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Group-lead Agrivoltaics
Agrivoltaics world conference, New Delhi
21.10.2026

Technology and Knowledge Transfer Pathways,
Experiences for Agrivoltaic Deployment and Need for
Unified Standard / Definition for Agrivoltaic

Fraunhofer ISE

Areas of Concentration

ENERGY TECHNOLOGIES AND SYSTEMS

Prof. Dr. Hans-Martin Henning

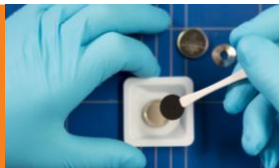
Energy Efficient Buildings



Solar Thermal Power Plants and Industrial Processes



Hydrogen Technologies and Electrical Energy Storage



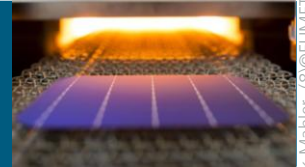
Power Electronics, Grids and Smart Systems



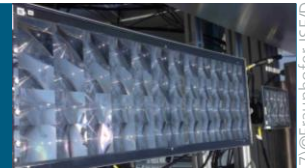
PHOTOVOLTAICS

Prof. Dr. Andreas Bett

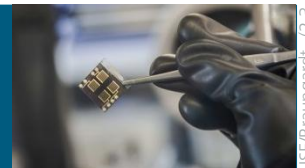
Silicon Photovoltaics



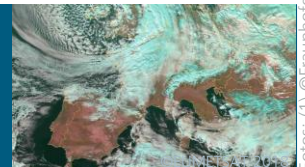
III-V and Concentrator Photovoltaics



Perovskite and Organic Photovoltaics



Photovoltaic Modules and Power Plants



Group Agrivoltaics at Fraunhofer ISE

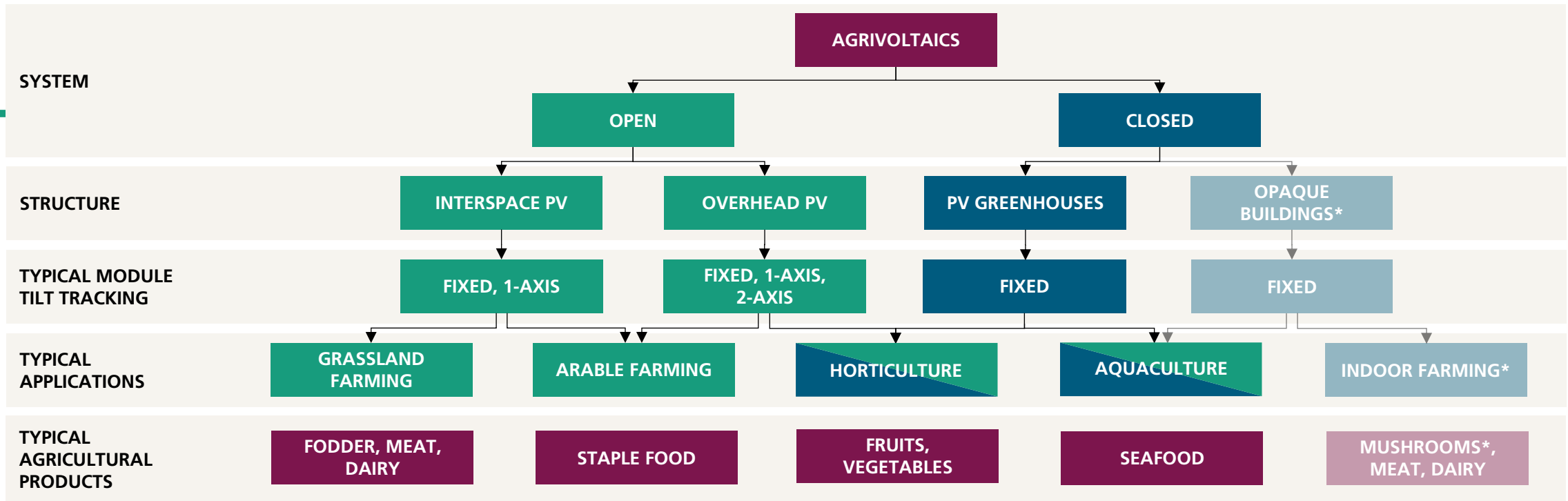
Quick facts

- Originator of the idea of agrivoltaics in 1981
- Research on agrivoltaics since 2010
- 50 researchers from 10+ disciplines
- More than 150 R&D projects in 40 countries
- Agrivoltaics lab with currently 7 different system designs

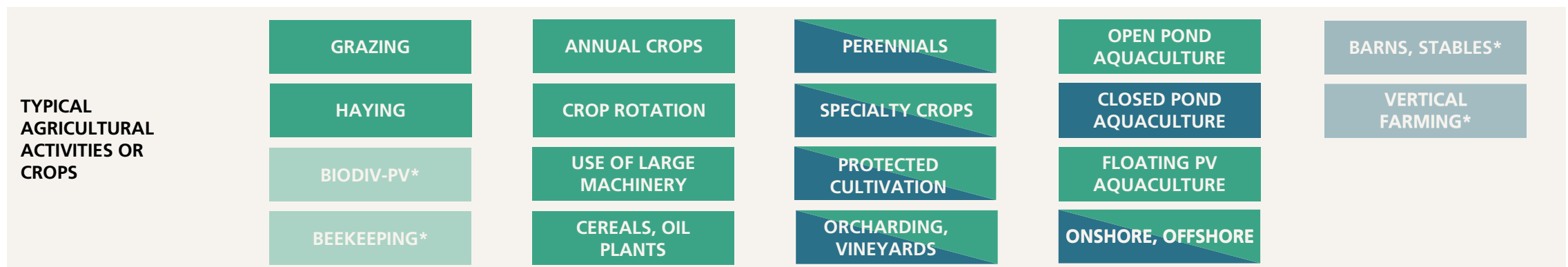


Classification of Agrivoltaics

CLASSIFICATION



EXAMPLES



* Considered to be agrivoltaics only in a broader definition

Market Development and Legislation

Definition

DIN SPEC 91434

“Agrivoltaics is the combined use of the same land area for agricultural production as the primary use and for electricity PV production as the secondary use.”

- A common understanding for agrivoltaic systems is crucial for a synergetic market ramp up
→ **Agree**voltaics !



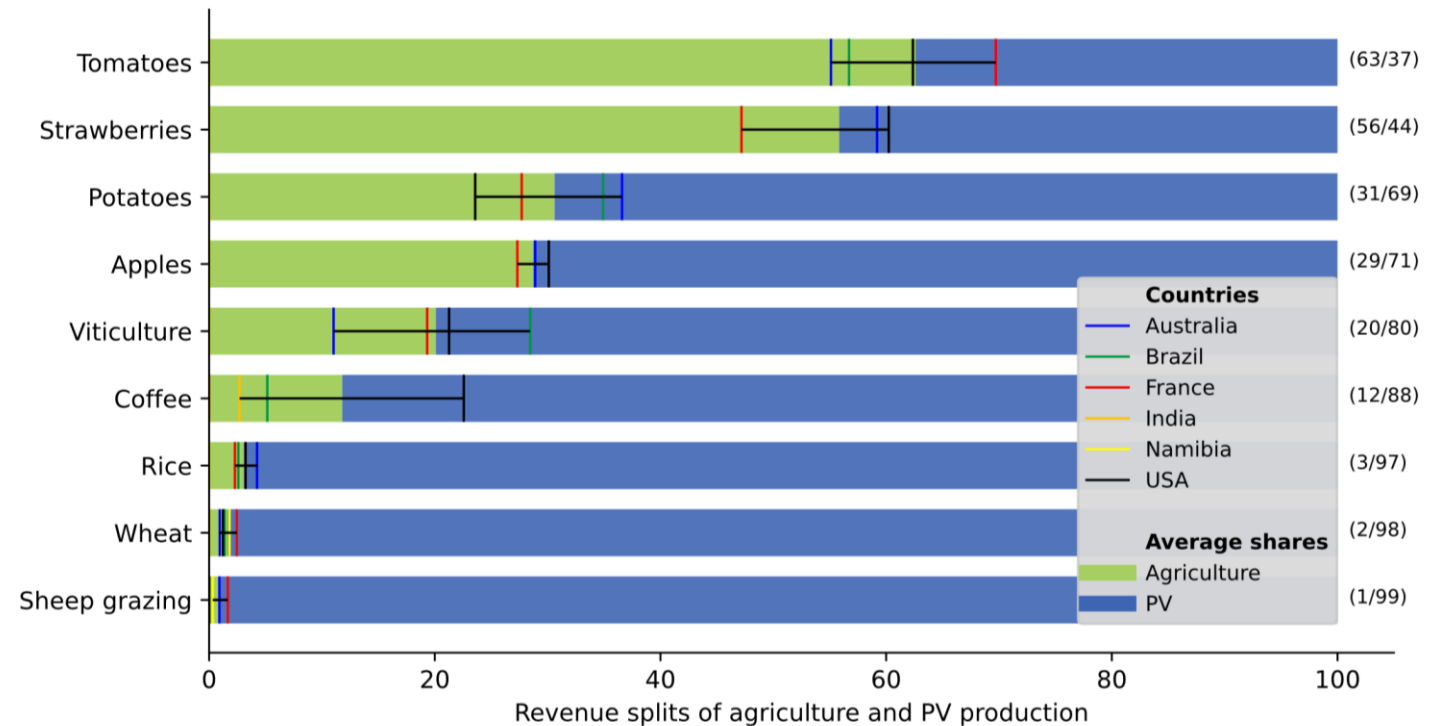
Definition of agrivoltaics

Definition criteria

Primary agricultural land use

■ Setting criteria for sufficiently intense agriculture

- Minimum agricultural yield
- Minimum land available for cultivation
- Added agricultural value
- ...



➤ Is this enough?

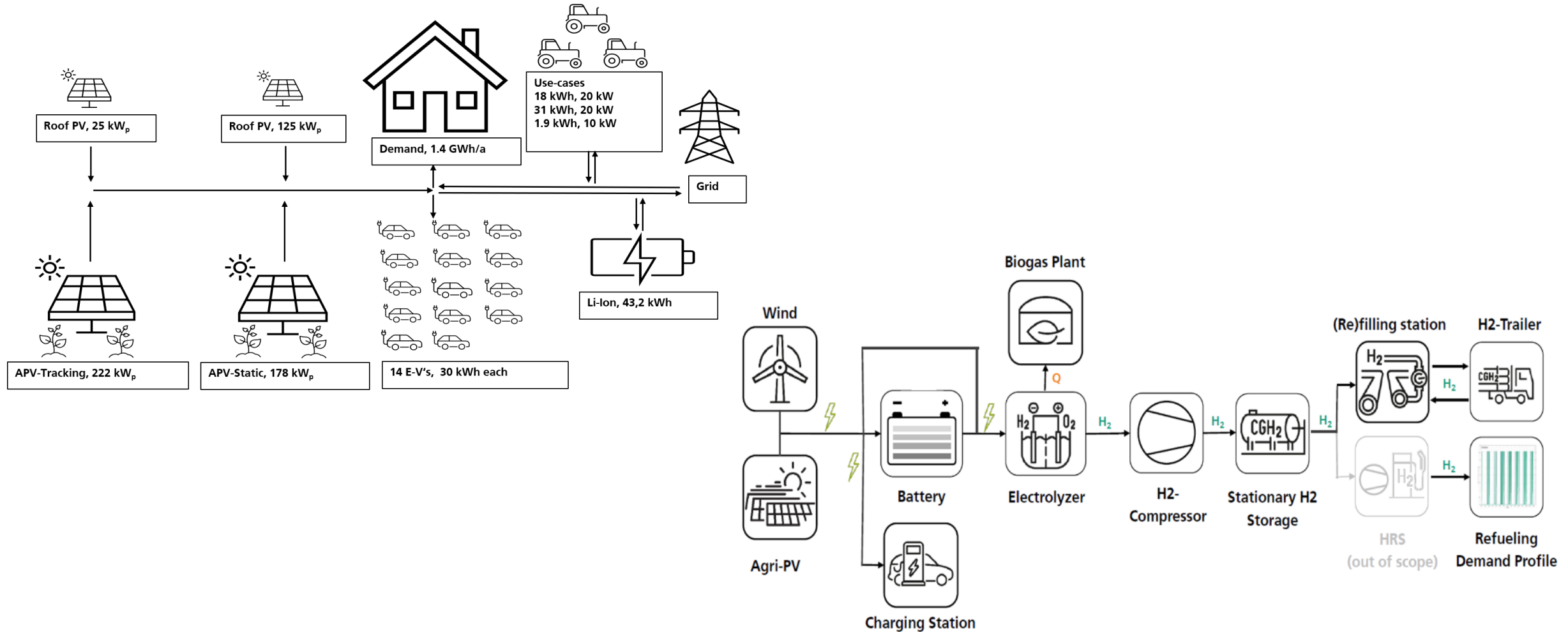
Legal framework under development around the globe

		Belgium	Czech Republic	Croatia	Denmark	France	Finland	Germany	Greece	Hungary	Ireland	Italy	Latvia	Netherlands	Poland	Portugal	Slovenia	Spain	Sweden
Legal definition	Clear legal definition of Agri-PV	No	Yes	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	Yes	In progress	No
Land use, zoning & permitting	Agri-PV systems are permitted under the land use & zoning regulations	Yes	Yes	Yes	Yes	Yes	In progress	Yes	In progress	No	Yes	In progress	Yes	No	Yes	Yes	In progress	No	No
	Simplified & dedicated permitting process for Agri-PV	No	No	No	No	Yes	No	In progress	No	No	No	In progress	No	No	No	No	No	No	No
	Clear requirements for EIAs or other type of impact assessments for Agri-PV	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	In progress	No	Yes	Yes	Yes	Yes	Yes	Yes
Support schemes	Agri-PV systems are eligible for CAP direct payments	No	Yes	No	In progress	Yes	No	Yes	In progress	In progress	No	In progress	No	Yes	No	No	No	In progress	No
	Agri-PV systems are included in the energy support schemes (e.g. FIT, auctions, CfDs)	No	In progress	No	No	Yes	No	Yes	In progress	No	No	Yes	No	No	No	No	No	No	No
Technical Requirements	Clear rules on Ground Coverage Ratio (GCR)	No	No	No	No	Yes	No	No	In progress	No	No	Yes	No	No	No	No	Yes	In progress	No
	Clear minimum height and spacing requirements	No	Yes	No	No	Yes	No	Yes	In progress	No	No	Yes	No	No	No	No	Yes	In progress	No

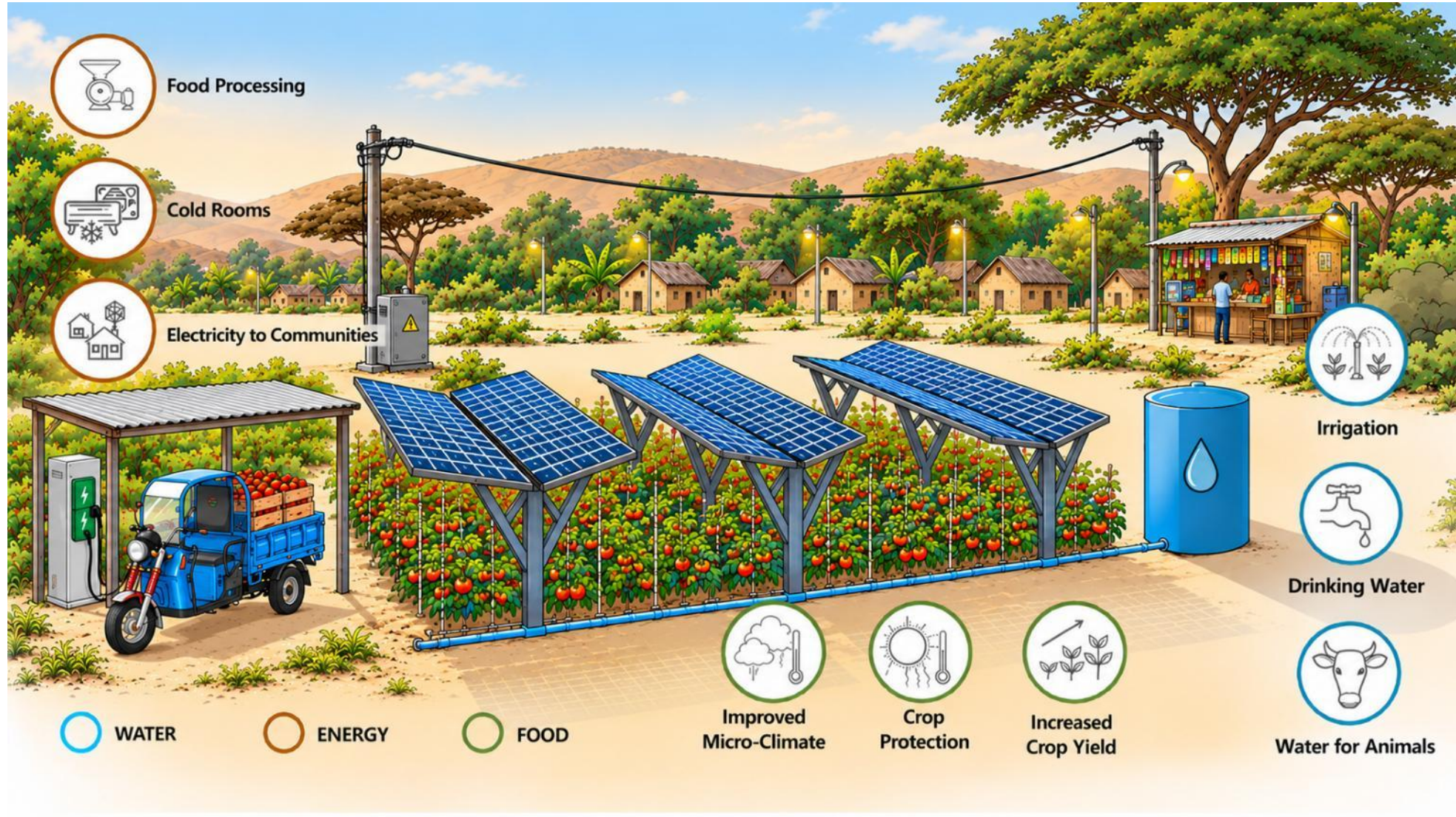
■ Yes
 ■ No
 ■ In progress
 ■ Under certain circumstances
 ■ Unknown

Technology Transfer Pathways

From concept to sustainable implementation



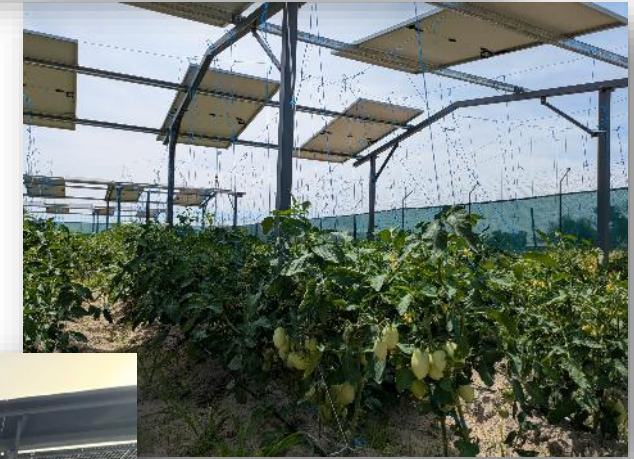
System Contextualization and Optimization



Experiences for Agrivoltaics Deployment

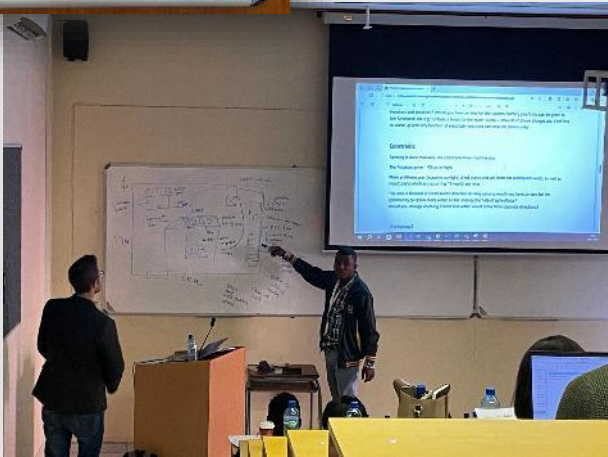
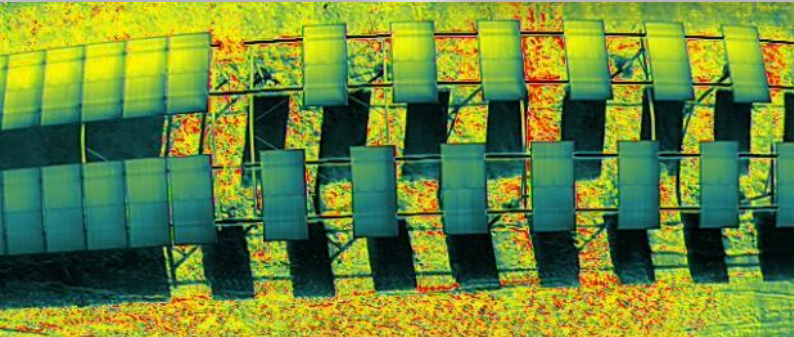
The change needs to be global, but starts local

- Fraunhofer's expertise in applied research and deployment of pilot agrivoltaic systems.
- Over 100 agrivoltaics projects in 30 different countries around the globe
- Capacity building
- Upscaling and implementation pathways



Capacity Building

Theory to facility testing



PARTICIPANT WORKBOOK

AGRIVOLTAICS EPC DESIGN WORKSHOP



CASE STUDY

500 kWp Agrivoltaic
Demonstration Project
Chudanga District,
Bangladesh



Practical learning
Work as a team to
design real solutions



Apply concepts
Make decisions and
justify your design



Solve challenges
Respond to real-world
scenarios and constraints



Think like an EPC
Design, plan, and
deliver value



Drive impact
Support farmers,
communities and
sustainable energy

ABOUT THIS WORKSHOP

- Build your understanding of agrivoltaics systems and their benefits.
- Design technical, agricultural and electrical solutions that work together.
- Collaborate with peers and learn from different perspectives.
- Create projects that deliver clean energy, food security and long-term sustainability.



PARTICIPANT DETAILS

Participant Name: _____
Company: _____
Team Name: _____
Date: _____

HOW TO USE THIS WORKBOOK

Work through each section in order. Discuss with your team, record your answers, sketch your ideas and be ready to present your design on Day 2.

