

# Answers to the 2014 CDP Climate Change Questionnaire



# Index

Management Module\_\_\_\_\_ 3

Risks and Opportunities Module\_\_\_\_\_ 16

Emissions Module\_\_\_\_\_ 26

# ICA Answers to the 2013 CDP Questionnaire

## Methodology

There are two possible types of answers to the questionnaire: the answers where one must choose one among several options, and open answers. In this document we make a difference among the answers that must be chosen from a menu of options by framing them **in gray**, just as they appear in the system. The answers that don't conform to this format are the open answers.

## Management Module

**CC1.1 What is the highest level of direct responsibility for climate change within your organization?** Individual/Sub-set of the Board or other committee appointed by the Board

**CC1.1a Please identify the individual position or the name of the committee that holds this responsibility**

There are three levels within the organization that are responsible for sustainability:

- 1) The Management Committee, according to the performance of its functions, evaluates sustainability issues related to the management and operation of the organization.
- 2) There is a Sustainability Committee at the Upper Management level composed by the CFO and the Sustainability Directors, Administration and Risks, Legal, Human Capital and IT in charge of establishing ICA guidelines and general strategies.
- 3) Lastly, our Finance, Planning and Sustainability Committee is in charge of dealing with matters related to finance, strategic planning, risk control and sustainability in observance of applicable laws, best corporate practices, and policies and standards approved by the Administration Committee.

**CC1.2 Are there incentives for the direction team related to climate change, including achieving objectives?**

Yes

**CC1.2a Please provide further detail regarding incentives related to climate change.**

Who gets these incentives	Types of incentives	Performance indicators
Management group	Monetary reward	<p>There is a sustainability section within the performance balance scorecard of the organization and of the directors. Minimization of environmental impact is promoted within this section as well as efficiency in the use of resources in our projects. Both are fundamental mitigation actions against climate change.</p> <p>The performance of these sections affects the variable compensation of the management group and its team.</p>

**CC2.1 Please select the option that best describes your risk management system related to the risks and opportunities that arise from climate change**

Integrated into the multi-disciplinary company wide risk management processes

**CC2.1a Provide more details about your management system for risks and opportunities related to climate change**

Monitoring frequency	Who are the results reported to?	Geographical Regions	How far into the future were the risks considered?	Comments
Once per year	(Individual/Sub-set of the Board or committee appointed by the Board)	Mexico, Costa Rica, Panama, Colombia and Peru	(> 6 years)	Every year the ICA Risk Committee analyzes, along with many other factors, the macro tendencies related to environment, society, and other main interest groups. This analysis is integrated into the ICA business strategy and conforms to our ISO14000 management system
Bi-annually or more frequently	Senior manager/officer	The region where the project will take place	3 to 6 years	A risk analysis is performed very time that a new project is going to be put forth in which bioclimatic conditions are included. These environmental risk analyses are included in the project's operational strategy.

**CC2.1b Please describe how your process for identifying risks and opportunities is taken to the corporate and asset level**

At the corporate level, the climate variables and the physical-environmental effects of climate change are intrinsically tied to the operation and capital invested in the company. Given that our operations are outdoors and depend on local environmental conditions in different geographical

areas, our corporate risk management system analyzes each and every one of our operations. An example of this would be the annual evaluation to determine the security of our employees when we have to operate in extreme weather conditions.

This same management system monitors the changes that could create risks to our assets and develops plans for mitigation, adaptation, and contingency for our facilities. One example of this is our contingency plan for torrential rains on roads and highways.

**CC2.1c How did you prioritize the risks and opportunities that were identified?**

It is a function of the analysis of the operational balance - capital investment and our capacity to operate under certain conditions.

**CC2.2 Is climate change included in your business strategy?**

Yes

**CC2.2a Please describe how climate change is included in your business strategy and the results of this process.**

Climate change is included in the business strategy through a policy of corporate sustainability: “Starting in 2010 we began to work proactively to reduce our carbon footprint, we have taken giant steps to compensate for emissions that have already been generated and we have started different initiatives to prevent the generation of more emissions. The initiatives go from transportation systems to the materials used for our projects.” ICA is conscious that construction is one of the activities that produce the most carbon emissions, not because of the activity itself, but because of the great quantities of inputs required. ICA has been working proactively since 2010 to reduce its carbon footprint and has made significant advances to compensate for emissions that have already been generated and several initiatives have been put in place to avoid generating more emissions. The initiatives go from transportation systems to the materials used in projects. In addition, ICA is ISO 14000:2004 certified for its processes of environmental management.

Sustainability management at ICA is performed through commissions or areas of specialization: Environment; Human Capital; Communication; Security and Health; Management of the Social Environment; Research, Development, and Innovation; Risks and Internal Audits; and Sourcing, Subcontracting and Machinery.

The committees have representation from all business units and are led by upper management employees. They get together periodically to analyze material subjects, to generate the necessary guidelines for the operation, and to review advances and results from given periods that are reported to the Sustainability Committee and in turn to the Finance, Planning, and Sustainability Committee.

**CC2.3 Are you involved in activities that can have a direct or indirect influence on public policy on climate change through any of the following:**

- Commerce associations
- Financing for research organizations
- Others

**CC2.3b Is there any commerce association in the Committee or is financing provided that goes further than just membership?**

Yes

**CC2.3c Share data about associations that are more likely to be positioned related to legislation regarding climate change.**

Commerce Association	Is its position related to climate change consistent with that of the organization's?	Explain the position of the commerce association	How has it influenced this position or how does it try to do so?
CESPEDES	Yes	CESPEDES is the Mexican chapter of the <i>World Business Council for Sustainable Development</i> (WBCSD) that belongs to the Business	ICA heads the "Sustainable Infrastructure" transversal group. It also belongs to the "Sustainable

		Coordination Committee (BCC) (Consejo Coordinador Empresarial (CCE)). CESPEDES promotes the business sector, government and society, and the guidelines of sustainable development through studies and through positioning in public politics, initiatives and projects of its members. It is currently working to develop proposals to influence the Regulation of the General Law for Climate Change.	Cities” workgroup headed by CEMEX. It is important to point out that ICA also works with the “Use of sustainable water” initiative and the “Sustainable Food” initiative by providing solutions for efficient infrastructure.
International Chamber of Commerce, Mexico chapter.	Yes	Climate change is one of the greatest challenges of our times. ICC has worked for several years to help companies assume this challenge. As the science of climate change becomes clearer, so does the need to establish adequate priorities to diminish its effects. Companies worldwide have accepted the challenge through the development of new processes, products, and services to reduce greenhouse gas emissions.	ICA is a member of the Board, of the Executive Committee and of the Vice-presidency. As an associate of ICC Mexico, ICA shares its best practices for sustainability.
Issuing Committee of the Mexican Stock Exchange (BMV)	Yes	A tendency has started in the last few years within the financial markets of identifying sustainable companies to invest resources in them, based on the premise that a company that is sustainable will generate long term value and will be better prepared to face economic, social, and environmental challenges.  To promote the incorporation of sustainable and	We are part of the companies that make up Sustainable IPC:  We lead the Issuing Committee for Sustainability where we are performing awareness initiatives and promoting better sustainability practices so that financial markets can gain a better



		socially responsible processes in the practices of Mexican companies listed on the Mexican Stock Exchange (BMV) has started the process to create indexes that can be used as underlying for ETF's and only considered by worldwide renowned companies regarding sustainability.	understanding of environmental risks.
Mexican Chamber of Industry and Construction	Yes	To promote the care and conservation of the environment, starting with complying with environmental legislation and promoting the responsibility of maintaining and restoring environmental impact with material, equipment and processes.	ICA actively participates in all environmental and social responsibility initiatives in order to share and replicate better practices.

**CC2.3d Do you publicly share a list of all the research organizations to which you provide funds?**

Yes

**CC2.3e Do you provide funds to any organization that produces or shares public research on climate change?**

Yes

**CC2.3f Please describe the work and how it aligns with your own climate change strategy**

- Applied research work and design project "Between Geometry and Geography", Harvard University Graduate School of Design – ICA. This project analyzes the influence of mobility infrastructure on urban development in Mexico City. A series of recommendations are proposed to introduce innovative mobilization systems in the city that have a reduced environmental impact.

- Analysis of a case study of sustainable infrastructure. Through the Zofnass Program for Sustainable Infrastructure, ICA and Harvard Design School analyze and share best practices for impact and sustainability by analyzing an ICA project. These best practices can be used by future students of several universities and organizations.
- In order to promote research and to give greater potential to the scientific value of its photographic archive, ICA Foundation signed an agreement with the National Committee for Knowledge and Use of Biodiversity (Comisión Nacional para el Conocimiento y Uso de la Biodiversidad, CONABIO)) for the use of its photographic archive. The digitalized and geo-referenced images are used for scientific research, for the study of how biodiversity is affected, for the preservation of biological species, and to generate criteria for their sustainable handling.

### **CC2.3g Please provide details of other activities**

- Normative Framework and Action against Climate Change: due to the soon to be enforced Law for Climate Change, the Environmental Committee developed a cycle of conferences, round tables, and workshops with the collaboration of INECOL, CONAFOR, GIZ, GESAB and CESPEDS among others.
- The Trust for Saving Electric Energy (Fideicomiso para el Ahorro de Energía Eléctrica, FIDE) is a private non-profit trust that was created in 1990 through and initiative of the Federal Electricity Commission (Comisión Federal de Electricidad, CFE), to support the Program to Save Electric Energy. Its main objective is to perform actions that allow the induction, promotion, saving, and efficient use of electric energy in industry, commerce and services, municipalities, and in residential and agricultural areas. FIDE gives technical assistance services to consumers to improve productivity, to contribute to economic and social development, and for the preservation of the environment. ICA holds the presidency and vice-presidency of the Technical Committee of this institution.
- The Consultative Water Committee (Consejo Consultivo del Agua, CCA) is a plural, independent, non-profit, citizen organism that works with action guidelines that explain the problems faced by Mexico and the world regarding water. It also undertakes projects with which it supports and teaches about the use and care of water. In April 2013 ICA was invited to form part of the CCA by sharing its experience in water infrastructure and by presenting initiatives in line with ICA's objectives of promoting water sustainability.
- The United Nations World Agreement is a basis for dialogue and a practical framework for organizations committed to sustainability and to responsible practices. This initiative has the intention to harmonize operations and commercial strategies worldwide with ten universally accepted human rights principles, with labor standards, with the environment, and

with the fight against corruption. ICA forms part of the Committee for the World Agreement in Mexico and signed on to the United Nations Commitment.

- Paid studies for the Biology Institute of the UNAM, field research projects.
- A Collaboration Agreement for Advise on Pavement Projects with the Engineering Institute of the UNAM is currently being reviewed.
- The Geography Institute of the UNAM provides the national cartography, the basic layers, and the geospatial platform with which we initiated activities. They taught ICA the protocols and handling of metadata and large volumes of information as well as the creation of basic algorithms. Dr. Luis Chías advised on the potential use of geotechnology and its applications in the hydrological sector. Dr. Carlos Escalante Sandoval consulted on the mediation of the final revision.
- CONACYT. We put forth a request to obtain financial resources within the Stimulus Program for Innovation 2014 with the theme “Chemical Compounds to better the Properties of Stonyc Aggregates contaminated with Clay in order to use them for the production of Hydraulic Concrete”.
- If CONACYT grants us the resources requested we will develop the investigation in collaboration with the Center for Design and Construction of the Engineering School of Tecnológico de Monterrey.

**CC2.3h What processes do you have in place to ensure that all direct or indirect activities that influence politics are consistent with the general climate change strategy?**

There are no established processes to ensure that direct or indirect activities that influence politics are consistent with ICA’s strategy regarding climate change.

**CC3.1 Was there an objective for general emissions reduction during the reporting year?**

No

**CC3.1e Please explain: (i) why there is no objective; and (ii) forecast how your emissions will change during the next 5 years:**

We haven’t developed an objective for emissions reduction because we are in the process of developing our online greenhouse gas emissions inventory following the principles of the GHG Protocol. Once we have completed this process we will be able to identify, establish, and implement goals and strategies for emissions reduction.

In the construction business the vast majority of emissions are generated from projects. It is extremely difficult to forecast a flow of projects that depend on multiple factors that are out of the control of our company. In addition, the projects have different stages of intensity regarding emissions throughout their life span. Because of this it is very difficult to forecast how the company's emissions will change in terms of absolute numbers.

**CC3.2 Does the use of your services or products directly allow third parties to avoid greenhouse gas emissions?**

Yes

**CC3.2a Provide details on how the use of your services or products allows third parties to avoid greenhouse gas emissions**

The use of more efficient/direct means of communications allows users to save fuel to travel the same distance.

- The use of the Maxitunel Interurbano Acapulco and the use of the urban highway ArcoSur allow its users to travel the same distance in up to one hour less. During this time their motors stop emitting greenhouse gases.
- The use of efficient collective transportation such as the metro line 12 allows users to stop using other slower means of transportation and that contaminate more while traveling the same trajectory.
- When driving on the Merida-Cancun highway (Mayab Highway), one vehicle can save between 10 and 15 liters of gasoline.
- The Atotonilco Treatment Plant for Residual Waters with methane capture

**CC3.3 Were there incentives for the reduction of emissions during the reporting year?**

Yes

**CC3.3a Please identify the total number of projects for each development stage and the estimate of emissions reduction for those projects already being implemented.**

Development stage	Number of projects	Total estimate of emissions reduction
Currently being researched	1 (Reclaimed Asphalt Pavement)	
To be implemented	1 (Concrete recycling)	239.9
Implementation is just beginning	2 (Turn it off or pay, Bubbledeck)	378
Has been implemented	6 (Cactus reforestation, Ajusco reforestation, system to capture rainwater, rescue of the Jícaro tree, mangrove reforestation in Aak Bal, set-up of LED technology in Arco Sur lamps)	92,796.52
Won't be implemented		

**CC3.3b Please provide details in the following table for those initiatives implemented during the reporting year:**

Type of activity	Description of the activity	Estimate of emissions reduction	Economic savings (USD)	Investment needed	Return period	Estimate of the project's life	Comments
Behavioral change	Campaign to save electric energy by turning off machinery and facilities that are not being used in corporate	100	200,000 KWhr x 0.104 USD = 20,800 USD	46,947.02 USD (610,311.32)	The return period is 12 months (36% had	perennial	

	offices			MN)	been achieved during the period from October to December 2013		
Product design	Bubbledeck technology is a constructive system made up from prefabricated slabs that are made lighter by using plastic spheres	278	2.76 MMUSD	23.08 MMUSD	The period of return is currently being determined based on the pilot program		
Other	Mangrove reforestation in Aak Bal	17					
Other	Reforestation as payment for environmental services alongside CONAFOR in the Ajusco – Chichinautzin corridor	80,080.52		15,000		2016	
Other	Set-up of LED technology in Arco Sur lamps	12,699					

**CC3.3c What methods do you use to attract or encourage investment in emissions reduction activities?**

Method	Comments
Compliance with regulatory requirements/standards	As a leading company in our field, we believe that we must commit to being an example for others because of our level of compliance and stringency that are required by the signatories of the Ecuador Principles
Employee engagement	Our Sustainability Committee is in charge of designing and identifying objectives that are driven through the daily actions of all our collaborators. One example of this is our Turn it off or Pay program.

**CC4.1 Other than the CDP, have you published information about how your organization responds to climate change and the performance of your emissions during this period?**

Publication	Page/reference	Enclosed document
Sustainability Report 2013 (GRI Methodology)	To be completed	To be completed

## Risks and Opportunities Questions

**CC5.1 Have you identified a risk derived from climate change that has the potential to generate a substantial change your company's operation, costs, or earnings?**

Risks driven by changes in regulation

Risks driven by changes in physical climate parameters

Risks driven by changes in other climate-related developments

**CC5.1a Please describe the risks motivated by changes in regulations**

Risk motivation	Description	Potential Impact	Time frame	Direct / Indirect	Probability	Magnitude of the impact	Financial implications	Management method	Management cost
Uncertainty surrounding new regulation	The General Law for Climate Change (LGCC) was recently approved. This law establishes that a National Emissions Registry will be created which will require that certain industrial sectors (still to be defined) report their emissions in a	Increased operational cost	1 to 3 years	Direct	Likely	Medium	The financial implications of this legislation are still being evaluated.	The management of this risk is included in the company's general risk program and also falls under the Sustainability Committee's care.  It is being managed in three ways:  1. Mitigation through the	Still uncertain



	<p>periodic manner. A new tax to carbon emissions was introduced in the fiscal reform that was approved this year. The registry and tax norms still haven't been determined; this is why the implications for industry are still uncertain.</p>							<p>creation of a carbon inventory to be followed by setting objectives and/or projects of emissions reduction.</p> <ol style="list-style-type: none"> <li>2. Regulatory advocacy through the chambers of commerce that we belong to.</li> <li>3. Possible compensation through accreditation of our reforestation programs.</li> </ol>	
--	---	--	--	--	--	--	--	--	--

CC5.1b Please describe the risks motivated by physical changes in climatic parameters

Risk motivation	Description	Potential impact	Time frame	Direct / Indirect	Probability	Magnitude of the impact	Financial implications	Management method	Management cost
Change in mean (average) temperature	The increase in the mean temperature increases the level of evaporation of humidity in concrete. High levels of humidity evaporation can lead to bad concrete quality and require rework.	Increased operational cost	1 to 3 years	Direct	Very Likely	Medium-High	The financial implications of this risk haven't been calculated yet	<p>The ways to mitigate this risk are currently being evaluated. Two actions will be taken in the immediate future:</p> <ol style="list-style-type: none"> <li>1) Create an internal and external training program specific to this topic</li> <li>2) Include temperature change studies in the planning of the operation of concrete</li> </ol> <p>A study is being</p>	The management cost of this risk still hasn't been determined

								undertaken to boost an investigation program to find mechanisms (processes or products) that allow operation given these new circumstances. This mitigation action could detonate an opportunity that will be explained in another section.	
Change in precipitation extremes and droughts	The prospection that the number of events of torrential rain or that precipitation patterns drastically change could cause landslides that could put our infrastructure and operations at risk.	Increased operational cost	1 to 3 years	Direct	Very Likely	Medium-High	The financial implications of this risk haven't been calculated yet	This risk can be mitigated through the execution of four actions:  1) Including change scenarios in rain patterns and risk maps for climate change in the project design as well as infrastructure	The cost of including these new parameters in the risk management of the projects and operations is being evaluated.

								<p>maintenance and prevention plans. The climate conditions in which the workers are working in will also be used and the necessary measures will be taken to ensure optimal working conditions.</p> <p>2) Geologic studies will be performed decreasing the return period for torrential rains.</p> <p>3) Protection of slopes must</p>	
--	--	--	--	--	--	--	--	--	--

								<p>be taken into account for regions identified as being vulnerable.</p> <p>4) Attention will be paid to the constant maintenance of drainage.</p> <p>In addition, the contingency plan will be strengthened to mitigate the damage to our facilities or operations if such an event were to occur.</p>	
--	--	--	--	--	--	--	--	---	--

CC5.1c Please describe the risks motivated by changes related to other socio-climatic events

Risk motivation	Description	Potential impact	Time frame	Direct / Indirect	Probability	Magnitude of the impact	Financial implications	Management method	Management cost
Reputation	There have recently been cases that the media has published in which the responsibility of the different players that participated in a project isn't clear. In some cases the media have made the general public believe that all the responsibility falls on only one party.	Reduced demand for goods/services	3 to 6 years	Indirect	Likely	Medium-High	The financial implications of this risk haven't been calculated yet	There is work being undertaken to push the creation of a normative/legislative package that will explicitly explain the extent of the responsibility of all the players involved in a project and that this responsibility matrix will be made known to the public.  This mitigation action could detonate an opportunity that will be explained in another section.	The management of this risk is included within the company's general risk program but we still don't have a "unitary" management cost of this risk.

**CC6.1 Have you identified an opportunity derived from climate change that has the potential to generate a substantial change in your company's operation, costs, or earnings?**

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

**CC6.1a Please describe the opportunities motivated by changes in regulations**

Risk motivation	Description	Potential impact	Time frame	Direct / Indirect	Probability	Magnitude of the impact	Financial implications	Management method	Management cost
Renewable energy regulation	The recently approved National Strategy for Climate Change (ENCC) 2013 as well as the energetic reform, allow a greater participation of renewable energies in the composition of sources of electricity generation in Mexico. ICA is a leader of construction of hydroelectric plants, which would fall under this package of	Increased demand for existing products/services	3 to 6 years	Direct	Very Likely	Medium-high	The financial implications of this opportunity are still being evaluated	The recently approved Law of public-private associations allows third parties to propose the projection of infrastructure. ICA will take advantage of these two new legislative opportunities to continue driving the generation of renewable electric energy in Mexico.	The management of this opportunity is included within the company's general business program.

	renewable energy.								
General environmental regulations, including planning	As explained in question CC5.1c, the creation of a normative/legislative package that is explicit regarding the reach of the responsibilities of all the players in a project, and that the responsibility matrix is made public knowledge, would mean an opportunity for ICA to consolidate leadership within the construction industry. It would also help manage the positive reputation of the company among our interest groups.	Wider social benefits	Unknown	Direct	More likely than not	Medium	The financial implications of this opportunity are still being evaluated	ICA has been promoting the creation of this normative package with chambers and institutions for some time already. These efforts will continue until the goal is achieved.	The management of this opportunity is included within the company's general business program.



**CC6.1b Please describe the opportunities motivated by physical changes in climatic parameters**

<b>Risk motivation</b>	<b>Description</b>	<b>Potential impact</b>	<b>Time period</b>	<b>Direct / Indirect</b>	<b>Probability</b>	<b>Magnitude of the impact</b>	<b>Financial implications</b>	<b>Management method</b>	<b>Management cost</b>
Change in mean (average) temperature	As explained in question CC5.1b, the elevated evaporation influences the quality of concrete when working with it.	New products/business services	3 to 6 years	Direct	Likely	Medium-high	The financial implications of this opportunity are still being evaluated	ICA is evaluating the possibility of driving a research program to find mechanisms (processes or products) that help achieve good concrete quality, even with high environmental temperatures.	The management cost of this opportunity hasn't been estimated yet

**CC6.1f Please explain why you consider that your company is not exposed to opportunities motivated by changes related to other socio-climatic events that have the potential to generate a substantial change in your company's operation, costs, or earnings**

ICA's operations are intrinsically tied to the weather, and even though we used to perform analysis of risks and opportunities for the company's factors related to climate change, they were not methodologically labeled as such, as factors derived from climate change. As a result of the answers to the CDP questionnaire, the climate change factor will be included specifically in the analysis of opportunities for the company. There is no doubt that there are many opportunities for the company that are motivated by changes related to other socio-climatic events, but they

have not as yet been identified. Given that this process of analysis is being undertaken in a continuous way, we expect that we will have found new opportunities by the next reporting period.

## Emissions Module

**CC7.1 Please write down your base year and the emissions from your base year.**

Base year	Emissions of Scope 1 from the base year (tonsCO2e)	Emissions of Scope 2 from the base year (tonsCO2e)
01-01-2013 to 31-12-2013	639,579.40	23,249.74

**CC7.2 Give the name of the standard, protocol, or methodology that you have used to collect data from the activities and to calculate the emissions of Scope 1 and Scope 2.**

Please select the calculation method that you used
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
Greenhouse Gas Emissions Program Mexico
Defra Voluntary Reporting Guidelines

**CC7.3 Indicate the sources of potential global warming that you have used.**

Gas	Reference
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)

CH4	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	IPCC Fourth Assessment Report (AR4 - 100 year)

**CC7.4 Indicate the emissions factors that you have used as well as their origin; you may also attach an Excel spreadsheet with this data**

Fuel/Material/Energy	Emission Factor	Unit	Reference
Diesel (100% mineral diesel)	2.6769	kgCO2e/lt	2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting Annex 1
Petrol (100% mineral petrol)	2.3144	kgCO2e/lt	2013 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting Annex 1
LPG	1.5326	kgCO2e/lt	2014 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting Annex 1
Carbon sequestration Mexican forest average	192.1085	tonsCO2e/ha	Masera, O.R., M.J. Ordoñez y R. Dirzo. 1997. Carbon emissions from Mexican Forests: Current Situation and Long-term Scenarios, Climatic Change 35: 265-295. SARH (Secretaría de Agricultura y Recursos Hidráulicos) (Secretariat for Agriculture and Hydraulic Resources). 1994. National Forest Periodic Inventory. México: SARH.

Carbon sequestration Agriculture cover	88.6695	tonsCO2e/h a	Masera, O.R., M.J. Ordoñez y R. Dirzo. 1997. Carbon emissions from Mexican Forests: Current Situation and Long-term Scenarios, Climatic Change 35: 265-295. SARH (Secretaría de Agricultura y Recursos Hidráulicos) (Secretariat for Agriculture and Hydraulic Resources). 1994. National Forest Periodic Inventory. México: SARH.
Carbon sequestration Grasslands cover	96.6066	tonsCO2e/h a	Masera, O.R., M.J. Ordoñez y R. Dirzo. 1997. Carbon emissions from Mexican Forests: Current Situation and Long-term Scenarios, Climatic Change 35: 265-295. SARH (Secretaría de Agricultura y Recursos Hidráulicos) (Secretariat for Agriculture and Hydraulic Resources). 1994. National Forest Periodic Inventory. México: SARH.
Cementitious product	0.68	tonsCO2e/t ons	Carbon disclosure project investor CDP 2013 – Cemex Report
Ready Mix Concrete	0.003	tonsCO2e/ m3	Carbon disclosure project investor CDP 2013 – Cemex Report
Ready Mix Concrete + Cement emissions	0.2342	tonsCO2e/ m3	Own calculation
Acetylene (C2H2)	0.1043	KgCo2e/ft3	The Climate Registry 1/05/09 General Reporting Protocol 1.1 Updates and Clarifications <a href="http://www.theclimateregistry.org/downloads/09.01.05%20GRP_Updates_and_Clarifications.pdf">http://www.theclimateregistry.org/downloads/09.01.05%20GRP_Updates_and_Clarifications.pdf</a>
Acetylene (C2H2)	3.31831153 1	grCO2e/Kg	Own calculation

Average emission per shielded arc welding	20.165	grCO2e/Kg	AP42 Fifth Edition, Volume I. Chapter 12: Metallurgical Industry. Section 12.19 Electric Arc Welding
Average emission per shielded arc welding	0.020165	kgCO2e/kg	Own calculation
Coating applications	230	grNMVOC/Kg	EMEP/EEA emission inventory guidebook 2009, updated September 2011. 3.A Paint application. Table 3-4 Tier 2 emission factors for source category 3.A.1 Decorative coating application, Decorative paint, Construction of buildings, Conventional solvent-based products
Coating applications	241.5	KgNMVOC/m3	Own calculation
Construction, Demolition and Excavation: Asphalt	39	KgCO2e/Tons	2014 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting Annex 14
Water treatment	0.3441	KgCO2e/m3	2014 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting Annex 9
Purchased Energy Emissions	0.5333	KgCO2eq/KWh	CESPEDES/SEMARNAT Greenhouse Gas Emissions program 2011 emission factor
Medium Haul (463-1108 km), Average seat class	0.105518014	kgCO2e/km	DEFRA/DECC's 2011 Guidelines to GHG Conversion Factors for Company Reporting (Annex 6)
Long Haul (>1108 km), Average seat class	0.121458385	kgCO2e/km	DEFRA/DECC's 2011 Guidelines to GHG Conversion Factors for Company Reporting (Annex 6)

**CC8.1 Please select the category that you are already using for your Scope 1 and Scope 2 in the greenhouse gas inventory**

Operational control

**CC8.2 Indicate the absolute values of global emissions in Scope 1 in metric tons of CO<sub>2</sub>e**

639,579.40

**CC8.3 Indicate the absolute values of global emissions in Scope 2 in metric tons of CO<sub>2</sub>e**

23,249.74

**CC8.4 Are there emission sources (fore example, specific greenhouse gas effect facilities, activities, geography, etc.) of Scope 1 and 2 that are not included in this description?**

Yes

**CC8.4a Please complete the following table:**

Source	Scope	Explain why that source was excluded
Other international operations	Scope 1 and 2	The required information was not available at the time of reporting. It is expected that these sources will be covered in the future.

**CC8.5 Please estimate the level of uncertainty in the results for the total of absolute emissions of Scope 1 and 2 that were reported and specify the sources of uncertainty in the collection of data, in its handling, and calculations.**

Scope 1 Emissions Range of uncertainty	Scope 1 Emissions Main sources of uncertainty	Scope 1 Emissions Please explain the uncertainty of the data	Scope 2 Emissions Range of uncertainty	Scope 2 Emissions Main sources of uncertainty	Scope 2 Emissions Please explain the uncertainty of the data
More than 10% but less than or equal to 20%	<ul style="list-style-type: none"> <li>• Data Gaps</li> <li>• Assumptions</li> <li>• Data Management</li> </ul>	<p>Differences have been observed that surpass 10% between similar requests for information based on ERP, due to typing errors in the input of labels</p> <p>Some emission factors that were very general for some sources were used, but these sources combined represent less than 1% of the total emissions</p>	More than 20% but less than or equal to 30%	Data Gaps	<ol style="list-style-type: none"> <li>1. We assume that approximately 20% of our consumption is not being reported.</li> <li>2. From that 80% reported we are able to trace the specific origin of 87% of our known energy consumption.</li> </ol>

--	--	--	--	--	--

**CC8.6 Indicate the status of verification/assurance that applies to your Scope 1 emissions:**

No third party verification or assurance

**CC8.7 Indicate the status of verification/assurance that applies to your Scope 2 emissions:**

No third party verification or assurance

**CC8.8 Are the carbon dioxide emissions from the biological capture of carbon relevant to your company?**

Yes (biofuels)

**CC8.8a Write the emissions in metric tons of CO<sub>2</sub>e.**

72,839.76

**CC9.1 Do you have the sources of Scope 1 emissions for more than one country or region?**

Yes

**CC9.1a Complete the following table:**

Country / Region	TonsCO <sub>2</sub> e
Mexico	340,118.61
Peru	288,380.02



Colombia	2,434.51
Panama	8,646.26

**CC9.2 Indicate what other breakdown of Scope 1 emissions you can provide**

By business unit

**CC9.2a Please provide a breakdown of your Scope 1 emissions by business unit**

Business Unit	Scope 1 Emissions (tonsCO2e)
Civil Construction	321,829.81
Urban Construction	19,054.36
San Martin	288,380.02
PRET	539.50
ViveICA	1,994.94
ICAFluor	2,681.60
ICAI	5,099.15

**CC10.1d Do you have the sources of Scope 2 emissions for more than one country or region?**

Yes

**CC10.1a Complete the following table:**

Country / Region	Scope 2 emissions in CO2e metric tons	Electricity, heat, vapor and refrigeration (MWh) purchased and consumed	Electricity, heat, vapor, or refrigeration (MWh) of low carbon emissions purchased and consumed.
Mexico	21,603.71	36,164.50	
Peru	273.64	513.11	
Colombia	918.17	1,721.68	
Panama	85.79	160.86	

**CC10.2 Indicate what other breakdown of Scope 2 emissions you can provide**

By business unit

**CC10.2a Please provide a breakdown of your Scope 1 emissions by business unit**

Business Unit	Scope 2 Emissions (tonsCO2e)
Civil Construction	11,168.11
San Martin	273.64

ViveICA	923.43
ICAFluor	2,411.97
ICAi	3,609.16

**CC11.1 What percentage of total expenditures correspond to energy for operations during the reporting year?**

More than 35% but less than or equal to 40%

**CC11.2 Please write down the quantity of energy purchased and consumed in MWh during the reporting year.**

Type of energy	MWh
Fuel	2,077,859.84
Electricity	38,560

**CC11.3 Please complete the table by providing a breakdown of the total figure for fuel**

Fuel	MWh
Biodiesels	286,439.692
Diesel/Gas oil	1,607,882.55
Liquefied petroleum gas (LPG)	822.55
Motor gasoline	182,715.05

**CC11.4 Please provide information about the quantity of electricity, heat, refrigeration, or vapor that were accounted for in a factor of low carbon emissions.**

Basis for the use of a low carbon emissions factor	MWh associated with electricity, heat, vapor, and cooling of low carbon emissions	Comments
Non-grid connected low carbon electricity generation owned by the company, no instruments created	112.81	Photovoltaic generation befitting our operations

**CC12.1 Do absolute emissions (combining Scope 1 and Scope 2) for the base year vary significantly in comparison with the previous year?**

This is our first year of estimation. We don't have any emissions data

**CC12.2 Describe a measure of financial intensity related to the activities for the reference year of the gross combined Scope 1 and Scope 2 emissions**

Intensity data	Metric numerator	Metric denominator	% of change compared to the previous year	Direction of change compared to the previous year	Explanation
0.000325789	metric tons CO2e	unit total revenue	na	na	na

**CC12.3 Describe your combined Scope 1 and Scope 2 gross emissions from the base year in metric tons CO2e by employee full time equivalent (Full Time Equivalent - FTE)**

Intensity data	Metric numerator	Metric denominator	% of change compared to the previous year	Direction of change compared to the previous year	Explanation
0.007782255	metric tons CO2e	FTE employee	na	na	na

**IMPORTANT NOTE:** By agreement with the Carbon Inventory Team, only the Civil Construction information was used to calculate this intensity factor

**CC13.1 Do you currently participate in any commerce regime of emissions rights?**

No, and we do not currently anticipate doing so in the next 2 years

**CC13.2 Has your company created any carbon credits based on any project or purchased one during the reporting period?**

No

**CC14.1 Please report your organization's Scope 3 emissions**

Sources of Scope 3 emissions	Status evaluation	Metric tons CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Goods and services acquired	Relevant, calculated	130,101.75	The calculation is comprised by emissions generated by two of our most	80	More inputs will be incorporated to the calculation in future

			relevant inputs: cement and concrete		reports
<b>Capital goods</b>	Not relevant, explanation provided				The vast majority of emissions from our machinery come from burning fuel during its use, this source of emissions has already been considered in Scope 1
<b>Fuel and energy related to activities (not included in Scope 1 or Scope 2)</b>	Not relevant, explanation provided				The fuel and energy relevant to our operations is already considered within Scope 1 and Scope 2 of our report
<b>Upstream transportation and distribution</b>	Relevant, not yet calculated				
<b>Residue produced in operations</b>	Relevant, not yet calculated				

<b>Business trips</b>	Relevant, calculated	6,802.69	All business trips taken on airplanes were considered when the tickets were bough through agencies that have an agreement with ICA	80	The emissions from land business trips were not taken into account
<b>Employee displacement</b>	Relevant, not yet calculated				
<b>Leased assets downstream</b>	Not evaluated				
<b>Investments</b>	Not evaluated				
<b>Transportation and distribution (downstream)</b>	Not evaluated				
<b>Transformation of goods sold</b>	Not relevant, explanation provided				The goods that ICA sells are infrastructure which doesn't require transformation by the customer

<b>Use of products sold</b>	Relevant, not yet calculated				
<b>Treatment, elimination of products at the end of their useful life</b>	Not evaluated				
<b>Leased assets downstream</b>	Not evaluated				
<b>Franchises</b>	Not relevant, explanation provided				ICA doesn't operate under the franchise model
<b>Others (upstream) - Optional</b>					
<b>Others(downstream) - Optional</b>					

**CC14.2 Please indicate the verification/assurance status applicable to your Scope 3 emissions**

No third party verification or assurance

**CC14.3 Are you capable of comparing your Scope 3 emissions during this year with last year's base?**

No, this is our first year of estimation



**CC14.2 Is your company involved with any element of the value chain as related to greenhouse gas emissions and climate, such as strategic changes?**

Yes, our customers

**CC14.4a Please provide details about intervention methods, strategies to prioritize commitments and success measures.**

The use of the most efficient/direct communications allows users to save fuel to travel the same trajectory.

- The use of efficient collective transportation, such as metro line 12, allows users to stop using other means of transportation that are slower and that contaminated more in order to achieve the same transfer
- When traveling on the Mérida – Cancún Highway (Autovía del Mayab) a vehicle can save between 10 and 15 liters of gasoline
- The Atotonilco Residual Water Treatment Plant has a system for methane capture
- The CEFERESO TEPIC has a treatment plant that captures methane, cells with solar panels, and a design with efficient ventilation to reduce the use of air conditioning
- The Gea González Hospital has a treatment plant and solar panels for the efficient consumption of energy and efficient illumination.
- The vehicle fleet and 80% of major machinery have an operative useful life span of a maximum of four years. This ensures that our customers lease equipment that is up to par with the latest technology.