**Concept Note for Grant Proposals**

**(Max 2000 words)**

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| **1. Grant Sponsoring Division: ECG** | **2. Co-sponsoring Division(s)[[1]](#footnote-1): LAC** |
| **3. Title of the grant:** Powering Agriculture through Renewable Energy Technologies |
| **4. Value of IFAD grant:** US$ 2 million | **5. Co-financing:**At least USD $ 500 thousand expected |
| **6. Implementation period:** 36 months | **7. GRIPS ID**: 2000002814 |
| **8. Selected Strategic Priority[[2]](#footnote-2): 2. Climate change, resilience and environmental sustainabililty** |
| **9. Window:** Indicate Global/Regional [x] Country [ ]  | **10. Country/Countries:** 3 countries TBD (1 Southern Cone, 1 Mesoamerica, 1 Caribbean) |
| **11. Recipient:** *Select one of the following options** Competitive selection at CN stage [ ]  and name of recipient
* To be selected competitively at design stage [x]
* Direct selection [ ]  and name of recipient
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| **12. Rationale for recipient selection and recipient capacity:** The selection process will be competitive, based on institutional terms of reference (TOR) to be developed. Potential organizations with the required capacity that could support the project have already been identified. The institution should be set up for the implementation and evaluation of small scale Renewable Energy Technologies (RETs) for production and post production processes in agriculture. It will be critical for the implementing institution to i) have strong technical experience in RETs applied to the agricultural sector, ii) proven experience developing micro financing schemes, iii) proven experience mobilizing additional resources and/or the capacity to provide its own resources, iv) presence and experience in the region, v) proven experience analysing best practices, developing case studies and trainings, and vi) possible cooperation with partner institutions in the region. |
| **13. Background/relevance:** As outlined in IFAD’s Renewable Energy for Smallholder Agriculture (RESA) approach, limited access to energy represents a critical barrier to the sustainable development of smallholder agricultural production and related value chains (RESA, 2018). Many countries in the region currently have limited energy sources, which are costly or powered by fossil fuels, causing target groups to rely on diesel, kerosene and biomass both for production processes and household use, damaging the environment and affecting user's health. Moreover, farmers tend to be risk averse towards new technologies, and have difficulties paying higher up-front costs creating additional challenges for a sustainable transition towards renewable energies.Access to Renewable Energy Technologies (RETs) offers an unprecedented opportunity to accelerate the transition to clean energy and to provide multiple benefits for rural households, communities, and the environment (RESA, 2018). RETs can provide clean energy at a competitive price. Furthermore, a reliable source of energy can lead to multiple benefits for smallholder farmers. It is expected to improve agricultural production and post-production activities. Examples are pumping water for irrigation, fish farming, livestock rearing, primary processing, followed by value-adding processes as grinding, drying and packaging. Many of these activities require only small amounts of power (from 100W to 3kW). To put this into perspective, motorized milling could reduce grinding from anywhere between 8 - 15 hours to a mere 10 minutes to produce the same amount of maize. (IIED, 2012). In this regard, Renewable Energy Technologies (RETs) provide new opportunities for IFAD to promote sustainable production with increased efficiency and reduced energy costs, resulting in lower environmental impacts of agricultural practices and enhanced community resilience. It will promote and accelerate the transition to clean energy. Furthermore, a sustainable transition towards RETs within IFAD operations, falls in line with IFAD 11 commitments to *mainstream climate and environmental sustainability including expanding efforts on mitigation*, as well as provide a window to further support member states with their Nationally Determined Contributions (NDCs).This grant design will be informed by an ASAP2 project to evaluate the economic return of RETs under development in LAC, WCA, and APR. After an initial stocktake, two case studies for LAC will be developed in Brazil (DOM HELDER CAMARA) and Dominican Republic (PRORURAL CENTRO Y ESTE). The selection was based on several criteria: i) presence of RETs in the country NDCs (with focus on its implementation in agriculture), ii) possibility and prioritization established in the COSOPs, iii) the characteristics of the single projects, iv) country level data on its current use of RETs, and v) countries with investments already on the ground to facilitate and expedite data collection. Through the development of these case studies, a methodology to evaluate potentials and opportunities of incorporating RETs into IFAD projects will be produced, based on technical, economic and financial assessments along the value chain.The ECG-LAC team has reached out to the private sector team in PMI, who are prepared to provide strategic guidance and recommendations to ensure proposal is attractive to the private sector, aligned with our internal policies, and technically viable within the context of the Private Sector Engagement Strategy 2019-2024. Further collaborations will be sought out at design stage. |
| **14. Direct and indirect target group:** The direct target group will be of 2800 beneficiaries, inclusive of smallholder farmers, producers associations and members of medium to large enterprises, receiving finance, TA and training to incorporate RETs in their operations. This is based on the expected minimum investment in RETs installations of USD 1.5 Million , generating 500 Kw of electricity. In addition, we estimate 300 people benefiting from trainings and policy dialogues. The indirect group expands to all community members that will benefit from higher productivity, better access to food and higher income. It will also lead to a reduction of GHG emissions, access to electricity and substitution of solid fuels or Diesel with renewable energy sources.  |
| **15. Goal, objectives and expected outcomes:** The goal of the project is to sustainably incorporate renewable energy technologies in at least three IFAD operations in the LAC region, and demonstrate the added value of renewable energy for climate resilience in agriculture. Its objective is to successfully support the implementation of RETs for smallholder farmers, producers associations and members of medium to large enterprises, applying the knowledge acquired from the ASAP2 grant project “Powering Agriculture through RETs”. The expected outcomes are a) assess the potential economic enhancement and improved climate resilience within smallholder farmers and medium-large enterprises, as result of RETs project implementation b) build up knowledge on procedures, possible barriers encountered and benefits obtained through the implementation of RETs in IFAD projects in the region, and c) develop a scaling plan, including training material, partnership building, and strategies to address identified barriers to support the adoption of RETs across the LAC portfolio.  |
| **16. Key activities by component:** The selected organization will be tasked with i) establishing public/private partnerships and utilizing grant funds to leverage co-financing for the promotion of a switch to RETs; ii) foster policy dialogues and trainings on best practices of renewable energy utilization in agricultural value chains; iii) produce and promote KM material showcasing the mitigation, adaptation and economic benefits of RETs integration into agricultural processes, as well as the broader benefits of RETs on IFAD mainstreaming priorities. This will be developed through three mutually reinforcing components that include: **Component 1: PPPs for a Sustainable switch to RETs**The objective of the component will be to build successful partnerships that foster experiences in the incorporation of renewable energy technologies for agricultural process and will provide two windows: *a) development and implementation of micro-financing schemes for smallholder farmer, or* *b) technical assistance for design and establishment of mini/off grid RETs systems for medium to large agricultural producer organizations and cooperatives*Through this component investments in RETs will be mobilized and supported to ensure a successful implementation. Component 1 will be informed by the ASAP2 methodology to evaluate potentials and opportunities of incorporating RETs into IFAD projects through Technical, economic and financial assessments along the value chain including a sensitivity analysis identifying those features that facilitate or hamper the adoption of specific technologies in the region and will provide the bases for the development of components 2 and 3. **Component 2: Capacity Development**The component aims at generating and improving regional capacities and know-how to positively influence decision making processes by fostering policy dialogues and trainings on best practices of renewable energy utilization in agricultural value chains based on regional experiences. **Component 3: Monitoring and evaluation, knowledge management**Through this component, the selected institution will administer and manage the project, and monitor key indicators and targets. A series of KM materials will be produced and promoted showcasing the mitigation, adaptation and economic benefits of RETs integration into agricultural processes. A two fold communication strategy and scaling plan will be developed for internal and external parties to further disseminate the successful experiences, validate the results of the project, and promote the inclusion of RETs in the region. Three possible formats of implementation can be selected: Option 1: window a) is adopted. Under this option, both IFAD and the selected organization are expected to participate to the initial RET investment (equipment, material and work). Option2: window b) is adopted. IFAD does not necessarily contribute to the investment in RETs, however it must make sure that both the selected organization and the medium-large producers will contribute to the initial RET investment, to set up a solid initial capacity of RETs in each project. Option 3: adoption of both windows. The benefit of a mixed approach is that IFAD would develop experience and know-how in two different settings. The division of costs would be defined jointly, following the minimum criteria set forth below.  |
| **17. Project cost:** TBC, at least US$ 2.5 million of which US$ 2 million will be provided by the IFAD grant and will support the project as follows: 1. **Component 1 –** US$ 1,3 million (65%) will be mobilized to leverage additional resources and invest in RETs, a minimum of US$ 350 thousand must be allocated to each country.
2. **Component 2 –** US$ 400 thousand (20%) will be utilized for capacity development and to promote policy dialogues.
3. **Component 3 –** US$ 300 thousand (15%) will cover management costs, M&E and production of KM materials.

It is expected that no less than 50% of the additional mobilized resources be allocated to Component 1, and that in kind contribution does not exceed 30%.Categories: Option A : the estimated project costs will include Direct Costs for microfinance scheme for smallholders developed and implemented by experts in the field of RETs in agriculture (consultancies) and partial participation to the initial RET investment (equipment and materials); a maximum of 30% of the budget could be allocated to consultancies, and the remaining part (30-40% ) will be used for new RETs investment. Option B: technical assistance performed by experts in the field (consultancies) for medium-large producers. In this case consultancies will be paid up to a maximum of 65% of the grant. Counter part organization is expected to finance the initial RETs investment.Option C: mixed approach, will be agreed upon between the parties. Where the IFAD portion of the budget must follow the aforementioned component distribution and not exceed in salaries and allowances (25%), Workshops and Trainings (15%), and Travel and allowances (5%), plus Indirect costs of about 5%. The grant recipient would contribute a part of the operating costs, salaries and allowances.  |
| **18. Risks***:* The main risks associated with this project pertain to a) concentration of technologies – as IFAD aims to have a diversified mix of RETs that can better inform a variety of stakeholders in their diverse contexts and b) misconception of the final application of RETs to household level instead of for smallholder farmers agricultural production processes. These risks would be mitigated through rigorous selection of technologies and regular reporting.  |
| **19. Monitoring & Evaluation, KM and Learning:** As an integrative part of already existing projects, the reporting should be done through the Monitoring and Evaluation process for the entire project. Given its relevance, M&E will be performed on regular basis for all three components of the grant, providing information on progress against plans, discrepancy and physical progress analysis. This information will be used on country level for the development of the regional projects. This will allow for a comparative evaluation among regions and the relative success of the grant implementation.  |
| **20. Supervision modalities:** The project will be jointly supervised by ECG/LAC team together with the support of the selected country operations. The on ground supervision of investments, as per the above M&E will be integrated also at project level, and thus promote efficient use of resources. ECG will provide direct technical support, supervision and feedback to the selected organization, and promote in house information dissemination. Adequate budget for supervision will be earmarked in the ECG/LAC operational budget and is not accounted as part of project costs. |
| **21. Linkages**: For the region of LAC, small investments related to RETs have been made as part of the ACCESOS Project in Bolivia, and take an important place in the design of the Semiarid Climate Resilience Project (PCR) in Brazil. Many countries in the region have defined goals (and some policies) to achieve better use of renewable energies. Examples are Peru , where targets were updated in the national energy plan 2014-2025 and aim for 60% of electricity from renewables by 2025 and Colombia, with target of 6.5% for on-grid and 30% for off-grid renewable energy sources by 2020 (IRENA, 2014). IFAD has financed renewable energy activities in Paraguay (PROMAFI) and Bolivia (ACESSOS), and has planned for 2019 three projects in Cuba, Bolivia and Haiti, all featuring RETs (RESA, 2018) as well as Brazil (PCR) and Dominican Republic PRORURAL Inclusivo y Resiliente. The specific grant will build upon the already financed ASAP2 work on renewable energies in the region and the IFAD Renewable Energy for Smallholder Agriculture (RESA) Approach. |
| **22. Scaling up:** The design and implementation of this grant will build upon already existing projects with high potential for implementation and benefits from RETs, while it will support the validation of ASAP2 tested methodology to evaluate potentials and opportunities of incorporating RETs into IFAD projects through Technical, economic and financial assessments along the value chain and support the building of in house awareness and adoption of RETs in IFAD operations. Through the development of a series of success cases, LAC will be better equipped to incorporate RETs its regular operations supporting value chains in areas already identified by IFAD as vulnerable to climate change, where project beneficiaries would most benefit from the economic, mitigation and adaptation benefits provided.  |
| **23. Sustainability:** Sustainability is an intrinsic goal of mainstreaming renewable energy technologies in IFAD operations. LAC through this grant aims to achieve the adoption and sustainable use of varied forms of renewable energy promoting a more sustainable value chain development. That furthers economic growth and efficiencies while reducing environmental impacts of our operations, and increasing local resilience to climate change. |
| **24. Other aspects:** RETs have a broad impact and can bring multiple benefits in rural environments. It has an overall positive impact on food security and economic empowerment through higher production and better income. Furthermore, RETs are intrinsically linked to IFAD core mandates including: improvement quality of life, food security, diversified livelihood opportunities and specially opportunities for rural youth and women, improving social inclusion and gender equality . RETs have a strong positive impact on society and the environment, reducing GHG emissions and consumption of fossil fuels, reducing deforestation and improving waste management (for instance with biogas management). Cost-benefit assessments will be performed for each planned investment. Supporting documentation will show the mitigation, adaptation and economic advantages  |

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|  | SOCIAL/HEALTH BENEFITS | ENVIRONMENTAL BENEFITS | ECONOMIC BENEFITS |
| FARMER/ HOUSEHOLD LEVEL | * Prevention of diseases related to indoor air pollution.
* Reduced time spent by women collecting firewood, carrying water (Gender empowerment).
* Improved quality of life.
* Improved education (e.g. increased time for studying).
 | * Improved waste management (e.g. manure for biogas and bioslurry).
* Reduced GHG emissions from lower consumption of fossil fuels.
* Reduced emissions from transport of fuels.
* Reduced deforestation.
 | * Increase in income due to increase in quantity and quality of products.
* Savings on fuel spending (for charcoal, kerosene, diesel etc.).
* Improve access to markets
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| COMMUNITY / VILLAGE LEVEL | * Prevention of malnutrition and food contamination (e.g. better storage, transportation).
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| NATIONAL LEVEL | * Improve food security and nutrition by increasing quantity of food produced (reduced food waste), frequency of yields and diversity of products.
 | * Reduce government spending on subsidies for fossil fuels.
* Newly created jobs (increase in rural youth employment).
* Reducing food imports by increasing local food production.
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Figure 1.1: Broader benefits of renewable energy in agriculture (adapted from IRENA 2016)

1. Interdivisional and interdepartmental collaboration is strongly encouraged. [↑](#footnote-ref-1)
2. The indication of a strategic priority **only applies to Global/Regional grants**. [↑](#footnote-ref-2)