



## JOIN THE CENTURY OF SOLAR

A Year of Virtual Celebration

Newsletter – September 2020

### Focus on Germany

On September 26<sup>th</sup>, 1994 the ISES Board of Directors announced that Freiburg had won the right to host the new ISES headquarters. The City of Freiburg provided the Villa Tannheim rent free for five years. Villa Tannheim was built in 1904 on the (then) outskirts on Freiburg.



**Villa Tannheim in 1920**

It was renovated prior to the opening, with the Fraunhofer Institute responsible for planning and coordination. Read more about the Villa Tannheim [here](#).



**Villa Tannheim in 2000. Transparent thermal insulation is just visible on the wall behind the ISES Flags**



**Executive Director Burkhard Holder, Lord Mayor of Freiburg Rolf Böhme, and President Mike Nicklas at the opening of Villa Tannheim on 2<sup>nd</sup> January 1995.**

### What is SWC50 – The Century of Solar?

In 1970 solar research pioneers met at the first International Solar Energy Society (ISES) Conference in Melbourne Australia. ISES is commemorating this first Solar World Conference with a special 50th Anniversary Virtual Conference, called the Solar World Congress at 50 (SWC50).

During these past 50 years solar energy has grown from being emerging technologies to a vibrant industry. The Century of Solar highlights the transformation in the global energy sector that has taken place since the first Solar World Congress in 1970 and looks forward to the next 50 years when solar energy will be a major cornerstone of the global energy system. While the focus of the Century of Solar is on the evolution of solar energy, the importance of other renewable energy sources working together to reach the 100% renewable energy world goal will be a central theme.

**SWC50 - The Century of Solar** is about the people: researchers, industry players, policy makers, and leaders of NGOs and Non-profit organizations who have all contributed to make solar energy the fastest growing contributor to new electricity capacity.

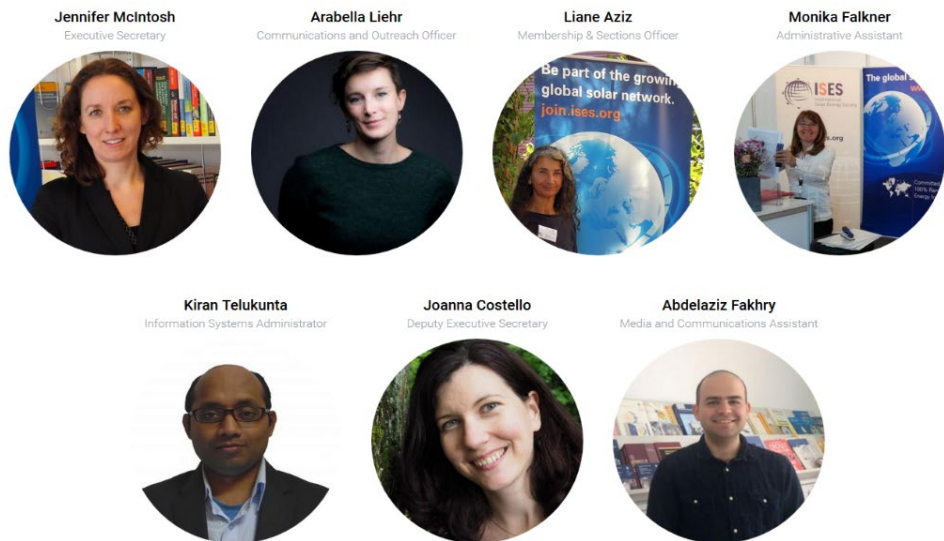
**SWC50 Programme:** The SWC50 virtual conference will be held on 3 - 4 December 2020, with two follow up webinars in 2021 and a final session at the ISES Solar World Congress 2021 in New Delhi in October 2021



In 1998 with support from Mrs Marta Weeks and the C.A Weeks fund, ISES purchased Villa Tannheim and the headquarters still operates from that location today.

ISES Villa Tannheim in 2019

**ISES Staff 2020**



**German ISES Presidents**



Professor Adolf Goetzberger  
1991-1993



Professor Klaus Vajen  
2020-current

ISES Conferences in Germany		
Year	Location	Overview
1987	Hamburg,	Solar World Congress 1987 Theme: Advances in Solar Energy Technology 1,700 participants from 54 countries
1996	Freiburg	1 <sup>st</sup> ISES European Solar Conference <b>EuroSun</b> 990 participants from 52 countries
2004	Freiburg	5 <sup>th</sup> ISES European Solar Conference <b>EuroSun</b>

		Over 500 participants from 65 countries
2011	Kassel Germany	Solar World Congress 2011 Theme: Rapid Transition to a Renewable Energy World 692 participants from 66 countries

### Sample of German Pioneers Pre-1980

Each month this newsletter will have a sample of the people involved with renewable energy prior to 1980, coming from both research and industry.

It is impossible in this monthly newsletter to cover the thousands who have contributed to the development of renewable energy prior to 1980. What is included in each newsletter will just be a snapshot of those who will be included SWC50 celebratory booklet: *The Century of Solar - Stories and Visions*.

#### **Professor Adolph Goetzberger**

Adolph Goetzberger is a distinguished scientist with many interests in and outside solar energy. He received his doctoral degree in physics from the University of Munich in 1955 and then spent 10 years in the USA— five years with the Shockley Transistor Laboratory, Palo Alto, California, and five years with Bell Telephone Laboratories, Murray Hill, New Jersey where he published fundamental work about the Si-SiO<sub>2</sub> interface. In 1968, he returned to Germany to accept the position of director of the Fraunhofer Institute for Applied Solid State Physics, and in 1981 he founded the Fraunhofer Institute for Solar Energy Systems, in Freiburg, which grew into one of the major solar energy laboratories in Europe. In 1993 he retired as a director of the Institute, but he carries on many publishing and advisory activities in the field of solar energy. Some of his scientific achievements were: fluorescent solar collectors, first theory of light trapping in thin silicon solar by diffuse reflectors, development of transparent insulation for buildings, and the planning and construction of the first self-sufficient grid-independent solar house in Germany in 1992. He has many patents in photovoltaics, thermal solar energy, daylighting, and systems

#### **Professor Sigrid Jannsen**

Sigrid Jannsen's activities in renewable energies started in 1974. Her scientific focus was on waste water treatment and in particular on the energetic use of biological wastes. After her retirement Prof. Jannsen was strongly involved in educational projects at the school level. 1995 – 2005 she was President of the German Solar Energy Society, DGS. In this capacity she worked intensively on the promotion of renewables, led several international projects on the dissemination of renewables and was chair of large international congresses. From 2008 – 2012 Prof. Jannsen worked in Singapore as Scientific Information Officer at the newly founded Solar Energy Research Institute of Singapore, SERIS.

#### **Joachim Luther**

In 1974, Joachim Luther became professor of physics at the then newly founded University of Oldenburg. His scientific interest shifted towards renewable energy sources, in particular solar power. In 1987, he became dean of the physics faculty at this university.

In 1993, he accepted a call to become professor of solid-state physics at the University of Freiburg in Southern Germany and head of the Fraunhofer Institute for Solar Energy Systems ISE at the same time. He succeeded Adolf Goetzberger in these functions. In the following years, Luther established this institute as the largest research center for solar energy in Europe. During his tenure, various solar cells with world-record characteristics at the time were developed at ISE.

Joachim Luther was an ISES board member from 1992 to 2001 and President of the EUREC Agency (the European Association of Renewable Energy Research Centers) from 1997 to 2002. He was Editor in Chief of Solar Energy Journal from 1999 to 2002 and Chairman of the International Science Panel on Renewable Energies (ISPRES) from 2007 to 2010

Professor Luther retired from ISE in 2006. In 2008, he was asked by the Government of Singapore to set-up and head the newly founded Solar Energy Research Institute of Singapore (SERIS). In 2012, he returned to Germany, where he is director emeritus of ISE. Since 2010 he has been the Chairman of the European PV Conference Becquerel Prize Committee.

### **Wolfgang Schiel**

Wolfgang Schiel started in the field of Solar Thermal Power plants in 1979 and has undertaken the design and detailing of solar thermal power plants including Dish/Stirling systems (3...50 kW), parabolic trough collectors, and heliostats.

Wolfgang undertook development of opto- electronic measuring systems for qualification of concentrating solar collectors. He was involved with the supervision and scientific evaluation of the Solar Updraft Tower (SUT) Manzanares, Spain pilot plant that operated from 1982-1989. He undertook the conceptual design, design and optical analyses of photovoltaic concentrator for CPV system 1, Pune, India and was the technical lead in the development of parabolic trough collectors for large scale commercial plants (EuroTrough, Heliotrough, UltimateTrough) used in commercial plants in Spain, Egypt, India, Kuwait, Saudi Arabia and China (>10 plants, > 500 MW).

With his team Wolfgang has been twice winner of the IEA SolarPACES technology innovation award (2013 & 2010) and he was 2016 winner of IEA SolarPACES "Lifetime Achievement Award". Wolfgang has undertaken projects in Germany, USA, Spain, Saudi Arabia, India, Italy, France, Egypt, Chile, Australia

### **ISES Solar Energy Museum - Past Present and Future - Call for Contributions**

ISES will be launching a virtual solar energy museum to mark the SWC50 – Virtual Conference in December 2020. For the museum, ISES is looking for images of early products, systems and significant events that might be shown in the museum. In particular, ISES is looking for images from the pre-1990's.

If you believe you have relevant photos, videos or materials in formats that are suitable for posting in the online museum, please send these to either of the two e-mail addresses below.

Please include appropriate descriptions in the name of the files and include a background story or an explanation in a word document. All contributors will be acknowledged on the museum website.

If the materials are too large to send by e-mail please contact the organisers.

Jennifer McIntosh  
Executive Secretary  
International Solar Energy Society  
[swc50@ises.org](mailto:swc50@ises.org)

Geoff Stapleton  
SWC50 Chair  
[swc50@gses.com.au](mailto:swc50@gses.com.au)

We look forward to receiving your contributions!

## Solar Energy Pioneers Submission

The organizers of SWC50 is calling for submission individuals to either appoint themselves or to appoint others as Renewable Energy Pioneers in the following categories:

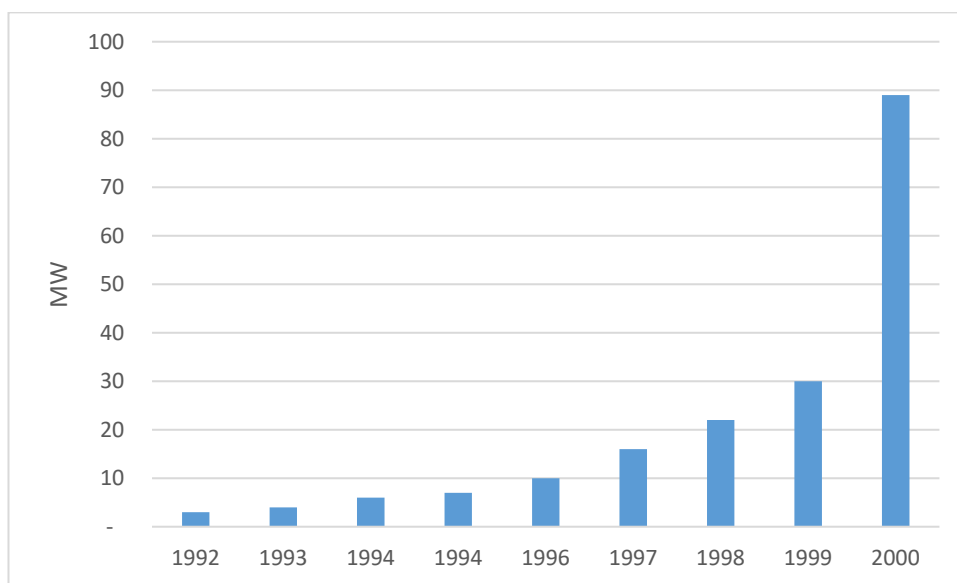
1. **Research Pioneers:** Individuals who started their research in 1995 or earlier.
2. **Industry Pioneers:** Individuals who actively started working in or with the renewable energy industry in 1995 or earlier.

Names and information can be submitted online (<https://www.swc50.org/renewable-pioneers>) in the appropriate form. Individuals can submit on behalf of themselves or in behalf of someone else, particular those who might have passed away.

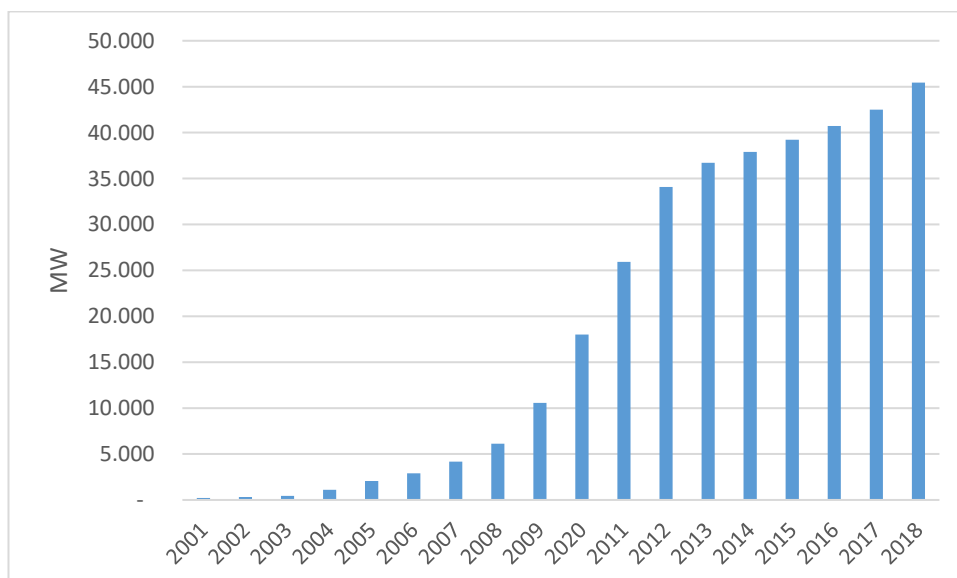
**NOTE: Submission Closes 16<sup>th</sup> October 2020**

## German Growth in Solar

Photovoltaics (PV) Source IEA PVPS Trends Reports  
Solar Hot Water and Hot Air Collectors Source: Werner Weiss

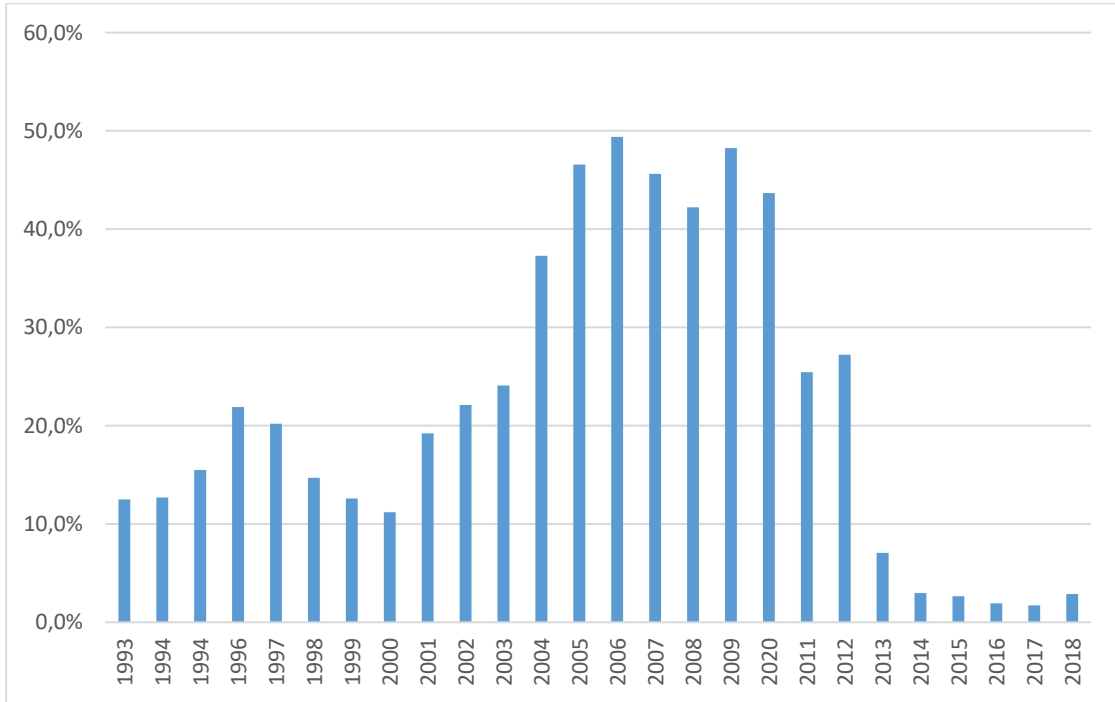


Cumulative PV Installed 1992-2000

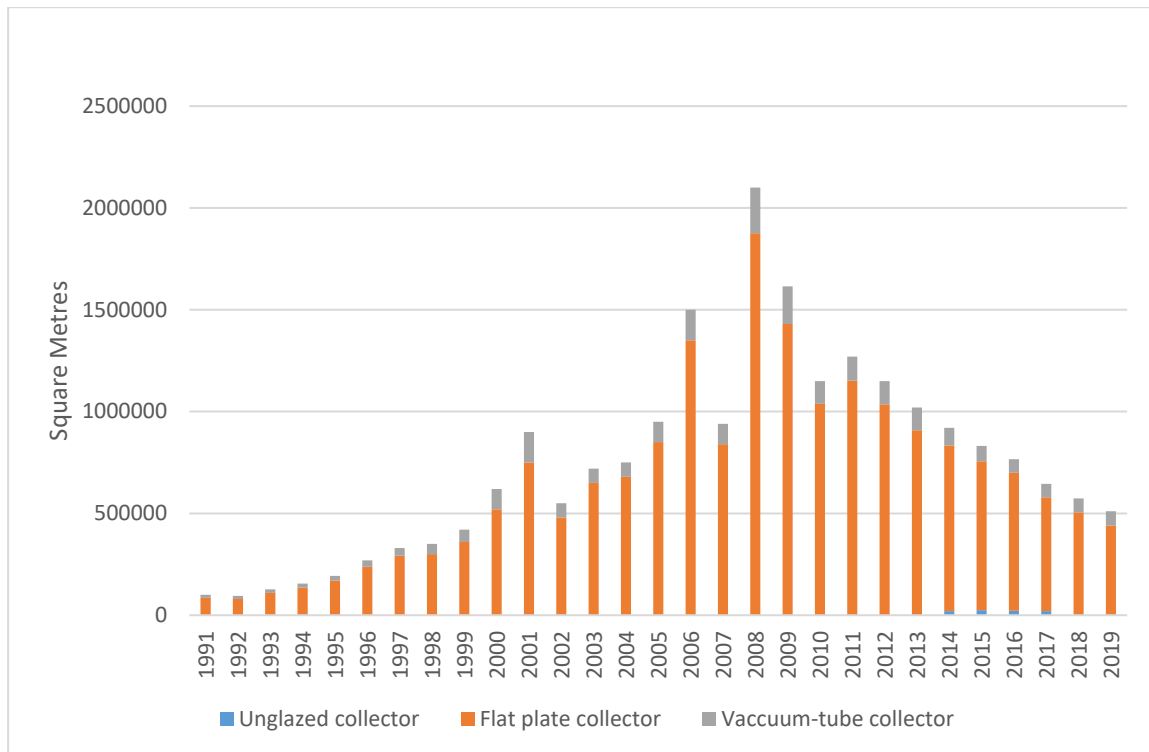


**Cumulative PV Installed 2001-2018**

**Note:** In 2000 off grid represented 12% and this reduced to less than 1% by 2008



**German Annual PV Installation as % of Total World Installations**



**Comparison of Solar Hot Water Collector Area Installed Per Year**

By the end of 2019, a total of 19.8 million m<sup>2</sup> of collector area, corresponding to a capacity of 13.891 MW<sub>th</sub>, was in operation in Germany.