Erwin Reisner

is a chemist at the University of Cambridge and runs the Christian Doppler Laboratory for Sustainable Syngas Chemistry, where he conducts research on new ways to obtain hydrogen. This Eco Innovation project is supported by the OMV Resourcefulness strategy.

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The energy of the future

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It is very likely that hydrogen is the energy source that will keep us moving in the future. But how can we produce hydrogen sustainably and keep it affordable? That's what chemist Erwin Reisner is researching in Cambridge. In our OMV Business Talk he offered insight into his fundamental research.

The opening question alone is fascinating: What would a world be like in which we process the CO2 that is harmful for the environment? What if we only needed the cleanest substances – water and light – to process the CO2? And what if we could then use the end product of this process as fuel for our mobility?

This is exactly what the Austrian chemist Erwin Reisner is exploring. To do this he set up the Christian Doppler Laboratory for Sustainable Syngas Chemistry at the renowned British University of Cambridge, where he conducts research with a group of handpicked international scientists. "Of course we are still at the very beginning of our research," says Erwin Reisner, "but the initial results are quite promising."

In fact, Erwin Reisner and his team have already managed to produce hydrogen (H2) from water (H2O) with sunlight under laboratory conditions. Erwin Reisner: "Only in small amounts and the production of hydrogen currently only lasts for a few hours." In other words, this hydrogen is not yet suitable for commercial purposes, because it is too expensive. However, by 2019 – as long as the first phase of the OMV co-financed Resourcefulness project is running – he and his team want to find a way to produce larger amounts that last longer and maybe even develop a prototype for a reactor to produce hydrogen.

The experts are very aware that hydrogen is the fuel of the future. Cars can be powered by hydrogen, they can – unlike purely electric cars – be filled with hydrogen within a few minutes, and then with a full tank can drive a distance similar to that of cars running on fossil fuels.

That's why scientists all over the world are working on ways to produce hydrogen at an economically reasonable price without adding fossil fuels. Erwin Reisner: "The rule of thumb is that one kilogram of hydrogen can cost 2-3 dollars in the final stage. A full tank would then cost about the same as today.

But that is still a long way off for Erwin Reisner: "Right now we are doing research. And we are open and unbiased."