



Press Release 05/2018

Stuttgart, March 23, 2018

30 years of research at ZSW

Easing the Transition to Renewables with Science

The Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW) celebrated its 30th anniversary on March 16, 2018. An internationally renowned institute, ZSW is a key player in applied research aimed to investigate emerging energy technologies. Joining forces with industrial enterprises, its scientists develop sustainable energy technologies. They also furnish reports to brief policymakers on their analyses of the energy system. The institute's three locations at Stuttgart, Ulm and Widderstall focus on renewable energies, energy storage and climate-friendly mobility. Its revenues rose to €30 million at the latest count, the majority of which is funding from third parties. The researchers will commemorate ZSW's anniversary with a ceremony to be held this fall.

The global solar market is booming. Photovoltaic systems are being rolled out at a rate of around 100 gigawatts of newly installed capacity per year, with revenues reaching US\$ 100 billion. Hydrogen is a key technology for the Energiewende—Germany's exit from nuclear power and fossil fuels and transition to renewables—and demand for this energy carrier is growing fast. It can serve to store energy as a buffer for fluctuating green power and as an emission-free fuel for vehicles equipped with fuel cells. More than 6,000 of these electric cars are on the road now. Both technologies are mainstays of global climate policies.

Visionary founders

Neither solar energy nor hydrogen was a factor in the energy industry 30 years ago. Green electricity accounted for just three percent of the power generated in Germany, the main source at the time being hydropower. Undaunted by green power's marginal status, the institute's bold founders chose a name that was visionary for its time. After they set up this non-profit foundation in 1988, ZSW embarked on its mission with a team of ten employees.

"Renewable energies can neither replace the fossil fuels oil, gas and coal nor nuclear energy, but renewable energies can supplement them." The German government issued this missive in response to a parliamentary enquiry in July 1988. Much has changed since then. Now the consensus is that renewables are instrumental to the nation's success in exiting fossil fuel and nuclear power. Today around 33 percent of the electricity generated in Germany comes from emission-free sources. And that figure is to rise to 65 percent by 2030. ZSW has

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been in the thick of this development, and its growing workforce reflects the growing importance of renewables. The institute is currently staffed with around 235 employees and 90 research and student assistants.

Translating research findings into products

"With our research, we aim to do our part in making the entire energy supply climate-neutral within 30 years," says Prof. Frithjof Staiß, Managing Director of ZSW. "We are applying all our expertise and are fully committed to this end."

Some of the highlights of the institute's current research include efforts to boost the efficiency of thin-film photovoltaic modules based on copper, indium, gallium and selenium (CIGS), to build the world's first wind energy test-field in complex mountainous terrain, and to develop more powerful batteries for electric cars. Its researchers are working to improve electrolysis processes for wind- and solar-to-hydrogen conversion systems and on methods to mass-manufacture automotive fuel cells. ZSW also monitors the transition to renewables nationwide and locally in the state of Baden-Württemberg.

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ZSW at a glance

Founded: March 16, 1988

Locations: Stuttgart, Ulm, Widderstall

Research focus: Photovoltaics, regenerative fuels and energy system analysis at Stuttgart; batteries and fuel cells at Ulm

Executive Board: Prof. Frithjof Staiß, Managing Director and Head of the Energy Policy and Energy Carriers division, Prof. Michael Powalla, Head of the Photovoltaics Division, Prof. Werner Tillmetz, Head of the Electrochemical Energy Technologies Division

Staff: 235 scientists, engineers and technicians; 90 research and student assistants

Revenue: €29 million euros (adjusted for capital investments)

www.zsw-bw.de

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The Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (Centre for Solar Energy and Hydrogen Research Baden-Württemberg, ZSW) is one of the leading institutes for applied research in the areas of photovoltaics, renewable fuels, battery technology, fuel cells and energy system analysis. There are currently around 235 scientists, engineers and technicians employed at ZSW's three locations in Stuttgart, Ulm and Widderstall. In addition, there are 90 research and student assistants.

The ZSW is a member of the Innovationsallianz Baden-Württemberg (innBW), a group of 13 non-university, applied research institutes.



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Pictures and a fact
sheet on ZSW are
available from:

Solar Consulting GmbH



ZSW facilities at Stuttgart, the main building and the ZSW Laboratory
for Battery Technology (eLaB) at Ulm, and the solar test-field at
Widderstall. Photos: ZSW