# SOCONEXGEN



### **LEAP-RE**

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



The LEAP-RE project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 963530.



### Consortium

Project partners:

- University of Applied Sciences (coordinator), Ingenieurbüro für Energie und Umwelttechnik, and low-tec gGmbH (Germany),
- Centre de développement des énergies renouvelables - CDER (Algeria),
- Universidade de Évora (Portugal),
- Université Mohammed Premier Oujda (Morocco),
- Université de Tunis El Manar- UTM (Tunisia).

### Aim of the project

SoCoNexGen aims to develop secure, reliable, easy to use and environmentally friendly solar cooking technologies for domestic use. Four different solar indoor cookers with energy storage, powered by solar thermal collectors and/or PV panels, shall be built and tested.

### **Relevance vs MARs**

The project "SoCoNexGen" addresses the challenge and scope of the MAR 6: "Innovative solutions for priority domestic uses (clean cooking and cold chain)" by developing a modern and sustainable solar cooker.



### Key challenges addressed by the project

- 1. Acceptance among the end users of the solar cookers (educate about cost savings on gas and firewood)
- 2. Replacement of stoves emitting unhealthy smoke and reducing danger of burning skin (e.g. children touching stoves) with solar solution
- 3. Relief for the population, especially in remote dry regions of North Africa with high solar irradiance
- 4. Reduction in time and effort primarily for women and children for collecting firewood (leads to a reduction in both deforestation and expansion of deserts)

#### Expected results :

- Mid-term expected results (end 2023)
  - Functional tests completed in Germany for three cookers and functional test completed in Morocco
  - Shipment of three types of cookers from Germany to partners
  - Commissioning workshop in Tunisia
  - Four solar cookers installed in Morocco, Algeria, Tunisia and Portugal for testing

#### > End of project expected results (2025)

- User feedback from people testing cookers
- Talks with a company for the production and distribution of the solar cookers
- Standard testing procedure developed
- Successful preparation of traditional dishes and food products with solar cookers and cooking flexibility with storage units
- Dissemination workshops completed



## **Expected outcomes in case of success of the project (2030)**

What could be the impact of the project at 2030 on the economy and/or society in case of scaling up the results of the project ?

- 1. Long term saving in fossil fuel costs if solar cooker is purchased
- 2. Relief to nature (less deforestation)
- 3. Relief to rural communities regarding reduction in pollution (smoke) from stoves
- 4. Education and relief of daily life with use of renewable energy system
- 5. Creation of an infrastructure in the construction and sale of solar cooking technology

# Which main risks of failure during project implementation ?

Describe the main risks identified for project implementation

- Lack of interest from test users of the solar cookers (due to tradition of e.g. using firewood) and / or industrial and / or other stakeholders
- 2. Long lead times for essential components during construction phase
- 3. Costs of solar cookers are too high for common people (will micro credits or other funding options be available for purchasing a solar cooker?)



# Contribution of the project to AU – EU R&D cooperation

- 1. In the long term, creation of jobs, e.g. through the granting of manufacturing licenses to local companies in Africa
- 2. Education of people on the topic of solar cookers will lead to knowledge transfer and capacity building
- 3. Strengthening of collaboration between involved universities and companies
- 4. Dissemination workshops can lead to further collaborations

### Interest of Consortium members in participating in LEAP-RE clustering activities

The SoCoNexGen consortium is interested to hear about the topics of the other LEAP-RE projects to see if, in the future, a collaboration in other fields is possible