

"Adolf Goetzberger Foundation": necessary profile for an award winner

In addition to his award-winning scientific work, Adolf Goetzberger was passionate about translating scientific findings into a usable product for society. Some outstanding examples are

- The famous "**Fluko**" (**fluorescent collector**). Here, the incident sunlight - not only the direct radiation, but in particular the diffuse radiation that dominates in our latitudes - is directed onto the end faces. This results in a concentration of the irradiation from the ratio of the irradiation area to the four end faces. Solar modules attached to the end faces then produce electricity.
- As early as 1989, he was already thinking about how the area occupied by the PV modules could be put to additional use, particularly in future large-scale ground-mounted systems. The idea was **agri-PV**, where agriculture could also be practiced under the modules - the dual use. This idea was way ahead of its time, as nobody could imagine open spaces on a terawatt scale back then. Today, this market segment is becoming increasingly important.
- For the realization of PV modules that can be integrated into vertical noise barriers along freeways and train lines in a north-south direction, a project was set up with the previously scientific description of bifacial solar cells (e.g. by Prof. Luque) by Adolf Goetzberger together with TNC in Switzerland with **bifacial solar modules** from ASE (later RWE GmbH) and demonstrated how useful this application is. Interestingly, this type of **vertical north-south mounting** is now also being used in the agri-PV sector.
- The use of **solar energy to power buildings** was important to him - the "Rappenecker Hof" showpiece is a good example of this. He implemented systemic, holistic thinking and the concepts to be developed from it as early as 1990 with the then revolutionary **energy self-sufficient solar house**, in which many new technologies were tested for the first time and brought together in such a way that no grid connection or heat supply was necessary.
- He was also interested in developing technology to reduce energy consumption. The development of **transparent thermal insulation** - which was used as a demonstrator in his private home, is a good example for this.

The jury, which is responsible for the selection, is given the following criteria with the stated weighting:

- 40% Novelty, innovation, visionary concept/prototype/process for solving a technical, economic technical, economic and/or social challenge in solar energy utilization with photovoltaics and/or with thermal solar energy utilization, control/regulation, storage and/or energy efficiency
- 30% Maturity, application potential and opportunities for (rapid) implementation, dissemination, energy and environmental impact on society
- 15% Quality of the description and comprehensibility of the topic from science to application in a product
- 15% Contribution and function of the person to be honored in the novelty, innovation, visionary concept