Colombia's Carbon Market Revolutionizing Rural Development

About Terra Global Capital

Founded in 2006, Terra Global is a woman-run, women-owned for-profit social enterprise and small business. Terra Global's mission is to facilitate financially, socially and environmentally sustainable forest and agricultural land management practices. Terra Global is a global leader in developing sustainable landscape and agriculture programs and quantifying forest and land-use greenhouse gas reductions/removals. In a collaborative and innovative manner, Terra Global provides technical expertise and investment capital to their global client base working with their local government and community partners. At the core of Terra Global's purpose is generating commercially viable ways to produce positive social and environmental outcomes from sustainable landscape management.

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TABLE OF CONTENTS

MECHANICS OF CARBON TAX AND CREDIT SYSTEM 4

NEUTRALIZING TAX THROUGH CARBON CREDITS 5

REVOLUTIONARY RURAL DEVELOPMENT TOOL 6

CARBON TAX PROJECTIONS AND GOVERNMENT REVENUE 8

SUPPLY OF CARBON CREDITS 9

MARKET DEVELOPMENT AND INSIGHTS 11

SUPPLY AND DEMAND EXPECTATIONS: 2020 AND BEYOND 12

TABLE OF TABLES

TABLE 1. PROJECTED tCO_2E OF TAXED FUEL 8

TABLE 2. TAX PRICES PROJECTED IN COP AND USD 9

TABLE 3. AVERAGE ANNUAL ESTIMATED EMISSION REDUCTIONS/REMOVALS IN COLOMBIA (BY STANDARD, SECTOR AND PROJECT STAGE) 11

TABLE 4. PROJECTED SUPPLY AND DEMAND FOR COLOMBIA CARBON FUEL TAX MARKET (2021 TO 2035) 13

TABLE 5. PROJECTED SUPPLY AND DEMAND FOR COLOMBIA CARBON FUEL TAX MARKET (2021 TO 2025) WITH COVID 14

Mechanics of Carbon Tax and Credit System

As part of Colombia's tax reform, the country passed a carbon fuel tax on December 29, 2016 to encourage compliance with their greenhouse gas mitigation goals. Colombia's Nationally Determined Contribution (NDC), committed under the Paris Agreement, is a 20% reduction in emissions by 2030. This carbon tax supports this and is based on the carbon content of each fuel distributed and includes all petroleum products and natural gas used for combustion (other than coal). The details of the carbon fuel tax, part of a larger tax overhaul, are defined in Decreto 926 de 2017, which went into effect on June 1, 2017. The carbon fuel tax rate was initially COP$15,000 (USD $5) per ton of CO_2. As of January 2020, the carbon tax is COP$17,211 (USD $5.73) per ton of CO_2[1], reflecting the annual inflation adjustment plus 1%.

The provisions of the law are clearly intended to stimulate implementation of mitigation activities that generate emissions reductions/removals that can be used in exchange for not paying the carbon fuel tax, similar to a tax and credit system. The ability to use emission reductions/removals to meet the tax obligation provides taxable entities the opportunity to reduce their compliance costs and it creates demand for domestic verified emission reductions/removals.

On August 1, 2018, the government passed Resolution 1447 in order to regulate public or private entities seeking "payment for results" and other form of compensation for actions that produce emission reductions/removals. The resolution applies to those seeking to sell emissions reductions/removals for carbon neutralization. This resolution specifies that the monitoring, reporting, and subsequent verification of GHG mitigation actions will be managed at a national level by the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM), and will follow the guidelines of the Director for Climate Change and Risk Management from the Ministry of Environment and Development.

This paper will examine the climate finance and rural development opportunities that Colombia's carbon fuel tax has created through the Colombian carbon credit market, focusing on REDD+ and other land-use projects. It covers the current supply and demand for credits, the opportunities for rural communities, the evolution of the market, and expectations in 2020 and beyond.

[1] Lesmes, Luz Gabriela Barriga. "Resolución Número 000009." *DIAN, 31 Jan 2020,* https://www.incp.org.co/wp-content/uploads/2020/02/resolucion-000009-2020.pdf.

Neutralizing Tax through Carbon Credits

Decreto 926 de 2017 defines the ability to be "carbon neutral" as neutralizing or mitigating the GHG emissions associated with the use of fuel under the national carbon fuel tax. Eligible mitigation activities include programs, projects, actions or activities carried out at a national, regional or local level aimed at reducing, avoiding, removing or capturing GHGs. This is achieved through the voluntary retirement of qualifying verified emission reductions/removals (VERs) in the name of the taxable entity. Parties that are most interested in offsetting the carbon tax are fuel wholesalers, airlines and cargo and passenger transport companies.

The GHG standards accepted for mitigation under the law are broadly defined and require that their GHG Validation and Verification Bodies (OVV) must meet one of the following criteria: be accredited by the National Accreditation Agency of Colombia (ONAC), be a signatory to the International Accreditation Forum (IAF), and/or the program must be accredited under the requirements of IS0 14065 or the UNFCCC. This covers most internationally recognized GHG standards used today. Decree 446 of March 2020 indicates that until December 31, 2020, the OVVs that are accredited by the Executive Board of the Clean Development Mechanism may be verifiers and validators as Designated Operational Entity. After that date they must be accredited by ONAC.

VERs issued for reductions/removals from January 1, 2016 forward may be used for neutralization, and the law requires that the GHG standard have a registry that generates a serial number for each unit. Until December 31, 2017, VERs for reductions/removals in countries outside of Colombia could be used. However, since 2018 only emission reductions/removals from Colombian project or programs are eligible.

Resolution 1447 states that any project or program that intends to register a GHG mitigation initiative, and seeks to receive payment for results and emission reduction/removal activities must monitor, report, and verify their actions in accordance to guidelines managed by the IDEAM. The monitoring process provides information on emission reductions or removals of GHGs, as well as the flow of financial resources, while the reporting would involve presenting and analyzing these results. Finally, the verification would involve an independent, third party review of GHG inventories, the baseline GHG emissions, and the satisfaction of climate change targets by an accredited GHG Validation and Verification Body (OVV).

The GHG mitigation initiatives that can be registered are: Nationally Appropriate Mitigation Actions (NAMAS), Low Carbon Development Programs (PDBC) and REDD+ Programs, Clean Development Mechanism (CDM) Projects and Program of Activities (POA), Low Carbon Development Projects (PDBC) and REDD + Projects. Finally, mitigation initiatives defined by the UNFCCC in the framework of its GHG mitigation mechanisms, or the Ministry of Environment

and Sustainable Development are also included. The platform is not yet functional, but once it is available to the public, feasible projects must be registered in order to be eligible to sell credits.

In addition, resolution 1447 establishes The National Registry of Reduction of GHG Emissions (RENARE) as the platform to manage information about GHG mitigation projects. RENARE will contain information on the different phases of mitigation initiatives, consolidate information about GHG emission reductions/removals, and also reports on the stage of GHG emission reductions/removals. This platform is not available to the general public yet, but training has started for users.

Resolution 1447 has specific sections that cover REDD+ projects and programs. These provide the rules regarding projects and programs and how projects may fit into programs (nesting). It provides the rules regarding the application of national baselines and maximum emission reductions/removals that can be generated by projects. There are a number of specific limitations on activities that are automatically not considered "additional" and thus would not qualify.

Colombia's submission of the Forest Reference Emission Level (NREF) in 2019[2]covers the whole country but is divided into five biomes defined by the country (Amazonía, Andes, Caribe, Orinoquía y Pacífico). The resolution defines the process in which REDD+ projects and programs will be nested within the NREF. According to resolution 1447, all projects must adjust their baseline to the most current NREF (2018 - 2022), under the understanding that this level was submitted for evaluation to the UNFCCC and is the most current. The requirement to adopt the NREF applies to vintages for projects and programs which are generated from January 2020 forward. For vintages 2016 to 2019, the government determines a maximum potential for GHG mitigation which is established from the official data of the SMByC (Forest and Carbon Monitoring System) based on national accounting data.

Revolutionary Rural Development Tool

Colombia has shown remarkable global leadership in passing this carbon fuel tax law and allowing the use of verified emission reductions/removals for offsetting/neutralizing the tax obligation. With this sweeping reform, the government has created sizable domestic demand for Colombian GHG emission reductions/removals and has included REDD+ and other land-use

[2] UNFCCC REDD+ Platform "Ministerio de Ambiente y Desarrollo Sostenible – MINAMBIENTE PROPUESTA DE NIVEL DE REFERENCIA DE LAS EMISIONES FORESTALES POR DEFORESTACIÓN EN COLOMBIA PARA PAGO POR RESULTADOS DE REDD+ BAJO LA CMNUCC" https://redd.unfccc.int/files/02012019_nref_colombia_v8.pdf

project types which can directly and significantly impact rural communities who sustainably manage their forests and agricultural lands.

The growth of a carbon market in Colombia gives smallholders and communities the opportunity to generate a sizable new income stream from their ability to reduce emission and sequester carbon. If rural communities can attract the upfront funding needed to design and implement sustainable projects that preserve the region's biodiversity, reduce carbon emissions and increase tree cover, they can generate a long-term income stream to support their management and improve their livelihoods.

More than 37 million hectares of land is collectively owned by Afro-Colombians and Indigenous in Colombia. This creates a large pool of potential investment opportunities. Additionally, with the marketability of verified emission reductions/removals in Colombia, projects which would not have been commercially viable investments now are able to offer attractive returns for both the communities and investors. However, these projects require support and specialized expertise to become "investment ready", a process that helps the communities establish the required governance, long-term implementation workplans, budgets and cash flow projections, fiscal management plans, community engagement plans, benefits plans, grievance and redress and all the components to meet the requirements of investors.

During the COVID-19 pandemic, it is even more important to support these communities who are impacted by COVID-19 due to travel restrictions and the resulting significant economic downturn expected in Colombia. Rural communities who derive their income from agricultural crops that are sold in towns and cities, due to COVID-19, are unable to deliver their crops to cities nor can they get access to the inputs needed for agricultural production. They will be most disproportionally and adversely affected during the pandemic and over the long-term as the Colombia economy's GDP drops with a predicted global recession. By providing investments to these communities to access this new carbon market it can generate sizable new income from forest protection and sustainable landscape management by creating marketable carbon credits that can compensate for the loss of agricultural income and other incomes stream from jobs they have lost. These programs provide employment opportunities by supporting income generating activities for communities to stay in their forests. The communities' forest protection and improved land management practices produces verified carbon credits that are sold into the carbon market in Colombia.

Selling carbon does not require traveling to a city market; it can be delivered electronically. And the financial impacts are large; for one project where a community has tenure over a large area this new climate finance revenue to USD $16 million over 5 years. Financing projects which protect these communities from the impact of COVID-19 and the impending economic downturn can lift them from poverty by generating enough revenue for on-going program

operations and establishing a long-term trust account to support livelihoods and long-term forest protection.

Carbon Tax Projections and Government Revenue

The Colombian carbon market is driven by demand which is based on fuel use. The estimates of fuel use subject to the carbon tax are 42,211,825 tCO_2, or COP$726,507 million (USD $242.2 million) per year. These projected values are based on the latest data consolidated by the Ministry of Mines and Energy regarding fuel distribution and consumption in the second quarter of 2018. The largest taxed companies during this time period were Organización Terpel S.A (37.11%), Biomax (15.96%), Exxonmobil (now Primax de Colombia S.A) (14.80%), and Chevron Petroleum Company (9.36%).

Table 1. Projected tCO_2e of taxed fuel

Fuel Type	Annual tCO_2e
Gasoline (tCO_2)	16,537,081
ACPM-diesel (tCO_2)	19,474,512
Jet-A1 (tCO2)	3,746,054
Natural Gas (tCO2)	2,454,178
Total demand (tCO_2)	42,211,825

The government of Colombia has generated over USD $440 million in tax revenue since the implementation of the carbon tax in 2017, meaning approximately 84.28 million tons of carbon emissions have been paid for through the tax and not neutralized (offset) with verified emission reductions/removals. The carbon fuel tax yielded around COP$476,862 million in 2017 (USD $159.0 million), COP$294,073 million (USD $98.0 million) in 2018, and COP$451,046 million in 2019 (USD $150.3 million). In the first four months of 2020, the government collected approximately COP$109,565 million (USD $36.5 million) from the tax[3]. Even with the reduction in fuel use due to COVID-19, this number is relatively high, reflecting the limited number of qualifying carbon credits available in the Colombian marketplace.

Currently, 25% of the carbon fuel tax revenue is allotted to support environmental issues[4]. An additional 5% will go directly to Herencia Colombia, a program that conserves and protects 20

[3] "Estadística de los Ingresos Tributarios Administrados por la DIAN 1970-2020p." *Coordinación de Estudios Económicos,* https://www.dian.gov.co/dian/cifras/Paginas/EstadisticasRecaudo.aspx.

[4] "El 5 por ciento del Impuesto al Carbono se destinará al programa ambiental 'Herencia Colombia'." *Presidencia de la República,* http://es.presidencia.gov.co/noticia/180507-El-5-por-ciento-del-Impuesto-al-Carbono-se-destinara-al-programa-ambiental-Herencia-Colombia

million hectares, and seeks to expand Colombia's natural capital by 2 million hectares[5]. The other 70% goes to the Sustainable Colombia Fund (Fondo Colombia Sostenible) for environmental sustainability and sustainable rural development[6]. However, journalists from El Tiempo and El Espectador have pointed out that the revenue collected from the carbon tax had not been used and allocated as late as June 2020[7]. The Comptroller General additionally stated that the government did not have sufficient verification systems to determine whether the benefits from the carbon fuel tax correspond proportionately to the environmental results[8]. This lack of certainty in how the carbon tax revenue is being used to mitigate environmental issues can lead to companies considering more transparent alternatives, such as the purchase of carbon credits to neutralize emissions.

Table 2. Tax Prices Projected in COP and USD

Year	Tax rate (COP)	Tax rate (USD)
2021	17,899	5.97
2022	18,615	6.21
2023	19,360	6.45
2024	20,134	6.71
2025	20,939	6.98

Supply of Carbon Credits

With the passage of Decreto 926, companies can choose to purchase accredited carbon certificates (verified emission reductions/removals) as an alternative to paying the carbon fuel tax. In February of 2019, the executive director of Asocarbono (an industry association) estimated that one would need approximately 55 million credits in order to neutralize emissions that fall under the carbon tax in Colombia. He continues to note, however, that the carbon

[5] "Colombia destina 5% del impuesto del carbono para atenuar impacto Ambiental." *Zona Cero*, 28 May 2018. https://www.zonacero.com/generales/colombia-destina-5-del-impuesto-del-carbono-para-atenuar-impacto-ambiental-105745.

[6] Oronoz, Brian, et al. "Impuesto al Carbono en Colombia." *MÉXICO$_2$*, Feb 2019. http://www.mexico2.com.mx/uploadsmexico/file/Impuesto%20al%20Carbono%20en%20Colombia.pdf

[7] "La plata del impuesto al carbono que se le embolató a Minhacienda." *El Espectador,* 10 Jun 2020. https://www.elespectador.com/noticias/medio-ambiente/mas-de-400000-millones-del-impuesto-al-carbono-andan-embolatados/?outputType=amp

[8] "Contraloría cuestiona en qué se usa la plata de los impuestos verdes." *El Tiempo*, 9 Jan 2019. https://www.eltiempo.com/vida/medio-ambiente/la-contraloria-cuestiona-en-que-se-esta-usando-la-plata-de-los-impuestos-verdes-en-colombia-312808.

market only had around 9 million eligible Colombian credits at the time[9]. According to Carbon Pulse, as of September 2019, 17.2 million VCUs have been surrendered in lieu of paying the carbon tax. However, the number of carbon credits surrendered has slowed due to lack of supply to meet current demand and administrative delays in the verification process. This current scarcity in credits means there remains large growth potential for suppliers of carbon credits to Colombia's market.

To quantify the potential supply of credits to the marketplace over the next 10-15 years, a quantitative assessment of supply was conducted, and projections were generated. The majority of the supply of carbon credits to Colombia's market in the last 2 years came from three standards, Verra (Verified Carbon Standard - VCS)[10], CERCARBONO[11], and ProClima[12]. Projects under Verra can be observed at different stages 1) pipeline (early stage projects), 2) registered (baseline validate), and 3) verified (actual emissions reductions/removals generated). However, neither CERCARBONO and ProClima have public records for projects that are in their pipelines or are registered but have not yet verified emission reductions/removals. The pipeline and registered projects for these two standards were estimated as having the percentage of pipeline to verified and registered to verified as is reported under VCS.

For each verified project, the annual emissions that were verified were calculated and the average annual emissions estimated over the project life were collected from the Project Documents. Annual verified emissions reductions/removals were compared to average annual project lifetime emission reduction/removals to identify potential errors in data. For most projects, the average annual emissions from the Project Document was used for projections. In some cases, particularly for reforestation projects, this will lead to an overestimate of emissions reductions/removals in the early years of the project.

Table 3 provides the average annual tons of emission reduction/removals for each of the three standards for Colombian projects by the stage of Pipeline, Registered and Verified.

[9] Ibarra, Tatiana Parro. "Los bonos de carbono forestales no están donde más se deforesta." *El Tiempo*, 19 Feb 2019. https://www.eltiempo.com/vida/medio-ambiente/como-funcionan-los-bonos-de-carbono-y-la-deforestacion-en-colombia-328318.
[10] https://verra.org/
[11] https://www.cercarbono.com/
[12] https://proclima.net.co/

Table 3. Average Annual Estimated Emission Reductions/Removals in Colombia (by Standard, Sector and Project Stage)

Standard	Pipeline	Registered	Verified	Total
ProClima			**1,868,357**	**1,868,357**
ARR			94,194	94,194
REDD			1,774,163	1,774,163
Verra	**9,458,529**	**5,846,994**	**4,780,190**	**20,085,713**
ARR		241,286	92,495	333,780
Energy industries (renewable/non-renewable sources)	411,282	4,659,598	214,860	5,285,739
Manufacturing Industries	9,817			9,817
REDD	9,037,430	946,111	4,305,515	14,289,056
Waste handling and disposal			167,321	167,321
CERCARBONO		**-**	**1,746,444**	**1,746,444**
ARR		-	336,344	336,344
Energy Industry			1,139,242	1,139,242
REDD			270,859	270,859
Total	**9,458,529**	**5,846,994**	**8,394,992**	**23,700,515**

The average annual growth rate measured over five-year periods for projects in Colombia based on project start date is 15% growth from 2015 – 2010 to 2016- 2020 and 49% growth from before 2010 to 2015 – 2010.

Market Development and Insights

In 2017, during the first six months of the carbon fuel tax when international credits could be used for carbon fuel tax neutralization, most of the credits sold in Colombia were CDM registered projects. These projects could be sourced at USD $0.25 to USD $1 per ton. However, some Colombian buyers unfamiliar with global carbon markets unknowingly paid 4 to 8 times these prices. While they still saved money compared to the carbon fuel tax, they ended up learning the hard way that some counterparties cannot be trusted to deal fairly in this new market.

Starting in 2018 when only Colombia project credits could be used, credits were selling as low as half the price of the carbon tax, or COP$7,500 (USD $2.50) and large spot and forward purchases were conducted with the largest taxable entities. As the limited number of Colombian registered projects sold all their credits and gained knowledge of their actual value, the relative price of credits increased rapidly. The market price for carbon credits currently remains around 10-20% less than the carbon tax. Depending on the buyers and project, the domestic price of a

carbon credit is around COP$14,000 (USD $4.66). Even at these levels it still provides Colombia taxable entities an opportunity to save money relative to the carbon tax and produce direct climate benefits with REDD+ projects and other land-use projects that deliver social and biodiversity benefits.

One of the major risks in this growing Colombian carbon market is dealings with so-called "carbon cowboys,". Entities who put their own profit above the project owners who will actually deliver emission reductions/removals. This is particularly a risk for REDD+ and other community-based land-use projects, as these groups do not understand carbon development and Colombia's carbon market. Over the last year, there have been numerous examples of entities contacting different community leaders (Indigenous Resguardos and Community Councils of Black Communities) and incentivizing them with money (often directly to their elected leaders) so that they sign documents and commit their territories by signing over carbon rights with undefined economic terms or disadvantageous carbon prices. These entities take advantage of communities' needs to solve their basic livelihood requirements, preventing the implementation of carbon projects with another entity and appropriating up to 50% of the carbon. These entities end up leaving the communities deceived and without any improvement in their livelihoods or access to this new market.

Supply and Demand Expectations: 2020 and Beyond

Using the data from the current verified, registered, and pipeline projects, the supply of carbon credits from the Colombian market was estimated for the next 15 years. This was based on an average annual growth rate of pipeline projects from the three standards of 15%, a one-year transition time from the pipeline stage to registered stage and one year from registered to verified. Given that not all projects will make it from pipeline to verified, there was a 15% loss from pipeline to registered to reflect project failure or an overestimation in predicted emission reductions/removals to the final verified emission reduction/removals. There was an additional 10% reduction in the project moving from registered to verified. Since the estimates were taken from project documents and monitoring reports, they were all before the non-permanence risk buffer deduction. Thus, 15% was taken from the protections to reflect credits that will not be available for sale in the marketplace.

The demand from carbon fuel tax buyers in the Colombian market was based on 2018 with a 3% growth rate. In the next five years, while supply is predicted to grow substantially, the supply would only reach only 72% of demand (Table 4). This is based on significant growth in the project pipeline much of which will require securing upfront funding/investment to actually produce the emission reductions.

Projections from the current annual supply of carbon credits show that the supply will not meet demand until sometime after 2035.

Table 4. Projected Supply and Demand for Colombia Carbon Fuel Tax Market (2021 to 2035)

Supply and Demand	Base	2021	2022	2023	2024	2025
Pipeline Projects (gross tCO_2)	16,611,113	3,322,223	3,322,223	3,322,223	3,322,223	3,322,223
Registered Projects (gross tCO_2)	10,268,519	14,119,446	2,823,889	2,823,889	2,823,889	2,823,889
Estimate Supply of Verified (tCO_2)	8,394,992	14,991,160	27,698,661	30,240,162	32,781,662	35,323,162
Projected Demand (tCO_2)	42,211,825	43,478,180	44,782,525	46,126,001	47,509,781	48,935,074
% Supply of Demand	20%	34%	62%	66%	69%	72%

Supply and Demand	2026	2027	2028	2029	2030
Pipeline Projects (gross tCO_2)	3,322,223	3,322,223	3,322,223	3,322,223	3,322,223
Registered Projects (gross tCO_2)	2,823,889	2,823,889	2,823,889	2,823,889	2,823,889
Estimate Supply of Verified (tCO_2)	37,864,663	40,406,163	42,947,663	45,489,163	48,030,664
Projected Demand (tCO_2)	50,403,127	51,915,220	53,472,677	55,076,857	56,729,163
% Supply of Demand	75%	78%	80%	83%	85%

Supply and Demand	2031	2032	2033	2034	2035
Pipeline Projects (gross tCO_2)	3,322,223	3,322,223	3,322,223	3,322,223	3,322,223
Registered Projects (gross tCO_2)	2,823,889	2,823,889	2,823,889	2,823,889	2,823,889
Estimate Supply of Verified (tCO_2)	50,572,164	53,113,664	55,655,165	58,196,665	60,738,165
Projected Demand (tCO_2)	58,431,038	60,183,969	61,989,488	63,849,173	65,764,648
% Supply of Demand	87%	88%	90%	91%	92%

However, the recent COVID-19 pandemic and its mandatory quarantine measures have affected fuel use in Colombia. The demand for liquid fuels dropped during quarantine measures—in the month of April, the total demand had decreased by 60%, with a reduction in demand for jet fuel of 90% and a reduction in demand for gasoline of 70%. The Colombian Petroleum Association expects an overall decrease in gasoline consumption of 20% for 2020, with a 15% decrease in diesel, and a 55% decrease in jet fuel[13]. According to information from the Colombian Mercantile Exchange (Bolsa Mercantil de Colombia), the average use of combustibles in Colombia has decreased by 29% to 751 GBTUD (caloric gas units) since the onset of the COVID-19 pandemic.

However, the Ministry of Mines and Energy noted that gasoline consumption in June 2020 rose to 4.5 million gallons per day, from 2.8 million gallons per day on average from March and April. This change shows signs of increasing demand for fossil fuels, indicating a recovery from the

[13] "Los precios de los combustibles cerrarán un 5% más bajos en 2020." *Dinero*, 4 Jun 2020. https://www.dinero.com/economia/articulo/precios-de-la-gasolina-y-combustibles-bajaran-hasta-un-5/287677

impact COVID-19 has had on the country[14]. For natural gas, in the first few weeks of quarantine, the industrial sector decreased its overall consumption by 10-13%. As the economy began to resume industrial activities in early May, the natural gas consumption had only decreased year to date by 17%[15].

Looking forward, if fuel use subject to the carbon tax has a 25% decrease due to COVID-19 for 2021 and then only recovers at 10% per year, the fuel use subject to the tax for the year will initially remain at around 31.7 million tCO_2 in 2021, worth COP$566,662 million (USD $188.9 million). By 2025, the demand will increase to be around 46.3 million tCO_2 in 2025, worth COP$970,559 million (USD $323.5 million). This still shows that supply is expected to be less than demand even considering the impact of COVID-19 on fuel-use in Colombia.

Table 5. Projected Supply and Demand for Colombia Carbon Fuel Tax Market (2021 to 2025) with COVID

Supply and Demand	Base	2021	2022	2023	2024	2025
Pipeline Projects (gross tCO_2)	16,611,113	3,322,223	3,322,223	3,322,223	3,322,223	3,322,223
Registered Projects (gross tCO_2)	10,268,519	14,119,446	2,823,889	2,823,889	2,823,889	2,823,889
Estimate Supply of Verified (tCO_2)	8,394,992	14,991,160	27,698,661	30,240,162	32,781,662	35,323,162
Projected Demand (tCO_2)	42,211,825	43,478,180	44,782,525	46,126,001	47,509,781	48,935,074
% Supply of Demand	20%	34%	62%	66%	69%	72%
Project Demand (COVID impact)		31,658,869	34,824,756	38,307,231	42,137,954	46,351,750
% Supply of Demand		47%	80%	79%	78%	76%

Over time, the actual portion of this tax liability mitigated will depend on a number of factors. These include fuel use, taxable entities' expertise in accessing GHG emission reductions/removals, availability of qualifying emission reductions, and prices. This analysis demonstrates there will be sizable demand for verified emission reductions, and this new carbon market creates sizable opportunities for rural communities to generate new transformative income streams from protecting and enhancing forests as well as implementing improved agricultural practices.

[14] "Consumo de gasolina en junio promedió 4,3 millones de galones al día." *Dinero,* 23 Jun 2020. https://www.dinero.com/pais/articulo/consumo-de-gasolina-en-colombia-en-junio-de-2020/290275

[15] "Por coronavirus, cae demanda de gas natural." *Portafolio*, 27 May 2020. https://www.portafolio.co/economia/por-coronavirus-cae-demanda-de-gas-natural-541200.