

Deserti
Model



W4RES-GREENET Joint Networking Event
September 29, 2022



MLB INNOVATION SRL



- My name is **GIUSEPPE MELE**, I am the administrator of the ...
- ... innovative **STARTUP MLB INNOVATION SRL**
- The company operates in **ITALY, ROME**
- **EXPERTISE:**
 - Involvement in a previous technological research project, funded by the Italian Ministry of Defense, to make unproductive and arid areas of the planet (*typically DESERTS*) cultivable and profitable, mainly using solar energy, saltwater or low-quality water, common and easily available materials, local labor (*regions bordering SAHARA*). The project tested the **DESERTI Model**
 - Engineer MELE was the inventor and promoter of the **DESERTI Model**
- For our purposes, the most interesting core of the plan is
 - the mass production of biofuel using the **JATROPHA CURCAS** (*a special crop very suitable for the desert and the most productive in terms of biofuels*)

CONTACTS

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- WEB URL: [Deserti project : a Win Win solution developed by S3Log Consortium – Atlantic Organization for Security \(AOS\) \(aofs.org\)](#)



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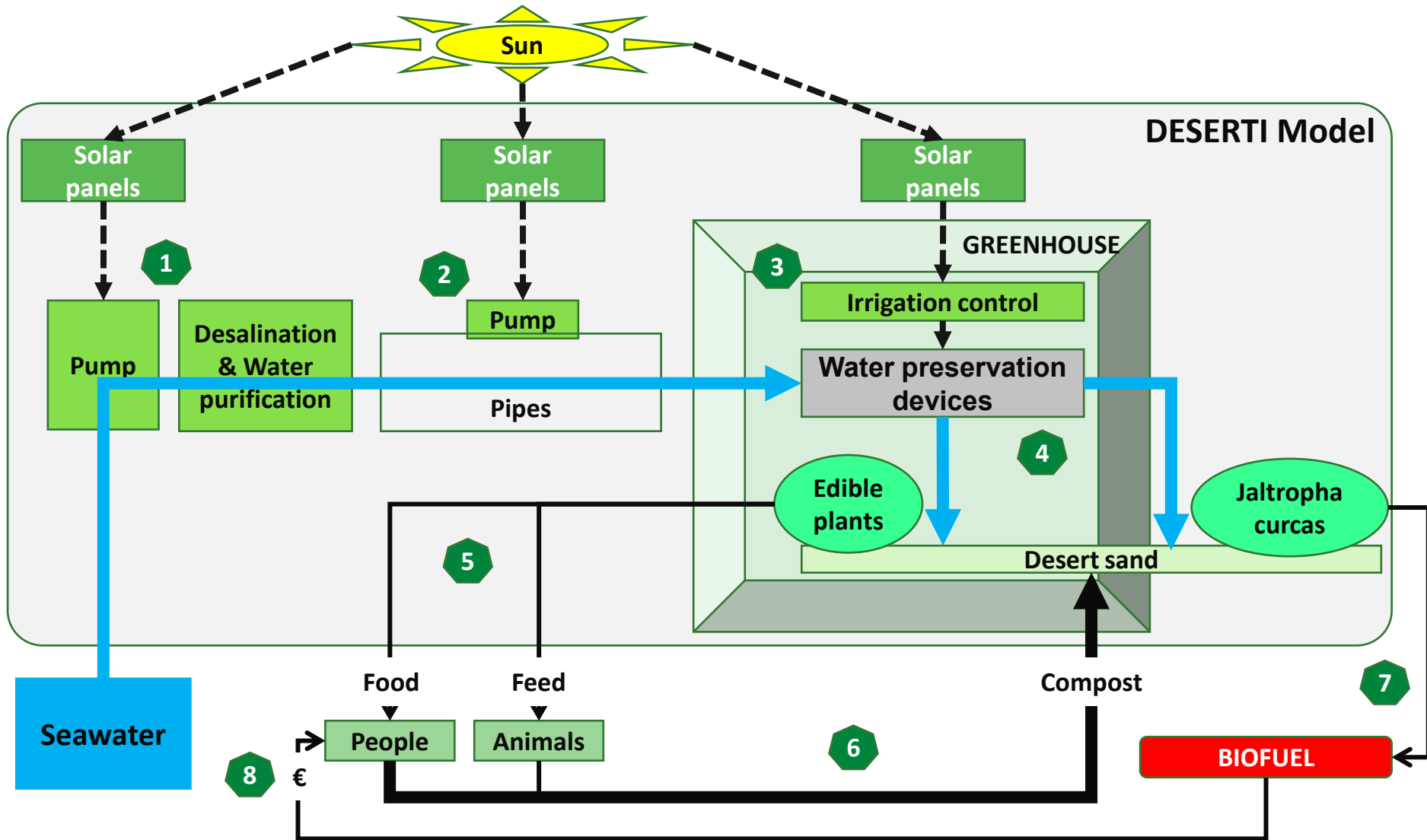
AMONG THE HARDEST PROBLEMS OF OUR TIME THERE ARE:

- EXCESS FOSSIL FUELS, EXCESS CO₂, and other forms of FOSSIL POLLUTION
- CLIMATE CHANGE DUE TO EXCESS OF CO₂
- MASS MIGRATIONS FROM THE POOR AND TURBULENT AREAS OF THE WORLD TO THE RICHEST AND MOST DEVELOPED
- LACK OF FOOD AND FRESH WATER FORESEEN FOR THE FUTURE
- ADVANCING DESERTIFICATION

THE LISTED PROBLEMS AMPLIFY THE ECONOMIC AND SOCIAL IMBALANCES AT A GLOBAL LEVEL, TRIGGERING NEGATIVE SPIRALS SUCH AS CONFLICTS, TERRORISM AND MIGRATIONS

HOW TO AVOID ALL THIS?







DESERTI MODEL OFFERS THE SOLUTION TO THOSE PROBLEMS!

- **IT DOES NOT USE FERTILE LAND BUT DESERT TERRITORIES** (*unexploited, unproductive and which are progressively expanding in a worrying way*)
- **IT DOES NOT USE FRESH WATER BUT SEA WATER** (*or other bad quality water*)
- **IT OFFERS A MAGNIFICENT DEVELOPMENT OPPORTUNITY TO THE POOR AREAS OF THE PLANET** through the massive, labor-intensive, and low-cost production of biofuels (*an industry that will not fall into crisis for many decades. From jatropha oil it is possible to produce the equivalent of any fossil fuel: gasoline, diesel, JP8, etc.*)
- **SAHARA alone, with mature JATROPHA plantations** (*four years old*), **would be capable of producing JATROPHA OIL** in quantities that are equivalent to many tens of times the annual world production of crude oil.
- The plan would not be a CHARITABLE or HUMANITARIAN deficit funded project; on the contrary, it would be a real REMUNERATIVE and safe business plan

DESERTI MODEL OFFERS A WIN-WIN SOLUTION:

- Produces fresh water, food, biofuel, ZERO TOTAL BALANCE of CO₂; reduces social imbalances and conflicts; offers to the developed countries and their businesses all the green energy they need; it also creates an **INDUSTRY** that offers jobs in both poor nations (*agricultural activities and the like*) and in developed ones (*organization, management, technical support, training, financing, trade, etc.*)
- It offers a safe, profitable, and easily accessible way out from FOSSIL and CLIMATE CHANGE, while reducing various other forms of fossil pollution





I propose a Research and Innovation Action based on the DESERTI Model, which aims at making real a profitable and large-scale cultivation of desert areas for biofuel

- DESERTI project demonstrated the validity of the model. However, the pilot area was far from the target environment
 - **Italy instead of Africa** (significantly lower insolation, therefore lower performance)
 - **beach instead of desert sand** (differences to be investigated)
- MOREOVER, THERE ARE LEFT OPEN FEW POINTS AND AREAS TO OPTIMIZE
 - Improve, in VAST SCALE conditions, the EFFICIENCY and PRODUCTIVITY of FRESH WATER DISTILLATION systems, starting from worthless waters (sea or polluted)
 - A PILOT PLANTATION in Africa is needed to determine EXPERIMENTALLY and with CERTAINTY the PRODUCTIVITY METRICS of the system (fresh water, food, jatropha oil, etc.) and its COST / EFFECTIVENESS ratio (money produced in exchange for that invested)
- **A RESEARCH & INNOVATION ACTION** is proposed; It will bring a validation of present metrics obtained as a mathematical-theoretical estimate by software simulations





- The proposed **RESEARCH & INNOVATION ACTION** is perfectly in line with:
 - HORIZON – CL5 – 2022 – D3 – 03 – **SUSTAINABLE, SECURE, AND COMPETITIVE ENERGY SUPPLY**
 - And to: ... D3 – 03 – 02 – **BEST INTERNATIONAL PRACTICE FOR SCALING UP SUSTAINABLE BIOFUELS**
- It promises to help achieve almost all the expected OUTCOMES (few examples):
 - Contribute to cost-effective and more sustainable large-scale production of biofuels
 - Enhance the European global role in the area of sustainable biofuels and increase the potential to export EU renewable fuel technologies into global developing markets
 - Improve sustainability of biofuel value chains worldwide while supporting the EU goals for climate change mitigation in 2030 and 2050
 - Contribute to Bioenergy and Renewable Fuels for Sustainable Transport (gasoline, diesel, JP8)
 - Accelerate capacity building for sustainable biofuels in the world and its scale-up
 - The proposal addresses the global challenges in terms of environmental, social, and economic sustainability of such a plan for large scale production of sustainable biofuels
 - Biofuel production is the most effective, natural, CO2 neutral, not expensive, and stable way to store solar energy. There are no disposal costs and waste at the end of the cycle

