
Task Force Proposal

»Solar / Renewable Energy Technology Bridge« to Subtask 2 of the Indo-German Energy Forum



Headquarter of Fraunhofer ISE, Freiburg, Germany

Gerhard Stryi-Hipp

Head of Energy Policy

Coordinator Smart Energy Cities

**Fraunhofer Institute for
Solar Energy Systems ISE**

President

**European Technology Platform on
Renewable Heating and Cooling**

IGEF – Subtask 2 meeting

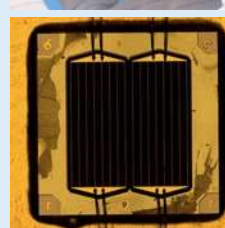
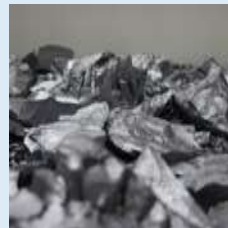
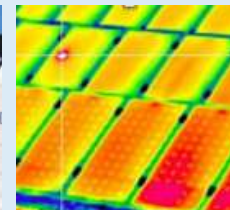
New Delhi, India, 12 February 2015

Fraunhofer Institute for Solar Energy Systems ISE

- Applied research on Renewable Energies since 1981
- Largest Solar Research Institute in Europe
1300 employees incl. 300 PhD and diploma students
- Director: Prof. Eicke R. Weber
- Part of the Fraunhofer Society more than 60 institutes and 22000 employees, largest applied research network



- Energy Efficient Buildings
- Applied Optics, Functional Surfaces
- Solar Thermal Technology
- Silicon Photovoltaics
- Alternative PV Technologies
- Renewable Power Supply
- Hydrogen Technology



Motivation

- **Germany is still one of the global technology leader** in solar energy / renewable energies sources (RES)
- **India aims to accelerate the deployment of RES**
- **Experience:** To build up a health RES sector needs:
 - **Market pull** (long-term oriented support policy)
 - **RES industry policy**
 - **Capacity building on Research and Development and Education and Training** of the work force
- **India aims to become a leader in RES** and set the target of 100 GW solar electricity by 2022
- **India is aware of the need to import RES technologies** and strengthen its RES R&D sector



Visit of secretary Tripathy and joint secretary Kapoor to Fraunhofer ISE Sept 2014

Challenges in technology partnerships

- **In 2013, Fraunhofer ISE and MNRE signed an MoU** to cooperate on R&D in the RES sector
 - **Experience: It is difficult to identify**
 - **the most relevant R&D topics**
 - Which technologies are needed in India?
 - What are the technology strengths of Germany?
 - Which technologies are German R&D institutes ready to share?
 - **the right objectives of joint R&D work**
 - How to adapt the RES technology to Indian conditions?
(climate, costs, quality expectations, planning horizon, culture,...)
 - How to create a win-win-situation for Indian and German research groups?
 - **how joint research projects must be structured**
 - Which R&D know-how and structures exist already in India?
 - How does the working culture differ in both countries?
 - **a sound structure to finance joint R&D projects**
 - Who is paying the salaries of the German, who of the Indian research groups?
- => A systematic approach based on a sound analysis is necessary**



MoU signed between MNRE and ISE in 2013

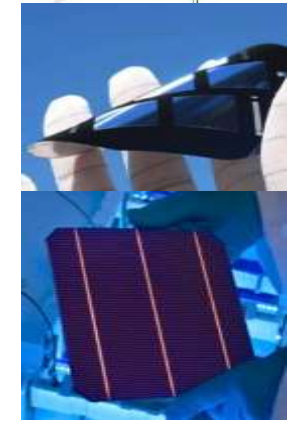
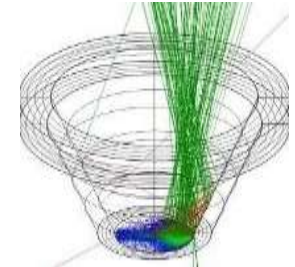
Idea of the »Solar / RE Technology Bridge« as part of the Indo-German Energy Forum

The technology bridge aims to

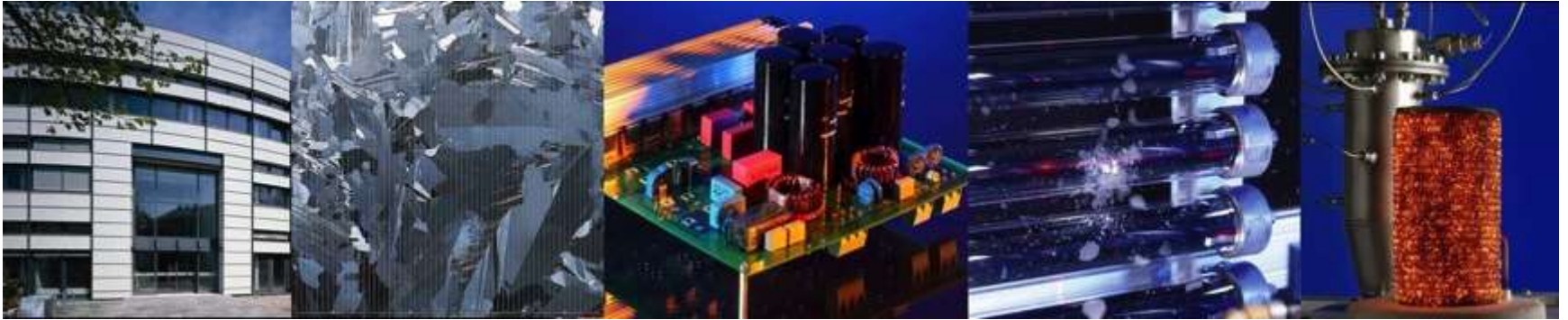
- **Identify the RES technologies**, which are needed in India and are available in Germany
- **Design joint research projects** on RES technologies, which creates a win-win-situation for Indian and German research groups
- **Develop sound financing schemes** for such R&D projects

Expected results

- **General concept on**
 - How to stimulate joint R&D projects on solutions adapted to Indian conditions
 - How to strengthen the technology transfer from Germany to India in a sustainable way
 - How to finance joint R&D projects



Thank you very much for your attention!



Gerhard Stryi-Hipp

gerhard.stryi-hipp@ise.fraunhofer.de