visibleRuhr eG
Spezialisten des digitalen Wandels

TRACA – Transparency and Climate Action

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INTRODUCTION

Digital transformation has undergone rapid development in recent decades and has fundamentally changed the way we communicate, do business, and shape our daily lives. In this process, cooperatives have re-established themselves as significant players in digital change by leveraging cooperative structures to achieve common goals and represent the interests of their members.

In view of the pressing global challenge of climate change, the issue of climate protection is gaining increasing importance. The impacts of climate change are already tangible and require urgent action to reduce greenhouse gas emissions and to develop sustainable solutions. At first glance, it may seem unusual that a cooperative dedicated to digital transformation would take on the issue of climate protection. Yet, upon closer examination, it becomes clear that this connection is highly relevant and offers numerous opportunities and synergies.

Digital transformation makes it possible to develop innovative solutions and increase efficiency across various sectors, including energy, transportation, agriculture, and industry. Through the use of digital technologies, processes can be optimized, resources utilized more efficiently, and environmentally harmful practices reduced. Cooperatives committed to digital transformation possess the expertise and resources to drive innovative solutions for climate protection.

As a cooperative dedicated to digital transformation, our organization, visibleRuhr eG, has committed itself to making a positive contribution to climate protection. We firmly believe that digital transformation is a key factor in promoting sustainable development and mitigating climate change. By leveraging our technological expertise and cooperative structures, we can, together with our members and partners, develop innovative solutions to reduce emissions, promote renewable energy, and establish sustainable practices.

In this report, we provide a detailed insight into our climate protection project and explain how our cooperative is using digital transformation to address climate change. We illustrate how our activities align with the United Nations Sustainable Development Goals (SDGs) and highlight the added value we create for our members, our community, and the environment.

By committing ourselves to digital transformation while at the same time focusing on climate protection, we are convinced that we can drive sustainable and future-oriented development. Together, we can combat climate change and create a livable environment for generations to come.

At the beginning of the year, the Board of visibleRuhr informed its members within the framework of the Agenda2023 information series about the main topics for 2023. Among them was climate protection, which at the time of the presentations was not yet well developed. In the meantime, progress has been made, and it has become clear that visibleRuhr eG will provide climate projects with an inventory software tool within the framework of ISO 14064-2.

This report addresses the following questions:

- Where do we stand today?
- Is climate protection allowed to generate profits?
- What is the EU Emissions Trading System?
- Who participates in the European Emissions Trading System (EU ETS)?
- How are responsibilities organized in Germany?
- What does one ton of CO_2 cost on the emissions exchanges?
- What happens with emissions outside the systems described above?
- What is a climate project?
- What are the most common criticisms of voluntary climate projects?
- What is currently happening in the software market regarding climate protection?
- Which standards exist in connection with emissions and climate?
- How does TRACA by visibleRuhr eG work?
- What does the greenhouse.ruhr scholarship mean for the TRACA project by visibleRuhr eG?
- What are the values, the vision, and the mission of the project?
- How does TRACA impact the Sustainable Development Goals?

Where do we stand today?

In a world shaped by uncertainty and change, the hope for a better future is of great importance. Hope involves accepting that the future is uncertain, while also recognizing the possibility of actively shaping it. Life itself is characterized by change, and humanity has long left the wheel of change behind, continuously creating new realities that come with new and unknown risks. One of these challenges is the alarming decline of global forest areas.

In recent decades, we have witnessed the loss of ever more forested land. According to analyses, between 1960 and 2019 approximately 437.3 million hectares of forest were destroyed worldwide, and up to 13 million hectares continue to disappear every year. This loss has far-reaching consequences for ecosystems, biodiversity, climate change, and ultimately for humanity itself.

In light of this alarming development, planting trees becomes for us a symbolic act of returning to the wheel of change (keyword: circular economy). It means preserving hope for a better future and actively taking steps to stop and reverse deforestation. Planting trees is not only a means of restoring the natural environment, but also a way to strengthen communities, create habitats for animals and plants, and fight climate change.

Furthermore, in a landmark ruling in 2021, the German Federal Constitutional Court determined that climate protection is a fundamental constitutional right. The decision emphasized that the freedom of the current generation reaches its limits when it impairs the freedom of future generations.

This ruling makes clear that climate protection is an intergenerational responsibility. It is about preserving the foundations of life for future generations and ensuring that they have the same opportunities for a livable and healthy environment. The decision of the Federal Constitutional Court therefore underscores the necessity of adopting long-term measures for climate protection and of mitigating the negative effects of climate change.

This jurisprudence emphasizes the moral and ethical dimension of climate protection and underlines the responsibility towards future generations. It reminds us that we must act today to fight climate change and minimize its impacts on future generations. The protection of the climate and the safeguarding of a sustainable future are therefore not only environmental issues, but also questions of justice and responsibility towards our children and grandchildren.

Is climate protection allowed to generate profits?

Climate protection is undoubtedly associated with costs, as investments in sustainable technologies, infrastructures, and measures are required. To cover these costs and make climate protection attractive and sustainable, it is important that profits can be generated. Profits provide incentives for companies, institutions, and individuals to actively engage in climate protection and allocate resources to it.

Creating a financial incentive makes it possible for people to earn their livelihood through climate protection measures. This fosters the development of a broad and diverse economy centered on climate protection, in which professionals, companies, and organizations can contribute. Profits can also help finance and implement climate protection projects, ultimately leading to positive change.

Nevertheless, it is important that profit-making within the context of climate protection should not be the primary objective. It is crucial that economic gains go hand in hand with social and ecological responsibility. Climate protection should always align with the goals of sustainability and must not come at the expense of other areas such as social justice or environmental preservation. A balanced view of profit-making in the context of climate protection is therefore essential in order to achieve long-term and holistic solutions.

What is the EU Emissions Trading System?

The European Emissions Trading System, also known as the EU Emissions Trading System (EU ETS), is a market-based instrument for combating climate change by regulating greenhouse gas (GHG) emissions within the European Union. The system was introduced in 2005 and is the largest and oldest emissions trading system in the world.

Emissions trading operates under the so-called cap-and-trade principle. First, a certain amount of emission allowances is set, representing the maximum total emissions permitted. This amount is called the “cap.” The allowances are issued in the form of certificates, with each certificate granting the right to emit one ton of CO_2 equivalent.

Allowances are allocated in two ways. A portion of the certificates is distributed free of charge to companies and facilities with high emissions (e.g., power plants, factories) based on their historical emission levels. Another portion of the certificates is sold through auctions. Companies may purchase additional certificates on the market if they wish to increase their emissions, or they may sell surplus certificates if they reduce their emissions.

Each year, companies in the energy sector as well as other energy-intensive industries must hold enough allowances to cover their actual emissions. If a company emits more than it has allowances for, it must buy additional certificates or pay penalties. Companies that keep their emissions below their allocated allowances can save their surplus certificates for future years or sell them on the market.

The aim of emissions trading is to reduce greenhouse gas emissions cost-effectively, as companies are free to find the most flexible and economical ways to cut their emissions. However, the system has also faced criticism, particularly concerning the initial free allocation of allowances and possible over-allocation, which led to low prices and provided little incentive for companies to invest in cleaner

technologies. Nevertheless, the European Emissions Trading System remains a central instrument of the EU in combating climate change and promoting decarbonization across the sectors involved.

https://www.umweltbundesamt.de/daten/klima/der-europaeische-emissionshandel#teilnehmer-prinzip-und-umsetzung-des-europaischen-emissionshandels

Who participates in the European Emissions Trading System (EU ETS)?

In the European Emissions Trading System (EU ETS), companies from specific sectors that are subject to energy taxation are required to participate. Participation in the EU ETS is mandatory for:

- Power generation plants and other stationary facilities with a net rated thermal input of more than 20 megawatts (MW).
- Refineries, coking plants, and installations producing iron and steel, cement, glass, ceramics, paper, cardboard, and other industrial sectors that exceed specific CO_2 emission thresholds.
- Heat generation plants that fall within the thresholds but have a heat production capacity of more than 20 MW.
- Aviation: The aviation sector was included in the EU ETS at a later stage. Since 2012, airlines have been required to acquire emission allowances for flights within the European Economic Area (EEA).

It is important to note that companies in these sectors that exceed the thresholds are obligated to participate in the EU ETS. Participation includes compliance with reporting obligations for their greenhouse gas emissions and the acquisition of sufficient emission allowances to cover their actual emissions.

What are the responsibilities in Germany?

In Germany, responsibility for the European Emissions Trading System lies with the German Emissions Trading Authority (DEHSt) at the Federal Environment Agency (UBA). The DEHSt is the national authority responsible for implementing the emissions trading system in accordance with the requirements of the European Union. It monitors and manages the national emissions trading registry, where the emission allowances of participating companies are recorded. The DEHSt is also responsible for monitoring compliance with emission limits, verifying emission reports, and conducting auctions.

The EU emission allowances traded under the EU Emissions Trading System (EU ETS) are traded on various exchanges and trading platforms. The largest and best-known exchange for trading emission allowances is the European Energy Exchange (EEX), headquartered in Leipzig, Germany. The EEX provides a specialized trading market for emission allowances, where companies, financial institutions, and other participants can buy and sell certificates.

What does one ton of CO_2 cost on the emissions exchanges?

First, a distinction must be made between the EU ETS and the national system in Germany (nEHS). In the first phase 2021–2025 – also referred to as the introductory phase – the nEHS resembles a tax. At gradually increasing fixed prices, from €25 per ton in 2021 up to €55 per ton in 2025, as many certificates are sold by the European Energy Exchange (EEX) in Leipzig as are demanded.

In the second phase 2026–2030, the nEHS will closely resemble the European Emissions Trading System (EU ETS). After the introductory phase, starting in 2026, suppliers will for the first time be required to purchase emission certificates through auctions within a fixed price corridor of €55 to €65 per ton. In 2025, a decision will be made on whether the price should be allowed to form freely on the market from 2027 onward.

year	Price per ton of CO_2 (in euros)
2021	25
2022	30
2023	30
2024	35
2025	45
2026	55-65
2027	Likely free price formation through the auction process
2028	Likely free price formation through the auction process
2029	Likely free price formation through the auction process
2030	Likely free price formation through the auction process
From 2031 onward	Likely free price formation through the auction process

Source: https://www.emissionshaendler.com/de/teilnehmer-behg/behg/nehs-emissionswissen/die-phasen-des-nehs

What happens with emissions outside the systems described above?

There is also emissions trading with CO_2 certificates outside the official emissions trading systems such as the European Emissions Trading System (EU ETS). These systems are often referred to as “voluntary carbon markets.”

The voluntary carbon market enables companies, organizations, and individuals to voluntarily offset or reduce CO_2 emissions. Companies can purchase CO_2 certificates that represent the compensation of emissions through projects that avoid or remove CO_2 emissions. Such projects may include renewable energy initiatives, forest conservation measures, or reforestation projects.

The certificates traded within the voluntary carbon market may follow various standards and certification systems such as the Verified Carbon Standard (VCS), the Gold Standard, the Climate Action Reserve (CAR), or the Clean Development Mechanism (CDM).

The voluntary carbon market is aimed at companies and individuals who wish to go beyond legal obligations and reduce or offset their CO_2 emissions. It provides an opportunity to support climate protection projects and contribute to the reduction of global greenhouse gas emissions.

However, it is important to note that the voluntary carbon market is not linked to the official emissions trading systems and does not have the same legal obligations or oversight. Therefore, it is essential to carefully verify the integrity and credibility of voluntary CO_2 certificates and projects, and to rely on recognized standards and certification systems.

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https://unfccc.int/files/cooperation_and_support/capacity_building/application/pdf/unepcdmintro.pdf

What is a climate project?

Climate projects can either aim to reduce existing emissions or to prevent additional emissions from being generated.

In emission reduction projects, the goal is to decrease greenhouse gas emissions by using more efficient technologies or practices. An example of this would be the use of energy-efficient stoves or facilities that produce fewer emissions than conventional equipment. These projects help reduce the release of greenhouse gases and thus contribute to combating climate change.

Afforestation and forest conservation projects, on the other hand, focus on capturing and storing CO_2 from the atmosphere. Trees absorb CO_2 during their growth and store it in the form of biomass. By reforesting areas or protecting existing forests, the amount of carbon in the atmosphere can be reduced. These projects contribute to the removal of already existing CO_2 and help restore balance to the carbon cycle.

Both types of climate projects are important for addressing climate change. Emission reduction projects help limit the release of greenhouse gases and minimize sources of emissions. Afforestation and forest conservation projects, in turn, support the removal of CO_2 from the atmosphere and contribute to the restoration of natural carbon sinks.

It is essential to pursue both emission reduction and CO_2 removal in order to develop a comprehensive strategy for combating climate change and to enable the transition to a low-carbon future.

Key criteria for an effective climate project:

- **Real:** The project should genuinely contribute to reducing emissions or removing CO_2 from the atmosphere. It should be based on real measures and activities that demonstrably have a positive impact on climate change.
- **Additional:** A climate project should generate emission reductions or CO_2 removals that go beyond what would have occurred without the project. It should provide measurable added value and not merely reflect existing efforts or legal obligations.
- **Transparent/auditable:** Transparency and auditability of the project are crucial to ensure that the claimed emission reductions or CO_2 removals are actually achieved. Clear methods and standards for measuring, monitoring, reporting, and verifying the project's outcomes should be in place.
- **Sustainable:** A climate project should aim for long-term sustainability in order to have lasting effects on climate change. This means that the project's measures and activities should remain effective in reducing carbon emissions or permanently sequestering CO_2. Social, ecological, and economic aspects should also be considered to ensure that the project delivers holistic and sustainable benefits.

Compliance with these criteria is essential to ensure that climate projects are effective and trustworthy. Therefore, certification systems and standards such as the Verified Carbon Standard (VCS), the Gold Standard, and other recognized mechanisms are typically used to guarantee the quality and integrity of climate projects. These standards ensure that projects meet the criteria outlined above and contribute to the actual reduction of greenhouse gas emissions and the fight against climate change.

What are the most common criticisms of voluntary climate projects?

There are various types of criticism raised regarding climate projects. Here are some common points:

- **Additionality:** A main point of criticism concerns the question of additionality. It is debated whether a climate project truly generates additional emission reductions or CO_2 removals beyond what would have happened anyway. There is concern that some projects might not have been implemented without the prospect of revenues from carbon credits or offsets.
- **Integrity and quality:** Another criticism relates to the integrity and quality of climate projects. Concerns exist regarding the accuracy of measurements and reporting of emission reductions or CO_2 removals. Some projects may overstate their results or fail to adequately measure their actual impacts.
- **Double counting:** Criticism is also voiced about the possibility of double counting, where the same emission reductions or CO_2 removals are claimed multiple times in different offset mechanisms or projects. This can lead to an overestimation of the overall impact of climate projects.
- **Social and ecological impacts:** Some argue that climate projects may have undesirable social or ecological effects. For example, afforestation or bioenergy projects could negatively affect local communities, land use, or biodiversity.
- **Lack of accountability:** Another concern is the issue of accountability and verifiability of climate projects. There are fears that some projects are not sufficiently monitored or verified to ensure that they actually achieve the claimed emission reductions or CO_2 removals.
- **Climate colonialism:** A significant point of criticism concerns the worry that climate projects may, in some cases, lead to further exploitation of developing countries or marginalized communities. There is concern that wealthy countries or companies from industrialized nations may implement or finance climate projects in poorer countries to meet their own emission obligations or improve their climate balance, while the negative impacts on the affected communities are insufficiently taken into account. The debate about climate colonialism highlights the need to align climate projects with social justice, human rights, and sustainable development, ensuring that they genuinely create positive outcomes for affected communities rather than further disadvantaging or exploiting them.

What is currently happening in the software market with regard to climate protection?

There are various types of software and tools that support companies and organizations in managing and monitoring emissions. Here are some examples:

- **Emissions management software:** This type of software enables companies to record, track, and analyze their emissions data. It provides functions for data entry, automated calculations, report generation, and monitoring progress in emission reduction. Examples of emissions management software include the Greenhouse Gas Protocol (GHG Protocol), Ecochain, and Enablon.
- **Emission calculation tools:** These tools help companies calculate and quantify their greenhouse gas emissions. They often provide predefined emission factors and methods to ensure calculation accuracy. Examples of emission calculation tools include the Carbon Footprint Calculator from the Carbon Trust, the GHG Emissions Calculator from the U.S. EPA, and the GHG Calculator from the International Civil Aviation Organization (ICAO).
- **Emissions trading platforms:** For companies participating in emissions trading, there are specialized platforms that facilitate the trading of emission allowances. These platforms allow companies to buy, sell, or trade certificates and meet their emission obligations. Examples of emissions trading platforms include EEX, ICE Futures Europe, and CBL Markets.
- **Sustainability and CSR software:** This software supports companies in tracking and reporting their sustainability performance, including emissions data. It enables companies to create sustainability reports, engage stakeholders, and communicate their progress in reducing emissions. Examples of sustainability and CSR software include Enablon, SAP Sustainability Performance Management, and CSRware.

These tools and software support companies in managing their emissions data, tracking their climate goals, and implementing measures to reduce emissions. They facilitate data collection, the automation of calculations, the monitoring of progress, and the creation of reports in order to improve the transparency and accuracy of emissions data and enable effective emission reduction.

There are various types of software and platforms that can support climate projects, particularly in the areas of climate finance and compensation. Here are some examples:

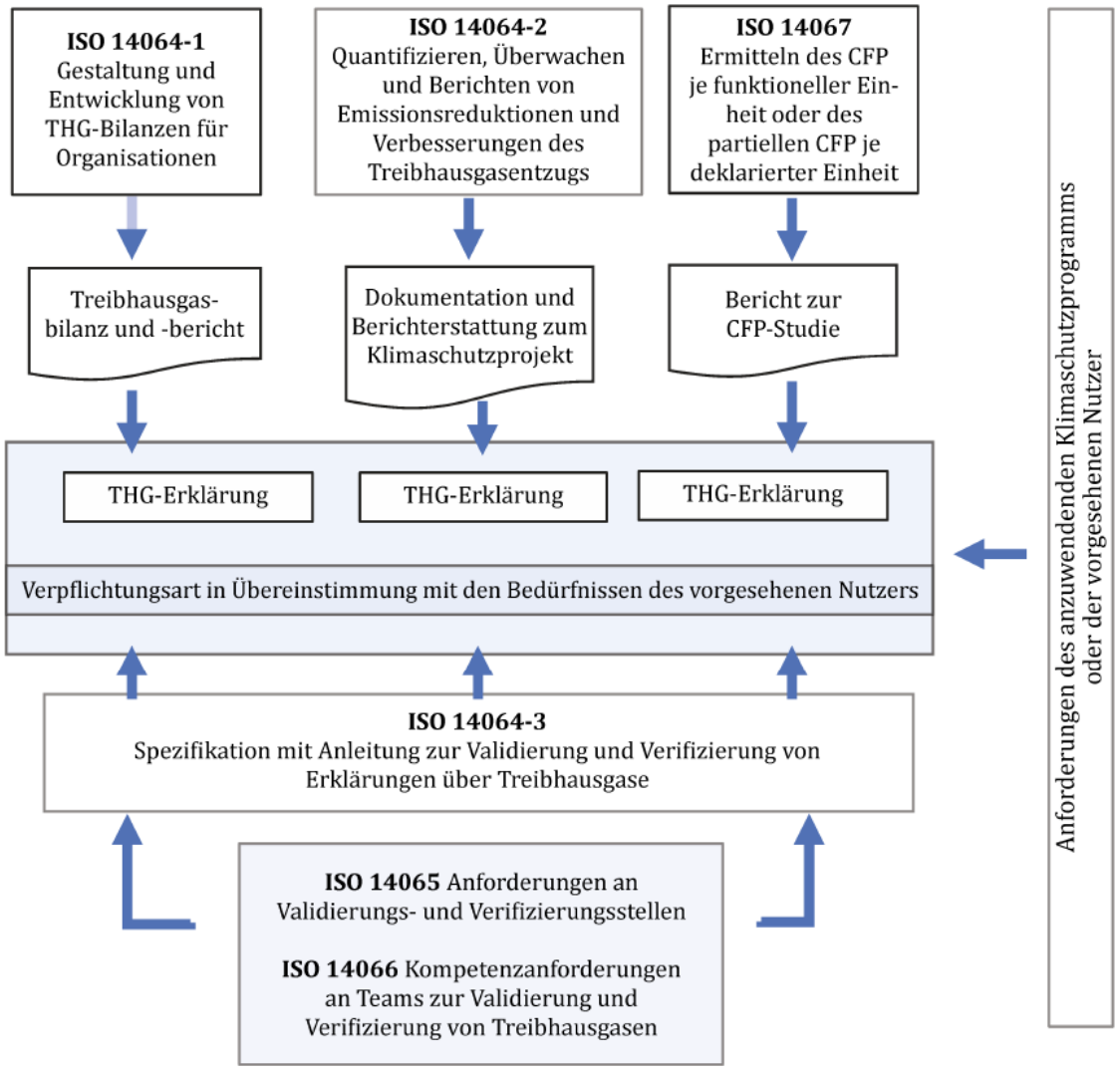
- **Climate project registries:** A climate project registry is a platform where climate projects can be registered, monitored, and verified. These registrations serve as proof of the emission reductions or CO_2 removals achieved by the project. An example of such a platform is the Verified Carbon Standard (VCS) Program, which enables the registration of climate projects.
- **Climate blockchain platforms:** Blockchain technology is increasingly being used for climate projects to ensure transparency, traceability, and trust. These platforms enable the recording, monitoring, and verification of emission reductions or CO_2 removals in real time. An example of this is the “Climate Action Reserve” project in the United States, which uses blockchain technology to verify climate projects.
- **Project management software:** Projects aimed at emission reduction or CO_2 removal often require effective planning, monitoring, and management. Project management software helps organize resources, tasks, schedules, and budgets, and track project progress. Examples of project management software include Trello, Asana, and Microsoft Project.
- **Financing platforms:** For the financing of climate projects, there are specialized platforms that connect investors with project developers. These platforms facilitate access to financing

opportunities for climate projects by providing information, risk assessments, and contract options. An example of such a platform is *Climate-KIC's Climate Finance Accelerator*.

- **Climate assessment tools:** These tools support the evaluation of the impacts of climate projects and help determine their positive contributions to climate adaptation and mitigation. They enable the assessment of project goals, performance, and impact, and help identify strengths and weaknesses. Examples of climate assessment tools include the Climate Bonds Standard and the Climate Resilience Framework.

This software and these platforms help manage climate projects more efficiently, improve the integrity and transparency of the projects, and facilitate access to financing opportunities. They support the development, implementation, and monitoring of climate projects in order to make a positive contribution to combating climate change.

Which standards exist in connection with emissions and climate?



ISO 14060-1:2006 – Guidelines for the quantification and reporting of greenhouse gas emissions and removals for organizations:
This part provides guidance for organizations on quantifying their direct and indirect greenhouse gas

emissions as well as accounting for CO_2 removals. It includes guidelines for reporting this data and sets out principles and requirements.

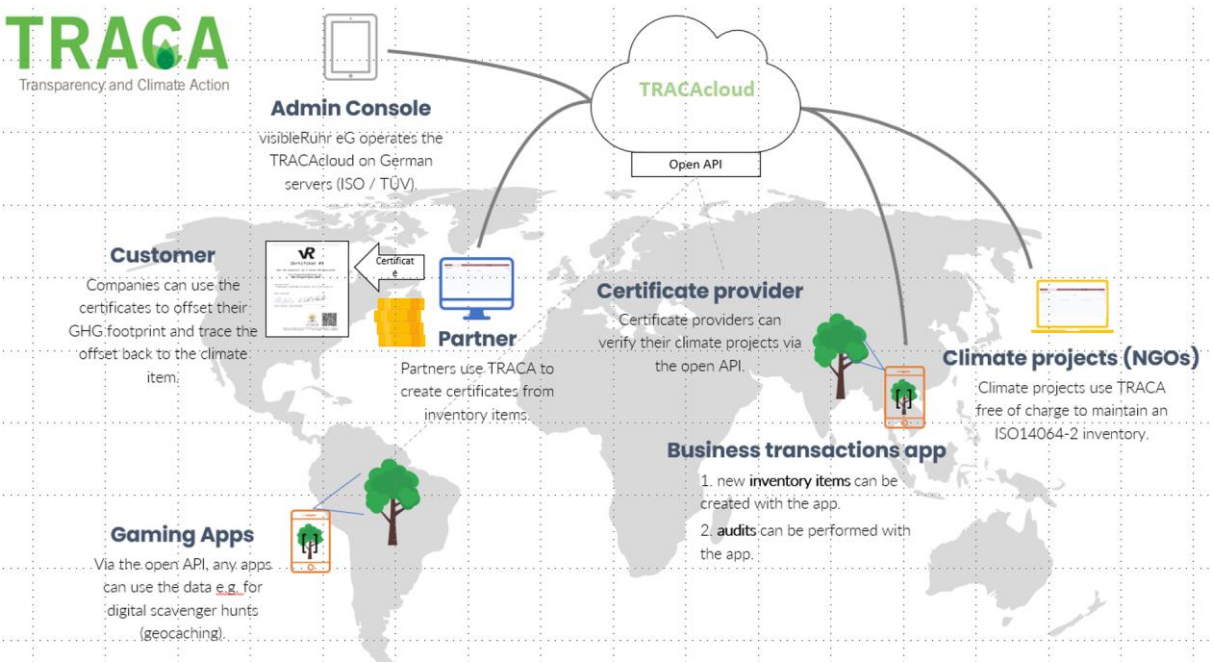
ISO 14060-2:2007 – Guidelines for the quantification and reporting of greenhouse gas emissions and removals for projects:
This part is aimed at organizations carrying out climate projects. It provides guidance on quantifying and reporting greenhouse gas emissions and removals within the framework of projects and contains specific requirements for project documentation.

ISO 14064: This series of standards consists of three parts and provides guidance on the quantification, monitoring, and verification of greenhouse gas emissions and reductions:

- ISO 14064-1: Greenhouse gases – Part 1: Guidance for the quantification and reporting of greenhouse gas emissions and removals at the organizational level.
- ISO 14064-2: Greenhouse gases – Part 2: Specification with guidance for the quantification, monitoring, and reporting of greenhouse gas emission reductions or increases in removals at the project level.
- ISO 14064-3: Greenhouse gases – Part 3: Guidance for the validation and verification of greenhouse gas statements.

ISO 14067: Guidance for the quantification of the carbon footprint of products. This standard provides instructions for calculating the carbon footprint of a product throughout its entire life cycle, including raw material extraction, production, use, and disposal.

How does TRACA by visibleRuhr eG work?



TRACA is used by various stakeholders:

- Operators
- Climate project
- Partner
- Customer
- Private individuals
- Certificate provider

TRACA (Transparency and Climate Action – To Reduce and Avoid Carbon – Tracing Carbon) is a tool used in climate projects to ensure the transparency and verifiability of CO_2 emissions and removals. It is used by various stakeholders to fulfill their respective roles and responsibilities in connection with climate projects. Here is an explanation of how TRACA can be used by the mentioned stakeholders:

Operator

visibleRuhr eG is the operator of TRACAcloud, which runs as a platform on German servers certified according to ISO and TÜV standards. The main responsibility of visibleRuhr is to ensure that the platform operates securely and reliably. This includes implementing appropriate security measures, protecting data, and guaranteeing the stable operation of the platform.

By using German servers and complying with ISO and TÜV standards, the goal is to create a trustworthy and highly secure environment for the use of TRACAcloud. These standards ensure that suitable security protocols and procedures are in place to guarantee the integrity, confidentiality, and availability of the data.

Through continuous monitoring and maintenance of the platform, visibleRuhr eG works to ensure that TRACAcloud functions smoothly and meets requirements for stability and performance. This includes resolving any technical issues, updating the software, and providing responsive support to the platform's users.

The efforts of visibleRuhr eG are aimed at ensuring the smooth operation of TRACAcloud and providing users with a secure and stable environment for recording, verifying, and reporting climate data.

Climate projects

Climate projects use the TRACA platform free of charge to carry out inventories in accordance with ISO 14064-2. In addition, there is an app that provides climate projects with additional functions. Here are two of the functions available through the app:

- **Create new inventory items:** With the app, climate projects can create new inventory items. This allows them to record specific data about inventory items such as equipment, facilities, or processes. Recording this data is an important step in carrying out inventories in line with ISO 14064-2.
- **Conduct audits:** The app makes it possible to conduct audits. This allows climate projects to carry out regular reviews of climate data and activities to ensure compliance with established standards and regulations. By conducting audits, potential deviations or areas for improvement can be identified and appropriate measures implemented.

The app thus complements the TRACA platform and provides climate projects with additional functions and opportunities for recording and verifying data within the framework of their climate projects. This facilitates the implementation of the ISO 14064-2 standard and contributes to the transparency and credibility of climate projects.

Partners

Partners, including visibleRuhr eG, use the TRACA platform to generate certificates from the inventory items. These certificates are then delivered to the partners' customers. In addition to its role as the operator of the TRACA platform, visibleRuhr eG also acts as a partner.

The TRACA platform enables partners to generate certificates based on the recorded inventory data. These certificates serve as proof of the emission reductions or CO_2 removals achieved within the framework of climate projects. They are delivered to the partners' customers, allowing them to substantiate their climate contributions or offsetting measures.

As both the operator of the TRACA platform and a partner, visibleRuhr eG plays an active role in creating and providing certificates. This means that visibleRuhr eG works with customers to generate and deliver certificates in accordance with the recorded data and applicable standards.

Through this function, visibleRuhr eG supports the transparency and credibility of the certification process and ensures that the certificates are based on reliable data. This strengthens customer trust and enables them to document their climate contributions on a sound basis.

Customers

Customers, typically companies, can use the certificates they receive to optimize their greenhouse gas footprint and trace the offsetting of their emissions back to the specific climate asset. By using these certificates, they can demonstrate that a corresponding amount of greenhouse gases has been reduced or removed through recognized climate projects in order to offset their own emissions.

By optimizing their greenhouse gas footprint, customers and companies implement measures to reduce their own emissions while at the same time offsetting remaining emissions through investments in climate projects. The certificates serve as proof of emission offsetting and allow them to trace the entire process back to the climate asset.

Traceability back to the climate asset means that customers and companies can identify the climate actions and projects that contributed to the emission reduction or CO_2 removal. This increases transparency and enables them to ensure that the climate projects deliver the intended positive impact and align with climate goals.

Through the optimization of their greenhouse gas footprint and the traceability back to the climate asset, customers and companies actively contribute to combating climate change and support sustainable development projects. This helps reduce their own ecological footprint and contributes to the achievement of global climate goals.

Private individuals

By using the open API, gaming apps—and thus private individuals—can also access the data of the TRACA platform. This data can then be used in any type of app, such as gaming apps for digital scavenger hunts or geocaching.

Through the integration of TRACA data into gaming apps, private individuals have the opportunity to combine environmental activities with playful elements. For example, digital scavenger hunts could be developed in which players are required to find or complete specific locations or activities related to climate protection or environmental topics. TRACA data can provide information about climate projects, emission reductions, or other environmental aspects that are incorporated into the game elements.

This offers an interesting way to raise awareness of climate protection and environmental issues in a playful manner and to strengthen the engagement of private individuals in these areas. By using the open API, developers of gaming apps can access TRACA data and integrate it into their applications to create an entertaining and interactive gaming experience linked to environmental topics.

Third parties – Certificate providers

Through the open API, certificate providers—i.e., third parties—can check climate projects from their own portfolio for duplications. Duplications here refer to the potential issuance of multiple certificates for the same emission reduction or CO_2 removal, which should be avoided.

The open API enables certificate providers to access TRACA platform data and compare it with their own project data. In this way, they can verify whether certificates have already been issued for a specific emission reduction or CO_2 removal. This helps identify and prevent potential duplications, thereby maintaining the integrity of the certification process.

Checking for duplications is an important step in ensuring that the certificates and the associated climate projects are valid and trustworthy. By using the open API, certificate providers can efficiently match their own project data with the TRACA platform data and ensure that no duplications occur.

This contributes to the transparency and credibility of the certification process and ensures that the certificates meet the high standards and requirements of climate protection and emission reduction. By avoiding duplications, the integrity of the climate certificate market is also preserved.

What does the greenhouse.ruhr scholarship mean for the TRACA project by visibleRuhr eG?

<u>Support</u>

The scholarship provides the founders with valuable support and resources to accompany their idea from conception to implementation.

A free coach is available to the founders from June to October to support them throughout the entire start-up process. This coach offers individual advice and helps further develop the idea and put it into practice. In addition, the founders receive valuable insights from the field of social entrepreneurship during meetups, which provide them with additional perspectives and inspiration.

The *greenhouse.ruhr* scholarship also offers financial support in the form of prize money between €2,000 and €5,000. In addition, the teams can access four hours of consulting with an advisor specializing in funding opportunities—an especially valuable resource since grants can be an important source of financing for start-ups.

Furthermore, the teams receive €1,000 for rental costs in a Dortmund coworking space, providing them with an appropriate workplace.

The scholarship also includes the opportunity to participate in the RUHRSUMMIT trade fair 2023, giving the founders the chance to expand their network and exchange ideas with other companies and

stakeholders. On top of that, there is a three-day trip with paid travel, hotel accommodation, and participation in the Impact Festival in Frankfurt. This provides the teams with an inspiring environment and the opportunity to gain new impulses and contacts.

Overall, the *greenhouse.ruhr* scholarship offers the founders of TRACA comprehensive support—both financial and advisory—enabling them to successfully implement their idea and further develop their entrepreneurial skills.

Visibility

Participation in the *greenhouse.ruhr* scholarship offers TRACA an excellent opportunity to increase its visibility and presence within the network and to attract the attention of potential investors, customers, as well as the press and other media.

Through involvement in the *greenhouse.ruhr* network, the founders of TRACA have the chance to make valuable connections and expand their professional network. This can give them access to potential investors interested in sustainable and environmentally friendly start-ups. In addition, it opens up opportunities to attract customers who are looking for solutions to reduce their own ecological footprint and are interested in innovative climate projects.

Participation in the *greenhouse.ruhr* scholarship also increases TRACA's visibility in the press and other media. The scholarship is usually accompanied by coverage in various media channels and publications reporting on the supported start-ups. This provides TRACA with a platform to share its message, business model, and goals with a wider audience. The increased visibility may also lead to TRACA being perceived as a leading company in the field of climate projects, drawing the attention of potential cooperation partners and customers.

Thus, the visibility gained through *greenhouse.ruhr* will help strengthen TRACA's trustworthiness and credibility, enabling it to secure a strong position in the climate protection and sustainability market. In the long term, this can positively impact its growth, recognition, and success.

What are the values, the vision, and the mission of the project?

The following values are important for the project:

- Sustainability
- Transparency
- Responsibility
- Justice
- Appreciation

The project places great importance on sustainability by promoting environmentally friendly solutions and reducing the ecological footprint.

Transparency is another core value that ensures all relevant information is accessible and comprehensible to everyone. The project takes responsibility for its impacts on the environment and society and strives for just solutions that benefit all. In addition, the project values the contributions and perspectives of all stakeholders and fosters a culture of appreciation and respectful collaboration.

Our vision for the project is to make the voluntary greenhouse gas emissions market transparent and fair. We aim for companies and organizations to voluntarily offset their greenhouse gas emissions based on clear and reliable mechanisms, ensuring that these offsets truly lead to a reduction in the carbon footprint. Through transparency and fairness, we want to strengthen trust in the voluntary GHG market and make a positive contribution to climate protection.

Our mission is to establish a new standard in the voluntary greenhouse gas emissions market that will serve as a model for all of Europe. We strive to develop innovative approaches that guarantee transparency, integrity, and effectiveness in greenhouse gas offsetting. By establishing this new standard, we want to support companies, organizations, and individuals in reducing their ecological footprint and actively contributing to climate protection.

How does TRACA impact the Sustainable Development Goals?

The Sustainable Development Goals (SDGs) are a set of 17 global goals adopted by the United Nations in 2015. They represent a comprehensive agenda for sustainable development to be achieved by 2030. The SDGs cover various areas, including social, economic, and environmental issues, and aim to fight poverty, reduce inequality, tackle climate change, and promote sustainable development worldwide.

The SDGs include goals such as no poverty, quality education, gender equality, clean water and sanitation, affordable and clean energy, sustainable cities and communities, climate action, and many more. They form a shared agenda in which governments, businesses, civil society, and individuals work together to create a better and more sustainable future for all people and the planet.

Climate projects generally have a positive impact on all of the United Nations Sustainable Development Goals (SDGs).

TRACA also has the potential to create a positive impact on several Sustainable Development Goals (SDGs). Here are some examples:

- **SDG 13: Climate action:** The project makes a direct contribution to climate protection by encouraging the establishment of new climate projects in developing countries. The creation of new climate projects can help accelerate the transition to a low-carbon and climate-resilient future.
- **SDG 15: Life on land:** Since the project supports climate initiatives that contribute to reforestation or ecosystem restoration, it can promote the protection and sustainable use of terrestrial ecosystems.
- **SDG 1: No poverty and SDG 2: Zero hunger:** Revenues from CO_2 certificate trading can serve as a form of "seed capital" to provide greater economic security for people in poorer regions. This can help reduce poverty and hunger by improving access to income, food, and other vital resources.
- **SDG 10: Reduced inequalities:** Involving disadvantaged communities in climate protection—such as by supporting climate projects in developing countries—can generate positive social and economic impacts for local communities. By creating jobs, improving livelihoods, and involving communities in decision-making processes, inequalities can be reduced and more equitable development can be promoted.
- **SDG 16: Peace, justice, and strong institutions:** This goal plays an important role in ensuring that developing countries—many of which have contributed less to climate change—are now part of the solution while benefiting from the economic and ecological advantages. Climate change can lead to conflicts and tensions, particularly in regions already facing social, political, or economic challenges. By helping to address and mitigate climate change, TRACA can contribute to conflict prevention and the promotion of peace.
- **SDG 17: Partnerships for the goals:** Efforts to reduce greenhouse gas emissions and adapt to climate change cannot be undertaken in isolation but must follow a coordinated and cooperative approach. Collaboration at national, regional, and global levels is necessary to effectively address the challenges of climate change and to achieve the goals of SDG 13 (Climate action). By working together and pooling efforts, we can promote a sustainable and climate-resilient future for all people and the planet.