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Switzerland will have to disconnect one million fossil fuel boilers

The climate emergency calls for the abandonment of oil and gas boilers. Technical solutions exist, but the manpower and materials are lacking. Thousands of new fossil fuel boilers are still being installed.

STÉPHANE HERZOG

The one million oil and gas boilers which heat Swiss homes will have to be replaced by heat pumps, geothermal energy, or, outside the towns, by wood heating. These solutions will enable a reduction in CO2 emissions of approximately 30 percent. "It's not a hard choice, because replacing an oil boiler by a heat pump is simple. There is also a political angle behind energy renovations: we see we can no longer rely on fossil fuel energy produced abroad," says Stéphane Genoud, professor in energy management at the HES-SO Valais-Wallis.

Cantonal laws are gradually imposing the replacement of oil and gas boilers by sustainable systems. But a proportion of the population still considers cost a priority. In 2021, there were still more than 17,000 fossil fuel boilers installed, compared to 33,000 heat pumps. Heating companies did not hesitate to offer cut prices for replacement oil boilers, in anticipation of the entry into force of these

new laws. This was particularly evident in Glarus, St Gallen and Zurich. "This pro-oil trend will impact future generations, because these boilers will still be burning oil for a quarter of a century to come," says Stéphane Genoud. The former electrician estimates that the curve in CO2 production in Switzerland and throughout the world will lead to an increase in global warming of 3-4 degrees between now and 2050, with immeasurable consequences for the country.

The heat pump at the centre of the energy transition

The flagship tool of the transition is the heat pump. This apparatus, which extracts heat from a liquid source or from the air, is today fitted in approximately one in five buildings in Switzerland. Its installation is supported by the Confederation, the cantons and certain communes.

A typical sight in Switzerland. Deep holes are drilled using a mobile drilling rig for a geothermal probe. The aim is to heat homes with thermal energy from the ground.

Photo: Keystone



“With an electrical source of one kilowatt hour, a heat pump using water can produce up to 4.5 kilowatt hours of heat. This remains a valid solution, even in the event of electricity price rises,” explains François Guisan, who manages a sustainable development advice bureau in Geneva. Ideally, this system is powered by solar panels. In Geneva, there is a building made up of 260 rental apartments which uses this type of heating solution, for example.

“If the boiler renovation goal is set at 25 years, the renovation rate should be 4 percent, but it is currently closer to 2.3 percent,” calculates Fabrice Rognon, a member of the committee of the *Groupeement professionnel suisse pour les PAC* (Swiss professional association for heat pumps). The engineer also draws attention to the installation of oil boilers in new builds. “To reach zero carbon emissions, we need to stop installing fossil fuel boilers altogether!”

Households hostage to fossil fuel energies

Concern over the costs of non-fossil-fuel heating plays a crucial role in this phenomenon. “A gas or oil boiler costs less, but over time, a heating system using a heat pump will be more economical, not forgetting that households’ exposure to the costs of fossil fuel energies is high, with rising prices,” points out Guisan. This specialist recently led the energy renovation of a luxurious home in the Geneva countryside. The boiler consumed 9,000 litres of oil per year. The installation of pellet-fueled heating cost 80,000 Swiss francs. The advantages? Produced in Switzerland, wood is less expensive than oil, and its greenhouse gas emissions are up to ten times lower than fossil fuels. In this canton, the installation of oil boilers is prohibited as of 2022.

The question of the costs of energy renovations obviously concerns those renting properties. “In order to carry out renovations, it will be necessary to increase the rent, which tenants will reject. Landlords will first have to accept that in ten years, the results of mortgage rate drops have not been translated into their rent prices. Pro-tenant lobbyists will also have to step up and do something about this, because in the end, the renovation will be more economical than the status quo,” reasons Stéphane Genoud.

Promoting energy renovation professions

Switzerland does not have enough trained individuals to carry out this work. “We are missing 300,000 installers,” estimates the professor from the canton of Valais, who mentions having developed a work and training programme aimed at young, unemployed graduates in the Maghreb region. “They would return to their country after



a few years spent working in Switzerland with skills and capital.” Genoud highlights the fact that a number of professions are set to gradually disappear. “With electric cars, mechanics will no longer be as useful. They could install solar panels instead,” he argues.

Marc Muller, manager of a company specialising in energy renovation in Yverdon, envisages a sort of movement. “A student who has finished their studies in sociology and who is planning to leave to complete a world tour on their bike could be advised to become a carpenter,” he suggests. He emphasises that there is already a five-to-eight-year waiting list for the energy renovations for large buildings. For Genoud, the training system in Switzerland should encourage professions related to renovations. “Installing heat pumps is an attractive profession which pays well,” he confirms.

Rejected at a referendum in 2021, the law on CO₂ provided for support mechanisms for renovation works. “The Confederation should buy heat pumps by lots of 10,000, like it did for masks during Covid-19,” suggests the Valais professor. Because another shortage is looming, which also concerns solar panels and insulation materials. In April, the Environment, Spatial Planning and Energy Committee of the National Council declared itself in favour of an indirect counter-project to the glaciers initiative, a text which advocated a linear reduction of greenhouse gases to achieve zero carbon in 2050. The counter-project in question suggested the implementation by the Confederation of an extraordinary programme worth 2 billion francs over ten years to replace the installation of fossil fuel boilers and to facilitate the energy-efficient renovation of buildings.

A chimney sweep cleans an oil furnace and has many more to do. Although they are growing obsolete, a surprising number of new oil heating systems are being installed. Photo: Keystone