business on a permanent basis.

A full copy of GBA's Product Innovation Grant contract is available at http://www.pa-greenbuildingproducts.org/product_innovation_grants.aspx.

Proposal Format

Both proof of concept and full proposals should use the proposal template below. Proposals must reference this RFP (#4) and must be no longer than 10 pages of single-spaced, 12-point font, with 0.75 inch margins. The 10 page limitation includes all figures, tables, and supporting materials. The necessary background information should be supported by references.

All proposals must be submitted as a PDF by April 3, 2009 to GBA's Research Manager via email at research@gbapgh.org.

The following sections contain the Product Innovation Grant "Idea Form Template," "Proposal Template," "Status Report Template," and "Sample Grant Invoice."



Product Innovation Grant Idea Form *Template*

*Upon submission to GBA, this entire idea form should be no longer than 2 pages.
Prior to submission, please delete all red italicized text.*

Please submit as a PDF by February 20, 2009 to GBA's Research Manager at research@gbapgh.org

PROJECT NAME: _____

PROJECT PARTNERS:

PRINCIPAL ORGANIZATION						
	Contact Name	Title	University / Company	Mailing Address	Email	Phone
Principal Investigator						
Project Members						

PARTNER ORGANIZATION						
	Contact Name	Title	University / Company	Mailing Address	Email	Phone
Principal Investigator						
Project Members						

Check here if you require assistance finding a private company or university partner.

If you are requesting a partner, please list:

Qualification / Specialty Requested: _____

University Preference(s) (Optional): _____

PROJECT SUMMARY:

Proposed Grant Level: Full Proof of Concept

Proposed Grant Amount: _____

Proposed Grant Period: One Year Other _____

Project Description:

- *Include a brief description of your proposed project. State the problem and / or opportunities your proposal will address.*
- *What does the team hope to accomplish with the project? What is your potential project impact?*
- *What is your primary market (e.g., commercial, residential, HVAC, etc.)?*

Green Building Alliance will provide feedback to you by March 4, 2009.



Product Innovation Grant Proposal Template Instructions

Both proof of concept and full proposals should use this proposal template.

Proposal Format: Proposals must reference this RFP (#4) and must be no longer than 10 pages of single-spaced, 12-point font, with 0.75 inch margins. The 10 page limitation includes all figures, tables, and supporting materials. The necessary background information should be supported by references. Bibliographies should have numbered references and be one page in addition to the 10 page proposal. Project member biographies / resumes are also in addition to the 10 page limit.

Proposal Checklist:

- Proposal (10 pages, maximum)
- Bibliography (1 page, maximum)
 - a) If you have a particular related research article that the Research Committee may appreciate as background material, you may attach one as an Appendix that will not count towards your 10 page total.
- Biographies / resumes (Each 1 page, maximum)
 - a) Please provide 1 page biographies / resumes for the principal investigator, the primary partner contact, and other key project participants.
- Matching Fund Verification Letters
 - a) Due April 27, 2009

All proposals must be submitted as a PDF by April 3, 2009 to GBA's Research Manager via email at research@gbapgh.org.



Product Innovation Grant Proposal *Template*

Both proof of concept and full proposals should use this proposal template.

*Upon submission to GBA, this entire proposal should be no longer than 10 pages.
Prior to submission, please delete all red italicized text.*

PROJECT TITLE: _____

PROJECT PARTNERS:

PRINCIPAL ORGANIZATION						
	Contact Name	Title	University / Company	Mailing Address	Email	Phone
Principal Investigator						
Project Members						

Employees at the time the proposal was submitted: # Full-time: _____ # Part-Time: _____

PARTNER ORGANIZATION						
	Contact Name	Title	University / Company	Mailing Address	Email	Phone
Principal Investigator						
Project Members						

Employees at the time the proposal was submitted: # Full-time: _____ # Part-Time: _____

FOCUS STATEMENT:

In 20 words or less, summarize the proposed research's focus (e.g., The project will develop a low cost insulation system for the exposed walls of urban row homes.)

PROJECT ABSTRACT:

Provide a 200 word abstract about the proposed project. This abstract will serve as the project summary for members of the Review Committee.

PROJECT SUMMARY:

Proposed Grant Level: Full Proof of Concept

Proposed Grant Amount: _____

Proposed Grant Period: 1 Year Other _____

Brief Project Description:

- *Include a brief description of the proposed project.*
- *State the problem and / or opportunities the project will address.*
- *What does the team hope to accomplish with the project?*
- *What is your primary market (e.g., commercial, residential, HVAC, etc.)?*
- *What is your potential project impact?*

PROJECT BACKGROUND & LITERATURE REVIEW:

Briefly identify any prior research related to this proposal that the Review Committee may need as background. Necessary background information should be supported by references. Bibliographies should have numbered references and may be one page in addition to the 10 page proposal.

If applicable, please reference research or projects that the Pennsylvania Green Growth Partnership (<http://www.paggp.org>) has supported.

APPROACH:

Please explain your project approach, emphasizing how your methods and direction will lead to commercialization, job creation, student learning opportunities, and other goals throughout the RFP, especially the “Product Innovation Grant Focus” section on Page 4, the “Grant Eligibility” section on Page 6, and the “Past Product Innovation Grant Recipients” section on Page 9 of the RFP.

Where necessary, please focus on the technical aspects of your proposal; use the traditional scientific method as a framework (i.e., hypothesis, methods, analysis, and expected outcomes).

- *Identify a scope of work to be completed, as well as tasks to be performed.*
- *Reference your time frame and supply a timeline of events, where applicable*

This section should be a substantial part of your proposal.

COMMERCIALIZATION PLAN:

Please provide a clear and concise description of the proposed work’s market potential, as well as the planned path and timeline to commercialization. The description needs to, at a minimum, address the following basic questions:

- *Who will be commercializing the final product? (The primary applicant should be the commercializing entity).*
- *What experience do the principal and partnering organizations have commercializing past projects?*
- *What is the timetable and schedule for commercialization?*
- *How will the plan be implemented?*
- *What is the commercialization cost estimate?*
- *What are the target markets and approximate size of these markets?*
- *What is the market need for your proposed product, process, or improvement?*

This section should be a substantial part of your proposal. Proof of concept proposals may include this section, but need not emphasize it like full proposals are required to.

PARTNERSHIP AND RESOURCES:

- *How is and how will each partner specifically be involved in the proposed project?*
 - *Please include the numbers, names, and titles of applicable company and/or University departments and personnel involved in the project and briefly describe their roles in the proposed project; include any undergraduate and graduate students, even if they have not yet been specifically identified.*
- *Discuss intellectual agreements that may currently be in place or any other applicable intellectual property arrangements.*
- *Address any other applicable partnership issues.*
- *Specify any new resources you plan to use; “resources” might include equipment or consultants required for project completion.*

CHANGES FROM PREVIOUS SUBMISSIONS:

If a version of this proposal was previously submitted to GBA under RFP #1, 2, or 3, please explain how the project idea and/or explanation has been modified to incorporate comments and suggestions from the Review Committee.

MID-PROJECT REVIEW GOALS:

Please provide one or more objectives for where you expect to be at the midpoint of the project.

If the proposed project is longer than 1 year, you must complete this section. If your project will be completed in less than or equal to one year, you may skip this section.

GREEN BUILDING PRODUCT INNOVATION AND LEADERSHIP:

GBA’s Product Innovation Grants are intended to make Pennsylvania a manufacturing and development leader for green building products and materials; applied research projects are preferred. Please reference the “Product Innovation Grant Focus” section on Page 4 and the “Grant Eligibility” section on Page 6 of the RFP to appropriately address the following topics.

Past or Present Engagement

- *Identify any prior research related to this proposal that the Pennsylvania Green Growth Partnership (<http://www.paggp.org>) has supported in any way (e.g., financial or otherwise).*
- *Briefly identify any green and sustainability-based initiatives or activities that the principal and partnering organizations have been directly involved in internally or externally.*

Future Influence

- *State how this proposal will further Pennsylvania’s leadership in green building products, processes, or practices.*
- *If applicable, please provide enough information for the reviewer to understand the nature of the economic, energy, environmental, or social benefit or improvement over existing products.*
- *How is this proposal innovative (e.g., by filling a market gap, anticipating market need, etc.)?*

For further background on GBA’s Green Building Products Initiative and GBA’s past analyses of the green building product marketplace, please visit http://www.pa-greenbuildingproducts.org/market_opportunity_for_green.aspx.

IMPACTS:

- *How likely is it that the proposed project will create or maintain Pennsylvania jobs?*
- *Will the proposed project advance the commercialization of technologies in Pennsylvania?*

- *To what extent does the project promote collaboration between academic and industry partners throughout Pennsylvania?*
- *What is the potential for the proposed project to develop new collaborations in the development or production of green building products in Pennsylvania?*
- *Will the proposed project promote the growth of Pennsylvania's small to mid-size, technology-based manufacturing firms (firms with fewer than 500 employees)?*

BUDGET:

Please provide a budget summary for the proposed project. The budget should include proposed grant and matching funds that cover direct and indirect costs for personnel, materials, equipment, facilities, travel, subcontractors, consultants, and/or suppliers. GBA's Product Innovation Grant funds may not be directly used to support indirect costs. Matching funds may be used to cover indirect costs, but Product Innovation Grant funds may not.

Please reference the "Use of GBA's Product Innovation Grant Funds" section on Page 8 of the RFP for allowable and un-allowable costs.

		GBA Product Innovation Grant Funds	Matching Funds Provided	Total
Direct Costs	Personnel			
	Benefits			
	Materials			
	Supplies			
	Equipment			
	Facilities (Direct)			
	Consultants & Subcontractors			
Indirect Costs	Indirect Costs			
	Facilities (Indirect)			
	Personnel (Indirect)			
	Other Indirect Costs			
	Travel			
	Other			
Total Project Amount for Invoice Period				

MATCHING FUNDS:

All projects must provide matching funds at a 1:1 ratio. Please attach a formal letter from the institution(s) providing the match. Match letters should reference the project, the form of the match, the services that will be provided, and the timeframe of those services. Match letters may be from the primary or partnering organizations, as well as from other organizations; all match letters should designate both cash and in-kind amounts. This space may also be utilized to provide explanation regarding matching funds.

While it is preferred that match letters are submitted with the final proposal on April 3, 2009, match letters will be accepted through April 27, 2009.

Company Name
Street Address
City, State Zip
Phone
Fax

Product Innovation Grant Invoice *Template*

Date: January 21, 2009
 INVOICE # 001

To: Aurora Sharrard, Research Manager
 Green Building Alliance
 33 Terminal Way
 Suite 331
 Pittsburgh, PA 15219
 Fax: (412) 431-1432

REGARDING:

Project Title	
Lead Organization	
Partner Organization	
Grant Period	
Total Grant Amount	

INCURRED EXPENSES FROM *X* TO *Y* INCLUDE THE FOLLOWING:

		GBA Product Innovation Grant Funds	Matching Funds Provided	Total
Direct Costs	Personnel			
	Benefits			
	Materials			
	Supplies			
	Equipment			
	Facilities (Direct			
	Consultants & Subcontractors			
Indirect Costs	Indirect Costs			
	Facilities (Indirect)			
	Personnel (Indirect)			
	Other Indirect Costs			
	Travel			
	Other			
Total Budget Amount for Invoice Period				
TOTAL INVOICE AMOUNT				

Invoice is due upon receipt. Please make all checks payable to *Company Name*

Prior to submission, please delete all red italicized text.



Product Innovation Grant Project Status Report *Template*

Green Building Alliance requires that all grant recipients fill out the following form for their scheduled status reports. This report is due with the second invoice at the mid-point of the project *and* before the final payment is made.

Date of Report Submission: _____

Grant Awarded: *Season and year (e.g., Spring 2009)* **Grant Period:** 1 Year 2 Years Other _____

Project Title: _____

Project Partners:

PRINCIPAL ORGANIZATION						
	Contact Name	Title	University / Company	Mailing Address	Email	Phone
Principal Investigator						
Project Members						

Current # of employees for principal organization: # Full-time: _____ # Part-Time: _____

Did the private entity portion of your partnership receive an Employee Identification Number within the past 3 years? Yes No

Is your company an Industry spinoff? Yes No N/A

Is your company a University spinoff? Yes No N/A

What is your company's annual revenue? _____

PARTNER ORGANIZATION						
	Contact Name	Title	University / Company	Mailing Address	Email	Phone
Principal Investigator						
Project Members						

Current # of employees for partner organization: # Full-time: _____ # Part-Time: _____

Submit this form to:

*Aurora Sharrard, Research Manager
 Green Building Alliance
 33 Terminal Way, Suite 331
 Pittsburgh, PA 15219
 (412) 431-0709 (Phone) ; (412) 431-1432 (Fax)
auroras@gbapgh.org*

Prior to submission, please delete all red italicized text.

1. **Objectives:** *List the objectives projected for this period under the following headings. Describe the status of each planned objective. Are you meeting project / program benchmarks in terms of your organization's stated mission and goals?*
 - a. **Research Objectives:**
 - b. **Commercial Objectives:**
 - c. **Impact Objectives:**
2. **Changes:** *Describe any changes in the project or the organization since the grant was received. Are you anticipating or planning any changes in the project/program?*
3. **Significant Accomplishments:** *Include project results and benefits to Pennsylvania's economy, not descriptive material of the investment.*
4. **Expenses:** *Include your invoice for activities and expenses to date. See enclosed invoice format. Summarize and compare your actual expenses to original budgeted amounts. Explain any variance from your original proposed budget.*

GBA Product Innovation Grant and Matching Fund Expenditures

Time Period: _____ to _____

		GBA Product Innovation Grant Funds		Matching Funds		Total
		(Budgeted)	(Actual)	(Budgeted)	(Actual)	(Actual)
Direct Costs	Personnel					
	Benefits					
	Materials					
	Supplies					
	Equipment					
	Facilities (Direct					
	Consultants & Subcontractors					
Indirect Costs	Indirect Costs					
	Facilities (Indirect)					
	Personnel (Indirect)					
	Other Indirect Costs					
	Travel					
	Other					
TOTAL						

I hereby certify that all expenditures are for appropriate purposes and in accordance with the Product Innovation Grant Agreement.

By: _____ Date: _____
Name: _____ Title: _____

5. **Additional Support:** *Have you solicited or received other sources of support? Are you using other resources besides the sources identified in your proposal? Include any unanticipated additional investment in capital or equipment as a result of this project. Please explain.*
6. **Triple Bottom Line Impacts:** *Have you been able to quantify the economic, environmental, and/or social benefits of your project to date? If so, please share them in whatever form you have (kWh per unit, % electricity costs reduced, % recycled content increased, greenhouse gases avoided, etc.).*
7. **Final Outcome:** *Write a paragraph on the outcome of the project to date. What problems were encountered? What is the planned target date for commercialization?*
8. **Lessons Learned:**
 - a. *What lessons has your project team learned throughout this project that you might do differently or repeat if you had to do it over again?*
 - b. *If you could share any information, lesson, or experience with others applying for Product Innovation Grants about your process (from proposal through present), what would it be?*
 - c. *If you could recommend one program change to Green Building Alliance for the grants process, what would it be?*
9. **State-Collected Metrics:** *To assist with GBA's reporting requirements for the Commonwealth of Pennsylvania, who funds the Product Innovation Grant program, please fill out the table below. If you have any questions, please contact Aurora Sharrard, GBA's Research Manager at (412) 431-0709 or auroras@gbapgh.org*

As you fill out the table below, please use the following definitions to create your "jobs created" and "jobs retained" numbers. In the past we've discovered that we have woefully underreported these values, mainly because we were not accurately defining what contributes to them.

As a result of GBA financial or non-financial support, did your company or university have any:

- **Job positions* that were created?**
 - *If so, how many? Please share names and/or job titles where available.*
 - **Job positions* you did not eliminate?**
 - *If so, how many? Please share names and/or job titles where available.*
- * Job position = The paid, full-time, part-time, and temporary positions on your company or university's payroll (or paid directly by your company—e.g., contractors and consultants).*
- *Please calculate in full-time equivalents based on a 40-hour work week (reporting partial positions is acceptable).*
 - *Please do not forget to include supporting office staff, consultants, and/or graduate students in your reporting.*

As a result of your GBA Product Innovation Grant, did you:

Metric		6 months	Year 1	Year 2	Year 3	Year 4	Year 5	Cumulative	Notes
Jobs									
Increase the number of your employees? <i>If so, by how many?</i>	In Pennsylvania	-	-	-	-	-	-		
	Nationwide	-	-	-	-	-	-		
	Internationally	-	-	-	-	-	-		
Retain any jobs? <i>If so, by how many?</i>	In Pennsylvania	-	-	-	-	-	-		
	Nationwide	-	-	-	-	-	-		
	Internationally	-	-	-	-	-	-		
Obtain any additional funding <i>If so, how much?</i>	From venture capital or private equity sources	-	-	-	-	-	-		
	From federal, local, foundation, or other sources	-	-	-	-	-	-		
	From debt financing to companies	-	-	-	-	-	-		
Products, Companies, & Licensing									
Introduce any new products into the marketplace? <i>If yes, how many?</i> <i>Please describe these products under "Notes."</i>		-	-	-	-	-	-		
Make any research, development, testing, and/or evaluation expenditures? <i>If so, how much?</i>		-	-	-	-	-	-		
Receive any patents or software copyrights? <i>If so, how many?</i> <i>Please describe these patents and copyrights under "Notes."</i>		-	-	-	-	-	-		
Create any Industry spinoff projects? <i>If so, how many?</i> <i>Please describe under "Notes."</i>									
Create any University spinoff projects? <i>If so, how many?</i> <i>Please describe under "Notes."</i>									

Metric	6 months	Year 1	Year 2	Year 3	Year 4	Year 5	Cumulative	Notes
Create any Industry spinoff companies? <i>If so, how many?</i> <i>Please describe under "Notes."</i>		-	-	-	-	-		
Create any University spinoff companies? <i>If so, how many?</i> <i>Please describe under "Notes."</i>		-	-	-	-	-		
Grant any licenses <i>Please list how many and describe these licenses under "Notes."</i>	To other Pennsylvania companies?	-	-	-	-	-		
	To other national companies?	-	-	-	-	-		
	To other international companies?	-	-	-	-	-		
Revenue								
Earn any licensing revenue? <i>If so, how much?</i>	From other Pennsylvania companies?	-	-	-	-	-		
	From other national companies?	-	-	-	-	-		
	From other international companies?	-	-	-	-	-		
Increase your company's revenue? <i>If so, by how much?</i>		-	-	-	-	-		
Increase your revenue per employee? <i>If so, what is your current revenue per employee?</i>		-	-	-	-	-		
Internal Activities								
Create any new internal processes? <i>If so, how many?</i>		-	-	-	-	-		
Train anyone? <i>If so, how many?</i>		-	-	-	-	-		
Experience an increase in inquiries about your product(s)? <i>If so, how many?</i>		-	-	-	-	-		

Metric	6 months	Year 1	Year 2	Year 3	Year 4	Year 5	Cumulative	Notes
External Activities								
Experience increased traffic on your website? <i>What's your current count of unique visits per month?</i>	-	-	-	-	-	-		
Train anyone? <i>If so, how many?</i>	-	-	-	-	-	-		
Give any presentations? <i>If so, how many?</i> <i>And to how many people (total for reporting period)?</i>	-	-	-	-	-	-		
Give any tours of your facilities? <i>If so, how many?</i> <i>And to how many people (total for reporting period)?</i>	-	-	-	-	-	-		
Assist any other businesses? <i>If so, how many?</i>	-	-	-	-	-	-		
Hold any seminars or symposiums? <i>If so, how many?</i> <i>And to how many people (total for reporting period)?</i>	-	-	-	-	-	-		
Host a booth at a conference new to you? <i>If so, how many conferences?</i>	-	-	-	-	-	-		
Publications								
Generate any academic publications? <i>If so, how many?</i> <i>Please share PDFs of articles if possible.</i>	-	-	-	-	-	-		
Generate or were featured in any general publications? <i>If so, how many?</i> <i>Please share links to these articles in the "Notes" column.</i>	-	-	-	-	-	-		
Student Support								
Engage higher education students in your project? <i>If so, how many?</i>	-	-	-	-	-	-		
Support any internships? <i>If so, how many?</i>	-	-	-	-	-	-		
Financially support any students? <i>If so, how many?</i>	-	-	-	-	-	-		
Financially support any students who graduated from institutions of higher learning? <i>If so, how many?</i>	-	-	-	-	-	-		

Metric	6 months	Year 1	Year 2	Year 3	Year 4	Year 5	Cumulative	Notes
Financially support any students who graduated from institutions of higher learning AND took a job in Pennsylvania? <i>If so, how many?</i>		-	-	-	-	-		

