

4th Call for Application for Applied R&D Project Funding Support from EnergizeNepal Programme

CALL FOR APPLICATION : 09 April 2022
APPLICATION SUBMISSION DEADLINE : 09 May 2022

EnergizeNepal Programme (ENEP)

Managed by:

Kathmandu University (KU), Nepal

In partnership with

Hydro Lab Pvt. Ltd., Nepal

NTNU, Norway

SINTEF, Norway

Funded by:

The Norwegian Ministry of Foreign Affairs

A. The Call Statement

Applications for Applied Research and Development (R&D) Project Funding Support from *EnergizeNepal Programme* are invited from *Nepalese Research Institution* (University, College, and other organization qualifying as a research institution) in partnership with *Nepalese Energy Industry* and preferably also in partnership with *Foreign Research Institution and Foreign Energy Industry*, to conduct Applied R&D for industrial development in Nepal in the area of Renewable Energy or Energy Sector valuable to Nepal.

The details of this application call are provided in the remaining sections of this call.

B. Eligibility and General Requirements for the Applicant Institution

All Nepalese Research Institutions (Universities, Colleges, R&D Laboratories, Test and Certification Laboratories, others registered/qualifying as a research organization/institution) related to Renewable Energy Technology (RET) or Energy Sector may apply for the project funding support as the *Principal Applicant*. The Principal Applicant shall have a degree of independence/autonomy in project implementation and budget handling. The Principal Applicant shall have relevant experience and resources to be able to implement the project effectively under the funding and contributions from self and/or partners and/or other sources, which shall be reflected in the *Organization Profile* of the organization in the prescribed format.

The Principal Applicant shall at least assign a key person (full-time staff) of the Principal Applicant institution as the *Project Leader (or Principal Investigator)*, with at least a master's degree in relevant discipline and with some research and research management experience, which shall be reflected in the *Curriculum Vitae of the proposed Project Leader* in the prescribed format. The institution must also designate a key person of the institution as the *Project Administrator* who shall at least have administrative authority to implement R&D project at a division of the Principal Applicant at which the Project Leader is employed.

The Application must be signed on the *Application Summary Page* by the *Head of the Institution* or the Head of the Division of the Institution or *Project Administrator* (authorized to make such application on behalf of the institution by the Head of the Institution) of Principal Applicant.

The Principal Applicant institution shall generally be a not-for-profit or non-profit organization with research and development as an integral part of its activity or purpose and shall generally qualify for the tax exemption while receiving R&D project funding.

C. Eligibility and Requirements for Partners

The Application submitted by the Principal Applicant shall be a joint application **with at least one Nepalese Energy Industry** as the *Main Nepalese Energy Industry Partner*. The project shall preferably have other Nepalese or Foreign partners as *Expert/Resource Partners*.

All Nepalese industry or company that is related to renewable energy technology or energy sector

can be the Nepalese Energy Industry Partner. Preferably, the industrial partner should pose the capacity of commercialization of project output.

Also, public and private utilities, government and non-government agencies related to renewable energy technology or energy sector can be the Local/Nepalese Partners equivalent to Industrial Partner or Institutional Partner, depending upon the nature of the organization.

Foreign institutions (also individuals with research expertise such as professors) and industries can be the expert/resource partners.

There can be multiple partners of same kind (institution or industry). If there are multiple similar kinds of partners, the application must differentiate between the Main Partner and Duplicate Partner.

The partner designation shall follow the following convention in defining type of partner.

1. Main Nepalese Energy Industry Partner (M-NPEI) [**Partner 1**]
2. Main Foreign Research Institution Partner (M-FORI) [**Partner 2**]
3. Main Foreign Energy Industry Partner (M-FOEI) [**Partner 3**]

All other partners have designation of *Duplicate Partner*.

All the partners shall at least assign one key person in the partner organization as the *Activity Leader* with relevant qualifications, which shall be reflected in the *Curriculum Vitae of the proposed Activity Leader* in the prescribed format. All partners shall issue a *Letter of Intent* of cooperation with the main applicant regarding the cooperation in the implementation of the project according to the agreed Project Work-Plan, Schedule, and Budget, and subsequent updates to them, reflected in the *Application for Project Funding Support*. Further, all partners shall also submit the *Organization Profile* in the prescribed format with relevant information.

Different units/divisions of same organization are not regarded as separate partners. For example, if there are two colleges of one university participating in the project activities of same project, only the university is regarded as the applicant/partner.

D. Basic Criteria for Eligibility of Consideration for Project Funding Support

The basic criteria for funding R&D projects by EnergizeNepal Programme are as follows.

1. Project application by an R&D institution in Nepal
2. Participation in the project by at least one industrial enterprise of Nepal as main industrial partner
3. Project *aimed at developing product, services, and tools for renewable energy and energy/power systems* that may be hardware or software or other tools
4. Project with *well-defined assessable research and development objectives with commercial aims* in the area of renewable energy valuable to Nepal.
5. Project with *anticipated positive socio-economic and environmental effects*

6. Project that *preferably involves other local or foreign experts as partners* (Foreign enterprise and institutions may participate as partners), only if they contribute with vital competence and resources to the projects
7. Project with *minimum 50% of the budgeted activities in Nepal*, if there are international partners
8. *Contribution of minimum 30%* of the total project cost in cash or in kind
9. Project that encourages participation of *women in research*

E. Amount of Funding Support

The amount of funding support to be sought from EnergizeNepal Programme for any project depends on the type of project, duration of project and partnership composition.

In general, the funding amount **per project per year is 2,400,000 NPR** (two million four hundred thousand Nepalese Rupees).

The projects shall be planned to *start from any date within July 2022*.

F. Cost Plan for the Project

EnergizeNepal supports project costs under the budget or expenditure headings prescribed in the provided budget sheet.

EnergizeNepal puts the following mandatory conditions for providing funding support to the projects.

1. The overall coverage of total project cost from EnergizeNepal funding shall be 70% and 30% shall be contribution from the participating organizations in cash or kind.
2. Assets (such as equipment, tools, computers, and other durables) **can only be purchased with at least 30% cash contribution** from the participating organization. For instance, if any equipment cost NPR 100,000/-, then for the purchase of the equipment maximum NPR 70,000/- may only be used from EnergizeNepal funding.

G. Number and Type of Project

FOUR (4) projects will be awarded with funding support in this call in the **OPEN CALL CATEGORY**, provided that the quality of project applications is absolutely GOOD. In OPEN CALL CATEGORY, the project applicant may choose any thematic area of importance in energy and hydro power sector. The project **MUST HAVE BEEN** planned for **TWO YEARS** duration.

TWO (2) projects will be awarded with funding support in this call in the STRATEGIC RESEARCH CATEGORY, provided that the quality of project applications is absolutely GOOD. In the STRATEGIC RESEARCH CATEGORY, the thematic area could only be either one of the followings.

1. Reinforcement & reconfiguration of Nepalese power grid

Expectations from the Project is not limited to the following:

The commissioning of Upper Tamakoshi HPP has made Nepal a power surplus in the wet season and energizing of 400 kV Dhalkebar-Muzaffarpur cross-border transmission line has opened additional bulk power exchange and trade possibility with India. The government of Nepal has an ambitious goal to achieve 15000 MW of generation capacity by the next decade. New prospects of power exchange and trade in the BBIN (Bangladesh-Bhutan-India-Nepal) region and with China is getting active political pushes. Under the MCC compact, a 315km double circuit 400kV transmission line will be constructed. The forthcoming complexities in efficient and reliable operation and management of the national grid are therefore inevitable. The grid may need continuous reinforcements and reconfigurations based on reliability, resilience, and optimal power flow/evacuation criteria as well as for effective power trade or exchange. Rastriya Prasaran Grid Co Ltd (RPGCL) has been established by the Government of Nepal in 2015 to construct, expand and modernize the transmission system to be future ready.

In these contexts, there is a need to have widely coordinated and accelerated study and research in the strategic area mentioned from academic or independent perspectives as well in collaboration with the major stakeholders. Therefore, this strategic project application expects the applicants to design and implement a research project that scholarly and independently: 1) assesses the challenges and opportunities associated with the Nepalese Power Grid, 2) recommends required robustness enhancements with reinforcements in accordance to condition assessments and forecasts of vulnerability, 3) recommends reconfigurations based on bulk power trading, exchange, & evacuation requirements and forecasts, and 4) researches any other vital or novel aspects to open up a wide range of further research and study possibilities. One of the major expected outputs from this research project is a customized and versatile analytical software tool with documentation (for Nepalese Power Grid with BBIN region and with China interconnections) that would be available for use by academicians, graduate students, power-sector consultants, TSO (Transmission System Operator), TSP (Transmission System Planner), etc. Other expected outcomes are increased collaborations among stakeholders, sharing and dissemination of knowledge and competence, sensitization for further research in the area, and building local awareness/competence on application of modern state of art tools and techniques in the operation, efficiency, reliability, resilience, and capacity enhancement of the power grid.

2. Circular economy in renewable energy

Expectations from the Project is not limited to the following:

AEPC along with various other entities are promoting renewable energy (RE) technologies with provision of subsidies to attract towards RE technologies. Few of such subsidies are provided to large RE plants too. For the case of large biogas plants, though most of them are under-construction phase, some issues like limited gas production, operational difficulties and low financial returns have been reported by operators. For private investors, financial sustainability is the major attraction. Circular Economy (CE) aims at resolving the problem of dwindling economic resources by treating economic waste as a useful economic resource. Transitioning to

renewables is key to creating a CE and achieving the goals of the Paris Agreement. Energy technologies promoting the use of renewable resources and producing the multiple value-added products can ensure higher advantages and will be sustainable financially too.

In these contexts, there is a need of an extensive study on renewable energy technologies with exploration of CE. Therefore, this strategic project application expects the applicants to design and implement a research project that scholarly and independently, not limited to: 1) assesses the challenges and opportunities associated with CE in renewable energy technologies, 2) recommends guiding principles and guidelines related to CE in context of Nepal, and 3) researches any other vital or novel aspects to open up a wide range of further research and study possibilities. One of the major expected outputs from this research project is designing circular and enhanced energy efficient systems and promote the use of low carbon materials with energy generation via renewable sources. Other expected outcomes are increased collaborations among stakeholders, sharing and dissemination of knowledge and competence, sensitization for further research in the area, and building local awareness/competence on the CE.

The project in strategic research category must be planned for TWO YEAR duration.

Note:

For both of the mentioned project types, following points are applicable.

1. One "Project Leader/Team Leader/Principal Investigator" can be eligible for **ONLY ONE** application.
2. "Project Leader/Team Leader/Principal Investigator" already conducting research funded by EnergizeNepal is not eligible as "Project Leader" before completion of ongoing project.
3. Except "Project Leader/Team Leader/Principal Investigator", engagement of a human resource in a research project funded by EnergizeNepal is eligible to participate in another project funded by EnergizeNepal. For the eligibility, permission from the Executive head of Administrator of the representing organization is necessary.

H. Application Procedure in Brief

The complete application must contain the following documents:

1. The completed Main Application Form in MS Word or PDF format
2. The Curriculum Vitae of all key persons in the prescribed MS Word or PDF format (with information that is relevant to the project application)
3. The Letter of Intent of cooperation from all partners, signed and scanned, in PDF
4. The Organization Profile of applicant institution and partners in the prescribed MS Word or PDF format (only with the information relevant to the project application)
5. The Signed Application Summary Page (signed by Head of Institution or Designated Project Administrator of the Principal Applicant Institution), scanned, in PDF format

6. The Detail Budget or Project Activity Funding Plan in prescribed MS EXCEL format.

The electronic copy of completed application should be submitted by e-mail to **energizenepal@ku.edu.np**. Application missing any of the mentioned documents may be considered as non-responsive and will not be considered for further evaluation process.

Application received after deadline will not be considered for further processing for any circumstances whatsoever.

Note: Printed copy of the application will not be entertained in any condition.

I. Date of Result and Date of Project Start

The result are published or notified after the project application evaluation and final award decision of the project selection committee. After the result, **TWO WEEKS** time will be given to awarded project for adjustments and finalization of the **Project Contract** with EnergizeNepal Programme Office. The Projects receiving funding support are expected to begin activities from **any date within July 2022**. The participants of the project must sign a **Project Consortium Agreement** approved by EnergizeNepal before the date of start of project.

If any project with funding support offer fails to start by **ONE MONTH** of offer, the funding support offer will be made to relevant waiting application. If the waiting application also fails to start within **ONE MONTH** of offer, no further offer will be made by EnergizeNepal to any other applicant.

J. Confidentiality of the Submitted Application

The application is regarded as “Confidential”, with access to only those who evaluate the application.

K. Application Evaluation Procedure in Brief

The applications are generally evaluated in three stages: 1st by the EnergizeNepal Office, 2nd by an independent reviewer, and finally by the Project Selection Committee. The evaluation criteria for different evaluation stages are different. Only short-listed applications after the Project Office evaluation in general will go into independent reviewer and Project Selection Committee (PSC) evaluations. Selection or rejection decision is limited only to the PSC.

L. Application Preparation Support

The Programme Office will generally assist the applicant and the partners in project design (non-technical aspect). Assistance may be obtained via e-mail communications or with in-person meeting with the Programme office. For in-person meeting, please **send e-mail and confirm** the date and time of meeting.

M. Evaluation Flow Chart and Indicators

Refer a separate document (Evaluation flow chart and indicators) for the details of evaluation flow

chart and the guidelines.

N. The Authority to Award Project Funding Support

The Project Selection Committee (PSC) of EnergizeNepal has absolute authority to award funding support to the selected projects and may override any procedure or requirements if necessary.

O. Contacts

The preferred method to contact the EnergizeNepal Office is by e-mail (energizenepal@ku.edu.np).

It is preferred that personal visits are informed in advance.