



CRDF GLOBAL
2010/2011 COOPERATIVE GRANTS PROGRAM (CGP 2010/2011)
APPLIED ENERGY RESEARCH COMPETITION

I. Introduction and Scope

CRDF Global is currently accepting proposals for the 2010/2011 Cooperative Grants Program (CGP) Applied Energy Research Competition. This competition is open only to joint teams of scientists from the United States and **Ukraine** and is jointly funded by CRDF Global and the State Agency of Ukraine for Science, Innovations, and Informatization. This program provides awards of up to \$88,000 U.S. Dollars (USD) for two years of support to joint research teams of U.S. and Ukrainian scientists.

Finding alternative and renewable sources of energy and lowering energy consumption is a key component of addressing climate change and enhancing economic growth. Recognizing the importance of coordinating international efforts in these vital areas, CRDF Global and the State Agency will support U.S.- Ukrainian research teams engaged in research specifically aimed at improvement of existing and introduction of new energy efficient technologies; efficient consumption of fuel-and-energy resources with a specific aim of energy loss reduction; utilization of alternative and renewable energy resources in the sectors that are most energy intensive, both in Ukraine and the United States.

To meet these objectives, this joint program solicits proposals in the following research areas:

- Energy efficiency in agriculture
- Energy efficiency in industrial processes
- Reducing the energy content of metal products
- Energy efficient transport/vehicles
- Energy efficient buildings and the equipment, components, and systems within them
- Production and use of alternative and renewable energy (biofuels, hydro, thermal, solar, wind, fuel cells)

CRDF Global is an independent nonprofit organization that promotes international scientific and technical collaboration through grants, technical resources, and training. More information about CRDF Global can be found at <http://www.crdf.org>. CRDF Global receives funding for this program from the U.S. Department of State and the National Science Foundation (NSF).

The State Agency of Ukraine for Science, Innovations, and Informatization is the central executive body in Ukraine in the area of science, technology, innovations, and informatization.

II. Program Guidelines

A. General. The total maximum grant amount is \$68,000 U.S. Dollars (USD) from CRDF Global and the equivalent of \$20,000 U.S. Dollars (USD) in the national currency of Ukraine, from the State Agency. No more than \$72,000 of the funds awarded to each project must be used for the Ukrainian team's expenses, including

institutional support. No more than \$16,000 may be used for the U.S. team's expenses. These funds will be allocated separately and administered directly to the individuals and institutions involved.

Proposals will be accepted to the CGP 2010/2011 Applied Energy Research Competition according to the following schedule:

CGP 2010/2011 Applied Energy Research Competition Proposal Submission Deadline	Eligible General Scientific Areas	Announcement of Finalists
<p>Monday, March 28, 2011 11:59 pm (23:59) Eastern Daylight Savings Time</p>	<p>All proposals MUST be related to energy research. We will consider proposals from all scientific disciplines, including:</p> <ul style="list-style-type: none"> • Biology • Chemistry • Geology • Mathematics • Physics • Electronic, Material, Mechanical, and Manufacturing Engineering 	<p>Friday, July 15, 2011 5 pm (17:00) Eastern Daylight Savings Time Via email</p>

Please see instructions in sections E and G for details on eligibility and submission requirements.

B. Project Scope. Eligible proposals should address issues relevant to applied energy research

C. CRDF Global *strongly* encourages applicants to contact a CGP Program Manager at cgp@crdf.org if they are unsure whether their research topic is eligible for this competition.

D. Special Consideration. The primary factor that will determine a proposal's fundability is scientific merit followed by the other criteria laid out in Section II.I. However:

Special consideration will be given to:

- Projects that include travel by members of both teams.
- Projects that incorporate one or more Junior Scientists¹ in either or both teams. Junior Scientists are also encouraged to travel for the project.
- Principal Investigators who have not previously received funding from CRDF Global.

E. CRDF Global Expectations of Awardees. Grantees from the CGP 2010/2011 competition will be expected to:

- Publish research results directly related to the CGP 2010/2011 grant in a minimum of two (2) international peer-reviewed publications before the submission of the project's final report.
- Maintain and submit to CRDF Global timesheets for researchers receiving Individual Financial Support (IFS) on the project.
- Submit three semi-annual progress reports and a final project report.
- Additionally, CRDF Global encourages grantees to participate and present their CGP 2010/2011 research at applied energy research forums when possible. It is possible to budget for these activities in your application. See Section II.K.1.c.

F. Eligibility. Each proposal must meet each of the following eligibility criteria:

¹ A Junior Scientist is defined as a graduate student, postdoctoral student, recent Ph.D. or Kandidat graduate (degree completed within the last 6 years).

1. Each proposal submitted to CGP must have **one Ukrainian Principal Investigator** and **one U.S. Principal Investigator**, who share overall responsibility for the project in their respective countries, coordinating all project participants and institutions.
2. Each Principal Investigator must:
 - a. Possess the degree of Ph.D., M.D., or the equivalent research experience,
 - b. Have at least five (5) scientific publications in peer-reviewed scientific literature (if the applicant has received his or her Ph.D., M.D., or the equivalent in the past six (6) years, three (3) publications are required), and
 - c. Work full-time in a civilian research environment.²
3. The Ukrainian Principal Investigator must be a citizen and permanent resident of Ukraine. All Ukrainian participants must reside in Ukraine for the majority of the grant period.
4. The U.S. Principal Investigator and participants on the U.S. team must be U.S. citizens or permanent residents of the U.S. and must reside in the U.S. during the entire course of the CGP project. Graduate students on the U.S. team may be foreign nationals, but they must be enrolled in an accredited degree program at a U.S. institution.
5. All projects must be oriented toward non-military objectives and must be carried out in a civilian research environment.
6. Each proposal is evaluated independently and therefore should not be part of, nor depend on the success of, other proposals submitted to this program.
7. Principal Investigators who have a previous or current CRDF Global award, including CGP awards, that are within six (6) months of completion as of the submission deadline, are eligible to apply to this program. Applicants who are previous or current CRDF Global grantees must be up to date on the submission of all progress reports, including final project reports. Please refer to Section II.P.3 below.
8. CRDF Global reserves the right to restrict the participation of any individual or institution in its programs. CRDF Global complies with all U.S. laws and regulations pertaining to export control and the participation of foreign nationals or institutions in its activities. It is the policy of CRDF Global not to conduct any transactions with U.S. restricted entities without appropriate authorization from the U.S. Government.

G. General Proposal Submission Instructions

CRDF Global: All proposals must be submitted electronically through the Cooperative Grants Program Electronic Proposal Submission (EPS) site at the following location:

<http://proposals.crdf.org/appliedenergy>

Proposals should be submitted only ONE time and by only ONE Principal Investigator on the project. The Ukrainian and U.S. Principal Investigators should jointly develop the proposal and obtain the concurrence of the Ukrainian Institute Director and U.S. Institutional Representative. Once the proposal has been finalized, they should select one Principal Investigator to submit the proposal electronically through the CRDF Global website.

At the conclusion of the electronic submission process, both the Ukrainian and U.S. Principal Investigator will receive a confirmation message from CRDF Global. A copy of this message will also be sent to the Ukrainian Institute Director and the U.S. Institute Representative identified in the proposal. Further instructions on electronic proposal submission are available at the above website.

State Agency of Ukraine of Science, Innovations and Informatization: In addition to submitting an electronic version of the proposal to the CRDF Global website, applicants must submit two (2) hardcopies of the proposal

² U.S. Government Laboratory employees working on civilian-oriented research and development projects are eligible to apply to this program.

in English language and two (2) hardcopies of the proposal in Ukrainian language. Proposal hardcopies in both languages must begin with a Cover Sheet (Form A) that includes the signatures of the Ukrainian Principal Investigator and the Ukrainian Institute Director.

All hard copies and text materials from applicants must be submitted to the State Agency of Ukraine for Science, Innovations, and Informatization 16, Taras Shevshenko Boulevard, Kyiv, 01601, Room 311, Phone: (044) 246-38-34; attention Maksymova Olena Anatolivna, Project Coordinator, postmarked by the online submission deadline.

Summary Table of Special Requirements for Applicants from Ukraine

Principal Investigator Country	Requirements	Specifications	Submission Recipient
Ukraine	<ul style="list-style-type: none"> • 2 hardcopies of proposal in English language • 2 hardcopies of proposal in Ukrainian language • Expert conclusion in Ukrainian language • Author's statement in Ukrainian language 	<ul style="list-style-type: none"> • "Expert conclusion" (<i>ekspertnyi vysnovok</i>) from the participating Ukrainian institution states that proposal may be published abroad • Author's statement certifies observance of regulations regarding information classified for national security purposes and patent law <p>Forms for these requirements can be obtained by email from CRDF Global Ukrainian Office (listed in Information Section III)</p>	State Agency of Ukraine for Science, Innovations, and Informatization

H. Review of Proposals. All proposals will be screened for eligibility and completeness upon receipt by CRDF Global. Scientific merit review will be performed by expert panels and external reviewers appointed by CRDF Global. The panels will use the evaluation criteria described below in Section II.I to reach their funding recommendations.

All awards are subject to the availability of funding from U.S. Government agencies sponsoring this competition. Historically, the CGP program has been very competitive, averaging an 8-10% success rate. All decisions of CRDF Global are final.

I. Evaluation Criteria. CRDF Global panels and external reviewers utilize the following criteria in the evaluation of proposals for this program.

- 1. Technical Merit:** Whether the project proposes innovative methods and how well the individual elements of the research plan fit with the overall project goals.
- 2. Research Plan:** The technical soundness of the proposed work, practicality of the project's management plan, and adequacy of the resources available, both technical and financial.
- 3. Research Impact:** The probability that the project will result in new knowledge or have impact on one or more research fields, and the potential that the project processes or results will serve as the basis for new or improved technology.

4. Personnel Capacity: The expertise of the investigators and other participants, including the strengths and weaknesses of each partner, as well as the balance of the collaboration and distribution of partnership benefits.

5. Benefit to Education and Infrastructure: Appraisal of the project's provision of opportunities for personnel (participation of young scientists, university researchers, and female scientists), the sharing of equipment and resources among all institutions involved, and the project's long-term positive impact on social, economic, or environmental issues in the countries involved.

In the case of projects with equal scientific merit, special consideration may be given to projects that involve former weapons scientists.

J. Proposal Contents. All proposals must be written in English. We highly encourage all applicants to review CGP's **Frequently Asked Questions** and **Grant Writing Tips** at http://www.crdf.org/focusdocs/focusdocs_show.htm?doc_id=428393.

These resources include sample forms and examples on how to avoid common mistakes in proposal preparation.

Each proposal must include all of the following elements. Only applications that include this information will be considered eligible and complete for review. All proposals should be typed, single-spaced, in English, with margins of one inch at the sides, top, and bottom, and with pages numbered consecutively in the upper right corner. Proposals should also use Arial font or similar and a font size of no less than 10 points.

Applicants are required to use the electronic templates for Forms A-D, provided at the end of this Program Announcement. Prior to submission, please refer to the **Checklist of Documents Required for Proposal Submission** located at the bottom of Section III.

IMPORTANT: No proposal may have font that is **smaller than 10-point Arial. Times New Roman 10-point font is NOT Allowable.**

- 1. Cover Sheet (Form A).** The cover sheet includes basic information about the proposal, Ukrainian Principal Investigator, Ukrainian Institution Director, the U.S. Principal Investigator, and the U.S. Institutional Representative. The U.S. Institutional Representative is the individual who would be responsible for negotiating contractual and financial terms in the case of award. This information must also be entered during the electronic proposal submission process.

IMPORTANT: CRDF Global requires that Form A be signed by both the Ukrainian Principal Investigator and Ukrainian Institute Director.

- 2. Abstract.** In one concise paragraph, summarize all relevant aspects of the project, with special attention to its objectives, methods, and potential results.
- 3. Project Narrative (8 pages maximum, including any graphs, diagrams, photos and references cited).** Describe:
 - a. The approach, objectives, milestones, and measurements of success that will be used;
 - b. A clearly defined project timeline, noting all project tasks and goals to be accomplished on a quarterly basis;
 - c. How the individual and combined competencies of the Ukrainian and U.S. research teams will enable the project to be carried out, and what relevant prior work has been carried out by members of the team. Prior CRDF Global awards must also be described: see Section II.P.3 **Special Note on Requests for Renewed Funding** below;

- d. The anticipated results of the project and how they address the CRDF Global evaluation criteria listed in Section II.I;
 - e. How the project compares to current research conducted in the topic area;
 - f. Equipment to be utilized in the project, with special focus on justifying requests for any equipment for which CRDF Global support is requested;
 - g. How the Ukrainian and U.S. Principal Investigators will coordinate project implementation and assess progress at regular intervals. Each project must involve significant and substantive cooperation between the Ukrainian and U.S. teams. All proposed international travel to be funded under the project must be described in terms of its purpose and duration.
4. **Ukrainian and U.S. Principal Investigator Curricula Vitae.** The proposal must contain a *Curriculum Vitae* for each Principal Investigator. It should include the individual's name, title, educational background, current and previous institutional affiliations with dates, area of expertise, and his or her most recent scientific publications of relevance to the project. Each Principal Investigator must list at least five (5) publications of relevance (if the PI has received his or her Ph.D., M.D., or the equivalent in the past six (6) years, three (3) publications are required).
 5. **Ukrainian and U.S. Personnel Data (Form B).** Please fill this form out for each participant on the Ukrainian and U.S. team, including researchers/engineers, technical/scientific support staff, graduate and undergraduate students, administrative/clerical support staff, and secondary collaborators.

IMPORTANT: Form B should not exceed **half a page**; two forms should be combined on a single page.

Form B is for additional team personnel only; the Ukrainian and U.S. Principal Investigators do not need to complete Form B with their own information.

IMPORTANT: U.S. personnel are not required to offer information regarding their dates of birth.

6. **Ukrainian & US Personnel Curricula Vitae.** In addition to Form B, the proposal must contain detailed *Curriculum Vitae* for each project participant. It should include the individual's name, title, educational background, current and previous institutional affiliations with dates, area of expertise, and a list of his or her scientific publications.
7. **Budget (Form C).** A complete budget must be submitted using the Form C template. Applicants should submit one budget (Form C) for the entire award period. Applicants should refer to the "Budget Guidelines" in **Appendix 3** for information to be listed in the budget.

Note on Cost-Sharing and In-Kind Contributions: CRDF Global encourages cost-sharing under its programs to maximize the resources devoted to projects it supports. Under this CGP competition, CRDF Global requires cost-sharing from for-profit companies applying to the program. General guidance on cost-sharing and in-kind contributions can be found in **Appendix 2** and on the CRDF Global website at http://www.crdf.org/policies/policies_show.htm?doc_id=318877.

8. **Budget Narrative.** A separate sheet explaining all budget items in detail must follow the Budget (Form C). This sheet should be clearly marked "Budget Narrative." Applicants should refer to the "Allowable Costs" in Section II.K and the "Budget Guidelines" in **Appendix 3** for information that should be described in detail in the Budget Narrative. Requested equipment items with a value of over \$1,000 must be explained in the Budget Narrative.
9. **Statement of Other Support (Form D).** Both Principal Investigators must complete the Statement of Other Support (Form D), listing current and pending sources of support for all their research projects, excluding those that are already included under the **COST-SHARING FROM NON-CRDF GLOBAL**

SOURCES” section in the budget. Applicants with grants from U.S. Government sources, such as NIH or NSF, should indicate the grant number, duration of the award and level of effort. If a Principal Investigator has no other sources of support, please check the box marked “None” at the top of Form D and include this page with the proposal. If this proposal has also been submitted to another organization, please indicate this information clearly in Form D.

IMPORTANT: If a Principal Investigator has no other sources of support, please include his/her name, check the box marked “None” at the top of Form D and include this page with the proposal. If this proposal has also been submitted to another organization, please indicate this information clearly in Form D.

10. **Previous CRDF Global Awards (Form E).** Both Principal Investigators must complete form E for each previously held CRDF Global award, if it is directly related to the research objectives outlined in the current proposal. Individual forms should not exceed one page.
11. **U.S. Principal Investigator Partnership Statement.** The U.S. Principal Investigator must provide a signed statement on organizational letterhead certifying his or her agreement to the collaboration. A scanned copy of this agreement must be included in the proposal when it is submitted to CRDF Global. An example of a Partnership Statement can be found in **Appendix 4**. You will be requested to upload it as a separate document during the electronic proposal submission process.

K. Allowable Costs. No proposal requesting more than \$88,000 will be considered by CRDF Global. ***In case of an award, the project budget may be subject to revision by CRDF Global staff.***

The following costs are permitted under CRDF Global guidelines for this program:

1. **Ukrainian Team Expenses.** ***Support for the Ukrainian team’s expenses may not exceed \$72,000.*** No Ukrainian taxes may be included in any budget proposal submitted to CRDF Global. Allowable expenses include:

- a. **Individual Financial Support.** Individual Financial Support (IFS) is defined as payments made to individual project participants for work performed on the project (i.e., labor costs). CRDF Global calculates individual financial support based on the level of effort and the professional level of each participant. A month for full-time personnel is considered 20 days, with each day made up of 8 hours of work. The IFS requested in the budget shall be an estimate of the direct level of effort each individual will devote to the project. Actual individual financial support requests for payment will be based on level of effort recorded during a reporting period but may not exceed the monthly maximums for the positions listed below or total budgeted IFS for the award.

The level of effort projected for the Principal Investigator/Project Director and Researchers/Engineers may not exceed 75% of full time over the course of an award. Therefore, for a 2 year award, the budget may not include more than 360 days or 2880 hours of IFS projected for these positions.

The range of allowable IFS hourly rates for a number of professional levels are shown below. Please consider these rates, as well as geographical, cost-of-living, and other factors, when calculating individual financial support for project personnel.

Position	Range of Minimum and Maximum IFS Hourly Rates	Maximum Amount Per Person Per Month
Principal Investigator/ Project Director	\$3.75 to \$5.50	\$880

Researcher/Engineer	\$3.41 to \$5.00	\$800
Graduate Student	\$2.25 to \$2.75	\$440
Technical/Scientific Support Staff	\$2.50 to \$3.00	\$480
Administrative/Clerical Support Staff	\$2.00 to \$2.50	\$400

b. **Equipment, Supplies and Services.** This includes support for research equipment, including computers and telecommunications devices and/or services, subscriptions to scientific journals, reagents, and other materials to be used in the research. Any requested item of equipment valued at more than \$1,000 must be specifically described and justified in the Budget Narrative.

If the proposal is to include services of professional consultants or service providers such as legal counsel, patent consultants, or other services, these services must be detailed in the Budget Narrative with a justification as to their necessity for successful execution of the project.

c. **Travel.** Transportation and per diem support for travel of Ukrainian personnel in connection with the project should be requested and described in the Budget Narrative. **International travel to collaborating labs is strongly encouraged.** Travel funds may also be used for domestic travel within Ukraine. Limited support is also available for travel to international scientific meetings. The following cost guidelines should be used in preparing the budget:

1. **International Transportation.** CRDF Global-supported travelers must purchase the lowest-cost applicable round-trip airfare from Ukraine. Travelers must comply with the provisions of the Fly America Act. For more information, please see http://www.crdf.org/policies/policies_show.htm?doc_id=291723.
2. **Travel Allowances.** Applicants should refer to the following per diem allowance guidelines when preparing their travel budget. For travel to the United States, visit: <http://www.gsa.gov/portal/category/21287>
3. For other international travel, refer to http://aoprals.state.gov/web920/per_diem.asp. These allowances cover lodging, meals, and incidental expenses. Health insurance is mandatory for all travel under CRDF Global awards and should be included in the proposal budget in addition to the travel allowance. Visa fees are allowable expenses and may be included in the proposal budget. The maximum time abroad for any one CRDF Global-supported traveler is eight months over the course of an award. No single visit may exceed four months. It is also important to provide a justification and a description of the travel plans within the Budget Narrative.

d. **Secondary Collaborators.** Secondary collaborators are institutions other than the Ukrainian or U.S. principal institutions that will participate in the proposed project and receive support under a CRDF Global award. Secondary collaborators may participate in the form of sub-contracted work and may include any allowable costs described in this section. All secondary collaborator personnel and facilities must be specifically listed and described in the proposal. A separate budget justification for each secondary collaborator must be included in the Budget Narrative. Secondary collaborators must be citizens of and located in Ukraine.

e. **Institutional Support.** Ukrainian grantees must include in their budgets an allowance for institutional costs of 10% of the total Ukrainian team expenses.

f. **Administrative Superiors.** An "Administrative Superior" is defined as an individual who has direct administrative authority over the Project Director/Principal Investigator, and who works within the same division, laboratory, or unit as the Project Director/Principal Investigator. CRDF Global discourages the inclusion of an administrative superior in a proposal in any role for which individual financial support is requested. For authorization to include an administrative superior in a project, please see CRDF Global's guidelines at http://www.crdf.org/policies/policies_show.htm?doc_id=311224.

2. **U.S. Team Expenses. Support for the U.S. team's expenses may not exceed 16,000.** U.S. teams from universities, non-profits, or U.S. government institutions may request funds for expenses. U.S. teams from for-profit companies may not request any U.S. team expenses from CRDF Global. As described in **Appendix 2**, such companies are required to cover all U.S. team expenses and contribute 10% towards the Ukrainian team's expenses by committing cash, materials, or in-kind contributions. These expenses and their amounts should be described in the Budget (Form C) and in the Budget Narrative.

For eligible teams, CRDF Global will distribute support to the U.S. team on a reimbursement basis. Allowable expenses include:

a. **Travel Expenses.** Transportation and travel allowances for U.S. personnel traveling to Ukraine in connection with the project are permissible expenses and should be described in the Budget Narrative. All CRDF Global-supported travel for U.S. personnel must comply with the Fly America Act. For more information, please see http://www.crdf.org/policies/policies_show.htm?doc_id=291723.

Travel allowances for U.S. travelers to foreign destinations may not exceed US government per diem rates: http://aoprals.state.gov/web920/per_diem.asp.

b. **Supplies and Services.** Supplies and services may be requested up to \$5,000 per year, not to exceed \$10,000 for the entire award period. In addition to supplies and services, support for expendable pieces of equipment may be requested, as long as the depreciated life of the piece of equipment purchased does not exceed the term of the grant

c. **Graduate Student Stipend.** The U.S. team may request individual financial support for a graduate student member of the team. The graduate student stipend may include fringe benefits or tuition remission. For graduate students who are not yet identified, but whose participation is planned, please clearly indicate their participation and request for support in the Budget Narrative. Applicants should indicate such graduate students on the Budget (Form C) as "Planned Graduate Student."

For the U.S. team, CRDF Global does not provide individual financial support for non-student participants, and does not support large-scale equipment purchases.

d. **Administrative Fee.** To cover expenses incurred in the administration of the CRDF Global grant, the U.S. Principal Organization is allowed to request up to 10% of the U.S. team's expenses to cover administrative costs. This amount in conjunction with the U.S. team's expenses cannot exceed the \$16,000 portion of the project total that the U.S. is allowed to request.

L. Intellectual Property. CRDF Global makes no claim to intellectual property rights under any award. CRDF Global's primary interest is that intellectual property rights be equitably allocated. Both the Ukrainian and U.S. parties should be familiar with, and abide by the laws regarding intellectual property in their respective countries, including regulations regarding grants for research projects.

M. Award Administration Terms and Conditions. Applicants may refer to the CRDF Global website for guidance on CRDF Global policies and procedures relating to the financial and contractual management of

CRDF Global grants, including conflict of interest guidelines. An online library of resources and reference documents may be viewed at the following location: <http://www.crdf.org/granteeinfo/>.

N. Conflict of Interest. CRDF Global requires that all Project Directors/Principal Investigators and Principal Institutions adhere to the highest ethical standards in all matters related to CRDF Global awards. CRDF Global Conflict of Interest Guidelines are further outlined at http://www.crdf.org/policies/policies_show.htm?doc_id=296472.

O. Confidentiality. CRDF Global will treat all proposals as confidential material and will require all panelists and reviewers to respect the confidentiality of proposals. However, proposal authors should be aware that successful proposals will be treated as public information. Therefore, at the author's discretion, if there is specific information in the proposal that is business-confidential and not intended for public dissemination, it should be clearly labeled as such at the top and bottom of the applicable page of the proposal. Such passages will be withheld from public distribution if the proposal is successful.

CRDF Global will also share copies of proposals with its counterpart agencies in Ukraine, upon request of those counterpart agencies. CRDF Global requires the counterpart agencies to follow the same policies above regarding the confidentiality of all proposals.

P. Proposal Documentation and Special Requirements. Additional proposal documentation and special certifications may be required for proposals that contain any of the following elements:

- a. Cost-sharing and the participation of for-profit companies (See Appendix 2);
- b. Requests for renewed funding of a previous or existing CGP award.

1. **Special Note on Requests for Renewed Funding.** CRDF Global accepts new proposals that are submitted as a continuation of previous and current awards provided that the awardees are up-to-date on semi-annual status and final reports, as well as all other award obligations. All status reports from previous or existing awards will be available to expert reviewers.

Investigators on current awards are only eligible to submit a new proposal if their projects are within six (6) months of completion as of the relevant submission deadline. Principal Investigators and core team members may apply to CGP for more than one project; however, Principal Investigators are not eligible to receive CGP funding more than twice (once as a Principal Investigator, once as a participant).

Proposals that are continuations of previous awards must be submitted using the standard CGP submission template forms. Applications should include a summary of achievements from the previous or existing awards in the project narrative.

III. Information

For questions about the electronic proposal submission process, or for further information about this program, please contact the CRDF Global offices below. **Inquiries by e-mail are strongly encouraged and will result in prompt response.**

UNITED STATES

CRDF Global
Cooperative Grant Programs
1530 Wilson Boulevard, 3rd Floor
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Email: cgp@crdf.org
Senior Program Manager: Stuart Politi

UKRAINE

CRDF Global
4 Bogomoltsa Street, Room 134

Kyiv 01024, Ukraine
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Fax: 380-44-253-4577
Email: artn@ln.ua
Office Director: Natalia Artiukhovskaya

CHECKLIST OF ITEMS REQUIRED FOR PROPOSAL SUBMISSION

REQUIREMENTS FOR ALL SUBMISSIONS

- Cover Sheet (Form A)
- Project Abstract
- Project Narrative
- U.S. & Ukrainian Principal Investigator Curricula Vitae
- U.S. & Ukrainian Personnel Data (Form B)
- U.S. & Ukrainian Personnel Curricula Vitae
- Budget (Form C)
- Budget Narrative
- Statement of Other Support (Form D)
- Previous CRDF Global Awards (Form E)
- U.S. Principal Investigator Partnership Statement

SPECIAL REQUIREMENTS

- Ukrainian applicants only: Ukrainian-Language Text of Project Narrative, Expert Conclusion, and Author's Statement submitted to CRDF Global counterpart agency.
- U.S. For-Profit companies only: Letter of Commitment to contribute 10% of Ukrainian expenses and coverage of all U.S. expenses
- Ukrainian For-Profit companies only: Letter of Commitment to contribute up to 5-10% of total Ukrainian expenses
- Proposals with In-Kind contributions: Letter of Commitment from contributing U.S. and/ or Ukrainian institution

APPENDIX 1 - LIST OF GENERAL SCIENTIFIC AREAS AND SUB-DISCIPLINES

Biological & Biomedical Sciences & Engineering

Agriculture & Agronomy
Bacteriology
Behavioral Biology
Biochemistry
Biophysics
Biotechnology
Botany (Plant Biology)
Cardiology
Cell Biology
Conservation Biology
Developmental Biology
Entomology
Environmental Health
Epidemiology
Genetics
Hematology
Immunology
Marine Biology
Medicine
Molecular Biology
Molecular Medicine
Mycology
Neurology
Oncology
Ophthalmology
Physiology
Population Biology
Radiology
Toxicology
Microbiology
Virology
Zoology

Chemical Sciences and Engineering

Analytical & Surface Chemistry
Biochemistry
Catalysis
Chemical Engineering
Inorganic Chemistry
Organic Chemistry
Physical Chemistry: General
Physical Chemistry: Kinetics
Physical Chemistry: Physical Organic
Physical Chemistry: Reactions/Mechanisms
Physical Chemistry: Theory & Dynamics
Polymer Chemistry

Electrical, Materials, and Manufacturing Sciences and Engineering

Aero/Astro Engineering
Ceramics
Composite Materials
Electrical Engineering
Electronic Materials
Instrumentation
Lasers
Magnetic Materials
Manufacturing
Materials Science
Mechanical Engineering
Metallurgy
Nuclear Engineering
Optical Materials
Polymers
Power Engineering
Superconducting Materials

Geological Sciences and Engineering

Atmospheric Science
Civil and Mechanical Engineering
Environmental Science
Geochemistry
Geological Engineering
Geology
Geophysics
Hydrology
Meteorology
Mineralogy
Oceanography
Paleoclimate
Petroleum Geology
Radioactivity
Remote Sensing
Seismology
Soil Science
Volcanology

Mathematical and Information Sciences

Abstract Algebra
Applied Mathematics (non-physics)
Complex Systems & Chaos
Computer Science
Geometry & Topology
Mathematical Logic & Number Theory
Mathematical Physics
Mathematical Statistics and Probability
Modern Analysis
Numerical Methods

Physical Sciences

Acoustics
Astronomy/Astrophysics
Atomic and Molecular Physics
Beams
Condensed Matter: General
Condensed Matter: Magnetic Properties
Condensed Matter: Structure
Condensed Matter: Superconductivity
Condensed Matter: Theory and Transport
Electronics
Fluids
Holography
Hydrodynamics
Lasers
Mechanics
Medical Physics
Nonlinear Optics
Nuclear Physics
Optics and Spectroscopy
Particles and Fields
Plasma Physics
Space
Theoretical Physics
Quantum Computing and Cryptography
Quantum Statistic

APPENDIX 2
INSTRUCTIONS FOR COST-SHARING AND IN-KIND CONTRIBUTIONS

GENERAL GUIDELINES

1. All cost-sharing must comply with the CRDF Global Cost-Sharing Guidelines. For complete guidelines and descriptions of cost-sharing types, please see the CRDF Global website at http://www.crdf.org/policies/policies_show.htm?doc_id=318877.
2. CRDF Global strongly encourages cash and in-kind cost-sharing by participating institutional performers in all its activities.
3. The value of all cost-sharing should be quantified on Budget (Form C) under "Total Cost-Sharing From Non-CRDF Global Sources," and described in the Budget Narrative of the proposal.
4. All cost-sharing funds listed on the Budget (Form C), both current and pending, must be described fully in the Budget Narrative.

REQUIREMENTS FOR PARTICIPATION OF FOR-PROFIT COMPANIES

1. Proposals that involve strictly R&D activities and include the participation of Ukrainian or U.S. for-profit companies are eligible for the CGP, but the for-profit company must comply with the requirements listed below. For-profit companies can commit cash, material, or pledge in-kind contributions. Direct cash contributions must be administered by CRDF Global as part of the award to the Ukrainian team. Guidelines for allowable in-kind contributions can be found at http://www.crdf.org/policies/policies_show.htm?doc_id=318877.
2. **U.S. For-Profit Companies are required to:**
 - a. Cover all of the U.S. Team expenses. No funds may be requested from CRDF Global.
 - b. Contribute a minimum of 10% of the total dollar amount requested by the Ukrainian Team.
3. **Ukrainian For-Profit Companies are required to:**
 - a. Contribute up to 5-10% of the total dollar amount requested by the Ukrainian Team.
 - b. Ukrainian For-Profit companies are not required to make contributions to the U.S. Team's expenses.
4. At the time of submission, for-profit companies are required to provide a letter of support to CRDF Global that includes:
 - a. The Signature of an authorized representative of the for-profit company
 - b. A detailed description of the company's contribution in U.S. Dollars

SPECIAL NOTE ON SALARIES INCLUDED AS COST-SHARING

Please note that under the Cooperative Grants Program, the following salary items are not considered cost-sharing:

1. Salary for U.S. for-profit company representatives
2. Salary originating from a U.S. Government source

APPENDIX 3

BUDGET GUIDELINES

OVERALL

- No proposal requesting more than **\$88,000** will be considered by CRDF Global
- Support for the Ukrainian team's expenses may account for **\$72,000** of the total amount requested.
- Support for the U.S. team's expenses may account for **\$16,000** of the total amount requested from CRDF Global (except for U.S. for-profit company applicants, who may not request any U.S. team support from CRDF Global).

INDIVIDUAL FINANCIAL SUPPORT (IFS)

- No IFS is permitted for U.S. team members other than U.S. graduate students.
- Maximum monthly salary is \$880 for the Ukrainian Principal Investigator, \$800 or less for other Ukrainian team members.
- The Ukrainian team IFS should be calculated using the level of effort and professional level guidelines provided in Section II.K.1.a. of this Program Announcement.

EQUIPMENT, SUPPLIES AND SERVICES

- All single items costing \$1,000 or more must be justified in the Budget Narrative.
- The U.S. team is limited to a maximum of \$10,000 for expendable materials and supplies.
- The U.S. team is not eligible to request support for large-scale equipment.

INSTITUTIONAL SUPPORT

- Ukrainian Institutional Support is calculated as 10% of the total Ukrainian team expenses.
- The total amount of Ukrainian institutional support requested for the entire award period may not exceed \$7,200.

ADMINISTRATIVE FEES

- The U.S. Principal Organization is allowed to request up to 10% of the U.S. team's expenses to cover administrative costs incurred by the university to administer the grant.
- This amount in conjunction with the U.S. team's expenses cannot exceed the \$16,000 portion of the project total that the U.S. is allowed to request.

TRAVEL

- All Ukrainian and U.S. personnel must travel on the lowest-cost applicable round-trip airfare.
- Travelers must comply with the provisions of the Fly America Act. For more information, please see http://www.crdg.org/policies/policies_show.htm?doc_id=291723
- Domestic travel expenses for field work and other necessary project-related travel within Ukraine are allowed.
- Travel allowances for Ukrainian personnel on research visits within the U.S. must follow the guidelines set forth at <http://www.gsa.gov/portal/category/21287>
- Travel allowances for U.S. personnel on research visits to Ukraine must follow the guidelines set forth at http://aoprals.state.gov/content.asp?content_id=184&menu_id=78
- The maximum time abroad for any one CRDF Global-supported traveler is eight months over the course of an award. No single visit may exceed four months.

SECONDARY COLLABORATORS

- A separate budget justification must be included for each secondary collaborator in the Budget Narrative, describing the institution's technical capability, the budget allocations, and the contact name and information of the secondary collaborator's team leader.

U.S. FOR-PROFIT COMPANY CONTRIBUTIONS

- U.S. for-profit companies are required to cover all U.S. team expenses and should describe these expenses in U.S. Dollar amounts in the Budget and in the Budget Narrative.
- U.S. for-profit companies are required to contribute a cash, material or in-kind contribution of 10% of the total Ukrainian team expenses. This contribution should be described in the Budget Narrative.

UKRAINIAN FOR-PROFIT COMPANY CONTRIBUTIONS

- The Ukrainian for-profit company must contribute 5-10% of the total Ukrainian expenses by committing a cash, material, or in-kind contribution and should indicate these expenses in U.S. Dollar amounts in the Budget and Budget Narrative.

APPENDIX 4
EXAMPLE OF U.S. PRINCIPAL INVESTIGATOR PARTNERSHIP STATEMENT

[U.S. Institution Letterhead]

[Date]

[U.S. Host Institution Address]

Re: [Full Proposal Title]

Dear CRDF Global,

I, [U.S. Principal Investigator Name], hereby acknowledge that I have submitted a proposal to CRDF Global's 2011 Cooperative Grants Program Applied Energy Research Competition jointly with [Ukrainian Principal Investigator Name] of [Ukrainian Institution Name].

If awarded, I undertake this research in good faith and will uphold my portion of the collaborative work as proposed in the submission.

Best regards,

[USPI Signature]

[USPI Typed Name]