PYREG
NET ZERO TECHNOLOGY

German-Swiss climate pact: PYREG supplies NetZero technology for climate-neutral district heating in Basel.

Using climate technology "Made in Germany“, Swiss energy service provider IWB produces regenerative heat and CO_2-absorbing biochar from green waste.

Dörth, January 31, 2022: PYREG GmbH, the world's leading engineer and builder of carbonization technology for active CO_2 removal, has realized the first climate-neutral district heating project in Switzerland with the Basel based energy service provider IWB.

In the focus: the newly developed PX 1500 from the medium-sized plant manufacturer PYREG in Dörth (Germany), which carbonizes unused biomass such as green waste into high-quality biochar. This happens on IWB's premises, producing ecological heat in the process. An annual heating output of about 1.5 gigawatt hours is fed directly into the district‘s heating network, supplying the energy needs of about 170 Basel households.

Carbonization - also known as pyrolysis - permanently and safely binds the climate-damaging CO_2. This means without carbonization by the PX 1500, the CO_2 still bound in green waste would be released into the atmosphere through conventional incineration or simple rotting. Not anymore. The carbonization process engineered by PYREG not only produces CO_2-negative heat, but also ecologically valuable biochar. In this biochar, CO_2 is safely bound. Subsequently dispersed into the earth it ends up in a permanent carbon sink.

IWB utilizes only regional, untreated biomass for carbonization, such as wood and green waste from a maximum radius of 40 kilometers around Basel. In the carbonization process, wood and green cuttings are decomposed into biochar at 500 to 700 degrees Celsius under the exclusion of oxygen. Because of the high quality of the raw materials and the controlled manufacturing process, the final biochar product qualifies for the internationally accepted "EBC-AgroBio" certificate. Which means, the biochar complies with the requirements for EU-wide use as a soil conditioner – even in organic farming. IWB sells the biochar – ca. 550 metric tons per year – to both, agricultural enterprises, and private customers.

When used as a soil conditioner, the carbon is permanently stored in the soil. This leads to a negative CO_2 balance in the overall process. Each year, the PX 1500 in Basel can remove around 1,500 metric tons of CO_2 from the atmosphere. This is a significant contribution to achieving the 1.5-degree goal agreed on in the Paris Climate Agreement (2015). According to the Intergovernmental Panel on Climate Change, IPCC, a radical reduction in CO_2 emissions alone is no longer sufficient to achieve this target. The additional help of active CO_2 removal from the atmosphere is needed. Now more than ever.

"Using PYREG's world class technology, IWB is a pioneer in climate protection and living proof of the enormous climate protection value that lies in CO_2-negative district heating," says Helmut Gerber, CTO and founder of PYREG GmbH, adding, "We are convinced that flagship projects like this one in Switzerland will follow worldwide. They are important as we have no more time to lose on the way to achieving the Paris climate protection goals."

"With this, our first biochar plant IWB emphasizes our leading role as a service provider for renewable energy. Decarbonizing the heat supply is one of our most important tasks, and not just in Basel. We carry this mission throughout Switzerland. The plant is a showcase project in terms of decarbonization and energy efficiency. Also, our customers gain from the ecological benefits of the biochar," says Dr. Arthur Janssen, Head of Strategy & Innovation at IWB.

IWB supplies individuals and businesses with electricity, heat, drinking water, telecommunication- and mobility solutions with a reliable, future-proof infrastructure and development of new services.

As a leading provider of renewable energy, IWB wins customers in the Basel region and throughout Switzerland for its climate-friendly energy and mobility solutions. IWB is recognized by their customers as a partner for production and use of climate-friendly energy.

IWB produces and distributes renewable and CO_2-neutral energy in different shapes. E.g., as electricity, heating and cooling, and mobility solutions. In doing so, the company contributes to the achievement of climate targets.

PYREG GmbH is among the first NetZeroTech companies. A German pioneer in the field of CO_2 removal by implementing sustainable solutions in waste management. The medium-sized engineer and manufacturer of carbonization technology was founded in 2009 as a university spin-off and today employs 85+ people.

The company offers a scalable and economical solution for the permanent and safe binding of environmentally harmful CO2 in the form of biochar. It is important to acknowledge that the Paris climate goals can only be achieved with the fast and wide distribution of „negative emission technologies“ like this one.

PYREG is the world market leader in the carbonization of organic waste (biomass, sewage sludge, etc.) into EBC-certified biochar whilst simultaneously generating regenerative heat. Used as a soil conditioner or in other durable material applications, biochar creates a natural, safe, and long-term carbon sink. The amount of CO_2 captured by PYREG's plants may either be certified or traded.

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