

TRACA



TRACA Registration Standard (DeRegSta)



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contact information

visibleRuhr eG
Wandweg 1
44149 Dortmund

+49 231 862 57 57

www.visible.ruhr
traca@visible.ruhr

representative

Oliver Schuster
os@visible.ruhr

Katja Kohlstedt
kat@visible.ruhr



Content

TRACA Registration Standard (DeRegSta)	3
1. Introduction	3
2. Principles and scope.....	3
3. Requirements for Climate Projects	4
4. Requirements for the Methodology of a Climate Protection Project	5
5. Project Submission and Evaluation	8
6. Self-Evaluation by project Owners.....	8
7. Evaluation by the Expert Commission.....	8
8. Project rating	8
9. Optional: Public Presentation.....	8
10. Example of a Project Rating.....	9
Minimum Ethical Standards	10
1. Social Responsibility.....	10
2. Ecological Integrity	10
3. Fair Economic Practices	10
4. Declaration of Ethical Commitment	11
APPENDIX	12
Guidance on the Registration Questions Related to Methodology	13
Explanations of the Minimum Ethical Standards	17
1. Social Responsibility.....	17
2. Ecological Integrity	17
3. Fair Economic Practices	18
Terms / Glossary	19



TRACA Registration Standard (DeRegSta)

1. INTRODUCTION

Our Registration Standard for Climate Protection Projects (DeRegSta) was developed to provide a simple and accessible platform for registering climate protection projects. Aiming to remove unnecessary barriers and strengthen trust in the voluntary carbon market, DeRegSta offers an innovative and user-friendly alternative to existing standards.

The motivation behind the development of DeRegSta is to enable climate protection projects to access an efficient and transparent registration process. We are committed to using language that is clear and understandable for all project participants, making it easier to engage with the standard. By eliminating excessive complexity and bureaucratic obstacles, we aim to ensure that climate projects can be registered quickly and effectively.

The DeRegSta pursues the following goals and principles:

- **Simplicity:** The standard uses clear and comprehensible language to reduce complexity and make application easier for all project participants.
- **Transparency:** DeRegSta places great emphasis on transparent reporting and documentation of climate protection projects to strengthen stakeholder trust.
- **Practicality:** The standard provides practical methods and clear guidelines to ensure an efficient and seamless registration process for climate projects.

DeRegSta is a greenhouse gas program developed by the German cooperative *visibleRuhr eG*. It aims to facilitate the financing of climate projects, increase trust in climate action, protect the environment, and contribute to a sustainable and low-carbon economy.

2. PRINCIPLES AND SCOPE

DeRegSta can be applied in the following areas:

- **Climate projects aimed at reducing emissions and/or removing greenhouse gases (GHGs) from the atmosphere.**
DeRegSta maintains a list of supported project types, which is continuously reviewed and expanded as needed.
- **Climate projects that are willing to align with DeRegSta's standards** in the areas of project assessment, monitoring, reporting, and verification.
- **DeRegSta welcomes greenhouse gas projects from around the world.**
As an open and internationally oriented registration standard for climate protection projects, we encourage participation from projects across various countries and regions. We firmly believe that climate protection is a global challenge that requires collective action.
- **The climate project must be implemented by a local legal entity.**
- **To avoid double counting and ensure the integrity of DeRegSta,** projects registered under our standard must not be simultaneously registered under other standards. This ensures that achieved emission reductions or removals are only counted once and not duplicated across multiple registries.

Key Principles That Must Be Adhered to and Confirmed by Climate Projects:

- **Real:**
The project contributes to reducing emissions or removing greenhouse gases (GHGs) from the atmosphere. It is based on tangible actions and activities that demonstrably have a positive impact on climate change.
- **Additional:**
A climate project must generate emission reductions or GHG removals that are additional to what would have occurred in the absence of the project. It should provide a measurable added value and not merely reflect existing efforts or legal obligations.
- **Transparent:**
Transparency and verifiability are essential to ensure that the claimed emission reductions or GHG removals are genuinely achieved. Clear methodologies and standards must be in place for measuring, monitoring, reporting, and verifying project outcomes.
- **Sustainable:**
A climate project must aim for long-term sustainability in order to deliver lasting climate benefits. The project's measures and activities should have a durable effect in reducing emissions or sequestering GHGs. Social, environmental, and economic aspects should also be taken into account to ensure the project delivers holistic and sustainable benefits.

3. REQUIREMENTS FOR CLIMATE PROJECTS

The requirements for a climate project are structured as follows:

- **Principles of the Requirements**
- **General Requirements**
 - **Requirements for Projects that Reduce Emissions**
 - Project type: Household stoves
 - Cookstoves
 - ...
 - Project type: ...
 - **Requirements for Projects that Remove GHGs from the Atmosphere**
 - Project type: Reforestation
 - Reforestation in Southeast Asia
 - ...
 - Project type: ...

Principles of the Requirements

For climate projects, it is essential to observe and apply the guiding principles. When developing methodologies, these principles must be considered as fundamental elements. Their consistent application is crucial to ensure that greenhouse gas-related information is presented truthfully and fairly. These principles serve as the foundation for applying the requirements outlined in this document and act as a guiding framework throughout.

Principles of the Requirements

- **Relevance:**
Use data, methods, criteria, and assumptions that are appropriate for the intended purpose of the reported information.
- **Completeness:**
Include all relevant information that may affect the quantification and measurement of greenhouse gas (GHG) emission reductions.
- **Consistency:**
Ensure that GHG-related information is comparable and applied consistently over time.
- **Accuracy:**
Strive to minimize bias and uncertainties as much as possible.
- **Transparency:**
Provide reviewers with clear and sufficient information to assess the credibility and reliability of the reported GHG reductions.
- **Conservativeness:**
Apply cautious assumptions, values, and procedures to avoid overestimating GHG emission reductions.

4. REQUIREMENTS FOR THE METHODOLOGY OF A CLIMATE PROTECTION PROJECT

To be registered under DeRegSta on the TRACA platform, a project must present a clear and traceable methodology or follow an approved blueprint. This methodology should describe how the project contributes to the reduction or removal of greenhouse gases, the data it relies on, and how its impact is measured and verified. While the requirements may be based on international standards such as ISO 14064-2, they are generally adapted for practical and user-friendly application.

The methodology must first include a clear and comprehensible summary. This should outline the specific measures implemented, the objective of the project (e.g., CO₂ reduction or removal), and the expected climate-related impact.

Next, the **scope of application** must be defined. This includes the geographic region where the project takes place, any technical or natural prerequisites, and the target audience the project is intended for. The methodology must clearly state the conditions under which it is applicable and valid.

Another essential component is the **definition of system boundaries**. It must be clearly explained which emission sources, sinks, and relevant processes are included in the project. Additionally, any deliberately excluded aspects must be disclosed and justified. The definition of system boundaries forms the basis for quantifying the project's impact.

Following this, the **baseline scenario** must be described — i.e., the situation that would have occurred in the absence of the project. The baseline serves as the benchmark for evaluating the achieved impact and may be based on historical data or comparable activities ("best practice" benchmarks). It must be demonstrated why the selected baseline is realistic and credible.

In connection with the baseline, **additionality** must also be demonstrated. The methodology should clearly explain why the project goes beyond what would have happened anyway – for example, because there is no legal obligation to implement it, because it is not financially viable on its own, or because it represents a new or uncommon practice in the region.

Particular emphasis is placed on the quantification of impact. The methodology must describe which data will be collected (e.g., energy consumption, plant growth), which formulas or emission factors will be used to calculate the CO₂ impact, and which sources or studies the calculations are based on. The methodology should rely on transparent and, where possible, conservative assumptions to avoid overestimating the project's effect.

Monitoring also plays a key role. The methodology must specify which data are to be collected regularly, how they are gathered and stored, and who is responsible for this process. It should also describe how the data will be verified, at what intervals reviews will take place, and how deviations will be handled.

In addition, the methodology must outline **safeguards or buffer mechanisms** to address uncertainties and risks. This may include the use of safety deductions, conservative estimations, or the retention of impact credits to cover unforeseen losses.

Overall, the methodology should make it possible to present the project's climate impact in a reliable and verifiable manner – without unnecessary complexity, but with clear technical standards. An established methodology may also serve as a **blueprint** for other project developers.

In summary, a sound methodology must be able to answer the following key questions:

A – Project Description

A brief and understandable description of the project.

- **A1 – What measures will be implemented?**
 - **A2 – What is the main objective of the project (e.g., GHG reduction, CO₂ removal), and to what extent?**
 - **A3 – What additional impacts are expected (e.g., education, biodiversity, social benefits)?**
 - **A4 – Who are the key stakeholders involved (e.g., implementing organization, target groups, partners)?**
-

B – Scope of Application

Clarification of the conditions under which the methodology is applicable.

- **B1 – In which geographic region is the project implemented?**
 - **B2 – What technical, legal, or social prerequisites must be met?**
 - **B3 – Which target group is the project designed for?**
-

C – System Boundaries

- **C1 – Which processes, sources, sinks, and activities are included?**
 - **C2 – Which are deliberately excluded – and why?**
 - **C3 – Are there relevant interactions with other sectors, locations, or systems?**
-

D – Baseline (Reference Scenario)

- **D1 – What would the situation look like without the project?**
 - **D2 – What data, assumptions, or benchmarks is the baseline based on?**
 - **D3 – Why is this baseline scenario considered realistic and appropriate?**
-

E – Additionality

- **E1 – Why would the project not have occurred without additional funding or incentives?**
 - **E2 – Are there any legal or regulatory requirements that would already cover the project activities?**
 - **E3 – In what way is the project innovative or uncommon in the local context?**
-

F – Quantification of Impact

- **F1 – Which greenhouse gas impacts are being calculated (e.g., CO₂, CO₂ equivalents)?**
 - **F2 – What data and measurement variables are used?**
 - **F3 – What formulas or assumptions form the basis of the calculation?**
 - **F4 – What sources support the calculation methodology?**
 - **F5 – What conservative assumptions or safety factors have been applied?**
-

G – Monitoring

- **G1 – What data are collected on a regular basis?**
 - **G2 – Who is responsible for data collection?**
 - **G3 – At what intervals is monitoring conducted?**
 - **G4 – How are deviations or missing data addressed?**
-

H – Management of Risks and Uncertainties

- **H1 – What risks could affect the project's impact?**
- **H2 – What buffer mechanisms or safety measures (e.g., deductions, reserves) are in place?**
- **H3 – How are uncertainties documented and taken into account?**

5. PROJECT SUBMISSION AND EVALUATION

The **registration** of a climate protection project under DeRegSta is carried out via a digital submission system on the TRACA platform. As part of this process, the project undergoes a structured self-assessment based on the questions outlined in the previous chapter. These questions (A1 to H3) are provided online and simultaneously serve as the evaluation framework.

6. SELF-EVALUATION BY PROJECT OWNERS

The **project owner** answers all methodology-related questions using the online form. For each question, a self-assessment is also provided on a scale from 0 to 10 points, with the following interpretation:

- **0 points** = Not available / Not applicable / No information provided
- **5 points** = Partially fulfilled or in progress
- **10 points** = Fully fulfilled, traceable, and well-documented

This self-evaluation serves as a tool for reflecting on the quality of the project and helps identify areas where improvements may be needed.

7. EVALUATION BY THE EXPERT COMMISSION

In parallel to the self-evaluation, an independent commission—formed from the TRACA expert network—evaluates the project using the same set of categories. Each question is also scored on a scale from 0 to 10 points.

The commission is composed of professionals with expertise in climate protection, project development, scientific research, or impact assessment. External expert opinions may be consulted if needed.

8. PROJECT RATING

For each question, the average score from both the self-evaluation and the expert commission evaluation is calculated. All scores combined result in the individual TRACA project rating. A project can achieve a maximum of 10 points per question, with a total maximum score of 10.0.

The result is compiled in a project rating document and made available to the project developer. This document serves to:

- Internal quality development
- Decision-making regarding the project's inclusion in DeRegSta
- Transparent communication with supporters and stakeholders

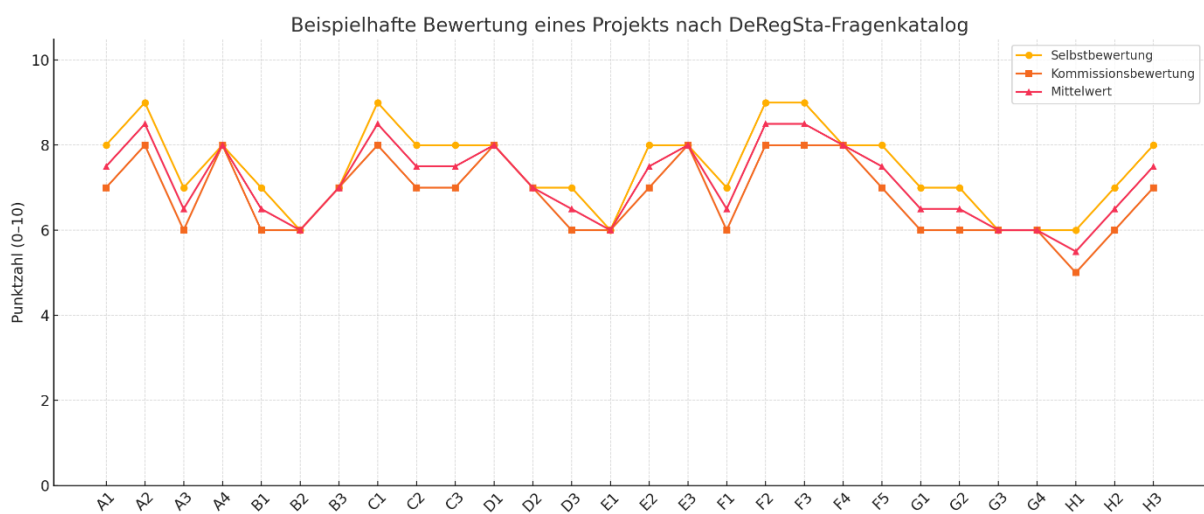
9. OPTIONAL: PUBLIC PRESENTATION

Projects may choose to make their **TRACA rating** publicly available. This promotes trust, comparability, and motivation for continuous improvement.

10. EXAMPLE OF A PROJECT RATING

The following is a sample graphic of a project rating based on the DeRegSta logic:

- The points on the graph represent, for each question (A1 to H3), the self-assessment, the commission's evaluation, and the calculated average score.
- This visual representation makes it transparent where the project performs strongly, where there is alignment, and where potential for improvement is identified.
- In this example, the overall project rating is **7.14 out of 10 points**.
- The overall rating is calculated as the average of all individual question-level averages.



This means:

- The project is **well-positioned** overall,
- but there are some **weaknesses** or points of discussion,
- which can be addressed in communication or during further development,
- With a score above 6.0, the project is eligible to participate in the voluntary carbon market and may receive future funding for its activities.

Minimum Ethical Standards

DeRegSta acknowledges that genuine climate protection carries not only ecological, but also **social and economic responsibility**. Climate projects must not be implemented at the expense of human dignity, justice, or ecological integrity.

Therefore, the following minimum ethical standards apply to all submitted projects. These are formulated as exclusion criteria. A violation of any of these points will result in the rejection or disqualification of the project within the DeRegSta framework.

1. SOCIAL RESPONSIBILITY

A project will be rejected if:

- Child labor is used or knowingly accepted
 - Human rights are violated or put at risk
 - Discrimination (e.g., based on gender, origin, religion) is promoted or tolerated
 - Working conditions are unsafe, exploitative, or hazardous to health
 - Public interest is systematically harmed by the project (e.g., displacement of indigenous communities)
-

2. ECOLOGICAL INTEGRITY

A project will be rejected if:

- Ecosystems are permanently damaged or destroyed
 - Protected species or habitats are put at risk
 - No precautionary measures are taken to prevent environmental harm
 - Large-scale monocultures are established without accompanying ecological safeguards
 - Invasive species are introduced that threaten or displace native ecosystems
 - Genetically modified plants are used without prior ecological risk assessment
 - The project results in more new emissions than it mitigates
-

3. FAIR ECONOMIC PRACTICES

A project will be rejected if:

- Profits are prioritized at the expense of local communities or environmental sustainability
- Local populations are economically exploited or excluded from benefits
- Project revenues are not transparently reported or fairly distributed
- Corruption, bribery, or conflicts of interest are tolerated or facilitated
- There is no accountability for financial flows or benefit-sharing mechanisms

4. DECLARATION OF ETHICAL COMMITMENT

All project developers are required to commit to these core values as part of the registration process. If there are indications of violations, a follow-up review may be conducted. In cases of serious violations, the project will be excluded from the DeRegSta registry.

APPENDIX

The appendix includes the following sections:

- Notes on the registration questions related to project methodology
- Explanations of the minimum ethical standards
- Terms / Glossary



Guidance on the Registration Questions Related to Methodology

A – Project Description

A1 – What measures are being implemented?

Here you should describe in concrete terms what is actually happening in the project. For example: energy-efficient stoves are being distributed, trees are being planted, or rooftops are being greened. It's important that someone without technical expertise can still understand what exactly is being done.

A2 – What is the objective of the project (e.g., GHG reduction, CO₂ removal), and to what extent?

What are you aiming to achieve with this project? Will it reduce CO₂ emissions (e.g., through lower wood consumption) or remove CO₂ from the atmosphere (e.g., through newly planted trees)? If possible, also estimate the amount – for example: “We expect to reduce CO₂ emissions by approximately 120 tons per year.”

A3 – What additional impacts are expected (e.g., education, biodiversity, social benefits)?

Many projects have positive side effects: people gain knowledge, jobs are created, women are empowered, or biodiversity is enhanced. Describe these co-benefits as specifically as possible.

A4 – Who are the key stakeholders involved (e.g., implementing organization, target groups, partners)?

List all those actively involved in the project: for example, a school, a community group, local families, public authorities, or partner organizations. It's important to show who is organizing the project, who benefits from it, and who is supporting it.

B – Scope of Application

B1 – In which geographic area is the project implemented?

Indicate where your project takes place – for example, in a specific city, municipality, region, or across several countries. This helps clarify whether the project has a local, national, or international impact. If possible, name specific locations or provide coordinates.

B2 – What technical, legal, or social conditions must be met?

Some projects only work under certain conditions. For example: there must be access to electricity, local laws must allow the activity, or community members must be willing to participate. Describe what needs to be in place for your project to be successfully implemented.

B3 – Who is the target group or intended users of the project?

Who benefits from the project? Are they households, small businesses, schools, or entire communities? Describe the target group in a way that makes them easy to picture – for example: “Women in rural areas who currently cook over open fires” or “Students learning about climate protection.”

C – System Boundaries

C1 – Which processes, sources, sinks, and activities are included?

Explain what is considered part of the project. For example: in a cookstove project, this might include wood consumption; in a reforestation project, tree growth. Transportation or construction activities can also be included if they affect the project's CO₂ balance.

C2 – Which elements are deliberately excluded – and why?

Here, describe what you are not including – and why that's acceptable. For example: "The transport of the stoves to the village was excluded because it is a one-time event with minimal emissions." This shows that you've thought it through and aren't overlooking important aspects.

C3 – Are there relevant interactions with other sectors, locations, or systems?

If your project affects other areas, describe those interactions here. For example: "The new energy source reduces pressure on forests in the neighboring community." Identifying such linkages helps in understanding the project's overall impact more clearly.

D – Baseline (Reference Scenario)

D1 – What would the situation look like without the project?

The baseline describes what would happen if the project did not exist. For example: people would continue using inefficient cookstoves, or the land would remain unused. This "what would otherwise happen" scenario is essential to calculate the project's actual impact.

D2 – What data, assumptions, or benchmarks is the baseline based on?

To make your baseline credible, you should show where your information comes from: measurements, studies, practical experience, or official statistics. If you use assumptions, explain them clearly. Example: "Without the project, each household would consume an average of 2 tons of wood per year."

D3 – Why is this baseline scenario realistic and appropriate?

Explain why you believe your baseline scenario accurately reflects the real starting situation. Show that you've considered typical local conditions. Example: "The majority of households in the region currently use open fires, so the scenario without efficiency measures is realistic."

E – Additionality

E1 – Why would the project not have been implemented without additional support or incentives?

A climate project is considered “additional” only if it would not have happened without specific support. For example: it may not be economically viable, there may be a lack of technical knowledge, or motivation may be low. Explain what kind of support is required (e.g., funding, expertise, certification).

E2 – Are there any legal requirements that would already cover this project?

If a measure is already legally required, it is not considered additional. Check whether your project goes beyond what is legally mandated. Example: “There is no requirement in this region to switch to efficient cooking systems.”

E3 – In what way is the project innovative or uncommon in the local context?

Show that your project introduces something new or challenges existing practices. Example: “Solar cookers are not yet widely used in this region and are only being introduced and made accessible through this project.”

F – Quantification of Impact

F1 – Which greenhouse gas impacts are being calculated (e.g., CO₂, CH₄, N₂O)?

Explain which greenhouse gases your project affects – usually CO₂, but sometimes also methane (CH₄) or nitrous oxide (N₂O). Example: “The new stoves reduce CO₂ emissions from cooking.”

F2 – What data and measurement variables are used?

List the values you measure or estimate to calculate the climate impact – e.g., energy consumption, fuel quantity, number of trees planted. It is important that this data is credible and transparent.

F3 – What formulas or assumptions form the basis of the calculation?

Describe your calculation method: What formulas do you use? What factors are included? Example: “1 kg of firewood produces 1.83 kg of CO₂ – this figure comes from a recognized emissions database.”

F4 – What sources support the calculation methodology?

State where your values come from – such as scientific studies, international standards, or government guidelines. This demonstrates that your methodology is technically sound.

F5 – What conservative assumptions or safety factors have been applied?

Describe where you’ve used cautious estimates to avoid overstating the impact. Example: “We assume only an 80% usage rate of the stoves to remain realistic.”

G – Monitoring

G1 – What data is collected regularly?

Describe which information is gathered during the project period to check whether the project is working as intended. This could include consumption data, meter readings, plant growth measurements, or user surveys.

G2 – Who is responsible for data collection?

State who is in charge of collecting the data – e.g., the project team, local partners, volunteers, or automated measuring devices. If possible, also explain whether those involved are trained and how data security is ensured.

G3 – At what intervals is monitoring carried out?

Specify how often data is collected – e.g., monthly, annually, or during certain project phases. Example: “Firewood consumption is recorded every three months through household surveys.”

G4 – How are deviations or missing data handled?

It is important to explain what happens when data is missing or appears inconsistent. Are substitute values, correction methods, or estimation techniques used? Example: “If a monitoring event is missed, an average from the previous months is used as a fallback value.”

H – Managing Risks and Uncertainties**H1 – What risks could affect the project’s impact?**

List potential disruptions or problems that could arise – for example: extreme weather events, political instability, lack of community acceptance, or technical failures.

H2 – What buffers or safeguards (e.g., deductions, reserves) are in place?

Explain how the project is protected against such risks. This might involve conservative calculations (e.g., safety deductions) or only counting a portion of the estimated impact to allow for possible losses.

H3 – How are uncertainties documented and accounted for?

Show that you are aware of measurement errors and estimation uncertainties. Example: “We assume a $\pm 10\%$ uncertainty in tree growth measurements and deduct this from the total result.” It’s important to demonstrate transparency in dealing with such uncertainties.

Explanations of the Minimum Ethical Standards

To be eligible for registration, a project must uphold fundamental values. These values relate to the protection of people, nature, and fair economic practices. If a project violates any of these principles, it **cannot be accepted**—regardless of how strong its climate performance may be.

1. SOCIAL RESPONSIBILITY

No Child Labor

Children must not be required to work in the project – even so-called “helping out” is not acceptable if it is exploitative in nature. Education and the protection of children always take priority. Hidden forms of child labor, such as “family help,” must also be critically assessed.

Respect for Human Rights

The project must not oppress, displace, or endanger anyone. All people affected by the project must be able to live in safety and dignity. Projects must not be implemented on land used without the free, prior, and informed consent of the local population.

No Discrimination

People must not be excluded or treated unfairly – for example, based on gender, religion, ethnicity, language, disability, or age. All project participants must be treated with respect and equality.

Safe and Fair Working Conditions

Anyone working on the project must do so voluntarily, under safe conditions, and for fair pay. Exploitation is not allowed – including by subcontractors. If hazardous work is involved, protective measures must be in place and followed.

Respect for the Common Good

Projects must not harm the public interest – for example, through land grabbing, forced resettlement, or restrictions on rights. Local communities must be properly informed and have the opportunity to give or withhold their consent.

2. ECOLOGICAL INTEGRITY

Protection of Nature and Biodiversity

Projects must not destroy or degrade valuable ecosystems. This includes avoiding illegal deforestation or the loss of wetlands. Protected species must not be endangered or displaced as a result of project activities.

No Large-Scale Monocultures Without Compensation Measures

Monocultures – areas planted with only one species – can lead to soil depletion, water pollution, and loss of wildlife. Such practices are only permitted if ecological compensation measures are implemented, such as mixed planting, buffer zones, or soil regeneration strategies.

No Use of Invasive Species

Species that are not native and could displace local flora and fauna or alter entire ecosystems must not be introduced. Even fast-growing species can cause long-term environmental harm.

No Use of Genetically Modified Plants Without Risk Assessment

Genetically modified plants may only be used if it is clearly proven that they pose no threat to the environment, people, or other plants. Scientific safety assessments are mandatory; without them, the use of GMOs is not allowed.

Avoidance of New Emissions

Projects must not generate more emissions than they prevent – for example, through energy-intensive technologies, excessive transport, or unsustainable water use. The net climate impact must be clearly positive.

3. FAIR ECONOMIC PRACTICES

No Profit Without Responsibility

If a project generates profits, it must also take responsibility for its local impact and social obligations. Purely profit-driven carbon trading without regard for people or nature is not permitted.

Participation of Affected Communities

People affected by the project must have the opportunity to participate in decision-making. Information must be communicated in a clear and accessible way—not just to authorities, but also to local communities.

No Dependence or Coercion

Projects must not rely on coercion, debt traps, or economic dependency. Participation must be voluntary. No one should be forced to take part due to tied contracts, debt to the project developer, or economic pressure.

No Greenwashing

Projects must be genuine and honest in their intentions. Measures must not exist only “on paper” or serve as PR tools while delivering little or questionable actual impact.

Avoidance of Hidden Costs and Harm

Projects must not shift hidden costs (e.g., waste disposal, environmental side effects) onto others. All environmental and social consequences must be anticipated, addressed, and responsibly managed.

Terms / Glossary

Climate Protection Project / Climate Project

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

In emission reduction projects, the goal is to reduce greenhouse gas emissions by using more efficient technologies or practices. One example is the use of energy-efficient stoves or systems that produce fewer emissions than conventional devices. These projects contribute to lowering greenhouse gas emissions and thus help combat climate change.

Afforestation and forest protection projects aim to capture and store CO₂ from the atmosphere. As trees grow, they absorb CO₂ and store it in the form of biomass. By afforesting land areas or protecting existing forests, the carbon content in the atmosphere can be reduced. These projects help remove already existing CO₂ and contribute to rebalancing the carbon cycle.

Both types of climate projects are important for addressing climate change. Emission reduction projects help to limit the release of greenhouse gases and reduce emission sources. Afforestation and forest protection projects, in turn, support the removal of CO₂ from the atmosphere and contribute to the restoration of natural carbon sinks.

It is essential to pursue both emission reduction and CO₂ removal in order to follow a comprehensive strategy to combat climate change and enable the transition to a low-carbon and thus future-proof society.

Sequestration:

- **Afforestation of mangrove forests:**
Mangroves play an important role in carbon sequestration and in protecting coastal areas from storm surges. The restoration and preservation of mangrove ecosystems contributes to the capture of CO₂ from the atmosphere.
- **Blue Carbon projects:**
Blue Carbon refers to the sequestration of carbon in coastal and marine ecosystems such as seagrass meadows, salt marshes, and mangroves. These ecosystems can store large amounts of carbon and help reduce greenhouse gas emissions.
- **Carbon sinks in agricultural soils:**
Through specific agricultural practices such as regenerative agriculture or conservation agriculture, carbon can be stored in the soil. This contributes to CO₂ sequestration and improves soil fertility.
- **Bioenergy with Carbon Capture and Storage (BECCS):**
BECCS is a concept in which biomass is used for energy production, and the resulting emissions are captured and stored underground. This process enables a negative CO₂ balance, as more carbon is sequestered than is released during combustion.
- **Sequestration of CO₂ in geological formations:**
Carbon Capture and Storage (CCS) involves capturing CO₂ from industrial sources and permanently storing it in geological formations such as depleted oil and gas fields or deep rock layers.

- **Artificial carbon sinks:**
Some projects focus on creating artificial carbon sinks, such as the direct capture of CO₂ from the atmosphere and its long-term storage in special materials or geological formations.
- **Ocean fertilization:**
In ocean fertilization, nutrients are added to selected ocean areas to stimulate the growth of phytoplankton. These tiny marine plants absorb CO₂ during growth and bind it. However, ocean fertilization is controversial and may have potential ecological impacts.

Reduction:

- **Promotion of renewable energies:**
Investments in the expansion and use of renewable energy sources such as solar power, wind energy, hydropower, and geothermal energy help reduce the demand for fossil fuels and thus lower greenhouse gas emissions.
- **Energy efficiency in buildings:**
Measures to improve the energy efficiency of buildings can reduce energy consumption. These include better insulation, energy-efficient lighting systems, the use of smart energy management technologies, and energy-saving appliances.
- **Sustainable transport:**
Promotion of environmentally friendly transport options such as public transportation, electric vehicles, bicycle infrastructure, and car-sharing programs helps reduce reliance on carbon-intensive modes of transport.
- **Circular economy and recycling:**
Implementing and promoting a circular economy leads to more efficient resource use and reduced waste. Recycling, reuse, and waste prevention contribute to lowering the emissions associated with the production of new goods.
- **Sustainable agriculture:**
Supporting sustainable agricultural practices such as organic farming, agroforestry, and the reduction of pesticide and fertilizer use can reduce greenhouse gas emissions from the agricultural sector.
- **Efficient industrial processes:**
Promotion of energy-efficient technologies and production processes in industry helps reduce energy consumption and emissions. This can include the use of more efficient machines, heat recovery systems, and optimized production workflows.
- **Dissemination of improved cookstoves:**
The introduction and promotion of improved cookstoves that operate more efficiently and emit fewer pollutants can help reduce the consumption of wood and biomass and improve air quality.