

The global program and project organization [MethanStorage.org](https://methanstorage.org) was launched by Greening Deserts founder Oliver Caplikas in the summer. The potential danger of exceeding tipping points as well as possible and innovative solutions to reduce methane emissions in relation with permafrost problems and forest fires were recognized in time. In the run-up the [WetForest project](#) for wetlands was founded, including the sub-project [MoorForest](#), which aims to establish more wet forests and forested peatlands, marshlands or moorlands that could significantly reduce global methane emissions from wetlands. This is because shading grasses, shrubs and trees in wetlands keeps them cooler and cools them noticeably during droughts or heat waves. Logically, this reduces methane emissions, and climate-resilient plants and drought-tolerant trees also help protect wetlands as global warming increases. The plants in wetlands are usually better adapted to extreme weather events anyway. It would be great if German as well as European experts for wetlands, peatlands and marshlands join our projects like [SwampForest](#) or [MoorForest.org](#).

More wildfires or fires in rainforests and southern wetlands are releasing a lot of carbon and methane, can make forests and wetlands sources of greenhouse gas emissions. Arctic areas are warming 3 to 4 times faster than the global average, further accelerating and increasing natural emissions. Warmer northern areas such as Siberia and the aftermath of the war in Ukraine have significantly increased global methane emissions. One should also not underestimate the share of the military complex and the defense industry, as this is much related to the fossil energy industry, especially the gas, coal and steel industries. The concrete industry and construction industry are left out here, otherwise this would go beyond the scope of the article. Greenhouse gases (GHGs) from all man-made sources have a cumulative effect on the climate and should be reduced. It is not just the emissions problem by carbon, methane,.. - there are much more factors for warming of dark surfaces, cities and landscapes. Just think about all the brown, grey and black structures and surfaces who increased in nature and human world. Another important factor is the higher proportion of water vapor in the atmosphere which is responsible for over a half of the global greenhouse effect.

A warmer atmosphere holds more moisture—about 7 percent more per 1.8°F (1°C) of warming—and scientists have already observed a significant increase in atmospheric moisture due to the air's ability to hold more moisture as it warms. Storms supplied by climate change with increasing moisture are widely observed to produce heavier rain and snow. Research indicates that the increase in atmospheric moisture is primarily due to human-caused increases in greenhouse gases. - Climate Signals

Since the late 1800s, global average surface temperatures have increased by about 2 degrees Fahrenheit (1.1 degrees Celsius). Water vapor is not the main driver of global warming, but increased water vapor in the atmosphere amplifies the warming caused by other greenhouse gases. - NASA Climate

The emissions and pollution by fossil fuels, renewables and certain industries must be significantly reduced to reduce global warming. To stop climate

changes is nonsense, because climate always changes. The damaging effects can be prevented or reduced by better Climate Adaptation, Disaster Preparedness, Disaster Risk Reduction (DRR), resilient ecosystems and cities or urban areas. Energy efficiency and more reduction of greenhouse gases from the biggest polluter such as the energy sector should be also a main focus. Only together with all nations, human and natural solutions for greenhouse gas reduction, we the humanity can maybe stop global warming and help nature to accelerate the worldwide regeneration and greening process. To support nature and humanity in this process, Greening Deserts has launched the global greening movement, projects and organizations like the [Trillion Trees Initiative](#) – now also called [Global Greening Initiative](#). Indigenous peoples and biodiversity hotspots should be given special protection and support.

Many people wonder why there has been such a rapid increase in methane in the atmosphere in recent years. The answer is relatively simple, it is the considerable emissions due to the increase of man-made emissions and factors, especially due to "bridge technologies" like gas power plants and increasing gas production and consumption. Plus rising emissions from agriculture and the coal industry, with particularly large amounts of methane released from coal mining areas, gas and oil pipelines. Plus large methane emissions from increased forest fires and thawed permafrost, as well as methane emissions from worldwide wetlands and Northern Hemisphere lakes. Particularly large amounts of methane have been released from warming wetlands in Africa, Europe, North and South America. One should not forget Russia and Asia, of course, as well as Australia and many of the intense forest fires that have released incredible amounts of methane. All of this has also triggered or passed a couple of tipping points. The Arctic is warming many times faster as the rest of the world, so parts of the ocean with methane deposits are warming faster than thought. Methane concentrations in rivers, oceans, and lakes are increasing due to global warming, warmer rains, and warmed waters. This is also a reason for increased methane emissions from wetlands, especially in the taiga and tundra. Forests and wetlands can store a lot of carbon, but they can also release a lot of methane. During extreme climate and weather events, they can even become a major source of greenhouse gases.

It is logical that wetlands without trees warm up faster than moist forests that cast shade. This is also a reason why wetlands release more methane. Forest ecosystems suffer from droughts or extreme drought, store carbon poorly, and may even release more methane - especially from forest fires and dried out or destroyed soils. There are some large-scale solutions such as wetland forests, methane-eating bacteria, and aquatic plants that could reduce or even stop emissions. Mechanical solutions such as capping the lake bottom with an additional layer of clay or similar material from the region! Small lakes can be filled in. Trees can cool the area by many degrees, even in urban areas, this has been known for years! Sad that many officials and responsible people of EU and UN have ignored the projects for many years. To date, not a single project has received any active or financial support. The human future and many species are in real danger if they continue to be ignored, especially the

important [CESRPP program](#) and [Greening Deserts developments](#) and projects for ecosystem restoration, global biodiversity conservation, reforestation and greening. There is really not much time left, as extreme developments and events related to rising emissions and global warming have left humanity with even less time than before. If Greening Deserts main projects and the Species Rescue Program do not finally receive support, next year may already be too late. In the worst case, most people and species will not survive - also because those responsible ignored the urgent projects and did not act in time. It is just crazy how many billions they spent for destruction, pollution and war, but not a single cent in the most important projects for humanity.

In order to establish and protect forests in peatlands and wetlands, we need support as quickly as possible, because in just a few years this will no longer be possible in some regions where tree planting is planned, e.g. in southern Europe and North Africa. The new program for global methane reduction **MethaneStorageOrg** should be supported as soon as possible so that millions of moor or swamp trees can be planted. Natural or typical organisms like bacteria, fungi and water plants can be used which are useful for the wetlands, especially those which can bind and convert methane! Greening Camps can be quickly deployed as mobile storage facilities with containerized systems. Pre-germinated tree seeds and cultivated plants could then be effectively deployed in appropriate regions. For larger areas such as northern Canada and Europe, balloons and airplanes can be used for seeding. For years, Greening Deserts has been recommending the use of seeding balloons which, like drones, can also sow plant seeds autonomously and automatically! These are much more effective and cheaper than expensive drones, in addition they need much less energy, since one can use solar balloons or zepellins. The global greening and reforestation projects will be supported by Greening Camps developments and further connected projects. Greening Deserts projects and initiatives like [TrillionTrees.in](#) will improve or support exchange with international organizations, institutions, nations and local people of each region where ecosystem restoration, reforestation or greening camps start to operate. Another great news is that the Trillion Trees Initiative has now a second name and will be continued also under this title. The Global Greening Initiative, community network and organization for worldwide greening and greening.

Since the climate conference in Glasgow and with the latest UN climate conference in Egypt COP27, it is finally more about the methane emissions caused by humans and direct influences of the economy or certain industries. Thanks to new monitoring programs and satellites, many of the methane emissions from global industries, such as agriculture and fossil fuels, can now be better tracked. The gas and coal industries, as well as agriculture, account for a very large share of global methane emissions. With many more people and nations now concerned about these factors and the role of direct man-made part to global methane emissions, the **Methane Storage Organization** program for methane storage and greenhouse gas reduction is now focusing on the planet's natural and largest sources of methane. It is important to help animals, humans, plants and all other life forms to adapt better on climate

changes and to survive the more extreme weather events in future. Supporting nature with ecosystem restoration and nature-near conservation so far as possible and establishing more resilient ecosystems is the best way.

For years, Greening Deserts has been researching not only drylands and arid ecosystems, but also wetlands such as floodplains, bogs, wet forests, lake and river landscapes. Long-term studies of marsh trees and wetland plants have been conducted, including photography in wetlands of Europe like in Germany, Poland and Lithuania. Swamps and bog forests were documented for more than 20 years. More details and results will be also published with the German projects and project developments such as Eichenwald.org, FeuchtWald and MoorWald in the future. The international platform will then be accessible under **MoorForest** and **WetForest.org**. For years we have been recommending the reforestation or regreening and expansion of peatlands or moorlands, which can store more carbon CO₂ than all other ecosystems. In order to further reduction of greenhouse gases like carbon CO₂ and methane CH₄ emissions, trees should be planted, at least where methane emissions are very high or increasing due to warming. Swamp or marsh trees such as swamp oak and bald cypress grow relatively quickly. Together with organisms such as bacteria and fungi they regulate natural processes, stabilize water or wet soils - in some cases they even bind and convert methane. Some international studies and research showing that it is possible to prevent and reduce natural methane emissions. Sad that so many ignoring all these facts and scientific work which was published on Greening Deserts projects and social pages. Some officials and even corrupt politicians even harmed the founder and work several times during many years, not just by ignorance or ignoring the projects!

Greening Deserts started also projects for faster regreening and reforestation with pioneer plants and special trees in barren landscapes, mining areas and wastelands. Read more in articles and concepts like **Hemp cultivation in open-cast mines for sustainable soil improvement and organic farming with hemp**. Agrarhanf.com and HempPellets.org can support a more ecological forestry and sustainable agriculture. It can reduce global deforestation, land or soil degradation and biodiversity loss. Hemp can improve climate, soils and water balance, it is good for animal and soil health. Global hemp cultivation and resulting effects can reduce worldwide carbon and methane emissions.

Certain authorities, different parties and politicians ignored all requests, also some cities did not take the e-mails and urgent letters seriously. Strange was the blockade and even harmful interference with the life and work of the founder by Leipzig officials, authorities and state representatives of Saxony! We found many corrupt connections and relations of officials and politicians involved in dubious operations related to the coal and lignite industry. Since protests and publications because of the lignite and pollution problems in Saxony, Germany and Europe endless of dubious actions against Greening Deserts founder and work was documented. Reaching from discrimination, oppression and other questionable measures. Since many years life on the

poverty line, months without electricity and sometimes with so less money that it was a risk to health, ethics, fundamental and human rights. But never gave up and continued work under these extreme conditions. It is sad story of course and unbelievable how ignorant and inhumane some people are, even officials who should care about ethical, moral and basic principles like Human Rights laws. Hope there will be or come justice one time. They have often tried to wear down and destroy Greening Deserts founders, not only by ignoring them or by questionable actions. In the end they destroy themselves, unfortunately they have destroyed many people and life forms. Many could not be helped and more will die if they continue to ignore and not support the projects and founders. Many more will die if they continue to ignore and not support the projects and founder. We climate and species protectors, conservationists and environmentalists, as well as human rights activists and defenders will never forget this and remind all each year.

Back to the main topics like the global climate emergency projects and programs like ClimateEmergency Europe [Klimanotstand.EU](#). We researchers and scientists are recommending that international disaster response teams, nations, and UN agencies use data on climate change impacts, models, and environmental impacts of tipping points such as thawing permafrost to reduce disaster risk. At least some researchers and scientists with ties to international institutions have taken the work and projects somewhat seriously. Already in 2016 we wanted to establish first greening camps for re-vegetation and reforestation in Germany to establish more biodiversity, biotopes and wet forests in open cast mining areas like in Europe and our home country in Germany or Saxony.

A few more contributions from Greening Deserts project and social pages

The demand for more peatlands or wetlands and the strategy of some organizations in Europe and Germany comes with high risks if rewetting of peatlands or new wetlands is not properly implemented things can become more worse as before. If the climate or weather does not play along and extreme weather events, forest fires, natural and human factors are underestimated these carbon sinks can turn into sources of more CO₂ and CH₄. The methane problem in wetlands and peatlands cannot be ignored, as unfortunately so many have been doing for years. Emissions from drained peat bogs and from peat cutting are also not negligible. Similarly, the euphoric or unrealistic actions and trends for hydrogen. Methane is highly explosive and with the increased fire hazards, heated wetlands and peatlands can ignite more quickly, especially if they are no longer well flooded or watered. One should take the large moor and forest fires in the taiga and tundra in Siberia as a cautionary example.

In Germany there have also been many moorland fires, of particular interest being the large moor fire near the town of Meppen on the grounds of the

German armed forces in Lower Saxony. This scandal has not been properly clarified to this day and those responsible have pulled out of the affair, including the current President of the European Commission. She was in fact the responsible minister, the Minister of Defense and the Bundeswehr have not made good the damage to this day. The German Armed Forces could have been deployed years ago for the protection and expansion of moorlands, as well as for reforestation throughout Germany. However, it was rather praised heroic missions and 'fights' of the soldiers against the bark beetle, very questionable why one has not planted more new trees there in the same course? In Germany, after all the forest dieback and forest loss due to droughts, pests and forest fires, reforestation do not keep up. Too little tree breeding and planting activities in winter, lack of seeds and tree species does not noticeably increase biodiversity and significantly reduces the reforestation rate. Germany loses more trees than new ones are added.

We have nothing against the Bundeswehr, charitable and social missions. But if such actions are thwarted by various problems and scandals of responsible politicians, one does not need to wonder about the balances, consequences and results. The climate balance of the military in general is another important story. See more on Greening Deserts project pages such as the Trillion Trees Initiative for Europe and the European Forest Health.

Wetland drainage and increased evaporation from droughts, heat waves and warmer years have contributed significantly to the annual increase in emissions - whether carbon CO₂, methane CH₄ or nitrous oxide N₂O. "As much carbon is stored in Germany's peatlands as in forests, even though peatlands make up only about five percent of the land area and forests about 30 percent; When the water level is lowered by water drainage systems (drains), air enters the peatland body and bacteria and other soil dwellers begin to break down the plant material (mineralization). Large amounts of carbon are then released into the atmosphere. Nitrous oxide (N₂O) is also emitted, which is 265 times more harmful to the climate than CO₂. Drained peatlands thus become a source of greenhouse gases and contribute significantly to climate change." - Bundesamt für Naturschutz (BfN)

We all have no time for bureaucratic or political theater; the clock is ticking. If we don't act now and establish and implement national reforestation plans for wet forests and wetlands, it will be too late in just 10 years.

Serious scientists estimate that global warming will be 5 to 8°C in the next 20 years due to rising methane emissions and triggered tipping points. Special wetland plants, grasses, shrubs and trees can cool these areas. Bog or swamp trees are the key to holding and storing carbon and methane for the long term! NASA has discovered many methane hotspots, these should be regions to focus on reducing methane emissions through cooling, capture or storage with natural and engineered solutions. More info on Greening Deserts project pages and social sites. Check also GlobalGreening.org, MethaneStorage.org, TrillionTrees.eu and TrillionTreesInitiative.org for more updates in future.

Short summaries, further information and important details:

Stakeholders and the United Nations should finally help us establish climate adaptation, ecosystem restoration and greening camps in the Nordic regions with the largest methane emissions. There we can plant millions of marsh plants and trees with germinated seeds that are then sown using seed balloons and airplanes. If the seeds need some ground cover, we can use seedballs.

Establishing peatland and tundra forests as quickly as possible using seed planes and seeding balloons could reduce global carbon and methane releases in the tundra and thawing permafrost regions with the highest emissions.

Further sustainable products with big potential for agriculture, building and packaging are hemp feed pellets, hempcrete and hemp plastics. Hemp is one of the Greening Camp's key plants to improve soils, reforest and regreen drylands, barren lands and wastelands.

Greening Deserts and the [Trillion Trees Initiative](#) have begun developing major projects for these large-scale carbon reduction and methane storage programs. They are called #MethaneStorage, #MoorForest and #[TundraForest](#) - the latter for permafrost regions.

Greening Deserts started new sustainable projects for ecological agriculture and forestry. One is called #Agrarhanf.de, a German project for industrial hemp who can improve biodiversity, animal and soil health - and reduce global deforestation, carbon and methane emissions! #agroforestry #ecofarming #[ecoforestry](#) #hempfeed **#hemppellets**

Giving cows industrial hemp can reduce their stress levels and improve general health. Hemp could replace corn, soy and other polluting crops - saving forests, soils and rainforests! Like seaweed it can reduce cow methane emissions! **#feedpellets #hempfeed**

People forget that the 1.5°C goal and story is very imprecise, partly in a regional or global context. There are regions, land and sea areas which are already above 2.0°C! Some heat islands and cities have even already exceeded 4.0 degrees! #DRR #HeatIsland #HeatWave #UrbanHeat #[UrbanGreening](#)

Some years ago Greening Deserts started several projects for regreening and reforestation in North Africa and South Europe. The goal is to establish green spots and forests who will grow together in future. #DesertGreening #DRR #GreeningAfrica #UrbanGreening **#GlobalGreening.org**

The Global Greening project organization and Trillion Trees Initiative accelerates and supports the natural greening process by establishing more biodiversity and expanding healthy ecosystems. More plants and tree species can improve forests, soils and waters. **[GlobalGreening.org](#)**

The Trillion Trees Initiative get's a second name and will be transformed into a foundation in 2023. It's called Global Greening Initiative and will focus on most innovative reforestation or regreening solutions. #GGI **#GlobalGreening.org**
#TrillionTrees.Foundation

The MethaneStorage program should be initiated and supported immediately to reduce the future impacts of thawing permafrost with high methane emissions. In as little as two years, the spread of these plants, fungi, and bacteria can significantly reduce methane releases by stabilizing the soil and water cycles.

Together with cities and nations of the world we can establish biodiversity conservation, urban greening and vertical farming - especially in regions who are affected by extreme climate and weather events. Help us to establish global Greening Camps worldwide! **GreeningCamp.com**

Urban Greening Camps and vertical farming facilities can also help to accelerate the tree and plant production for wetlands, cities and urban areas.

The article was published in November 2022 by Greening Deserts founder Oliver Gediminas Caplikas on many different networks and platforms.