Interstitial Guidance on Transfer Pricing of Carbon Offsets and Carbon Credits

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Foreword

The United Nations Committee of Experts on International Cooperation in Tax Matters ("the Committee") is globally recognized for its work in norm- and policy-shaping and for the guidance it provides in the area of international tax cooperation. It generates practical guidance for governments, tax administrators and taxpayers to help strengthen tax systems, with a view to mobilize financing for sustainable development.

Through its work, the Committee aims to prevent "double (or multiple) taxation" and "non-taxation" and assist countries to broaden their tax base, strengthen their tax administrations and to curb international tax evasion and avoidance. In all of its work, the Committee gives special focus to least developed countries and others in special situations, including small island states and landlocked countries.

The Committee is a subsidiary body of the UN's Economic and Social Council. It is comprised of twenty-five members nominated by Governments and acting in their expert capacity, drawn from the fields of tax policy and tax administration and selected to reflect an adequate equitable geographical distribution, representing different tax systems. The current membership was appointed by the Secretary-General, after notification was given to the Economic and Social Council, for a four-year term starting on 1 July 2021 and ending on 30 June 2025.

During its 23rd Session in 2021, the Committee decided to continue its work on transfer pricing given the relevance of intragroup trade and its potential impact on corporate income taxes. To this end, the Committee formed a Subcommittee on Transfer Pricing ("the Subcommittee").

The Committee mandated the Subcommittee to consider, report on and propose guidance on transfer pricing issues, on the basis:

- That it reflects article 9 of the United Nations Model Convention, and the arm's length principle embodied in it, and be consistent with relevant commentaries of the United Nations Model Convention;
- That the Subcommittee identify and consider the transfer pricing topics where guidance from the Committees was the most useful;
- That it reflects the realities for, and the needs of, developing countries, at their relevant stages of capacity development; and
- That it gives due consideration to relevant work in other forums, including the Inclusive Framework on Base Erosion and Profit Shifting, and may consult broadly.

During the 24th Session of the Committee, the Committee approved the Subcommittee's ambitious work plan, consisting of interstitial guidance on the following topics:

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- Transfer Pricing during the COVID-19 Economic Downturn
- Transfer Pricing Compliance Assurance – An End-to-End Toolkit
- Transfer Pricing of Carbon Offsets and Carbon Credits
- Transfer Pricing Aspects of Agricultural Products
- Transfer Pricing in the Pharmaceutical Industry
- Dispute Avoidance and Bilateral Advance Pricing Agreement / Arrangement Programs

The guidance at hand is on "Transfer Pricing of Carbon Offsets and Carbon Credits".

The specific topics were chosen for their practical relevance and development focus, based on feedback from former participants of capacity development workshops in the area of transfer pricing.

By its 28th Session, the Committee had reviewed, refined, finalized and approved guidance on all of the above transfer pricing topics. It sought throughout to prepare products that assist all stakeholders, especially officials in developing countries, in dealing with the issues covered. The guidance products should also assist in making capacity development activities as practical, targeted and effective as possible.

The Subcommittee met productively on many occasions – predominantly virtually as well as in hybrid format in Vienna in 2023 and 2024. The generosity of the Austrian government and the Vienna University of Economics and Business is warmly acknowledged, as are the generous financial contributions from Denmark, the European Commission, India, Norway and Sweden to UN DESA's multi-donor project to provide strengthened substantive and logistical support to the work of the Committee, its subcommittees and related capacity development activities.

The Subcommittee is comprised of participants from tax administrations and policy-makers with wide and varied experience in dealing with transfer pricing, as well as from academia, international organizations and the private sector, including from multinational enterprises and advisers.

The participants of the Subcommittee and their countries (in the case of government officials) or current affiliations (in other cases) bearing in mind that membership is in a personal capacity, contributing to the guidance were the following: Ingela Willfors (Sweden, Co-Coordinator); Mathew Gbonjubola (Nigeria, Co-Coordinator); Matthew Andrew (Auckland University, New Zealand); Rajat Bansal (India); Melinda Brown (OECD); Rasmi Das (India); Barbara Dooley (Ireland); Lorraine Eden (Texas A&M University, USA); Mauro Faggion (European Commission); Björn Heidecke (Deloitte, Germany); Michael Kobetsky (Australian National University, Australia); Wazi Ligomeka (Malawi); Luis María Mendez (Argentina); Pande Oka Kusumawardani (Indonesia); Nana Mensah Otoo (Ghana); T.P. Ostwal (T.P. Ostwal & Associates LLP, India); El Hadramy Oubeid (Mauritania); Raffaele Petruzzi (WU Transfer Pricing Center, Institute for Austrian and International Tax Law, Vienna University of Economics and

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Business, Austria); Claudia Pimentel (Brazil); David Rüll (Germany); Jolanda Schenk (Shell, Netherlands); Ruchika Sharma (India); Stig Sollund (independent consultant, Norway); Trude Steinnes Sønvisen (Norway); José Troya González (CPA - Robalino, Ecuador); Monique van Herksen (Simmons & Simmons, Netherlands); Marcos Valadão (Getulio Vargas Foundation, Brazil); Yan Xiong (China).

The early involvement of Carlos Perez-Gomez Serrano (KPMG, Mexico) and Anthony Munanda (ATAF) is also recognized. The assistance of the Secretariat, including especially Ilka Ritter and Michael Lennard in this work is gratefully acknowledged.

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Abbreviations

CCUS	Carbon Capture Usage and Storage
CDM	Clean Development Mechanism
CER	Certificate of Emission Reduction
(**CO_2**)	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COP	Conference of the Parties (decision-making body of the UNFCCC)
CSR	Corporate Social Responsibility
CUP	Comparable Uncontrolled Price (a transfer pricing method)
DAEMPE	Development, Enhancement, Maintenance, Protection, Acquisition, and Exploitation
DOE	Designated Operational Entity
DNA	Designated national Authority
ETS	Emission Trading Scheme
GHG	Greenhouse gases
Handbook	The UN Handbook on Carbon Taxation
ITMO	Internationally Transferred Mitigation Outcomes
LOA	Letter of Approval
MNE	Multinational Enterprise
MRV	Monitoring, Reporting and Verification
Net- zero	Removing an equal amount of CO_2 from the atmosphere as is being released into it
NDC	Nationally Determined Contributions
NGO	Non-Governmental Organization
UN Manual	UN Practical Manual on Transfer Pricing for Developing Countries
PDD	Project Design Document
REDD/+	Reducing Emissions from Deforestation and forest Degradation mechanism
SDGs	Sustainable Development Goals
TNMM	Transactional Net Margin Method (a transfer pricing method)
UNFCCC	United Nations Framework Convention on Climate Change
VCC	Voluntary Carbon Credit
VCM	Voluntary Carbon Markets
VER	Voluntary Emission Reduction unit

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1. Table of Contents

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2. Purpose

The purpose of this interstitial guidance from the UN Tax Committee is to elaborate on the value chain of carbon emission abatement activities that serve to generate carbon credits or carbon offsets to consider how transfer pricing rules apply to the generation, transfer, and sale of carbon credits. Doing so will aid in properly delineating the actual transactions between associated enterprises. Accurate delineation of the actual transactions requires analysis of the economically relevant characteristics of the transaction which consist of the conditions and the economically relevant circumstances of the transaction. The application of the arm's length principle depends on determining conditions that independent parties would have agreed on in comparable transactions in comparable circumstances.

Carbon credits have a market value and can be considered a form of "in-kind" business profit resulting from the relevant activities that lead to generating carbon credits. Understanding the functions performed, assets used, and risks assumed by each of the transaction parties with respect to the activities performed and transactions involved will assist with accurately delineating the relevant transactions for transfer pricing purposes.

This paper at times references guidance from the UN Tax Committee on carbon offsets. This guidance focusses on the interaction between carbon taxes and carbon offset programs and raises awareness of the Framework provided by Article 6 of the Paris Agreement.[1]

This interstitial guidance aims to provide some insights into:

- Different ways in which carbon credits may be generated.
- The (still evolving) regulatory system that allows for the creation, use, and trade of these credits (including mention of the monitoring, reporting, and verification systems material for the functioning of the relevant systems), which may serve to better understand what steps and actions are required to comply.
- The (intercompany) transfer of carbon credits.

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[1] UN (2024). The Interaction between Carbon Taxes and Carbon Offset Programs. Available from CRP. 7 Annex B (Carbon Offsets).pdf (un.org)

3. Introduction

To achieve the goal of minimize any contribution to climate change, cutting carbon emissions should be the first aim. This may not be enough to remove an equal amount of CO_2 from the atmosphere as is being released into it, however. Therefore, a common saying among sustainability professionals is that tackling one's carbon footprint means reducing emissions as much as possible, and offsetting the rest. That means that carbon credits serve an important function to help reduce global warming.

A carbon credit is a tradable, intangible instrument representing a unit of carbon dioxide equivalent (typically one ton that is reduced, avoided, or sequestered by a project), and is certified / verified in line with an internationally recognized carbon accounting standard.[2] Carbon offsets can arise from any activity that compensates for the emission of carbon dioxide (**CO_2**) or other greenhouse gases (**GHG**) (measured in carbon dioxide equivalents [**CO_2e**]) by providing for an emission reduction elsewhere. Because GHG are widespread in the Earth's atmosphere, the climate benefits from emission reductions, regardless of where such cutbacks occur.[3] Carbon credits are designed to serve as market mechanisms that help reduce overall carbon emissions.[4] Companies, in weighing up the costs and benefits of their options, may either adjust the way they do business to reduce their own carbon emissions (which may require significant investments but may be cost-effective over the long run), or purchase carbon offsets. The UN Handbook on Carbon Taxation (**Handbook**) references an example of a power plant in Canada paying a farmer in Zambia to plant a number of trees sufficient to offset the power plant emissions. This might be cheaper than paying (part of) the applicable carbon tax or making the significant investment required to switch fuels and it can have substantial co-benefits (for example, on the livelihoods of people).

This guidance serves to provide insights into the value chain that leads to carbon offsets and carbon credits for purposes of considering relevant related transfer pricing aspects. The terms "carbon offsets" and "carbon credits" are frequently used interchangeably, although technically, they operate based on different mechanisms.[5] Together they cover a wide array of units, certificates, quotas, and allowances.[6] The term "carbon credit" usually refers to a tradable certificate or permit that shows a company, industry, or country has removed, or paid to remove, a certain amount of

[2] IETA & ICROA (2016). White Paper: Enlisting government support for voluntary carbon management and offsetting to scale and accelerate climate action. Available from Position and Discussion Papers (ieta.org)

[3] Britannica (2011). Definition of carbon offset. Available from https://www.britannica.com/technology/carbon-offset.

[4] Although some carbon credits may be attached/used only by the company generating them.

[5] A carbon offset removes GHG that is already in the atmosphere (sequesters the carbon) and a carbon credit is a reduction in the release of GHG to the atmosphere. See: https://carboncredits.com/carbon-credits-vs-carbon-offsets-whats-the-difference/

[6] For more details, see chapter 2 of the UN Tax Committee's guidance on the interaction between carbon taxes and carbon offset programs.

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carbon dioxide from the atmosphere.[7] Carbon credits essentially are accounting units that are tracked and recorded in designated GHG registries but can also be traded and transferred among entities. While technically different, the terms "carbon offsets" and "carbon credits" are often used interchangeably and both typically represent one ton of CO_2 reduced, avoided, or sequestered as certified/verified to an internationally recognized carbon accounting standard.

Projects where a business decides to invest in actions that reduce GHG emissions ancillary to their everyday operations, such as capturing methane gas at a landfill, planting, preserving forests, or storing carbon, generate carbon offsets. These projects typically (but not always) involve building wind turbines, supporting solar farms, or investing in forest preservation and reforestation efforts.

When one company removes a unit of carbon from the atmosphere as part of its business activity, it may be able to generate a carbon credit. Other companies (including associated enterprises) can then purchase that carbon credit to reduce their own carbon footprint, or to trade it. To properly determine and allocate the income for tax purposes resulting from the purchase and sale between associated enterprises, it is important to determine the functions performed, the assets used, and the risks assumed by each of the associated enterprises with respect to activities that lead to carbon credits are remunerated at arm's length.

Carbon credits were introduced as a financial incentive to change behavior towards reducing GHG emissions and curtailing climate change. The Handbook elaborates on how carbon taxes can also serve as an incentive to induce a change in behavior to a less GHG emitting mode of operation with positive results for climate change.

Transactions between associated enterprises that involve carbon credits that are bought and sold must be conducted at arm's length, just like any other intercompany transaction. The UN Practical Manual on Transfer Pricing for Developing Countries (**UN Manual**) provides guidance on how intercompany transactions are to be analyzed and what pricing methods can be used. How such a transfer pricing analysis looks like and what aspects ought to be considered when carbon credits are involved are discussed in this paper by presenting three different carbon credit project examples. When it comes to the application of transfer pricing methods, depending on the facts and circumstances of the particular transaction under review, the use of the Comparable Uncontrolled Price Method (**CUP**) may be appropriate or a cost of funding / cost plus approach where an appropriate mark-up is applied to the purchase price. In other

[7] Importantly, once a carbon credit is effectively used, and offset against CO_2 is emitted, that credit is declared used and "retired," and cannot be sold or used again. If credits are to be used once, they can be used by the private company to offset its emissions, and potentially also by the host country as a tool to meet its NDCs. A counterargument to this is that forbidding host countries to use credits produced on their territory and used by private companies as offsets would slow down the deployment of carbon projects. Please also see the UN Tax Subcommittee guidance on the interaction between carbon taxes and carbon offset programs.

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cases, for example where the intercompany transactions are highly integrated or both parties contribute valuable intangibles, a profit split may be appropriate as well. Carbon credit projects tend to be capital intensive and involve significant costs that may qualify for cost allocation amongst members of a Multinational Enterprise (**MNE**). How that cost is allocated and whether such a cost allocation is appropriate will depend on the facts and circumstances. Relevant guidance in this respect for transfer pricing purposes may be available through the UN Manual.

A corollary of transfer pricing is that if income resulting from the generation and sale of carbon credits is considered wrongfully allocated between associated enterprises and adjustments correcting this are undertaken by the tax authorities, , that will likely lead to double taxation. Usually, the business income is already reported as taxable income in the country of one of the associated enterprises, and the tax adjustment in the other country, therefore, leads to double taxation.

Unresolved double taxation of carbon credits will constitute an unforeseen added cost, and thus ultimately a disincentive, to generating carbon credits. Understanding the value chain involved with generating carbon credits will assist in accurately delineating the relevant transactions between associated enterprises and assessing the arm's length income allocation of carbon credit-related (costs and) income between associated enterprises.

4. Regulatory Framework

To understand for transfer pricing purposes what the relevant functions, assets and risks are when engaging in intercompany carbon credit transactions, it is beneficial to understand the regulatory regime applicable to carbon credits. Historically, carbon credits have been regulated and issued by national and international government organizations. The first international carbon markets were the result of the 1997 Kyoto Protocol. More recently, the 2015 Paris Agreement further regulated the operation of carbon credits.

The Kyoto Protocol is a product of the 1992 United Nations Framework Convention on Climate Change (**UNFCCC**), that provided legally binding ceilings on future GHG emissions by advanced industrialized countries. It provided flexibility as to what GHG was to be controlled, where control can be implemented, and what domestic policy measures would be used. It introduced a Clean Development Mechanism (**CDM**) designed to implement emission-reduction projects in developing countries. The Kyoto Protocol covered the years 2008-2020, divided into two commitment periods. CDM projects produced Certificates of Emission Reduction (**CERs**) for every ton of carbon absorbed or captured from the atmosphere.

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In 2015, the Paris Agreement was adopted, that regulates the period beyond 2020. The Paris Agreement is a universal environment accord that has as a goal to cap the rise of global temperature well below 2 degrees Celsius above pre-industrial levels.[8] To limit global warming to 1.5 degrees Celsius – as called for in the Paris Agreement – emissions need to be reduced by 45% by 2030 and reach net-zero by 2050. The Paris Agreement allows countries to voluntarily cooperate with each other to achieve emission reduction targets set out in their Nationally Determined Contribution plans (**NDCs**). Under Article 6 of the Paris Agreement, carbon credits resulting from the reduction of GHG emission activities in one country can be transferred to help one or more (other) countries to meet climate targets. Article 6.2 of the Paris Agreement creates the basis for trading in GHG emission reductions (also referenced as "internationally traded mitigation outcomes" (**ITMOs**)) across countries and provides a framework in which countries can create their own systems in ways that are consistent with UN rules and comparable to each other.[9] It considers three types of use of ITMOs: a) for NDCs, b) for other international purposes (meaning international regimes outside the Paris Agreement, such as the International Civil Aviation Organization for aviation and the International Maritime Organization for shipping), and c) for other purposes (meaning the voluntary carbon market (**VCM**)). Article 6.4 of the Paris Agreement establishes a mechanism for trading GHG emission reductions between countries. It is supervised by the Conference of Parties (**COP**) – the decision-making body of the UN Framework Convention on Climate Change.

The Paris Agreement unlocked a so-called voluntary market to allow for optional exchange and trade of carbon offsets. The voluntary market is open to individuals, companies, and other organizations that want to reduce or eliminate their carbon footprint but are not required to do so by law. Organizations with operations that reduce the amount of carbon already in the atmosphere (for example by planting more trees or investing in renewable energy) can issue carbon offset credits provided they

[8] Article 2(a) of the Paris Agreement states that the agreement's aim is: "Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change."

[9] Article 6.2 of the Paris Agreement provides: "Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions, promote sustainable development and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting, consistent with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement." While Article 6 of the Paris Agreement allows one country wanting to purchase emission reductions from another one to use them towards its own target, it agrees that entities other than governments can use the emission reductions as well. The host country will have to make an adjustment for those against its NDC. It envisages that a government can agree that emission reductions achieved in its country can be used by a company towards its company target. The host government won't count those emissions reductions towards its NDC. The company then has a unique claim, and the reductions are not counted towards the host government's NDC. The resulting credits are entirely the company's own to use and to claim. Reference is made also to the UN Tax Committee's guidance on the role of the Paris Agreement for details on the interaction between carbon taxes and carbon offset programs.

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meet certain metrics and verification regulations.[10] However, the nature of carbon credits is heterogeneous, and there is a lot of inconsistency among these credits.[11] Companies that seek to reach net-zero (meaning that they remove an equal amount of CO_2 from the atmosphere as is being released into it by them) may be seen investing heavily in renewable energy, for example reducing emissions in the car manufacturing process, or supporting reforestation projects to use the carbon offsets. When dealing with voluntary carbon offsets, every ton of CO_2 that a verified project manages to absorb, avoid, or otherwise reduce, can lead to the issuance of a carbon credit. The role of the Paris Agreement is discussed in more detail in Chapter 3 of the UN Tax Committee's guidance on the interaction between carbon taxes and carbon offset programs.

GHG removed under voluntary projects in the VCM that are not intended to be surrendered into an active regulated carbon market are usually referenced as a Voluntary Emission Reduction Unit (or Verified Emission Reduction Unit) (**VER**). VERs are carbon credits originating from the voluntary CO_2 market. All VERs must be verified by an independent third party. Currently, VERs are mostly used by companies who are looking to voluntarily offset the emissions generated during their business activities to show social responsibility and establish a healthy and green corporate image. An increasing number of companies are investing in VER projects to reduce their carbon footprint and to reach a net-zero emission status. They don't have to be entered into a national inventory because they aren't created to meet a legal requirement. A host country can, if they choose, apply a corresponding adjustment to VERs that leave its border, but this is not required.[12]

In a VCM, private entities or entitled standard setters are responsible for the project certification. Developers of projects resulting in the avoidance, decrease, or removal of carbon emissions can apply to these entities to certify and prove the amount of carbon emissions avoided, decreased, or removed. As a result of certification, the developer can obtain voluntary carbon credits (also referenced as **VCC**). One carbon credit represents one ton of CO_2 emission reduction. Such VCCs are stored at a personalized account in a registry owned or retained by the entity that certified the project. The developer can either retire the credits, i.e., annul them to claim the

[10] Carbon credit verification is a highly scrutinized process. The two most common verification schemes are The Gold Standard and the Verified Carbon Standard. Generally, they consider four key aspects: (1) Additionality (i.e., the project leads to additional GHG reduction than otherwise would have happened without the project); (2) Permanence/Durability of the project; (3) Buffer Pool (the extra credits that a company purchases as insurance against a possible event, such as a wildfire or flood, that would destroy the carbon offsets the company is buying); and (4) Leakage (i.e. an unintended increase in GHG emissions or the shifting of emissions from one place to another due to a carbon credits project because of shifting demand from a protected place to an unprotected one).

[11] See Chapter 4 of the UN Tax Committee's guidance on the interaction between carbon taxes and carbon offset programs.

[12] The classical approach of the voluntary market consists of the purchase and cancellation of credits generated by baseline-and-crediting programs.

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reductions they represent, or sell them to another entity owning an account at the registry. There are various ways in which VCCs can be traded and various institutions are involved in the process: brokers, exchanges, retail traders, advisors. VCCs issued by an entity and stored in a registry managed or retained by this entity cannot be transferred to a registry of a different certifying entity.

In comparison, in the compliance markets (i.e., Emission Trading Schemes (**ETS**)) covered entities may be required to obtain carbon credits to offset their emissions to stay within their emission targets. The emission trading system is based on the notion of tradeable pollution rights, which for practical purposes are either carbon allowances as they provide the right to emit a certain quantity of GHG emission, or a carbon credit to be offset against a business-as-usual baseline carbon impact.[13]

An ETS involves placing a limit or cap on the total volume of GHG emissions in one or more sectors of the economy. A government then auctions or distributes tradeable emission allowances[14] to entities covered by the cap, where each allowance represents the right to emit a certain volume of emissions (typically a metric ton of carbon dioxide equivalent) and the total volume of allowances equals the emissions cap. Covered entities are required to surrender allowances for their emissions during a compliance period. They can choose to buy additional allowances if necessary or sell surplus allowances. This policy type is known as a "cap and trade" system.

4.1 Cap and Trade Scheme

Assume the government instituted a total cap of 10,000 tons of carbon annually and ten pollution-creating factories were responsible for all the GHG. The government could then create 10,000 one-ton carbon credits and either allocate them (give a certain quantity for free to each factory) or auction them (have each factory bid for the amount it needs). Each factory would be required to hold the number of allowances equal to its level of GHG emissions. If a factory needs more than the amount it received through allocation or auction, it needs to purchase additional credits in the marketplace. If a factory produced fewer GHGs than the amount it received, it could sell the excess credits in the marketplace.

Figure 1: How an emission trading system works[15]

[13] For an overview of different offset rights and systems, reference is made to Grau Ruiz, M.A. (2022). Taxing carbon offset credits. Available from Kluwer International Tax Blog (kluwertaxblog.com).
[14] Carbon allowances require a permit to release a certain quantity of GHG into the atmosphere.
[15] Carbon Markets 101. The Ultimate Guide to Understanding Carbon Credits. Available from The Ultimate Guide to Understanding Carbon Credits • Carbon Credits

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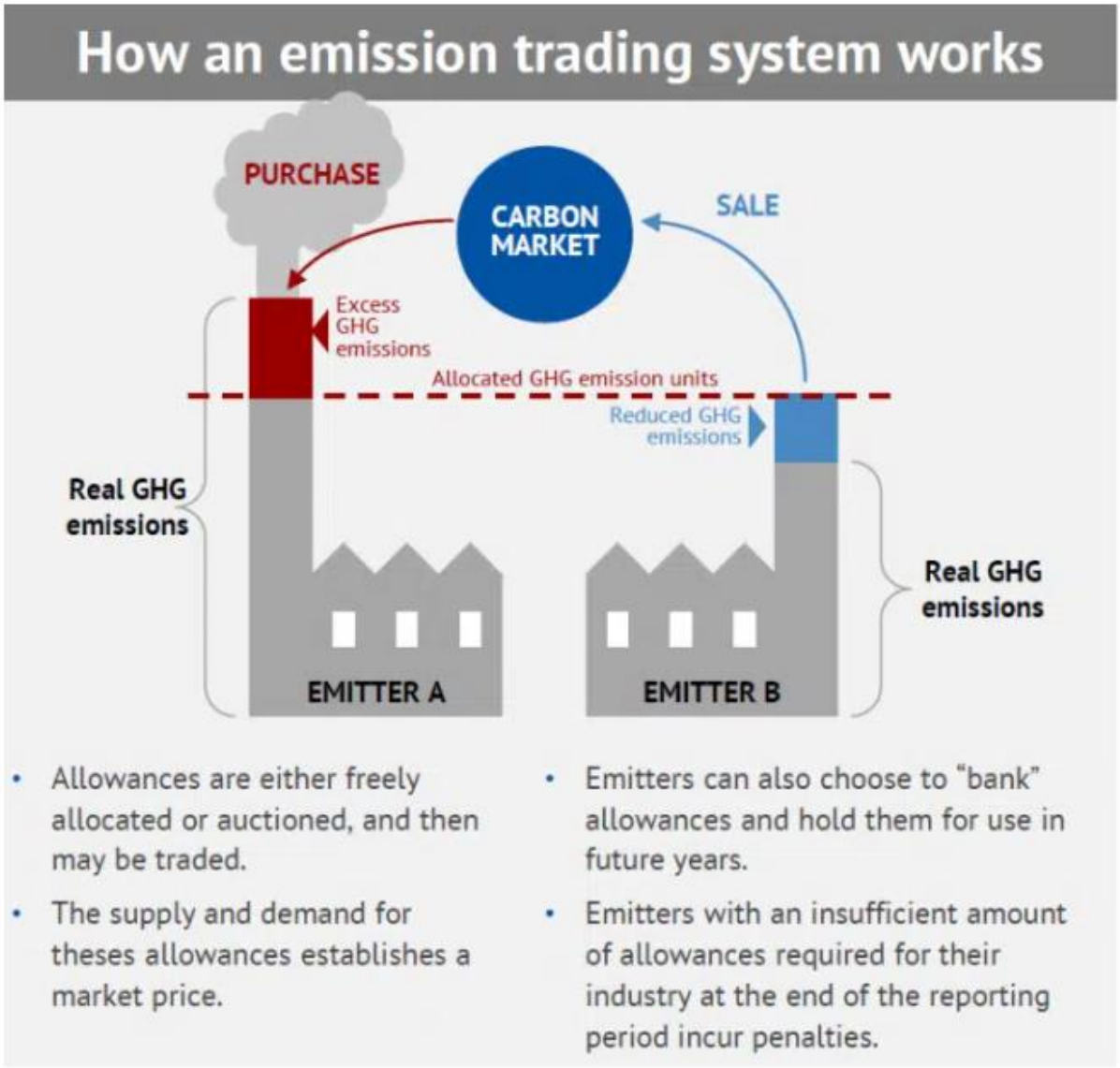

4.2 Baseline and Credit Schemes

Each source participating in the scheme is assigned a specific emissions limit (baseline) for a period. After the relevant period has ended, each source's actual emissions are compared to its limit. If the source has emitted less than its limit, it may receive emissions credits in the amount of the difference. If a source has emitted more than its limit, it must buy emissions credits from sources that were below their limit to offset the excess emissions.

In some schemes, emissions credits expire if unused; in others, they may be banked for use in future years. Some schemes allow participants flexibility, for example, by engaging in project-based activities or by paying into an environmental fund to make up for a shortfall in remitted emissions credits (like a penalty payment).

Both the compliance market and the voluntary market incentivize the private sector to implement emission mitigation activities across the world, in a range of sectors and technologies such as energy efficiency, transport, and reforestation. These mitigation activities allow for the development of carbon credits that may be transferred internationally and used in other countries to meet the aims of country NDCs or corporate use.

To recap, there are several types of carbon credit/offset rights that exist concurrently. They may be based on international law, national law, or even subnational law (such as individual State law in the United States of America – which are outside the scope of this paper).

To make sure offsets are not sold multiple times and the reduction in emissions is not causing an increase in emissions somewhere else, carbon offsets need to meet certain standards and are subject to validation. There are several accredited organizations offering certification following proper verification.[16] Each of these program organizations have different standards, each with their own focus and project requirements.[17] Under all systems that grant emission rights or generate offset rights, whether they are carbon allowances or carbon credits, certain steps are required including monitoring, reporting, and verification (**MRV**) before certification of the volume of emission reduction that is reflected in the offset rights and credits are provided. The relevant MRV steps can broadly be described as follows:

Project Design and Application

Carbon projects must be designed such that they meet the requirements set out under the relevant organization's applicable standard and approved methodology. The methodologies serve to enable the quantification of emission reductions achieved by eligible projects and impose eligibility requirements. The reduction in carbon emission resulting from the project must be an improvement as compared to what would have occurred in a business-as-usual situation if the carbon project had not been carried out (this is referenced as "additionality"). Generally, this requires the involvement of specialized and qualified engineers and technical consultants who can ensure that the proposed activity is designed to qualify and meet the requirements of the specific methodology. This area is relatively dynamic, in that new methodologies may be added, and existing methodologies may be updated or retired over time.

[16] See also footnote 10 supra.

[17] See Chapter 2.4 of the UN Tax Committee's guidance on the interaction between carbon taxes and carbon offset programs.

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The project specifications can differ depending on what organization's standards apply and what project type is involved. For purposes of applying and qualifying for credits, the project must be described, the location of the project must be provided, and all eligibility criteria must be met. The following documents may be needed in the application:

- Identification of the party setting forth the project (and any other involved parties);
- Description of the project, including how it satisfies the applicable rules and the applied methodology, the location of the project, certification of the relevant legal rights to land or property used for the project, demonstration of additionality, and proposed crediting period of the project;
- Description of the monitoring system to be applied to the project; and
- Estimations of carbon reductions to be generated.

The application generally requires the involvement of specialized engineers and technical experts to prepare the relevant documentation or data provided.

Approval

Depending on the nature of the project and its location, regulatory and environmental approvals may be required from several different government bodies to conduct the project. The carbon project should not violate any applicable laws or human rights, and any resulting carbon credits may require authorization before they can be transferred internationally. Some governments want to ensure that the carbon credits are not included in their NDCs to avoid double counting. They can authorize credits for use outside of Article 6 of the Paris Agreement.[18]

If the project design meets the methodology requirements and all other relevant approvals, the application may be approved by the Designated National Authorities (**DNAs**), in case of credits for the regulatory compliance market, or by the Designated Operational Entities (**DOEs**), in case of credits under the voluntary market.

Validation

Some of the documentation required for approval must be validated (verified) through a third-party validation process prior to submission. The party who sets forth the

[18] Please see footnote 7 supra.

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project is often required to use an independent auditor to prepare a validation report. To assure the quality of the credits, the applicable project standards not only require third-party validation of project plans before implementation, but also third-party verification of the realized emission reductions after implementation. The above process can take several years during which there is no certainty that there will be approval and issuance of carbon credits to be registered.

Registration

Registration of carbon credits results from the monitoring of the project and consists of verification and certification by the DOEs.

Regardless of whether one is operating in the mandatory compliance market or in the voluntary market, the project, offsets, and credits will need to be approved and validated (namely: Who calculates the tons of carbon locked away in each program? Who measures the carbon emission reductions?) before the actual emission reduction and resulting carbon credits can be registered.

A carbon registry is a platform that allows organizations to track, manage, and trade GHG emissions. They require that carbon credits are measured, reported, and verified. Registered carbon offsets provide transparency and accountability and are subject to a rigorous verification process. This serves to ensure that emission reductions are real and not fraudulent. Only registered verifiers can verify a carbon credit. These are organizations that are approved to verify emission reductions, and audit projects to ensure that they are legitimate and meet the requirements of the carbon registry. There are carbon offset registries that track offset projects and issue offset credits. They assign a serial number to each verified offset credit. When a credit is sold, the serial number for the reduction is transferred from the account of the seller to the account for the buyer. If the buyer “uses” the credit by claiming it as an offset against its own emissions, the registry retires the serial number so that the credit cannot be resold.

The CDM registry ensures the accurate accounting of the issuance, holding, transfer, and acquisition of CERs. This is a standardized electronic database which contains, inter alia, common data elements relevant to the issuance, holding, transfer, and acquisition of CERs. Each CER has a unique serial number, and once used, the CER is registered as cancelled and can no longer be used for demonstrating compliance with emission standards.

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5. Relevance for Developing Countries

As climate change affects the entire world, limiting pollution and introducing carbon pricing instruments is relevant for all countries. The granting of emission allowances or carbon credits present economic instruments that make it possible for actors other than governments to take part in GHG emission mitigation. The role of private sector financing in this respect is crucial and makes it easier for companies to support national efforts to reduce GHG emissions.

The CDM mechanism that allows a country with an emission-reduction or emission-limitation commitment to implement an emission-reduction project in a range of sectors and technologies was designed for activities that take place in developing countries. It creates a regulatory market in which governments, private companies, and other entities can purchase carbon offsets to comply with mandatory caps on the amount of GHG they are allowed to emit. The CDM aims to assist developing countries in achieving sustainable development by promoting environmentally friendly investments from capital-exporting countries and businesses. Developing countries benefit from the carbon market through the provision of an extra revenue stream for forest preservation and infrastructure improvements or projects that reduce GHG emissions and contribute to sustainable development and the achievement of the United Nations' Sustainable Development Goals (**SDGs**) for their countries.

In the voluntary carbon market resulting from the Paris Agreement, carbon credits are purchased by companies or individuals to help reduce their impact on climate change. These are popularly supported by private finance, and companies may purchase carbon credits to become "carbon neutral" or "green" companies. Individuals may also purchase offsets to balance their emissions from GHG emitting activities such as using commercial aircrafts. The largest category of buyers comprises private firms that purchase carbon offsets for resale or investment. Voluntary offset buyers are often driven by certain considerations such as safeguarding their reputation, ethics, and corporate social responsibility (**CSR**). While carbon credit projects can be located anywhere, many involve nature-based solutions that provide for credits resulting from agricultural projects, reforestation projects, or projects in coastal or marine environments. Developing countries tend to be rich in the necessary resources for such projects.

Carbon credits have become in-demand and play an important role towards cutting annual GHG emissions. With the pressure on emission reduction increasing, the generation and trading of carbon credits for purposes of establishing offsets is

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becoming a major business with its own unique value chain. Many carbon credit transactions involve projects based in Asia, Latin America, and Africa.[19]

6. Importance of Transfer Pricing

The MRV process does not necessarily determine who is legally entitled to the carbon credits. However, as carbon credits represent economic value that can be monetized, the determination of who "owns" what is a relevant question, especially when associated enterprises are involved in the relevant value chain by performing different functions and taking on risks. Therefore, this needs to be carefully reviewed. Multiple claims of entitlement or ownership will constitute a risk for both the countries and companies that wish to trade authorized credits since accounting adjustments are required for purposes of accurately reflecting credits applied against a country's NDC under Article 6.2 of the Paris Agreement. Carbon projects are often implemented based on the initiative of one or several parties, which can include the private sector (owners, operators, investors, corporate finance, consultants), not for-profit organizations, Non-Governmental Organizations (**NGOs**) or the public sector.[20] While carbon credit entitlement or ownership is normally determined based on contractual agreements, the sometimes elaborate project structures and involvement of multiple parties may present a challenge to tax authorities as to which party should be the one to claim ownership.

In energy and industry projects, the owner of the machinery or technical installation that effectuates the emission reduction, the installation's operator or an investor, can claim the right to emission reductions. Between them, the benefits from the (usually highly capital-intensive) investment in technology and assets are allocated according to contractual agreements. It should be noted that the holder of the carbon credit / emission right may not in every case be the party entitled to the economic value that the carbon credit represents. All the parties of the transaction/involved in the project ought to be reviewed in relation to their involvement to adequately address the profit attribution of the carbon credit or offset. Without explicit domestic laws, the most suitable format to clearly determine carbon credit-related claims and representation rights, rights to compensation, and legal protection, are contracts, or chains of contracts.[21] To the extent those are third-party contracts, it is generally assumed that they will be at arm's length. For transfer pricing purposes, it is important that contracts and the resulting income allocation between associated enterprises are also at arm's

[19] Ecosystem Marketplace (2021). The State of the Voluntary Carbon Markets 2021. Available from https://www.ecosystemmarketplace.com/carbon-markets

[20] Streck, C. & von Unger, M. (2016). Creating, Regulating and Allocating Rights to Offset and Pollute: Carbon Rights in Practice. In Carbon and Climate Law Review, 3/2016.

[21] Ibid.

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length, and transfer pricing rules provide for a detailed framework for how this is to be determined.

Emission allowances evidence the authorization to pollute, based on the number of allowances that are allocated by a government entity or otherwise obtained but lack physical substance. They are generally not considered financial assets because cash is not delivered when they are used; instead, the emission allowance itself is delivered to demonstrate compliance with established regulations. As a result, they meet the definition of an intangible asset. Contracts for the purchase or sale of emission allowances (e.g., forwards, futures, or options) may meet the definition of a derivative. For GAAP/IFRS purposes, emission reduction units have been classified as intangible assets to be accounted for under IAS 38 - Intangible Assets[22] unless they are to be treated as inventories under IAS 2 – Inventories and held for sale in the ordinary course of business. Government intervention in carbon reduction may drive the accounting treatment under IAS 20 - Government assistance. These determinations are fact-specific, however. In the case associated enterprises are involved, a value chain analysis and functional analysis will be required for transfer pricing purposes to assist in determining where relevant contributions were made that need to be rewarded at arm's length. For intangibles, this includes a functional analysis that covers which entity performs the development, enhancement, maintenance, protection, acquisition, and exploitation (DAEMPE) functions.[23] This is discussed in Chapter 5 hereafter.

Carbon emission mitigating projects require specific actions and capital investments that, within a MNE setting, can involve several associated enterprises in different countries making use of internal financing or third-party investors, and are likely to involve expert technicians, engineers, and advisers that may be available in-house or recruited externally.

[22] The IFRS Interpretation Committee (IFRIC) published guidance on Emission Rights in December 2004, which was withdrawn in 2005. The reason for the withdrawal was the undesirable impact of its adoption on the statutory income statement, introducing volatility for balances re-valued based on prevailing market prices or allowances, and a mismatch between movements in the asset and liability as recognized through the income statement. The withdrawal of the guidance did not invalidate its application, however. The plan is for the International Accounting Standard Board (IASB) to conduct a wider assessment on accounting for emission schemes. No new guidance has yet been issued as of yet. The Financial Accounting Standard Board has previously expressed its belief that the classification of emission allowances as intangible assets is preferable. In practice, utilities and power companies typically classify allowances as inventory held for use or sale) or intangible assets (held for use). International Accounting Standard 38 permits a choice between the historical cost model and a re-valuation method. Purchased allowances are recorded at cost. Allowances received from a government body at no cost or for less than fair market value are reported at fair market value when received.

[23] Reference is made to Chapter 6 of the UN Manual.

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With regards to financing, it is also relevant to mention that carbon finance has emerged as an attractive option to help fund initiatives to generate carbon credits. Carbon finance is a type of payment for environmental services in which the GHG emission reductions from an activity are certified as having taken place and then purchased by governments, companies, and individuals who wish to invest in a global effort to reduce GHG emissions. This flow of investment allows projects that would not normally be economically viable to take place while stimulating technology development and uptake by providing incentives to reduce GHG emissions. It may very well be that associated enterprises are involved in a GHG abatement project that is supported by carbon finance. In that case, there will be a party involved that carries the obligation to deliver carbon emissions to the carbon finance investors.

Transfer pricing rules serve to ensure that associated enterprises price their intercompany transactions fairly and consistently with how unrelated companies would price their transactions. That way, income resulting from business activities conducted is properly taxed. Unlike unrelated companies, associated enterprises can arbitrarily shift income to group entities located in jurisdictions where profit is taxed at a low or zero rate because of group control mechanisms. To prevent that from happening, transfer pricing rules require associated enterprises to apply the arm's length principle. The applicable rules prescribe that intercompany transactions must be accurately delineated and recognized, and subsequently, that profit of the respective group entities is determined based on a comparability analysis which includes consideration of the functions performed, assets used, risks assumed by the involved parties, and other economically relevant characteristics. This also includes particularities such as the geography/location of the activities performed. The functional analysis will consider the above factors and direct to an appropriate transfer pricing method to determine an arm's length result.

The UN Manual provides guidance on how the arm's length principle is applied in practice once the relevant functions, assets, and risks have been accurately delineated. This guidance also applies to MNEs engaged in the business of generating and selling carbon credits or offsets.

As indicated, for historical reasons, many carbon credit generating projects have operating activities in developing countries. Developing countries may provide additional benefits and optimal conditions for conducting abatement activities: they may possess requirements such as the right climate conditions, geographic location, and an environment that is conducive for projects to succeed. They may also serve as relatively cost-efficient locations for emission abatement projects that qualify for generating carbon credits. This may be because labor costs and the cost of (natural)

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resources are lower than they would have been in developed countries, because labor and (natural) resources may be more widely available in developing countries or that the industrial activities are less regulated than they are in developed countries.

Emission reduction credits essentially are neither tangible nor does the CO_2 abated have a defined source. GHG that is abated in one place simply contributes to an overall improvement of air quality and the environment. In general, emission reduction credits are administratively awarded to the party that files for them and submits the relevant substantiation of the MRV conducted and the GHG abated to the designated authorities.

Considering the above, developing countries have an interest in ensuring that associated enterprises doing business in their jurisdictions that engage in activities related to GHG emission reduction report their taxable income consistent with the arm's length principle to contribute to domestic revenue mobilization and avoid tax base erosion. This will also assist in avoiding double taxation of MNEs and with the need to seek resolution of double taxation under (bilateral) treaties for the avoidance of double taxation.

As the pressure to limit global warming to 1.5 degrees Celsius requires cutting GHG emissions nearly in half by 2030,[24] the expected increase in GHG emission mitigation activities makes it relevant for developing country revenue authorities to fully understand the value chain of projects in their countries that serve to tackle carbon emissions. These projects, which may range from reforestation to applying decarbonization technologies in energy projects, generally involve the use of intellectual property, significant up-front financing and ongoing investments, risks, risk management, and other activities that may be conducted or initiated within or outside of the countries where the actual project is geographically located while there may be sizeable operational activities taking place on the ground where the carbon abatement is occurring.

Revenue authorities are likely to have a better understanding of the full value chain of emission reduction projects when there is robust transfer pricing documentation in place that sets forth aspects such as:

[24] A report in 2018 by the Intergovernmental Panel on Climate Change determined that meeting the 1.5 degrees Celsius goal would require cutting carbon dioxide emissions by 50% globally by 2030 – plus significant negative emissions from both technology and natural sources by 2050 up to about half of present-day emissions.

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- the functions performed by all the relevant group entities, and the economic significance of the functions;
- the relevant risks assumed;
- the assets used; and
- an analysis of the relevant transfer pricing considerations (including methods used).

With this information, revenue authorities in developing countries may be better prepared to assess the local activities and contributions regarding emission reduction projects and ask relevant questions upon audit, that way they are not spending unnecessary time and resources during those audits.

7. Project Value Chain Analysis

The value chain analysis of projects that lead to carbon offsets and carbon credits will invariably depend on the specific project, and a wide array of projects exist in this field. That said, for transfer pricing purposes, in each case it will need to be determined what assets, functions, and risks are involved by which associated enterprise through the process of accurate delineation.

For purposes of getting a better understanding of what that may entail, three example projects are described from a high-level perspective. The first one being a reforestation project, the second being a project that serves to replace traditional (coal-based) cooking equipment with stoves that burn using clean fuel, and the third one being an industry emission reduction project.

Please note that many companies engage in GHG emission reduction-related activities, which may not necessarily include a full project like the ones discussed here, and those projects may very well not qualify for the issuance of carbon credits. They may (only) consist of buying carbon credits or offsets or may regard investments in technology to have their machinery and equipment operate in a more environmentally friendly fashion and lead to less carbon emissions. To properly assess whether these activities are properly compensated at arm's length (or costs are properly allocated), a functional analysis is required that elaborates on the functions performed, assets used, and risks assumed. For any relevant emission-reducing technology that is being developed, licensed, and used, the functional analysis consider DAEMPE functions.[25] Also noteworthy is that financing carbon credits may be considered a financial service subject to licensing requirements and carbon credit units may be treated as financial products.

[25] Reference is made to Chapter 6 of the UN Manual.

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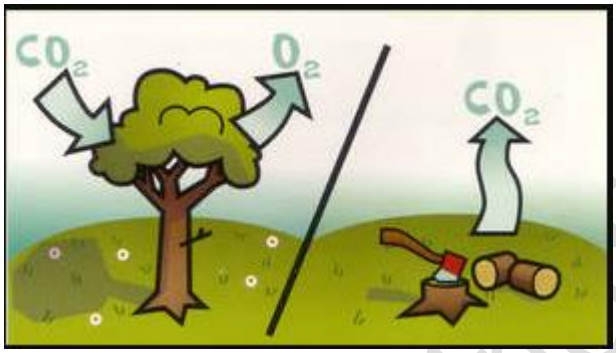
7.1 Example 1: A Reforestation Project

Carbon sequestration is the process of capturing, securing, and storing carbon dioxide from the atmosphere. Carbon dioxide can be naturally captured from the atmosphere through biological processes. Planting trees is considered an effective way to capture carbon, and as a result, there is an increasing interest in investing in developing appropriate carbon offset projects that use the natural growth process of trees to hold (or sequester) CO_2 in the living wood, roots, and forest soils, thus preventing its escape to the atmosphere. See the picture below:

Figure 2: Emissions from deforestation[26]



There are different ways to generate carbon emission reduction by capturing ('bio-sequestering') the atmospheric carbon and locking it into the living and dead biomass in the ecosystem. Reforestation consists of re-planting trees on forest land. There is also a process called "afforestation" that entails planting trees on land that had a different original ecosystem, such as planting forests in areas that used to be deserts. In addition, there are also forest maintenance projects such as the Reducing Emissions from Deforestation and forest Degradation mechanism (REDD/+) established by the UNFCCC, which produces sovereign credits. The aim is to incentivize developing nations to conserve their forests and reverse deforestation. It essentially is a system of financial incentives designed to counter the destruction of forests or their degradation through environmental stresses. The basic goal is to preserve trees that would otherwise be cut down, and thus, release carbon dioxide into the atmosphere. The way to ensure that they are not cut down is to make them more valuable standing. REDD+ enables companies, conservation groups, and countries to invest in forests as offsets for carbon emissions. Strict requirements must be met before sovereign credits can be issued, however.

[26] Samoa Conservation Society (2022). Carbon Offset Programme.

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Reforestation projects involve upfront capital investment for which carbon credits are (expected to be) granted in return. These projects involve activities that requires specific knowledge, such as making decisions to invest in which land and in which countries (including conducting feasibility studies), acquiring the land, obtaining the financing needed to invest in the land, performing operational activities to grow the land (e.g., animal control, site preparation, herbaceous release, reforestation, and road and ditch maintenance), carbon management, certification, marketing and sales, and general and administrative activities (including legal and insurance). The key source of revenue for these projects is revenue from carbon sequestration. Reforestation projects essentially go through the MRV as described above, before they qualify for and generate carbon offsets.[27]

Project Design

During the project design stage, the eligibility of a proposed project will be considered. Project developers will have to make sure that the specific requirements for qualification for carbon credits can be met. For example, only certain lands may be eligible for reforestation project activities or certain countries may require the issuance of a Letter of Approval (**LOA**) for the project, which should be done timely, to avoid finding out later that the project is not viable, and investments are essentially lost. Furthermore, the site and soil conditions need to be considered including the costs of site preparation early on.

Once the planned project activity meets the required criteria, the developers will proceed with the acquisition of the necessary data, evaluation of the data, and formulation of a project design document (**PDD**). The PDD describes the project background, its objectives, and its benefits and impacts other than emission reduction benefits, particularly the socio-economic and environmental benefits. It also explains how the project aims to contribute to the sustainable development objective of the country where the project will take place. It will include the technologies and measures that will be undertaken to afforest or reforest the lands (e.g., assisted natural regeneration, planting of seedlings, aerial sowing of seeds). Information on the species and varieties of trees to be planted, the nursery techniques and planting techniques to be employed, and planting machines and equipment to be used should be provided. If genetically improved breeds of trees are to be used, this should be mentioned while describing how any adverse ecological effects of these would be managed or contained. A brief description of what technologies and know-how will be used is required as well.

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[27] A detailed overview of the process based on a CDM project, is provided at https://unfccc.int/resource/docs/publications/cdm_afforestation_bro_web.pdf

Issues to be considered and documented include the legal title to the lands to be afforested or reforested under the project activity (e.g., ownership, nature, and type of tenurial rights) and authorization of the project participants to undertake the project activity, to act, and exercise rights necessary for control of, and access to, the carbon pools in the lands for the purpose of monitoring of those pools. In short, preparation of the PDD is one of the most important steps in undertaking a reforestation project, and its preparation requires specific expertise.

Approval

A LOA, confirming voluntary participation, from the DNA of the parties involved is a prerequisite for registration of a project activity. The same letter should confirm that the project contributes to sustainable development in the country. This administrative phase may be dependent upon the national arrangements within the organization or the authority acting as the DNA.

Validation

Validation is critical. During this phase, a review of whether it can be verified how much carbon was removed – and remained removed – by that forest in that year, and whether all project requirements to ultimately qualify for carbon credits are met. The DOE assesses the PDD documents against the project qualification requirements and may ask for further information to satisfy itself that the contents of the PDD are adequate and are supported by justificatory evidence. It may also involve a (public) stakeholder consultation, request for input or comments from stakeholders, only after which it is determined whether the proposed project activity should be validated. After this, the project may be registered.

Registration

Once a registered project has been implemented by the project participants and sufficient emission reductions and removals have been achieved, the project participants can choose to prepare a monitoring report in accordance with the monitoring plan contained in the registered PDD. The monitoring report is based on actual data relating to the performance of the project. It provides the necessary evidence of the emission reductions or removals achieved by the project, and as such, directly impacts the number of carbon credits to be awarded. The monitoring report is submitted to a DOE contracted by the project participants for the purpose of its verification and certification. The DOE makes the monitoring report publicly available on the official website and undertakes a review and assessment of the monitoring

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report to ensure that the report is in accordance with the requirements contained in the registered PDD. The DOE can conduct on-site inspections, as appropriate, and test-check the data underlying the monitoring report. Having satisfied itself with the adequacy of the monitoring report, the emission reductions or removals claimed by the project participants, the DOE prepares a verification and certification report which is made publicly available on the official website.[28] It should be noted that it can take several years before a reforestation project leads to the generation of sufficient emission reductions to qualify for the issuance of carbon credits.

There is an increasing demand from investors to invest in environmental projects and increasingly funds are being established to invest in green assets or finance carbon projects. These funds usually finance (e.g., through bonds or loans) companies or buy shares in companies that engage in climate or environmental projects and generate carbon offsets that are registered in a recognized carbon registry.

For transfer pricing purposes, it should be determined what the respective associated parties involved in the reforestation project contribute to the project. Functions performed may range from developing the appropriate strategy, conducting proper due diligence to source the right projects, project design and development with the help of independent experts, to investment in land acquisition or a land lease for the envisaged time of the project, the performance of operational activities, obtaining financing and the provision of intercompany loans, monitoring, and risk management.

The relevant functions generally require specific expertise. For example, determining land ownership and obtaining rights to property may present challenges, as indigenous populations may have historical rights to forest land, which may not have been demarcated and may not have titles to establish ownership. When land titles are established, they often vary from country to country.

In reforestation projects, strict monitoring is required to ensure that the reforestation does not negatively affect other property and leads to the deforestation of other forests.[29] Monitoring may also be required to make sure that the reforestation itself has no negative consequences for forest ecosystems (i.e., via monoculture). It will

[28] UNFCC (2013). Afforestation and Reforestation Projects under the Clean Development Mechanism. Available from cdm_afforestation_bro_web.pdf (unfccc.int)

[29] This is referred to as "leakage". For example, farmers who used the land before the reforestation project was put in place may move their activities to neighboring forests and may need to be compensated to ensure that trees aren't cutdown elsewhere.

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need to be conducted in a reliable manner that meets the respective MRV requirements.

As regards relevant risks, any loss of the forest would reduce the access to credits and could mean liability to the buyer in a mature carbon trading system. In addition, there are limits to the potential of reforestation to combat climate change. As forest ecosystems reach maturity, the amount of carbon dioxide they absorb becomes balanced with the amount they release through tree death and decay. At this point, the forest does not operate as a carbon sink anymore but is just maintaining the storage of carbon.

To qualify for credits, there may be requirements such as additionality, which include providing evidence that the reduction in carbon emission resulting from the project is an improvement as compared to what would have occurred in a business-as-usual situation if the carbon project had not been carried out. Generally, this requires the involvement of technical consultants who can make sure that the proposed activity is designed to qualify and meet the requirements of the specific methodology. This area is relatively dynamic, in that new methodologies may be added, and existing methodologies may be updated or retired over time.

From the above, it should be clear that there are assets involved, ranging from land tenure to know-how and technology used to design a project and monitor it, and risks involved, such as exposure to claims that a project does not have tenure security or land conflicts, which may compromise the ownership of carbon credits.[30] From a transfer pricing perspective, it needs to be clear what associated enterprise carries the (ultimate) liability for risks that materialize, as that entity is likely to be eligible to receive related profits or be allocated materialized losses. Loss of forest through wildfires or otherwise is also a risk as that would impair the carbon emission reduction and resulting carbon credits over time. The above activities will need to be financed as well, and often there are parties involved that invest in these projects but not without an expectation of a return on investment. While it also needs to be determined who gets or owns (the cash value of) the resulting carbon credits, it is important to note that the value of the carbon offsets achieved from the above activities fluctuates in the market depending on supply and demand so the market risk that includes price risk is also relevant.

[30] Leakage is another risk that is challenging to contain, as neighboring property is often not owned or under the control of the project investors and developers.

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In this example, some of the typical transactions for a transfer pricing analysis include:

- Performance of feasibility studies for the viability of the project. This will include the sourcing of terrain and investigating legal requirements and restrictions;
- The funding of the capital investment required (acquisition or lease) in land suitable for the project;
- The obtaining of requisite licenses and approvals for the project which may in turn require entering into agreements with long-term obligations vis-à-vis different (unrelated) parties regarding indigenous rights, restoration, or water-related rights;
- Sourcing and performance of relevant services crucial to operating a project which can include running a tree nursery, conducting field work (planting, animal control, site preparation, herbaceous release, reforestation), and field maintenance (boundary line maintenance, waste pyrolysis, fertilization, road and ditch maintenance and control). This all includes the specific knowledge of managing a reforestation project. Major errors in carbon accounting in reforestation projects could occur if the time needed for trees to reach their carbon capture potential is not observed; the GHG emissions involved in setting up a plot are not kept to a minimum; carbon capture potential is considered on a per tree planted basis rather than considering limitations that may exist at the forest ecosystem level, and tree losses due to inevitable human and climatic disturbances are not considered;
- Legal and administrative services, which may include interacting with the regulator that verifies and certifies the emission offsets, which in turn, results in eligibility for (a certain number of) carbon credits;
- The sale of carbon credits to third-party buyers;
- The provision of intercompany financing (i.e., loans).

As regards the appropriate transfer pricing methods, reference is made to the UN Manual.

A reforestation project involves assuming business risks, regulatory risks (the rules regarding the qualification for carbon credits are still in flux and subject to changes in regulations), market risks (the demand for certain quality carbon credits can fluctuate and impact related prices); foreign exchange risks (e.g., carbon credits may be sold in a variety of currencies), credit risks that customers do not pay for the carbon credits, input price risks (the cost of relevant services to maintain the project may fluctuate), liquidity risks (e.g., a reforestation project will only generate carbon credits after several years) and project risks (the carbon capture potential may be less than anticipated).

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Assets used in a reforestation project may include intangibles (e.g., trademarks, specific agriculture software solutions, and technology), know-how, financial assets, and the generated carbon credits.

For transfer pricing purposes, the functions performed by all the relevant group entities, risks assumed, assets used, and an analysis of the relevant transfer pricing considerations in this respect are required. Accurate delineation will serve to determine this. For example, if any insurance is taken out against loss of forest through fire, it should be considered what party does so and whether they are remunerated at arm's length. Next, a determination of what transfer pricing methods may best qualify to determine an arm's length return for the respective functions performed, assets used, and risks assumed is required. Can the traditional transaction methods be applied (CUP, Cost Plus or Resale Price) or do the transactional profit methods (transactional net margin method **TNMM**, Profit Split) apply? As mentioned above, the eventual holder of the certificate awarding the carbon credit/emission right may not be the party entitled to the economic value the carbon credit represents in every case. All the parties to the transaction/involved in the project ought to be reviewed in relation to their involvement to adequately address the profit attribution of the carbon credit or offset. So, it is not a given that the (economic value of) resulting carbon credits must be allocated to a party in the jurisdiction where the reforestation efforts *de facto* takes place (although it should be considered that some countries might want to require that a certain number of (voluntary) carbon credits from private buyers are applied against their NDCs under domestic law). Transfer pricing documentation should reflect what the economically relevant roles are of the respective associated enterprises and how they are remunerated for their functions performed, assets used, and risks assumed.

7.1 Example 2: A Cookstove Project

Reportedly, nearly three billion people worldwide are using harmful fuels for cooking on open fires within their homes.[31] This means that they rely on traditional biomass fuels such as wood, crop residues, and dung for their primary cooking needs using open fires and traditional stoves. Solid-fuel cooking imposes significant health, environmental, economic, and social costs on households in developing countries. In addition, burning solid fuels contributes to global climate change by emitting GHGs such as carbon dioxide, methane, and short-lived climate pollutants such as black carbon.

[31] Goldstandard (2016). Gold Standard Improved Cookstove Methodologies Guidebook. Available from http://www.goldstandard.org/sites/default/files/documents/ics_methodology_guidebook_v1.pdf

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Clean cooking presents an opportunity for addressing climate change. Clean cooking stoves (or "cookstoves") can be used as an alternative to inefficient and polluting cooking sources, and they come in all shapes, sizes, and designs. The type (or style) of clean cooking stove depends on many factors, such as the materials readily available, the climate, and the supply chain in the region. The clean cooking stoves may be solar cookers or electricity or electricity-based cooking (making use of hydroelectric generation) or use biofuel. Cookstove projects are divided into two categories: improved efficiency projects and fuel-switch projects. Improved efficiency stoves are more common. They replace traditional cooking equipment, which typically consists of an open or partially covered flame fed by biomass in the form of wood or dung cakes, with technology that is more efficient but still relies on traditional fuels. Fuel-switch projects replace traditional equipment with stoves that burn cleaner liquid fuel, such as liquified petroleum gas (**LPG**). Since the highest number of solid-fuel users reside in Africa, more than 50% of the improved cookstove activities are located there (followed by Asia and Latin America).

The use of clean cookstoves leads to carbon emission reduction and can be awarded carbon credits for each ton of GHG emissions reduced, making the projects attractive to companies with an integrated climate and Environmental Social and Governance (**ESG**) agenda. Carbon finance is emerging as an attractive option for upscaling cookstove initiatives.

The same MRV process listed above applies before a cookstove process qualifies for and generates carbon offsets.

Project Design

A project design that lays out the project activity's sectoral scope (energy industries/energy demand) and why it qualifies for carbon credits will be required. The PDD should describe the project background, the methodology, its objectives, and its benefits and impacts other than emission reduction benefits. For example, that it regards a cookstove project making use of high efficiency biomass fired project devices. It will also mention what the expected emission reduction is as compared to the use of kerosene, LPG, or coal. The methodology used is to be set forth together with the physical, geographical site of the devices that will contribute to the reduction of GHG emissions and the envisaged market penetration (scaling) of the project, and how additionality is to be demonstrated. Furthermore, the applied methodology is to be accommodated with standardized baselines and a monitoring plan.[32]

[32] An example is available at:
https://cdm.unfccc.int/UserManagement/FileStorage/6TOUCX21D0BHNVIRZFWMEKALY94GS7

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Approval

A written LOA, confirming voluntary participation, from the DNA of the parties involved may be required as a prerequisite for registration of a project activity. This should also confirm that the project contributes to sustainable development in the country. This phase may be dependent upon the national arrangements within the organization or the authority acting as the DNA, however.

Validation

Validation will follow next to review how much carbon was removed (and remained removed) by cookstove use in that year, and whether all project requirements to ultimately qualify for carbon credits are met. The DOE will assess the PDD documents against the project qualification requirements and may ask for further information to satisfy itself that the contents of the PDD are adequate and are supported by justificatory evidence. After this, the project may be registered.

Registration

Once a registered project has been implemented by the project participants and sufficient emission reductions and removals have been achieved, the project participants can prepare a monitoring report that is based on actual data relating to the performance of the project. It provides evidence of the emission reductions or removals achieved by the project. The monitoring report is submitted to a DOE contracted by the project participants for the purpose of its verification and certification. The DOE makes the monitoring report publicly available on the official website and undertakes a review and assessment of the monitoring report to ensure that the report is in accordance with the requirements contained in the registered PDD. It can take several years before a cookstove project leads to the generation of sufficient emission reductions to qualify for the issuance of carbon credits.

In this example, typical transactions for a transfer pricing analysis include:

- The sale of cookstoves by a related party manufacturer to a related party distributor, which resells the cookstoves to local consumers;
- The provision of head office services (e.g., IT services, finance and accounting services, legal services, and HR services) by a related party or shared service entity;
- The licensing of technology intangibles and trademarks;
- The provision of contract software development services;
- The sale of carbon credits to third-party buyers;

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- The provision of intercompany financing (i.e., loans).

With regards to the appropriate transfer pricing methods for the above-mentioned transactions, reference is made to the UN Manual.

For transfer pricing purposes, it should be determined what the (associated) parties involved in the cookstove project contribute to the project. Functions performed may range from developing the appropriate strategy, conducting proper due diligence to source the right raw materials and devices, including stove manufacturers, performing research and software development activities, project design and development with the help of independent experts and stove salespeople as creating demand for the cookstoves is vital for increasing uptake and ensuring a sustainable business model, marketing, selling and distributing the cookstoves, and monetizing the issued carbon credits. Innovative distribution models such as rural sales initiatives, working with self-help groups and women-run businesses, partnering with local village savings and loan associations to build awareness of clean cookstove business opportunities, cooperating with microfinance organizations, and stimulating inclusive supply chain models should be built upon.

Some widely accepted distribution channels for these projects are presented in the table below.

Channel type	Direct sales	Private retailers/dealers	Social enterprises	Other
Description	Direct sales to consumers via sales staff, (disclosed/brand) commission agents or a proprietary (branded) store network	Indirect sales to 3d party (consumer goods) distributor networks or to retailers and dealers	Sales and order fulfilling through Non-Governmental Organizations (NGOs), cooperatives or social micro franchise networks	Distribution by institutional parties including relief agencies, government programs, etc.

Furthermore, user training and after sales service are necessary functions, as are monitoring and risk management.

A carbon-financed cookstove program can be broken up into several steps as shown in the below figure.

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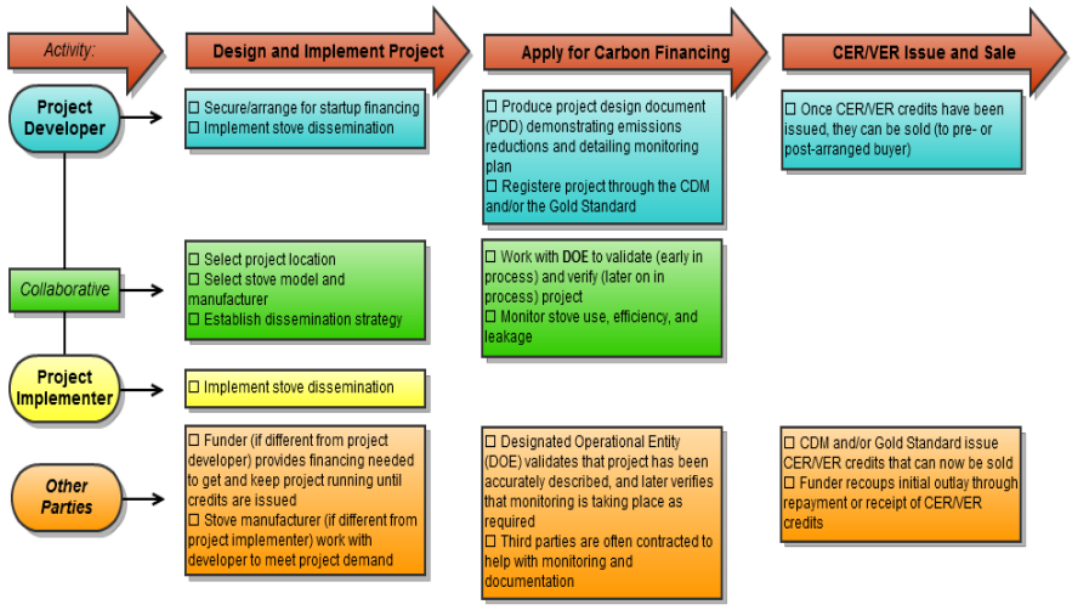
Figure 3: Cookstove project[33]



In sum, organizing and operating a qualifying cookstove project requires up-front investment in design and implementation. This may include the building of a factory (likely in a developing country) and training workers, to investments to accommodate scaling and the performance of operational activities. The role of available infrastructure is important, as finished stoves need to be transported by truck or boat to their intended destinations, such as small ports or cities in a(nother) developing country where they must be sold and distributed by a network of local contractors into rural villages. The (perceived) cost of the stoves may be a barrier to the adoption thereof. Usually, outreach, education, and long-term support are required for households that have switched and engaged in the cookstove project. Long-term use is very important to the emission reductions (and future carbon credits) realized by cookstove projects, and it may be that regular follow-up visits to users are necessary to make sure the stoves are in use to be able to verify the carbon outcome and then navigate the rigorous credit verification process.

The above activities will need to be financed. Carbon finance may complement other financing options like donor funds, private funding, and (intercompany) loans. However, other than donor funds, investments will usually be accompanied by an expectation of a return on investment.

[33] Cox, P. (2011). Analysis of Cookstove Change-Out Projects Seeking Carbon Credits. Available from http://dx.doi.org/10.2139/ssrn.1839765

A cookstove project involves assuming business risks, including market risks (including consumer demand for cookstoves is lower than expected and does not reach the required economies of scale and carbon credit price risk), regulatory risks (the rules regarding the qualification for carbon credits are still in flux and subject to changes in regulations), foreign exchange risks (e.g., carbon credits may be sold in a variety of currencies), credit risks that customers do not pay for the carbon credits, input price risks (the price of biofuel fluctuates) and liquidity risks (e.g., a cookstove project will only generate carbon credits after several years so the annual costs will need to be financed).

Assets used in a cookstove project may include intangibles (e.g., trademarks, software, and technology), know-how, financial assets, and the generated carbon credits.

7.2 Example 3: An (Extractive) Industry Emission Reduction Project

There are several technologies in place that can address most of the oil and gas industry's emissions.[34] What options are likely to be chosen will depend on whether the operators are upstream or downstream. Again, it should be noted that not all emission reduction programs qualify for a grant of carbon credits, however. To do so, the program needs to be submitted to a program organization offering certification of credits following proper verification, essentially the MRV process. For mandatory (compliance) credits, this would be a CDM project and for voluntary credits this could be any of the existing program organizations.[35]

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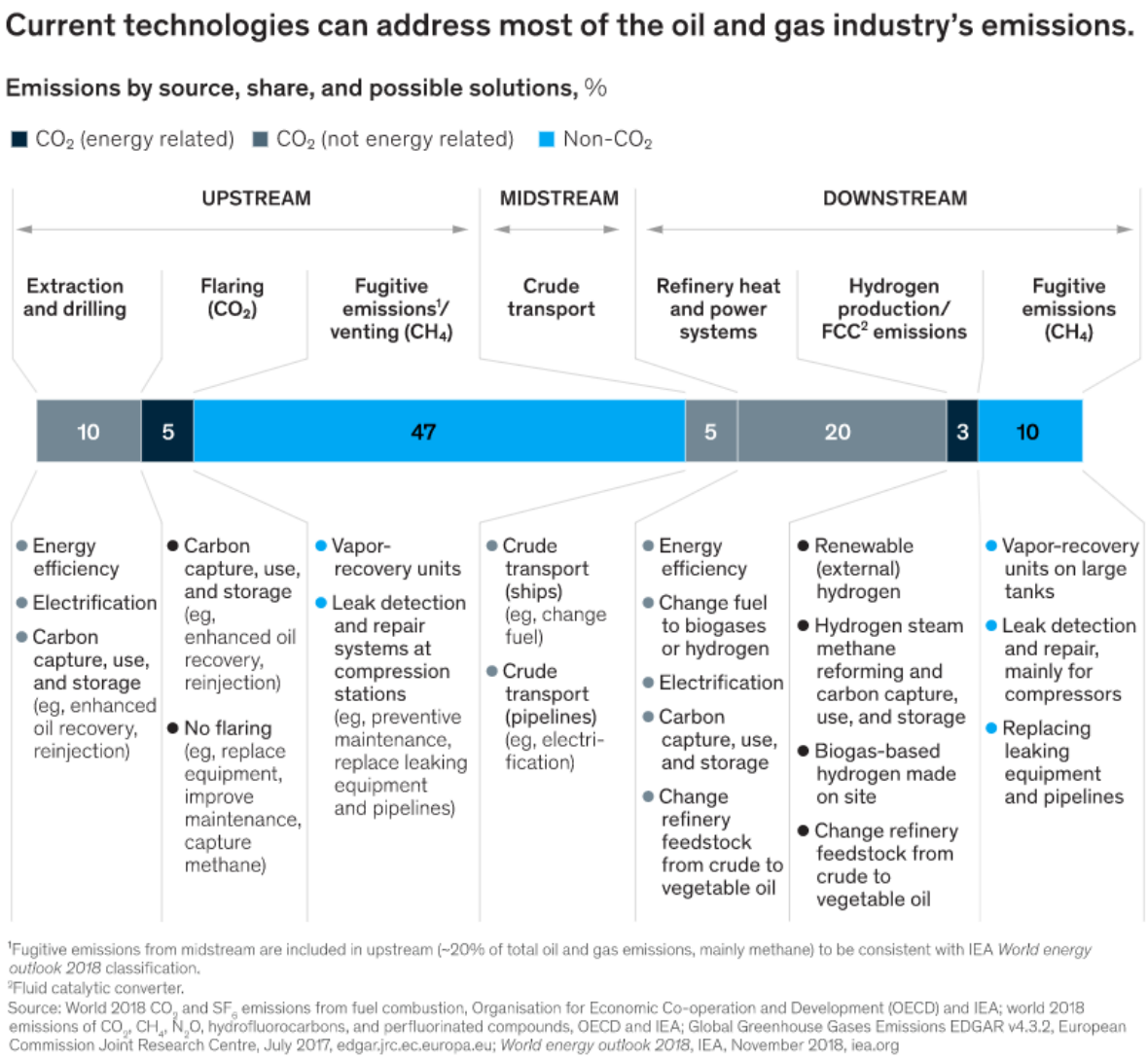
[34] McKinsey & Company (2020). The future is now; how oil and gas companies can decarbonize. Available from https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-future-is-now-how-oil-and-gas-companies-can-decarbonize.

[35] See Chapter 2 of the UN Environmental Tax Subcommittee guidance on the interaction between carbon taxes and carbon offset programs.

Figure 4: Technologies that address oil and gas industry's emissions[36]



While technologies exist, many emission reduction programs in place in the extractives/oil & gas industry are still in the pilot phase, meaning that they have not undergone a full MRV process or been awarded carbon credits.

One option to offset emissions is by tapping into natural carbon sinks, including oceans, plants, forests, and soil. These remove GHGs from the atmosphere and reduce their concentration in the air. Plants and trees sequester around 2.4 billion tons of CO_2 a year.[37] That carbon capture, usage, and storage (**CCUS**) projects are considered promising due to the fact that companies are announcing programs to plant up to 20

[36] McKinsey & Company (2020). The future is now; how oil and gas companies can decarbonize. Available from https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-future-is-now-how-oil-and-gas-companies-can-decarbonize.

[37] Popkin, G. (2015). The hunt for the world's missing carbon. In Nature, 523 (20-22).

million acres of forests in Africa to serve as a carbon sink.[38] Following, a CCU/S project is described as an example.

CCUS projects capture CO_2 and use or store it to prevent its release into the atmosphere. In some cases, the captured CO_2 can be used to create products ranging from cement to synthetic fuels. Many industrial processes generate CO_2, most prominently when hydrocarbons are burned to generate power. Carbon dioxide can be captured at the source of the emissions, such as at power plants or refineries, or even from the air itself. A range of technologies with some using membranes, others using solvents can perform the capture step of the process. Once captured, concentrated CO_2 can be transported (most economically by pipeline) to places where it can be used as an input. For example, cured in concrete or as a feedstock to make synthetic jet fuel or simply stored underground.

To set up a CCUS project, a facility will be needed near, or at, a production plant where the CO_2 will be separated, captured, and stored. The technology to do so is required to be developed or licensed and people will need to be trained for operation and maintenance. Transportation of the captured CO_2 may be done via pipelines, vessels, or trucks. Carbon storage (without use) is largely a cost, and thus, attracts relatively little project investment and innovation, particularly in the absence of regulatory support or incentives. Moreover, there are also complex legal issues involved such as liability for potential leaks, as well as the jurisdictional complexities associated with underground property ownership and use.[39]

In this example, typical transactions for a transfer pricing analysis include:

- The provision of storage facility;
- The licensing of CCUS technology intangibles and trademarks;
- The provision of transportation services to deliver gas at the production facility;
- The provision of services at the production facility;
- The provision of operational services (pipeline transportation, storage, monitoring, maintenance, and repairs) to store CO_2 in depleted reservoirs;
- Determination of who runs the risk of leaks or other issues with the storage facility and appropriate remuneration;
- The provision of head office services (e.g., IT services, finance & accounting services, legal services, and HR services) by a related party shared service entity;

[38] See for example Edie (2019). Press release on carbon emissions. Available from https://www.edie.net/oil-giant-eni-targets-net-zero-carbon-emissions-by-2030

[39] McKinsey (2020). Driving CO_2 emissions to zero (and beyond) with carbon capture, use, and storage. Available from https://www.mckinsey.com/capabilities/sustainability/our-insights/driving-co2-emissions-to-zero-and-beyond-with-carbon-capture-use-and-storage

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- The provision of contract software development services;
- The sale of carbon credits by the emitter to an internal trade desk and subsequently to third-party buyers;
- The provision of intercompany financing (i.e., loans)

With regards to the appropriate transfer pricing methods, reference is made to the UN Manual.

A CCUS project involves the design concept to remove CO_2 from the process gas streams.[40] To do so, specific technology is used (amine technology), and captured CO_2 is dehydrated and compressed to a dense-phase state for efficient pipeline transportation to the subsurface storage area, a sequestration lease area that was obtained by the company. Risks involved include: inter alia, the risk of leakage from the storage (in which external integrity reviews are conducted) and geological risks (such as those related to wells that are drilled in the vicinity of the storage location). Functions include facility operations (storage, monitoring, maintenance, and repairs), pipeline management (operating temperature, fluid composition, and operation pressure), handling regulatory, reporting, and filing requirements, amongst others.[41]

Examples of costs that may be directly attributable to the generation of project-based certificates include:

- costs of materials and services used or consumed in generating the certificates;
- employee benefits costs arising in the generation of the certificates;
- fees to register a legal right;
- amortization of patents and licenses that are used to generate the certificates; and
- associated borrowing costs that meet the capitalization criteria.

For corporate income tax and transfer pricing purposes, it will need to be accurately delineated what the functions, assets and risks are of associated enterprises involved in projects like these, to ascertain that (cost and) income allocations are at arm's length.

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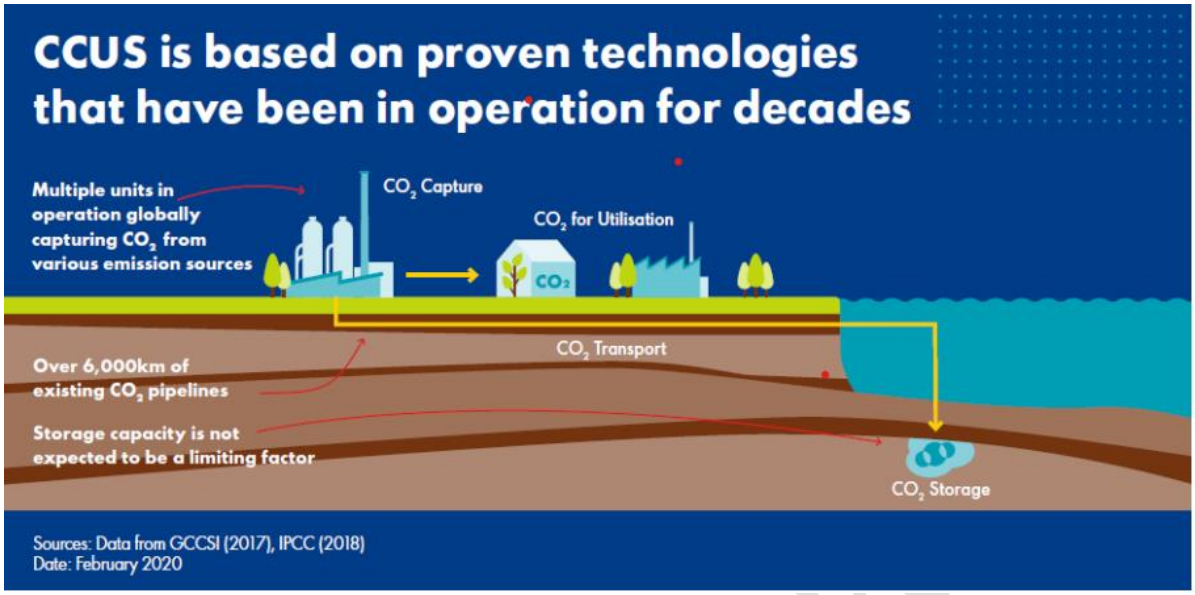
[40] A similar real life example is available at https://www.nrcan.gc.ca/science-and-data/funding-partnerships/funding-opportunities/current-investments/shell-canada-energy-quest-project/18168.
[41] For example, see Shell (2015). Quest Carbon Capture and Storage Project. Annual Summary Report. Available from Quest Carbon Capture and Storage Project 2014 (alberta.ca)

Figure 5: CCUs based on proven technologies



8. Transfers of Carbon Credits

Carbon credits are one of the newest categories of commodities traded on global markets. Carbon credits are a class of commodities that take the form of non-tangible energy credits. They would not have developed without the Kyoto Protocol and the subsequent Paris Agreement.

When it comes to the purchase and sale of carbon credits within the carbon marketplace, as indicated above, there are two significant, separate markets to choose from. One is the regulated market, set by “cap-and-trade” regulations at regional and state levels (i.e., the mandatory or compliance market). Reference is made to the ETS mechanism described above. The other is a voluntary market where businesses and individuals buy credits (optional, of their own account) to offset their carbon emissions. Voluntary Emission Reductions may not be eligible to be used as carbon credits in the compliance market, and therefore, have smaller demand and less liquid trading markets.

8.1 Buying Carbon Credits

Businesses and other organizations typically buy carbon credits for several reasons. These include:

- to comply with a regulated carbon market, such as the existing European ETS;
- to meet shareholder or consumer demand for ESG compliance and an improved sustainability footprint, or for overall improved branding purposes;

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- for speculative purposes, such as by buying them now with the intention of trading them later for a profit, or
- to offset a carbon footprint voluntarily due to a desire to become carbon neutral.

It should be noted that if a company intends to use the carbon credits itself to help offset its own carbon footprint, it will need to retire them after they are purchased. This needs to be done on an independent register within that carbon market. The purpose of retiring a credit is to show that it has been used or spent. Up until that point, it is still a fully tradable carbon credit that no one has used. Retirement is, therefore, considered an important step towards becoming carbon neutral.

8.2 Trading Carbon Allowances

While essentially anyone can get involved in carbon trading[42], the main groups involved in carbon trading are typically:

- compliance installations (e.g., steel, cement, paper, chemicals, and aluminum plants located in jurisdictions that have implemented cap and trade schemes);
- trading firms such as hedge funds;
- electricity, gas, and other utility companies;
- a small number of banks; and
- carbon brokers, either as introducers or as intermediaries.

In the most liquid carbon markets, trading takes place all day long, all year round. However, many installations covered by carbon trading systems concentrate their activity close to the compliance deadlines. In the EU, ETS compliance purchasing is concentrated in the 3 months leading up to the 30th of April compliance deadline. This can cause some price aberrations depending on the supply/demand balance at the time. Those with larger exposure, such as electricity and utilities companies, trade more regularly and purchase in bigger numbers. Many allowances are given out to industry for free in the early stages of compliance schemes to provide an effective price signal to everyone. Over time, the proportion of allowances auctioned by governments increases. This tends to spread the timing of trades out over the year and is a natural progression for a maturing market.

8.3 The (Transfer) Price of Carbon Credits

The variables in pricing carbon are complex. A carbon crediting mechanism is one of several mechanisms available to tie negative results of GHG emissions to a price on

[42] For example, in Europe there currently are no restrictions on who can operate a registry account.

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GHG emitted. Carbon credits come in all shapes and sizes and can vary greatly due to several factors. From the end users' point of view, CERs have typically ranged from €8 to €22 in the past, while VERs have traded between US$5 and US$15 although it may be possible to find cheaper VERs around. Generally speaking, and as with any other emerging market, the better the product, in this case credits, the more they tend to cost, subject to supply and demand. While all carbon credits are theoretically equal in value to one metric ton of GHG emissions, they can have different outcomes on the environment, so their prices vary depending on the type and quality of credit, particularly in the voluntary market. For example, market prices in the voluntary market can vary depending on a) the type of credit – such as wind, solar, hydro, or forestry, b) the standard to which they've been certified – such as Kyoto vs. the Voluntary Carbon Standard or some other, c) the country of origin, d) the auditor who certified the original carbon project and that auditor's credentials, and e) the story attached to them such as whether the project generating them has additional social and community benefits.

In contrast to this, market prices within the compliance market are somewhat more consistent and can be found on the various exchanges around the world, typically with prices within 10% of each other. They do still fluctuate within the various carbon markets, though, depending on what's happening at the time and general market conditions. Pricing in relation to compliance credits relates more to supply and demand and the risk of fines that may be payable if a liable business fails to comply with a particular carbon-trading scheme. Carbon credit prices may also vary from whom someone buys them or through which intermediary. The carbon market essentially consists of three main sectors: (1) the project developers and originators, (2) the brokers, and traders, and (3) the retailers and resellers. Obviously, if buyers go directly to the originators and project developers, they're usually likely to receive a cheaper price, but they would also need to buy in much larger quantities – such as 100,000 or more tons – and must know who to contact. This is likely to become harder as the market becomes more regulated and structured over the coming years and the originators become increasingly likely to prefer to deal through brokers and traders, who will then, in turn, deal with the retail market. Whoever is buying carbon credits should make sure that they're comparing apples with apples.

Not discussed in this analysis are carbon pricing systems such as internal carbon pricing (a tool used by organizations to guide their decision-making in relation to climate change impacts, risks, and opportunities), the detailed functioning of an ETS system, or the implementation and impact of carbon taxes as a mechanism to price the external cost of GHG emissions that the public pays for, such as damage to crops, health care costs from heat waves or droughts, and loss of property from flooding and

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sea level. Carbon taxes are addressed in the Handbook and in the UN Tax Committee's guidance on the interaction between carbon taxes and carbon offset programs.

8.4 Trading and Retiring Carbon Credits

Buying and selling carbon credits is a relatively straightforward process and can be compared to buying and selling shares in a stock market, as it is paper-based. No physical asset changes hands, and as such the transactions are relatively uncomplicated. The tricky part for newcomers to the industry is finding the right intermediary and then deciding at what price to buy or sell them. It's also important to be aware of the different types of credits that are available on the market and how they compare with each other. In most cases, carbon credits can be bought and sold internationally, and minimal restrictions are currently in place.[43] The point about which buyers and sellers need to be careful when buying and selling carbon credits internationally is whether the specific market in which they are buying or selling them will recognize them, as its requirements may differ. For example, Europe currently has some regulations in place that prohibit the retirement of certain types of carbon credits in its market. It is, therefore, required to be careful in selecting when buying or selling different types of credits internationally.

Carbon credits purchased to help offset carbon footprints need to be retired to make a claim regarding carbon neutrality. Carbon credits that are going to be retired should first be listed or registered on a recognized carbon register so that they can be traced. Once they've been registered, they can then also be retired so that a claim can be made. Completing the process of retirement effectively renders them as used. This means they will no longer have any commercial value, as they have been spent, and therefore, cannot be used again or resold to someone else. This is an important step that also addresses the issue of double counting in the industry. Most reputable registries will be able to do the actual retiring of carbon credits for a small fee, or if they are bought from a carbon broker or third party, they should also be able to arrange this service.

9. Conclusion

Understanding the processes in place to generate carbon credits and the value chain of carbon emission abatement activities that serve to generate carbon credits will help

[43] The introduction of a carbon border adjustment mechanism (CBAM) in 2023 in the European Union means that imports in the European market of certain goods whose production is carbon intensive (cement, iron, steel, aluminum, fertilizers, electricity, and hydrogen) will become subject to additional costs as of 2026.

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with considering how transfer pricing rules apply to the generation, transfer, and sale of carbon credits in the event associated enterprises are involved.

Understanding the value chain is relevant to help accurately delineate the actual transactions based on the economically relevant characteristics of the transactions. These consist of the conditions of the transactions and the economically relevant circumstances in which the transactions take place.

If income resulting from the generation and sale of carbon credits is considered wrongfully allocated between associated enterprises and adjustments correct this are undertaken by the tax authorities, that will likely lead to double taxation. Unresolved double taxation of carbon credits will constitute an unforeseen added cost, and thus ultimately a disincentive to generating carbon credits. It is important that this is avoided.

The carbon credit business as such does not necessarily require any transfer pricing considerations different from those that already exist, but it does require awareness of the industry and of the aspects that make the carbon credit business complex. These aspects include the intangible fungible nature of carbon credits, the regulatory system that includes both compliance and voluntary markets for carbon credits, the capital-intensive nature of carbon credit generation, the price volatility of carbon credits, the use of carbon financing and a great political sensitivity, namely that they are one of the mechanisms available to assist with combatting climate change, market-driven and subject to fast-changing (international and domestic) rules and regulations.

To this extent, developing countries that are setting themselves up to participate in international carbon markets and accommodate climate change projects that lead to carbon credits may want to consider in particular whether they will publish additional clarification on whether they treat carbon credits as intangibles for transfer pricing purposes (consistent with the GAAP/IFRS analysis), how subsidies for carbon projects are treated in the value chain and whether cost incurred with respect to mandatory and voluntary projects are treated consistently and follow a regular business cost analysis for corporate income tax purposes.

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