# Elements related to credit credibility

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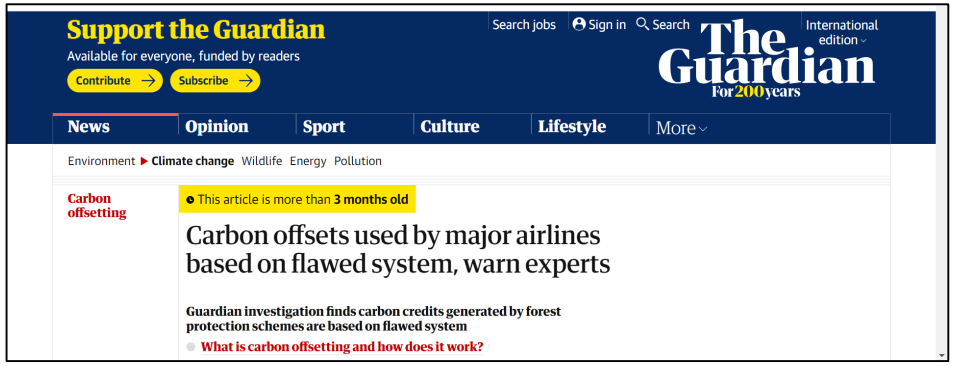
# Outline

- Criticisms of offset credits (global level)
- What elements affect high-quality carbon credit?
- Literature review on credit credibility
- Highlight of some elements related to credit credibility
- Summary

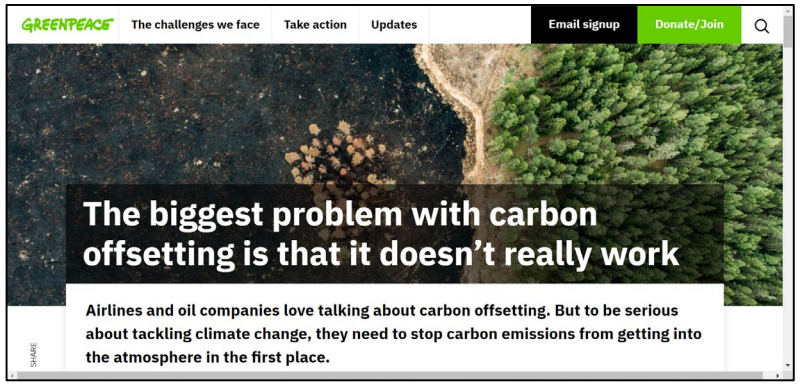
# Criticisms of offset credits

**Greenwashing, lowering environmental integrity, undermining Paris Agreement** (PA)
1.5C target and **business climate actions**

- Methodologies in forest projects are not robust enough (Guardian, UK)
- Selling credits for well-protected trees undermines sustainability (Bloomberg, USA)
- Offset credits can be used as a substitute for real climate actions (Greenpeace, UK)
- Carbon offsets have been used by polluters as a free pass for inaction (UNEP)








*UNEP: United Nations Environment Programme

# High-quality carbon credits (credit credibility)

**What elements affect high-quality carbon credits? What is credit credibility? Which credits can we trust?**

- GHG reductions must be **real, quantifiable and verifiable**
- Must be **additional, permanent $CO_2$ emission reductions/removals**
- Should come from projects that **do not contribute to environmental and social harm**

| EDF, WWF, and Oeko Institut (Objectives and criteria) (Jun 2020) | SEI and GHG Management Institute (Criteria) (Nov 2019) | WRI (Concerns on supply-side) (Feb 2021) |
|---|---|---|
| Robust determination of the GHG emissions impact of the mitigation activity | Additional | Additionality |
| Avoiding double counting of emission reductions or removals | Not claimed by another entity | Measurement and uncertainty |
| Addressing non-permanence | Permanent | Permanence |
| Facilitating transition towards net zero emissions | Not-overestimated | Leakage |
| Strong institutional arrangements and processes of the crediting programme | | |
| Enhancing positive and preventing negative environmental and social impacts | Not associated with significant environmental and social harm | No harm to local ecosystem and local community |

*EDF: Environmental Defense Fund, WWF: World Wide Fund for Nature, SEI: Stockholm Environment Institute, WRI: World Resources Institute

# Results from literature review

**Literature review:**

- Review on credit credibility analyses done by EDF, WWF, Oeko Institut, SEI, GHG Management Institute, WRI, international scheme (CORSIA), reports from other international organisations (WB, SBTi/CDP), international initiatives (TSVCM, VCMI)
- Why did we conduct this? The growing demand and **the risks associated with low-quality carbon credits**. Critical for credits **buyers to identify credible credits (high-quality carbon credits)** to use for offsetting

**Result of the review on identifying elements related to credit credibility:**

| Elements | Note |
|---|---|
| **1. Additionality** | An essential criterion for determining their quality. How to assess additionality? |
| **2. Baseline scenario in methodology** | Developing a conservative and realistic baseline in methodology to calculate GHG emission reduction |
| 3. Robust MRV system | A third party entity involvement for validation and verification |
| **4. Avoidance of double counting** | Avoiding double issuance, use, claim which involves rules under Article 6 of the Paris Agreement (applying corresponding adjustments: CAs) |
| **5. Permanence** | The risk of reversing stored carbon in Nature-based Solutions (NbS) |
| **6. Social and environmental safeguards** | Avoiding negative impacts on society (local community, indigenous people) and environment (changing natural landscape) |
| **7. Contributing to SDGs (Agenda 2030)** | SDGs and NbS cover both mitigation and adaptation projects that have more potential than reducing GHG emissions |
| 8. Governance and Transparency | Governance should be transparent including public participation and committees with experts/professionals |

*CORSIA: Carbon Offsetting and Reduction Scheme for International Aviation, WB: World Bank, SBTi: Science Based Target Initiative, CDP: Carbon Disclosure Project, TSVCM: Taskforce on Scaling Voluntary Carbon Markets, and VCMI: Voluntary Carbon Market Initiative

# 1. Additionality

## What is additionality?

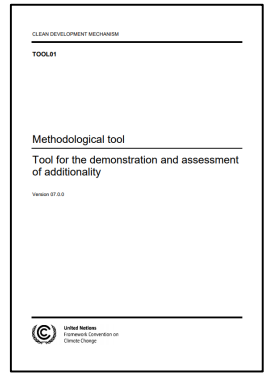
- Additionality is a concept to assure the implementation of a project will secure GHG emission reductions rather than not being implemented.

## What is the risk of additionality?

- **Potential risk that emission reductions may not have actually occurred**

## How to secure additionality?

- **A regulatory surplus test:** to demonstrate the project is legally required
- **A financial or investment test**: to analyse the project is financially attractive in the absence of offset credit revenues
- **A common practice test**: to demonstrate how the project is distinct from similar types of activities


CLEAN DEVELOPMENT MECHANISM

TOOL01

Methodological tool

Tool for the demonstration and assessment of additionality

Version 07.0.0

United Nations Framework Convention on Climate Change

Tool for the demonstration and assessment of additionality

**Number of CDM registered project which demonstrated the additionality※**

**6,286**

※Some small scale and micro-scale projects under the CDM have not been required to explain the additionality.

# 2. Baseline setting

## What is a baseline?

- Baseline emissions are GHG emissions that would occur in the absence of the proposed project activity.
- Project emission reductions = Baseline emissions – Project emissions

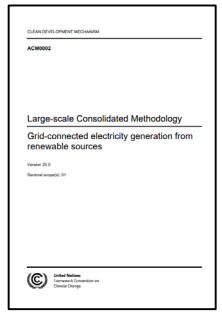
$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$ Equation (11)

Where:

$BE_y$ = Baseline emissions in year $y$ (t $CO_2$/yr)

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year $y$ (MWh/yr)

$EF_{grid,CM,y}$ = Combined margin $CO_2$ emission factor for grid connected power generation in year $y$ calculated using the latest version of "TOOL07: Tool to calculate the emission factor for an electricity system" (t $CO_2$/MWh)


CLEAN DEVELOPMENT MECHANISM

ACM0002

Large-scale Consolidated Methodology

Grid-connected electricity generation from renewable sources

CDM sample：ACM0002
（methodology for renewable energy）

## What is the risk related to baseline setting?

- **Overestimation of GHG emission reductions, which leads to over-crediting**

## How can it be avoided?

- **Conservative baseline setting**
- Revise baseline scenario regularly in an appropriate timing (see Annex)

Num of approved methodologies
(as of 18 August 2021)

| | |
|---|---|
| CDM | 219 |
| VERRA | 43 |
| American Carbon Registry | 16 |
| GCC | 3 |

Baseline settings are also discussed in negotiations under Article 6 of the Paris Agreement. In particular, Article 6.4 which is the mechanism of the successor to CDM, considers multiple approaches for baseline setting.

# 3. Permanence

## What is permanence?

- Carbon credits need to represent emission reductions/removals that are effectively permanent. If emission reductions/removals are reversed, then credits no longer serve a compensatory function.

## What is the risk related to this?

- The risk of non-permanence occurs with projects that store carbon (e.g. forestry projects affected by natural disaster).
- **If all of the stored carbon can be re-emitted into the atmosphere, the credits have no value** to represent GHG emission reductions/removals.

## How can it be avoided?

- **Buffer pool account:** Carbon credits from individual projects are set into a buffer pool account, which functions as **an insurance mechanism.**

# 4. Double counting

## What is double counting?

- **Double issuance:** one carbon credit is issued more than once for the same emissions reductions
- **Double use:** the same credit is counted twice for achieving climate change mitigation
- **Double claim:** two different entities claim the same emission reductions

## What is the risk related to this?

- Can **undermine the integrity** of crediting mechanisms and carbon credits
- Risk of **double claiming with countries' climate change mitigation under the PA** (whether to apply CAs on voluntary carbon markets)

## How can it be avoided?

- **Registry system** should use **serial numbers to record** and **transparently track carbon credits** to ensure that only one credit is issued per emission reduction
- Example on avoidance of double claiming considering CAs in crediting programmes:
  - to identify **in which year and in which country the emission reductions occurred**
  - to ensure that **authorisations for CAs are in a host country etc**.

  (EDF, WWF, and Oeko Institut, 2020) (see Annex)

*CA: Corresponding Adjustment

# 5. Negative and Positive impacts

## What are the impacts?

- Negative impacts: **should not significantly contribute to social and environmental harm**
- Positive impacts: **should generate impacts beyond GHG emission reduction**. This could include **environmental, social, and economic impacts** (SDGs, benefits from NbS).

## What is the risk related to this?

- **Over-claiming positive impacts (greenwashing)** from projects that have not followed safeguards and local stakeholder participation

## How can it be avoided?

- Should include environmental and social **safeguards rules that ensure identifying and mitigating any harms.**
- Should create **an approach to assess development benefits** **such as** **contributions to SDGs and positive impacts from NbS** (e.g. Gold Standard, at least 3 SDGs, SDG Impact tool)

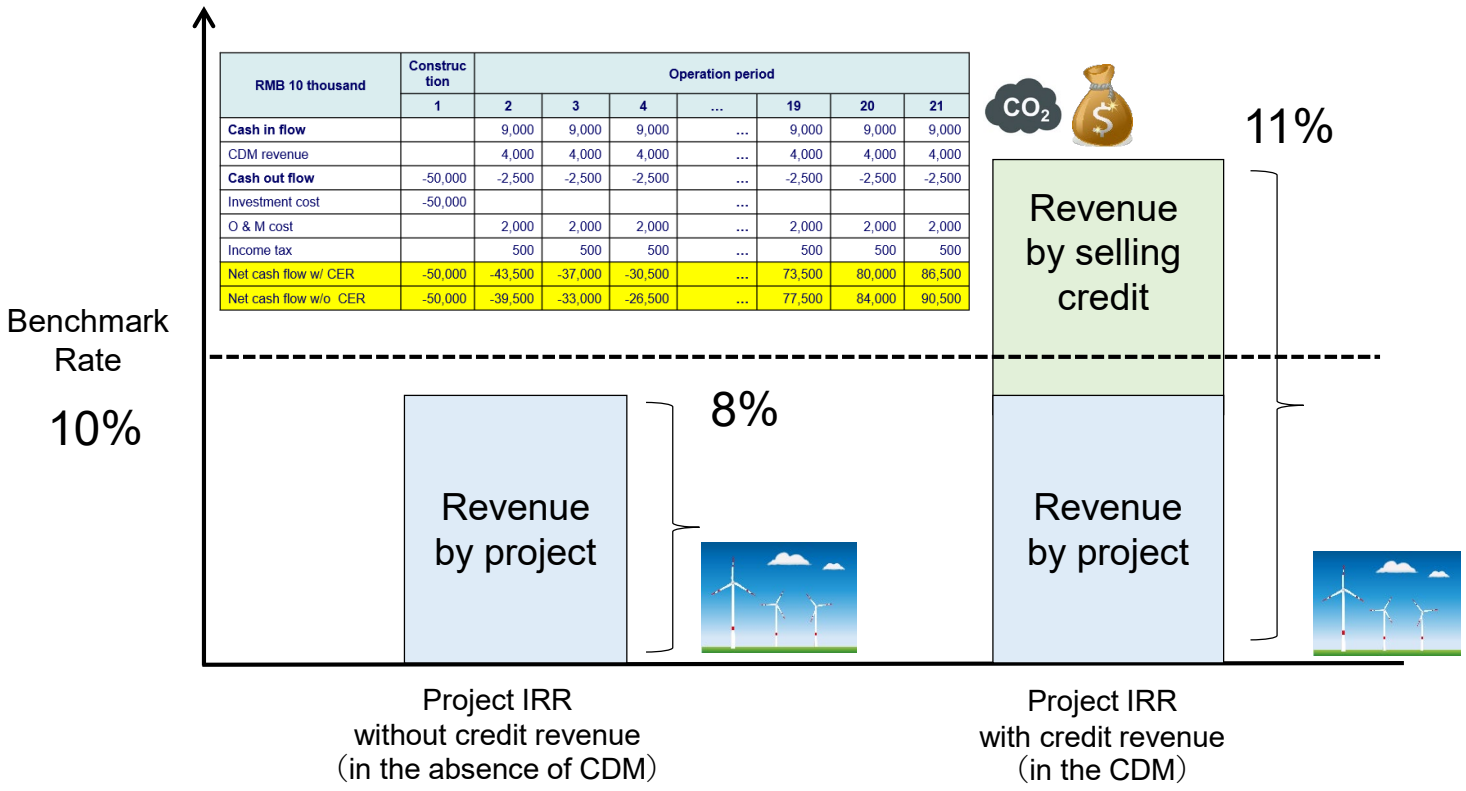
  (see Annex)

*NbS: Natural-based Solutions

# 1. Additionality: Investment Analysis in the CDM (example)

## Benchmark Analysis

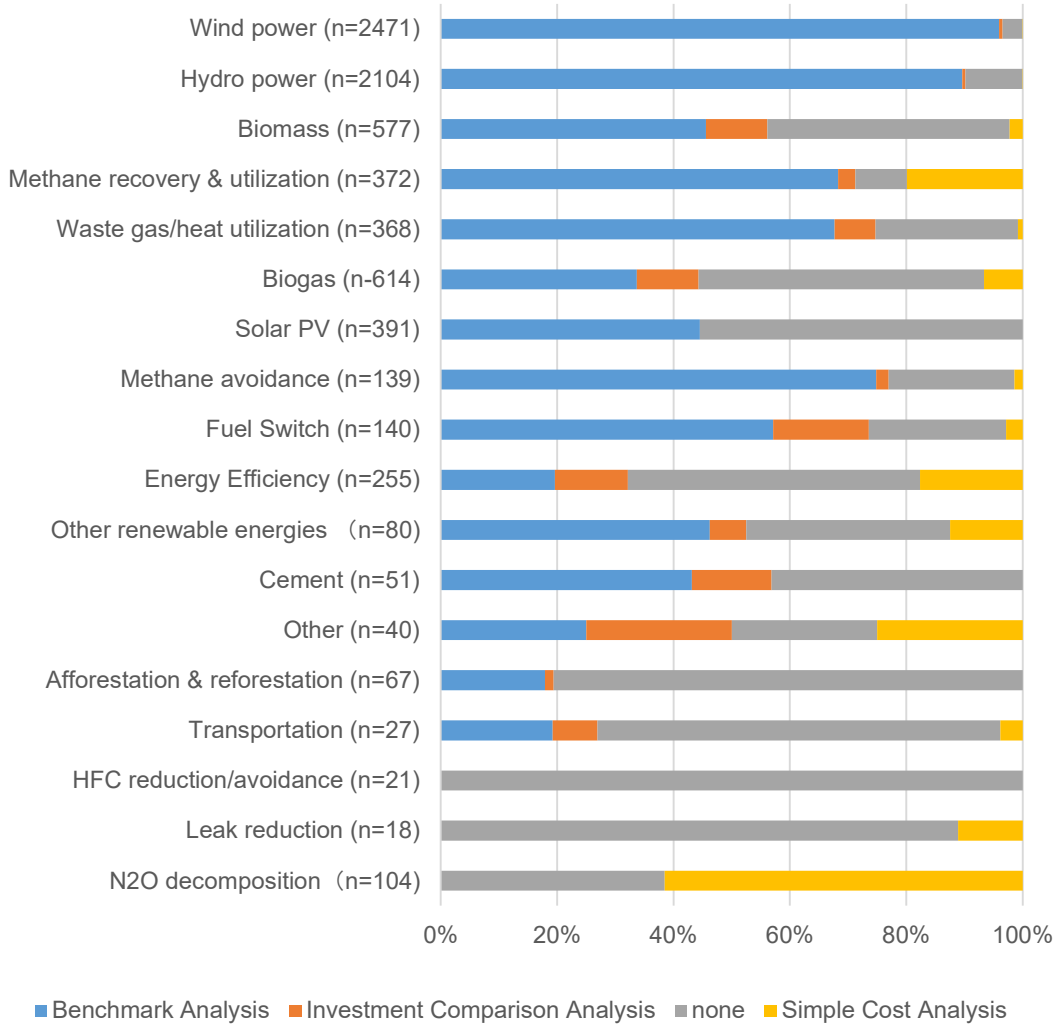
| RMB 10 thousand | Construction | Operation period | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | ... | 19 | 20 | 21 |
| **Cash in flow** | | 9,000 | 9,000 | 9,000 | ... | 9,000 | 9,000 | 9,000 |
| CDM revenue | | 4,000 | 4,000 | 4,000 | ... | 4,000 | 4,000 | 4,000 |
| **Cash out flow** | -50,000 | -2,500 | -2,500 | -2,500 | ... | -2,500 | -2,500 | -2,500 |
| Investment cost | -50,000 | | | | ... | | | |
| O & M cost | | 2,000 | 2,000 | 2,000 | ... | 2,000 | 2,000 | 2,000 |
| Income tax | | 500 | 500 | 500 | ... | 500 | 500 | 500 |
| Net cash flow w/ CER | -50,000 | -43,500 | -37,000 | -30,500 | ... | 73,500 | 80,000 | 86,500 |
| Net cash flow w/o CER | -50,000 | -39,500 | -33,000 | -26,500 | ... | 77,500 | 84,000 | 90,500 |




*IRR: Internal Rate of Return

In the CDM, a proposed project explains that it will not be profitable without the sale of credits when demonstrates the proposed CDM project is an additional.

Question is "Is renewable energy project an additional in the future?"

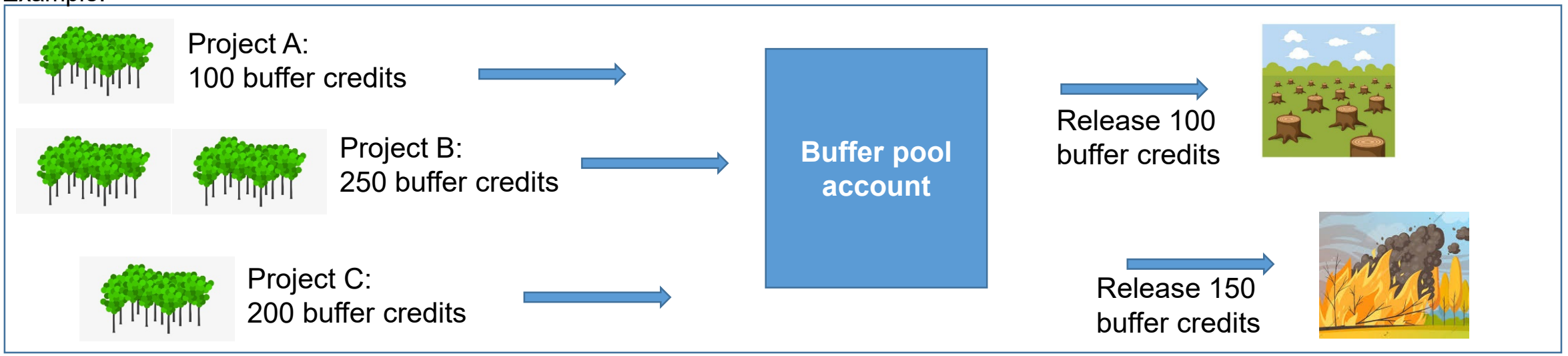



**Number of CDM registered project which demonstrated the additionality (Source: IGES CDM Project Database)**

# 3. Permanence: VERRA (example)

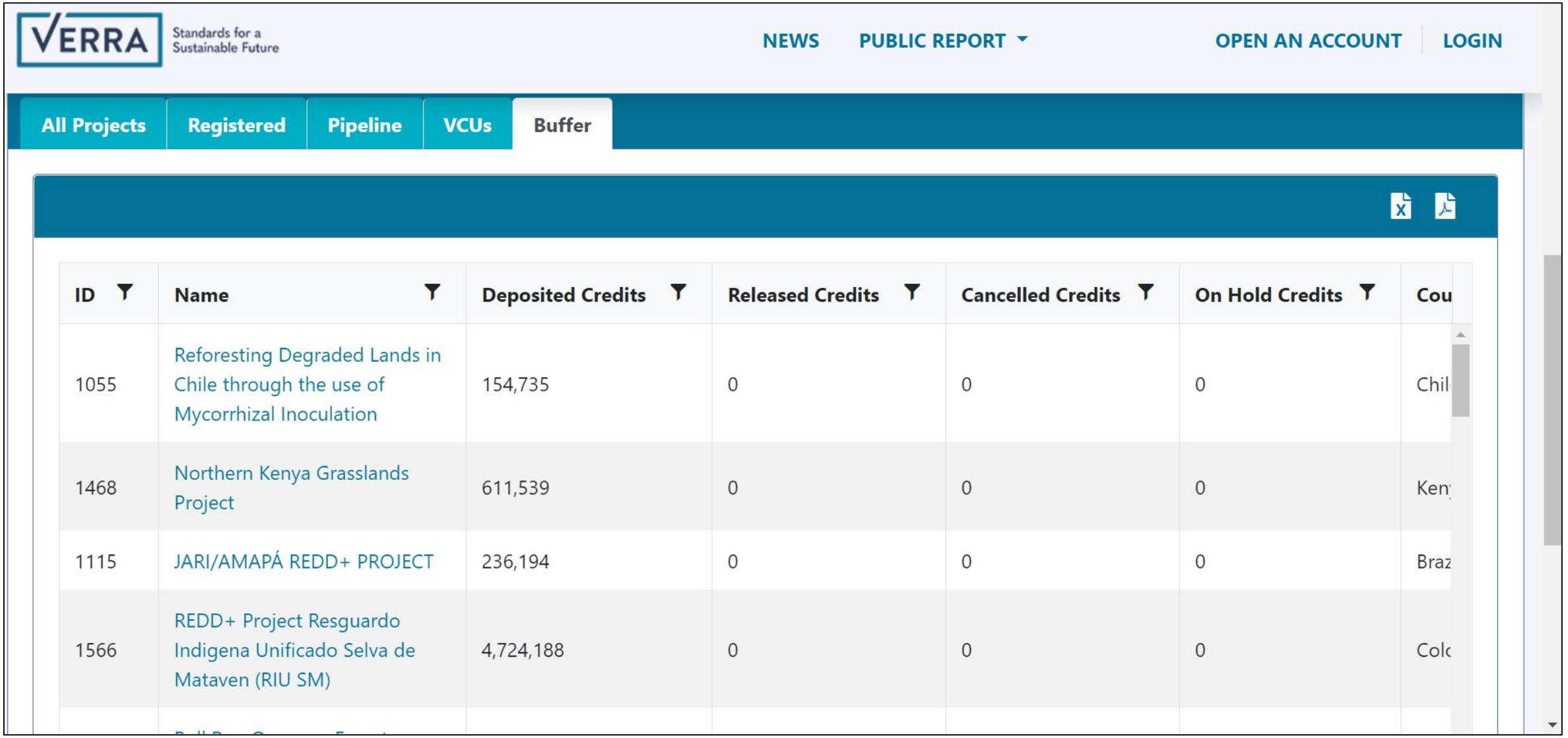
- Verified Carbon Standard: any **risk related to permanence** in projects is addressed through the **Non-Permanence Risk Tool**, to determine how many **credits to be deposited in the buffer pool account**.
- Non-Permanence Risk Tool has three categories**: internal risks, external risks and natural risks**, and divided into sub-categories such as project management, financial viability and community engagement etc.
- Project develops **a non-permanence risk report based on the risk tool**, which is assessed by the validation and verification bodies.

Example:




*VERRA: Independent crediting program, founded in 2007, for assuring high quality of voluntary carbon markets.

# VERRA registry system: Buffer credits




| ID | Name | Deposited Credits | Released Credits | Cancelled Credits | On Hold Credits | Cou |
|---|---|---|---|---|---|---|
| 1055 | Reforesting Degraded Lands in Chile through the use of Mycorrhizal Inoculation | 154,735 | 0 | 0 | 0 | Chil |
| 1468 | Northern Kenya Grasslands Project | 611,539 | 0 | 0 | 0 | Ken |
| 1115 | JARI/AMAPÁ REDD+ PROJECT | 236,194 | 0 | 0 | 0 | Braz |
| 1566 | REDD+ Project Resguardo Indigena Unificado Selva de Mataven (RIU SM) | 4,724,188 | 0 | 0 | 0 | Colc |

# Summary (Key messages)

- Carbon offsets should **not undermine ambition of corporate emission reductions** and need to **align with PA 1.5 target**
- **Buyers need to be careful** about what kind of offset credits they purchase and which elements are required **to ensure credibility (high-quality)**
- Elements related to carbon credibility: **Additionality, Baseline scenario, Robust MRV, Permanence, Avoidance of double counting, Negative and Positive impacts, Governance and Transparency**
- Independent crediting programmes have adjusted their rules and guidelines to align with international discussions on PA Article 6, Net-zero and SDGs
- Moving forward, we need to closely watch discussions on **COP26 Article 6 negotiations, TSVCM, VCMI (and SBTi reports on Net-zero strategy)**

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# Thank you for your attention

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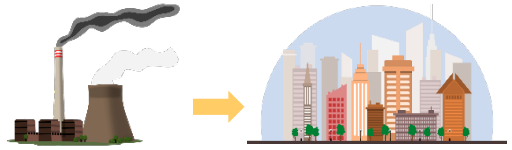
# Annex

# 2. Baseline setting: Renewable energy project (example)

Emission

Baseline Emission



**0.846**$tCO_2$/MWh

(EF published by government (MONRE))

*MONRE: Ministry of Natural Resources and Environment

**EF based on the current and future energy mix (coal and natural gas etc)**

Conservative Baseline Emission

(JCM defines it as reference emissions)

**0.333**$tCO_2$/MWh

(EF in the approved methodology (JCM in Viet Nam))

**EF based on the energy mix (only natural gas)**

Project Emission (PE)

**Emission Reduction (Credit)**

**In case of renewable energy, PE = zero**

year

Emission reduction (ER) will be different depending on the selection of EF
(In case of 100,000 MWh solar PV) ER Difference: 51,000$tCO_2$/year (510,000$tCO_2$ (10 years))

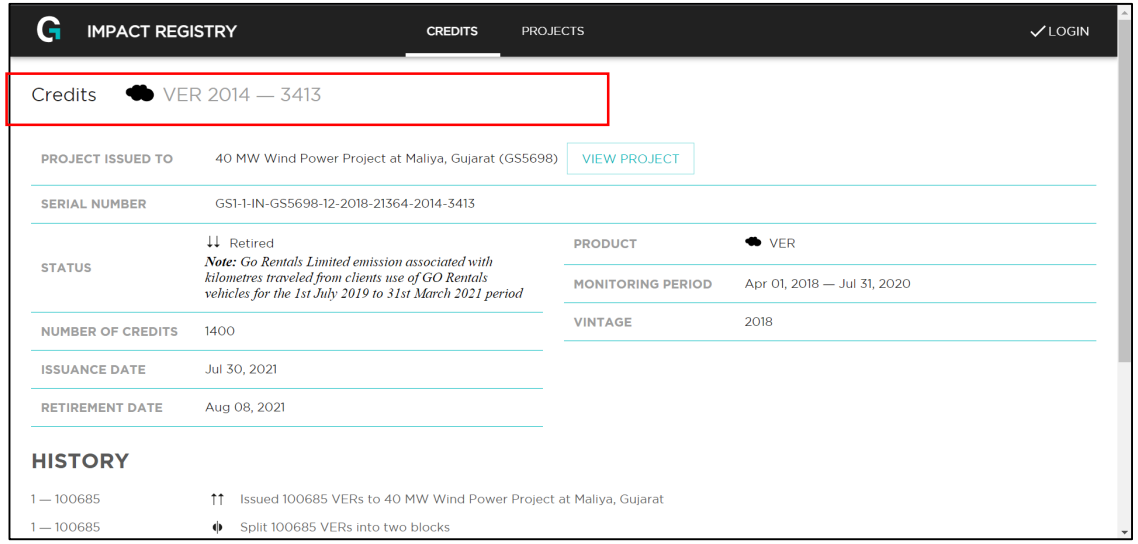
In the future, as natural gas and renewable energy become widespread, how to set the baseline (especially the emission factor (EF)) is one of the important elements in the conservative baseline setting.

# 4. Double counting: Gold Standard/ART (example)

- Transparent registry system allows public to see all recordings on credits (issued, transferred, cancelled, retired) and includes the relevant documentations for each project.

Serial numbers:
**GS1-1-IN-GS5698-12-2018-21364-2014-3413:**

| | |
|---|---|
| IN | Indonesia (Country code) |
| GS5698 | Project ID |
| 12 | Project ID |
| 2018 | Vintage of credits |
| 21364 | Batch number of the issuance |
| 2014-3413 | Serial range of the credits |




(Gold Standard, Impact Registry)

- **Avoiding double claiming: Application of CAs in ART Programme**

(The REDD+ Environmental Excellence Standard (TREES):
To prevent double claiming by the host country and a private company for use toward mitigation obligations, TREES requires that the host country issue a letter to authorise the use of the specific emission reduction by buyers (private companies). The letter will be posted publicly on the ART registry (ART, 2020).

ART
Architecture for REDD+ Transactions

# 5. Negative impacts: Gold Standard (example)

- Safeguarding principles: All projects shall undertake assessment against 9 principles and implement their project in accordance with requirements.

The project shall avoid adverse impacts on the health and safety of communities during the projects life cycle

| Safeguarding Principles | |
|---|---|
| Social | Principle 1 Human Rights |
| | Principle 2 Gender Equality and Women's Rights |
| | Principle 3 Community Health, Safety and Working Conditions |
| | Principle 4 Cultural Heritage, Indigenous Peoples, Displacement and Resettlement |
| | Principle 5 Corruption |
| Economic | Principle 6 Economic Impacts |
| Environmental & Ecological | Principle 7 Climate and Energy |
| | Principle 8 Water |
| | Principle 9 Environment, Ecology and Land Use |

The project shall not directly or indirectly reinforce gender-based discrimination

The projects shall consider economic impacts and potential risks to the local economy

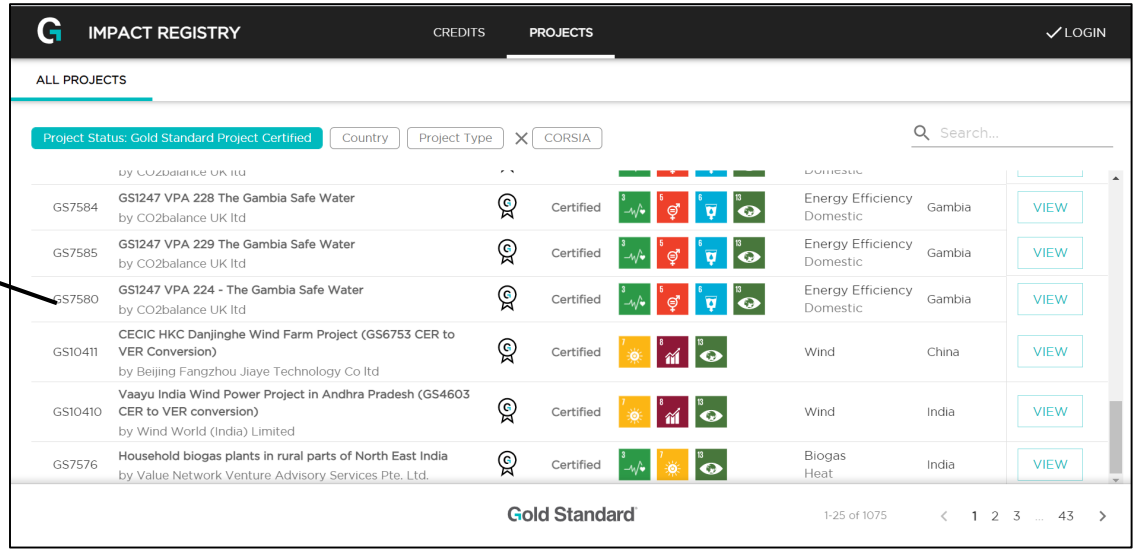
- Projects participants conduct the assessment for these principles based on formulated questions and implement stakeholder consultation to get feedback and review.

# 5. Positive impacts: Gold Standard (example)

- SDG impacts: All projects shall demonstrate a clear, direct contribution to sustainable development and positive impacts on at least 3 SDGs, one of which must be SDG 13.

"Gambia safe water" project supports the provision of safe water to households using borehole technology.
**SDG 3, SDG 5, SDG 6, SDG 13**

Example in **SDG 6**: Quality of Treated Water based on Gambian national standards




- To demonstrate **SDG impacts in project documentation, including a monitoring & reporting plan,** the project may choose one of the following options:

- Option 1: A project developer shall review the UN SDG Targets and Indicators and select the most relevant targets and indicators to the chosen three SDGs and demonstrate how the project has positive impacts
- Option 2: Follow a Gold Standard Approved SDG tool for the demonstration of SDG Impacts (SDGs tool guidance)
- Option 3: Follow a Gold Standard Approved Methodology (SDG impact quantification methodologies)