

Nitrous oxide reduction in sewage sludge incineration

Offset CO₂ emissions through compensation projects

In 2022, more CO₂ was emitted than ever before, even though one of the goals of the Paris Climate Agreement is to reduce CO₂ emissions. Climate change has been one of the hottest topics in recent years. Greenhouse gas emissions are a major factor in global warming, and it seems that the global community is finally starting to care.

As part of the Paris Climate Protection Agreement and the Swiss federal law on the reduction of greenhouse gas emissions, many industrial plants that emit greenhouse gas emissions into the atmosphere are obliged to reduce their CO₂ emissions. For additional measures beyond the legal requirements, the FOEN can issue tradable certificates that can be resold to the KliK Foundation for CO₂ offset. This also applies to sewage sludge incineration plants.

These plants burn the sewage sludge from wastewater treatment plants (sewage treatment plant) in order to then dispose of it or, in the future, to recover the phosphorus from the ash. During combustion, in addition to CO₂, nitrous oxide is also released. Nitrous oxide is produced when ammonia is incompletely burned and is a very strong greenhouse gas. It is around 300 times more harmful to the climate than carbon dioxide (CO₂) and has a mean atmospheric residence time of over 100 years.

In order to reduce these CO₂ emissions, the operators of the plants are motivated to reduce their emissions in order to achieve the national climate protection targets.

This is an important step to reduce emissions from sewage sludge incinerators. In recent years, more and more people have advocated a more conscientious approach to our environment. By financially supporting climate protection projects, we can ensure that emissions from sewage sludge incineration

plants will continue to be reduced in the future.

With the aim of facilitating the balancing of emissions, national and international certificates are issued by the federal government. These can then be sold to the KliK Foundation once they have been approved by the VVS validation and verification body. The purpose of issuing these certificates is to ensure that emissions are reduced and the environment is protected.



The FOEN awards compensation certificates for CO₂ savings

The Swiss Confederation has launched a compensation project to drive forward the achievement of climate protection targets. By 2030, nitrous oxide emissions in Switzerland are to be reduced by 50% compared to 1990. This reduction in emissions is an important step in keeping Switzerland on track to achieve CO₂ neutrality by 2050.

It is an important step to reduce emissions as part of the measures taken by Switzerland to reduce greenhouse gas emissions, based on the measures for the CO₂ law, particularly the CO₂ offset. Sewage sludge incineration and all branches of industry that produce CO₂ are therefore asked to eliminate part of the CO₂ emissions

through offset projects. This is an important measure to ensure that emissions are further reduced and is also an important step towards sustainable development and helps to achieve the goals of the Paris Climate Protection Agreement.

The preparation of all documents for the emission reduction pro-

jects according to the CO₂-regulation is very demanding. That's where we come in. We take care of all tasks - - you as our customer have no further effort to obtain the certificates in category 8: N₂O reduction (avoidance and substitution of nitrous oxide «N₂O»). In the past, we have been able to support a number of sewage sludge incinerators in Switzerland in preparing their project descriptions and monitoring. We are also happy to be at your disposal with our wealth of experience and knowledge.



Nitrous oxide reduction the process options

In order to reduce nitrous oxide in sewage sludge incineration, some measures have to be adopted in the production facilities. This will depend on which process is the most suitable for your plant. WASCOM AG will be happy to assist you in the selection process.

Two main processes are currently used in Switzerland to reduce nitrous oxide in sewage sludge incineration. On the one hand, the post-combustion can be increased by 50 – 100° C, with otherwise the same operating conditions and therefore no large additional investments. Nitrous oxide emissions can be reduced by around 70%. Or one can work with regenerative flue gas cleaning as an extended stage in the combustion process. RTO (Regenerative Thermal Oxidation) is a fully-automatic flue gas cleaning system based on

the principle of regenerative thermal oxidation in combination with a nitrogen removal system. This system is convenient, efficient, and powerful. It is ideal for large and small flue gas cleaning systems and can be used in a wide range of environments. A degree of separation of over 90% can be achieved with this. Of course, other methods are also available. We provide you with our support for all common procedures, which are promoted by the Swiss federal government.



WASCOM AG as Consulting and support partner

WASCOM AG specializes in consulting and support for sewage sludge incineration plants concerning nitrous oxide reduction. In recent years, increasing demand for its services has been observed. This is due to the increasing environmental regulations, which prescribe a reduction of nitrous oxide use.

WASCOM AG deals with project development, consulting, and the execution of projects to avoid and reduce nitrous oxide. We form the interface between the customer and the FOEN (Swiss Federal Office for the Environment), the validation and verification body VVS and the KliK Foundation (Swiss Foundation for Climate Protection and Carbon Offset). We create all the necessary project descriptions and monitoring so that the system operators receive the certificates in accordance with the CO₂ Act and can sell them to the KliK Foundation.

We support our partners and customers with the complex administration of recording emission and efficiency values and keep all the necessary documents neat and clear. In addition, we support our partners throughout Europe in complying with and preparing all the necessary documents for the certification of emission reductions in connection with the Paris Climate Protection Agreement.

This significantly unburdens our partners and customers and makes their work much easier. Our customers can thus concentrate

on their core business by including WASCOM AG in the process.

If you want to reduce the nitrous oxide in sewage sludge incineration, we can help you with the necessary documents. We have many years of experience in creating offset projects and can process and provide you with the necessary documents quickly and easily.

If you decide on an offset project, you have to submit various documents to different institutions, such as the FOEN, the validation

and verification body, and the KliK Foundation. These documents include, among other things, a project description, annual monitoring, and a schedule. We can help you create these documents and make sure all the information you need is included. We have extensive experience in planning and organizing offset projects and can help you with all aspects of your project. We can also manage the financial side of your project and ensure you get the funds you need. Contact us, we will be happy to help you with the preparation of the necessary documents.





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