LEAP-RE

Long-Term Joint EU-AU Research and Innovation Partnership on Renewable Energy

Research & Innovation Action

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List of selected projects after the selection process of the first call and synthetic report on the cal

Version N°2.0

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Abbreviations and Acronyms

Acronym	Description
WP	Work Package
Independent Review Panel	IRP
Joint Call Secretariat	JCS
Call Steering Committee	CSC

Summary

The selection process of the LEAP-RE proposals is in two steps. For the first step, 124 pre-proposals were submitted, among them, 92 were eligible. 36 pre-proposals were selected to be evaluated in the second step and 32 projects were evaluated, 4 projects were not submitted. After the submission of the projects, the national and transnational eligibility check was done and the scientific evaluation was realized by the Independent Review Panel (IRP).

Among the 32 projects evaluated, 13 projects were selected for funding on November 23rd.

Keywords

Full-proposal ranking; International Review Panel; Call Steering Committee

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1. Introduction

The Long-term Europe-Africa Partnership on Renewable Energy (LEAP-RE) program co-funded by the European Commission under Horizon 2020 aims to increase the use of renewable energy via a well-balanced set of research, demonstration, and technology transfer projects in both continents.

This program is led by a consortium of 83 partners from European and African countries. The whole budget of the program is around 32 Million Euros, including 15 Million from the EC. LEAP-RE is structured around three Pillars: Pillar1, the focus of this call, comprises the implementation of transnational proposals for research, innovation and capacity building, funded by national/regional funding agencies and by the European Commission; Pillar2, is a cluster of individual R&I and capacity building projects implemented by members of the consortium, whilst Pillar3 focuses on program management and the design of a long term AU - EU strategic partnership on renewable energy.

Bringing together 16 African and European funding agency members of LEAP-RE consortium, this pillar is devoted to the preparation and implementation of transnational joint calls for proposals co-funded by European and African national research funding agencies, with an additional EC top up. The projects funded under the calls focused on achieving goals of mutual benefit based on a balanced and cooperative approach. Particular attention is given to strengthening the impact of R&I supported activities for the well-being of society in Europe and in Africa.

Each project consortium that applies for funding under Pillar 1 consisted of research teams from a minimum of four countries from the two continents, with at least 2 from European countries and at least 2 from African countries.

Scope of the Call and priority Areas for Collaboration: The range of activities recommended for collaboration under LEAP-RE, focused on the 6 identified multi-annual roadmaps presented in the Call:

- mapping RE joint research and innovation
- end of life of RE components
- smart stand-alone systems
- smart grids
- productive uses of energy,
- domestic uses of energy.

The LEAP-RE Joint Call 2021 can fund basic research, applied research and experimental development projects that are 12-36 months long.

2. Evaluation of the pre-proposals and full-proposals

All the documents (call text, guidelines, templates…) for the call were available at the following link: http://www.leap-re.eu/leap-re-call/

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The evaluation criteria and the transnational and national regulations were presented on the call text.

The evaluation was done by an international review panel (IRP).

First step:
After the eligibility check done jointly by the JCS and the funding organizations, the evaluation was done on the ANR platform but not meeting of the IRP was held. Each project was evaluated by 3 or 4 experts, at least one working in Africa and one working in Europe. Nine projects were evaluated by only two experts due to withdrawal of two experts during the evaluation phase. IRP members didn't evaluate projects where partner(s) are from their country.

The final list of suggested pre-proposals, to be invited for submitting a full proposal was drawn up regarding the ranking of the projects and the oversubscription (see deliverable 7.4). 36 projects were preselected and 32 projects were submitted.

Second step:
The eligibility check was done and the projects were evaluated by the IRP. Two days meeting were hold on November 8th and 9th. An independent observer was also present.
The tasks of the independent observer were:

-Review of the publications associated with the Call
-Review of the selection process for evaluators and briefing materials
-Participation in the central evaluation (November 8-9th) as an observer
-Preparation of the independent observer's report

A ranking list was done during the meeting by the IRP (see deliverable 7.5).

The CSC was then help in order to decide the proposals selected for funding. Among the 32 projects, 13 projects were selected.

3. Selection of full-proposals for funding

The Evaluation of the full-proposals was done on November 8 and 9th 2021. After the meeting, the ranking list was sent to the funding organizations. A CSC meeting in order to do the selection of projects to be funded was held on November 23rd in a hybrid format (Nairobi – Kenya and WebEx)

On site: AKA, ANR, MESRS, MENFPESRS, UEFISCDI, UL

Online (Webex): ANR, CDTI (from 13:45 to 14:00 AET), DSI, Sanedi, Nexa, FFG, MENFPESRS, MESRS, IRESEN, FFG, PtJ, FNRS, FCT

Present only at the beginning of the meeting: ASRT

Excused: LU

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Different scenarios were presented during the CSC. The first scenario including the 9 best ranked projects.
(OASES/PyroBioFuel/RESTART/SolChargE/SIREVIVAL/QDSOC/HyAfrica/LEDSOL/SoCoNexGen) was validated without any discussion.

Call text (P.25)
8.3. Selection procedures and feedback to applicants The CSC will strive to ensure that the top-ranked full-proposals are funded to the maximum extent possible. The selection of full-proposals will be based on the ranking list of eligible full-proposals provided by the IRP meeting *as recommendation* and the available national/regional budgets until exhaustion of public funds (EU contribution included). A CSC consensus meeting will be organised to finalise Stage 2 and to elaborate the "joint selection list" of projects recommended for funding.

Consortium agreement (p.172-172):
"Ranking List Based on the ranking by the International Review Panel, and taking into account the available budgets of the Funding Organisations and the EU co-financing funding, the Joint Call Secretariat will propose a funding recommendation to the Network Steering Committee, *taking into account that it is a recommendation of the Pillar 1 Cofund-Action to follow the ranking list as suggested*. The ranking list could include projects noted ex aequo since several projects may have the same ranking note. The Network Steering Committee shall agree on the list of Transnational Projects selected for funding. Transnational Projects with scores below the thresholds given in the Call Text will not be funded even if there is national/regional funding available."

Different scenarios were tested then to fund projects in the 6 MAR and to maximize the number of projects funded. As indicated in the call text and in the Consortium agreement, it is recommended to follow the ranking list of the IRP. Given the fact that the score of HyRECA was similar to 8 other projects in the list scored with a 12 and that AKA exhausted the budget and already received gap-filling for a previous project, this project was skipped on the ranking list. Among the 8 projects scored with 12 at the first round of the IRP, 4 projects were selected as maximizing the number of projects to be funded taking into account the remaining budget of each funding agency and the top up distribution.
A scenario including the 13 projects listed below appears the best choice and reach a budget equilibrium.

List of projects selected for funding:

Topic "**Renewable energy resources, mapping and modelling**":
1)OASES: Development and Demonstration of a Sustainable Open Access AU-EU Ecosystem for Energy System Modelling
Project coordinator: Jan Dobschinski, Fraunhofer Institute for Energy Economics and Energy System Technology
Countries in partnership (in bold coordinating country): Algeria, Egypt, Finland, **Germany**, South Africa

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Topic "**End-of-life and second-life management of RE components**"
2) RESTART : REcycling of spent Li-ion batteries and end-of-life photovoltaic panels: From the development of metal recovery processes to the implementation of a START-up
Project coordinator: Cadi Ayyad, University UCA of Morocco
Countries in partnership (in bold coordinating country): Egypt, Finland, France, **Morocco**, Romania

3) SIREVIVAL : Si-based devices for renewable energy: From end of life recycling to revival of photovoltaic modules
Project coordinator : Sorin Melinte, Université catholique de Louvain
Countries in partnership (in bold coordinating country) : Algeria, **Belgium**, France, Tunisia

Topic "**Clean cooking and biomass transformation**":
4) SoCoNexGen: Solar Indoor Cooking Systems of the Next Generation
Project coordinator : Cristiano Teixeira Boura, Aachen University of Applied Sciences
Countries in partnership (in bold coordinating country) : Algeria, **Germany**, Morocco, Portugal, Tunisia

5) SOLAR INDUCE: SOLAR INDUCEed domestic clean efficient cooking and refrigeration for off-grid applications in Africa
Project coordinator: Jose Ignacio Mujika Odriozola, COPRECI S Coop
Countries in partnership (in bold coordinating country) : Egypt, Nigeria, South Africa, **Spain**, UK

6) PyroBioFuel: Sustainable biomass conversion into bioenergy through pyrolysis
Project coordinator: Fatma Ashour, Cairo University
Countries in partnership (in bold coordinating country) : **Egypt**, France, Germany, South Africa

7) SunGari: A modern solar cooking solution for African staples
Project coordinator: Aditya Parmar, Natural Resources Institute, University of Greenwich
Countries in partnership (in bold coordinating country) : Germany, South Africa, Togo, **UK**

Topic "**New renewable energy resources for Africa**"
8) HyAfrica: Towards a next generation renewable energy source – a natural hydrogen solution for power supply in Africa
Project coordinator: Julio Carneiro, CONVERGE, Lda
Countries in partnership (in bold coordinating country): Germany, Morocco, Mozambique, **Portugal**, South Africa, Togo

Topic "**New, more efficient PV cells and components**"
9) QDSOC: Environmentally friendly colloidal quantum dots for high performance solar cells
Project coordinator: Raphaël Schneider, Université de Lorraine
Countries in partnership (in bold coordinating country): Belgium, **France**, Morocco, South Africa

10) NANOSOLARCELL: Integration of photonic conversion layers based on photoemissive nanostructured materials for improving sunlight harvesting ability of solar cells
Project coordinator: Conchi Ania, CNRS-CEMHTI
Countries in partnership (in bold coordinating country): Algeria, Egypt, **France**, Morocco, Romania

Topic "**Productive uses and new applications of solar energy**"
11) MGFARM : Smart stand-alone micro-grids as a solution for agriculture farms electrification
Project coordinator: Serge Pierfederici, Université de Lorraine

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Countries in partnership (in bold coordinating country): Algeria, **France**, Germany, Morocco

12) LEDSOL : Enabling clean and sustainable water through smart UV/LED disinfection and SOLar energy utilization
Project coordinator: Irina G. Mocanu, Centrul IT pentru Stiinta si Tehnologie
Countries in partnership (in bold coordinating country): Algeria, Finland, Germany, **Romania**, Togo

13) SolChargE: Decentralized Solar Charging System for Sustainable Mobility in rural Africa
Project coordinator: Markus Lienkamp, Technical University of Munich
Countries in partnership (in bold coordinating country): Ethiopia, France, **Germany**, South Africa

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Conclusion

The LEAP-RE fist call of proposals was a two-step evaluation process done by an IRP and observed, in particular for the second step, by an independent observer.

The process led to the selection of 13 projects selected for funding. The independent observer's report summarized the main stages of the process and highlighted the way that led to the final ranking

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Appendixes

Appendix I: Ranking list of the projects

Acronym	Final score after the first round	Final score after the second round	Rank
PyroBioFuel	13,33		1
OASES	13,33		1
RESTART	13,25		3
SolChargE	13,25		3
SIREVIVAL	12,75		5
QDSOC	12,66		6
HyAfrica	12,66		6
LEDSOL	12,33		8
SoCoNexGen	12,33		8
HyRECA	12,25		10
SunGari	12	12,15	11
AfricaInMotion	12	12,12	12
NANOSOLARCELL	12	12,1	13
IRES-RE	12	12,1	13
MG-FARM	12	12,05	15
gLPG	12	12,03	16
Per-Fact	12	12	17
SOLAR INDUCE	12	12	17

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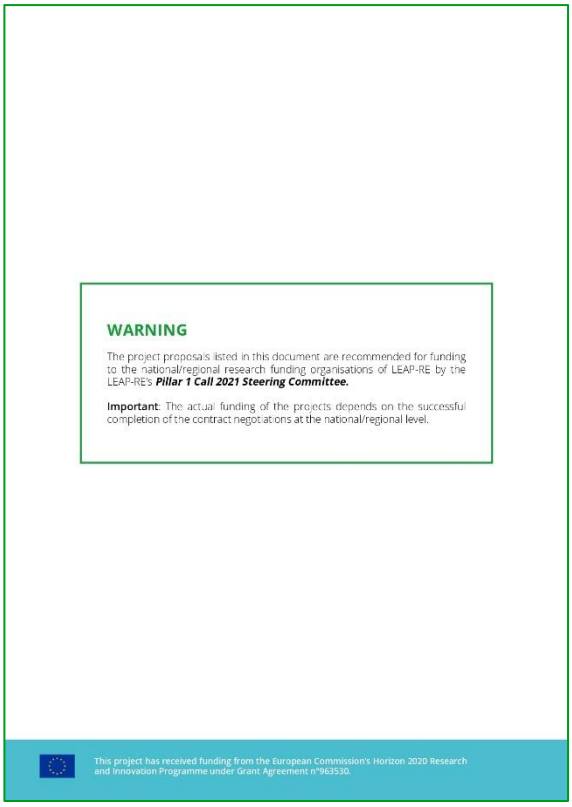
InterAct	11,75		**19**
PPPack	11,33		**20**
BEAT Green	11,25		**21**
TerraCooltech	10,66		**22**
EDICE	10,66		**23**
RE-Net Africa	10,5		**24**
REVISE	10,5		**25**
MYRE	10		**26**
PVSYSTEM	9,67		**27**
HydrICE	9,33		**28**
AWa Sun	9,33		**28**
HOPE	9		**30**
HYLOS GRID	8,01		**31**
H2-OMG	8		**32**

Appendix 2: Presentation of the selected projects for communication purposes



CONTEXT

In January 2021, the LEAP-RE programme launched a '***Call for AU-EU Collaborative Research and Innovation projects on Renewable Energy***'. The Call resulted in 124 applications being received from candidates including compagnies, non-profit associations, research labs, foundations and more from 38 African and European countries. 36 pre-proposals were pre-selected, 32 were submitted, and 13 proposals were finally selected for funding.

The 13 proposals were chosen after a year-long selection process, involving an international review panel and a coalition of funding agencies from within the LEAP-RE consortium. By selecting these project proposals for funding, LEAP-RE strengthens its support to the development of renewable energy sources in order to address both climate change and the need for electrification, two of the biggest challenges Africa faces today.

The LEAP-RE programme started in 2020 with the ambition to develop innovation in the field of renewable energy and to strengthen research cooperation between the European Union (EU) and the African Union (AU). It aims to increase the use of renewable energy via a well-balanced set of research, demonstration, and technology transfer projects in both continents.

Within its 'Pillar 1', the LEAP-RE programme implements transnational proposals for research, innovation and capacity building that are co-funded by 16 African and European national funding organisations members of the LEAP-RE consortium, and the European Comission.

Selected project proposals will receive a global funding of €10.35 million. They include a total of 83 partners from 8 European countries (Belgium, France, Finland, Germany, Portugal, Romania, Spain, UK) and 9 African countries (Algeria, Egypt, Ethiopia, Morocco, Mozambique, Nigeria, South Africa, Togo, Tunisia).

COORDINATION OF THE LEAP-RE PROGRAMME

COORDINATION OF PILLAR 1

MEMBERS OF LEAP-RE PILLAR 1

RENEWABLE ENERGY RESOURCES, MAPPING AND MODELLING

- **OASES**
  Development and Demonstration of a Sustainable Open Access AU-EU Ecosystem for Energy System Modelling

  Project coordinator:
  Jan Dobschinski, Fraunhofer Institute for Energy Economics and Energy System Technology, **Germany**.

  Project partners:
  Centre de Développement des Energies Renouvelables - CDER, and CEREFE1 (**Algeria**), Helwan University (**Egypt**), VTT (**Finland**), Fraunhofer Institute for Energy Economics and Energy System Technology, and University of Kassel (**Germany**), Council for Scientific and Industrial Research - CSIR, and University of Venda (**South Africa**).

END OF LIFE AND SECOND LIFE MANAGEMENT OF RENEWABLE ENERGY COMPONENTS

- **RESTART**
  Recycling of spent li-ion batteries and end-life photovoltaic panels: from the development of metal recovery processes to the implementation of a start-up

  Project coordinator:
  Cadi Ayyad University (UCA), **Morocco**

  Project partners:
  King Salman International University (**Egypt**), Aalto University (**Finland**), Centre Européen de Recherche et d'Enseignement en Géosciences de l'Environnement - CEREGE (**France**), Cadi Ayyad University, Mohammed VI Polytechnic University - UM6P, and Green Energy Park (**Morocco**), Babeș-Bolyai University (**Romania**).

- **SIREVIVAL**
  Si-based devices for renewable energy: From end of life recycling to revival of photovoltaic modules

  Project coordinator:
  Sorin Melinte, Université catholique de Louvain, **Belgium**

  Project partners:
  Centre de Recherche en Semi Conducteur pour l'Energétique -CRTSE (**Algeria**), Université catholique de Louvain (**Belgium**), Institut d'Electronique, de Microélectronique et de Nanotechnologie - IEMN (**France**), École nationale supérieure d'ingénieurs de Tunis, and Centre de Recherche et des Technologie de l'Energie - CRTEn (**Tunisia**).

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CLEAN COOKING AND BIOMASS TRANSFORMATION

- **SoCoNexGen**
  Solar Indoor Cooking Systems of the Next Generation

  Project coordinator:
  Cristiano Teixeira Boura, Aachen University of Applied Sciences, **Germany**

  Project partners:
  Centre de développement des énergies renouvelables - CDER (**Algeria**), Aachen University of Applied Sciences, Ingenieurburo für Energie und Umwelttechnik, and low-tec gGmbH (**Germany**), Universidade de Evora (**Portugal**), Université Mohammed Premier Oujda (**Morocco**), Université de Tunis El Manar - UTM (**Tunisia**).

- **SOLAR INDUCE**
  SOLAR INDUCEed domestic clean efficient cooking and refrigeration for off-grid applications in Africa

  Project coordinator:
  Jose Ignacio Mujika Odriozola, COPRECI S Coop, **Spain**

  Project partners:
  The British University in Egypt (**Egypt**), Enugu State University of Science and Technology, S&P Global Resources Nigeria Limited (**Nigeria**),Tshwane University of Technology, and Walter Sisulu University (**South Africa**), COPRECI S Coop (**Spain**), University of Northumbria, (**UK**).

- **PyroBioFuel**
  Sustainable biomass conversion into bioenergy through pyrolysis

  Project coordinator:
  Fatma Ashour, Cairo University, **Egypt**

  Project partners:
  Cairo University, (**Egypt**), Ibn Tofail University - Research Institute for Solar Energy and New Energies (IRESEN), (**Morocco**), Uni. Witwatersrand (**South Africa**), Brandenburg University of Technology (**Germany**), CNRS PIMM (**France**).

- **SunGari**
  A modern solar cooking solution for African staples

  Project coordinator:
  Aditya Parmar, Natural Resources Institute, University of Greenwich, **UK**

  Project partners:
  University of Kassel, and Simply Solar Technology Consulting GbR (**Germany**), University of Pretoria, and University of Limpopo (**South Africa**), University of Lome (**Togo**), University of Greenwich (**UK**).

NEW RENEWABLE ENERGY RESOURCES FOR AFRICA

- **HyAfrica**
  Towards a next generation renewable energy source – a natural hydrogen solution for power supply in Africa

  Project coordinator:
  Julio Carneiro, CONVERGE, Lda, **Portugal**

  Project partners:
  Leibniz Institute for Applied Geophysics, and Fraunhofer Institute for Energy Economics and Energy System Technology (**Germany**), University Mohammed Premier (**Morocco**) Eduardo Mondlane University, and National Directorate of Geology and Mines (**Mozambique**), CONVERGE, Lda, (**Portugal**), University of Pretoria, and University of Limpopo (**South Africa**), University of Lomé (**Togo**).

NEW, MORE EFFICIENT PV CELLS AND COMPONENTS

- **QDSOC**
  Environmentally friendly colloidal quantum dots for high performance solar cells

  Project coordinator:
  Raphaël Schneider, Université de Lorraine, **France**

  Project partners:
  University of Liege (**Belgium**), Université de Lorraine (**France**), Mohammed V University in Rabat (**Morocco**), University of the Witwatersrand (**South Africa**).

- **NANOSOLARCELL**
  Integration of photonic conversion layers based on photoemissive nanostructured materials for improving sunlight harvesting ability of solar cells

  Project coordinator:
  Conchi Ania, CNRS-CEMHTI, **France**

  Project partners:
  Unité de Développement des Equipements Solaires - UDES (**Algeria**), MU-EG, (**Egypt**), CNRS-CEMHT (**France**), Cadi Ayyad University (**Morocco**), Gheorghe Asachi Technical University of Iași (**Romania**).

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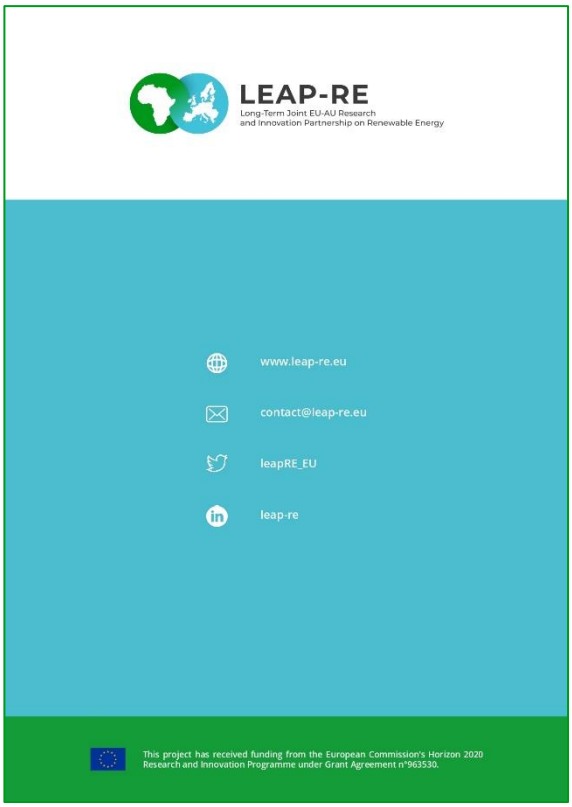

The presentation can be downloaded at: https://bit.ly/LEAPRE_P1Projects

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