IMPROVING PHOTO VOLTAIC SOLAR CELLS
SUSTAINABLE/ AFFORDABLE ENERGY SOURCE

Photovoltaic panels (PV) often called solar panels rely on the photoelectric effect in which energy from sunlight causes electrical currents to flow, PV panels and batteries produce direct current (DC). Light energy can be converted directly to electrical energy by light striking a photo sensitive (light sensitive substance in a photo voltaic cells (solar cells). A solar cell consists of photo sensitive materials mounted between metal contacts. When the surface of the photo sensitive material is exposed to light it dislodges electrons from their orbits around the surface atoms of the material. Our first prototype was installed more than 9 years year ago and has produced electricity.

Challenge: What challenge or problem are you addressing? What is the need for the project? There is a poor transition in the continuum from the use of hydro carbon fuel oxides to efficient energy development. Many urban and rural households do not have basic electricity to cook/warm houses etc. in some European households but depend on cutting down the biodiversity creating negative results, non- conducive habitat for nature's species, adverse environmental consequences/destruction contributing to climate change; the global growth in energy demand within the EU countries' agricultural sector will result in increased greenhouse gas (GHG) emissions. Despite global support and associated economic and environmental imperatives, there remain significant barriers that hinder the use of clean energy within EU countries' agriculture sector, including

• Limited Demand: In many locations, farmers and agribusinesses are not aware of clean energy technologies that might increase the productivity/profitability of their operations.

• Inappropriate Technology Design: Often, available technology does not match the performance characteristics and/or price points required in the markets.

• Limited Access to Financing: The problems of risk and design are compounded by lack of credit to distributors of clean energy products and services who then in turn cannot provide or direct customers to end user financing. Banks and other financial institutions, already sceptical about lending to farmers and agribusinesses, are familiar with clean energy products and services that frequently have relatively high initial capital costs.

• Few Replicable Business Models: Few examples exist of proven business models that can be replicated and/or adapted to link clean energy enterprises with farm communities and agribusinesses in relevant supply chains with resource constrained customers. As a result of these barriers, there is a noticeable disconnect between clean energy enterprises and the farmer and the agribusiness consumers. Strengthening the demand for and supply of clean energy is critical to improved productivity and/or value of agriculture.

Objective of the project: what your project aims to achieve/change

Developing Photo Voltaic applications using different existing spatial platforms from single house hold in non- grid areas of urban and rural households/agricultural businesses to SMART spatial dimension technology covering a larger space. Smart grids change the structure and scale of the distribution system from large centralized grids to networked micro grids. Each micro grid can generate and store power independent of the larger grid.

Need for transnational cooperation: Currently we want to develop/manufacture our panels/ seeking for /Transnational Cooperation Partners (1) Technology partners and lead users to improve our technology (2) Partners to achieve a high quality and cost efficient supply chain (4) Investors to finance the market penetration within the next 4 years (5) Licence partners to use this successful model in other countries(6) Partners for Installation, Distribution and Maintenance.

What kind of partners you are looking for?* Private for-profit entities such as a business, corporation, or private firm; * Private equity or private financial institutions, including private investment Firms, mutual funds, or insurance companies; * Private investors (individuals or groups); * Private business or industry associations, including but not limited to Chambers of commerce and related types of entities; * Private grant-making foundations or philanthropic entities; * Private individuals and philanthropists.

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