



# Global Energy Solutions e.V.

## For Prosperity and Climate Neutrality

# Interview Thorsten Herdan, HIF Global

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**Bert Beyers: Your company is involved in synthetic fuels. Why are they actually important?**

Thorsten Herdan: We deal with hydrogen derivatives, which we produce from renewable energies. You can also see it like this: We produce renewable molecules that pave the way to climate neutrality for all applications that cannot use renewable electrons. Because we are firmly convinced that the world's energy needs cannot be met with electricity alone. In many applications, for example in shipping, air traffic, heavy-duty transport, agriculture, the construction industry, but also for the car fleet that exists worldwide, we simply need molecules because they are the first choice for climate protection for reasons of efficiency. Many of these molecules are also used in liquid form - as so-called e-fuels. Because the energy density and transport and storage are easier. In addition, the gigantic worldwide potential for the generation of renewable energies, be it wind, solar or even hydropower, can only be tapped if we have chemical energy carriers available for transport and trade.

**What molecules are they?**

Ultimately, every type of gaseous and liquid hydrogen derivative and also the hydrogen molecule itself. But whenever it becomes too expensive, inefficient or simply impossible to transport hydrogen over long distances, we need an energy carrier - in other words, a carrier. And then there are various options, all based on synthetic gases or synthetic liquids. Depending on the customer's wishes, this can be methanol, petrol or even paraffin. And of course, the molecule that doesn't need carbon for production, which is ammonia. We have many applications there, not only in the fertiliser industry, but also in shipping, for example. The race for the right molecule from the customer's point of view is in full swing. We look at

what the market wants and what the customer demands. We look at where the customer's willingness to pay lies. And then we make that molecule.

**Can you say a few words about your company, about HIF Global?**

HIF Global is a company that goes back to the vision of Chilean entrepreneur Cesar Norton, who decided to focus his energy and assets on the production of renewable molecules to help achieve global climate goals. He is doing this not only with great vigour, but also with a great deal of success. In the search for possible areas, the province of Magallanes in southern Chile was identified as the ideal location. Magallanes is one of the most interesting areas in the world to produce e-fuels from wind, as the wind conditions are the best in the world with over 6000 full load hours. In April of this year, 260 million dollars were already acquired for the development of the projects. The investors behind this money are Porsche, Baker Hughes, EIG, Gemstone Investments and AME.

**Your most important pilot project, Haru Oni, is in southern Chile. How is progress?**

Haru Oni is under construction. So, we can show not only PowerPoint presentations, but real pictures of real plants. We will go into production this year. The opening is planned for November. With the Haru Oni pilot plant, we have deliberately set up a project in which we can show the entire process. From generation of wind power to the conversion into hydrogen by means of PEM electrolysis, the synthesis gas production with a direct air capture plant, i.e., the extraction of CO<sub>2</sub> from the air, the subsequent methanol production and, last but not least, the gasoline production with a methanol to gasoline process (MtG). It is not only a fully financed project, but also a "learning and experience project" for us to be able to realise cost depressions for the future projects in Chile, USA, Australia and the EMEA region.

**What exactly will Haru Oni produce?**

Haru Oni will produce gasoline. And the customer for the petrol will be the Porsche customer. This is an important signal, also to global politics, since we have enough debates about whether a car can run on renewable fuel or whether it would be better to ban it. We look at the market very closely and if this market has customers who are willing to pay, then you can do two different things: either send the customer off the farm or supply the customer with the desired product and at the same time finance the market ramp-up for the production of e-fuels. And we have chosen the latter. Much like Elon Musk, who in the beginning also needed customers willing to pay for his first Tesla vehicles. With the production of the first quantities of e-fuels for Porsche customers, we are creating a start to be able to produce the large quantities of e-fuels for aviation or shipping in future as well.

### **How expensive will a litre of synthetic fuel be for a Porsche driver?**

I can't disclose the calculation here. But I can tell you that the overall concept is right. And that, of course, also has something to do with the fact that a company like Porsche wants to be sure that these fuels will be available in the future and that the large existing fleet can be on the road in a climate-neutral manner. This is less about the cost per litre and more about a future perspective.

### **When will you make money with your green molecules?**

We are earning money as we speak because this project is refinanced. The question is how much of this earned money will be invested in the future. In 2026, we will build a 300 MW plant in Chile with phase 1 and in Australia. In the USA, we plan to commission an e-fuel factory with almost two gigawatts of electrolysis pipeline in 2026. In April this year, together with the Governor of Texas, we announced an investment of around 6 billion US dollars. The fuel from this plant is destined for the Californian market. There, with the Low Carbon Fuel Standards (LCFS), there are framework conditions that will create a sales market. Haru Oni is therefore the beginning of a "ramp-up" that will then lead to the next phases, not only in Chile but also at other locations around the world. The learning effect from Chile will make renewable fuels increasingly cost-effective and thus contribute to combating climate change in mobility, shipping and aviation as well.

### **What do you say about the political discussion in Europe, where the combustion engine is on the brink of being terminated from 2035? What does that mean for your business model?**

I think this has less to do with our business model than with the question: what are we doing to our economy and climate protection? Firstly, it is completely unclear to me why the state is in a better position to judge what the market needs than the market itself. The state clearly has the task of setting the targets for climate protection, monitoring the achievement of the targets and setting the corresponding framework conditions. But which technology is used to achieve the climate targets should be left to the market. I find it quite adventurous that a technology that makes CO<sub>2</sub>-free drives possible could be banned from 2035. The second point: for a ramp-up, we need the willingness of customers to pay, i.e., from the automotive industry. Without Porsche as a customer, we would not have been able to build the Haru Oni pilot plant in the first place. This customer benefits all other customers in the future to come because it helps to make availability and the development of new markets possible. This means that shipping or air transport can also make use of more cost-effective fuels sooner. And the third point: how do politicians actually deal with the economy in Europe? Germany is a world leader in the development of combustion engines and the entire value chain. I would like to mention two gentlemen: Rudolf Diesel and Nicolaus Otto. And I think it is absurd to send a political signal that condemns this industry to die in Europe - only to rebuild it in China and other countries.

### **How important is the certification of green fuels?**

For some time now, we have been experiencing a very ideological debate about the colour of hydrogen and its derivatives. Blue, red, yellow, green or perhaps dark green? This debate only leads to trench warfare and misses the real question: How much CO<sub>2</sub> is in a unit of energy and how is this certified? Only if we succeed in certifying the amount of CO<sub>2</sub> per unit of energy in a transparent and comprehensible way will climate protection be helped. Moreover, this certification is crucial for future market development. For only if the customer knows how much CO<sub>2</sub> he is "buying" will a "bankable" market model develop. We are developing a certification model and are able to demonstrate its suitability throughout the production chain in our pilot project Haru Oni. If we cannot show clearly and transparently what the CO<sub>2</sub> content of the fuel is, then we will constantly end up in a difficult debate: Is the fuel "good or bad"?

### **Where will we be in five and ten years' time as far as synthetic fuels are concerned?**

In five years, our three production sites will be up and running, in Chile, Australia and the USA. However, e-fuel will not only be used in the automotive industry. Large parts of the production will also find their way into shipping and aviation. We are currently holding many talks with potential customers and the demand is enormously high. And if we now look ten years into the future, we will have commissioned plants in Chile, Australia and the USA in the multi-digit gigawatt range. But we will also have opened up new sites in Europe, in Africa and in the Middle East, and will be able to provide the renewable fuel and feedstock to large parts of the economy at very competitive prices.

### **When will ordinary European customers be able to buy synthetic fuels at the petrol station?**

Well, I'm sceptical that in the foreseeable future you and I will be able to drive to every filling station and fill up with e-fuels there. For that, we would have to build up nationwide availability of e-fuels in Germany. I rather believe that in the medium term it will remain a niche product for the passenger car sector and that specific filling stations will be equipped with it. In addition, depending on the political decision, it will be "blended" in a similar way to E10 and thus provide for CO<sub>2</sub>-reduction. But I am sure that the first ships with e-fuels will set off on their great voyages before the end of this decade.

### **Where do we stand at the moment?**

We have a market that is gigantically large on the demand side - but homoeopathically small on the supply side. That's why we are confronted with so many enquiries. From large volumes to very small ones, such as municipal utilities that say: I want to fuel my bus fleet with e-fuels. Can you deliver that? We are in a situation where we have to master the ramp-up

phase, from the willingness to pay of the first customers with smaller quantities to larger quantities for widespread use. That's where we look for classic risk-sharing to master this initial phase - through the whole value chain, from the first-time customer to the state, which can cover certain risks, to financing institutions, to oil and gas companies, to individual suppliers. We are faced with the task of converting a first-mover-disadvantage on the price side into a first-mover-advantage in the availability of cheap fuel of the future for every single player in this value chain. And I am quite confident that we will succeed. It worked in Haru Oni - it will also work with the larger projects!