On the Way to a Circular Economy - Members of Parliament Find out about Energy Sources of the Future at LIKAT

Last week was the German “Earth Overshoot Day”, which marks the date when the consumption of ecological resources exceeds the amount that can be regenerated this year. To change this, the Rostock Leibniz Institute for Catalysis (LIKAT) is already researching the development of new technologies for a sustainable circular economy in two of three research projects. The focus is on energy sources such as fuels for ships and aircraft. The aim is to improve their production, storage and use in a CO₂-neutral way so that they will be available cost-effectively for the economy and society in the future.

Members of the Bundestag Katrin Zschau and Andreas Rimkus (both SPD), accompanied by the chairman of the SPD state parliamentary group Mecklenburg-Vorpommern, Julian Barlen, informed themselves about current trends and the state of science in this field and discussed with the researchers in Rostock last Thursday.

The delegates were particularly interested in the progress of knowledge in the field of hydrogen research and in so-called PtX projects. The abbreviation stands for "Power to X" and refers to the conversion of sustainably generated electricity into x-any products in the energy
and basic materials industries. Basically, it is about converting the energy industry to a renewable raw material basis, which will help to ensure that we in Germany, but also worldwide, no longer live beyond our means and that the earth's resources no longer have to be exploited. For example, Andreas Rimkus said, "Electrons are important, but it also takes molecules to store green energy." And thus confirmed that such projects have already assumed a high priority in the political debate.

In this context, as LIKAT Director Matthias Beller explained to the visitors, chemical research is a key technology: It makes the new processes possible with the help of catalysts developed in Rostock, among other things. This is because the sources of sustainable energy production, wind and sun, are not available at all times or only occur cyclically. If the energy industry is to replace its fossil raw material base, these alternative routes must provide energy in reserve, so to speak.

Chemical storage is suitable for this purpose. Hydrogen as an energy carrier, for example, requires an enormous volume or high pressures during storage. It is much more effective to store the energy content of hydrogen in the form of chemical molecules such as methanol or formic acid. LIKAT has built up world-leading expertise in this field and is working on important funded projects, in close cooperation with international research partners and with regional industry.

As a current example, Matthias Beller presented the development of a chemical battery that stores hydrogen instead of electricity. The transfer of these findings from basic research is being realized together with, among others, Apex Energy, an internationally active project developer and expert in renewable energies and hydrogen technologies based in Rostock-Laage.

In the Bundestag, Katrin Zschau, elected by her Rostock constituency, works on the Committee for Climate Protection and Energy, among other things. Andreas Rimkus from Düsseldorf is the SPD's hydrogen commissioner and a member of the Committee for Economic Affairs and Energy. In the morning, the visitors from Berlin and Schwerin had visited the port of Rostock, which, also in cooperation with LIKAT as well as with energy companies, is profiling itself as an energy port, focusing on hydrogen projects.

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