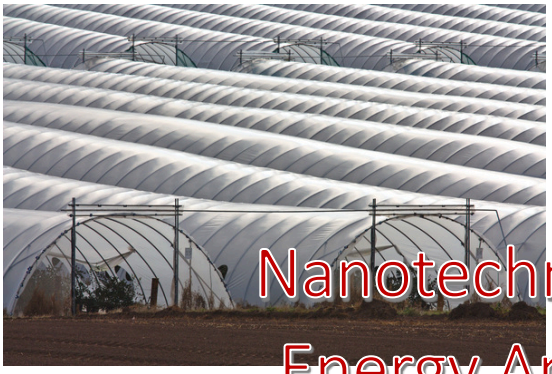

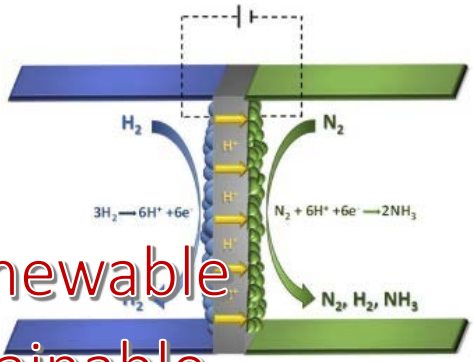

Proposed COST Action

Nanotechnology Enabled Renewable Energy Applications for Sustainable Agriculture

The proposed COST Action's main goal is to improve the sustainability of agriculture via tackling the issue of energy, both in terms of the potential to generate energy and the potential to save energy. Since energy generation, storage and saving technologies are very diverse, the Action focuses on those that are enabled by nanotechnology such as organic photovoltaics (Fig. 1) and microbial fuel cells (Fig. 2), and their applicability in practice.

In the scope of the COST Action the cooperation of natural scientists, engineers and social scientists aims to create synergy to allow for a sustainable and fast deployment of the targeted technologies to the benefit of the stakeholders at all levels, achieved through stakeholder driven policies and technology design.

The energy technologies to be developed and introduced in the context of sustainable agriculture contribute to the benefits of green energy set out by the European Union and address the additional challenges of

- sustainability of food production
- conservation of water, and
- revitalization of rural spaces.

To do this we are proposing a highly integrated research network across multiple fields of inquiry. Some of the proposed technologies are in an early stage and are still facing obstacles for a large-scale introduction. Since hurdles can go well beyond technological feasibility and are of a societal nature as well, we aim to examine and tackle such challenges from the outset. These concern, for example, the negative attitudes towards nanotechnology by large sectors of society as well as the optical disturbance of cultural landscapes by agricultural flexible greenhouses.

To help identify and address such challenges among famers, rural populations, and other publics, facilitate dialogue, and propose relevant policies we are still looking for participation of researchers from the social sciences. If you are interested, please contact Rico Meitzner at rico.meitzner@uni-jena.de.

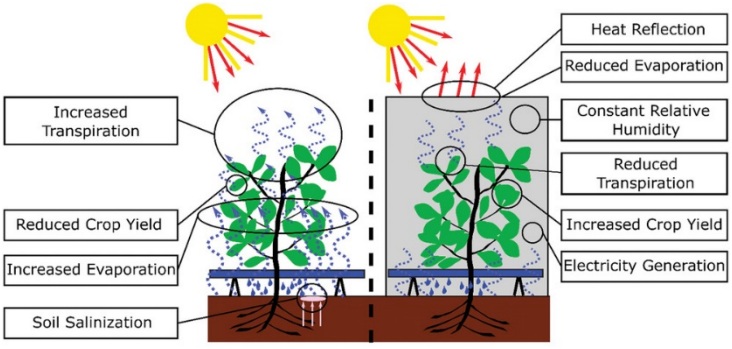

Fig. 1: Benefits of transparent organic photovoltaics polytunnels

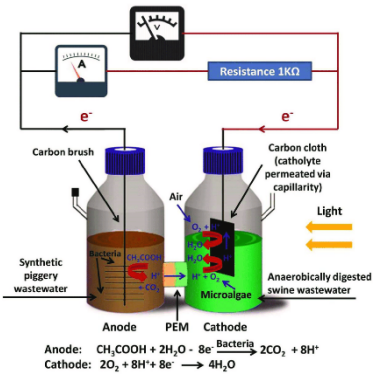

Fig. 2: Energy neutral wastewater treatment via microbial fuel cells.