GENTERA®

Gentera S.A.B. de C.V. Greenhouse Gas Emissions Inventory

Year 2020

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Annex

Chapter 1: Introduction

Companies and activities

Gentera is leader in financial inclusion, serving millions of people in Mexico, Peru, and Guatemala[1] offering adequate and accessible products to meet the financial needs of our customers, promoting a positive influence on their economic and entrepreneurial development[2].

In 2020 at Gentera we celebrated 30 years of change and constant evolution; demonstrating that, even in difficult times, the most important thing is and will continue to be, to work for our clients, faithful to our purpose of boosting their dreams.

We offer financial solutions with a human touch, having the person at the center of all our actions and convinced that their greatest contribution lies in the creation of social value.

We started by granting credits and now we have a focused and adequate ecosystem, made up of seven companies and a foundation, for boosting our client's dreams. We believe in financial inclusion as a foundation to continue building.

Three of our companies are focused on offering financial services: in Mexico (Compartamos Banco), in Peru (Compartamos Financiera) and in Guatemala (Compartamos S.A.), while the remaining four are dedicated to the administration of a network of banking correspondents (Yastás), the granting of digital credits (ConCrédito), the design and operation of microinsurance (Aterna), and the development of solutions for financial inclusion through an innovation laboratory (Fiinlab). In addition, we have Fundación Compartamos, which inspires and encourages the social commitment of the group.

Figure 1. Our companies and their presence.

[1] *In 2021, Compartamos S.A. ceased to be part of Gentera and was transferred to Fundación Génesis Empresarial, a great ally that will provide attention, services and a robust value offer adapted to the needs of customers in Guatemala.*

[2] *Sustainability Annual Report Gentera 2020. https://www.gentera.com.mx/wcm/connect/93d6976e-976c-46f2-a45f-38e7e2b88378/Annual+and+Sustainability+Report+2020+-+Gentera_.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-93d6976e-976c-46f2-a45f-38e7e2b88378-nP2FnXV*

Compartamos Banco
Financial institution in Mexico that offers credit, savings, insurance, and payment channels to microentrepreneurs.

Compartamos Financiera
Financial institution in Peru that offers credit, savings, insurance, and payment channels for entrepreneurs.

Compartamos S.A.
Company in Guatemala that offers credit, insurance, and payment channels to entrepreneur women.

Yastás
Banking correspondent administrator that provides access to financial transactions, service payments, multilevel payments, and cellphone top-ups in locations with limited or non-existent banking infrastructure.

ConCredito
Company in Mexico which grants personal and revolving credits to entrepreneurs, who issue loans to their end users through ValeDinero, payment products through CrediTienda and life insurance with ClubProtege.

Aterna
Insurance agent specialized in serving the needs of popular segments. It designs and operates services to promote a culture of prevention for Compartamos clients in Mexico, Peru and Guatemala, as well as for Yastás commission agents.

Fiinlab
Financial innovation laboratory in charge of creating and accelerating, together with the entrepreneurial ecosystem, solutions for financial inclusion through sustainable models enabled by technology. In addition, Fiinlab offers a development and investment platform for startups that use technology, innovation, and disruptive business models to enhance financial inclusion and contribute to the generation and dissemination of an entrepreneurial culture.

Fundación Compartamos
Entity through which we reinforce the social commitment that characterizes us by offering development opportunities to promote the common good in segments in need. Fundación Compartamos serves two social causes: education and early childhood, through its three action lines: contingencies, volunteering, and donations.

Environmental commitment

To achieve the purpose of Gentera, we know that we need to operate in harmony with the environment and minimize the negative impact that our operations, processes, products, and financial services may have on it, which is why for several years we have implemented different activities and initiatives such as:

· The calculation of greenhouse gas (GHG) emissions generated by the Group.

· A map of risks on the localities which are more vulnerable to hydrometeorological changes in Mexico, as well as financial provisions and contingency plans to serve our employees, customers and communities that may be affected by hurricanes and floods.

· Compliance with environmental guidelines applicable to Gentera and its companies in accordance with the laws and regulations for the financial sector in Mexico, Peru, and Guatemala.

· Awareness raising in our employees, clients, and community about the care of the environment.

Furthermore, our corporate offices building is LEED[3] Silver certified in the interior design category, so in addition to the initiatives that apply to all Gentera companies, in these facilities we carry out actions such as waste separation and awareness campaigns in this regard, the proper management of electronic waste, cartridges and toners, as well as the optimization in the use of water through saving systems in sinks and toilets.

Liability for the emissions inventory

Being aware of the environmental impact of our activities in the countries where we operate, since 2012 we have voluntary prepared an annual report related to the quantification of GHG emissions associated to our operations.

This report shows the results corresponding to the operations of Gentera and its companies during 2020, which we manage from the External Relations Direction and which we elaborate in accordance with the guidelines of the Greenhouse Gas Protocol (GHGP) of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), the National Emissions Registry (RENE) in México and its Regulation, the Technical Guide to Carbon Footprint Peru, supported by the Ministry of the Environment, the guidelines of the Intergovernmental Panel on Climate Change (IPCC) of 2006 for GHG inventories (GL 2006), the Carbon Emissions Calculator of the International Civil Aviation Organization (ICAO) and the Emission Factors for Greenhouse Gas Inventories of the United States Environmental Protection Agency.

[3]LEED: Leadership in Energy and Environmental Design. It is a globally recognized initiative to certify sustainable buildings that during their construction and operation consider elements such as accessible location, water saving, energy efficiency, use of materials and resources of low impact on the environment and indoor environmental quality, among others. Depending on the number of points achieved, one of the four levels of certification LEED can be obtained: Certified, Silver, Gold or Platinum.

Chapter 2: Description of the GHG Emissions Inventory

Objective and scope

The purpose of our report is to quantify the greenhouse gas emissions of Gentera and its companies, produced by our economic activities in all the countries where we operate.

We consolidated the information of our operations from January 1st to December 31, 2020.

Part of this information is related to the cost of some of the energy resources we consume. To allow the comparison of costs in the three countries (Mexico[4], Peru[5] and Guatemala[6]), and in order to ensure greater transparency towards our stakeholders, we integrated within this report a breakdown of the costs represented by our emission sources. We included exclusively those that come from the consumption of gasoline, diesel, and electric energy. The cost expressed in each of the sources is indicated in US dollars (USD) with an exchange rate of the local currency as of December 31, 2020.

For the categorization of sources of GHG emissions, activities and operations were divided into the following scopes:

Generated from fuel consumption in processes and activities from mobile sources owned by our organization.

Generated during the production of purchased electrical energy.

Generated from the consumption of fuel for land and air transportation of the employees.

Generated from fuel consumption of leased equipment.

[4]Exchange rate (19.9087 MXN/USD) determined by the Bank of Mexico based on an average of market quotes as of December 31, 2020.
[5]Superintendency of Banking, Insurance and AFP, Republic of Peru, weighted average exchange rate (3.6219 PEN/USD) as of December 31, 2020.
[6]Banco de Guatemala, exchange rate (7.79382 GTQ/USD) reference calculated according to resolution JM-126-2006 as of December 31, 2020.

Organizational boundary

To define the organizational boundary of our report, we selected an approach that considers all the business units that are part of Gentera and its companies[7] in the three countries where we operate.

The GHG emissions presented in this report are under an **operational control** approach.

In this way, we determined that in the companies and locations where we operate (defined in Chapter 1), we have full authority to introduce and implement policies related to emission sources and, therefore, operational control.

The Service Offices, automated vehicles, and corporate buildings (CEAS) of the three countries where we operate are part of this report.

Operational limit

The information we took into consideration for this report is related to the operations and activities necessary for the development of the products and services of Gentera and its companies.

To precise the appropriate operational limit, we established the emission sources of these operations and activities within the scope shown below.

Scope 1. Direct GHG emissions

The emissions that we generate from the consumption of fuels for the development of the activities of the organization.

These emissions come from mobile or fixed sources. The emissions from mobile sources that we considered in this scope were generated from the consumption of fuel (gasoline) of cars and motorcycles that are used by our employees as part of the development of business activities. Within this scope, we did not consider fixed sources, related to the consumption of diesel for emergency plants.

For the estimation of liters of gasoline in Guatemala, we used the amount of monthly money we allocated to gasoline and the monthly average of the price of the gallon of gasoline[8].

For the estimation of liters of gasoline in Mexico's operations, we used the amount of money allocated for purchasing fuel and compared it to the average monthly price in liters per gasoline, obtained from official sources[9].

For the estimation of liters of gasoline in Peru, we used a relationship between the monetary amount allocated for purchasing fuel and the average price in the Province of Lima at the end of December 2020[10].

Country	Gasoline consumption (liters)	Cost (USD)
Mexico	2,356,255	1,419,328
Peru	577,956	360,953
Guatemala	147,030	80,495
Total	**3,081,241**	**1,860,776**

Table 1. Annual gasoline consumption per country for scope 1.

[8] *Ministry of Energy and Mines (2020). Average Price of Fuel to Final Consumer. https://mem.gob.gt/historico-precios-nacionales/*
[9] *IIEG, Gasoline and diesel prices, https://iieg.gob.mx/ns/*
[10] *Supervisory Body for Investment in Energy and Mining (2020). Average fuel prices.*

Scope 2: Indirect GHG emissions

They correspond to the GHG emissions generated in the production phase of the electricity we purchase and consume to carry out the activities of the organization within the facilities of Gentera and its companies.

Country	Electricity consumption (MWh)	Cost (USD)
Mexico	12,384	2,270,020
Peru	4,173	681,555
Guatemala	531	125,632
Total	**17,087**	**3,077,207**

Table 2. Annual electricity consumption per country for scope 2.

In Table 2 we can observe the amount of electrical energy we consumed in the three countries where we have operations, as well as the cost related to this consumption.

In México, the amount of electricity we consumed was obtained from the receipts of the distributor of the national electricity grid. In Guatemala and Peru, consumption was estimated from the total cost of the service and the average cost per kilowatt hour (kWh) in each country, and then converted to megawatt hour (MWh).

Scope 3: Other indirect GHG emissions

It includes the emissions generated from the consumption of fuel used by our employees to transport themselves from their homes to the offices, as well as for personal use, this as part of the benefits we provide and that are applicable for certain positions within our operations in Mexico.

For the estimation of liters of gasoline, we used the amount of money allocated for purchasing fuel as a benefit and compared it to the average monthly price in liters per gasoline, obtained from official sources[9].

In Table 3 we can see the amount of fuel consumed by employees as part of the benefits we offer.

Country	Electricity consumption (MWh)	Cost (USD)
Mexico	12,384	2,270,020

Table 3. Annual consumption of gasoline in Mexico, as a benefit.

Within this scope, we also considered those GHG emissions generated from the flights made by our employees for the development of activities related to the operations of Gentera and its companies. Only flights related to operations in Mexico are reported.

Flight type	Total km
Short Haul	417,388
Medium Haul	2,964,807
Long Haul	414,191
Total	**3,796,386**

Table 4. Number of kilometers per type of flight.

Finally, we included those emissions from fuel consumption during the use of external emergency plants. The refueling of emergency plants carried out by our suppliers is part of the maintenance services.

Due to the fact that the supplier does not keep a record of the amount of fuel recharged for these services, we made an estimate of the fuel based on the capacity of the emergency plant and the hours it was used.

The estimated amount of fuel is shown in Table 5.

Country	Diesel consumption (liters)
Mexico	2,333

Table 5. Estimated consumption of diesel for emergency plants.

Exclusions

Within scope 1 we did not considered emissions from fixed sources (emergency plants) because the maintenance service provided by our suppliers already includes refueling, without us being able to know how much fuel was recharged. The amount of fuel recharged is not specified by our suppliers of this service, and therefore we cannot calculate or estimate the emissions associated with this activity. As a result, we considered these emissions as part of scope 3

Emissions from refrigerant leaks that are part of our scope 3 are not considered in the report. We have a comprehensive maintenance service for our refrigeration equipment through which a refrigerant gases recharge is carried out. The amount of recharge of the gases is not specified by the providers of this service, so we will continue working to be able to integrate the figures of refrigerant refills in the following reports.

For the estimation of the consumption of gasoline and electric energy in Peru, we omitted the extortions[11] within the databases corresponding to the reporting period.

[11] *Return of a charge made to an account/center generated in a certain period.*

Chapter 3: Methodology

Mexico

Ever since the General Law on Climate Change (LGCC) in Mexico was published, the creation of various public policy instruments was established, including the National Emissions Registry (RENE) and its Regulation, and the GHG Protocol, which defines technical aspects that enable the compilation of the necessary information on the emission of Compounds and Greenhouse Gases GHG of the different sectors of the country.

Peru

For the calculation of GHG emissions in Peru we took into consideration the Technical Guide of Carbon Footprint of Peru[12], which is supported by the Ministry of the Environment. This methodology is based on the 2006 IPCC Guidelines for GHG inventories[13], the ISO 14064 and the GHG Protocol[14].

Guatemala

For the calculation of GHG emissions in Guatemala, we used internationally accepted methodologies in terms of emission inventories. These methodologies are based on the 2006 IPCC Guidelines for GHG Inventories, the ISO 14064 and the GHG Protocol.

Greenhouse Gases Reported

According to the guidelines detailed in the methodologies for each of the countries in which we have operations (Mexico, Peru and Guatemala), the GHGs considered in this report are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)

We report these GHGs in tons of carbon dioxide equivalent (tCO2e) based on their global warming potential, so we can evaluate them against a common denominator.

Emission factors, net calorific value, and global warming potentials

For the quantification of GHG emissions we used emission factors to relate the consumption of energy resources and operational activities with the equivalent GHG emission.

In accordance with the official regulations of each country and the information of the international methodologies mentioned in Chapter 2, below, we present the selection of relevant emission factors.

For the standardization of emissions, we used the unit of carbon dioxide (CO_2) equivalent. In this way we express GHG emissions in the same unit. To determine this equivalence, we used the Global Warming Potentials (GWP), taken from the Fifth Assessment Report of the IPCC[15], which enables the relation of the emissions of methane (CH_4) and nitrogen oxide (N_2O) to the unit carbon dioxide equivalent (CO_2e).

[12] *Ministry of the Environment (2019). Technical Guide of the Carbon Footprint.*
[13] *IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories.*
[14] *Greenhouse Gas Protocol (2005). Corporate Accounting and Reporting Standard.*
[15] *Intergovernmental Panel on Climate Change (2014). Climate Change 2014 Synthesis Report.*

GHG	Chemical formula	GWP
Carbon dioxide	CO_2	1
Methane	CH_4	28
Nitrogen oxide	N_2O	265

Table 6. Global warming potentials.

We used the calorific value of gasoline to determine the energy equivalence of fuel use. In Table 7 we present the calorific value used by country.

Country	Calorific value	Units
Mexico[16]	5,593	MJ/bl
Peru[17]	112.93	MJ/gallon
Guatemala[18]	44.3	MJ/kg

Table 7. Calorific value of gasoline.

For the calculation of emissions of carbon dioxide (CO2), methane (CH4) and nitrogen oxide (N2O), derived from the combustion of fuel from vehicles, we used the following emission factors.

Emission factors (kg/MJ)			
Country	(CO_2)	(CH_4)	(N_2O)
Mexico[19]	0.0693	$2.5–5E^{-5}$	$8.00–6\ E^{-6}$
Peru[20]	0.0693	$3.3–5\ 3.3E^{-5}$	$3.30–6\ E^{-6}$
Guatemala[21]	0.0693	$2.5–5\ E^{-5}$	$8.00–6\ E^{-6}$

Table 8. Gasoline emission factors for mobile combustion.

For the calculation of carbon dioxide equivalent (CO2e) emissions from electric power generation, we used the factors established by government agencies in each country.

Country	Emission factors (e/MWh)
Mexico[22]	0.494
Peru[23]	0.4521
Guatemala[24]	0.3913

Table 9. Emission factors of electricity generation.

For the calculation of GHG emissions from diesel consumption in emergency plants we used the following calorific value.

Country	Calorific value (MJ/bl)
Mexico[25]	6,060

Table 10. Calorific value of diesel.

Likewise, for the calculation of GHG emissions derived from diesel consumption in emergency plants, we used the following emission factor.

Country	Emission factors (kg/MJ)		
	(CO2)	(CH_4)	(N_2O)
Mexico[26]	0.0741	$3.0E^{-6}$	$6.00\ E^{-7}$

Table 11. Diesel emission factor.

[16]*SEMARNAT (2020). List of Fuels 2020 that will be considered to identify users with a high consumption pattern, as well as the factors to determine equivalences in terms of barrels of oil equivalent.*
[17]*Ministry of Energy and Mines (2020). Legal Technical Report Nº 151-2020-MINEM/DGH-DPTC-DNH.*
[18]*GHG Protocol (2017). Emissions factors from Cross-Sector tools.*
[19]*SEMARNAT (2015). Agreement that establishes the technical particularities and formulas for the application of methodologies for the calculation of emissions of gases or greenhouse gases.*
[20]*Ministry of the Environment (2016) Guide Nº2: Preparation of the Annual Greenhouse Gas Report, Energy Sector.*
[21]*Intergovernmental Panel on Climate Change (2006). IPCC Guidelines for National Greenhouse Gas Inventories.*
[22]*SEMARNAT (2020). Emission factor of the national electricity system 2020.*
[23]*Ministry of Economy and Finance (2021). Technical note for the use of the social price of carbon in the social evaluation of investment projects.*
[24]*Ministry of Energy and Mines (2019). Energy Balance 2019.*
[25]*SEMARNAT (2020). List of Fuels 2020 that will be considered to identify users with a high consumption pattern, as well as the factors to determine equivalences in terms of barrels of oil equivalent.*
[26]*SEMARNAT (2015). Agreement that establishes the technical particularities and formulas for the application of methodologies for the calculation of emissions of gases or greenhouse gases.*

Chapter 4: Results

Analysis of results

The total GHG emissions we quantified in our operations, considering all emissions within each scope during 2020 is equal to 14,584 tons of carbon dioxide equivalent (tCO_2e).

In Table 12 we can observe the total emissions by scope, scope 1 emissions account for 37% of total emissions, scope 2 account for 56%, and scope 3 account for 7% of total emissions.

Total GHG emissions ($t\ CO_2\ e$)				
Country	**Mexico**	**Peru**	**Guatemala**	**Total**
Scope 1	3,904	1,159	266	5,330
Scope 2	6,118	1,886	208	8,212
Scope 3	1,042	NA	NA	1,042
Total	**11,064**	**3,046**	**474**	**14,584**

Table 12. Total GHG emissions by scope and country.

To look at the ratio of emissions per scope within each country, in Figure 2 we show the breakdown of GHG emissions by country and scope.

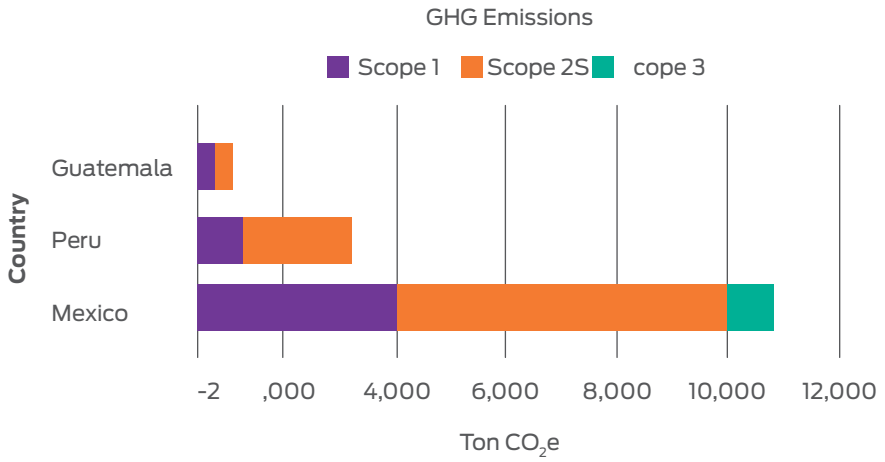

Figure 2. Contribution of emissions by country and scope.

Due to the nature of our activities and the number of Service Offices and CEAS, GHG emissions vary in each of the countries in which we operate. In Figure 3 we can observe that Mexico was the country with the highest generation of emissions (76%), followed by Peru (21%) and Guatemala (3%).

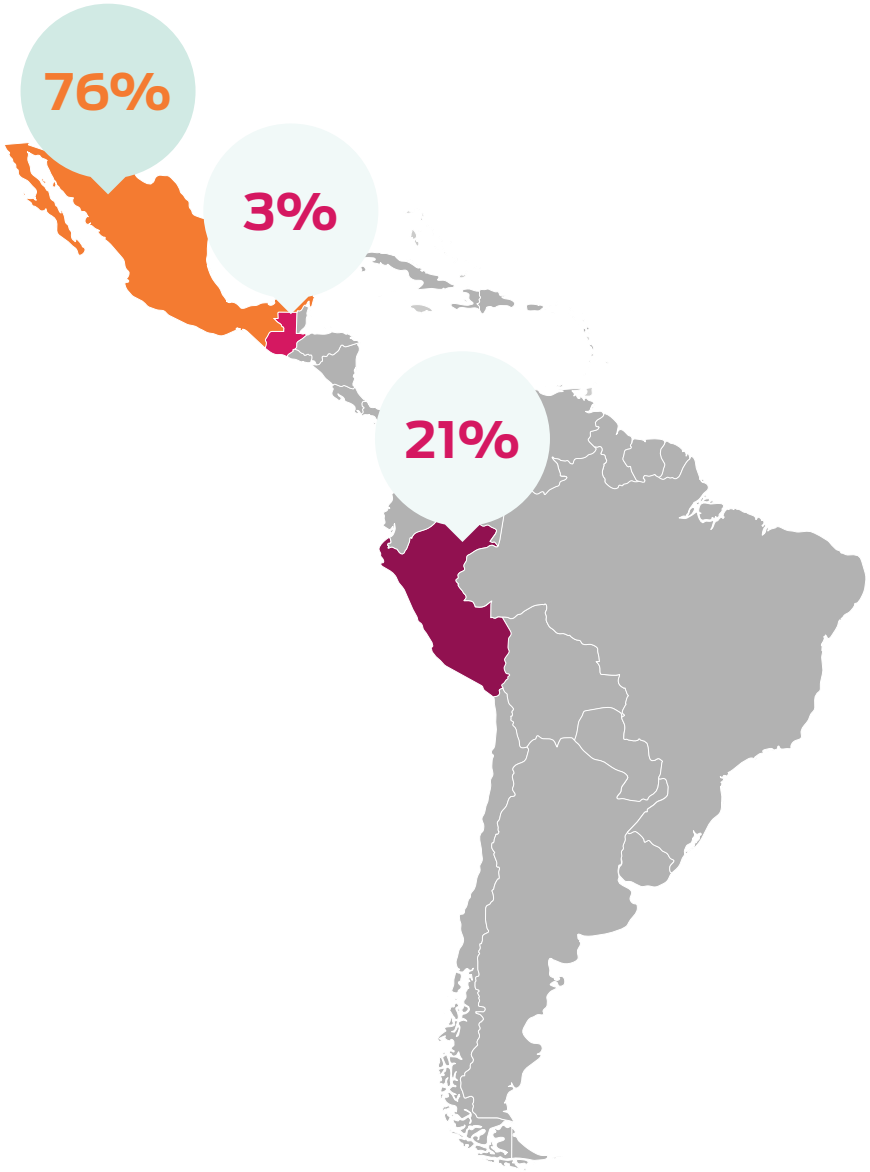

Figure 3. Percentage contribution of emissions by country.

Scope 1. Direct GHG emissions

Emissions within this scope, related to the use of fuel (gasoline) from vehicles and motorcycles for purposes of the operation, were equivalent to more than a third of the GHG emissions of Gentera and its companies.

Table 13 presents the GHG emissions of scope 1 by country, showing the emissions of the previous two years.

Scope 1 GHG emissions ($t CO_2 e$)				
Country	**2018**	**2019**	**2020**	**Variation**
Mexico	5,865	5,978	3,904	-35%
Peru	861	1,365	1,159	-15%
Guatemala	383	348	266	-24%
Total	**7,109**	**7,691**	**5,330**	**-31%**

Table 13. Variation comparison 2018-2020 of scope 1 emissions by country.

Our operations in Mexico were responsible for 73% of emissions in this scope, followed by operations in Peru with 22% and in Guatemala with 5%.

We compared scope 1 emissions from 2018 to 2020 and observed that, as compared to 2019, these decreased by 31%. In all three countries emissions decreased, Mexico being the country with the greatest reduction.

Scope 2. Indirect emissions

In Table 14 we can observe the indirect emissions generated by the consumption of purchased electricity. There is a clear reduction in the consumption of Mexico and Guatemala, decreasing by 20% in Mexico and by 12% in Guatemala.

Scope 2 GHG emissions (t CO_2 e)				
Country	**2018**	**2019**	**2020**	**Difference**
Mexico	8,064	7,641	6,118	-20%
Peru[27]	720	1,060	1,886	78%
Guatemala	224	235	208	-11%
Total	**9,008**	**8,936**	**8,212**	**-8%**

Table 14. Variation comparison 2018-2020 of scope 2 emissions by country.

It should be clarified that, in the case of Peru, the emissions were calculated from the cost of electricity consumption with a tariff schedule of north Lima with a BT5B consumption rate valid as of December 4, 2020, as it is the most representative rate of our centers. The emissions increased by 78% due to the fact that we used an updated emission factor and that correspond to the National Interconnected Electric System (SEIN).

Finally, within the total variation we can see a reduction in indirect GHG emissions by 8%, caused mostly by the decrease in activities and operations as a result of the pandemic by the SARS COV2 virus (COVID-19).

[27]*Peru's Corresponding Scope 2 GHG Emissions in 2018 were recalculated, in accordance with what was mentioned in the 2019 financial year.*

Scope 3. Other indirect emissions

Our most relevant sources of scope 3 emissions come from air travel by our employees, calculated from the vouchers data for the consumption of gasoline granted as a benefit (Table 16) to employees of certain positions and from the consumption of diesel for emergency plants.

During 2020, our employees made air trips inside and outside Mexico, these trips were divided into three types of flights, as shown in Table 15. They accumulated 3,796,386 kilometers and the indirect emission of 346 tons of CO_2e.

Flight type	Total km	t CO_2 e
Short Haul	417,388	56
Medium Haul	2,964,807	247
Long Haul	414,191	43
Total	**3,796,386**	**346**

Table 15. Emissions generated by air travels by employees.

GHG emissions from fuel consumption (gasoline), as a benefit, and diesel consumption for emergency plants were estimated only for operations in Mexico. The estimated consumption and amount of GHG emissions is presented in Table 16.

Activity	Total liters	t CO_2 e
Gasoline	271,579	689
Diesel	2,333	7
Total	**273,912**	**696**

Table 16. Emissions generated by the consumption of gasoline and diesel in Mexico.

Employee emissions

Within each report we seek that the data communicated provide us with more information about our environmental performance, which is why we include the emission intensity KPI (tCO_2e) per employee to present an individualized metric on how each employee contributes to the carbon footprint of Gentera and its companies.

No. of employees by country			
Country	**2018**	**2019**	**2020**
Mexico	16,836	16,296	16,181
Peru	4,303	5,470	5,352
Guatemala	921	960	833
Total	**22,060**	**22,726**	**22,366**

Table 17. Variation comparison 2018-2020 of employees by country.

We can observe in Table 17 a reduction in the number of employees, despite this, emissions per employee did not increased, as it can be observed in Table 8, except for Peru, where emissions per employee increased because we use an updated emission factor and corresponding to the National Interconnected Electric System (SEIN).

Country	tCO_2e per employee	
	2019	2020
Mexico	0.84	0.79
Peru	0.44	0.57
Guatemala	0.61	0.57

Table 18. Estimated CO2e emissions by employee.

Costs associated to emissions

We integrated into our report the costs in dollars for generating emissions in each country where we have operations, this as a first exercise so that, from now on, we can track a metric that provides us with information about the relation between our carbon footprint and the cost it is representing.

Table 19 presents the cost per ton of CO2e from our gasoline, diesel, and electric power consumption in the three countries where we operate.

Country	USD/tCO_2e
Mexico	335
Peru	342
Guatemala	435

Table 19. Amount spent per ton of CO_2e.

Social cost of our emissions

For the first time, we estimated the social cost[28] generated by our greenhouse gas emissions in order to internalize the negative effects that the externalities of our operation may have on society and the environment.

We found that the social cost in dollars of our total emissions for the three countries where we operate is US $627,097. This means that remedying the repercussions that our emissions may have on society would have this cost.

Country	Social cost of CO_2 (USD)
Mexico	475,750
Peru	130,975
Guatemala	20,372
Total	**627,097**

Table 20. Social cost of total emissions generated by Gentera by country.

[28] *The social cost of carbon reflects the damage generated by CO2 emissions throughout its life for society. Three different models (DICE, FUND and PAGE) and five scenarios are used, which yield a total of 10,000 estimates. The estimate used considers changes in net agricultural productivity, human health, property damage due to increased flood risk, and the value of ecosystem services due to climate change. It varies according to the discount rate (which determines the present value of future damages from climate change). A discount rate of 3% has been chosen to reflect the future impact of climate change. The Environmental Protection Agency (EPA) provides a range of 39 to 112 USD2017 / ton of CO2. Mounting evidence suggests that "black swan" scenarios (low probability of occurrence, high impact) will occur more frequently than expected. Therefore, it is recommended to include the highest impact value (of 112 USD2017 / ton of CO2) for the social costs of carbon in decision making.*

Chapter 5: Conclusions

In this report we considered the GHG emissions of the three scopes. In scope 1 we considered emissions from mobile sources (gasoline from vehicles and motorcycles) directly related to the operation of the business. In scope 2 we consolidated the indirect emissions corresponding to our electricity consumption. In scope 3 we considered emissions from various sources related to our operations, such as employee flights, fuels, and gasoline consumption due to car commuting of our employees, as part of the benefits we provide for specific positions.

Given the nature of our activities and operations, the carbon footprint of Gentera and its companies was mostly concentrated in scope 1 and 2. There are two sources of emission that represented most of our footprint: the consumption of electricity for the operation of our facilities and the consumption of gasoline for the mobility of our employees.

With the data we have managed to collect for this year, we observed a similar scenario in two out of the three countries where we operate. The largest source of emissions in Mexico and Peru was electricity consumption, followed by consumption of gasoline for vehicles and motorcycles. In Guatemala, the distribution of emissions is opposite, the largest volume of emissions comes from gasoline consumption, and electricity consumption was the second largest source.

As a result of the enhanced performance in the management and collection of information necessary for the estimates of GHG emissions, in Mexico we were able to identify and estimate scope 3 emissions.

We recognized and continued to work to expand good management and information collection practices for our operations in Peru and Guatemala with the goal of including scope 3 emissions and being able to make comparisons across all three countries.

We also faced challenges when collecting information related to our fuel and electricity consumption. As a result, we decided to make estimates based on expenditure for the different consumption of resources. This can generate a variation in emissions in each scope and therefore in our total emissions.

In Mexico, we conducted an adequate collection of information, we knew the electricity consumption without estimates of expenditure, we kept a log of flights and we made an effort to estimate our consumption of gasoline and fuels (diesel). All this allowed us to carry out an in-depth analysis of the sources of emissions for this country.

For the collection of information from Guatemala we made estimates of electricity and gasoline consumption with the expenditure data. We were unable to collect information for other activities or resources such as refrigerant gases, or flights performed.

Our operations in Peru showed emissions related to electricity and gasoline consumption. However, the amount of resources consumed are estimates, so the amount of emissions may vary.

It is important to emphasize that during 2020 the activities and operations in the three countries were affected by the pandemic caused by the SARS COV2 virus (COVID-19). This generated an abnormal behavior of our operations, consumptions, and activities. The emissions we presented for this year should not be used to represent the usual operations of Gentera and its companies.

Chapter 6: Opportunities for improvement

Year after year we aim to strengthen and improve this exercise, which is why we defined a series of recommendations to be taken into account. This will allow us to reinforce the monitoring, compilation and reporting of relevant information for the calculation of our carbon footprint, as well as to evaluate if the emission sources identified will be significant in the subsequent years for our GHG emissions report.

Some key opportunities we have identified to strengthen our report in the coming years are:

1.- Consumption control

Our consumption of refrigerants and fuels (in case of using emergency plants) are a source of emissions that requires an accurate measurement to quantify the greenhouse gases we emit.

The calculation of fuel consumed can be done in various ways, in our case we must work with the service providers of maintenance of air conditioning and use of emergency plants to know precisely the amount recharged and, therefore, the actual consumption.

To achieve this, we will seek to define indicators and carry out a detailed documentary control that includes the specific consumption related to the refills of refrigerant gases for the maintenance of cooling equipment and emergency plants.

2.- Mobility logs

GHG emissions from land and air transport can be quantified depending on the completeness and accuracy of the information collected.

In this regard, we will improve the way we collect information related to the mobility of our employees. We find two areas of opportunity in our calculations.

a) To identify and collect, according to our scope, monthly information on the changes in the price of fuels (gasoline) in the regions or at the national level where we have operations, since its variation represents a change in the amount of liters that are consumed by our employees when we obtain this amount from a budget destined for its purchase. Alternatively, if applicable, to analyze with the suppliers involved, the feasibility of obtaining the total amount of liters or gallons of fuel consumed.

b) To include within the collection of flight data, segmentation with the total number of scales of the trip, including the number of miles or kilometers per stopover made.

3.- Documented information

We have observed that there is a generalized challenge to collect information on real energy consumption in the various countries and regions where we operate. That is why we know that using different control methods in the information will help us improve the quantification of emissions in the following years.

For this reason, we observed that a general area of improvement is to verify that the information integrated within our database for scopes 1 and 2 corresponds to that reflected in the documents delivered by the suppliers of the relevant services and products (receipts, stubs, notes and/or invoices).

4.- Improvements in quantification of Scope 3

Our commitment is to strengthen the exercise for Mexico, extending the exercise to the rest of the operation and improving the quality of the information collected, for example:

a) By strengthening the processes of collection and documentation of information in order to standardize the amount of fuel consumed in the countries where we operate. In this way we will improve and standardize quantification across all our operations.

b) By strengthening our refrigerant gas recharge data gathering process in order to obtain more accurate data and quantify GHG emissions with greater certainty.

References

1.- Ministry of Energy and Mines (2020). Legal Technical Report No. 151-2020-MINEM/DGH-DPTC-DNH. Available in: https://cdn.www.gob.pe/uploads/document/file/1478108/RM%20N%C2%B0%20361-2020-MINEM/DM.pdf

2.- GHG Protocol (2017). Emissions factors from Cross-Sector tools. Available in: https://ghgprotocol.org/calculation-tools

3.- SEMARNAT (2015). Agreement that establishes the technical particularities and formulas for the application of methodologies for the calculation of emissions of gases or greenhouse gases. Available in: https://www.semarnat.gob.mx/sites/default/files/documentos/cicc/acuerdo_que_establece_las_particularidades_tecnicas_y_las_formulas_para_la_aplicacion_de_metodologias.pdf

4.- Ministry of the Environment (2016) Guide Nº2: Preparation of the Annual Report on Greenhouse Gases, Energy Sector. Available in: https://infocarbono.minam.gob.pe/wp-content/uploads/2016/07/Guia-02_Portada-Original.pdf

5.- Intergovernmental Panel on Climate Change (2006). IPCC Guidelines for National Greenhouse Gas Inventories. Available in: https://www.ipcc-nggip.iges.or.jp/public/2006gl/spanish/index.html

6.- SEMARNAT (2020). Emission factor of the national electricity system 2020. Available in: https://www.gob.mx/cms/up loads/attachment/file/630693/Aviso_FEE_2020.pdf

7.- Banco de México, Foreign Exchange Market (Exchange Rates) based on an average of market quotes as of December 31, 2020. Available in: https://www.banxico.org.mx/tipcamb/main.do?page=tip&idioma=sp

8.- Superintendency of Banking, Insurance and AFP, Republic of Peru, weighted average exchange rate as of December 31, 2020. Available in: https://www.sbs.gob.pe/app/pp/sistip_portal/paginas/publicacion/tipocambiopromedio.aspx

9.- Banco de Guatemala, reference exchange rate calculated in accordance with resolution JM-126-2006 as of December 31, 2020. Available in: https://www.banguat.gob.gt/cambio/

10.- SEMARNAT (2014). Regulation of the General Law on Climate Change on the National Registry of Emissions. Available in: biblioteca.semarnat.gob.mx/janium/Documentos/Ciga/agenda/DOFsr/DO3452.pdf

11.- Ministry of Economy and Finance (2021). Technical note for the use of the social price of carbon in the social evaluation of investment projects. Available in: mef.gob.pe/contenidos/inv_publica/anexos/anexo3_RD006_2021EF 6301.pdf

12.- Ministry of Energy and Mines (2019). Energy Balance 2019. Available in: https://www.mem.gob.gt/wp-content/uploads/2020/11/BALANCE-ENERGETICO-2019-1.pdf

13.- SEMARNAT (2020). List of Fuels 2020 that will be considered to

identify users with a high consumption pattern, as well as the factors to determine equivalences in terms of barrels of oil equivalent. Available in: https://www.gob.mx/cms/uploads/attachment/file/619062/Lista_Combustibles_2021_26fe b2021.pdf

14.- Ministry of the Environment (2019). Technical Guide to the Carbon Footprint. https://www.miteco.gob.es/es/cambio-climatic/themes/mitigation-policies-and-measures/guia_huella_carbono_tcm30-479093.pdf

15.- Greenhouse Gas Protocol (2005). Corporate Accounting and Reporting Standard. https://ghgprotocol.org/sites/default/files/standards/protocolo_spanish. pdf

16.- Intergovernmental Panel on Climate Change (2014). Climate Change 2014 Synthesis Report. https://archive.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_All_Topics.pdf

17.- International Civil Aviation Organization (2016). ICAO Carbon Emissions Calculator. Available in: https://www.icao.int/environmental-protection/Carbonoffset/Pages/default.aspx

18.- Osinergmin, Maximum Tariff Schedule of the Public Electricity Service, Lima Norte, December 4, 2020. Available in: https://www.osinergmin.gob.pe/Tarifas/Electricidad/PliegoTarifario?Id=150000

19.- Ministry of Energy and Mines (2020). Average Price of Fuel to Final Consumer. https://mem.gob.gt/historico-precios-nacionales/

20.- Supervisory Body for Investment in Energy and Mining (2020). Average fuel prices. https://www.osinergmin.gob.pe/seccion/centro_documental/hidrocarburos/SCOP/SCOP-DOCS/2020/Reporte-Mensual-Precios-Diciembre-2020.pdf#https://www.osinergmin.gob.pe/seccion/centro_documental/hidrocarburos/SCOP/SCOP-DOCS/2020/Reporte-Mensual-Precios-Diciembre-2020.pdf

21.- Instituto de Información Estadística y Geográfica de Jalisco (2020). Gasoline and diesel prices, https://iieg.gob.mx/ns/

22.- Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, August 2016

Annex 1: Formulas for the calculation of emissions

Formulas obtained from the 2006 IPCC for national greenhouse gas inventories - Volume 2 and Volume 3.

GHG Emissions Scope 1 and 3: Calculation of emissions by mobile combustion

Calculation of energy consumption: It consists of estimating the fuel consumption in TJ.

$$\text{Consumption } TJ_{\alpha} = \Sigma \text{ (Fuel Comsumption }_{\alpha} \text{ x } VCN_{\alpha})$$

Where:

TJα	Consumption in TJ, per year, by type of fuel for transport.
EF_{GHG}	FuelConsumption Fuel consumed in each transport by type (gal, m^3, t)
VCN_{α}	Net caloric value by fuel type.

Calculation of **CO_2, CH_4 and N_2O emissions**

GHG Emissions CO_2 α= TJ_{α} Consumption x EF_{α}

GHG Emissions CH_4 α= TJ_{α} Consumption x EF_{α}

GHG Emissions N_2O α= TJ_{α} Consumption x EF_{α}

Where:

Emissions GHG CO_2 α CO_2 emissions by fuel type (α) in a /year tCO_2

Emissions GHG CH_4 α CH_4 emissions by fuel type (α) in a /year tCO_2

Emissions GHG N_2Oα N_2O emissions by fuel type (α) in a /year tCO_2

Consumption TJ_{α} TJconsumption by fuel type (α)

FE_{α} Emission factor by fuel type

GHG Emissions = Emissions CO_2 + Emissions CH_4 × GWP_{CH4} + Emissions N_2O × GWP_{N2O}

Where:

GHG emissions GHG emissions, expressed in t of CO_2e

GWP Global warming potential by TYPE of GHG: CO_2, CH_4 and N_2O

GHG emissions Scope 2: Calculation of emissions by electricity consumption.

Calculation of GHG emissions: Consist in estimating the emissions of each GHG, generated by the consumption of electrical energy.

GHG emissions from electricity consumption= Electricity Consumption× EF_{GEI}

Where:

Electricity consumption: It represents the consumption of electricity; this electricity is generated by a third party and is expressed in kWh/year or MWh/year.

EF_{GEI} : Emission factor by electricity consumption, by type of GHG: CO_2, CH_4 and N_2O

GHG Emissions Scope 3: Calculation of emissions from refrigerant banks representing fugitive emissions

Calculation of GHG emissions: It consists of estimating GHG emissions, generated by fugitive emissions in refrigeration equipment.

$$\text{GHG Emissions} = \text{Net Consumption} \times FE_{\alpha}$$

Where:

GHG emissions GHG emissions, expressed in t of CO_2e

Net Consumption Estimation of the number of refrigerant refills

FE_{α} Emission factor by refrigerant compound type

Formulas obtained from the Greenhouse Gas Protocol, Technical guidance for calculating Scope 3 emissions.

GHG emissions Scope 3: Calculation of emissions for air transport of employees for business-related activities

Calculation of GHG emissions: It consists of determining the distance traveled during the trip and that from this the appropriate emission factor can be applied for the mode of transport used.

$$\text{GHG Emissions} = \Sigma \text{ distance} \times FE_{\text{flight type}}$$

Where:

GHG emissions GHG emissions, expressed in t of $_{CO2e}$

Distance Total sum of the distance travelled by type of transport used (km, mi, etc.)

$FE_{\text{flight type}}$ Emission factor by type of flight, taking into account that there are short, medium and long-distance flights ((kg CO2e / pax-km).

Annex 2: Calculation of the distance in flight kilometers

For the estimation of kilometers of flights made in Mexico, in the year of the report, we made some assumptions to obtain the total calculation of kilometers traveled. In the following flight records in our databases, we do not find direct flights within the ICAO Emissions Calculator. So, we use commercial flights between the two airports, assuming an intermediate stopover.

We considered the intermediate commercial scale and managed to obtain the result of kilometers in the ICAO Emissions Calculator. The following table presents the flights where we made this estimate as well as the stopovers we used.

Routes	Proposed scale
ACA-QRO	Scale at MEX
QRO-VIEW	Scale at MEX
MXL-CUU	Scale in HMO
MEX-LMM-MZT-MEX	Scale in LPZ
TAM-LMM	Scale in MTY
MTY-BJX-SLP-MTY	Scale at MEX
CJS-CUL	Scale in CUU
CJS-CUL-CJS	Scale in CUU
DGO-MTY	Scale at MEX
TAM-MTY-VER-TAM	Scale at MEX
LMM-SJD	Scale at MEX
MTY-MEX-AGU-ZCL-MEX-MTY	Scale at MEX
MEX-VSA-MTT-MEX	Scale at MEX
MEX-CTG-MEX	Scale in MDE
MEX-CTG	Scale in MDE
VSA-MEX-CTG-MEX	Scale in MDE
MID-TAP	Scale at MEX
MEX-TIJ-MXL-MEX	Scale in GDL
QRO-MEX-TGZ-TAP-MEX	Scale at MEX

Table 21. Flights that required a stopover proposal.

Annex 3: Comparison of consumption and emissions from the year 2017 to 2020

The following tables show the historical comparison from 2017 to 2020 of fuel consumption, electricity consumption, total CO2e emissions, as well as emissions per employee and the total number of employees.

Consumption and emissions	2017*		2018*		2019*		2020	
	Net	By collaborator	Net	By collaborator	Net	By collaborator	Net	By collaborator
Fuel (Litres)	2,955, 998	132.47	2,928, 740	134.46	2,081,241	135.58	2,198,112	98.27
Electric power (MWh)	17,637	0.79	17,222	0.79	19,830	0.87	17,087	0.76
Scope 1 emissions (t CO_2e)	7,184	0.32	7,110	0.33	7,690	0.34	5,330	0.24
Scope 2 emissions (t CO_2e)	9,564	0.43	9,008	0.41	8,936	0.39	8,212	0.37
Total scope 1 and 2 emissions (t CO_2e)	16,748	0.75	16,118	0.74	16,626	0.73	13542	0.60

** Recalculated emissions with the electrical emission factor for Peru updated during the inventory exercise carried out in 2021.*
Table 22. Comparison of consumption and emissions for the years 2017 to 2020.

Employees	2017	2018	2019	2020
	22,315	21,781	22,726	22,366

Table 23. Comparison of the total number of employees for the years 2017 to 2020.

Annex 4: Emissions per operations in Mexico

The following table shows the emissions generated by the activities in Mexico, broken down by type of operation.

Operation	Scope 1 emissions (tCO_2e)	Scope 2 emissions (tCO_2e)	Scope 3 emissions (tCO_2e)	Total emissions (tCO_2e)
Banco	2,635	5,136	465	8,236
Administrativo	896	982	158	2,036
Yastás	373	*	66	439
Total	3,904	6,118	689	10,711

Table 24. Emissions per type of operation in Mexico.

* The Scope 2 emissions of Yastás and the total emissions of Aterna are considered within the heading "Administrative".

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