

OPTIMG

(START DATE – EXPECTED END DATE)



LEAP-RE

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

Pillar-1 project



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

Consortium

- Reiner Lemoine Institut (RLI)
- Green Energy Park (GEP)
- Hassan II University of Casablanca (H2UC)
- University of Cape Town (UCT)
- Tshwane Un. of Technology (TUT)
- EnGreen Solutions (EGS)

Aim of the project

We aim to improve WEF-system planning by

- a) providing a better understanding of application cases of integrated mini grids for water-energy-food nexus
- b) improving demand estimation and providing open-source planning tools, and
- c) provide capacity building for all relevant stakeholders.

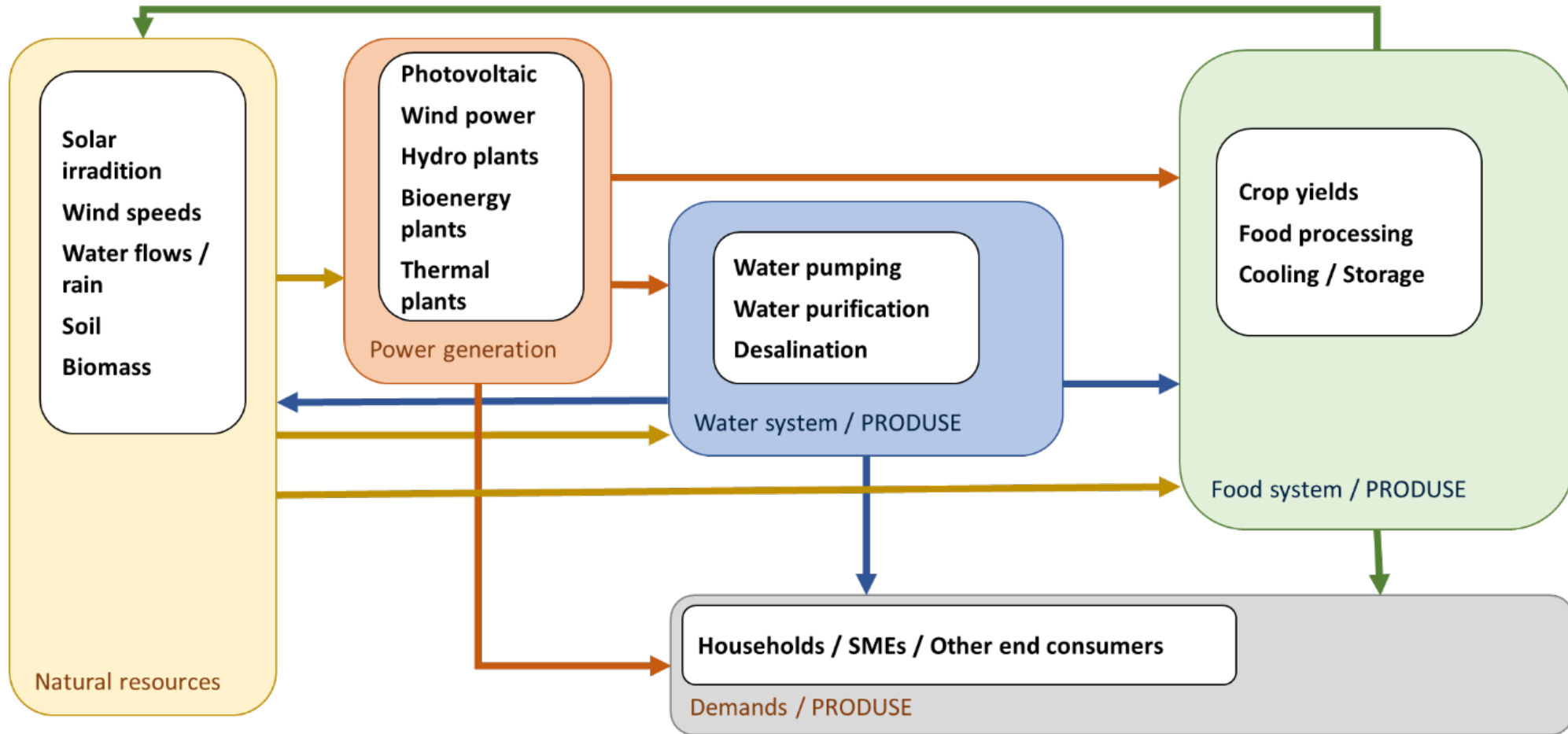
Relevance vs MARs

The specific focus of our project OPTiMG is on MAR4 “Smart grid (different scales) for off grid application” and on MAR5 “Processes and appliances for productive uses (agriculture and industry)”

- modelling of storage
- tools for planning and optimizing smart and integrated MGs grids



Structure of WEF-systems



Key challenges addressed by the project

iMG for WEF systems combine different RE technologies, storage systems and productive uses via smart control systems.

- 1. A lack of an holistic understanding** of integrated water-energy-food (WEF) application cases especially on the local level leads to very little deployment.
- 2. Better project development tools** can increase deployment, but existing **tools are mostly proprietary and difficult to access.**

Expected results :

➤ Mid-term expected results (mid 2024)

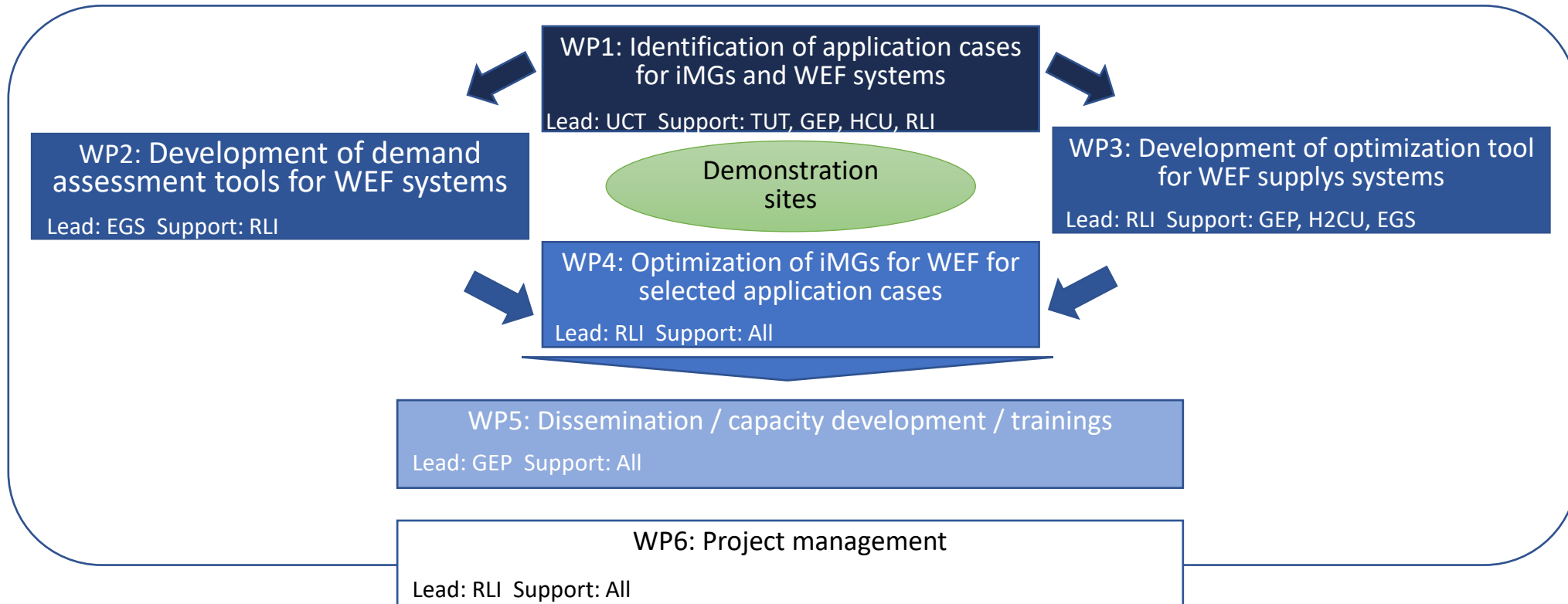
- Publication on application cases for WEF systems***
- First draft of demand and optimization tool for WEF systems***

➤ End of project expected results (2025)

- Open access publication on final assessment of application cases***
- Publication of open-source tools/code***
- Training material and webinars***



OPTiMG Work plan



Expected outcomes

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 African-European partnerships through joint project work and research
2. Policy makers receive novel insights on the complementary benefits of fast scaling off-grid and on-grid renewable energy solutions for achieving ambitious SDG and climate targets
3. People centered use case analysis reflect local needs allowing more suitable technology solutions for WEF systems
4. Capacity of researchers and project developers is strengthened through workshops, especially addressed to young researchers and women, and open access publications and shared open source tools

Which main risks could you face during the project implementation ?

Describe the main risks identified for project implementation

1. Delayed funding -> delayed data collection
2. Development of software can be hindered by unforeseen challenges

Contribution of the project to AU – EU R&D partnership

- Open-source tool for improved demand estimation in WEF systems
- Open-source optimization tool for better planning of iMGs for WEF supply under the objectives of minimal cost and environmental impact
- Capacity trainings conducted, with special focus on female researchers, technicians and planners

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

- *Open-source modelling for SDG7 and WEF-Nexus*
- *Networking and ideation of new research projects*

Contact

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THANK YOU

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