Enough of the problems. We are implementing the Energy Strategy 2050

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The Cham-based company Silent-Power AG is showing concrete approaches on how to achieve the energy targets - Franziska Vonaesch.

Politicians from all parties are looking for solutions to implement the Energy Strategy 2050. Ultimately, the aim is to provide future generations with an environmentally sustainable energy supply. The strategy calls for the phasing out of nuclear energy and the promotion of renewable energy sources. Switzerland is therefore committed to sustainable energy. However, it is simply impossible to meet demand with wind turbines and solar energy systems because electricity from the sun and wind is not available on a constant and predictable basis but is instead subject to high fluctuations due to weather conditions. Especially in winter, Switzerland is dependent on imports, because snow, ice and low temperatures cause a significant increase in electricity

demand. It should be made possible to store surplus energy and use it at a later date when demand exceeds supply.

Yes, but…

Assuming that we would satisfy the entire energy demand in Switzerland with CO_2-neutral energy, we would not be able to produce the required quantities in this country. That we would ever become energy self-sufficient in Switzerland is simply impossible due to the small area of Switzerland.
We currently produce 79 TWh of primary energy with a final consumption of 231 TWh. 75 percent of our energy is imported. This will not change significantly even after 2050: Switzerland will have to import climate-neutral electricity and fuels from abroad for the «decarbonisation» process. And on a grand scale.
So renewable energy must be tradable. The best approach would be to create a synthetic fuel industry. In concrete terms, this means producing green energy chemically, converting it into a liquid form so that it can be stored and transported safely over long distances and in large containers or tankers. Only in this way will there be a CO_2-neutral future in Switzerland and worldwide.

It is about climate protection, energy system transformation and our future

Crude oil is the starting point for all fossil fuels – from petrol, diesel and paraffin to heating oil. At least so far. The chemist and Nobel Prize winner Professor George A. Olah proved years ago that crude oil can be replaced: he developed a process that produces methanol – i.e. stored energy – from electricity, water and CO_2. Unlike hydrogen, methanol is liquid. When stored correctly, it doesn't volatilise, and when handled correctly, it doesn't explode. Of course, greenhouse gases escape again during combustion. But if CO_2 is first extracted from the environment, a closed carbon cycle is created without any harmful effects on the climate: CO_2 extraction, methanol production, CO_2 emission and CO_2 use again.
If we now take electricity from renewable sources to produce methanol, the surplus green electricity can be stored

and thus used sensibly. This process is called «Power to Liquid».
This is precisely what makes methanol extremely interesting for the global energy turnaround. This is because the synthetic energy source is not only available without restriction as a substitute for electricity, but also as a fuel for cars, ships and aircraft. The process has two critical goals: to produce enough methanol for industry, commerce and transport, gigantic quantities of green electricity and CO_2. The latter may seem contradictory at first sight. But the CO_2 concentration in the atmosphere is very low: it is around 0.04 percent. There is currently no economical technology that extracts CO_2 from the air and processes it into chemical products using renewable energies.

According to the International Aspects of a Power-To-X Roadmap study (Germany), a global market for green synthetic fuel with an energy of up to 20,000 TWh per year could emerge worldwide from 2050. This corresponds to about 50 percent of the current global demand for crude oil.
The new methanol industry is thus reaching dimensions that are now associated with names like ExxonMobil, Shell or Chevron. In a figurative comparison, this would be roughly as if hundreds of nuclear power plants around the world were working just to produce methanol. That sounds illusory. But the Paris climate agreement calls for a climate-neutral world by 2050 – a goal that excludes small-scale solutions.

Switzerland as Global Leader

Methanol synthesis plants already exist in various regions, for example in Qatar. There, large quantities of methanol are produced from natural gas. China is also preparing for an offensive: they are relying on methanol-powered vehicles with combustion engines. Their millions of tonnes of methanol are based on coal, which is abundantly available in their own country.
The Swiss pioneering company Silent-Power is at the forefront of this development as an innovation driver – albeit not with gigantic production volumes, but with enormous commitment and technological knowledge. The company is committed to the Energy Strategy 2050, which aims to reduce CO_2 emissions in industry, commerce and transport by converting CO_2 into methanol and then converting it into electricity, heating and cooling energy. Silent-Power also wants to keep a part of the added value in its own country. To this end, the company is building its own synthesis plant: an

outstanding technological lighthouse project to position Switzerland internationally as a technology leader. The plans for this are already very concrete.

Under the leadership of Prof. Dr. Urs A. Weidmann, part of the methanol required throughout Switzerland is to be produced within the company from 2022 onwards – provided that the general conditions are right. According to the Silent-Power idea, the electrical energy is to come from water and the sun. The resourceful engineers from Cham think economically when developing the process. For example, the company wants to filter the CO_2 from industrial waste gases. Especially waste incineration plants and cement factories emit CO_2 in concentrated form. Switzerland can this way develop an interesting earning potential thanks to this know-how. The construction of a synthesis plant would also create new jobs and give the damaged economy the urgently needed boost.

Now is the chance to build a pioneering energy economy based on methanol from which everyone can benefit worldwide. It would be good if Swiss politicians recognised and used this potential. Pioneering power is in demand, the technology for change is ready.