

Call for Projects – New Partnerships for Sustainable Development (NoPa)

Innovation for Sustainable Development

Research Themes and Selection Criteria

Defined Themes

Protection and Sustainable Use of the Tropical Forests

Environmental and Land Regularization

Parameters for the publication of land-use and environmental data: ensuring information transparency (public land ownership; private land ownership; public registry; Environmental Rural Register – (Cadastro Ambiental Rural – CAR)

Experience with coordination mechanisms between land ownership policy and environmental policy for land governance: land registry, best practices and success factors

Harmonization of legislation on land governance: agricultural and environmental laws and land ownership laws (state and federal laws): recommendations for harmonization

Contribution to training and capacity building in land and environmental management: mapping and registration, economic and environmental aspects

Vulnerability and Adaptation to Climate Change

Adaptation measures:

- Proposals for new adaptation measures and technologies taking into consideration their socio-economic and cultural feasibility (territorial /sectoral)
- Proposals for and analysis of climate risk transfer mechanisms(e.g. insurance schemes)
- Monitoring and evaluation of adaptation measures
- Early warning systems for extreme weather events

Vulnerability and impacts:

- Integrated vulnerability analysis (territorial / sectoral)
- Impacts of climate change on the most important sectors taking into consideration different climate scenarios

Economics of adaptation:

- Economic incentives for climate change adaptation (perverse and “good”)
- Instruments for evaluating economic impacts of adaptation measures (e.g. cost-benefit analysis)
- Identification of business opportunities arising from climate change impacts

Renewable Energies and Energy Efficiency

Energy Efficiency in Urban Mobility

Optimization of the modal matrix with a focus on energy efficiency, quality and comfort in public and/or non-motorized transport:

- Attractiveness of alternative forms of individual transport (lighting, modal integration in long distances, infrastructure and bicycle lanes, accessibility, signage, tariff systems, ‘Park & Ride’)
- Spatial organization in the city and energy efficiency of transport systems (spatial organization of the city, democratization of the transport space, travel destinations, planning of soil and subsoil uses)

Urban transport technologies oriented towards energy efficiency:

- Vehicle technology (hybrid vehicles, reduction of emissions in corridors, fuels, electrical charging infrastructure)
- Development of management and operating technologies and systems (car sharing, urban toll roads, dynamic transport management, dynamic user information, the last-mile issue)

Energy Efficiency in Buildings (public, commercial, residential, social housing)

Public policies at federal, state and municipal levels: legal framework for sustainable tenders; tools to regulate and incentivize energy efficiency and the use of renewable energies (e.g. labeling of buildings, zero energy buildings, information on the efficiency of building materials); “retrofit” public policies.

Lessons learned and solutions: evaluation of the results of building energy efficiency campaigns (e.g. ‘Minha Casa, Minha Vida’, solar heaters, green certifications)

Behavior and use: needs of users, e.g. thermal comfort, safety, noise, pollution, ways to make users aware of or changing their behavior (e.g. tariffs, information, education, benchmark for users’ consumption), of builders and real estate companies, students, project planners.

Zero energy buildings: economic viability, technology (e.g. smart grid, photovoltaics, wind energy, lighting systems, air conditioning, automation, bioclimatically appropriate building systems)

Materials and systems: characterization of the thermal and optical properties of the elements, components and systems; highly efficient systems (e.g. air conditioners, lighting, heating, ventilation); highly efficient window frames

Buildings and urban context: adaptation of buildings to the urban climate, practical guidelines for planning and erecting efficient buildings

Energy Efficiency in Sanitation

Power generation and cogeneration: harvesting the energy of secondary products of waste water treatment plants, use of hydropower in water systems, use of other alternative energy sources, sale of energy (e.g. standardization and biogas protocol in the electricity grid, methods for evaluating assured firm energy in water supply and wastewater systems, models for the sale of energy)

Efficient use of energy and water: methods and technologies for detecting and combating losses; methods of hydro-energetic diagnosis in the drinking water distribution network and in wastewater systems; relationship between losses/energy efficiency and water quality; rehabilitation of operating units and equipment; process optimization

System and information management: big data methods for analyzing system infrastructure and operation; systems and software for operational control; development of a set of indicators and benchmarks of energy efficiency measures

Incentives for energy efficiency measures in the sector: viability analysis method; mechanisms for obtaining sources of funds; economic viability and comparative arrangement of technologies



Selection Criteria

Fixed Criteria:

Scientific competence of researcher involved: Those projects with the best publication indices are given priority.

- Rigor: intellectual coherence, methodological precision and analytical power; accuracy.
- Solid budget justification according to the guidelines provided.

Highest Priority:

- Participation of the industry: Priority will be given to applicants of projects that count on funding from partnerships with Brazilian / German companies or operators of public services.
- Relevance: Priority will be given to projects that address relevant questions for Brazilian users.
- Long-term partnerships: Priority will be given to projects that build upon and/or contribute to long-term partnerships among the involved organizations.

High Priority:

- Communication of existing research results: Priority will be given to projects with clear steps to communicate existing results so they are applied by potential users.
- Significance: scope and expected potential impact or implications of the issues addressed for Brazilian policies, the Brazilian productive sector and other users.

- Use of existing research: Priority will be given to projects that show how they build on existing research in the theme area (evidence of awareness of and appropriate engagement with other work in the field or sub-field).
- Quality of stakeholder participation in the preparation of the proposal and implementation plan: Priority will be given to projects with methodologically sound and strategic approaches to the interaction with relevant stakeholders.

Priority:

- Connection between research and teaching: Priority will be given to projects with the greatest potential positive impact on teaching activities at the universities involved (summer schools etc.)
- Contribution to capacity building: Priority will be given to projects with the highest potential of capacity building among the participants and non-scientific stakeholders.
- Interdisciplinarity: Priority will be given to projects based on interdisciplinary research.
- Valued added to the Brazil-Germany Cooperation: Priority will be given to projects that add value to the Brazil- Germany partnership.

Published by

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Sede da GIZ: Bonn e Eschborn

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As at

January 2015

On behalf of

Federal Ministry for Economic Cooperation and Development (BMZ)

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