

SUSTAINABILITY REPORT

2017



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MESSAGE FROM THE CEO

Organizations are required to be in constant dynamism and to evolve in such a way that they adapt to the changing conditions of our environment. The market and the community are increasingly demanding transparency, and this implies a firm commitment to strengthen our relationship and responsibility with them. As a result, high quality services and products, advanced technological solutions, and sustainable and responsible operations are the key assets to conduct our performance successfully.

Pétreos Mexicanos (Pemex) is the most important company in Mexico¹, the most valuable brand in Latin America² and plays a key role in the country's development given its tax contributions. As part of an increasingly competitive environment in the national and international markets, we confirm our strengths not only in the energy field, but also in the economic, social and environmental dimensions, strengthening our position as a first-class global company in the oil and gas industry.

As part of this effort, we adhere to multilateral actions to mitigate climate change. The General Directorate actively participates in the Oil and Gas Climate Initiative (OGCI) where we are founding members. This initiative focuses in

four priority areas: reducing methane emissions accelerating the deployment of carbon capture, use and storage; improving energy efficiency and contributing to transport efficiency.

Through the Oil and Gas Methane Partnership (OGMP), led by the United Nations Climate & Clean Air Coalition (CCAC), we begun the assessment of methane emissions from nine key sources in our work centers.

Important achievements in reducing emissions were accomplished in 2017. With the implementation of the Strategic Plan for Gas Utilization, Pemex Exploración y Producción reduced its greenhouse gas emissions by 64%. In addition, the company achieved a reduction of air emissions by more than 25% in particles and sulfur oxides. Furthermore, Pemex Transformación Industrial reduced by 29% the content of hydrocarbons in discharge waters.

For almost 20 years, Pemex has promoted high-impact conservation projects. Today, more than ever, we are aware of the need to work and preserve ecosystems and their environmental services in the communities where we perform our operations.



**Because we have the
energy to go even further!**

¹<http://brandfinance.com/press-releases/brand-finance-anuncia-las-marcas-mexicanas-ms-valiosas-de-2018/>

²http://brandirectory.com/league_tables/table/global-500-2017

In this regard, we are the first oil and gas company that allocates its own land to protect biodiversity and preserve the environment. In our business plan, the creation of the Jaguaroundi, Tuzandépetl y Santa Alejandrina wetlands (JA-TUSA) Ecological Corridor in Coatzacoalcas, Veracruz is designed to connect three properties and respond to the fragmentation of tropical ecosystems with high biodiversity richness in an area with high industrial activity. This project aims to reestablish that lost connection.

To improve the energy performance of our facilities, we worked on the implementation of Energy Management Systems in the National Refining System in accordance with the international standard ISO 50001, achieving its implementation in the entire Cadereyta Refinery. Independencia Petrochemical Complex in Puebla obtained the certification in such standard.

Regarding safety issues, Pemex achieved its best historical performance for the second consecutive year, with an injury frequency index of 0.34 per million man-hours worked with exposure to risk. Safety efforts are evolving to meet the new scenarios of the Energy Reform with increasing demanding standards, which we also extend to contractors, subcontractors, suppliers and service providers.

Also, while being a company with a high sense of social responsibility that provides support to vulnerable groups, we granted throughout the year

benefits which are worth 1,670 million pesos. We have provided support through donations, through the Support Program for the Community and the Environment (PACMA, by its acronym in Spanish) and through Works of Mutual Benefit (OBM, by its acronym in Spanish).

As a result, we promote actions with a direct impact on the quality of life of families. From a social perspective, we aim to mitigate the impacts of our operations in communities near our work centers, generating inclusive development programs, implementing productive projects and establishing assertive communication.

Likewise, during 2017 we published a new Code of Ethics and a new Code of Conduct to promote transparency and strengthen the ethical culture throughout the company, encouraging a competitive and sustainable procurement based on a program of evaluation and responsibility of suppliers.

At the same time, we have strengthened our inclusion policies through a strategy for gender equality, which seeks, among other objectives, to enable more women to access decision-making positions in Pemex.

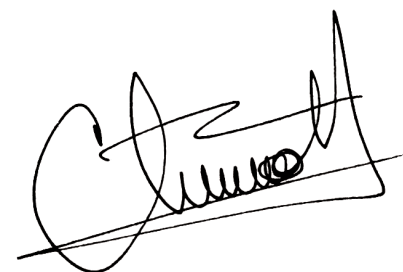
As it will be shown throughout this report, the measures and strategies implemented in recent times have not only enabled us to advance in the operational performance and business vision to maintain financial stability and strengthen the

relationship with various players in the global energy sector, but they have also placed us at the forefront of the incorporation and advocate of universal values and best business practices.

At Pemex we assume a commitment that goes beyond regulatory compliance, acting proactively to be a factor of positive change for communities, the environment and society.

With the efforts of all the workers, contractors, clients and stakeholders of the organization, we build a stronger, efficient and inclusive Pemex, to continue being Mexico's flagship company.

Because we have the energy to go even further!



Carlos Alberto Treviño Medina

Chief Executive Officer

GUIDING PRINCIPLES OF THE REPORT

At Pemex, we are governed by our reason for being, vision, mission and values. In sustainability matters, we adhere to our policies for occupational health and safety, environmental protection and sustainable development and our energy management policy.

Our reason for being

Maximize the oil value for Mexico.

Our mission

Be the most competitive company in the Mexican oil industry and international reference.

Our values

1. Decisions based on the value they bring to Petróleos Mexicanos
2. Operational excellence and administrative simplicity
3. Innovation and agility
4. Customer satisfaction
5. Honesty and accountability
6. Teamwork to achieve the goals of Petróleos Mexicanos
7. Pride of belonging to Petróleos Mexicanos.

OCCUPATIONAL SAFETY AND HEALTH, ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT POLICIES

Policy:

Petróleos Mexicanos is an efficient and competitive company, distinguished by the effort and commitment of its workers to occupational safety and health, environmental protection and sustainable development, through a risk management approach and regulatory compliance based on operational discipline and continuous improvement.

Principles:

I. Occupational Health and Safety, Environmental Protection and Sustainable Development are the highest priority values for production, transportation, sales, quality and costs.

- II. All incidents and injuries can be prevented.
- III. Occupational Safety and Health, Environmental Protection and Sustainable Development are everyone's responsibility and an employment condition.
- IV. At Petróleos Mexicanos, we commit ourselves to continue, through Sustainable Development, protecting and improving the environment for the benefit the community.
- V. Oil workers are convinced that Occupational Health and Safety, Environmental Protection and Sustainable Development are established for our benefit and this encourages our participation in this effort.
- VI. At Petróleos Mexicanos we operate with reliable and dedicated contractors, suppliers and service providers who are committed to Occupational Safety and Health, Environmental Protection and Sustainable Development, who are required to adhere to the same level of compliance standards established by our company.



ENERGY MANAGEMENT POLICY AT PEMEX

Petróleos Mexicanos adheres to a visible and measurable commitment to an efficient and rational use of energy, that contributes to maximize the economic value of the extracted hydrocarbons that are transformed and delivered to the market.

PRINCIPLES OF 2017 SUSTAINABILITY REPORT

The 2017 Sustainability Report of Petróleos Mexicanos presents the most relevant actions and programs results of the fiscal year 2017 on environmental, safety, social, economic and the results of Pemex Corporativo and its Subsidiary Productive Companies (EPS, by its acronym in Spanish), being these: Pemex Exploración y Producción (exploration and production), Pemex Perforación y Servicios (drilling and services), Pemex Transformación Industrial (industrial transformation), Pemex Logística (logistics), Pemex Etileno (ethylene) and Pemex Fertilizantes (fertilizers).

For the eighteenth consecutive year, the report is aligned to the guidelines of our Business Plan and our commitment to the ten Principles of the United Nations Global Compact (www.unglobalcompact.org) as well as to the Sustainable Development Goals (<http://www.undp.org/content/undp/es/home/sustainable-development-goals.html>).

The report was prepared in accordance with the *Oil and gas industry guidance on voluntary sustainability reporting* IPIECA/API/IOGP¹, prepared by the International Petroleum Industry Environmental Conservation Association (IPIECA), the American Petroleum Institute (API) and the International Association of Oil and Gas Producers (IOGP).

BUSINESS PLAN AND SUSTAINABILITY AT PETRÓLEOS MEXICANOS

The 2017-2021 Business Plan is the guideline of our operations and it includes sustainability goals which are mentioned as follow.

- Reduce by 25% the carbon dioxide equivalent (CO₂e) emissions by 2021. This is based on various actions such as:
 - Boost cogeneration projects in various process centers.
 - Reduce gas burning in assets located in shallow waters by rehabilitating compression modules.
 - Optimize energy performance in refineries.
- Increase water reuse by more than 60% by 2021.
- Integration of the ecological corridor "JATUSA" (around 2,500 hectares): Jaguarundi and Tuzandépetl parks, as well as the Swamp of Santa Alejandrina.
- Strengthening our ecosystem restoration, management and conservation programs in the Centla swamps and critical areas of Tabasco.

Furthermore, our company has implemented transversal strategies in areas such as environmental protection, social investment and industrial health and safety, which are fundamental tools to progress towards a more sustainable operation.

STAKEHOLDERS

We identify stakeholders as individuals or groups of individuals with a relationship in the economic, social and/or environmental aspects of our company. Stakeholders are individuals or organizations who can influence or be influenced by our operations or activities.

In order to strengthen relations with our communities and social and political actors, under a decentralized scheme, the needs of stakeholders are met through our representative areas. These areas cover the states where Pemex is located, enabling a direct promotion of our collaborative programs with some of our stakeholders.

The main stakeholders of the company are located in 12 states which, due to their intensive oil activity, represent a high priority for Petróleos Mexicanos, these states are Campeche, Coahuila, Chiapas, Guanajuato, Hidalgo, Nuevo León, Oaxaca, Puebla, San Luis Potosí, Tabasco, Tamaulipas and Veracruz.

Pemex encourages communication with suppliers and contractors through a section in our web portal developed exclusively for them. These includes information on procurement procedures, supplier relationships and procurement strategies (http://www.pemex.com/en/procurement/supplier_relationships/Paginas/default.aspx).

The company also maintains communication with its employees through institutional instruments such as the intranet, the "Orgullo Petrolero" magazine, Pemex TV, corporate emails and posters,

¹<http://www.ipieca.org/resources/good-practice/oil-and-gas-industry-guidance-on-voluntary-sustainability-reporting-3rd-edition/>

among other communication channels. In the same way, the periodic review of the collective labor agreement is another opportunity to strengthen communication between workers and senior management positions.

In order to maintain a fluid communication with public opinion, Pemex constantly issues news bulletins about relevant topics of our company, and our officials participate in public events and media to disseminate information of interest to our stakeholders.

Finally, the company interacts with authorities and regulators through different institutional mechanisms to inform about its operations. At Pemex we hold continuous communication with our stakeholders.



ORGANIZATIONS AND ASSOCIATIONS

We participate in organizations associated to sustainability, such as the following.

- United Nations Global Compact.
- International Petroleum Industry Environmental Conservation Association (IPIECA).
- Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America and the Caribbean (ARPEL, by its acronym in Spanish).
- National Oil and Gas Industry Association (AMEXHI).
- CESPEDS/World Business Council for Sustainable Development CHAPTER Mexico.

CONTACT

For Petróleos Mexicanos your point of view is important, if you have any questions about the information disclosed please contact us.

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PRECAUTIONARY PRINCIPLE

Pemex applies the precautionary principle as a result of being a high risk- and capital-intensive industry, with significant influence on the country's economy and its close relationship with different social and environmental actors.

Compliance with this principle is supported by the legal and fiscal regulations that provides guidance on the company operations about the different provisions and procedures issued by the regulatory agents of the sector; as well as the multiple actions and mechanisms implemented by the company in order to manage different financial, environmental and safety risks, among others.

ENVIRONMENTAL PERFORMANCE

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At Petróleos Mexicanos we aim to continuously improve our environmental performance based on the efficient use of energy and water resources while minimizing the impacts and effects that our operations may cause to human health and ecosystems where we carry out our activities. We are driven by social and environmental impact assessments, applying best environmental practices as possible.

Through external environmental audits, we ensure that our business lines comply with legal and other environmental requirements that enable a greater eco-efficiency in hydrocarbon exploitation and transformation processes. In the same way, the response plans to environmental emergencies are evaluated, decreasing the likelihood of accidents with adverse impacts to the environment.

By the end of 2017, 286 facilities were registered in the National Environmental Audit Program, 167 of them currently hold Clean Industry certificates and 119 are performing the certification process.

Our 2017-2021 Business Plan includes initiatives for environmental protection and sustainable development that establish three goals: to reduce CO₂ equivalent emissions by 25%; to increase reuse of water by 60%, with the objective to have a greater volume of fresh water for consumption of nearby communities; and to implement initiatives for conservation and restoration of ecosystems.

We have structured this chapter according to our material items. In 2017, climate change, energy and air quality were issues that gained greater relevance. However, environmental impacts at local level remain materially consistent from year to year. Aspects such as water use, wastewater discharge, air pollutant emissions, spills, waste management and environmental liabilities continue to be reported as an important part of our environmental performance.

CLIMATE CHANGE AND ENERGY

“Climate change effects present challenges that today imply an additional risk to our operational continuity.

Specific mitigation actions and strengthening of our adaptation capacities can face this challenge”.

Luis Fernando Betancourt Sánchez

Sustainable Development and Safety,
Occupational Health and Environmental
Protection Underdirector

At Pemex, we acknowledge the challenge of maintaining the global average temperature increase below 2 °C, as well as the important role played by the oil and gas industry in both reducing greenhouse gas (GHG) emissions and supplying cleaner fuels, with a lower carbon footprint.

We are aware that, if strong decisive actions are not carried out, climate change will increase the probability of serious, extensive and irreversible impacts on human, natural and economic systems; including damages to the strategic infrastructure of the energy sector. The mitigation actions and adjustments that we implement today, will allow us to change the opinion currently perceived about the restrictions of the sector to perform in a low carbon scenario.

The company's efforts to mitigate climate change are mainly focused on the following action lines

included in the 2017-2021 Petróleos Mexicanos' Business Plan:

- Implementation of Energy Management Systems to improve energy efficiency of facilities and to reduce the amount of fuels used.
- Projects development for utilization of associated natural gas to reduce gas flaring emissions.
- Fuel switching to replace residual fuel oil by natural gas in direct fire heaters and boilers, mainly in Salina Cruz Refinery.
- Cogeneration projects development.

Additionally, we participate in following the Carbon Capture, Use and Storage Technology Roadmap of Mexico, through a pilot project with two phases, designed to evaluate the feasibility of using the CO₂ generated in the ammonia production plants at Cosoleacaque Petrochemical Complex and to



inject it to Brillante oil field which belongs to the Production Asset Block S04 (formerly known as Cinco Presidentes). As a result, vented emission reductions are expected and enhance oil recovery. Towards the end of 2017, the required environmental and social safeguards were met, which will allow us to receive funding from the World Bank to begin the first phase of the pilot test.

We also participate in the Carbon Market simulation exercise carried out by the federal government in collaboration with the Mexican Stock Exchange to establish the criteria that will govern the voluntary emissions trading system that the Ministry of Environment and Natural Resources (SEMARNAT, by its acronym in Spanish) is planning in order to promote emission reductions that can be carried out at the lowest possible cost with a measurable, reportable and verifiable approach.

Finally, at Pemex we understand that climate change is a global threat and that greenhouse gas emissions (including CO₂ and short-lived climate pollutants) reduction is the main driver to contribute to the solution. Sustainable mitigation actions coordinated and executed in a transversal manner, generate synergistic impacts in order to actively participate in alliances and global initiatives with other actors in the oil and gas sector, such as the following:

Global Methane Initiative (GMI)



to reduce global methane emissions and promote natural gas usage as a low-carbon energy source.

GMI brings together governments, non-government organizations and the private sector to provide technical support, develop policies and exchange information

Pemex co-chairs the GMI Oil and Gas Subcommittee, where profitably methane emissions reductions are discussed in the oil and gas sector considering new technologies.

Climate & Clean Air Coalition (CCAC)



At the end of 2014, Pemex joined the CCAC, led by the United Nations Environment Program. This global effort aims to improve air quality and protect the climate and focuses on short-lived climate pollutants (methane and black carbon) emissions reductions. In 2017, a methane emissions surveys of nine key sources considered by the CCAC were carried out in three Pemex facilities (a Gas Processing Complex - GPC, a separation battery, and a production platform). Pemex personnel were trained through a workshop where around 80 people participated. These activities were executed with the support of a CCAC advisor and GMI sponsorship.

Oil and Gas Climate Initiative (OGCI)



Pemex maintains a close collaboration with other companies in the sector through the OGCI, an initiative led by the CEOs of ten international oil and gas companies that represent 20% of the world's oil and gas production. Through this initiative, it has been possible to reduce nearly a quarter of the total emissions contributed by its members in the last ten years. The OGCI has endorsed its commitment to the direction established by the Paris Agreement, supporting its global action agenda and recognizing the urgency for action¹. This initiative focuss on four priority

areas: reducing methane emissions; accelerating the deployment of carbon capture, use and storage; improving energy efficiency and contributing to efficiency in transport.

Assistance from the Government of Canada



The government of Canada through Environment and Climate Change Canada (ECCC) and Natural Resources Canada (NRCan) has been a strategic partner for Pemex.

The Bilateral Mexico-Canada Initiative to reduce GHG emissions in the oil and gas sector for the period 2017-2021 pursuits the following collaboration objectives:

- Identify cost-effective opportunities to reduce emissions.
- Strengthen the monitoring, reporting and verification (MRV) of emission reduction through robust and transparent systems and methodologies, based on best international practices.
- Analyze the development of economic and financial instruments, as well as participation mechanisms to promote investment for emission reduction projects.

¹ OGCI 2017, Catalyst for Change, collaborating to realize the energy transition. A report from the Oil and Gas Climate Initiative. October 2017.

E1: EMISSION COMPOUNDS AND GREENHOUSE GASES

Pemex operates under an Industrial Safety Information and Environmental Protection System (SISPA, by its acronym in Spanish), an institutional tool to record and process information on industrial safety and environmental protection. Through the SISPA system, estimations of direct gas emissions and greenhouse gas (GHG) are calculated, considering the following:

- AP-42 "Compilation of Air Pollutant Emission Factors". Published factors and methodologies by the Environmental Protection Agency of the United States (US EPA) are used.
- Flare efficiency values considered are lower than those suggested by the Intergovernmental Panel on Climate Change (IPCC)².
- Methane global warming potential (GWP) for one hundred years used in the SISPA system is 21, however, the IPCC has increased this value first to 25 and then to 28 in the Fifth Evaluation Report (AR5).

Guidelines for the integration and reporting of the emissions of greenhouse gases and compounds are established in the Regulations of the General

Law on Climate Change on the National Emissions Registry, published in 2014. The main guidelines are the following:

- Reports must be submitted to the Ministry of Environment and Natural Resources (SEMARNAT by its acronym in Spanish) through Section VI of the Annual Operation Card (COA by its acronym in Spanish).
- Emissions estimations are calculated based on the Intergovernmental Panel on Climate Change guidelines or alternative methodologies recognized by SEMARNAT.
- Annual inventories are verified by accredited and approved organizations.

During 2017, Pemex verified 33 Annual Operation Cards (COA, by its acronym in Spanish) related to emission inventories for 2016. The verified cards corresponded to facilities with emissions of over one million tons of CO₂e. During 2018, the emissions inventory generated in 2017 will be verified for facilities whose emission exceeds one hundred thousand tons of CO₂e. The emissions inventories

reported through the COA were calculated using the global warming potential published in the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC).

According to the National Emissions Inventory on Greenhouse Gases and Compounds of Mexico, the oil and gas sector contributed with 11% of the total emissions in year 2015.

Reducing emissions inventory uncertainty, facilitates compliance accountability with respect to established reduction goals. An improvement process is underway to align calculation methodologies requirements with environmental authorities, as well as to have a better estimation of venting and other fugitive emissions.



² A 71% flare efficiency is considered whereas the IPCC suggest a 98% flare efficiency.

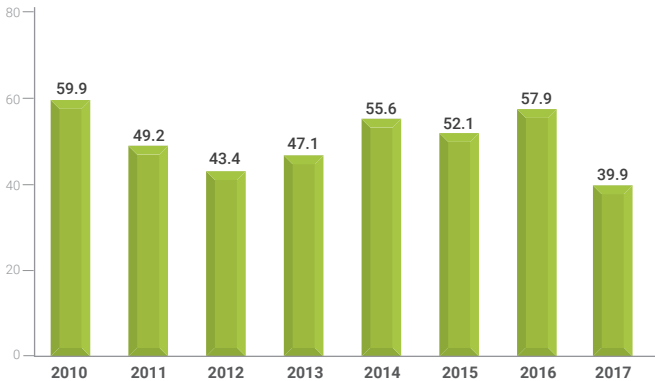


Direct emissions of greenhouse gases (C1)

During 2017, total direct greenhouse gases emissions were 39.9 million tons of carbon dioxide equivalent (MMt CO₂e)³, representing a 31.1% decrement compared to 2016. This reduction is mainly due to the implementation of a 2016-2019 Strategic Plan for Gas Utilization, which considers the execution of gas exploitation and management projects in compliance with National Hydrocarbons Commission dispositions.

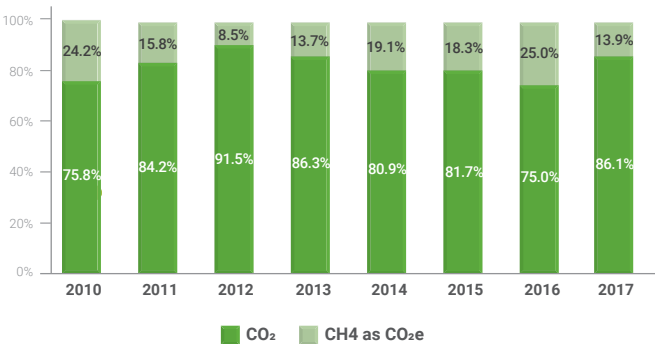
-31%
CO₂e
emissions

CO₂e (MMt) emissions



It is estimated that 86.1% of the total greenhouse gases direct emissions correspond to carbon dioxide and the rest to methane.

Emission distribution (%)



³ Carbon dioxide equivalent emissions estimates shown throughout this document, consider a a global warming potential of 21 for methane and a flare efficiency of 71%.

66.3% (11.4 MMtCO₂e) of these emissions were generated by fuel consumption in stationary equipment (boilers, direct-fired heaters and gas turbines, among others), while 28.6% (26.4 MMtCO₂e) is related to gas flared and the rest corresponds to venting and other fugitive emissions (2.1 MMtCO₂e) **(O1)**.

Electricity is not exported, so there are no direct greenhouse gases emissions associated with this activity. **(O4)**.

Greenhouse gases direct emissions from facilities in which the company has ownership but does not hold operational control are not accounted for. **(S1)**.

Indirect emissions of greenhouse gases (C2)

Indirect emissions related to electricity imports were estimated as 1,160.4 thousand tons of carbon dioxide (Mt CO₂), considering an emission factor of 0.582 tons of CO₂ per MWh corresponding to the one published for the National Grid System (SEN, for its acronym un Spanish) by the

Energy Regulatory Commission (CRE, for its acronym un Spanish).

Regarding indirect emissions related to steam imports, the estimated value was 64.7 thousand tons of carbon dioxide equivalent (Mt CO₂e), considering a 0.0094 tons of CO₂ per ton of steam factor, corresponding to Nuevo Pemex cogeneration plant performance during 2017⁴.

	Steam Imports (Mt)	Emissions (MtCO ₂)
Petroleum refining	2,102.8	19.8
Gas process	4,779.3	44.9
Total	6,882.1	64.7

The total indirect emissions from energy imports were 1.2 MMtCO₂e, which accounted for 3.1% of the direct emissions registered in 2017.

Indirect emissions related to the consumption of products, that Pemex supply to the market, are not accounted for, however, the volumes of these products are provided to enable stakeholders to estimate emissions using their preferred methodology **(S2)**.

	Electric energy imports (MWh)	Emissions (MtCO ₂)
Pemex Corporativo	42,259	24.6
Pemex Etileno	-76,956	-44.8
Pemex Exploración y Producción	121,210	70.5
Pemex Fertilizantes	88,377	51.4
Pemex Logística	395,166	230.0
Pemex Perforación y Servicios	0	0.0
Pemex Transformación Industrial	1,423,768	828.6
Total	1,993,824	1,160.4

*There were considered only about 90% of the records regarding electric power imports and their equivalence in Mt CO₂e. Continuing work is being done on the inclusion of these records.

Product	Volume
Crude oil	1,174.0 Mbd
Oil	1,517.8 Mbd
Dry natural gas	2,624.8 MMpcd
Liquefied gas	175.5 Mbd
Petrochemical	3,960.1 Mt

Volume and intensity of greenhouse gas emissions for each business line (C3)

From the total direct emissions of greenhouse gases registered in 2017, 52.0% were generated as a result of industrial transformation processes (gas processing, oil refining and production of petrochemicals including ethylene and ammonia), 43.1% were generated by exploration and production processes (including drilling services), and the rest by storage and distribution and administrative activities.



⁴ Other GHG are considered not to be significant.

	CO ₂ (Mt)		CH ₄ as CO ₂ e (Mt)		CO ₂ e total (Mt)	
	2016	2017	2016	2017	2016	2017
Pemex Corporativo	4.0	4.0	0.0	0.0	4.0	4.0
Pemex Etileno	1,550.0	3,069.0	0.8	1.5	1,550.8	3,070.5
Pemex Exploración y Producción	20,005.0	12,498.0	13,486.7	4,478.8	33,491.7	16,976.8
Pemex Fertilizantes	1,156.0	1,342.0	0.2	0.3	1,156.2	1,342.3
Pemex Logística	972.0	1,879.0	41.5	43.2	1,013.5	1,922.2
Pemex Perforación y Servicios	324.0	229.0	0.1	0.0	324.1	229.0
Pemex Transformación Industrial	19,379.0	15,331.0	964.1	1,003.4	20,343.1	16,334.4
Total	43,390.0	34,352.0	14,493.4	5,527.3	57,883.4	39,879.3

The emission intensity indexes for the main processes are presented in the following table.

Year	Substantive activity		Total emissions		Emissions intensity	
2016	Oil and gas exploration and production	1,111.55	MMbpce*	33.50	MMt CO ₂ e	30.14 t CO ₂ e / Mbpce
2017		999.33	MMbpce	17.00 ¹	MMt CO ₂ e	17.01 t CO ₂ e / Mbpce
2016	Refining of crude oil	341.50	MMb	13.60	MMt CO ₂ e	39.82 t CO ₂ e / Mb
2017		279.95	MMb	11.40	MMt CO ₂ e	40.72 t CO ₂ e / Mb
2016	Gas processing	1,351.71	MMMpc**	4.28	MMt CO ₂ e	3.17 t CO ₂ e / MMpc
2017		1,187.35	MMMpc	4.60	MMt CO ₂ e	3.87 t CO ₂ e / MMpc
2016	Petrochemical production ²	2.70	MMt	5.20	MMt CO ₂ e	1.93 t CO ₂ e / t
2017			MMt	4.80	MMt CO ₂ e	2.10 t CO ₂ e / t

¹ Does not include the PEP facilities that in 2017 were transferred to Pemex Logística.

² It considers the Coatzacoalcos, Independencia, Morelos, Cangrejera and Cosoleacaque Petrochemical Facilities.

* Millions of barrels of crude oil equivalent.

** Billions of cubic feet.

The emission intensity index for the oil and gas exploration and production process decreased by 43.6% compared to 2016. The remaining processes observed an increase in the index mainly due to the low utilization of the processing installed capacity.

-43.6%
intensity of
GHG emissions
in PEP

E2: ENERGY MANAGEMENT

In 2015, Pemex issued an Energy Policy, demonstrating a visible and measurable commitment to the efficient and rational use of energy that contributes to maximize the economic value of the hydrocarbons that we extract, transform and deliver to the market. Among the commitments stated in this policy, the following are highlighted:

- Standardize procedures and processes that enable the improvement of energy performance through good practices.
- Obtain products that meet the customers' requirements and optimize the use and consumption of energy during its production process.
- Promote the culture of energy saving through training and awareness throughout the organization.

The strategy adopted to improve the energy performance at Pemex facilities is the implementation of Energy Management Systems (EMS) in accordance with the international standard ISO 50001.

This strategy began in 2014 with the implementation of the EMS in the gas processing centers and in some storage and distribution terminals for oil, liquefied gas and petrochemicals.

Between 2015 and 2016, pilot projects were carried out for the implementation of the EMS in the six refineries of the National Refining System with the assistance of the Danish Energy Agency under the framework of a collaboration program between the governments of Mexico and Denmark.

In 2017 the EMS was implemented in all the facilities that are part of the Cadereyta Refinery, considering primary energy (fuels).

Total energy consumption (C1)

The total energy consumption during 2017 was 587.3 Petajoules (PJ) and its distribution by Subsidiary Productive Company is presented as follows:

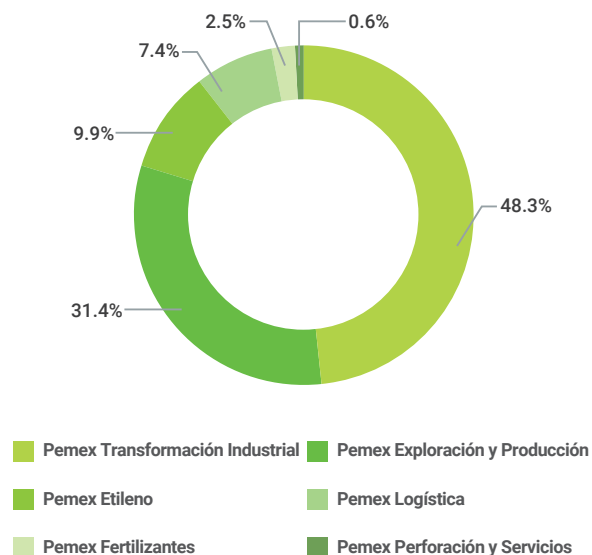
Business Line	Energy consumption (PJ)
Pemex Exploración y Producción	184.2
Pemex Transformación Industrial	283.5
Pemex Etileno	58.2
Pemex Fertilizantes	14.7
Pemex Perforación y Servicios	3.4
Pemex Logística	43.3
Total	587.3

Exported electricity (S1)

The total amount of energy used to produce and export electricity through 2017 was 2.1 PJ and its distribution by business line is shown below:

Business Line	Primary Exported Energy (PJ)
Pemex Perforación y Servicios	-
Pemex Exploración y Producción	0.9
Pemex Transformación Industrial	0.9
Pemex Etileno	-
Pemex Fertilizantes	-
Pemex Logística	0.3
Total	2.1

Energy consumption



Intensity of energy consumption (S2, O1⁵)

Year	Substantial activity			Energy consumption		Energy consumption intensity	
2016	Oil and gas exploration and production	1.11	MMbhpce*	189.08	PJ	170.34	GJ / Mbpce
2017		1.00	MMbhpce	184.24 ¹	PJ	184.24	GJ / Mbpce
2016	Refining of crude oil	341.50	MMb	237.40	PJ	695.17	GJ / Mb
2017		279.95	MMb	205.64	PJ	734.56	GJ / Mb
2016	Gas processing	1,351.71	MMMpc**	72.63	PJ	53.73	GJ / MMpc
2017		1,187.35	MMMpc	69.79	PJ	58.78	GJ / MMpc
2016	Petrochemical production ²	2.70	MMt	88.52	PJ	32.79	GJ / t
2017		2.29	MMt	80.99	PJ	35.37	GJ / t

¹ PEP facilities are not included given that they were transferred to Pemex Logística in 2017.

² It includes the Coatzacoalcos, Independencia, Morelos, Cangrejera and Cosoleacaque Petrochemical Facilities.

* Billions of barrels of crude oil equivalent.

** Billions of cubic feet.

In general, the energy consumption intensity index increased between 5% and 9% compared to 2016, mainly due to the decrease in hydrocarbon production volume and process, which was not necessarily related to a proportional decrease in energy consumption.

Initiatives to improve energy performance (S3)

To improve energy performance, the following actions have been performed:

- Operational windows were established in the main processing plants of the refineries as well as in the storage and dispatch terminals of the Pacific Region, for better monitoring and control of the equipment. Based on this initiative, significant energy benefits were obtained at the Cadereyta Refinery.
- To improve efficiency and create synergies with the operations of the Federal Electricity Commission (CFE, by its acronym in Spanish), an external cogeneration project between CFE and the Salamanca Refinery was developed, starting on 2017. Cogeneration is operating with stability and it is expected to formalize a long-term service contract between CFE and Pemex, as well as to evaluate the greenhouse gas emissions reductions associated with stopping operating boilers with low efficiency technologies and by suggesting new cogeneration schemes.
- Gas processing Facilities maintained ISO 50001 certification. The certification of the Independencia Petrochemical Complex located in San Martín Texmelucan and the Aromatics Train located at the Coatzacoalcos Gas and Petrochemicals Processing Center were obtained for the first time.

- In liquefied gas and petrochemical distribution terminals, ISO 50001 recertification was achieved as a result of energy performance improvement on the main electrical and thermal equipment through the implementation of predictive maintenance.

CPQ
Independencia
is granted with the
ISO 50001
certification

E3: ALTERNATIVE OR RENEWABLE ENERGY

The company has not yet explored the possibilities regarding alternative energy use on its intensive exploration, production, processing and distribution operations.

However, in offshore installations, signaling systems for navigation aid and fog signals from offshore platforms are powered by photovoltaic solar modules and battery banks, in some cases, these energy sources are used for monitoring and remote control of surveillance systems on peripheral or uninhabited platforms.

⁵ Year 2016 is use as a reference to evaluate progress on energy consumption intensity.



E4: GAS FLARING

Gas flaring in exploration and production activities is mainly due to limitations in the infrastructure to achieve the full utilization of nitrogen as pneumatic pumping gas and the operation of safety systems to relieve the pressure on wells in normal operations. Non-routinely flaring is caused by preventive or corrective maintenance and by unscheduled idle time caused by incidents or failure in compression equipment (O3). As a general practice, vented gases are sent to flares (O5).

In 2017, the volume of hydrocarbon gas sent to flares in exploration and production processes accounted for 78.6 MMcf, decreasing by 57.9% compared to the value registered in 2016 (C1).

Of the total volume of hydrocarbon gas sent to flares, 76.2% is generated in facilities located in the Sonda de Campeche in the Gulf of Mexico (offshore), 16.8% in land facilities in the northeast of the country and the remaining 7.0% in land facilities of the southeast of the country. (O2).

The volume of greenhouse gas emissions generated by the shipment of gas to flares during 2017 was 11.4 MMt million tons of carbon dioxide equivalent (MMt CO₂e), which implies a reduction of 56.8% compared to those registered during 2016.

CO₂e emissions (MMt)

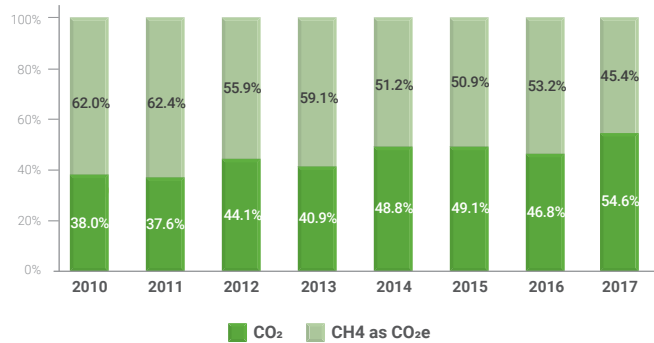


Regarding the distribution of gas emitted by type, 54.6% of the emissions correspond to carbon dioxide and the rest to methane as carbon dioxide equivalent.

-57.9%
volume of gas
sent to vent in exploration
and production activities

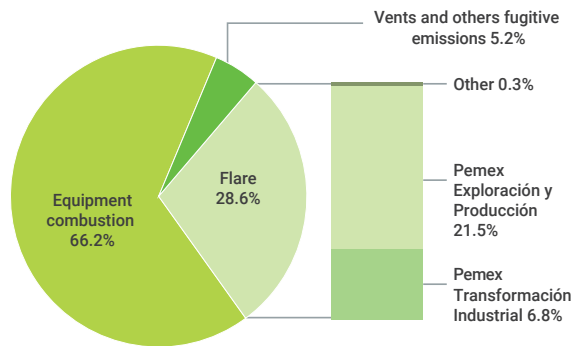
-15
MMtCO₂e
due to reduction of gas
sent to vent in Pemex

Distribution by type of gas



In 2017, the volume of emissions from gas delivery to flares accounted for 28.6% of total emissions, being the second highest after the emissions generated by fuels burning in working equipment (01).

Emissions by category (MMtCO₂e)



Pemex Exploración y Producción accounted for 75.3% of the total amount of these emissions, followed by Pemex Transformación Industrial with 23.7% of emissions (S1).

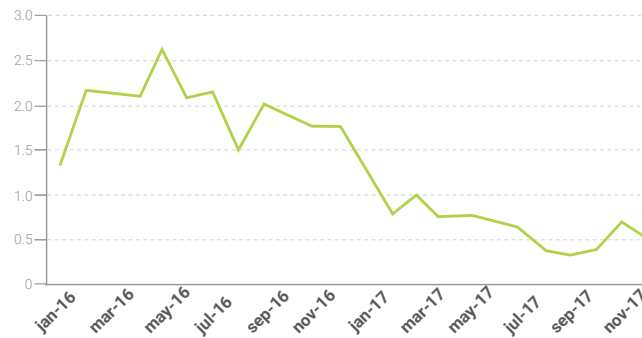
Business Line	Flare emissions (tCO ₂ e)	
	2016	2017
Pemex Etileno	7,274	18,567
Pemex Exploración y Producción	23,835,402	8,569,142
Pemex Logística	712	90,938
Pemex Transformación Industrial	2,541,203	2,700,852
Total	26,384,591	11,379,499

Pemex Transformación Industrial increased 6.3% the emissions associated with flares, compared to 2016, due to the ceased of operations on process plants in the Minatitlán, Salina Cruz and Madero refineries.

On the other hand, emissions from Pemex Exploración y Producción decreased 64.0%, mainly due to the implementation of the Strategic Plan for the Use of Gas 2016-2019, which aims to increase the use of natural gas up to 98%.

The following chart shows the behavior of greenhouse gas emissions since the implementation of this plan.

Pemex Exploración y Producción emissions (MMtCO₂e)

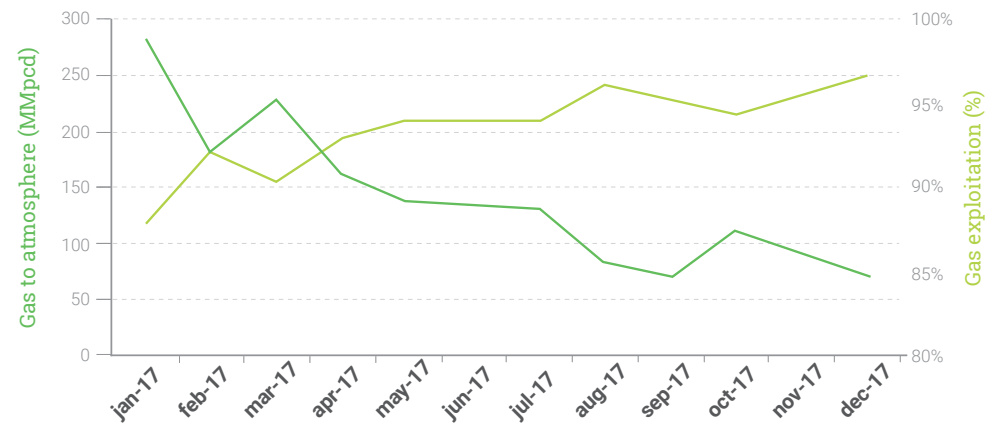


FLARE REDUCTION IN SHALLOW WATER AS-01 (O4)

With the implementation of the Strategic Plan for the exploitation of Gas 2016-2019 in the Sub-Directorate of Production Blocks Shallow Water AS-01, the volume of gas sent to flares during 2017 was reduced 74.8%, from 282.8 MMcfd in the month of January to 71.1 MMcfd in the month of December, with a gas utilization rate of 96.6% and emissions reduction of 811.6 MtCO₂e. The main projects implemented as part of this plan were:

- Start-up of the KMZ-76 gas pipeline that provides greater operational flexibility in gas management and utilization (April, 2017).
- Replacement of pneumatic pumping for electro-centrifugal pumping (ECP) as an artificial production system, which enables to handle a greater volume of gas produced (May-June, 2017).
- Submarine interconnection KMZ-94, which enables operational flexibility and greater use of gas (July, 2017).

Gas to the atmosphere by the SPBAS
AS01



BIODIVERSITY

Mexico is considered a megadiverse country due to its privileged geographic location.

The biological inventory of Mexico is very extensive and positions us as one of the two countries with the greatest number of ecosystems and among the five regions with the greatest diversity of species in the world.

12% of the world's biota is concentrated mostly in the humid tropics.¹

E5: BIODIVERSITY AND ECOSYSTEM SERVICES

In Pemex we are aware of the responsibility of being a mega-diverse country, hence the conservation of biodiversity is key to the sustainability of the company (Environmental Protection Strategy, 2016-2020). We aim to support the availability of useful environmental services for our operation, to strengthen the social license to operate from a comprehensive approach (which considers social and environmental aspects) in areas of ecological importance, and to contribute to the conservation of the country's ecosystems.

The Business Plan of Petróleos Mexicanos 2017-2021 includes the execution of initiatives for the conservation and restoration of ecosystems based on two lines of action:

- Integration of the Jaguaroundi and Tuzandépetl parks and the Santa Alejandrina wet lands through the JATUSA ecological corridor.

- Strengthening management, restoration and conservation programs for ecosystems in the wet lands of Centla and sensitive areas of Tabasco.

Pemex is at the forefront of biodiversity conservation and restoration by providing support to projects that have enabled not only to preserve national natural ecosystems, but also to contribute to the territorial organization of their environment and to offer productive alternatives to livestock and agricultural activities that may affect and erode ecosystems as well as negatively impact biodiversity.

Based on the above, we aim to preserve environmental services for the industry and for the community in which it is immersed (C1).



¹ CONABIO. 2006. Natural Capital and Social Welfare. National Commission for the Use and Knowledge of Biodiversity, Mexico.

Ecological corridor JATUSA (S1, S3, S5)

The loss of ecosystems due to the changing processes of land use and fragmentation has brought important transformations in the distribution and spatial configuration of native habitats in such a way that the quantity and quality of available habitat in the natural communities of flora and fauna is increasingly restricted given that natural spaces are gradually fragmented every day².

Something similar happens in the state of Veracruz. The municipalities of Coatzacoalcos, Nanchital and Ixhuatlán from South East are characterized for being located in a highly biodiverse area of tropical ecosystems and are facing an aggressive industrial, agricultural and urban development that has led to deforestation and the change of land use in the area.

The original vegetation has been reduced to isolated patches, without biological connectivity between them, causing an "islands of vegetation" effect and breaking with the continuity of the ecosystems. This consistently affects the environmental services that ecosystems provide and that are required not only in towns and urban centers, but also in the industry that operates in the area.

The conservation of vegetation patches, as well as the connectivity between them, enables the continuity of ecological processes and consequently the environmental services that these provide.

Aware of the importance of mitigating this situation, a design of a socio-environmental corridor called the JATUSA Ecological Corridor was proposed. It consists of an area of approximately 2,400 hectares that includes the Jaguaroundi and Tuzandépetl ecological parks and the Santa Alejandrina wet lands, in the Coatzacoalcos region, at Veracruz.

Biological corridors are a way to protect biodiversity and offset the adverse effects of fragmentation in order to connect patches of vegetation, species and ecosystems that enable the continuity in the biological processes that have been affected.

The JATUSA Ecological Corridor will represent a great conservation effort in an area highly impacted by the change of land use and industrial activity, which makes it a jewel for the conservation of regional biodiversity. In addition, it will provide environmental services such as:

- Carbon capture;
- Control of hydrological cycles and related reduction of floods and droughts probability;
- Protection of coastal areas from the effects of climate change;
- Benefit agricultural activities by enabling the existence of pollinators and dispersers of seeds; and
- Conservation of biodiversity.



Between 2016 and 2017, a study was developed for the design of the corridor with the specific objective of determining areas of structural, functional and social connectivity through the analysis of spatial information and the use of specific tools for the determination of socio-environmental corridors.

The tool used consists of three modules. In the first module, layers of information of the study area and focal species are selected; in the second module, an habitat model is created by species or group and a map of patches is created; finally, in the third module, the corridor is designed, obtaining a vector layer with the biological connectors that link the patches.

As a result of this study, nine unified patches or connectors were identified among spots that would integrate the total corridor. The proposed design considers eight species of birds, five species of medium carnivores, eleven species of bats, two species of primates and the wet lands crocodile.



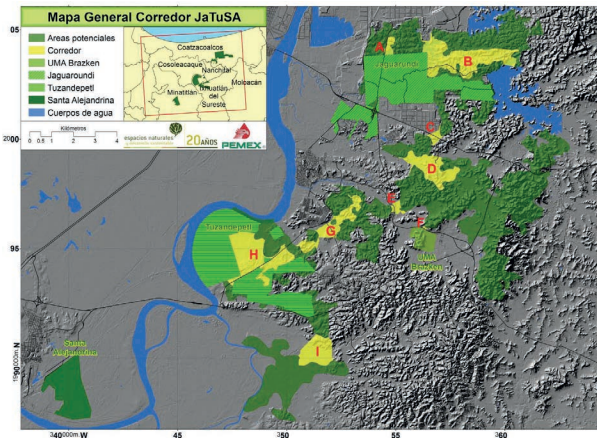
²Lander, A. T, D.H. Boshier and S. A. Harris. 2010. Fragmented but not isolated: Contribution of single trees, small patches and long distance pollen flow to genetic connectivity for Gomortega keule, an endangered Chilean tree. Biological Conservation 143(11): 2583-2590.

The area of the Santa Alejandrina Wet lands, although it appears to be an isolated site, is connected by the Coatzacoalcos River. The rivers transport branches and trunks through which mammals and reptiles move from one place to another; the birds and the flying mammals use them as points to quench their thirst and they occasionally use the trunks and floating vegetation to transport or rest on it.

It is necessary to carry out complementary monitoring studies since the records of fauna available are very old and nowadays they are located within transformed areas. This will serve to observe their behavior upon transformation scenarios and landscape fragmentation, which will support the design of strategies for the recovery of habitats and conservation of biodiversity.

It is important to highlight that the implementation stage of the corridor involves working in conjunction with the communities that own the land where the identified connectors are located.

Finally, it should be noted that actions are being executed along with the Mexican Fund for the Conservation of Nature in the implementation of the JATUSA Fund to obtain resources to implement this project.



Jaguaroundi Ecologic Park (S2, S3)

A key space of the JATUSA corridor is the Jaguaroundi Ecologic Park (PEJ for its acronym in Spanish) owned by Pemex, which holds nearly a thousand hectares of vegetation. It is the first certified ecological reserve Area Voluntarily Dedicated to Conservation (ADVOC, by its acronym in Spanish) by the National Commission of Protected Natural Areas.

During 2017, the park received a total of 11,510 visitors. 72 school groups were attended and, according to their age and interests, they were provided with information on 14 different subjects: water and wetlands, biodiversity, successful restoration, environmental enrichment for animals in captivity, ecological agendas, sustainable orchards, herbarium, eco-games, a day in the rain forest, recycled pots, vertical orchards, rain forest masks, elaboration of key rings, and recycled paper.

A total of 10,242 plants of 15 different species were reproduced, 8,154 of them were donated while 3,387 were used for the conservation of 13 hectares in three different patches of lands of the PEJ that had been previously reforested.

Likewise, actions were taken to maintain and improve the conditions of the organisms in captivity. Changes were made in their diets and medical care and follow-up logs were generated for each specimen. New enclosures were made, the existing confinements were adapted, and the food preparation area was improved to ensure the substantial improvement of the physical condition and behavior of the animals in captivity.

Maintenance was provided, and the park signage and museum information were updated. The interactive museum was completely renovated, creating a more suitable open space for large groups provided with relevant and up-to-date information.

PEJ received
11,510
visitors

In the PEJ
10,242
plants
were reproduced

Monitoring of fauna in the Jaguaroundi Ecological Park (S4)

In 2017, a wildlife monitoring study was conducted to generate information for decision-making on management for the conservation of the PEJ.

The purpose of monitoring is to provide information on the impact of certain factors, mainly anthropogenic on the ecosystem and its biodiversity, so that it can be used for decision-making while identifying the necessary actions for the conservation of these areas. The PEJ monitoring design was presented and carried out with a management approach for conservation.

Throughout the project we worked based on a general analysis of the species and factors that could function as biodiversity surrogates (so they could be monitored over time) and operate as indicators of habitat quality to support decision-making regarding the conservation of the PEJ.

A total of 431 days were filmed with five trap cameras, obtaining 1,664 images of fauna inhabiting the PEJ. The effectiveness of the cameras brought between three and four images per day-camera. Some images captured by the trap cameras are shown below.

The records obtained were the following: common opossum (466), guaqueque or serete (316),

peccary collar (242), curassow (230), coatl (9), tropical rabbit (81), ocelot (59), tepezcuintle (42), armadillo (31), rallid (26), buzzard aura (18), ant-eater (16), pigeon thief or coil (14), skunk (6), hui-co-lizard (5), spectacled tlacuache (4), chachalaca (4), tarantula (3), jaguaroundi (3), bat (2) and big hermit colobri (1).

These records indicate that the PEJ continues to be a site that holds high biodiversity of the southern part of the state of Veracruz and reaffirms its importance as a priority site for conservation. In addition to the high evergreen forest, the bent alligator-flag, broadleaf cattail, reed, corozal and wet lands vegetation stand out as highly important ecosystems that must be safeguarded through the execution of conservation actions.

The information of the conducted monitoring, specifically regarding the registration of species, was included in the Naturalist project of the National Commission for the Knowledge and Use of Biodiversity (CONABIO by its acronym in Spanish) and can be addressed at: <http://www.naturalista.mx/projects/parque-ecologico-jaguaroundi-endesu>.

This page also includes the observations made by park visitors and presents 920 records of 352 species.



Anteater (Mexican Tamandua)



Peccary necklace (Pecari tajacu)



Hocofaisan (Crax rubra)

Conservation and sustainable development of the middle basin of the Usumacinta River (S1, S2, S3, S4)



Pemex funds through Natura and Ecosistemas Mexicanos A.C. the Conservation and Sustainable Development project of the Middle Basin of the Usumacinta River destined to protect the upper middle part of the Grijalva/Usumacinta basin in the Lacandon rain forest, in the state of Chiapas.

As part of this project, during 2017, the protection of the ecosystems of the following protected natural areas continued: Montes Azules Biosphere Reserve, Chan-Kin Flora and Fauna Protection Area, Yaxchilán Natural Monument and remnants of ejidos del Marqués de Comillas municipality, as well as surrounding areas of the Lacandon rain forest.

The above was achieved through surveillance and monitoring actions, promoting the application of public programs for the local population and the conservation of the rain forest. We contributed to the conservation of 360,000 hectares of forest where 20% of Mexico's biodiversity is located, enabling the decrease of the deforestation rate of the Marqués de Comillas ejidos involved in the project. The most important actions promoted were the following.

- Evaluation of the conservation status of the natural ecosystems of the Lacandon rain forest and areas of influence, through the con-

tinuous monitoring of species through trap cameras, indicating the health of the ecosystem such as jaguar, tapir, white-lipped boar, temazate deer, jabiru and swamp crocodile.

- Monitoring of the physicochemical characteristics of aquatic ecosystems and the growth of populations of invasive aquatic species of the Lacantún River and its streams, as well as studies of the diversity of aquatic organisms.
- Rescue and protection of the scarlet macaw in the Lacandon rain forest, as well as the rescue of pups at risk, which are treated in captivity and then released.
- Advice in eleven ejidos to manage their participation in the Payment for Environmental Services (PSA, for its acronym in Spanish) program of the National Forestry Commission (CONAFOR, for its acronym in Spanish), and thus achieve the conservation of more than 10,000 hectares of forest in these communities.
- Advice and support for the operation of five social enterprises that enable the management and conservation of their forest.
- Production maintenance in the aquaculture modules of native fish species combined with aquaponics, obtaining with this technique an important increase in the production of agricultural products such as habanero pepper and tomato.

- Restoration actions with the construction of a vivarium, to obtain wetland plants in the Chajul Station.
- Performance of the first "Environmental Festival for the Conservation of Species at Risk".
- Delivery of training to teachers of seven ejidos of Marqués de Comillas in the use of software and media classrooms as an educational complement. Four hundred children were trained on self-management courses through which they are provided with information technologies and cultural topics.
- Support to three young people from the communities with a scholarship to pursue university careers.
- Contribution to the training of more than 50 students (at undergraduate and postgraduate level) and production of 22 scientific publications.

To know more about this project please visit <http://naturamexicana.org.mx/>

La Casa del Agua (water house) "Uyotot Ja" (S2, S3)

La La Casa del Agua "Uyotot Ja" is located in one of the largest wetlands in Mesoamerica, in the Centla Wet Lands Biosphere Reserve in the state of Tabasco.

This is the only Environmental Interpretation Center on wetlands in the Gulf of Mexico, and it is operated by the civil organization Espacio Civil y Desarrollo Sustentable A.C. (ENDESU) in collaboration with the Directorate of the Centla Wet Lands Biosphere



Reserve and based on the financial support provided by Pemex during the last 15 years.

The objective of La Casa del Agua is to form and integrate an active and conscious society regarding the process of restoration, conservation and use of the natural resources of the Centla Wet Lands Biosphere Reserve.

Among other aspects, the importance of the conservation of wetlands is based on the environmental services provided, such as flood control, replacement of groundwater, coastal stabilization and protection against storms, retention and export of sediments and nutrients, water purification, reservoir of biodiversity, areas of reproduction, spawning, rearing and feeding of fresh aquaculture fish and many marine species (around 80% of the

scale species of the fishery production is related to the wetlands of the coastal areas), among others. It is worth mentioning that there are more than 400 oil facilities located in the wetlands of this area.

La Casa del Agua holds exhibition halls, an access pier, a lookout tower, ponds, walkways and an interpretative path, from where it can be observed a natural representation of the flora and fauna that prevails in the region. During 2017, the liberation of pejelagarto fingerlings and native breams was carried out, 18 workshops were delivered to 533 students from basic to higher level. In collaboration with the CONANP (National Commission of Natural Protected Areas), community workshops were held with the participation of 211 leaders from 12 communities of the Centla Wet Lands Biosphere Reserve.

WATER

“In a world where demands for freshwater are ever growing, and where limited water resources are increasingly stressed by over-abstraction, pollution and climate change, neglecting the opportunities arising from improved wastewater management is nothing less than unthinkable”.

The United Nations World Development Report
2017 wastewater: The Untapped Resource

The oil and gas sector is intensive in the use of water in most of its production processes, becoming highly relevant to treat and reuse water to reduce the supply of natural sources and to comply with the required discharge quality.

The average annual availability of water causes strong water stress in the northern, central and northwestern areas of the country and it is likely to be worsened by the effects of climate change, par-

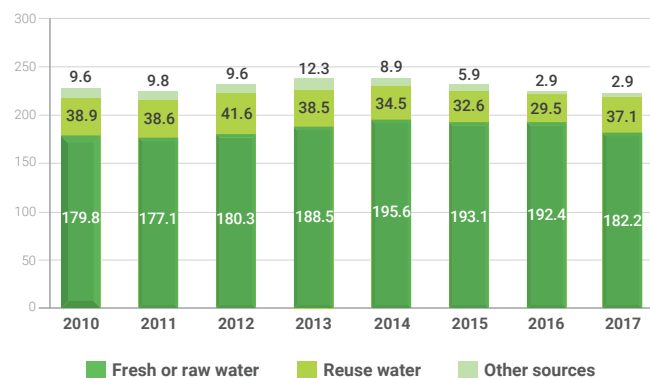
ticularly in arid and semi-arid areas. For this reason, we recognize the importance of this resource and implement actions to increase the reuse or recycling of water in alignment to our Business Plan.

During 2017, the total water supply to Pemex accounted for 222.1 MMm³, from which 182.1 MMm³ corresponds to fresh water (82.0%), 37.1 MMm³ to reused water (16.7%) and 2.9 MMm³ to other sources (1.3%).





Water Supply (MMm³)



The distribution of water supply for each line of business is shown in the following table. Pemex Transformación Industrial accounts for the highest percentage of water (67.4%).

Line of business	Fresh water		Reused water (*)		Other sources		Total supply
	(MMm ³)	(%)	(MMm ³)	(%)	(MMm ³)	(%)	
Pemex Corporativo	0.7	0.4	0.0	0.0	0.4	12.7	1.1
Pemex Etileno	42.6	23.4	0.0	0.0	0.0	0.0	42.6
Pemex Exploración y Producción	1.4	0.8	1.1	2.9	0.6	22.4	3.1
Pemex Fertilizantes	11.1	6.1	0.0	0.0	0.1	4.1	11.2
Pemex Logística	3.5	1.9	0.2	0.7	1.7	57.7	5.4
Pemex Perforación y Servicios	0.0	0.0	0.2	0.7	0.1	2.9	0.3
Pemex Transformación Industrial	122.8	67.4	35.6	95.7	0.0	0.2	158.4
Total	182.1	82%	37.1	17%	2.9	1%	222.1

* Note: Includes seawater supply

E6: FRESH WATER

Fresh water extraction (C1)

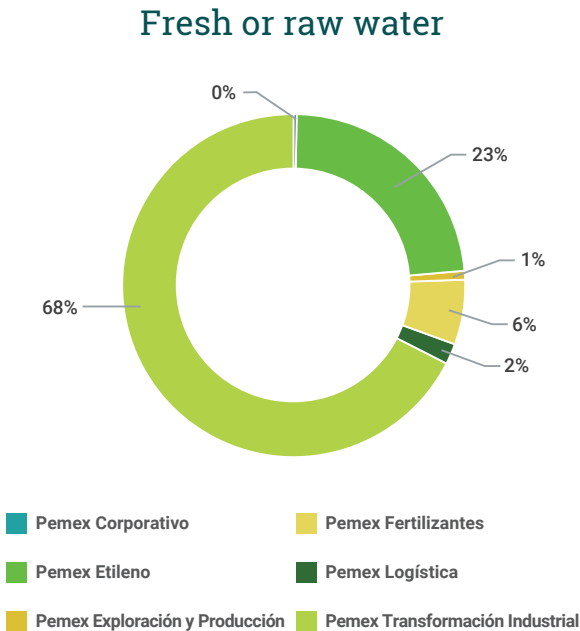
Fresh water, commonly referred to in the company as raw water, is used in productive and administrative activities. This can be extracted from natural sources (whether surface and/or underground) or from the drinking water network.

-8.85
MMm³
 the extraction of
 fresh water
 in the Madero Refinery

The volume of fresh water extracted in 2017 was 182.1 MMm³, which accounts for 82.0% of the total water supply (03). This volume is 10.3 MMm³ (5.4%) lower than that volume registered in 2016 (03).

This decrease was mainly due to a net increase of 25.8% (7.6 MMm³) in the reuse of water that rose from 29.5 MMm³ in 2016 to 37.1 MMm³ in 2017. Specifically, treated municipal water supply to the Madero Refinery reduced by 8.85 MMm³ the extraction volume of fresh water (02).

The distribution of fresh water extracted by each line of business is shown in the following chart.



Intensity of fresh water extraction (S2)

Year	Substantial activity			Fresh water extraction		Fresh water extraction intensity	
2016	Oil and gas exploration and production	1,111.55	MMbpce*	1.41 ¹	MMm ³	1.63	m ³ / Mbpce
2017		999.33	MMbpce	1.81	MMm ³	1.41	m ³ / Mbpce
2016	Refining of crude oil	341.50	MMb	92.68	MMm ³	0.27	m ³ / b
2017		279.95	MMb	84.67	MMm ³	0.30	m ³ / b
2016	Gas processing	1,351.71	MMMpc**	38.11	MMm ³	0.03	m ³ / Mpc
2017		1,187.35	MMMpc	36.56	MMm ³	0.03	m ³ / Mpc
2016	Petrochemical production ²	2.70	MMt	55.93	MMm ³	20.71	m ³ / t
2017			MMt	55.22	MMm ³	24.11	m ³ / t

¹ PEP facilities are not included given that they were transferred to Pemex Logística in 2017.

² It considers the Coatzacoalcas, Independencia, Morelos, Cangrejera and Cosoleacaque Petrochemical Facilities.

* Billions of barrels of crude oil equivalent.

** Billions of cubic feet.

The intensity index of freshwater extraction for exploration and production processes in 2017 was 13.5% lower than the index registered in 2016, this was due to a lower extraction of fresh water in the Production Assets Blocks North and South, as well as to a decreasing use of fresh water in the Security, Ecology and Survival Training Centers (CASES, by its acronym in Spanish).

The intensity index of fresh water extraction in gas processing complexes was maintained in 2017 at the same level of 2016, as both the gas process and the extraction of fresh water were reduced in the same proportion, mainly in the CPG Cactus.

As for petrochemical refining and production processes, freshwater extraction intensity indexes increased by 11% and 16% respectively compared to 2016, due to the fact that the process level was substantially reduced while the extraction volume of fresh water did not decrease in the same proportion.

-13.5%
intensity
of freshwater
extraction in PEP

Percentage of operations located in areas with water scarcity or water stress (S3)

According to the information on average annual water availability of the aquifers published by the Ministry of Environment and Natural Resources in January 2018, 115 of the 653 existing aquifers in the country are considered overexploited since the correlation between extraction and recharge is greater than 1.1.

It is estimated that 20% of Pemex's facilities are located in overexploited areas, mainly in the center and north of the country. It is estimated that 13.80 MMm³ of fresh water are extracted from overexploited aquifers, which is equivalent to 7.6% of the total extraction of fresh water from Pemex in 2017 (04).



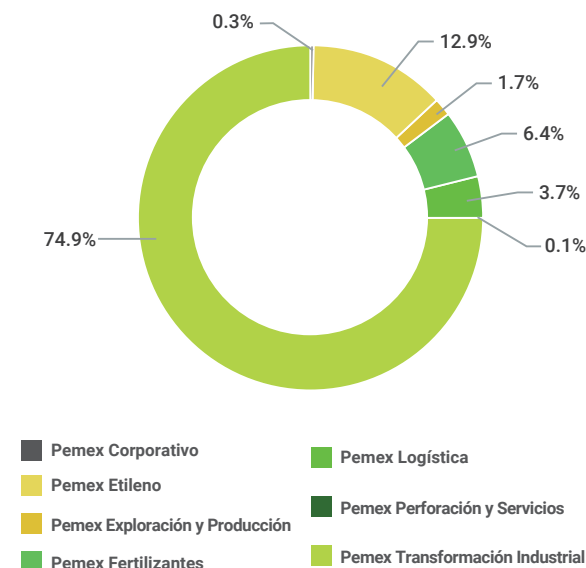
One of the facilities with the highest demand for fresh water in overexploited areas is the Salamanca Refinery, in Guanajuato. In this facility, there is a wastewater treatment plant that treated and reused 4.0 MMm³ of water in 2017, which enabled the reduction of fresh water extraction. Likewise, in the medium term, treatment infrastructure needs to be enhanced in order to increase the volume of treated water and to improve the quality of the discharge to the body of water (06).

Water consumed (C2)

The water consumed is defined as the differential between the total volume of water supplied (including fresh water, reuse water and other sources) and the volume of water discharged (including congenital water re-injected into wells).

It is estimated that in 2017, 141.0 MMm³ of water were consumed, including 17.4 MMm³ of evaporation losses. This is 0.7% lower than the volume registered in 2016. The distribution of water consumption by each line of business is shown in the following chart.

Consumed water



In addition to fresh water, reuse water is used in productive processes and administrative activities. During 2017, 37.1 MMm³ of water were reused, which accounted for 16.7% of the total water supply. From this volume, Pemex Transformación Industrial supplied 35.6 MMm³ (95.7%), Pemex Exploración y Producción supplied 1.1 MMm³ (2.9%), Pemex Logística supplied 0.2 MMm³ (0.7%) and Pemex Perforación y Servicios supplied 0.2 MMm³ (0.7%). Likewise, water was supplied from transfers among Pemex facilities or other companies (07).



Consumption intensity (S1)

Year	Substantial activity			Water consumption		Water consumption intensity	
2016	Oil and gas exploration and production	1,111.55	MMbpce*	2.36 ¹	MMm ³	2.14	m ³ / Mbpce
2017		999.33	MMbpce	2.38	MMm ³	2.36	m ³ / Mbpce
2016	Refining of crude oil	341.5	MMb	80.70	MMm ³	0.24	m ³ / b
2017		279.95	MMb	82.54	MMm ³	0.29	m ³ / b
2016	Gas processing	1,351.71	MMMpc**	20.23	MMm ³	0.01	m ³ / Mpc
2017		1,187.35	MMMpc	22.40	MMm ³	0.02	m ³ / Mpc
2016	Petrochemical Production ²	2.7	MMt	34.25	MMm ³	12.68	m ³ / t
2017			MMt	27.83	MMm ³	12.15	m ³ / t

¹ PEP facilities are not included given that they were transferred to Pemex Logística in 2017.

² It considers the Coatzacoalcos, Independencia, Morelos, Cangrejera and Cosoleacaque Petrochemical Facilities.

* Billions of barrels of crude oil equivalent.

** Billions of cubic feet.

Total water use related to a single stage of cooling water (S4)

The water supplied once used in the productive and administrative processes is treated for reuse or, where appropriate, to be discharged to the bodies of water or the public sewage network, in accordance with the authorization issued by the competent authority for each installation, reintegrating into the environment.

Out of the total water supply (222.1 MMm³), 17.4 MMm³ (8%) were consumed in evaporation processes in cooling towers, 123.9 MMm³ (56%) were consumed in irrigation activities and because of steam leaks, and 80.8 MMm³ (36%) were discharged to receiving water bodies (05), decreasing by 4.2% as compared to the volume of water discharged in 2016.

-4.2%
discharged
volume of water
to receiving bodies

E7: WASTEWATER DISCHARGE

Hydrocarbons in separate congenital water and discharged water in exploration and production processes (C1)

Congenital water refers to the formation water contained in the extracted hydrocarbon. During 2017, 17.6 MMm³ of congenital water were separated, decreasing by 13.1% as compared to the volume separated in 2016. It is worth mentioning that oil production decreased by 10% during the same period.

Of the total volume of congenital water separated, 95.1% was reinjected and the rest was treated and discharged. The total content of hydrocarbons in the water discharged in exploration and production processes is estimated at 1.0 t.

Hydrocarbons in water discharged in refining processes, gas processing and petrochemical production (C2)

The total content of hydrocarbons in the water discharged in oil refining activities, gas processing and petrochemical production (excluding ethylene and ammonia) accounted for 249.8 t, decreasing by 29.2% as compared to 2016.

-29.2%
HC
content

in water discharged
in industrial
transformation
processes

Parameters in surface water discharges (S1)

The main volumes discharged and their pollutants content in each line of business is presented below.

Given that the highest volume of water discharge comes from refining processes, diagnostics are being assessed in the main refineries to identify areas of improvement, either through operational practices or modification of infrastructure. This will increase the utilization and efficiency of effluent systems and wastewater treatment plants, which will reduce volumes and improve the quality of discharges.

In this context, a collaboration agreement was signed with the National Water Commission to carry out joint activities to improve the quality of water discharges in the Salamanca Refinery (01, 02).

The regulated process in Mexico for water discharges management is established by the National Water Commission, which considers previous studies, based on the use of the receiving body, the assimilation capacity of the water body and the interaction with the communities, between other aspects. As a result, the water authority issues the maximum permissible quality limits in the discharge to be met by the regulated (Pemex in this case), through the Title of Concession for water discharge to water bodies and its report to the authority through SEMARNAT-05-001 Annual Operation Card procedure delivered annually (02).

EPS	Discharge		Hydrocarbons		BOD ¹		TSS ²	
	(MMm ³)	%	(t)	%	(t)	(%)	(t)	(%)
Pemex Corporativo	0.6	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Pemex Etileno	25.6	31.7%	143.3	32.0%	273.2	12.4%	322.8	22.0%
Pemex Exploración y Producción	0.9	1.1%	1.0	0.2%	5.0	0.2%	4.9	0.3%
Pemex Fertilizantes	2.2	2.7%	6.8	1.6%	16.2	0.7%	16.1	1.1%
Pemex Logística	8.3	10.3%	46.6	10.4%	710.6	32.1%	488.5	33.4%
Pemex Perforación y Servicios	0.3	0.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Pemex Transformación Industrial	42.9	53.1%	249.8	55.8%	1,206.6	54.6%	632.8	43.2%
Total	80.8	100.0%	447.5	100.0%	2,211.6	100.0%	1,465.1	100.0%

¹ BOD: Biochemical Oxygen Demand.

² TSS: Total Suspended Solids.

LOCAL ENVIRONMENTAL IMPACT

“In Petróleos Mexicanos, we commit ourselves to continue working, through Sustainable Development, for the protection and improvement of the environment for the benefit of the community”

Principle IV of the Policy on Safety, Occupational Health, Environmental Protection and Sustainable Development of Petróleos Mexicanos



33

E8: OTHER AIR EMISSIONS

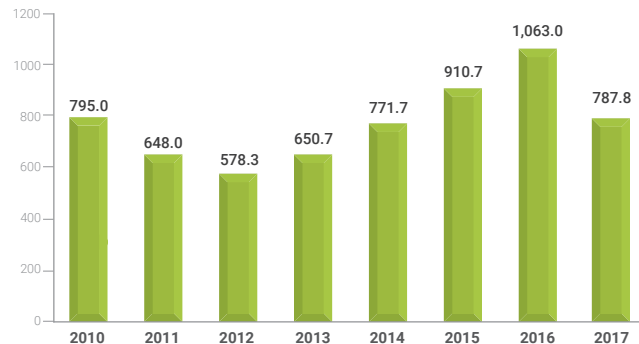
Total emissions of criteria pollutant by type (C1)

Access to suitable air quality is fundamental for a healthy development of our communities. Criteria air pollutants are those compounds that have been identified as detrimental to the health and well-being of human beings.

At Pemex, a permanent effort is made to monitor the main criteria air pollutants in our production facilities. In 2017, the total emissions of these pollutants were estimated at 787.8 Mt, decreasing by 25.9% as compared to the volume registered in 2016.



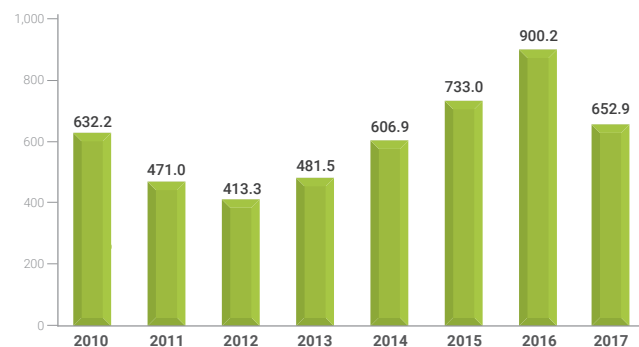
Criteria air pollutants (Mt)



Of the total estimated emissions, 82.9% correspond to sulfur oxides (SO_x), mainly to sulfur dioxide (SO₂).

These emissions decreased by 27.5% compared to 2016, from 900.2 to 652.9 Mt, mainly due to the use of associated gas aimed to reduce flare in Pemex Exploración y Producción's shallow water assets. Also, it was the result of low crude oil processing in the Salina Cruz, Madero and Minatitlán refineries, and the increasing operating time of the sulfur recovery plants of the Cactus and Poza Rica gas processing facilities.

SO₂ Emissions (Mt)



Nitrogen oxides (NO_x), volatile organic compounds (VOCs) and total suspended particles (TSP) account for 10.5%, 5.2% and 1.4%, respectively, of all criteria air pollutants **(S1)**.

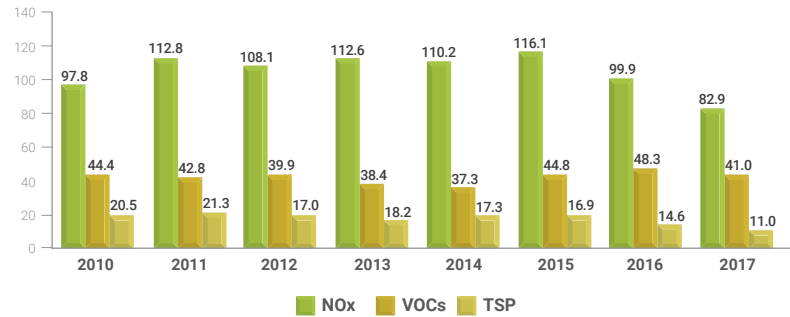
The emissions related to nitrogen oxides decreased by 17.0% from 99.9 to 82.9 Mt. The volatile organic compounds decreased by 15.2% while the total suspended particles decreased by 24.7% **(S1)**.

-27%
of SO₂ emissions

-17%
of NO_x emissions

-25%
of TSP emissions

Other criteria pollutants (Mt)



Emissions of criteria pollutants for each line of business (S2)

The business line with the highest contribution to the total emissions of criteria pollutants was Pemex Transformación Industrial (51.3%) followed by Pemex Exploración y Producción (44.2%). Regarding to sulfur oxide emissions, Pemex Transformación Industrial accounted for 54.2% of the total emissions, of which around 30% was generated by oil products refining and 24.2% was generated by gas processing.

Criteria pollutant emissions are reported to the Ministry of Environment and Natural Resources (SEMARNAT) through the Annual Operation Card (COA for its acronym in Spanish) (01).

Pemex performs perimeter monitoring of air quality in the facilities that influence urban centers, with the purpose of knowing the concentration and dispersion of criteria pollutants that are generated in productive activities. The monitoring supports the decision-making process in operations and ensures that these pollutants are within the limits allowed by the applicable regulations (01, 02).

Pemex also participates with the federal and local environmental authorities in the preparation of public policy instruments through the Management Programs to improve Air Quality (ProAire, for its acronym in Spanish) which establish short, medium and long term measures and actions to prevent and reverse trends in the deterioration of air quality. In 2017, Pemex also collaborated with the federal government in the revision of the ProAire programs of the city of Salamanca and the states of Hidalgo, Nuevo León, and Tamaulipas (01, 02).

Additionally, Pemex contributes to improve air quality by reducing the emission of sulfur oxides, by offering gasoline and diesel with ultra-low sulfur (UBA, by its acronym in Spanish) to the market. In 2017, 100% of the gasoline and more than 42% of the diesel produced by Pemex was UBA (03).

Business Line	SO _x		NO _x		VOCs		TSP		Total	
	t	%	t	%	t	%	t	%	(Mt)	%
Pemex Corporativo	5	0.0%	7	0.0%	0	0.0%	1	0.0%	13	0.0%
Pemex Etileno	28	0.0%	3,432	4.1%	777	1.9%	255	2.3%	4492	0.6%
Pemex Exploración y Producción	295,887	45.3%	41,438	50.0%	10,073	24.6%	779	7.1%	348177	44.2%
Pemex Fertilizantes	2	0.0%	1,078	1.3%	33	0.1%	45	0.4%	1158	0.1%
Pemex Logística	2,833	0.4%	9,201	11.1%	11,383	27.8%	221	2.0%	23638	3.0%
Pemex Perforación y Servicios	577	0.1%	5,750	6.9%	0	0.0%	359	3.3%	6686	0.8%
Pemex Transformación Industrial	353,574	54.2%	21,959	26.6%	18,692	45.6%	9,370	84.9%	403,595	51.3%
Total	652,906	100.0%	82,865	100.0%	40,958	100.0%	11,030	100.0%	787,759	100.0%



E9: SPILLS TO THE ENVIRONMENT

Prevention of Hydrocarbon spills (C1)

The company's activities involve the risk of accidental spills of materials or waste that, due to their quantities and characteristics, may represent impacts on health, ecosystems, or people's assets, which may involve high remediation costs. Therefore, Pemex prioritizes the implementation of prevention strategies based on ensuring the safety and integrity of the strategic infrastructure.

Recurring processes risk analysis (ARP, by its acronym in Spanish) are performed in Pemex. These are preventive instruments that, through the systematic application of criteria and methodologies, seek to prevent the occurrence of leaks or spills of hazardous substances in industrial facilities, as well as to mitigate its possible consequences for the staff, population, environment, production and facilities. These analyses are performed to assess industrial processes, duct systems and physical security.

In addition, an internal guideline for the Administration of Integrity of Pipelines Infrastructure is being applied and a Duct Maintenance Management System (SGMD, by its acronym in Spanish) is being implemented.

There is also a Supervision Control and Data Acquisition system that enables to permanently monitor the pipeline infrastructure and detect in real time flow, pressure and temperature variations at a specific point.

On the other hand, the following strategies have been implemented for the prevention of spills caused by illicit activities of third parties such as theft of fuels or vandalism.

- Deployment of the Terrestrial Electrooptic Surveillance Systems (EOP, by its acronym in Spanish) in collaboration with personnel from the Military Operations Bases included in the Specific Agreements with the Secretary of National Defense (SEDENA).

- Execution of surveillance and recognition flights, day and night, with unmanned aerial vehicles and manned special mission aircraft to conduct land patrols in collaboration with personnel included in the Specific Agreements with SEDENA.

- Establishment of Advanced Operations Coordination Centers (CECOA, by its acronym in Spanish) in the Military Command Posts to coordinate inter-institutional actions.

Quantification of hydrocarbon spills¹

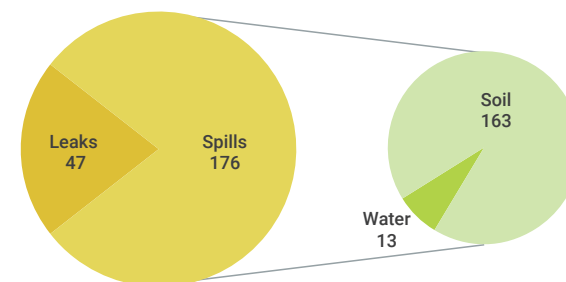
The institutional database contains 223 events related to leaks and spills occurred during 2017, increasing by 16.1% compared to 2016. However, the estimated spilled volume is considerably lower (C2).

Of the 223 identified events, 163 events are related to oil spills on land, 13 events correspond to spills into water bodies, and 47 events are related to gas leakages into the atmosphere. This statistic does not include the events originated by illegal tapping (S3).

In terms of distribution by each line of business, of the total registered events, 188 correspond to Pemex Exploración y Producción and 35 correspond to Pemex Logística (S4).

	2010	2011	2012	2013	2014	2015	2016	2017
Number of events	154	131	264	153	159	209	192	223
Released volume (b)	25,824	2,690	39	24,629	5,110	1,164	8,120	506
Released volume (MMpc)	6	13	9	50	83	24	18	5

Leaks and spills



Impacts and response actions for the attention of significant spills (C3)

Pemex is required to deal with all oil spills related to its operation or resulting from hydro-meteorological effects. During the attention of these events, the spilled oil must be contained and recovered while the affected area must be cleaned to carry out characterization studies and, if necessary, perform the required remediation.

Programs and organization for emergency preparedness and response (C4)

All Pemex facilities have implemented an Emergency Response Plan (PRE, by its acronym in Spanish) that includes environmental risks and procedures to attend events that involve leaks and spills.

In the specific case of spills of hydrocarbons in the sea, Pemex participates in the National Contingency Plan for Spills of Hydrocarbons and Harmful Substances in the Mexican Marine Zones (PNC,

¹ The events caused by illegal tapping are not included. In the cases in which the volume estimation is not available, values of 0.1 b for spills and 0.1 MMpc for leaks were considered.

by its acronym in Spanish), which establishes the mechanisms to inform, coordinate and respond to a polluting incident, involving the participation of agencies, entities and authorities, as well as the regulated companies that carry out hydrocarbon exploration and production activities.

In addition, there is a Center for Coordination and Emergency Support of Petróleos Mexicanos (CCAEC, by its acronym in Spanish) with qualified personnel to follow up and, if necessary, to provide logistics support in the emergency response, 24 hours a day, 365 days of the year.

E10: WASTE

The effective management of urban solid waste, special handling waste and hazardous waste is essential to protect people's health and the environment. At Pemex we recognize that the best way to manage waste is by minimizing its generation and maximizing its recovery in order to achieve environmental, economic and social benefits while responding to local needs and circumstances.

In 2017, Pemex generated a total of 115.2 Mt of hazardous waste, which was added to the 44.1 Mt in the 2016 waste inventory. After disposing 139.1 Mt, a final inventory of 20.2 Mt of hazardous waste was accounted at the end of 2017. (C1, O3).



Waste disposal

The total disposal of hazardous waste accounted for 139.1 Mt, increasing by 95.4 Mt compared to the volume disposed in 2016. This was mainly achieved by the disposal of 67.78 Mt of oily sludge at the Salina Cruz Refinery and 18.53 Mt of spent caustics at the Salamanca Refinery (C1).

Drilling cuttings that are generated during well exploration and drilling activities represent the largest generation of special handling waste in Pemex. In 2017, 50.8 Mt of this waste was disposed, accounting for 100% of the generated volume (S1).

Pemex Exploración y Producción reuses wasted oil by reintroducing it to processes as part of the integrated waste management. This results in a reduction of risks to the environment and to the communities located near our facilities. It also involves a reduction in operating cost (S2).

Waste generation

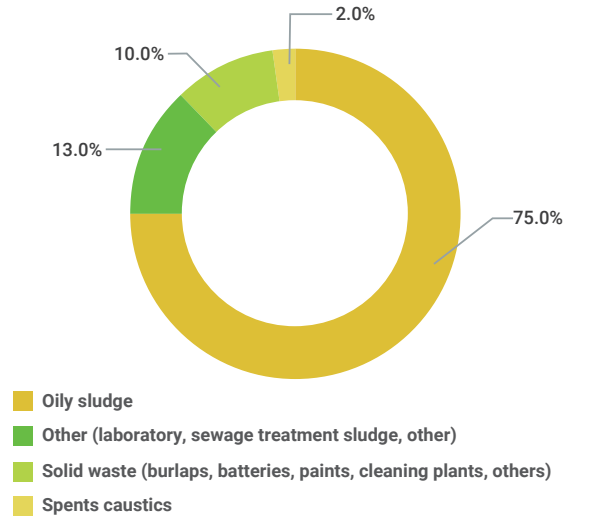
Pemex Transformación Industrial generated the largest volume of hazardous waste with 93.8% of the total generation, followed by Pemex Logística with 9.0% (O1).

Business Line	Volume Generated (Mt)
Pemex Corporativo	0.2
Pemex Etileno	0.5
Pemex Exploración y Producción	2.0
Pemex Fertilizantes	0.0
Pemex Logística	1.2
Pemex Perforación y Servicios	3.3
Pemex Transformación Industrial	108.0
Total	115.2

75% of the generated hazardous waste corresponds to oily sludge. The following charts show the volume generated by waste and contribution to total waste generation by type of waste (O1).

Tipo de waste	Generated Volume (Mt)
Oily Sludges	85.8
Solid Wastes	11.9
Spent Caustics	2.6
Other	14.9
Total	115.2

Generation by type of waste

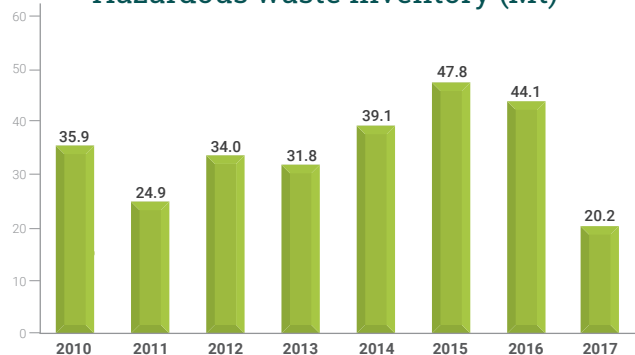


Compared to 2016, the volume of oily sludge presented the highest increase; this is mainly due to the generation of 67.5 Mt at the Salina Cruz Refinery due to an emergency response caused by the Tropical Storm Calvin and due to programmed maintenance (O4).

Inventory of hazardous waste (O2)

The disposal/generation ratio was 1.21. The final inventory of hazardous waste decreased by 54.2% compared to 2016.

Hazardous waste inventory (Mt)



Note: The total amount of waste does not consider hazardous biological infectious waste generated in hospitals.

Type of waste	Hazardous waste inventory (Mt)
Oily Sludges	10.1
Spent Caustics	5.6
Spent Catalysts	1.0
Other	3.5
Total	20.2

88% of the hazardous waste final inventory (20.2Mt²) corresponds to refining activities in Pemex Transformación Industrial. Oily sludge accounts for the highest contribution by 9.5 Mt.

Waste management (O5)

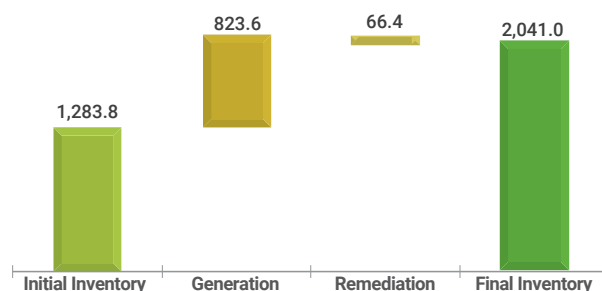
Pemex performance is based on waste policies and guidelines that aim to establish the general provisions for waste generation prevention, integral management, use and recovery through management plans, based on environmental protection, technical efficiency and economic feasibility criteria.

E11: DISMANTLING

Pemex performs the remediation of sites in accordance with the provisions of the General Law for the Prevention and Integral Management of Waste and its Regulations, as well as with the provision in the norm NOM-138-SEMARNAT/SSA1-2012 (Maximum permissible limits of hydrocarbons in soils and sampling guidelines for the characterization and specifications for remediation) (C1).

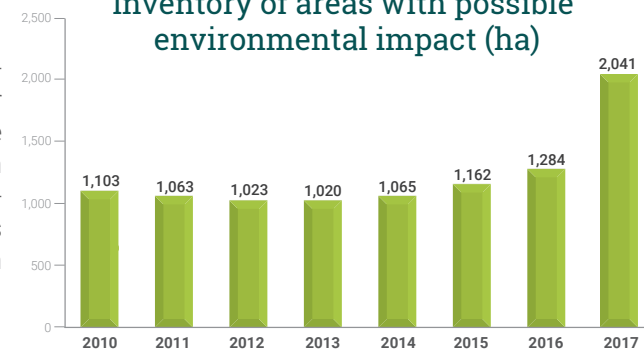
During 2017, 823.6 hectares were added to the inventory of sites with possible environmental impact. Around 82% of the sites were affected by non-hermetic illegal tapping. On the other hand, 66.4 hectares were remedied largely in the South Block Production Assets. As a result, the final sites inventory accounted for 2,041.0 hectares, increasing by 41% compared to the inventory registered in 2016.

Balance of Areas with possible environmental affection (ha)



Of the final inventory, 1,063 hectares (52.1%) correspond to Pemex Logística, 668 hectares (32.7%) to Pemex Transformación Industrial (including 371 hectares of the former Texistepec Mining Unit), and 310 hectares (15.2%) correspond to Pemex Exploración y Producción (S1).

Inventory of areas with possible environmental impact (ha)



Characterization studies are conducted for the attention of sites with environmental impacts due to hydrocarbon spills. Based on the results obtained, the technology used for remediation is selected and the corresponding programs are prepared.

Programs must be approved by the environmental authority. There are commonly applied biological remediation technologies such as bioremediation (organisms to remove organic compounds) and bio-venting (air supply to sustain the activity of degrading organisms) to attend soil contaminated with hydrocarbons (S2).

As for the estimation of the environmental provision, areas with possible environmental impact are accounted for by using an estimated unit price for the characterization and remediation of the site. The estimated values for the environmental provision for each line of business are shown in the following table.

Business Line	MM\$
Pemex Exploración y Producción*	756
Pemex Logística	12,619
Pemex Transformación Industrial**	2,694
Total	16,069

*Including 80 dams with an estimated provision of 146 million pesos.

** Includes the Ex Mine Unit Texistepec with an estimated provision of 13.5 million pesos.

² Note: The total amount of hazardous waste does not consider biological-infectious waste generated at hospitals.

SAFETY AND HEALTH





For Petróleos Mexicanos, industrial safety and occupational health are fundamental elements to promote a sustainable operation that continues generating value in the future. These elements are integrated into Pemex SSPA System through the Process Safety Management Subsystems (SASP, by its acronym in Spanish) and Occupational Health Administration (SAST, by its acronym in Spanish) as well as through the application of 12 Best International Practices (MPI, by its acronym in Spanish).

Pemex facilities are required to follow these subsystems effectively to ensure proper identification of risks and to establish the necessary controls to operate safely while preventing events with negative impacts to the company's personnel and the general population.

PROTECTION OF OUR WORKERS

"Our goal is to operate in a safe, reliable, profitable and sustainable manner"

Carlos Murrieta Cummings
Pemex Transformación Industrial
General Director

HSI: WORKERS PARTICIPATION

Approach to manage participation of workers in health and safety issues (C1)

Participation of personnel that is motivated and aware of the risks to which they are exposed and accountable of established controls, is critical to achieve our goal of zero accidents.

In this context, during 2017, Petróleos Mexicanos carried out actions aimed to promote a culture of employee involvement in accident prevention and performance improvement of the Pemex SSPA System. Through diverse initiatives, we reinforced risk identification, accountability by top management, communication of recurring risks and personnel training.

The main actions implemented within the PEMEX-SSPA System framework to achieve the lowest accident frequency rate in the history of Pemex are the following:

- *Reinforcement of risk identification.* A comprehensive strategy was established throughout the company to provide advice to working centers with the purpose of identifying and preventing health and safety risks at work. This initiative included implementing preventive audits while providing technical support and follow-up to designed plans to mitigate identified risks.
- *Accountability by top management.* Leadership meetings were established in the Subsidiary Productive Companies, with the



objective to account for the performance of our facilities and follow up on compliance with established strategies. Top management of the companies leads these working sessions, confirming the importance granted to safety issues in Petróleos Mexicanos.

- *Communication of recurring risks and their controls.* In order to strengthen safety and health culture at work, the following awareness campaigns were implemented:

- *Prevention of same-level falls.* Same-level falls accounted for 23% of the injuries with disability recorded during the last two years. This prevention campaign aims to raise awareness among workers about the risks involved in these type of falls. As a result of implementing this campaign, the occurrence of these type of accidents in Pemex decreased by 46% in 2017.

- *Order and Cleaning.* Based on the 5S methodology (named after the Japanese initials of sort, set, shine, standardize, and sustain), this campaign aims to improve and maintain organization, order and cleanliness conditions in the workplace while improving working conditions, safety, work environment, staff motivation and efficiency.

- *Protection layers.* It aims to raise awareness about the importance of Protection Layers for safety processes. The campaign is communicated through various audiovisual media and workshops in the workplace and it is focused to operating, maintenance and administrative staff.
- *Staff training.* Individual Development Plans design and Accelerated Knowledge Transfer was reinforced to SSPA critical personnel.
- *Survey to evaluate the SSPA leadership positions.* The survey was applied to 13,275 workers from different Subsidiary Productive Companies and Corporate areas of Pemex, focusing on identifying opportunity areas in the SSPA leadership positions within the organization. As a result, high levels of performance were identified in terms of commitment, conviction and empowerment.
- *Continuous improvement of our Pemex SSPA System.* The initiative aims to identify areas of improvement that promotes a simpler and clearer management system to enhance the performance of operations, strengthen the occupational safety and health culture and efficiently prevent accidents. Based on this objective, we analyzed the standards of

the International Association of Oil and Gas Producers (IOGP), the applicable standards issued by the International Organization for Standardization (ISO), as well as the risk management models of other oil companies and the guidelines issued by the Safety, Energy and Environment Agency (ASEA, by its acronym in Spanish). Through this analysis, we identified the need to prioritize leadership, risk management, international safe practices, and update our standards.

Work with safe contractors (01)

In order to improve the occupational safety and health performance of our contractors, and based on the new scenarios of the Energy Reform, Petróleos Mexicanos has strengthened its SSPA policy with a sixth principle by requiring contractors, subcontractors, suppliers and service providers the same level of compliance with the standards established by our company.

In order to apply this corporate guideline, the work centers verify the compliance with the requirements established in the SSPA Appendix included in the works and services contracts assigned by the Subsidiary Productive Companies. Additionally, the performance of contractors who operate under unacceptable conditions with the procurement areas is periodically reviewed in order to consider this information in future competitive tenders.

Finally, if needed, we carry out technical investigations of industrial and personal accidents in which contractor companies workers are involved. We follow-up on recommendations and communication of the lessons learned.



HS2: OCCUPATIONAL HEALTH

Medical Services

Medical specialists, trained nurses and technicians, as well as support staff, effectively provide preventive, healing, maternity, physical and mental health care services at three levels of health care.

During 2017, fifteen Pemex Medical Units were certified by the General Health Council, which includes three Primary Healthcare Units and twelve hospitals. Also, thirty-two Medical Units maintained their certification, of which fifteen are Primary Healthcare Units and seventeen are hospitals.

Overall, 73% of Pemex Medical Units are certified (74% of hospitals and 71% of Primary Healthcare Units), accounting for the highest percentage among health sector institutions.

Attention parameters for health care in Pemex Medical Units are the following.



Topic	2012	2013	2014	2015	2016	2017
Medical consultations performed	4,673,089	4,863,807	5,307,273	5,135,705	4,985,893	5,024,909
Surgery interventions	35,748	36,742	36,318	35,084	32,374	33,566
Hospital discharges	79,439	78,843	67,016	64,298	60,815	65,161
Medical examinations performed on workers	106,143	109,252	110,997	115,763	109,727	126,727
Laboratory studies	4,460,193	4,602,915	4,613,928	4,547,089	4,264,745	4,437,707
Live births	4,152	4,306	4,238	4,076	3,443	3,361
Transplants performed	36	56	58	86	62	46

The following table shows the indicators regarding Pemex healthcare services as compared to indicators of the national health sector during 2017.

Indicator	National	Pemex
Life expectancy at birth (%)	75.3	83.3
Complete vaccination in children under one year (%)	90	93.2
Birth rate / 1,000 beneficiaries	18.1	4.3
Infant mortality rate / 1,000 live births	11.38	9.65
Ratio of maternal mortality/1,000 live births	3.2	0.33
Global fertility rate per woman	2.16	1.03
Mortality rate in patients with cervical cancer / 100,000 women beneficiaries > 25 years	11.4	3.4
Mortality rate in patients with breast cancer / 100,000 women beneficiaries > 25 years	18.9	17.8

Source: INEGI, SSA, OCDE 2013-2016, Pemex Report on Preventive Medicine 2017.

Health programs (C1)

- *Integral Care Program for patients with overweight, obesity and diabetes (Attention Centers for Risk Factors).* This program was implemented in 2016 in accordance with the federal program "National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes" and aims to provide comprehensive care for overweight and obese patients to help them control the problems associated with chronic degenerative diseases.

3 first level
attention units

12
hospitals
certified in 2017 **43**

73%
of medical units
are certified



Through the attention centers for risk factors, located in the medical units, multidisciplinary care is provided to beneficiaries who are evaluated by doctors, psychologists, nutritionists and physical activators, based on a model of attention focused on transitioning towards a healthier lifestyle. Priority is given to workers with risk factors for metabolic syndrome and integral care is provided to patients recently diagnosed with diabetes mellitus. During 2017, 91,745 consultations were granted while 43,931 workers were evaluated.

- *Mental health care and addictions.* Regarding mental health care, the psychiatric service attended 16,198 patients 7,908 of which were workers, while the psychology service attended 23,090 patients with psychotherapeutic intervention, 17,989 of which were workers. Through the Attention Centers for Risk Factors, 4,717 workers and family members were provided with psychoeducation related to stress, anxiety and depression.
- *Crisis intervention program.* As a result of the contingency occurred in Mexico City due to the 7.1 Richter scale earthquake on September 19th, a crisis and psychological assistance program was implemented during this month. The program benefited 150 people, including workers, their families, and the general population with critical stress and anxiety crisis.
- *Health bonus.* It consists on granting an annual incentive to encourage workers to enhance their self-care. Employees who reach the metrics established by the company are granted a bonus based on the following parameters: body mass rate, glycosylated

hemoglobin, and blood pressure and HDL cholesterol. During 2017, 9,734 workers obtained this incentive, which accounted for 7.7% of the total number of workers evaluated, an increase of 37.9% compared to 2016 (03).

- *Fight against dengue fever, zika and chikungunya.* Pemex carried out actions aimed at offsetting the rate of diseases transmitted by mosquitoes within the framework to fight dengue fever, Zika and Chikungunya, which are summarized in the following table.

Theme	Indicator	Number
Universe of work	Municipalities	30
	Locations	34
	Residents benefited	28,028
Vector control in clean spaces and free of hatcheries	Clean and hatchery-free environments (except schools and medical units with residual spray)	3,384
	Medical units with residual spray	30
	Clean and hatchery-free schools with residual spray	15
Vector control	Housing with larva control	535
	Nebulized hectares	150
	Homes with residual spray	535
	Probable cases attended	535
	Hatchery eliminated by larva control	310

Occupational health

With the aim of promoting continuous improvement in occupational health conditions, Pemex systematically carries out planning, execution and evaluation processes measured by performance indicators. This enables the organization to set increasingly aggressive objectives and goals to contribute with actions that enable Pemex to increase its efficiency and competitiveness.

During 2017, a dashboard of proactive and reactive indicators of occupational health was published. This will allow us to monitor performance and progress in the execution of actions carried out in the working centers.

According to the results obtained, 88% of the population is aware of the risks to which they are exposed. Additionally, we determined the necessary Personal Protection Equipment (EPP, by its acronym in Spanish) for 99% of the job positions that involve occupational exposure to health risk agents; 85% of these positions are provided with the EPP.

In terms of industrial hygiene management and despite efforts made, there are still significant gaps in terms of controlling the exposure of workers to health risk agents during the performance of their activities.

Indicator	Result
Health risk communication rate	88%
Specific personal protective equipment (EPP) determination	99%
Specific personal protective equipment compliance (EPP) rate	85%
Hearing conservation rate	96%
Identification of physical, chemical and biological agents	64%
Evaluation of physical, chemical and biological agents	86%
Occupational exposure control to physical, chemical and biological agents	72%
Health risk due to occupational overexposure to physical, chemical and biological agents	39%

To verify the application of the guidelines established in the Occupational Health Management Subsystem, audits in the working centers were carried out in 2017, where a total of 98 findings were identified; 63% of them were addressed during the same year.

Main health actions at work (C1)

Person-Position Compatibility Procedure (PCPP, by its acronym in Spanish). The application of the PCPP was initiated at Corporate Management and Services Department to improve performance, prevent risks, illnesses and/or injuries that could interrupt the productive process. The first ten profiles of critical positions in Pemex Exploración y Producción were prepared and the first three profiles of critical positions to be developed at Pemex Corporativo were determined.

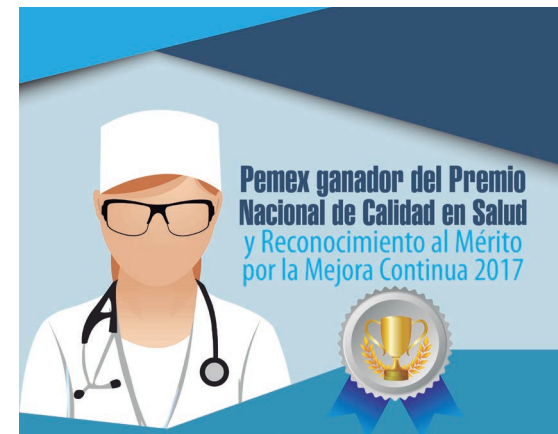
Psychosocial Risk Factors. Based on the methodology established in the PROY-NOM-035-STPS-2016 project "Psychosocial Risk Factors, Identification

and Prevention", Petróleos Mexicanos applied the "Questionnaire to Identify the Psychosocial Risk Factors and evaluate the Organizational Environment at the Working Centers" to more than 1,000 workers of their Subsidiary Productive Enterprises. These contain questions to assess the impacts in six areas: work environment, inherent factors to the activity, time management, leadership and relationships at work, and organizational environment.

Communication campaign "Raise your voice, all safe, all on board". This campaign aims to reduce the incidence of ordinary diseases on board the marine platforms. As a result of to this campaign, in 2017, 43 workers who presented discomfort before boarding were identified and channeled to receive medical attention, avoiding possible complications or infections on board. In Pemex Perforación y Servicios, it was observed a reduction of 69% of workers who dropped activities at marine platforms due to illness (S2).

NATIONAL QUALITY AWARD IN HEALTH

The Naranjos Hospital-Clinic and the Tampico Clinic were awarded the National Health Quality Award in the Primary Healthcare Clinic category, granted by the Ministry of Health.



HS3: INCIDENTS RELATED TO OCCUPATIONAL DISEASES AND INJURIES

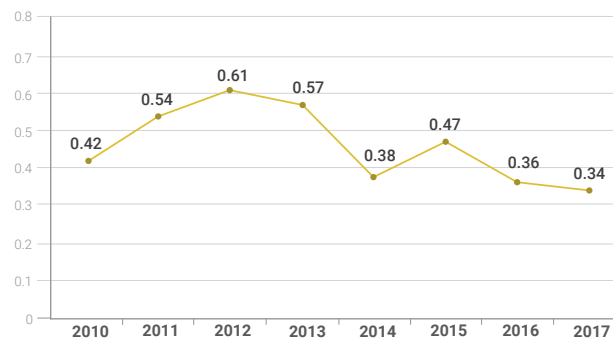
Safety performance (C1)

Frequency index

In 2017, Pemex achieved for the second consecutive year its best historical performance in terms of safety, with frequency index of 0.34 injuries per million man-hours worked with exposure to risk (MMmh). However, achieving the international standard of 0.24¹ injuries per MMmh established by the IOGP (International Association of Oil and Gas Producers, accident report, 2016), presents a challenge for Pemex and requires an important effort to accomplish it.

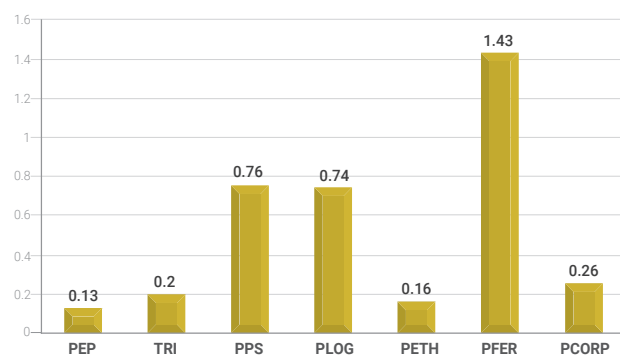


Pemex frequency index



Regarding the breakdown by each business line, the highest frequency index corresponded to Pemex Fertilizantes, followed by Pemex Perforación y Servicios and Pemex Logística.

Pemex accident frequency rate



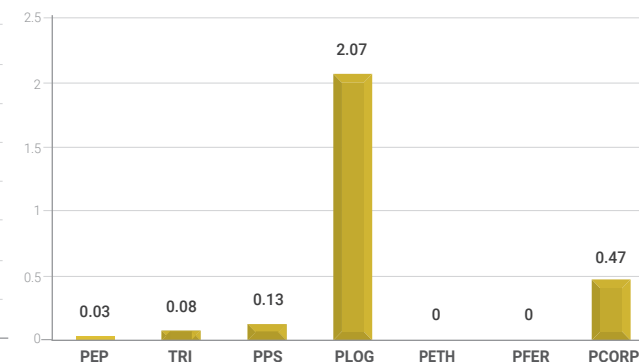
For contractors' personnel, the cumulative frequency index was 0.09 injuries per MMmh with an exposure to risk 65.4% lower than 2016 index.

Contractor frequency index



Regarding frequency index of contractors for each line of business, the largest corresponded to Pemex Logística, followed by Pemex Corporativo.

Contractor frequency index

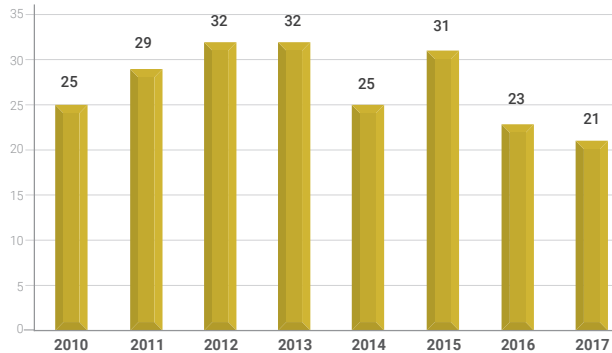


¹ IOGP. Safety performance indicators – 2016 data.

Severity index

The severity index was 21 lost days per million man-hours worked with exposure to risk (MMmh). The most frequent types of injuries consisted of burns, fractures, wounds and bruises caused mainly by falls, loading and handling of objects and entrances to confined spaces.

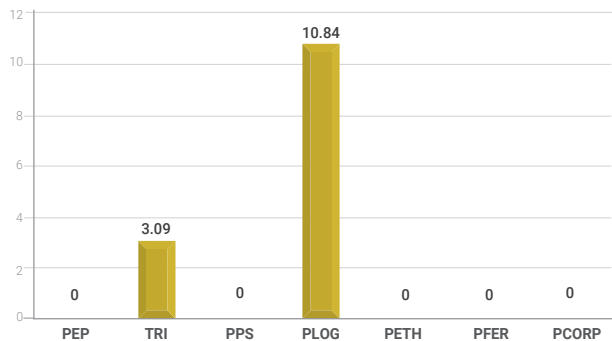
Pemex severity index



Fatality index

In 2017, the fatality rate was 2.69 fatalities per hundred million man-hours worked with exposure to risk. Of the 10 fatalities occurred, seven correspond to Pemex Logística and the three remaining to Pemex Transformación Industrial. The fatality rates for each line of business are shown below.

Fatality rate Pemex



Accidents with greater consequences (C2)

The accidents that caused the fatalities during 2017 and the actions that have been taken to prevent their recurrence are presented in the following table:

Date	Location	Description
12-jan-2017	Pemex Transformación Industrial Madero Refinery	During a chemical cleaning work of a heat exchanger, sulfuric acid emanation occurred (one fatality).
15-mar-17	Pemex Logística Storage and Dispatch Terminals (TAD, by its acronym in Spanish) Salamanca	Explosion in the fuel oil line of the Salamanca Storage and Dispatch Terminal during cleaning works (three fatalities).
23-mar-17	Pemex Transformación Industrial Independencia Petrochemical Complex	Accident during maneuvers to accommodate diesel tank trucks (one fatality).
14-jun-17	Pemex Transformación Industrial Salina Cruz Refinery	Explosion and fire at a pumps house of exported oil and oil allocated to the primary plants of the refinery. The fire spread to the suction lines of three storage tanks (one fatality).
29-jul-2017	Pemex Logística Port Storage and Services Terminal Salina Cruz	Rollover of a fire-fighting unit (two fatalities).
12-dec-2017	Pemex Transformación Industrial Salamanca Refinery	Fall and run over of a worker during truck loading maneuvers (one fatality).
14-dec-2017	Pemex Transformación Industrial Madero Refinery	Emission of isobutane and hydrofluoric acid during the maintenance and cleaning of the alkylation plant (one fatality).

Pemex deeply regrets the death of our colleagues in these unfortunate events. In response to them, we have performed a root cause analysis of each of these incidents and the results have been communicated within the Subsidiary Productive Companies, to avoid their recurrence.

Initiatives and activities to reduce the occurrence of occupational incidents (S2)

The main actions that were implemented to reduce the occurrence of accidents and incidents are described as follows.

As part of our principles of accident and incident prevention, Pemex conducts root cause investigations in all relevant events that occur during the execution of our operations. These analyses enable the identification of the causes that originated the incidents and establish measures to avoid their recurrence.

In terms of process safety, an Institutional Audit Program has been established to identify opportunity areas in our performance. During 2017, more than 200 audits were conducted, establishing action programs to attend the identified findings.

Pemex also has a Type B Verification Unit, which mainly carries out evaluations in accordance with the norm NOM-020-STPS-2011 "Recipients Subject to Pressure". This Unit has issued, since its creation in 2003 to 2017, a total of 10,648 compliance reports (4,854 through direct evaluations and 5,794 through monitoring of evaluations carried out by third parties).

Complying with our regulatory obligations

As a result of the Energy Reform, the Agency for Safety, Energy and Environment (ASEA, by its acronym in Spanish) was created in 2015. It is in charge of regulating and supervising the installations and activities of the hydrocarbon sector in terms of industrial safety, operations and protection of the

environment, issuing guidelines to establish high safety standards for the regulated organizations.

In 2016, ASEA published the "Guidelines for the establishment, implementation and authorization of the Industrial Safety, Operational Safety and Environmental Protection Administration Systems applicable to the activities of the Hydrocarbons Sector".

In this line, Petróleos Mexicanos registered its system to the ASEA. In August 2016, the authority submitted the Certificate of Registration Compliance of the Industrial Safety, Operational Safety and Environmental Protection Administration System, assigning the Unique Regulated Registration Code (CURR): ASEA-PEM16001C.

In 2017, the Security System authorization was also obtained from the ASEA for the operation of the programs over the next two years in Pemex Exploración y Producción and Pemex Transformación Industrial by the ASEA.

In addition, in June 2017, the ASEA received the authorization request from the Industrial Safety, Operational Safety and Environmental Protection Administration System to be implemented at Pemex Logística. It is expected that this Subsidiary Productive Company will receive the authorization in 2018.

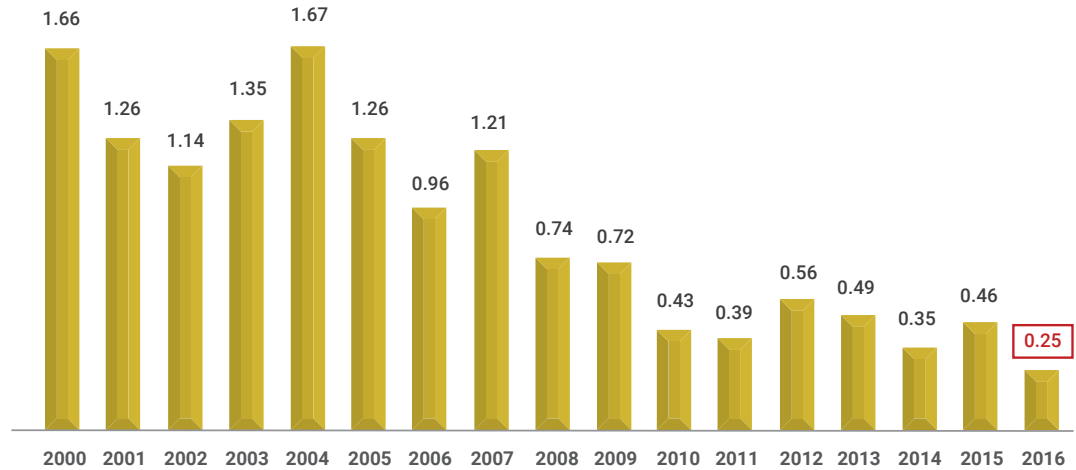
Emergency attention and civil protection

Petróleos Mexicanos is prepared to respond efficiently to emergencies in coordination with the authorities and civil protection organizations. Among the implemented actions for an integrated management and disaster risk reduction, the following stand out.

- Development of the Pemex initiative for Emergencies Attention and Crisis Management in Safety, Health and Environmental Protection System during 2016 and 2017, which allows to activate a coordinated response emergencies.
- Creation and formalization of the Internal Emergency Group (GIE, by its acronym in Spanish) of Petróleos Mexicanos, as well as the creation of the operational team group of the Emergency and Civil Protection Advisory Commission of Petróleos Mexicanos (CAEPC, by its acronym in Spanish). This Commission was created through an agreement ratified by the General Director on June 1st, 2016. It is responsible, among other functions, for the preparation and implementation of action plans and work schedule on emergency response and civil protection.
- Strengthening the 21 Regional Groups for Emergency Attention and Management (GRAM, by its acronym in Spanish) which are distributed throughout the country and are integrated by emergency response specialists from affiliated facilities. These groups are coordinated by the Internal Emergency Group at a central level and were created upon request of the National Coordination of Civil Protection to provide support in case of regional disasters.
- Improvement of the reliability and availability of the operation of the Coordination and Support to Emergencies Center (CCAE, by its acronym in Spanish) of Pemex, to interact with civil and military authorities.
- Development of 142 major simulations in Pemex facilities in coordination with the Federal Protection Procuracy.

HIGH PERFORMANCE AWARD ON SAFETY, HEALTH AND ENVIRONMENTAL PROTECTION

In May 2017, Pemex Exploración y Producción received a High Performance award on Safety, Health and Environmental Protection from the ASEA as an acknowledgement for having achieved in 2016 the lowest accident frequency index (0.25 injuries per million man-hours worked) in our history, decreasing by 46% as compared to the frequency index in 2015.



PRODUCT STEWARDSHIP



HS4: PRODUCT MANAGEMENT

At Pemex we produce, transport and trade hydrocarbons and its derivatives, both to the national and international market. For this reason, we have established quality policies aimed at conducting our performance as a committed, reliable and efficient supplier.

An identification and communication of hazards and risks of dangerous substances must be carried out in accordance with the norm NOM-018-STPS-2015 "Harmonized system for the identification and communication of hazards and risks of dangerous chemical substances in work centers", which is partially equivalent to the Fifth Edition of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) of the United Nations Organization.

In accordance with the referred norm, the harmonized system of identification and communication of hazards and risks of dangerous chemical substances and mixtures that are handled in work centers, include the following:

a) An updated list of dangerous chemical substances and mixtures, if any, that contains at least:

- Dangerous chemical or mixture name.
- For the substance, the Chemical Abstract Service (CAS) record number. For the mixtures, the CAS record number of the components.
- The classification of specific physical and health hazards, related to their corresponding divisions or categories.

b) Safety data sheets for hazardous chemicals and mixtures.

c) Signage or labeling.

d) Training provided to workers on the contents of safety data sheets and on related signage.

The harmonized system for the identification and communication of hazards of dangerous chemicals and mixtures that are handled in the workplace are kept up-to-date, even when hazardous chemical substances and mixtures that are handled in the workplace are replaced or added, or when there is updated information on the dangers and risks of hazardous chemicals and mixtures (C1, C3).

Safety Data Sheets (SDS) of the products that we commercialize are elaborated and reviewed by multidisciplinary teams in which specialists of production, laboratory, safety, hygiene, occupational health and environmental protection participate. SDS are published on the website <http://www.pemex.com/comercializacion/productos/Paginas/default.aspx> and are available to customers and the general public (C2).

There is a reporting and monitoring system, through which incidents are informed to the regulatory authorities; this guarantees incidents related to the handling of products are communicated (S1).

During 2017, Pemex Transformación Industrial updated a total of seven Safety Data Sheets corresponding to the following products: Triethyleneglycol, Polyethylene, Monoethyleneglycol, Butadiene, Methanol, Light and heavy naphtha and Fuel oil (01).

PROCESS SAFETY AND ASSET INTEGRITY

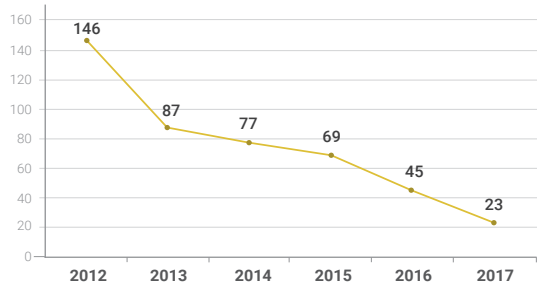


HS5: PROCESS SAFETY

Safety events for processes (SEPr) classified as Tier 1 (C1)

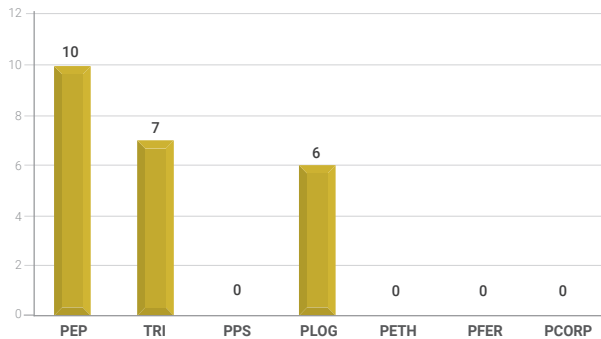
During 2017, 23 safety events were registered for processes that were classified as Tier 1, this value decreased by 48.8% as compared to the number of events in 2016.

Number of SEPr - Tier 1



Regarding the distribution by each business line, the largest number of events occurred in Pemex Exploración y Producción, followed by Pemex Transformación Industrial and Pemex Logística.

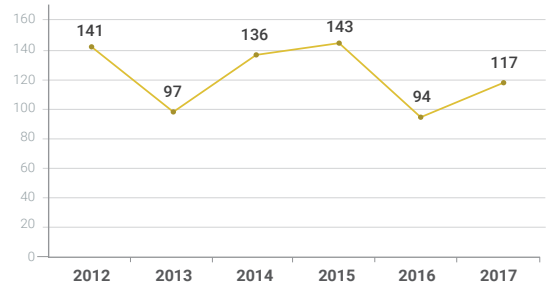
Number of SEPr - Tier 1



Security events for processes classified as Tier 2 (S1)

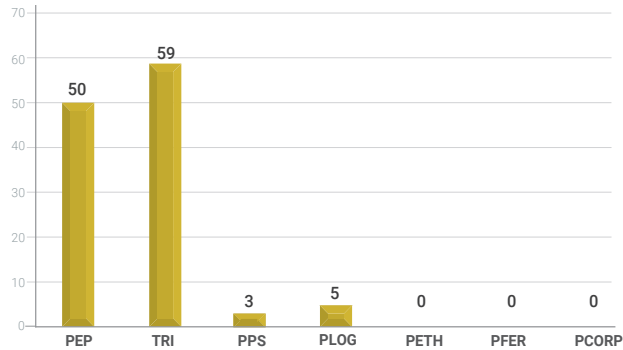
The number of safety events of the processes classified as Tier 2 was 117, this value increased by 24.4% as compared to the number of events in 2016.

Number of SEPr - Tier 2



Regarding the distribution by each business line, the greatest number of events occurred in Pemex Transformación Industrial, followed by Pemex Exploración y Producción, events were also registered in Pemex Logística and Pemex Perforación y Servicios.

Number of SEPr - Tier 2



ECONOMIC AND SOCIAL PERFORMANCE



OUR SOCIAL COMMINMENT

“The success of our business is directly linked to the company’s social performance. As being the largest company in the country, since the beginning of our history we have been a trigger of national development and the engine to improve the living conditions of the communities where we operate.

With the market opening in Mexico, Pemex is called to establish a leading national practice in social matters, improving our performance and giving certainty to investments and to continue promoting the development of the country”

Ramiro Rendón Burgos
Social Responsibility and
Development Manager

For Petróleos Mexicanos, social investment represents the opportunity to continuously improve the relationships we hold with the communities surrounding our facilities and projects, aiming to reconcile the local dynamics with the mutual benefit that the industry should generate. Hence, it has been essential to understand that obtaining social license to operate does not correspond to a simple license to carry out activities in a specific territory, but to legitimize operations, obtain credibility and generate trust, as common interests between both stakeholders and the company.

For several years, Pemex has been promoting socially responsible programs in the oil regions and throughout the country through programs, initia-

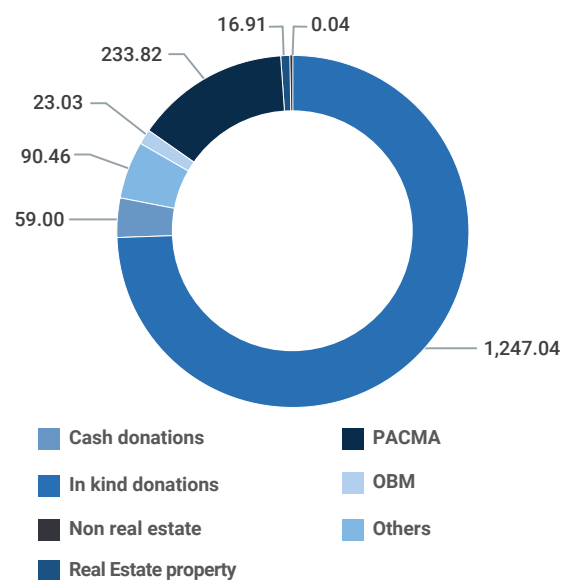
tives and social work, recognizing the importance of each region and its distinctive characteristics; at the same time, acknowledging and addressing the communities needs were the oil industry has stablished, helping as much as possible in the improve of their conditions.

Under the current competitive landscape we are one more actor, but our history and potential call us to assume a commitment that goes beyond regulatory compliance, acting proactively in the design of strategies and instruments to promote the development of communities while we accomplish our reason to exist: “Maximizing the oil value for Mexico”.



Taking advantage of the instruments that Pemex has in Development and Social Responsibility matters, during 2017 we granted \$1,670.3 million pesos to the following activities: cash donations (\$59.0 million), in-kind donations (fuel and asphalt) (\$1,247.0 million), non-real estate property donations (\$0.04 million), real estate property donations (\$16.9 million), social programs, civil work, and Community and Environment Support Program activities (PACMA, by its acronym in Spanish) (\$233.8 million), Mutual Benefit Work (OBM, by its acronym in Spanish) (\$23.0 million), Integrated Extraction and Production Contracts (CIEPs, by its acronym in Spanish) (\$81.2 million), Appendixes of Sustainable Development (DS, by its acronym in Spanish) (\$7.1 million) and Clause RS (Social Responsibility) KMZ (Ku-Maloob-Zaap) of Sustainable Development (\$2.2 million).

Fiscal year 2017 distribution
(\$1,670.3 MMdp)



92.4% of Pemex's support was provided to states with major oil activity (Campeche, Coahuila, Guanajuato, Hidalgo, Nuevo Leon, Oaxaca, Puebla, San Luis Potosi, Tabasco, Tamaulipas and Veracruz); the remaining 7.6% was provided to other states of the country.

E1: INVOLVEMENT AND IMPACT ON COMMUNITIES

Guidelines (C1)

In Pemex, the Management of Social License Guidelines defines a procedure to identify the social environment, develop strategies for attention to stakeholders, establish the approach and attention mechanisms, as well as, report and evaluate the results of the management.

Similarly, for compensation of land or good owners that suffer any kind of alienation as a result of

the activity of the Company, Pemex adheres to the tabulators and procedures established by the National Asset Management and Valuation Institute (INDAABIN, by its acronym in Spanish).

If any affectation is linked to the operation of the company, the negotiations to compensate the affected party are carried out through the Responsibility and Social Development Management (GRDS, by its acronym in Spanish) in collaboration with the Patrimonial Administrative Under Directorate, in direct contact with the affected party, and the corresponding social and/or legal representatives.

The social information of the Company can be consulted on the web site <http://www.pemex.com/etica-e-integridad/social/Paginas/default.aspx>, as well as in the current section of social investment within the Sustainability Report published yearly.

Inter-institutional Alliance with the Ministry of Social Development (SEDESOL, by its acronym in Spanish) (S1)

To support SEDESOL's social program, community kitchens were set up and floors and safe roofs were built for families from oil communities, mainly in Veracruz and Tabasco States.

Social Impact Assessment

In 2017, Pemex established a specific division required by law to address any issues related to Social Impact Assessments (EVIS, by its acronym in Spanish) for new projects for hydrocarbons affairs. The objective of this division is to establish a culture of knowledge, identification, mitigation and compensation of social impacts within Petróleos Mexicanos to enable the development of oil projects and activities in accordance with regulations and the expectations of the communities and partners. We have promoted a close relationship with both the Ministry of Energy (SENER, by its acronym in Spanish) and our partners for a correct execution of all EVIS milestones by coordinating and accompanying them throughout the preparation of assessments while promoting the implementation of social management plans to ensure the development of projects (O1):

- **Farm out BHP Billiton.** First Farm out in Pemex's history.
- **Round 1, Bid 4, Contract Area 3, Cinturon Perdido Plegado (Deep waters).** PEP Association with Chevron and Inpex.
- **Round 2, Bid 1, Contract Area 2, Tampi-**

co-Misantla y Contract Area 8, Basins of the Southeast. Association with the German DEA and the Egyptian Cheiron respectively, where PEP is the operator.

Contract Area "Ek-Balam"

2017 was a year to acknowledge the actions to be carried out and establish the mechanisms that will allow an effective institutional and extra-institutional coordination so that the Subsidiary Productive Enterprises (EPS, by its acronym in Spanish) can include a sustainability approach and respect for human rights in their plans to be developed.

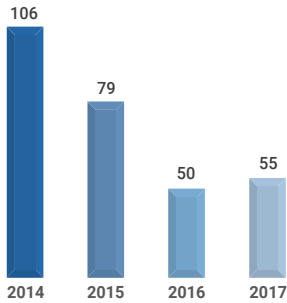
Management of Social License to Operate (LSO, by its acronym in Spanish) (O2, O3)

The management of Social License to Operate is an activity of relevance for Pemex in order to address requests, disagreements or demands from social groups that could potentially compromise the operation and safety of the working centers; as well as to evaluate the feasibility of the execution for specific new projects to be developed in the areas of interest of Petróleos Mexicanos.

The Company executes prevention strategies coordinated inter-institutionally to reduce the likelihood of social problems, while ensuring timely decision making in the event of a social conflict.

The interventions performed by the Pemex's social area are used to bring attention and mitigate the impact caused by oil activities in the communities, keeping record and control of the cases presented as follows:

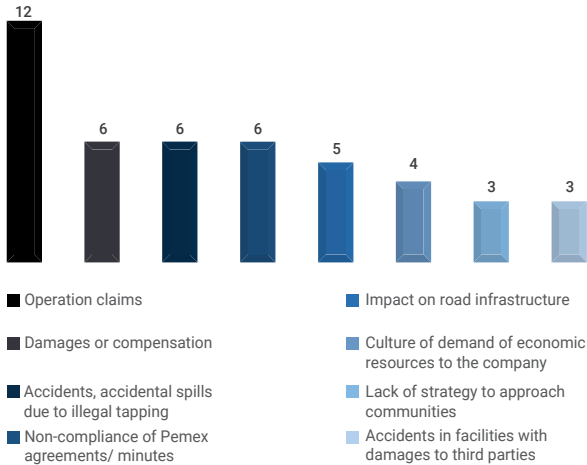
Relevant interventions attended by the GRDS upon request of the EPS during the period of 2014 - 2017



Current status of issues to December 2017:	
Risk level	No. of problems
Low	39*
Medium	16
High	0
Conflict	0

*Of the 39 issues with low risk level, 26 were finalized as of December 31, 2017.

Recurring problem, by type
January – December 2017:



Archaeological, historical and cultural sites on the communities (O4)

As a rule, in Petróleos Mexicanos, the execution of projects takes into consideration the importance of preserving and caring of archaeological, historical and cultural sites that are located in the area of influence where a project is intended for placement. The Institutional Project Development System (SIDP, by its acronym in Spanish) excludes properties for the development of projects that are located in archaeological or cultural heritage areas.

In addition, as stated by law, through the Environmental Impact Statement (MIA, by its acronym in Spanish), cultural resources of greater significance are also taken into account for the assessment. These can be related to historical heritage such as the historical-artistic and archaeological monuments that are located in the area of influence.

The existing historical heritage within the lands and the area of influence where a project will be established must be inventoried in order to identify undiscovered sites. Socio-cultural factors are also evaluated, such as the cultural value and extension of the areas that may experience changes in traditional ways of life, or the number and value of the historical-artistic and cultural heritage elements affected by the execution of a project, as well as the intensity of use by the communities settled within the property where the project will be established, which could be used as a recreational, assembly or other in the area.

SE2: INDIGENOUS PEOPLE

Petróleos Mexicanos is committed to respect human rights and comply with regulations regarding indigenous communities, that is why it has actively

participated in the exercise promoted by the Ministry of Governance on the National Business and Human Rights Program; implementing in the same way, various internal mechanisms for the establishment of a Human Rights Committee and taking special care in the development of EVIS under the stipulations of the Hydrocarbons Law and its regulations **(C1)**.

Mexican Legislation establishes that the Ministry of Energy is the entity incharge to determine if it is necessary to prepare a consultation and implement specific actions to address these groups, considering the Social Impact Study and the corresponding assessment of the EVIS. Notwithstanding the above, the EVIS prepared by Pemex to obtain permits to execute activities in the field of hydrocarbons, consider at any time and in a timely manner, the development of a specific section for the identification and characterization of indigenous communities in the area of influence of the project and in case of presence of indigenous communities the identification is based on legal instruments, as well as on socio-demographic and/or socio-cultural tools issued by the competent state and federal authorities. The identification includes at least the following considerations **(C1)**:

- Territorial connection.
- Historical continuity.
- Internal regulatory systems.
- Cultural identity, sociocultural institutions and biocultural heritage.
- In case of indigenous communities presence in the area of influence, specific mitigation and prevention measures are taken.

So far, the authority has not required the preparation of prior consultations on projects that have begun execution; however, as previously mentioned, Petróleos Mexicanos include the identification and



characterization of indigenous people in their EVIS and, if necessary, include specific actions to serve these communities. **(S1)**

Similarly, in 2015 Pemex signed a collaboration agreement with the National Commission for the Development of Indigenous People (CDI, by its acronym in Spanish) that will continue to be effective until November 2018. Although this agreement's commitment is not based on a budget, it does establish the following responsibilities **(S1)**:

- Provide support through different schemes to the activities coordinated with the CDI.
- Subscribe specific legal agreements with state entities, municipalities and civil society organizations, as well as with other necessary institutions to provide support.

- Support the CDS through the Community and Environment Support Program (PACMA, by its acronym in Spanish) for the development of situational diagnoses and evaluation of the feasibility to be beneficiaries or co-participants of the programs, work and actions (PROAs, by its acronym in Spanish).

As a result of this agreement Pemex funded the restoration of the House of the Indigenous Child “Gloria Ruiz de Bravo Ahuja”, in Santiago Ixaltepec, Oaxaca. The allocation of more than 11 million pesos will help to continue providing housing to 49 girls, boys and youngsters, as well as to support their academic achievements providing food, sports and entertainment services **(S1)**.

SE3: INVOLUNTARY RESETTLEMENT

Petróleos Mexicanos performance is based on internal procedures for compensation and remediation in case of damages caused to the communities and their assets. At all times, when developing site selection and preliminary project studies, we avoid the impacts that a possible resettlement would involve **(S1)**.

In 2017, there were no involuntary resettlement related to the operations of the Company **(C1)**.

SE4: SOCIAL INVESTMENT

Strategies, mechanisms and instruments **(C1)**

Our company has different mechanisms to manage our social responsibility which are implemented and followed by different areas throughout the structure of the company. Pemex actively contributes to improve the quality of life of families living

in oil regions, taking on a proactive role in the generation of suitable conditions for the growth and well-being of communities, while carrying out the activities that are mandatory.

We understand that the business must be aligned to a continuous improvement in terms of our social responsibility practices while generating increasing revenue for the Company, avoiding sanctions and complaints, as well as enhancing the reputation of the Company.

We have different instruments to accomplish these goals such as the following: donations (cash, fuels and asphalt, non-real estate and real estate property); Mutual Benefit Work (OBM, by its acronym in Spanish); Community and Environment Support Program (PACMA, by its acronym in Spanish); Integrated Extraction and Production Contracts (CIEP, by its acronym in Spanish) and the appendixes and clauses on sustainable development.

We have designed and implemented strategies and institutional mechanisms aimed to strengthen sustainability in the areas where we operate, allowing our operations to be executed under viable stability and continuity conditions.

Social investment aims to maximize efforts in the communities where we operate. Our social development instruments are focused on improving the quality of life in the oil zones while balancing the industry growth with communities well-being.

As a consequence, with the objective of proactively contributing to social, economic, and environmental improvement, we assume a commitment that goes beyond regulatory compliance, acting proactively on the growing problems that affect society. We are aware of the importance of

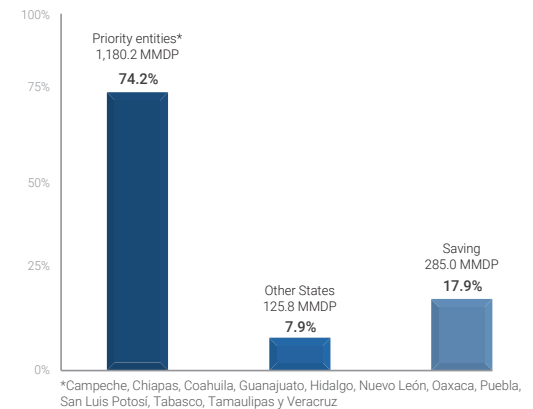
teamwork, where Pemex can be perceived as an ally that continuously works as a force to move Mexico, by building a better country for this and future generations.

Donations and contributions **(C2, S2)**

Our mechanism to grant donations and contributions allows us to support municipal and state governments and social organizations in order to execute integral projects or to support public services. This mechanism includes cash donations, in-kind donations (such as fuels and asphalt), as well as non-real estate and real estate property donations that are no longer useful for the company.

During 2017, 74.2% of the donations and contributions were granted to priority entities (12 states with greater oil activity) and 7.9% to the rest of the country.

Amounts/Percentage (90/100):



To approve these grants, the Donations Granting Group (GOA, by its acronym in Spanish), which brings together several representatives of the Corporate and Subsidiary Productive Companies, held seven meetings during 2017.

2017 Financial summary



Authorized amount
1,591* MMDP

Exercised amount
1,306 MMDP

Savings:
285 MMDP

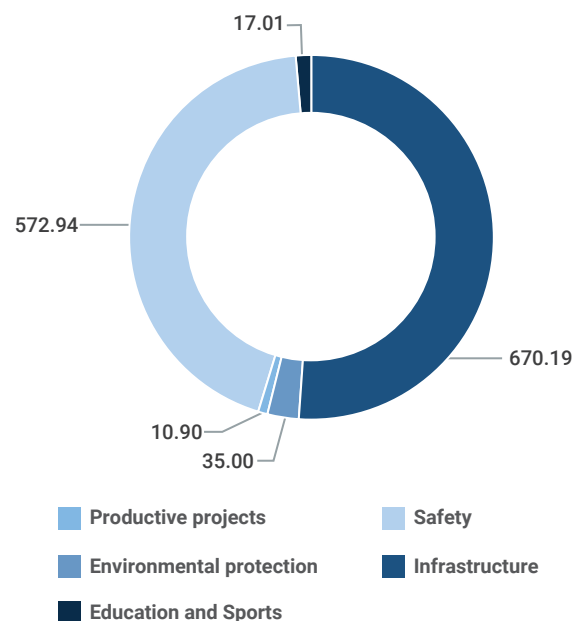
Exercising
82.1%

of the budget forecast
authorized by the CAPEMEX

Savings of
17.9%

* Budget forecast: Agreement CA-006/2017 March 1st, 2017.

Distribution by Axis

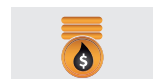


108
donations and
contributions

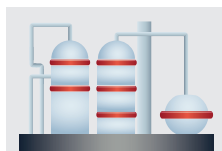
Investment of
1,306
MMDP

58

Distribution by component:



Cash
59.0 MMDP

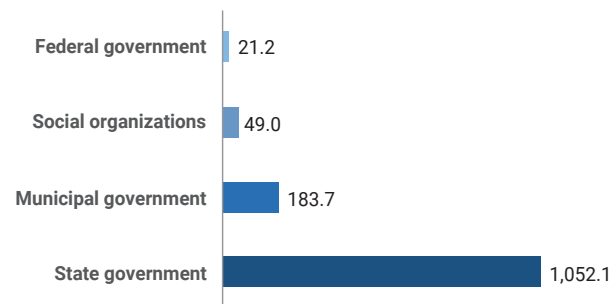


**42,840 tons
of asphalt**
= 326.5 MMDP



**56.7 million
liters of fuel**
Magna gasoline, Diesel/Marine
Diesel, Turbosine (aviation fuel)
= 920.53 MMDP

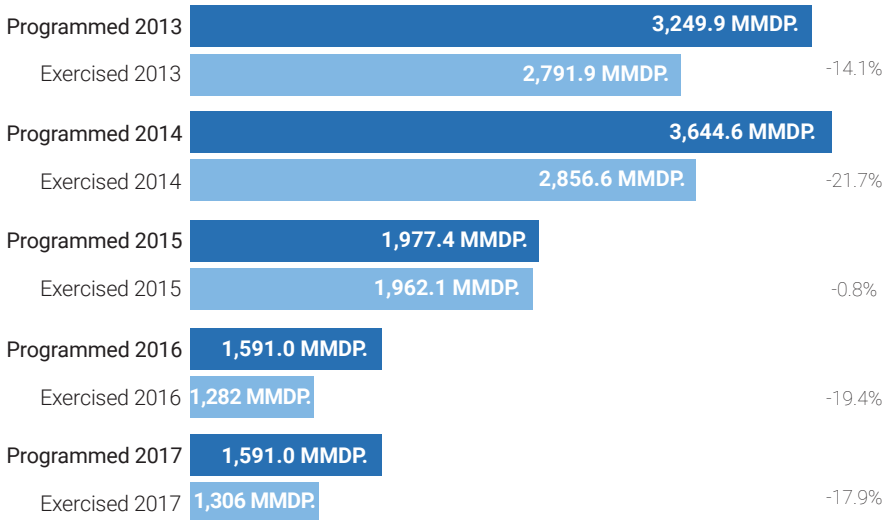
Figures in MMDP



7 cash
donations

101
in kind
donations

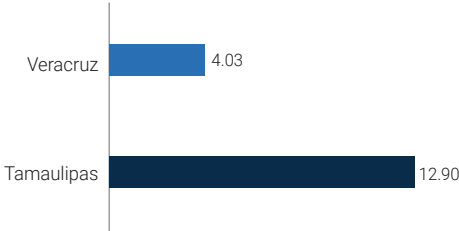
Historical exercise (2013-2017)



In addition to the cash donations and in-kind donations, during 2017 the following non-real estate and real estate property donations were granted:

- Non-motorized boat for people transport of Quintin Arauz community, municipality of Centla in the state of Tabasco.
- More than 16,000 m², Lot 81 of Hacienda Juan Felipe Cerro Azul, Veracruz donated to Ministry of National Defense (SEDENA, by its acronym in Spanish) activities.
- Donation of a land called CETIS No. 109 to the Federal Government through the Ministry of Public Education (SEP, by its acronym in Spanish). The Center of Technological, Industrial and Services Studies No 109 operates in this land with a student population of nearly three thousand students.

Beneficiary	Amount (MMDP)
Federal Government SEDENA	4.03
Federal Government SEP	12.90



Community and Environment Support Program (PACMA, by its acronym in Spanish)

The Community and Environment Support Program is one of the supporting instruments of Pemex's Responsibility and Social Development strategy, which aims to promote human development, generate productive capabilities, deal with social adjournment and promote sustainable development of communities located within areas with oil activity.

Suppliers and contractors fund these projects with the equivalent of 2% or 1% of the total amount of the contract, exercised as the contract is paid.

The programs, work and/or actions (PROAs, by its acronym in Spanish) performed, focus on infrastructure, health, environmental protection, education and sports, as well as productive projects.

126
PROA
in 2017

Investment of
233.82
MMDP

benefiting:
9 State governments
37 Municipal governments

Actions performed:

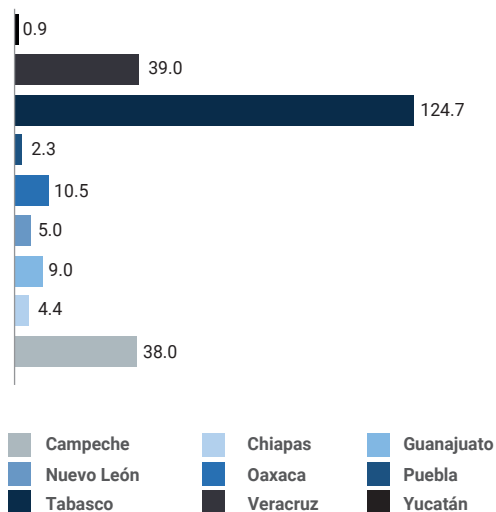
314,617 Mobile Medical Unit beneficiaries	175 safe roofs	5 greenhouse cabins	12 classrooms
2 ambulances	13 urban roads	3 community centers	3 kitchen-dining rooms in schools
1 radiography equipment	1,400 ecological stoves	9 community kitchens	7 bathrooms
1 radiological unit	7,500 ceiling metal sheets	7 fishing gear endowments	1 interactive rooms
5 phototherapy systems	5,135 luminaires	1 tractor	1 sports unit
1 insufflator for laparoscopy	1 bus stop		1 court
	410 firm floors		
	2 parks		
	13 domes		
	1 fence		
	1 sidewalk		

Investment in PROA by state

During 2017, 126 programs, work and actions distributed in nine states with an investment of **\$233.82 million pesos** were performed.

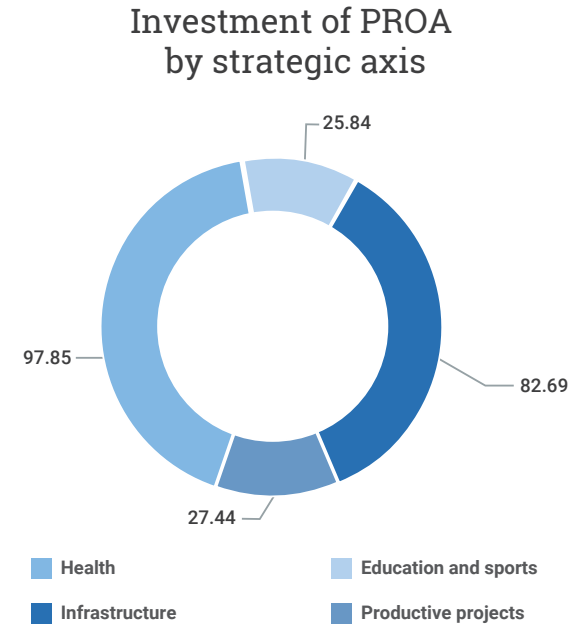
Entity	PROAs	Amount (MMDP)
Campeche	15	37.99
Chiapas	1	4.36
Guanajuato	15	9.01
Nuevo León	1	5.02
Oaxaca	13	10.54
Puebla	1	2.32
Tabasco	28	124.70
Veracruz	51	38.95
Yucatán	1	0.94
Total	126	233.82

Investment in PROA by state (MMDP)



Investment of PROA by strategic axis

126 programs, work and/or actions were applied through the following strategic axis.



Mutual Benefit Work (OBM, by its acronym in Spanish)

In collaboration with local governments and their communities, we carried out actions to improve basic infrastructure with a dual purpose: to create the conditions that serve our operation demands, as well as to offer facilities, construction and improvement or refurbishment of basic infrastructure for the benefit of nearby communities, thus contributing to raise the quality of life of the society while strengthening solidarity, as well as lasting and more prosperous relationships.



This is possible due to initiatives identified with communities and local authorities through collaborative framework agreements. These agreements are annually defined and included in the most relevant service contracts.

The Mutual Benefit Work include paving, maintenance and refurbishment of highways, roads and urban roads, as well as the construction of sidewalks and fittings among other actions.

Actions performed:

- 6 roads
- 2 domes
- 1 bridge
- 5 urban roads

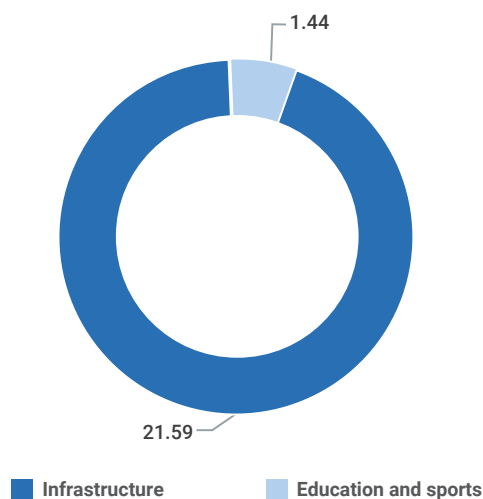
13
OBM
in 2017

61

Investment of
23.03
MMDP

benefiting a Cunduacán,
Jalpa de Méndez and
Nacajuca in Tabasco

Investment by strategic axis



- 6 bleachers and bathrooms in sports fields.
- 1 restored health center.
- 1 social center.
- 4,581 solar panels.
- 12 domes.
- 3 training programs.
- 3 productive projects.
- 1 fence.

Puebla	San Luis Potosí	Tabasco	Tamaulipas	Veracruz
Francisco Z. Mena	Ébano	Cárdenas Comalcalco Huimanguillo	Altamira	Álamo Temapache Castillo de Teayo Gutiérrez Zamora Pánuco Papantla Pueblo Viejo

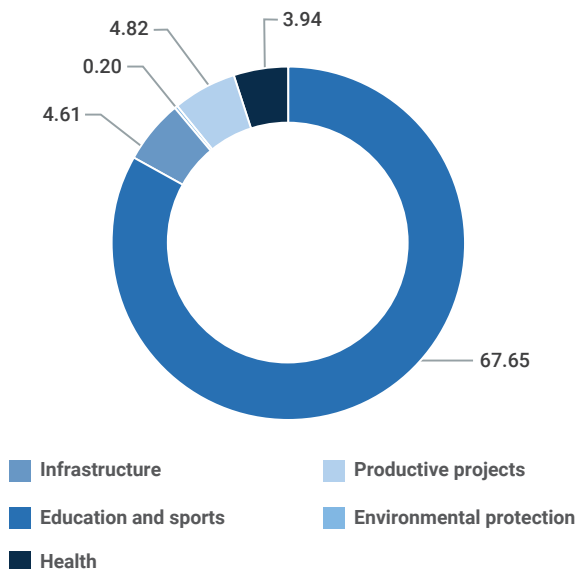
Integrated Extraction and Production Contracts (CIEP, by its acronym in Spanish)

CIEP is another instrument to address the impact of the industry on communities and the environment. Through the CIEP, construction, maintenance and modernization of road and hydraulic infrastructure, among other actions are performed.

Acciones realizadas:

- 13 rehabilitated schools.
- 9 classrooms.
- 1 dining rooms-classrooms.
- 2 dining rooms.
- 1 school equipment.
- School supplies.
- 1 gym.

Investment by strategic axis



55
CIEP
actions
in 2017

Investment of
81.22
MMDP
benefiting
Five State Governments
12 Municipal Governments

Sustainable Development Appendixes

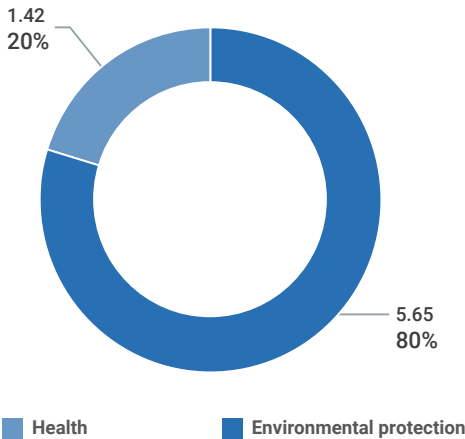
In order to address the impact that the industry could have on communities and the environment, Pemex included the Sustainable Development Appendixes to specific contracts. These appendixes establish the sustainable development obligations of contractors or suppliers that perform activities on behalf of Pemex for the benefit of the communities.

Puebla	Veracruz
Venustiano Carranza	Álamo Temapache Coatzintla Ixhuatlán de Madero Papantla

Donations:

- 18 garbage trucks.
- 1 supply of medical equipment for hospital.

Investment by strategic axis



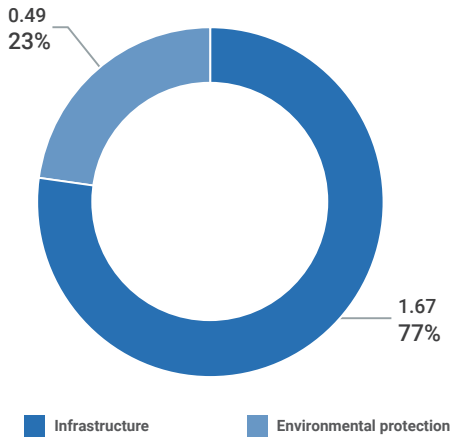
RS Clause (Social Responsibility) KMZ (Ku-Maloob-Zaap)

The Social Responsibility Clauses are additional instruments that contribute to address the impact that the industry could cause in communities and the environment. Specifically, the Clause on Social Responsibility of the contract of the seismological study Ku-Maloob-Zaap is focused on the following:

Donations:

- 1 water treatment plant.
- 1 compact substation.
- 7 transformers.

Investment by strategic axis



10
PROAs
in 2017

Investment of
7.07
MMDP

benefiting:
2 State Governments
5 Municipal Governments

4
PROAs
in 2017

Investment of
2.16
MMDP

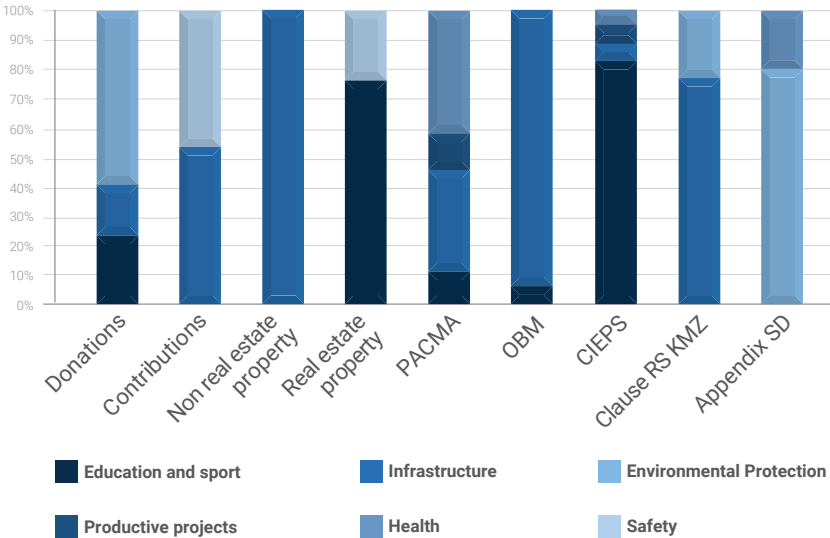
benefiting Campeche State
Municipal Governments
of Ciudad del Carmen and
Nuevo Campechito

Breakdown of social investment by axis and state

Entity	Donations	Contributions	Non-real estate property	Real Estate property	PACMA	OBM	CIEPS	RS Clause KMZ	SD Appendix	Total Pesos	%
Aguascalientes		2,746,219								2,746,219	0.16%
Baja California		3,816,441								3,816,441	0.23%
Baja California Sur		6,023,544								6,023,544	0.36%
Campeche		355,702,438			37,985,147			2,163,692		395,851,277	23.70%
Chiapas	42,000,000	99,405,550			4,357,791					145,763,341	8.73%
Chihuahua		931,262								931,262	0.06%
Ciudad de México	14,000,000	21,170,574								35,170,574	2.11%
Coahuila		12,302,514								12,302,514	0.74%
Colima		3,114,374								3,114,374	0.19%
Durango		8,360,073								8,360,073	0.50%
Estado de México		26,071,299								26,071,299	1.56%
Guanajuato		36,643,955			9,015,080					45,659,035	2.73%
Guerrero		10,175,296								10,175,296	0.61%
Hidalgo		37,402,634								37,402,634	2.24%
Jalisco		939,177								939,177	0.06%
Morelos		6,043,490								6,043,490	0.36%
Nayarit		3,794,038								3,794,038	0.23%
Nuevo León		22,365,614			5,015,161					27,380,775	1.64%
Oaxaca		121,997,905			10,538,059					132,535,964	7.93%
Puebla		32,616,810			2,322,000		2,850,660		2,810,457	40,599,927	2.43%
San Luis Potosí		3,783,574					11,182,312			14,965,886	0.90%
Sinaloa		9,074,310								9,074,310	0.54%
Sonora		4,921,006								4,921,006	0.29%
Tabasco	3,000,000	105,122,880	38,533		124,697,931	23,026,003	22,724,639			278,609,986	16.68%
Tamaulipas		144,225,170		12,885,300			3,808,713			160,919,183	9.63%
Tlaxcala		930,577								930,577	0.06%
Veracruz		163,628,426		4,027,597	38,953,793		40,656,856		4,264,502	251,531,174	15.06%
Yucatán					935,483					935,483	0.06%
Zacatecas		3,726,727								3,726,727	0.22%
Total	59,000,000	1,247,035,877	38,533	16,912,897	233,820,445	23,026,003	81,223,180	2,163,692	7,074,959	1,670,295,586	100.00%



% social investment per instrument



Presidential Commitment (01)

President Enrique Peña Nieto, in presence of Notary Public 266, signed commitments to be fulfilled during his government intended to generate “A Mexico in peace with justice, unity and development”.

Pemex complied with the Government Commitment 158 “Investment program for the well-being and quality of life for those who live in oil zones”.

This commitment aims to support the improvement of the well-being and quality of life of those who live in oil zones, through work and actions.

The scope of the commitment was to execute services and programs distributed in seven components (infrastructure, health, education and sports, productive projects, gender equity, safety and environmental protection), through different instruments such as: Community and Environment Support Program (PACMA), and Donations and Mutual Benefit Work (OBM).

Even though the commitment has been fulfilled, the PACMA will continue to operate considering the importance of the benefits achieved in the communities and regions where it has been implemented.

Even though Pemex’s social investment may be associated to contractual clauses, no social investment is an obligation and it is subject to budgetary sufficiency at all times, both for the Company and for partners or contractors who execute other instruments such as CIEPS, OBM, Appendix DS or specific clauses in contracts, for which it is considered that the aforementioned social investment is voluntary (02).



LOCAL CONTENT

“As part of Pemex transformation, actions have been implemented to promote a competitive and sustainable supply chain”.

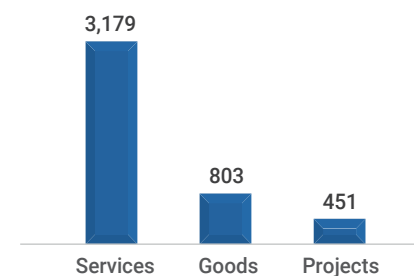
Miguel Ángel Servín
Operative Director of
Procurement and Supply

SE5: COMMITMENT TO THE REGIONAL AND LOCAL PROCUREMENT

Government Procurement Program (C1, S1)

Pemex contributes in a coordinated and meaningful way to the Government Procurement Program coordinated by the Ministry of Economy. In 2017, 4,433 million pesos were contracted to stratified suppliers such as micro, small and medium-sized enterprises (MIPyMEs, for its acronym in Spanish) at regional and local level, exceeding by 51% the procurement goal. It is important to note that 66% of the amount of these contracts were granted through open competition. Purchases from these suppliers are mainly related to machinery installation, repairs and maintenance services. **(C1, S1)**

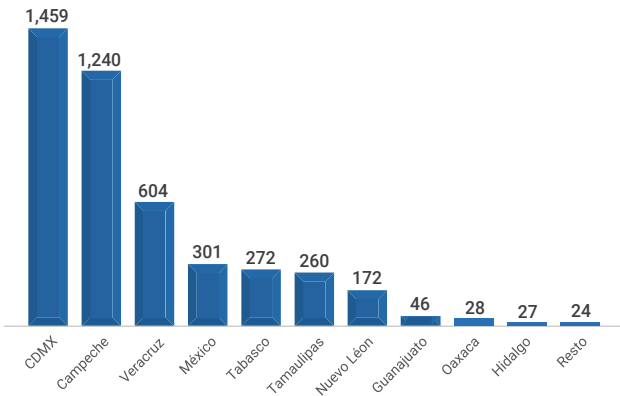
Amount of MIPyMEs contracts (MMdp)



Hiring of suppliers by state, 2017 (S2)

Federal entities in which the largest purchases volumes were made to MIPyMEs were Mexico City, Campeche, Veracruz, Mexico City, Tabasco and Tamaulipas. (S2)

Amount of MIPyMEs contracts by state (MMdp)



Attention to lack of liquidity of local suppliers (C1, S1)

On the other hand, within the framework of the Program for Economic Reactivation and Productive Development for the States of Campeche and Tabasco, that was launched in 2016 by the Presidency of the Republic, and with the objective of collaborating while addressing the lack of liquidity faced by companies from both states, Pemex prioritized and expedited payments to local suppliers.

In this way, all the debts were paid, and the commitments generated by acquisitions and contracts made to suppliers and contractors in these states during the years 2016 and 2017 were settled (S2).

The amounts of payments made, as well as the number of suppliers, are shown in the following table.

State	Payments made ¹ (MMdp)	Number of suppliers
Campeche	\$ 30,665	126
Tabasco	\$ 24,066	421
Total	\$ 54,731	547

SE7: LOCAL PURCHASES AND SUPPLIER DEVELOPMENT

Financial factoring program for productive chains (C1)

As part of the Economic Reactivation and Productive Development Program for the States of Campeche and Tabasco, Pemex collaborates with Nacional Financiera to encourage its suppliers and contractors to join the financial factoring program of productive chains.

In this context, negotiations were carried out with actors from state governments and the Business Coordinating Council. Meetings were held with various suppliers from these states to present alternative business solutions to Pemex and to share their problems, with the objective of establishing direct communication channels.

The need to establish a state census of industry suppliers was defined to map the supports that can be granted for productive chains creation and the integration of participation forums of all sectors with the purpose of identifying strengths, weaknesses, threats and opportunities of the industry.

In collaboration with the State entities, the contracting requirements are reviewed to benefit the development of suppliers and the creation of clusters and productive chains with local entrepreneurs.

This work aims to close gaps between demand and supply of main actors in the value chain of the hydrocarbon industry to generate new alliances.

Contracting scheme for non-consolidated goods and services (S2)

Pemex seeks to consolidate goods and services contracting to comply with Petróleos Mexicanos and its Subsidiary Productive Enterprises General Contracting Provisions. However, to support the local suppliers, a non-consolidated contracting scheme has been implemented, enabling the participation of small and medium-sized suppliers and local contractors.

Through this scheme, 12 contracts were granted in 2017 to companies in the municipalities of Campeche and Carmen, in the state of Campeche, for a total amount of \$ 58'129,299. Similarly, in the state of Tabasco, 26 contracts were granted to companies in the municipalities of Huimanguillo, Centro and Macuspana, for a total amount of \$ 107'155,260.

Suppliers' Development and sustainability operations (S2, SE9)

Pemex has implemented the Supplier Evaluation and Responsibility Program (PERP, by its acronym in Spanish) which aims to improve risk management and promote sustainable development in our supply chain, as well as to strengthen a long-term commercial relationship and raise the standards of the sector in a framework of transparency.

¹ Up to December 8th, 2017.

The program consists on conducting reviews at the suppliers' facilities that, due to their relevance, recurrence and contracting amounts, are strategic to Pemex. On-site reviews of suppliers and contractors are carried out by an independent third party appointed by Pemex, to review compliance and areas of opportunity in the following key business areas: corporate social responsibility, quality and business management, health and safety, human resources and environmental management.

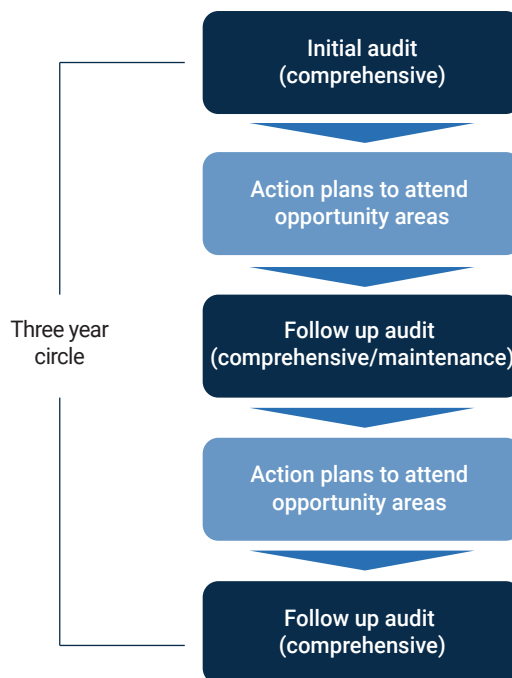
From these on-site reviews, reports are generated with the results of each of the sections evaluated, specifying non-conformities, recommendations and positive elements identified. This type of comprehensive reviews, in addition to verify compliance and to perform as a tool for continuous improvement, has also the purpose of identifying the best practices of our suppliers.

The on-site reviews are performed on an annual basis. The initial review scope is comprehensive and depending on the result obtained, it is determined if the next review will be focused only on maintenance or if a comprehensive review should be performed again. In any case, a comprehensive on-site review is carried out every three years.

In 2017, 59 on-site reviews were conducted to suppliers and contractors, increasing by 32% as compared to the previous year. In these reviews, 122 areas of improvement were identified and action plans were requested to be attended. Moreover, 173 recommendations were issued and 159 best practices were identified.

This type of programs enhances the reliability of Pemex's supply chain and align the business activity of our suppliers to the industry standards with a focus on continuous improvement. It is im-

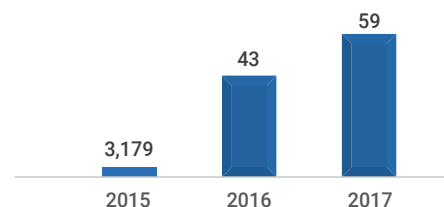
Supplier Evaluation and Responsibility Program (PERP)



portant to highlight that 85% of the suppliers and contractors that provided feedback regarding this program, considered that the findings were useful for their company.

To recognize the compliance and continuous improvement of our suppliers when addressing the opportunity gaps that are detected in the reviews, a project is being performed with the purpose of taking into consideration the results of these on-site reviews in recruitment procedures.

Evolution of the number of suppliers reviewed on-site

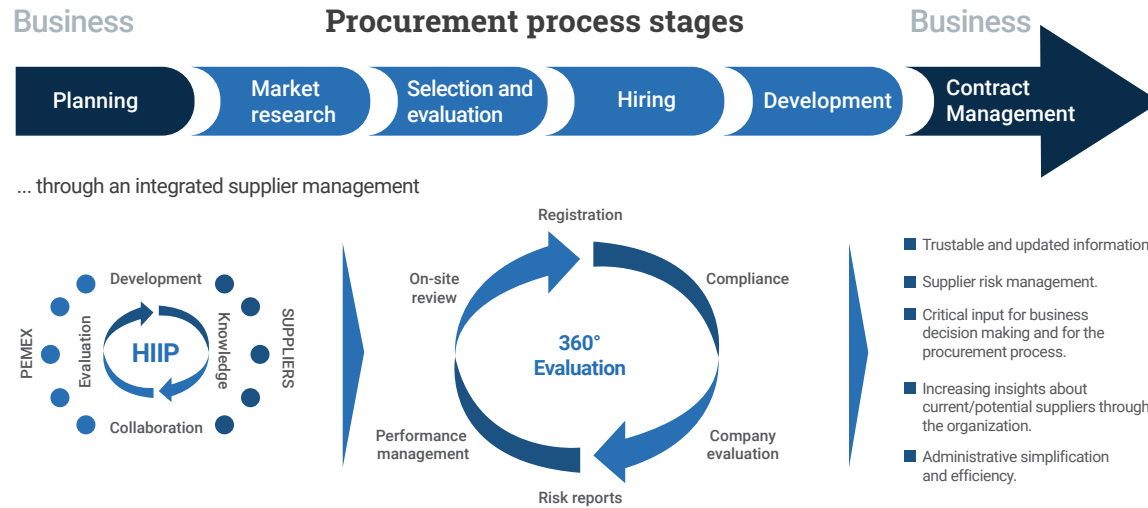


Comprehensive supplier information tool (O2)

Since 2015, the development of an Integral Supplier Information Tool (HIIP, by its acronym in Spanish) has been introduced with the purpose of improving the integral management of suppliers. Currently and three years after its implementation, the HIIP is used by the procurement and supply area to support decision making throughout the procurement process, from market research to contract management.

At the end of 2017, the HIIP contained up-to date information of 5,599 suppliers and contractors that are visible for the procurement and supply areas, which has contributed to improve the relationship with suppliers and contractors, by having reliable information for the areas of procurement and business of Pemex about the products and services they offer and their commercial and financial capabilities.

Also, it increases the productivity in the procurement and supply processes by reducing the time needed to review information from current or potential suppliers and contractors. It also enables the risk management and suppliers development by performing an assessment of their weaknesses and strengths.



Moreover, during 2017, 118 performance evaluations corresponding to 105 contracts with 60 relevant suppliers and contractors were conducted.² The medium-term objective is to gradually expand the universe of suppliers and strengthen systematization of performance evaluation to identify opportunities for their follow-up, with a focus on continuous improvement.

As well as on-site reviews, work is being done to update the regulations so that performance evaluations are considered in future contracting procedures.

Efforts to strengthen collaboration with national suppliers and the industrial sector (C1)

The Business Advisory Committee of Petróleos Mexicanos and its Subsidiary Productive Enterprises (CCEPM, by its acronym in Spanish) was established to strengthen the relationship with the busi-

ness sector through dialogue and the exchange of best practices on topics of common interest.

The main Chambers, Associations and Confederations whose affiliates are related to the hydrocarbon sector participate in the CCEPM, held three regular sessions during 2017. This Commission is integrated by three supporting subgroups: competitive and sustainable procurement, innovation and technology, and national content.

In addition, Pemex implemented the Supplier Day aiming to strengthening communication and involving national and local suppliers and contractors.

This initiative, whose first edition was held in Mexico City, on February 28th, 2017, with the objective to share the strategic vision of Pemex and the transformation of procurement. Moreover, there were working sessions that allowed direct information exchange between business, procurement and supplier areas in topics of common in-

terest. 201 companies participated and the event was broadcasted on social networks. Due to the success obtained, it was decided to carry out a second edition based on Ciudad del Carmen, on April 25th, 2017, to which local suppliers of 85 companies were registered.

The presentations that were delivered in both editions are available in Pemex portal so that suppliers and contractors can consult them.

Another important aspect is the participation of Pemex in regional and local forums to explain entrepreneurs how to become a Pemex's supplier and the advantages of registering in the HIIP. An example of this commitment is the participation of Pemex in the "Encuentro Energético" (Energy Forum) organized in Monterrey by the government of Nuevo León and the Energy Cluster of the entity, delivering the conference "How to be a Pemex supplier". The purpose of this forum was to inform entrepreneurs of the mechanism to register in the HIIP.

² Performance evaluations corresponding to contracts during the 1st, 2nd and 3rd quarter of 2017.

HUMAN RIGHTS

“Our Company, promotes respect, protect and guarantee human rights.”

Human rights are inherent rights of all human beings despite their gender, sexual orientation, nationality, place of birth, ethnicity, religion, language, age, political ideology or social, cultural or economic condition. We all have the same human rights without discrimination.

SE8: HUMAN RIGHTS DUE DILIGENCE

Being these rights universal, progressive, inherent and indivisible; at Petróleos Mexicanos we hold responsible to promote, respect, protect and guarantee the human rights of each and every one of the people with whom we daily interact executing our functions **(C1)**.

On July 14th, 2017, Petróleos Mexicanos' Board of Directors approved the Compliance Program

of Petróleos Mexicanos, its Subsidiary Productive Companies and Subsidiary Companies (Pemex), based on international best practices.

The program contains various normative frameworks that support the efforts of the Mexican Government and foreign governments in the fight against Corruption aligned to the National Anticorruption System, to the provisions that apply to us as public servants, foreign laws and recommendations by the Organization for Cooperation and Economic Development (OECD) and the United Nations Convention against Corruption (UNCAC).

The Code of Ethics establishes the ethical and integrity principles that should govern decision-making in the actions of our employees. The Code of Conduct guides and defines the mandatory





behaviors expected from employees while establishing practices that are not allowed **(C1, S1)**.

Absolute rejection to corruption it is a matter of the great relevance established in the Anticorruption Policies and Guidelines for Pemex. The policy regulates topics related to conflicts of interest, acceptance of gifts and invitations, drug and alcohol treatment, as well as the practice of Due Diligence processes in ethics and corporate integrity in its business operations, commercial agreements and relationships with third parties **(C1)**.

Pemex is an inclusive company that contributes to generating a culture of respect and safeguarding of people's rights, within a framework that

promotes the principles of equal opportunities, non-discrimination and respect for diversity. In this line, Pemex issued policies and procedures that address possible acts of discrimination, workplace harassment, bullying and sexual harassment within the Company, to prevent, detect, resolve and punish these acts, and other forms of violence **(C1, S1)**.

Through this legislation, we established measures that allow employees enjoy equal rights, through rules and procedures in terms of their access, permanence and development in employment. Additionally, the measures are focused on ensuring that employees receive similar or equivalent treatment, respect at all times, without distinctions, exclusions or preferences for reasons that are not related to particular qualifications required by a given position or job. Furthermore, we aim to provide a favorable organizational environment that promotes, among other things, defined responsibilities, performance recognition and proactive participation and communication among its members¹ **(C1, S1)**.

Based on the above, since 2005, Pemex has promoted actions to mainstream the gender perspective, institutionalize inclusion and improve working conditions and involvement of its personnel. We with the purpose of reinforcing these transformations, since 2014, our institutional scaffolding has been strengthened programmatically and normatively. Examples of this are the Institutional Social Inclusion Strategy, the Inclusion Round Table, Equality and Non-Discrimination Board (MIIND), as well as incorporating these issues in the Codes of Ethics and Conduct. See *chapters on Ethics and Transparency and Our People* **(S1, S2)**.

Based on the ethical principles of respect and equality and non-discrimination, Pemex recognizes

the value, rights and obligations of all people and promotes equality, as well as appropriate and cordial treatment, without distinction, exclusion, restriction or preference. In that sense, the corporate ethics directive regarding personal relationships, contained in the Code of Ethics, acknowledges Pemex as an inclusive company that recognizes the value of human diversity, which is committed to maintain a work environment free of violence. As a result, any discriminatory behavior, workplace harassment, bullying and sexual harassment or any other conduct that threatens the dignity and human rights of individuals, is prohibited. **(C1)**

Pemex's commitment to promote, respect, protect and guarantee the human rights of each and every one of the people with whom we live daily in the development of our functions, is reinforced in the Pemex Ethics and Integrity Portal available at <http://www.pemex.com/etica-e-integridad/derechos-humanos/Paginas/default.aspx>, in accordance with the National Human Rights Program 2014-2018, the guiding instrument of the Mexican State that consolidates the human rights policy based on international standards and recommendations **(C1)**.

Regarding the right of personal data protection, Pemex established a general collaboration agreement with the National Institute of Transparency, Access to Information and Protection of Personal Data. In accordance with the Federal Law of Transparency and Access to Public Information, Petróleos Mexicanos operates in alignment to a privacy and personal data management policy **(S1)**.

To support the right to education, Pemex promotes the continuous education of our workers and offers a scholarship program for employees and their children through a wide training and development program. In 2017, 10,511 scholarships were granted.

¹ See the definition of the Health and Safety at Work Federal Regulation, article 3, fraction XI.



Additionally, we offer the “Pemex Corporate University”, which is formed by specialized training units called *Schools* that serve non-unionized and unionized staff. Pemex has also a Case Study Center that uses and archives the knowledge of internal technical experts while sharing it with the rest of the company **(S1, S2)**.

Pemex volunteering supports several actions for the good of the community. In order to strengthen health, Red Cross and Teleton collections are raised. At institutional level, this has been the most important fundraising actions coordinated by Pemex Volunteering body, with the support of its Subsidiary Production Companies and the union **(S1)**.

Institution	2013	2014	2015	2016	2017
Mexican Red Cross*	\$29.026	\$33.018	\$27.037	\$19.627	\$12.121
Teleton*	\$3.721	\$4.049	\$3.242	\$3.607	\$.611 **
Jugueton	7,200 toys	10,000 toys	8,966 toys	5,900 toys	4,200 toys

* Figures expressed in millions of pesos.

** The Teleton 2017 funds collection was suspended due to the September 19th earthquake and will be resumed at the end of February 2018.

Collections and fundraisings are also carried out, as well as campaigns in cases of emergencies to combine actions aimed at delivering humanitarian aid. In 2017, because of the earthquakes that occurred on September 7th and 19th, a collection campaign was carried out among Pemex personnel reaching 24 tons of products that were delivered to the affected population, including food and basic needs, as well as 2,000 supplies for medical services and a cash contribution of 2.389 million pesos **(S1)**.

Additionally, Pemex volunteering operates the hospital support program which promotes the social commitment of the staff, to offer recreational, artistic and cultural activities to provide cordial and dignified treatment to all beneficiaries who visit the medical units of Pemex. In 2017, 41,191 beneficiaries and family members were benefited in the High Specialty Hospitals of Pemex, located in Mexico City **(S1)**.

To strengthen the rights of children, as well as the elderly's, Pemex offers Family Integration Centers (CIFs, by its acronym in Spanish) and Social and Integral Center for the Elderly (CESIPAM, by its acronym in Spanish), where

781
people
benefited

through
the workshops

6,000
people
benefited

through awareness-
raising activities on
inclusion and non-
discrimination

workshops were held to promote the development of physical, artistic and training skills. Likewise, activities on equality, inclusion, and non-discrimination matters were carried out, and a total of 80 conferences and awareness-raising activities were addressed to active staff, retirees, beneficiaries and the community in oil regions (S1).

The main challenge the Family Integration Centers will face in 2018, is to drive themselves as community institutions focused on the promotion of social and economic development in oil regions where they are located, by strengthening companies in the base of the pyramid, to subsequently enable their incorporation into value chains. This with the aim of promoting sustainable development and inclusion at a local level, within the social and economic sphere.



During 2017, Pemex concluded 13,975 lawsuits in administrative, agrarian, environmental, protection, protection, civil, labor, commercial and criminal matters. The disputes entered in 2017 are presented in the following table.

Matter	Quantity	Claimed amount (millions of pesos)
Administrative	195	5,276.8
Agrarian	181	79.6
Environmental	278	24.4
Arbitration	2	3,027.4
Civil	69	441.6
Fiscal	71	1,384.1
Amparo proceeding	1,140	12.5
Labor	8,083	3,866.8
Commercial	37	207.3
Criminal	11,023	7.2
Total	21,079	14,327.7

Regarding environmental matters, Pemex performs internal audits to verify the correct implementation of the environmental management subsystem and the adequate environmental performance, emphasizing the need to effectively identify the relevant environmental aspects, as well as the legal requirements and other internal conditions that must be observed (S2). The breakdown of the environmental trials in 2017 is shown in the following table. It can be observed that 49.3% of these are related to illegal tapping.

Type of trial	Illegal tapping	Others	Total
Contentious administrative trial	2	12	14
Administrative Procedure	135	129	264
Total	137	141	278

National Commission for Human Rights (01-04)



At the beginning of 2017, the Legal Advisory Office had 91 complaints in process, plus 76 received during the year.

Also, during 2017, 64 complaints were closed, one through the Recommendation number 41/2017 dated on September 18th, 2017, against Pemex, on the case of obstetric violence, violations of the right to health protection and health information, at the Regional Hospital of Petróleos Mexicanos, in Ciudad Madero, Tamaulipas.

At the End of 2017, the Legal Advisory Office had 103 complaints in process.

National Council to Prevent Discrimination (01-04)

At the beginning of 2017, the Legal Advisory Office had five complaints in process and received two more throughout the year. During this time, three complaints were closed. As a result, at the end of the year, Pemex had four complaints in process. No recommendations were issued by the National Council to Prevent Discrimination (CONAPRED, by its acronym in Spanish) against Pemex.



SE9: HUMAN RIGHTS AND SUPPLIERS

As part of the strategy to promote a competitive and sustainable supply aimed to respect human rights and labor practices of our suppliers, contractors and service providers, we have a registration questionnaire to know if the suppliers support and respect human rights protection. **(C1)**

On-site reviews are another mechanism to verify compliance of our suppliers regarding human rights. The protocol has three sections, the first one refers to labor practices and human rights; the second one is related to hiring and anti-discrimination practices; and the third one refers to safety and health in the workplace. **(C1)**

SE10: SAFETY AND HUMAN RIGHTS

In Pemex, safety is a priority and our goal is zero accidents **(02)**. Pemex operates based on a Safety, Health and Environmental Protection System (SSPA, by its acronym in Spanish), which integrates the Safety Administration of Processes Subsystem (SASP, by its acronym in Spanish) and the Occupational Health Management System (SAST). Also, we perform in alignment to the 12 Best International Practices (MPI, by its acronym in Spanish) which must be followed at the working centers to prevent risks for the company's personnel, suppliers and the general population. **(C1)**

Petróleos Mexicanos has enriched its SSPA policy with a sixth principle by requiring contractors, subcontractors, suppliers and service providers to comply with the standards set by our company. **(C1)**

In terms of process safety, Pemex has established an Institutional Audit Program in order to identify areas of opportunity in our performance. During 2017, more than 200 audits were conducted and action programs were developed to address identified findings. **(S1)**

There is an extensive emergency attention program and civil protection (see *Safety and Health* chapter). **(C1, S1, 02)**

In 2017, migration procedures were carried out with partners in the new business models for the management and review of compliance in terms of industrial safety and environmental protection. Pemex provided support to new partners, so they could be able to complete the registration and authorization of their risk management systems for industrial safety, operational safety and environmental protection, as well as to present their insurance policies in terms of the guidelines issued by the ASEA. **(S1)**

Six contracts were signed for the exploration and extraction of hydrocarbons in Ek-Balam, Trion, Ogarrio, Cardenas Mora, Santuario, and Mision contractual areas. Five of the contracts were celebrated in association with the company BHP Billiton Petroleo Operaciones de Mexico, S. de R.L. de C.V. **(S1)**

Based on the above, the human rights of Petróleos Mexicanos workers, the contracting company, and the communities surrounding the facilities were safeguarded, while protecting as well the environment. **(S1)**

ETHICS AND TRANSPARENCY

Petróleos Mexicanos, its Subsidiary Productive Companies and Affiliate Companies Code of Ethics reflects the culture, values and business principles that govern our conduct and represents a guide to make decisions in our daily actions.

In 2017, as part of the transformation of Pemex and the commitment of the company to promote integrity and ethical values in all activities carried out by the company's personnel, several normative documents were issued focused on strengthening the ethical culture of Pemex in this new stage as a State Productive Company. This aims to ensure ethics compliance, integrity and fighting corruption established in Petróleos Mexicanos Law, Organic Statute and Guidelines that govern the Internal Control System of Petróleos Mexicanos, its Subsidiary Productive Companies (EPS, by its acronym in Spanish) and Affiliate Companies.

SE11: CORRUPTION PREVENTION

Anticorruption policies (C1)

On July 31st, 2017, "Petróleos Mexicanos, its Subsidiary Productive Companies and, where applicable, Affiliated Companies Code of Conduct " was issued by the General Director and reviewed and approved by the Ethics Committee. In the Code of Conduct, the expected behaviors for Pemex personnel in their daily functions are clearly established, to promote transparency and strengthen the ethical culture of all company personnel. **(C1)**



The Code of Conduct is complementary to the "Code of Ethics of Petróleos Mexicanos, its Subsidiary Productive Companies and Affiliated Companies". Both codes establish the conduct and ethical values to be observed in our daily activities. In August 2017 the Codes of Conduct and Ethics were published in the Official Gazette of the Federation.

The Codes will serve as a guideline for employees to help them make decisions in accordance with our ethical principles and to lead them into the rules of action and behavior that must be observed, fostering their pride to belong to Pemex. Additionally, the application of these codes will promote a better coexistence and workplace environment for those of us who work in the company and will support the construction of solid and lasting business relationships with third parties that share our philosophy of ethics and integrity.

The "Anticorruption Policies and Guidelines for Petróleos Mexicanos, its Subsidiary Productive Companies and, where applicable, Affiliated Companies" were published in September 2017 in the Regulatory Control System. These policies and guidelines are intended to establish actions that prevent acts of corruption, as well as guiding principles that allow Pemex staff and their EPS to identify such acts, and the means to tackle and combat them.

In this normative document it is established the "Anticorruption Manifest of Petróleos Mexicanos, its Subsidiary Productive Companies and Affiliated Companies against Corruption", which declares absolute rejection of corruption and reaffirms the performance of directors, employees and third parties, acting on behalf of Pemex, in accordance with the values established in the Code of Ethics, Code of Conduct and Policies and Guidelines on Anticorruption,

an essential element to obtain the necessary trust in business relationships, investments and use of resources and thus contribute to the generation of value.

The Ethics and Integrity portal (<http://www.pemex.com/etica-e-integridad/Paginas/default.aspx>) is an institutional mechanism to inform, guide and facilitate internal and external communication on ethics and integrity topics and actions that the company has adopted. This portal includes the normative documents applicable on this subject, such as the Ethics and Conduct Codes, the Policies and Guidelines on Anticorruption, and the Policies and Guidelines for the Development of Due Diligence in Ethics and Integrity, among others. It also includes links to national and international initiatives and best practices in the field, the information related to the Ethics Committee, as well as the link to the Ethics Line, mechanism used to consult ethical dilemmas and to report actions non-compliant with the normative documents described above.

Training and communication in ethics and integrity programs (C2)

To reinforce the publication of the codes, the corporate directors and directors of EPS were officially informed of the update and its compulsory nature, requesting their support in the dissemination and compliance within their areas. Additionally, a permanent communication of the codes has been made to the personnel through printed and digital institutional communication.

In order to set a baseline and be aware of the staff perception in matters of ethics and corporate integrity, in October 2017, an internal perception survey was applied to the company's personnel through official electronic means. The results

helped to measure the current state of employee's perception and to verify the progress after the dissemination and training stage. **(S1)**

For the employees to know, understand and apply what is established in our codes, a virtual training course is under development. Through videos and animations, the course will present daily situations that help workers to know the behaviors and values accepted by our company. **(S1)**

Likewise, by the end of 2017, more than six thousand letters of adherence were signed by workers, demonstrating the adhesion of the personnel to the Codes of Ethics and Conduct. **(S1)**

Ethics Helpline (C3)

To provide an adequate tool for preventing and investigating opposed behaviors to the codes and to make available to the public a line to resolve questions and provide advice, on August 21st, the Ethics Helpline of Petróleos Mexicanos came into operation.

Through the Ethics Line actions opposed to the provisions on the Ethics and Conduct Codes are received, registered, advised, guided and reported. A group of people were appointed by specialized areas to attend and analyze cases, and where appropriate, investigate and resolve the reports received through the Ethics Line, in accordance with the functions and responsibilities of each of the specialized areas.

Personnel involved in the registration, attention, management, integration and monitoring of reports of advisory services is compelled to treat the information obtained through the Ethics Line with complete discretion and confidentiality, al-

ways behaving with professionalism and respect of users' rights.

The Ethics Line adheres to the best international practices and has a 01-800 phone number, and an on-line access available in pemex.com portal, through which advice or reports are received and channeled to authorized areas within Pemex for their attention. **(C3)**

To provide better service to the Ethics Line, we are in the process of hiring a third party "Call Center" for Ethical Line operation.

In 2017, there were 11 cases that resulted in sanctions against people reported through the Ethics Line. In two of these cases, the disciplinary actions consisted of the termination of contract, due to recidivism and breach of the codes. **(O3)**

With the Ethics Line starting operations, the Ethics Committee acquired a fundamental role in knowing and issuing recommendations for the attention of cases received through the Ethics Line that meet the criteria established in the "Rules of Operation of the Ethics Committee of Petróleos Mexicanos, its Subsidiary Productive Companies and, where appropriate, Affiliated Companies". The Committee meets on a monthly basis. In 2017, 12 ordinary sessions and one extraordinary session were held.

In addition, the Ethics Committee reviews and analyzes the results of the surveys applied to personnel about Ethics and Integrity matters, issuing recommendations to improve knowledge and application of the codes.

Transparency and accountability

In 2017, Pemex, its Subsidiary Productive Enterprises (EPS) and Indirect Responsible Entities

received a total of 9,179 requests for access to information required under the corresponding legislation. In this period, 10,250 requests were answered, including those received in 2017 and those accumulated from previous periods and attended within the terms established by laws.

Obligated Entities	Applications received	Applications attended/ ^{1/}
Total	9,179	10,250
Petróleos Mexicanos	4,007	4,622
Pemex Exploración y Producción	1,523	1,835
Pemex Transformación Industrial	899	1,005
Pemex Logística	588	602
Pemex Perforación y Servicios	364	364
Pemex Cogeneración y Servicios	336	347
Pemex Etileno	302	312
Pemex Fertilizantes	251	254
Fondo Laboral Pemex	194	194
Fideicomiso de cobertura laboral y de vivienda	179	179
Colonia Petrolera José Escandón	166	166
Terrenos para industrias S.A.	186	186
Mandato Logística	184	184

Source: National Institute of Transparency, Access to Information and Protection of Personal Data (INAI, for its acronym in Spanish), 2018.

^{1/} It includes responses to requests for access to information from the previous year.

In 2017, the number of requests for information received increased by 24.8% as compared to 2016, going from 7,355 to 9,179 requests for information access.

Transparency Obligations Portals System

Article 6 of the Constitution, in section A, last paragraph, provides the basis for the Transparency National System, Access to Public Information and Protection of Personal Data (hereinafter, the National System), with the aim of strengthening the Mexican State accountability. In this section, it is indicated that the obligated parties will publish, through the electronic available means, the complete and updated information on the exercise of public resources and the indicators that enable accountability for the fulfillment of their objectives and the results obtained.

Based on the above, the National System issues technical guidelines that establish the publication formats of the information to ensure that it is accurate, reliable, timely, consistent, comprehensive, updated, accessible, understandable and verifiable, looking for the homologation in the presentation of the information on behalf of the obligated subjects.

The National Transparency Platform was implemented. It includes, among its components, the Transparency Obligations Portals System (SIPOT, by its acronym in Spanish), through which the obligated parties must provide a catalog with the information originated from the Transparency obligations set out in the General Law and in the Federal Transparency Law.

As a result, Pemex and its EPS, under the coordination of the Institutional Internal Control Unit, published on May 5th, 2017, the information related to the General Law; and issued on December 20th, 2017, the information related to Federal Law.

The National Institute of Transparency, Access to Information and Protection of Personal Data initiated a non-binding diagnosis evaluation program whose objective was to detect the opportunity areas of each obliged entity in compliance with the obligations of transparency in terms of the General Law and whose information is published in the SIPOT.

Derived from this, on August 15th, 2017, the results presented in the following table were obtained.

Non-binding diagnostic evaluation	
Obliged Entities	General average obtained
Petróleos Mexicanos	87.67
Pemex Cogeneración y Servicios	87.52
Pemex Etileno	87.37
Pemex Logística	87.17
Pemex Exploración y Producción	87.00
Pemex Fertilizantes	86.78
Pemex Perforación y Servicios	86.65
Pemex Transformación Industrial	86.33

Source: http://inicio.ifai.org.mx/nuevo/Verificacion/resultados_Verificacion%202017%20210817.xls

Adoption of best practices and international standards (O2)

The Extractive Industries Transparency Initiative (EITI) standard emerges from a global initiative to promote transparent, public and accountable management of financial transactions in the extractive industries (gas, oil and mining).

The implementation of the standard requires participation of government, companies and civil society. Countries that adhere to the standard issue public information about tax payments, services, licenses, contracts and production related to the extraction of resources in the country. The information is disclosed in an open and transparent manner which allows citizens to know the way in which the natural resources of the countries are managed, and the amount of income generated by their exploitation.

As part of this process, the National Multipartite Group for the Adhesion of Mexico (GMn, by its acronym in Spanish) was established. It is made up of representatives of the Federal Government (Ministry of Finance and Public Credit, Ministry of Energy, and Ministry of Economy), the Industry of the Sector (Mexican Association of Hydrocarbon Companies, Pemex and the Mining Chamber of Mexico) and Civil Society (various organizations such as Transparencia Mexicana AC, Fundar Centro de Análisis y Investigación AC and Project on Organization, Development, Education and Research -PODER-).

In July 2017, the Operating Rules of the Group were approved to establish the provisions under which it is integrated, as well as to define the basic operation rules and to guarantee an effective and harmonious interaction for the implementation of the Standard EITI in Mexico. In the same session, the six national objectives were presented to implement Mexico's full adherence to the EITI Standard in accordance with the EITI Mexico Declaration of Principles.

On October 25th, 2017, in Manila, Philippines, the EITI Council decided to accept Mexico as a candidate country. Please refer to section *Participation on EITI* for further detail about EITI.

SE12: PREVENTION OF CORRUPTION INVOLVING BUSINESS PARTIES

Anticorruption policies and due diligence (C1)

In September 2017, the regulatory document "Policies and Guidelines for the Development of Due Diligence in Petróleos Mexicanos, its Subsidiary Productive Enterprises and, where appropriate, Affiliated Companies in matters of Ethics and Corporate Integrity" was published in the Regulatory Control System.

This document establishes the guidelines to be observed by the business units of Pemex and its Companies that intend to carry out a commercial agreement with a third party (such a partner, investor, supplier, franchisee or other), to obtain a degree of reasonable certainty about the ethical performance of the third party and mitigate reputational risks for Petróleos Mexicanos. The objectives of the policies and guidelines for the development of due diligence are described as follows:

- Establish the policies and guidelines that will govern the activities that the staff must carry out in the due diligence process, when the company needs to evaluate the feasibility of keeping in force or celebrate with third parties some type of commercial agreement; or when an external due diligence process should be performed to comply with a request from a third party in this matter.
- Establish guidelines to mitigate own and third-party risks that may affect the business due to acts of corruption, lack of ethics or corporate integrity, involvement

in illegal activities of any kind, or damage to reputation in demerit of the Pemex trust and third parties.

- Establish guidelines to promote a culture of compliance with international conventions and standards on Anticorruption and anti-bribery as well as to comply with national legislation and other applicable rules on Anticorruption and prevention of operations with illegal resources, in the countries where Pemex operates.

During December 2017, 21 information requests from external due diligence processes were attended by potential partners and investors and no disciplinary measures were reported as a result of non-compliance related to such processes. **(02)**

Policies and guidelines for the development of due diligence processes in Petróleos Mexicanos, its Subsidiary Productive Enterprises and, where appropriate, Affiliated Companies in matters of Ethics and Corporate Integrity, were prepared in accordance to the model suggested by the Partnering Against Corruption Initiative (PACI) of the World Economic Forum, which is a best practice used to carry out due diligence processes in matters of ethics and integrity for partners, investors, suppliers and customers (franchisees).

The due diligence process carried out by BHP Billiton Company on Pemex, was a successful case resulted from the implementation of the policies and guidelines for the development of due diligence. The successful completion resulted in the signing of a contract with Pemex Exploración y Producción to complete the works of the Trion block in Mexico. **(01)**

Suppliers and contractors' evaluation in ethics and transparency (C1, SE9)

To ensure a profitable and sustainable operation, Pemex seeks to work with the best suppliers that, in addition to being competitive, comply with the regulations and technical standards associated with their business activity, maintain a socially responsible management and adhere to the principles of the Codes of Ethics and Conduct of Pemex.

During 2017, within the framework of the new National Anticorruption System, Petróleos Mexicanos updated its Codes of Conduct and Ethics and developed Anticorruption Policies, Guidelines and due diligence Policies and Guidelines as part of its *Compliance Program*. In this context, the Operational Directorate of Procurement and Supply (DOPA, by its acronym in Spanish) is working in coordination with the Legal Department (DJ, by its acronym in Spanish) and the Institutional Internal Control Unit (UCII, by its acronym in Spanish) for its implementation in the procurement and supply process.

It is important to highlight that, since 2015, Pemex has made significant progress in terms of *Compliance* with the implementation of the supplier registration and evaluation scheme through the development of the Comprehensive Supplier Information Tool (HIIP by its acronym in Spanish). The registration in the HIIP has been fundamental to have a better knowledge of our current and potential suppliers, since it has legal, financial and commercial information and about the management systems they have (e.g. ISO 9001, ISO 14001; OHSAS18001) as well as information about the performance of their contracts. Also, this tool enables monitoring in more than 540 national and international restrictive lists whether suppliers and contractors¹ are sanctioned or in an irregular situation.



On the other hand, as part of the commitments to improve our understanding of the ethical practices and sustainability of our current and potential suppliers and contractors, the section of the extended registration questionnaire in the HIIP on Corporate Social Responsibility (CSR) was strengthened, in particular, to know if they have programs of ethics and corporate integrity, as well as Anticorruption policies.

SE13: TRANSPARENCY OF PAYMENTS TO GOVERNMENTS

Policies and programs of Pemex on transparency of its revenue (C1)

Petróleos Mexicanos Law, published in 2014 in the Official Gazette of the Federation, aims to regulate Pemex's organization, administration, operation, operation, control, evaluation and accountability.

¹ The review is done to suppliers and contractors who have a record in the extended level.

Article 110 establishes that the Pemex Board of Directors has the obligation to make available to the public, on the company's website, information related to financial, administrative, operational, economic and legal matters, in addition to the risks of Pemex, in accordance with article 104 of the Securities Market Law and the *General Provisions applicable to securities issuers and other participants in the securities market*.

Pemex has registered bond issuance with the Securities and Exchange Commission (SEC). Consequently, as a foreign issuer, Pemex has the legal obligation to present several documents such as the Form F-20, on an annual basis. The information and eligibility requirements for the Form F-20 are set forth in the Securities Exchange Act of 1934.

As an example, the Pemex Form F-20 report for fiscal year 2016 includes a detailed report on "Taxes, fees and other payments to the Mexican government". Please refer to pages 113-116 at the following link http://www.pemex.com/ri/reguladores/ReportesAnuales_SEC/2016_20F_i.pdf

Legal obligations and policies required to present by the company for governmental revenues (C2)

Pemex must comply with the Hydrocarbons Revenue Law, which aims to establish the revenues that the Mexican government will receive from hydrocarbon exploration and extraction activities, which are carried out through allocations and contracts, as well as the obligations of transparency and accountability regarding these resources.

In 2014, SENER released a communication in the Official Gazette of the Federation, stating that the new Board of Directors of Petróleos Mexicanos

was complying with its duties and that the mechanisms for supervision, transparency and rendering of accounts of the company had been implemented in accordance with the Law of Petróleos Mexicanos. As a result, the special regime that governs Pemex's activities related to the state subsidiary productive enterprises, subsidiaries, compensations, assets, administrative liabilities, budget, debt levels and the state dividend came into force.

In 2015, the General Provisions for Contracting with Petróleos Mexicanos and its Subsidiary Productive Companies were published in the Official Gazette of the Federation. During the same year, the special regime of acquisitions, leases, services and public came into force. According to the Law of Petróleos Mexicanos, every year, the Ministry of Finance and Public Credit provides Pemex with the estimated macroeconomic indicators for the following fiscal year, which the company must use to prepare the consolidated annual budget for Pemex and subsidiary entities, including its financing program.

Participation on EITI (C3)

As mentioned above, the EITI is the global standard for good governance of resources from extractive industries. The implementation of the EITI guarantee transparency and accountability on how the natural resources of a country are governed. This covers from how rights are issued to how resources are monetized, and how citizens and the economy benefits.

The standard consists of two parts. Part I address the implementation of the standard and Part II is about the governance and management of the EITI at international level.

Mexico joined the EITI initiative at the end of 2017². As a result, the country will have to execute the Work Plan approved by the government, industry and civil society and present the first EITI report in the last quarter of 2018. **(S1)**

Pemex only operates in Mexico and reports in accordance with applicable laws. **(S2)**

Changes in reported data with respect to previous years (S3)

The current tax regime, applicable to Petróleos Mexicanos and its subsidiaries for the 2016 report, came into force in 2017. The Secondary Legislation published in August 2014 establishes a tax regime applicable to the new contractual agreements that govern the activities of exploration and production in Mexico as of January 1st, 2015, as well as a new state dividend to be paid by Petróleos Mexicanos as of January 1st, 2016. See "Tax Regime" and "Other Payments to Mexican Government" in Form F-20. The Form is available at http://www.pemex.com/ri/reguladores/ReportesAnuales_SEC/2016_20F_i.pdf.

Other annual reports Form F-20 and financial reports can be found in the following links (S4):

<http://www.pemex.com/en/investors/regulatory-filings/Paginas/sec-filings.aspx> y <http://www.pemex.com/en/investors/financial-information/Paginas/results.aspx>.

Other efforts related to revenue transparency (S5)

Pemex, as issuer of debt securities that are registered under the Securities Act, and as an entity related to certain representations and clauses in-

² Source: <https://eiti.org/countries>

cluded in the company's financing agreements, must comply with the US Foreign Corrupt Practices Act (FCPA).

The FCPA generally prohibits businesses and anyone acting on their behalf from offering or making improper payments or providing benefits to government officials in order to obtain or maintain a business. In addition, Pemex is subject to other international laws and regulations related to the fight against corruption, bribery and money laundering, including the UK Bribery Act 2010.

The company is also subject to several national laws and regulations related to the fight against corruption, bribery and money laundering. The Federal Criminal Code penalizes certain corrupt practices, including bribery, embezzlement and abuse of authority.

The *Federal Anticorruption Law on Public Contracting* sanctions companies and individuals who incur in infractions due to their participation in public procurement processes or international commercial transactions. This law is comparable in many aspects to FCPA. In addition, the Federal Law on Administrative Responsibilities of Public Officials prohibits the bribery of federal public officials in Mexico, including members of the Mexican Congress and the federal judiciary authorities.

- Case studies that illustrate the company's transparency efforts with governments and specific communities are included in the chapter *Our social commitment*. (01)
- No other payments are made outside the scope of national or regional standards or practices. (02)



SE14: PUBLIC ADVOCACY AND LOBBYING

In accordance with the Federal Code of Electoral Institutions and Procedures, *Petróleos Mexicanos* and its Companies cannot financially contribute to political campaigns or participate in proselytism or dissemination events in the country.³ (C1, S1, S2)

In addition, the "Guideline of *Petróleos Mexicanos* and its Subsidiary Productive Companies for the Delivery of Documentation Required by the Financing Sources" establishes that exporters from the

USA are required to certify not having used federal funds for lobbying purposes to influence or attempt to influence any official or employee of any governmental agency or member of the Congress in relation to federal contracts, gifts, loans or co-operation agreements. This must be stated in the documentation for goods and/or services from the United States of America an Anti- Lobbying certification format established by the Ex-Im Bank of the United States of America. (01)

³ In accordance with the Federal Code of Electoral Institutions and Procedures, Art. 77, numeral 2, subsection b), about the financing of political parties:

"2. They cannot make contributions or donations to political parties or to candidates, pre-candidates or candidates for elected office, in cash or in any kind, by themselves or through an intermediary person and under no circumstances:"

"b) The dependencies, entities or agencies of the federal, state-owned or municipal public administration, centralized or parastatal, and the governing bodies of the Federal District".

OUR PEOPLE

“At Petróleos Mexicanos we are making increasing efforts to attract, develop and retain the best talent in our organization, by managing the personal and professional development of the workers that contribute to continue upholding Pemex as an efficient, competitive and high-performance Company in an open market environment”.

Alejandro Dieck Assad
Human Resources Subdirector

SE15: EQUALITY AND INCLUSION

Pemex has established strategic alliances to strengthen our actions for inclusion, equality and non-discrimination. In this line, we have received technical support and specialized mentoring from the United Nations Development Program (UNDP Mexico), which has allowed us to generate and increase our institutional capacities.

Strategy and programs for institutional social inclusion (C1)

At Pemex we design and coordinate transversal strategies, policies and programs to generate inclusive work spaces with a gender perspective and free of discrimination; thus, contributing to the increase of productivity and generation of value.

The main project performed in collaboration with the UNDP was the creation and implementation in Pemex of the "Institutional Social Inclusion Strategy on gender equality, non-discrimination and labor inclusion of women, people with disabilities and the LGBTI population" (EISI, by its acronym in Spanish), which has enabled the transformation of the organizational culture and strengthen policies and regulations for the benefit of people and the Company.

There is a Working Group for Inclusion, Equality and Non-Discrimination (MIIND, by its acronym in Spanish) where actions of prevention, awareness and information in this matter are defined. Throughout the year, consultation and personalized accompaniment was delivered prior to



reporting an issue to the Ethics Line, performing within the framework of the "Policies and procedures for the attention of possible acts of discrimination, labor harassment, harassment and/or sexual harassment in Petróleos Mexicanos and its Subsidiary Productive Enterprises",

Moreover, there are internal and corporate networks in Pemex to strengthen the inclusion and diversity focused on women, people with disabilities and sexual diversity.

Pemex also implemented a gender sub-strategy as part of the Institutional Social Inclusion Strategy (EISI), which aims to support equal rights and inclusive environments, through the development of capacities promoting empowerment of women in the organization.



Workshops, actions and programs carried out during 2017 are the following:

- Training program for platforms personnel for prevention and attention of cases of discrimination, mobbing, harassment and sexual harassment.
- Training program for working agents related to attending cases of discrimination, mobbing, harassment and sexual harassment in Pemex.
- Women's Leadership Group composed of senior and managerial level officials coordinated to strengthen initiatives to close gender gaps.
- Mentoring program for Pemex workers in management and sub-management positions.
- Vocational toolkit: "For a Mexico with more women scientists, engineers and mathematicians".

In addition, during 2017, a Training Program on Gender Equality was designed and implemented for administrative and operating personnel who

given their functions do not have computer equipment. They constitute 80% of the workforce who is distributed throughout the country. As a result of this great effort, training sessions, face-to-face and virtual conferences were delivered to 20,276 people in eight states of the country.

Recognition regarding inclusion (S1)

In 2017, the Foundation of Human Rights Campaign (HRC), the educational branch of the largest human rights civil society organization for lesbian, gay, bisexual, transgender, and queer (LGBT) community in the United States, granted Petróleos Mexicanos and its subsidiary production companies the HRC Gender Equality MX award for promoting respect for sexual diversity in the Company.

Among its recognized good practices are: (i) committing through diversity policies explicitly prohibiting discrimination based on sexual orientation or gender identity, (ii) organizing LGBTI affinity networks and (iii) making public the commitment of the company with a culture of inclusion.

Due to its distinguished performance, Pemex hosted the awards ceremony for 32 Mexican and multinational companies.

Internal and external networks			
Population	Women	Disability	Sexual diversity
Pemex Personnel Network (Quarterly sessions)	Women's Leadership Group (Grupo de mujeres líderes, in Spanish) Subdirectors, Managers and Assistant Managers	Include me Network (Red inclúyeme, in Spanish) Employees with disabilities or relatives with people with this condition	Diversity Network (Red por la diversidad, in Spanish) LGBTTTI employees and allies
BUSINESS NETWORK (Monthly sessions)	Network for Women Development (Red para el Desarrollo de la Mujer, in Spanish) Integrated by representatives of national and foreign companies	Get in (Éntrale, in Spanish) "Alliance for labor inclusion of people with disabilities" A Mexican Business Council initiative	Pride Connection Mexico Made up of 42 national and multinational companies



Work force composition (C2)

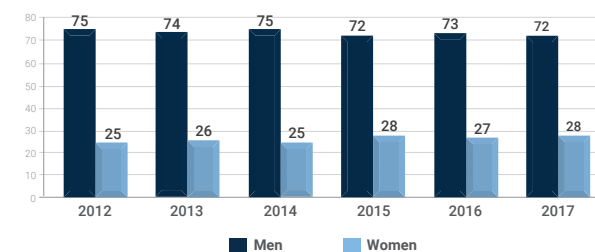
At the end of 2017, Pemex workforce was integrated by 114,916 permanent employees, decreasing by 1.27% as compared to the number of permanent employees in 2016. In addition, more than 70% of our staff are between 35 and 54 years old.

Distribution of staff by age rank 2012 - 2017 (%)											
Year	< 20	20/24	25/29	30/34	35/39	40/44	45/49	50/54	55/59	60/64	64>
2012	0.60	1.99	5.99	10.38	13.25	17.32	19.17	18.14	8.54	3.11	1.51
2013	0.25	2.06	6.10	10.94	13.32	17.41	18.94	18.20	8.18	3.07	1.48
2014	0.26	2.08	6.71	11.69	13.56	16.90	18.42	17.91	7.93	3.08	1.46
2015	0.63	4.07	9.01	13.33	14.72	16.57	18.07	14.01	5.99	2.38	1.22
2016	0.13	1.43	5.12	11.24	15.18	17.78	21.14	16.66	7.23	2.76	1.33
2017	0.07	1.21	4.60	10.81	15.30	17.44	21.12	17.56	7.51	2.88	1.48

Distribution by hierarchical level (%)						
Level	2012	2013	2014	2015	2016	2017
08 - 12	21.4	21.3	21.5	23.6	18.2	18.2
13 - 17	20.6	20.4	20.1	22.1	21.2	21.3
18 - 22	13.6	13.6	13.3	14.4	14.6	14.6
23 - 29	23.5	23.5	22.3	20	25.2	25.3
30 - 34	8.7	9	10	7.2	9.1	8.9
35 - 39	10.9	11	11.7	9.9	10.5	10.4
40 - 44	1.2	1.2	1.1	2.4	1.1	1.1
45 - 48	0.1	0.1	0.1	0.3	0.1	0.1

Organism	Retired Workers					
	2012	2013	2014	2015	2016	2017
Pemex Exploración y Producción	26,334	24,995	25,528	28,305	30,080	30,531
Pemex Refinación	29,446	29,451	30,240	32,770	35,845	37,073
Pemex Gas y Petroquímica Básica	5,552	5,262	5,632	6,818	6,598	6,494
Pemex Petroquímica	7,365	8,019	8,432	9,745	9,344	9,155
Corporativo	10,130	15,327	17,183	19,836	21,220	21,816
Total	78,827	83,054	87,015	97,474	103,087	105,069

Distribution of workforce by gender (%)



Women represents 28% of the total workforce. Additionally, the presence of women in management positions is lower, only 215 women hold management and sub-management positions. **(S2)**

In 2017, Pemex performed an assessment to identify challenges and opportunities of workers in decision-making positions in Pemex, which sets the ground to raise awareness to senior management on providing mentoring to Pemex women executive and subdirectors.

Regarding salary distribution by gender, it is important to highlight that salaries in Pemex are determined by hierarchical level, so remuneration is the same regardless of gender. **(01)**

SE16: ORGANIZATIONAL CULTURE AND COMMITMENT TO THE LABOR FORCE (C1)

Work force commitment (C1)

During 2017, as part of implementing the first stage of the cultural transformation project, Pemex worked to consolidate a culture oriented to generating results.

This project seeks to strengthen the cultural change, contributing to improving the organizational climate in Pemex through the transformation of the employer-employee relationship, through assertive and continuous communication, and through creating economic value by operating efficiency with the participation of workers and senior management positions.

To establish mechanisms that enable the individual achievements to be aligned with the business results, performance management is carried out in Pemex and its EPS, through the Institutional System of Individual Performance Management (SIADI, by its acronym in Spanish). Through the system, the objectives are planned, compliance is monitored, and results achieved are measured; always bearing in mind the projects and initiatives that generate value.

This effort seeks to incorporate a long-term strategic vision where the Company innovates on the way to manage employees performance, while handling with internal resources, external challenges related to the achievement of our goals, consolidating efforts for the competitive and responsible personnel management that clearly incorporates the competences required in the open market in which Pemex is currently developing.

For this purpose, during 2017, the Performance Management Process Diagnosis was carried out, and the results included the implementation of improvements in two scenarios, related to processes and to technological tools.

This was reflected positively in compliance with the Performance Cycle 2017, attending nearly 23,000 permanent workers. The stage of planning for the 2017 Performance Cycle recorded a 97% participation, which represented the input for the final review, where 98% of participation was accounted. A comparison of participation in recent years is shown below. (C2)

As part of Pemex transformation process and with the purpose of providing the Company with specialized personnel to face the present and future challenges of the industry, advanced recruitment and selection practices have been identified to reinforce the techniques to attract and select

the most suitable people to face challenges, projects or specific positions of the organization, using, among other tools, evaluation panels for higher commands.

The evaluation panel consists of an interview conducted by an interdisciplinary team to candidates to occupy a strategic position within the Company. The result of the evaluation is submitted to the business line, along with a recommendation based on the identified competencies and the challenges of the position, to provide decision elements that enable the selection of the best talent.

Good or bad candidates are not considered, only those who have strengths and development areas are considered to successfully occupy the required position, according to the circumstances demanded by the profile.

Individual performance evaluation (%)				
Year	Levels	Universe	Number of evaluations	Total participation (%)
2012	30-46	23,069	22,113	96
2013	30-46	23,625	22,207	94
2014	30-46	23,849	23,064	97
2015	30-46	31,104	28,128	90
2016	30-46	24,862	23,838	96
2017	30-46	23,259	22,545	97



SE17: DEVELOPMENT AND TRAINING

Being part of an oil industry that will continue to expand and demand more qualified human capital (professional and technical) able to provide competitive advantages that contribute to Petróleos Mexicanos increasing adaption to current market conditions; different learning methodologies have been used to develop the technical and behavioral skills of the personnel required by each business line. **(C1)**

Based on the above, in 2017, various actions were performed to optimize the budgetary resources allocated in terms of training and development, being the most relevant the following.

- Priority was given to courses that have a direct impact on the company's substantial activities, such as operation, maintenance and safety issues; in this line, 64% of the training programs were related to technical courses, 30% to security and 6% to behavioral, administrative and computer subjects **(C1)**.
- For the execution of the program, courses regarding compliance with federal regulatory obligations and strategic issues of the business plan were also considered as priorities **(C1)**.
- A training program with internal instructors was also strengthened by delivering 77% of the courses under this modality and increasing from 2,200 to 2,658 the number of instructors, growing by 20% as compared to 2016 **(C2)**.

- In addition, a program to professionalize internal instructors was implemented, assessing in the first stage 86% of the targeted population **(C2)**.

Institutional Training Program 2012 – 2017 (C2, S1)

	2013	2014	2015	2016	2017
By number of courses	15,137	12,278	8,611	5,855	7,079
By quantity of hours	912,699	803,375	595,898	395,765	456,154
By quantity of participants	177,840	209,764	153,601	61,280	74,729

Detail of the institutional training program 2017 (C2)				
SPE	Courses	Hours	Participants	Investment*
Exploration and Production	1,107	43,552	17,859	40,495,567
Industrial Transformation	2,225	220,105	18,532	4,342,614
Logistics	1,096	45,550	7,629	6,729,680
Drilling	707	32,697	13,414	13,674,024
Fertilizing	158	21,336	1,458	0
Ethylene	287	46,773	3,174	96,450
Service Cogeneration	0	0	0	0
Corporate	1,499	46,141	12,663	28,324,730
Total	7,079	456,154	74,729	93,663,065

*Investment in pesos



Specialized development programs (S1)

Based on the priorities of the different business lines of the Company, the development of talent has been supported through specialized training events **(C2, S1)**:

- The competency development program for contractual personnel was strengthened, with 2,411 individual development plans for technical staff, aimed at closing gaps in their position and promotion.
- As part of the actions of using industrial facilities for training of workers, in 2017, the Tula Training Center began operations with 27 classrooms, two maintenance workshops and four simulators to operate the facility.

During the year, 439 events were held with the attendance of 5,140 participants. In this line, learning methodologies were enhanced to contribute the reduction of training time of the expert staff, to promote collaborative work, to improve learning at work through the performance of practices in safe areas, and to optimize resources through new technologies such as the use of simulators.

Regarding connecting the Company with higher educational institutions and research centers, alliances and collaboration agreements in the area of training and development was achieved with the following institutions.

- With the UNAM Foundation, the Innovation Award was implemented to encourage undergraduate and graduate students to con-



duct researches to address real problems in the oil and gas industry.

- Training programs supported by the CONACYT-SENER-Hydrocarbons Fund, whose purpose is training and certification of competencies. They emphasize the implementation of programs with the Mexican Petroleum Institute, Mexican Engineering Corporation (COMIMSA, by its acronym in Spanish), and the University of the Americas Puebla (UDLAP, by its acronym in Spanish) on relevant issues such as the operation of plants, operational reliability, certification of welders and instrumentation and measurement systems.

As part of the programs to certify labor competencies, Petróleos Mexicanos managed and received

accreditation as a Certification and Competency Assessment Entity from the National Council for Standardization and Certification of Labor Competences (CONOCER, by its acronym in Spanish), with the development of the first five brand standards for strategic facilities safeguarding processes.

Likewise, the strengthening of human capital was promoted through international cooperation schemes, to enrich the background of successful experiences and best practices through international stays, such as those carried out in Japan with resources from the Japan Cooperation Center Petroleum (JCCP), the Japan Oil, Gas and Metals National Corporation (JOGMEC), and the company Idemitsu Kosan, as well as the stays managed in collaboration with the Mexican agency of International Cooperation for Development (AMEXCID) in Malaysia and Thailand.

Regarding management training, the executive development program was restructured to be taught mainly by internal instructors. Workshops were held in negotiation, leadership, economy and finance, and decision making.

Also, training best practices were identified to include them in Petróleos Mexicanos, analyzing the feasibility of incorporating virtual reality into the training projects.

In addition, to professionalize our employees and technical workers, the first stage of a leadership and administration diploma was developed to increase the skills that improve the supervision, efficiency and productivity of the operational areas.

Granting of scholarships 2012-2017 (C2)

Pemex grants scholarships to its workers and children.



Year	2012-2013		2013-2014		2014-2015		2015 - 2016		2016 - 2017	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Clause 171 Workers	1,425	\$46.2	1,489	\$54.7	1,500	\$59.6	1,800	\$76.5	1,800	\$82.1
Clause 172 Nurses	55	-	11	-	54	-	40	\$63.9	30	\$<0.1
Clause 175 Worker's Children	7,647	\$79.8	8,403	\$91.1	8,417	\$100.7	8,406	\$106.8	8,413	\$113.2
Clause 175 Worker's Children (different capacities)	241	\$2.3	252	\$2.5	265	\$2.9	261	\$3.0	268	\$3.2
Total	10,034	\$128.3	10,155	\$93.6	10,236	\$163.2	10,507	\$250.2	10,511	\$198.5

* Millions of pesos

SE18: SYSTEM FOR LABOR COMPLAINTS AND NO RETALIATION

In mid-2017, the Ethics Line came into operation in Pemex. This is a mechanism for receiving, registering and providing advice, orientation and reports on actions which are opposite to the provisions of the Ethics and Conduct Codes **(C1)**. Please consult the Ethics and Transparency chapter for more details **(C1, S1)**.

ECONOMIC-FINANCIAL PERFORMANCE

Enhancement of partnerships and strategies to exploit the most profitable businesses

2017 was a year of stabilization in terms of hydrocarbon prices and implementation of strategies inside of Petróleos Mexicanos. Pemex materialized and exploited the advantages granted by the Energy Reform.

Despite the volatility observed in certain aspects that affected Pemex's operations and results -economic environment, global finances, and climate factors, among others- the Organization progressed significantly in many operational areas and moved forward based on the Energy Reform benefits.

Pemex has recently implemented measures and strategies to (i) increase the operational performance and business acumen; (ii) maintain financial stability; and (iii) consolidate and strengthen the relationship with financial markets and the different players in the global energy sector.

For the second consecutive year, Pemex met and exceeded the annual production goal set at 1.944 million barrels per day for 2017.

Being committed to industrial safety and environmental protection, Pemex concluded 2017 with a





gas utilization of 95.7%, due to the implementation of measures to reduce emissions and works carried out on infrastructure to leverage the utilization of gas in the marine regions.

Additionally, partnerships and strategies were encouraged to enable the exploitation of the most profitable businesses, aligned with the guiding outlines established in the Business Plan.

The Energy Reform enables monetization of Pemex's position in non-strategic assets, and resource allocation to its representative businesses, core operations, and more profitable investments.

In terms of industrial processes, on November 3rd, a fractional tower was installed in Tula Refinery. This tower is part of a reconfiguration project to increase the production of gasoline, diesel and jet fuel.

As a result of exploration efforts, on November 3rd the discovery of Ixachi was announced. It is the largest onshore field discovered in the last 15 years, holding about 366 million barrels of crude oil equivalent of total reserves. Additionally to being relevant due to the amount of estimated reserves, it involves a major economic value since it is an onshore oil field located near infrastructure, which enables a more agile production process and generation of synergies in logistics.

Cheiron Holdings Limited and Deutsche Erdoel AG were awarded in early October with the *farm-outs* of Cardenas-Mora and Ogarrio terrestrial fields, located in the state of Tabasco.

As of November 30th, 2017, the release of a pricing scheme for gasoline and diesel was carried out gradually, per zones, throughout the year. The scheme is subject to supply, demand and consumer satisfaction.

The new pricing scheme, in addition to incorporating international references, also reflects the exchange rate impacts and each product's logistics costs.

On November 15th, 2017, the first Pemex franchise was launched within a new business model based on innovative commercial schemes and new products. The objective of this revamp is to provide a better service to the final customers and to strengthen the image of the Pemex brand.

Ixachi

largest onshore
field discovered
in the last 15 years

Divestment of
Los Ramones II Norte
represented
revenues of about

\$260
million dollars

90

On December 18th, the first migration of an exploration and extraction contract was signed by Pemex and the British company Petrofac, with the National Hydrocarbons Commission. The exploration and extraction contract for the Sanctuary and Golpe onshore fields, located in the state of Tabasco, enabled Pemex create an alliance for the operation of the project, and to obtain improved fiscal conditions.

During September, Mexico suffered the consequences of hurricanes and two large earthquakes. Despite the above, Petróleos Mexicanos guaranteed the national fuel supply based on capacity, coordination and operational flexibility among all the companies integrating Pemex.

FINANCIAL INFORMATION

The operational performance of Pemex, together with the financial guidelines followed during the year, resulted in the fulfillment of the financial balance target, in line with the authorized budget for 2017. As was approved in 2016, the deficit in the financial balance for 2017 stood at 94 billion pesos.

One element that helped meet that goal was a decree published on August 18th that grants tax benefits to unprofitable Pemex assignments after taxes. This decree allows greater cost deductions in relation to invested capital. This calculation was applied retroactively for the whole year, decreasing tax payments by nearly 7,700 million pesos for this type of fields.

Another milestone in 2017 was implementing an oil hedging program with the purpose of protecting

the financial balance against adverse changes in the prices of the Mexican crude oil mix exports.

On the other hand, operating capacity to generate cash flows was solid and stable, enabling the rise of EBITDA (Earnings before Interest and Taxes, Depreciation and Amortization) by 55.7%, as compared to previous year. Because of the flows stability, a net debt (difference between new financing and amortization) of 72 billion pesos was recorded. The amount was increasingly below the observed in previous years.

The strength of operating flows has enabled greater visibility and improved planning, thus achieving a better allocation of resources in line with two fundamental outlines of our Business Plan: profitability as a guiding principle, and progressive and sustained indebtedness reduction.

For 2018, the financial policy will be oriented on financial stability, strengthening our operating cash flows, discipline in costs, and continuing implementing the structures endorsed by the Energy Reform.

In terms of revenues, total sales increased by 30% during 2017, mainly due to the recovery of hydrocarbon prices during the year, and the stability of volumes sold.

On the other hand, the cost of sales increased by 116%. This is mainly due to the accounting record of impairment of certain of our assets, in accordance with the International Financial Reporting Standards (IFRS). As part of the context, it is important to remember that at the end of

2016, a reversal of impairment of certain of our assets for 331 billion pesos was recorded in the income statement.

During 2017, the impairment of fixed assets for 151.4 billion pesos contrasted significantly with the reversal in the impairment of 331 billion pesos at the end of 2016. It should be considered that this is a virtual item that does not generate cash flows and it is recorded as part of the cost of sales. On the other hand, the cost of sales, excluding the deterioration, increased by 16%.

If the effect of the impairment of fixed assets is set apart in both years, the gross income would be 393 billion pesos, increasing by 89% as compared to 2016.

Regarding taxes, the Profit Sharing Duty (DUC, by its acronym in Spanish) is the most relevant duty in terms of amount, increasing by 23% as compared to the previous year, as a result of the crude oil prices recovery. On the other hand, it is important to mention that in 2016, a provision of deferred tax benefits was recorded for nearly 40 billion pesos, increasing by 47% the total amount of taxes and duties in 2017, as compared to 2016.

The registered net loss for 280.9 billion pesos and the increase observed as compared to the previous year, is mainly due to the aforementioned accounting adjustments for impairment in certain of our assets.

PETRÓLEOS MEXICANOS, PRODUCTIVE STATE-OWNED SUBSIDIARIES AND SUBSIDIARY COMPANIES
As of January 1, to December 31, 2017, in accordance with International Financial Reporting Standards
(millions of pesos)

Consolidated Income Statement

	2016	2017	Variation		
	(MXN millions)				(USD millions)
Total revenue from sales and services	1,074,093	1,397,030	30.1%	322,936	70,604
Domestic Sales	670,000	877,360	30.9%	207,360	44,341
Exports Sales	395,118	508,539	28.7%	113,421	25,701
Services income	8,975	11,131	24.0%	2,156	563
Cost of sales	534,508	1,155,649	116.2%	621,142	58,405
Gross income (loss)	539,585	241,380	-55.3%	(298,205)	12,199
Other revenues (expenses), Net	22,650	5,174	-77.2%	(17,476)	261
Distribution, transportation and sale expenses	25,231	21,890	-13.2%	(3,342)	1,106
Administrative expenses	112,654	119,939	6.5%	7,286	6,062
Operating income (loss)	424,350	104,725	-75.3%	(319,625)	5,293
Financing cost	(98,844)	(117,645)	-19.0%	(18,800)	(5,946)
Financing income	13,749	16,166	17.6%	2,417	817
Derivative financial instruments income (cost), Net	(14,001)	25,338	281.0%	39,339	1,281
Foreign exchange Income (loss), Net	(254,013)	23,184	109.1%	277,197	1,172
Income (loss) before duties, taxes and other	2,136	360	-83.1%	(1,775)	18
Loss of return on participation in the results of associated companies and others	73,377	52,129	29.0%	(21,248)	2,635
Total duties, taxes and other	264,521	332,980	25.9%	68,459	16,828
Profit Sharing Duty, net	277,162	338,044	22.0%	60,882	17,084
Income tax	(12,640)	(5,064)	59.9%	7,576	(256)
Net loss	(191,144)	(280,851)	-46.9%	(89,706)	(14,194)
Other comprehensive results	127,872	11,506	-91.0%	(116,366)	582
Available-for-sale financial assets	208	5,564	2577.4%	5,356	281
Actuarial gains (loss) - employee benefits	108,192	12,791	88.2%	(95,402)	646
Currency translation effect	21,387	(6,096)	-128.5%	(27,483)	(308)
Deferred taxes	(1,915)	(752)	60.7%	1,163	(38)
Total comprehensive loss	(63,272)	(269,344)	-325.7%	(206,072)	(13,612)

Pemex generated

\$419.3
billion

of revenues before
EBITDA

increasing by 72%, as
compared to 2016



PEMEX					
Tax and duties					
	2016	2017	Variation		2017
	(MXN million)		%	(MXN million)	(USD million)
Tax and duties	312,946	396,880	26.8%	83,934	20,058
Profit Sharing Duty	277,162	338,044	22.0%	60,882	17,084
Income tax	(12,640)	(5,064)	59.9%	7,576	(256)
Taxes and duties within cost of sales	48,425	63,900	32.0%	15,476	3,229
Exploration taxes	1,256	1,286	2.4%	30	65
Exploration duties	963	981	1.9%	18	50
Extraction taxes	2,689	3,111	15.7%	422	157
Extraction duties	43,517	58,523	34.5%	15,006	2,958

Investments

By December 31st, 2017, Pemex exercised \$191.1 billion MXN in investment activities, representing 93.4% of the planned investment for the year, which amounted to 204.6 billion. During the year, the operating capital and investment needs vary, for which resources are aimed to be exercised in the best possible way. The distribution of the investment exercised in 2017 is presented below:

	Authorized investment (MXN billion)	Exercised investment As of December 31 2017 (MXN billion)
Exploración y Producción¹	168.4	162.6
Industrial Transformation	21.4	18.6
Logistics	4.4	4.9
Perforación y Servicios	2.7	2.5
Corporate	5.4	1.6
Ethylene	1.8	0.6
Fertilizers	0.4	0.3

We invested
**MXN
191.1
billion**

≈ 85% was allocated to
exploration activities

During 2017, various budgetary adjustments were required to be authorized by the Board of Directors of Petróleos Mexicanos. In this line, through the Agreement CA-052/2017, adjustments to the Budget of Petróleos Mexicanos were authorized by the Board in order to transfer physical investments to operating expenses. As a result, the adjustments for 11,691 million pesos were applied.

The main operating expenses were used to pay auxiliary services, travel expenses, insurance and bond expenses, and general expenses paid to third parties.

¹ Of which MXN 33.8 billion were allocated to exploration activities. Includes non-capitalized investment in maintenance.

CRUDE OIL EXPLORATION AND PRODUCTION

For the second consecutive year, Pemex exceeded its crude oil production target. In 2017, 1,948 thousand barrels per day (Mbd) were obtained, exceeding the annual goal of 1,944 Mbd. However, it decreased by 9.5% (205 Mbd), as compared to 2016, given the following events:

- A decrease of 96 Mbd in light crude oil production, as a result of a natural production decline at fields located in the Litoral of Tabasco and Abkatún-Pol-Chuc and Cantarell. This reduction was partially offset by a 15% increase in production at the Xanab field of the Southwestern Region of the Litoral of Tabasco, going from an average production of 139 Mbd in 2016 to 160 Mbd in 2017;
- A decrease of 55 Mbd in extra-light crude production, due to the natural production decline and the fractional water flow increase at the fields of Bellota-Jujo, Samaria-Luna and Macuspana-Muspac projects of the South region, as well as at the Litoral of Tabasco business unit of the Southwestern Marine Region; and
- Less heavy crude oil production, as result of a natural production decline and the fractional water flow increase in highly fractured fields at the Cantarell business unit in the Northeastern Marine region.

Crude oil production by type					
Mbd	2013	2014	2015	2016	2017
Heavy crude oil	1,365	1,266	1,152	1,103	1,049
Light crude oil	847	864	838	785	689
Extra-light crude oil	310	299	277	266	210
Total	2,522	2,429	2,267	2,154	1,948

Crude oil production by region					
Mbd	2013	2014	2015	2016	2017
Northeastern Marine region	1,304	1,232	1,126	1,082	1,035
Cantarell	440	375	273	216	177
Ku-Maloob-Zaap	864	857	853	867	858
Southwestern Marine region	593	620	634	619	549
Abkatún-Pol-Chuc	294	299	287	259	203
Litoral de Tabasco	299	320	347	360	346
Southern region	481	452	394	344	267
Cinco Presidentes	93	89	88	80	63
Bellota-Jujo	134	125	102	90	72
Samaria-Luna	173	161	145	127	100
Macuspana-Muspac	81	77	59	47	31
Northern region	145	125	113	109	98
Burgos	8	5	N/D	N/D	N/D
Poza Rica- Altamira	61	60	59	54	48
Aceite Terciario del Golfo (1)	66	49	42	40	34
Veracruz	9	11	12	15	15



An average of 8,008 wells were operating in 2017, decreasing by 8.5% as compared to 2016.

The total number of finished wells decreased by 47.0%, from 149 to 79 wells, due to a lower completion of wells development. Importantly, 24 exploration wells were drilled, increasing by three as compared to 2016. However, the finished development wells decreased by 57%, going from 128 to 55 wells.

In 2017, Pemex managed to strengthen its deep-water potential through successful drilling of wells Nobilis-101 and Exploratus-2DL, both oil and gas producers. At the same time, it expanded gas and condensate resources with the discovery of Ixachi onshore field. This finding confirms the productive potential in Veracruz Basin.

In addition, other findings are described as follows.

- The Valeriana-1 well from the Comalcalco terrestrial project, condensates and gas producer; the Octli-1 and Xikin-1DL wells from the Uchukil project, and Hok-1 from the Chahabil project, oil and gas producers in shallow waters; and the Cahua-1 well from the Uchukil project in shallow waters, condensates and gas producer.
- Pemex will continue getting most of the competitive and operational strategies in shallow water exploration, where the Jaatsul-1DL and Suuk-1A wells presented positive results in oil and gas production. These wells are located in the active Litoral de Tabasco, which is currently the second largest producer of Pemex. Additionally, the oil and gas well Chocol-1, was drilled onshore.



Altogether, these discoveries will aggregate an initial production of almost 48 Mbd of crude oil and condensates, and 103 MMpcd of gas.

Acceptable results were granted in the exploratory activity when exceeding, according to the Business Plan of Petróleos Mexicanos, the goal of 1,100 million barrels of crude oil equivalent of reserves incorporation through the drilling of 24 exploratory wells.

In 2017, the exploratory incorporation reached a volume of 3P reserves of 1,194 million barrels of

crude oil equivalent which enabled a 3P restitution rate of 120% by the exploratory activity.

It is important to remember that reserves data is analyzed by external companies responsible for the reserves certification of the main national and international oil companies. Subsequently, the National Hydrocarbons Commission (CNH, by its acronym in Spanish) will determine the reserves. It is estimated that 1P reserves will be certified during the first quarter of 2018 while 2P and 3P reserves certification will be carried out during the second quarter of 2018.

	Original volume		Hydrocarbons reserve					Gas reserve	
	Oil	Natural Gas	Crude oil Equivalent	Oil	Condensates	Liquids from Plants	Dry gas	Natural Gas	Dry gas
	MMb	MMMpc	MMbpce	MMb	MMb	MMb	MMbpce	MMMpc	MMMpc
Totals (3P)	214,068.5	238,657.6	22,148.6	16,881.8	172.0	1,473.6	3,621.3	25,779.8	18,833.4
Northeastern marine region	64,079.8	26,289.3	9,147.6	8,204.7	68.4	314.5	560.1	4,419.4	2,913.2
Southwestern marine region	26,448.4	33,810.7	3,334.9	2,500.2	50.7	237.0	547.0	4,680.7	2,844.8
Northern region	87,019.7	108,523.4	7,533.7	4,874.7	34.5	622.7	2,001.8	13,020.3	10,410.4
Southern region	36,520.6	70,034.2	2,132.4	1,302.2	18.4	299.4	512.4	3,659.4	2,665.0
Proven	154,325.4	188,492.0	8,561.8	6,537.3	92.4	589.2	1,342.8	9,882.9	6,984.2
Northeastern marine region	61,167.5	25,586.3	4,515.0	3,987.4	39.6	175.5	312.5	2,473.5	1,625.4
Southwestern marine region	20,806.8	27,141.5	1,234.3	868.7	21.1	106.5	238.0	2,031.0	1,238.0
Northern region	38,680.7	70,183.4	1,299.8	788.2	15.9	84.6	411.1	2,643.8	2,138.0
Southern region	33,670.4	65,580.8	1,512.7	893.0	15.8	222.6	381.2	2,734.6	1,982.8
Probable	26,582.2	20,050.5	6,566.5	4,980.6	44.9	432.3	1,108.8	7,849.8	5,766.0
Northeastern marine region	1,629.8	439.6	2,752.5	2,452.7	20.6	100.4	178.8	1,403.1	930.1
Southwestern marine region	2,306.3	3,122.0	1,001.5	759.5	9.5	51.0	181.5	1,432.9	944.0
Northern region	21,333.4	14,642.8	2,592.6	1,623.5	13.4	254.0	701.7	4,678.3	3,648.5
Southern region	1,312.7	1,846.1	219.9	144.9	1.4	26.9	46.8	335.5	243.4
2P	180,907.6	208,542.4	15,128.5	11,518.0	137.3	1,021.6	2,451.7	17,732.7	12,750.2
Northeastern marine region	62,797.2	26,025.8	7,267.6	6,440.2	60.2	275.9	491.3	3,876.6	2,555.5
Southwestern marine region	23,113.2	30,263.5	2,235.8	1,628.2	30.6	157.5	419.6	3,463.9	2,182.0
Northern region	60,014.1	84,826.2	3,892.5	2,411.7	29.3	338.7	1,112.8	7,322.1	5,786.5
Southern region	34,983.1	67,426.9	1,732.6	1,037.9	17.2	249.5	428.0	3,070.1	2,226.2
Possible	33,160.9	30,115.2	7,020.1	5,363.8	34.7	452.0	1,169.6	8,047.1	6,083.2
Northeastern marine region	1,282.6	263.5	1,880.0	1,764.5	8.2	38.6	68.8	542.8	357.7
Southwestern marine region	3,335.2	3,547.2	1,099.1	872.0	20.1	79.5	127.4	1,216.8	662.8
Northern region	27,005.6	23,697.2	3,641.2	2,463.0	5.2	284.0	889.0	5,698.2	4,623.9
Southern region	1,537.5	2,607.3	399.8	264.3	1.2	49.9	84.4	589.3	438.8

Numbers may not add due to rounding.

NATURAL GAS EXPLORATION AND PRODUCTION

Natural gas production by type					
MMpcd	2013	2014	2015	2016	2017
Total	6,371	6,532	6,401	5,792	5,068
Associated gas	4,608	4,820	4,826	4,541	4,057
Non-associated gas	1,763	1,712	1,575	1,252	1,011

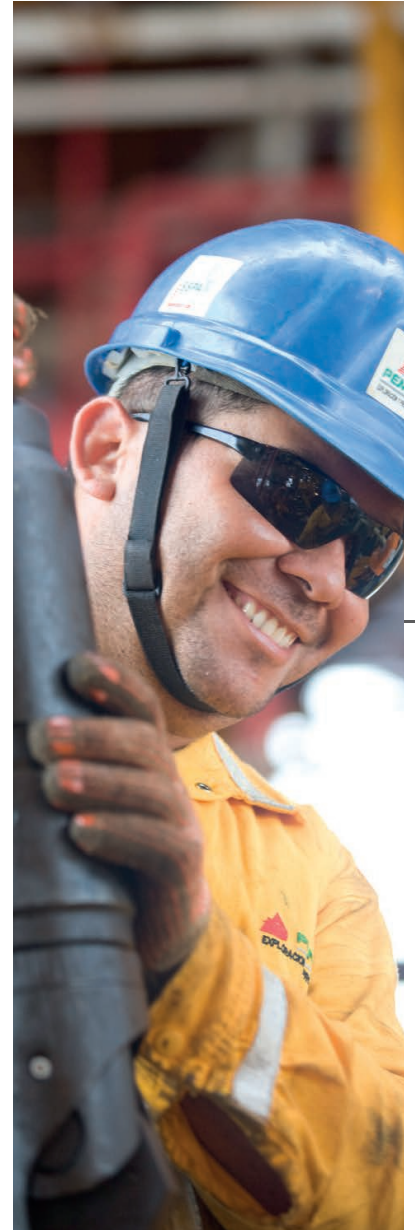
The production of natural gas decreased by 13.6% (4,205 MMpcd) as compared to 2016, mainly due to (i) lower production of non-associated gas because of natural decline of production in Burgos and Veracruz; (ii) lower production of associated gas because of natural decline in crude oil production and management of wells with a high gas-oil ratio of the Aka field of the Cantarell; and (iii) natural decline and increase in the fractional water flow of the Abkatún-Pol-Chuc, Macuspana-Muspac and Litoral de Tabasco assets.



Natural gas production by region					
MMpcd	2013	2014	2015	2016	2017
Northern region¹	2,061	1,929	1,738	1,428	1,169
Burgos	1,287	1,221	1,099	865	699
Poza Rica-Altamira	112	103	102	98	88
Aceite Terciario del Golfo	167	150	145	142	118
Veracruz	495	455	392	323	263
Southern region¹	1,571	1,515	1,380	1,250	1,011
Cinco Presidentes	129	153	160	138	109
Bellota-Jujo	320	289	265	231	183
Macuspana-Muspac	515	491	455	382	292
Samaria-Luna	606	583	500	499	427
Northeastern Marine region¹	1,412	1,692	1,834	1,774	1,686
Cantarell	1,007	1,121	1,277	1,185	1,133
Ku - Maloob - Zaap	405	571	557	589	552
Southwestern Marine region¹	1,327	1,396	1,449	1,340	1,202
Abkatun-Pol-Chuc	579	553	456	391	320
Litoral de Tabasco	748	843	994	950	882
Nitrogen	691	774	897	926	863
Natural gas without nitrogen	5,679	5,758	5,504	4,866	4,205

¹ Includes nitrogen and CO₂.

Gas released into the atmosphere decreased by 57.8% (296 MMcf), due to works executed in the marine regions to increase gas utilization at 95.7%.



ADVANCES IN EXPLORATION AND PRODUCTION

Pemex, Petrofac and CNH sign the first migration of an exploration and production contract

On December 18th, 2017, Petróleos Mexicanos, the British company Petrofac and the National Hydrocarbons Commission (CNH, by its acronym in Spanish) signed the exploration and extraction contract for Santuario and El Golpe terrestrial fields, located in the state of Tabasco. These assignments operated under a Comprehensive Exploración y Producción Contract (CIEP, by its acronym in Spanish) since December 2011.

Santuario and El Golpe allocations have 3P reserves for 84 Mbpce and currently produce 6 Mbd of oil and 5 MMcf of gas. The migration considers investments for USD 1,590 million. This will enable a maximum production of around 31 Mbpced.

Round 2.4 results

On January 31st, 2018, Petróleos Mexicanos successfully participated on the Fourth Call for Round 2 of the National Hydrocarbons Commission (CNH, by its acronym in Spanish) bid, and was awarded with four of the offered blocks in the Gulf of Mexico deep waters: two within a partnership and two individually.

The partnership integrated by Pemex Exploración y Producción (PEP) and the Anglo-Dutch oil company Shell, was awarded with Block 3 of the Área Perdido. Likewise, PEP partnership with the American Chevron and the Japanese INPEX, was awarded with the Block 22 of the Salina Basin province. Individually, Pemex was awarded with the Block 5 of the Perdido zone, as well as with the Block 18 of the Cordilleras Mexicanas province.

	Block			
	2. Perdido zone	5. Perdido zone	18. Cordilleras Mexicanas province	22. Salina Basin
Bidder	Shell Mexico Exploration and Extraction, and Pemex Exploración y Producción	Pemex Exploración y Producción	Pemex Exploración y Producción	Chevron Mexico Energy, Pemex Exploración y Producción, and INPEX E&P Mexico
Additional royalty	15%	6.20%	7.10%	18.40%
Committed investment (USD Millions)	61	61	59.5	64.3
Expected total investment (USD Millions)	6,131.90	6,131.90	3,318.10	4,747.80
State profits share	65.40%	52.80%	52.80%	64.70%
Type of hydrocarbon	Light crude oil	Light crude oil	Wet gas and dry gas	Heavy crude oil
Average daily top production (Mbpce)	130	130	183	88



INDUSTRIAL TRANSFORMATION

Operational information

During 2017, total crude oil processing amounted to 767 Mbd, decreasing by 17.8%, as compared to 2016. This was mainly due to natural events affecting Salina Cruz refinery and maintenance programs of Madero and Minatitlan refineries.

Pemex				
Crude oil process				
	From January 1 to December 31			
	2016	2017	Variation	
Total process (Mbd)	933	767	-166-	17.8%
Light crude oil	534	456	-78-	14.6%
Heavy crude oil	399	311	-88-	22.1%
Light crude oil / total process	57.2%	59.5%		2.3%
Heavy crude oil / total process	42.8%	40.5%		-2.3%
Primary distillation capacity use¹	58.2%	47.1%		-11.1%

¹Includes reprocessing

As a result, the capacity used for primary distillation decreased by 11.1%, as compared to 2016, standing at 47.1%.

Due to crude oil process decline, oil products production decreased by 186 Mbd, amounting to 776 Mbd. However, Cadereyta and Tula refineries, recorded a remarkable production growth as compared to 2016.

As a result of crude oil production decline and decreasing distillate yields, total oil production decreased by 19.3%.

Oil products production					
	2013	2014	2015	2016	2017
Total	1,386	1,321	1,119	962	776
Mbd					
Liquefied gas ¹	206	205	26	17	16
Gasoline ¹	437	422	381	310	246
Jet Fuel	61	53	48	43	41
Diesel ¹	313	287	275	216	154
Fuel oil	269	259	237	228	217
Other ²	100	95	152	148	102

¹From 2015 the automotive gasoline and liquefied petroleum Gasare reported excluding transfers.

²Includes dry gas, gas oils, light cycle oil, aeroflex, asphalt, coke, extract furfural, lubricants and paraffins.

During 2017, the refining variable margin was USD 5.43 per barrel, increasing by USD 0.95 per barrel as compared to 2016, due to refined prices recovery in the international market.

Natural gas process amounted to 3,237 MMcfd, decreasing by 11.8% as compared to 2016, due to low wet sour gas supply from the marine regions and the Southern Region, and low wet sweet gas supply from the Burgos Basin. As a result, dry gas production amounted to 2,663 MMcfd, decreasing

by 384 MMcfd. Moreover, gas liquids production decreased by 28 Mbd.

On the other hand, the condensate process averaged 32.4 Mbd, decreasing by 8.7 Mbd as compared 2016, mainly due to low sour condensates delivery from the Mesozoic and marine regions, as well as to sweet condensates from Burgos.

Pemex				
Natural gas process and condensates production*				
	From January 1 to December 31			
	2016	2017	Variation	
Gas process (MMpcd)	3,672	3,237	-435	-11.8%
Wet sour gas	2,997	2,687	-310	-10.3%
Wet sweet gas	675	550	-125	-18.5%
Condensates process (Mbd)	41.1	32.4	-8.7	-21.2%
Production				
Dry gas from plants (MMpcd)	3,047	2,663	-384	-12.6%
Natural gas liquids (Mbd)	308	280	-28	-8.9%

*Does not include ethane injected into to a dry gas pipeline

Total petrochemicals production amounted to 3,278 Mt, decreasing by 843 Mbd, as compared to 2016 production. This was due to the following:

- Aromatics and derivatives production decreased by 177 Mt as a result of the Reforming plant (CCR) maintenance and the stoppage of the aromatics train for general repair;
- Sulfur production decreased by 122 Mt as a result of production decline in Madero and Salina Cruz refineries, associated to a lower crude oil process. Cactus gas processing complex low production also contributed to a decreasing production due to lower reception of wet sour gas;
- Methane derivatives chain decreased by 27 Mt, mainly due to lower ammonia and methanol production, as a result of operational problems, as well as to lower availability of natural gas in the first semester; and
- Propylene production decrease by 109 Mt and raw material for smoke black decreased by 23 Mt, mainly due to lower crude oil process and operational problems at the catalytic plants of Madero refinery.

Pemex				
Petrochemicals production				
	From January 1 to December 31			
	2016	2017	Variation	
Total production (Mt)	4,121	3,278	-20.4%	-842
Methane derivatives	861	834	-3.1%	-27
Ammonia	519	499	-3.9%	-20
Carbon dioxide	197	219	11.2%	22
Methanol	145	116	-20.0%	-29
Ethane derivatives	830	616	-25.8%	-214
Ethylene	9	0	-100%	-9
Ethylene glycols	156	108	-30.8%	-48
Impure glycol	4	3	-25.0%	-1
Pure monoethylene glycol	6	5	-16.7%	-1
Ethylene oxide	182	139	-23.6%	-43
A.D. Polyethylene	97	43	-55.7%	-54
B.D. Polyethylene	148	99	-33.1%	-49
B.D. Linear Polyethylene	228	219	-3.9%	-9
Aromatics and derivatives	771	594	-23.0%	-177
Aromina 100	9	8	-11.1%	-1
Benzene	1	19	1800.0%	18
Styrene	32	0	-100%-	-32
Fluxoil	1	0	-100%-	-1
High octane hydrocarbon	578	467	-19.2%	-111
Toluene	52	41	-21.2%	-11
Xylenes (meta and paraxylene)	98	59	-39.8%	-39
Propylene and derivatives	367	229	-37.6%	-138
Hydrocyanic acid	3	0	-100%	-3
Acrylonitrile	26	0	-100%	-26
Propylene	338	229	-32.2%	-109
Sulfur	667	545	-18.3%	-122
Raw material for smoke black	291	268	-7.9%	-23
Others	334	191	-42.7%	-143
Hexane	7	2	-71.4%	-5
Pentanes	21	22	4.8%	1
Butane	36	37	2.8%	1
Other	270	131	-51.9%	-140



New Pemex Franchise model

On November 15th, 2017, Petróleos Mexicanos launched the new Pemex Franchise under an innovative business model that includes new commercial schemes and new products. Three commercial schemes were introduced: Pemex Franchise, branded products sublicense, and generic non-branded products sale.

Additionally, two options were offered for wholesale distribution: independent unbranded marketer and distributor associated with gasoline and diesel Pemex brand. It also includes loyalty programs for consumers and for franchisees, training and marketing programs, as well as new additives to increase the quality of products.

The objective of this renewal is to provide an improved service to the final customer and to maintain the Pemex brand competitive advantage in the fuel market in Mexico.

For detailed financial and economic information, consult the Security Exchange Commission Form F-20 and the financial reports in the following links.

<http://www.pemex.com/en/investors/regulatory-filings/Paginas/sec-filings.aspx>

<http://www.pemex.com/en/investors/financial-information/Paginas/results.aspx>



UNITED NATIONS GLOBAL COMPACT

Since 2006, Pemex has adhered to the 10 principles of the United Nations (UN) Global Compact with the purpose of promoting its principles as part of its corporate strategy and operations. On an annual basis, the UN is informed through this report on the progress made.

The Global Compact is a network that participates in five UN agencies: the Office of the High Commissioner for Human Rights (OHCHR), the International Labor Organization (ILO), the United Nations Development Program (UNDP), the United Nations Environment Program (UNEP) and the United Nations Industrial Development Organization (UNIDO).

The 10 Principles of the Global Compact, based on universal consensus, arise from declarations of the United Nations on human rights, labor, environment and anti-corruption. They come from the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the RIO Declaration on Environment and Development and the United Nations Convention against Corruption.



Principles of Global Compact	PEMEX
Human Rights	
Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.	See the chapters <ul style="list-style-type: none"> • <i>Human Rights</i> • <i>Ethics and Transparency</i> • <i>Our People</i>
Principle 2: Make sure that they are not complicit in human rights abuses.	See the chapters <ul style="list-style-type: none"> • <i>Human Rights</i> • <i>Ethics and Transparency</i> • <i>Our People</i> • <i>Local content</i>
Work	
Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	Pemex has a collective labor agreement in compliance with requirements by Law.
Principle 4: The elimination of all forms of forced labor or compulsory labor.	All the activities of Pemex adhere to strict compliance with the legislation (STPS, SEMARNAT, ASEA, SSA, CRE, and CNH, among others).
Principle 5: The effective abolition of child labor.	Child labor has never been considered in Pemex and has never been carried out.
Principle 6: The elimination of discrimination in respect of employment and occupation.	There are internal regulations that promote the healthy coexistence of Pemex and its workers. See chapters <i>Ethics and Transparency</i> and <i>Our People</i> .
Environment	
Principle 7: Businesses should support a precautionary approach to environmental challenges.	There is a large and extensive program at the institutional level that ensures the protection of the environment. See chapter <i>Environmental Performance</i> .
Principle 8: Undertake initiatives to promote greater environmental responsibility.	There is a large and extensive program at the institutional level that ensures the protection of the environment. See chapter <i>Environmental Performance</i> .
Principle 9: Encourage the development and diffusion of environmentally friendly technologies.	See chapter <i>Our People</i> and <i>Environmental Performance</i> . It has a University and there is continuous participation in forums, symposiums and workshops. See Climate Initiative for the Gas and Oil Sector (OGCI) in the chapter <i>Climate Change and Energy</i> .
Anti-corruption	
Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.	Full compliance with the laws and regulations in the matter and an energetic internal action. See chapters <i>Ethics and Transparency</i> and <i>Our People</i> .

PEMEX'S CONTRIBUTION





TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT AGENDA







In 2015, during the United Nations Sustainable Development Summit, 193 countries, society, academia and private initiative agreed on the 2030 Agenda for Sustainable Development, which includes a set of 17 global Sustainable Development Goals (SDGs) to end poverty, protect the planet and ensure prosperity for all. Petróleos Mexicanos within its field of competence is committed to achieve these goals.







SUSTAINABLE DEVELOPMENT GOALS

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ODS	Chapter in this report	Some actions made
 <p>1 NO POVERTY</p>	<ul style="list-style-type: none"> • Our Social Commitment • Economic-Financial Performance 	<p>During 2017, we granted \$ 1,670.3 million pesos in the following areas.</p> <ul style="list-style-type: none"> • \$59.0 million in cash donations. • \$1,247.0 million through donations in asphalt and fuel. • \$16.9 million donations of real estate, programs, and works. • \$233.8 million Program to Support the Community and the Environment. • \$23.0 million Mutual Benefit Works. • \$81.2 million Comprehensive Exploration and Production Contracts. • \$7.1 million Sustainable Development Appendix. • \$2.2 million Clause Social Responsibility Ku-Maloob-Zaap for Sustainable Development.

ODS	Chapter in this report	Some actions made
	<ul style="list-style-type: none"> • Our Social Commitment • Economic-Financial Performance 	<p>Our support mechanism for granting includes the following.</p> <ul style="list-style-type: none"> • 1400 ecological stoves. • 3 kitchen-dining rooms in schools. • 1 classroom-dining room in school. <p>Of the ammonia production that is generated in Pemex Fertilizantes, 80% of the commercialized ammonia is used as fertilizer or becomes solid fertilizer, which contributes to increase the productivity and development of the agricultural field.</p>
	<ul style="list-style-type: none"> • Safety and Health • Our People 	<ul style="list-style-type: none"> • Pemex offers health services for all its workers, dependents and retirees. • 73% of Medical Units are certified. • Integral attention to overweight, obese and diabetes patients: 91,745 consultations. • Mental health and addictions: 16,198 patients attended. • Health Bonus: 9,962 workers were encouraged. • High Performance Award for Safety, Health and Environmental Protection to Pemex Exploración y Producción for having achieved in 2016 the lowest accident frequency rate in its history, with 0.25 injuries per million man-hours worked.
	<ul style="list-style-type: none"> • Our People • Our Social Commitment 	<p>Training:</p> <ul style="list-style-type: none"> • 7,079 courses. • 455,678 hours. • 74,685 participants. • \$96 millions of investment. • 10,511 scholarships. • Pemex University. <p>Education Support:</p> <ul style="list-style-type: none"> • 13 restored schools. • 9 classrooms. • 1 classroom-dining room in school. • 2 dining rooms in schools. • School equipment. • Supplies for schools. • 6 bleachers and bathrooms in sports fields. • 3 training programs.
	<ul style="list-style-type: none"> • Ethics and Transparency 	<ul style="list-style-type: none"> • HRC (Human Rights Campaign) Equity MX Award. • Diagnosis to identify challenges and opportunities for the women workers who hold positions of decision making in Pemex.

ODS	Chapter in this report	Some actions made
	<ul style="list-style-type: none"> Environmental Performance 	<ul style="list-style-type: none"> -5.4% extracted fresh water. -4.2% volume discharged to receiving bodies. -29.2% HC content in discharged water.
	<ul style="list-style-type: none"> Environmental Performance Economic-Financial Performance 	<ul style="list-style-type: none"> Independencia Petrochemical Complex obtains ISO 50001. Implementation of the Energy Management System in the Cadereyta Refinery. External cogeneration project between CFE and the Salamanca Refinery. Installation of the fractional tower in the Tula refinery to increase production.
	<ul style="list-style-type: none"> Our Social Commitment Economic-Financial Performance 	<ul style="list-style-type: none"> Creation of partnerships and strategies to exploit the most profitable businesses. Discovery of Ixachi, the largest land field in the last 15 years. Pemex generated an income before EBITDA of \$ 419.3 billion. Investment of \$ 191 billion.
	<ul style="list-style-type: none"> Our Social Commitment Economic-Financial Performance 	<p>To strengthen the link with the business sector through dialogue and exchange of best practices on issues of common interest, the Business Advisory Committee of Petróleos Mexicanos and its Subsidiary Productive Enterprises (CCEPM) was established.</p>
	<ul style="list-style-type: none"> Ethics and Transparency Our Social Commitment Economic-Financial Performance 	<p>Within the framework of the "Policies and procedures for the attention of possible acts of discrimination, labor harassment, harassment and/or sexual harassment in Petróleos Mexicanos and its Subsidiary Productive Enterprises, consultation and personalized accompaniment was delivered prior to reporting an issue in the Ethics Line, throughout the year.</p>
	<ul style="list-style-type: none"> Our Social Commitment Economic-Financial Performance 	<p>Pemex complied with Government Commitment 158 "Investment program for the well-being and quality of life of those who live in oil zones".</p>

ODS	Chapter in this report	Some actions made		
	<ul style="list-style-type: none">• Ethics and Transparency• Our Social Commitment• Economic-Financial Performance	<p>Program of Economic Reactivation and Productive Development of Campeche and Tabasco.</p> <ul style="list-style-type: none">• Attention to the lack of liquidity faced by companies in both states.• Closing of gaps between the demand and supply of the main actors of the hydrocarbons industry's value chain.• Use of consolidated schemes		
	<ul style="list-style-type: none">• Environmental Performance	<ul style="list-style-type: none">• -31% of CO₂e emissions in Pemex.• -57.9% of gas sent to burners in PEP.		
	<ul style="list-style-type: none">• Environmental Performance	<ul style="list-style-type: none">• -29.2% less HC content in discharged water.• Casa del Agua (House of Water) - Conservation of wetlands (nearly 80% of the scale species in fisheries production have to do with wetlands in coastal areas).		
	<ul style="list-style-type: none">• Environmental Performance	<ul style="list-style-type: none">• Conservation of the Jaguaroundi Ecological Park.• Design of the JATUSA Ecological Corridor.• Conservation and sustainable development of the middle basin of the Usumacinta River.• Conservation in the Casa del Agua (Centla swamps).		
	<ul style="list-style-type: none">• Ethics and Transparency• Human Rights	<p>Publication of:</p> <ul style="list-style-type: none">• Code of Ethics.• Code of Conduct. <p>EITI</p>		
	<ul style="list-style-type: none">• Environmental Performance• Ethics and Transparency• Our People• Human Rights	<p>Alliances:</p> <table><tr><td><ul style="list-style-type: none">• OGCI• CCAC - UNEP• GMI• Canada government• IPIECA</td><td><ul style="list-style-type: none">• ARPEL• CESPEDS• EITI• Global Compact• UNDP</td></tr></table>	<ul style="list-style-type: none">• OGCI• CCAC - UNEP• GMI• Canada government• IPIECA	<ul style="list-style-type: none">• ARPEL• CESPEDS• EITI• Global Compact• UNDP
<ul style="list-style-type: none">• OGCI• CCAC - UNEP• GMI• Canada government• IPIECA	<ul style="list-style-type: none">• ARPEL• CESPEDS• EITI• Global Compact• UNDP			

INDICATORS'

INDEX

Topic	IPIECA	United Nations Global Compact	ISO 26000	ODS	Page	External verification
Environmental issues and indicators						
Climate change and energy	E1 Greenhouse gas (GHG) emissions	Principle 7	6.5.5	Goal 7: Affordable and Clean Energy	12	✓
	E2 Energy use	Principle 7	6.5.5	Goal 7: Affordable and Clean Energy	16	✓
	E3 Alternative energy sources	Principle 9	6.5.4	Goal 7: Affordable and Clean Energy	17	✓
	E4 Flared gas		6.5.5	Goal 7: Affordable and Clean Energy	18	✓
Biodiversity and ecosystem services	E5 Biodiversity and ecosystem services	Principle 8	6.5.3, 6.5.6,	Goal 14: Life Below Water Goal 15: Life on Land	21	✓
Water	E6 Fresh water	Principle 7		Goal 6: Clean Water and Sanitation	28	✓
	E7 Discharges to water	Principle 7		Goal 6: Clean Water and Sanitation	32	✓
Local environmental impact	E8 Other air emissions	Principle 7	6.5.3	Goal 7: Affordable and Clean Energy	33	✓
	E9 Spills to the environment	Principle 7	6.5.3		36	✓
	E10 Waste	Principle 7	6.5.3		37	✓
	E11 Decommissioning	Principle 8			38	✓
Health and safety issues and indicators						
Workforce protection	HS1 Workforce participation	Principle 6	6.4.4, 6.4.6, 6.4.5, 6.4.3		41	✓
	HS2 Workforce health		6.4.6		43	✓
	HS3 Occupational injury and illness incidents	Principle 6	6.4.4		46	✓
Product health, safety and environmental risks	HS4 Product stewardship		6.4.6, 6.4.4	Goal 3: Good Health and Well-being	50	✓
Process safety and asset integrity	HS5 Process safety		6.6, 6.4.6		51	✓

Topic	IPIECA	United Nations Global Compact	ISO 26000	ODS	Page	External verification
Social and economic issues and indicators						
Community and society	SE1 <i>Local community impacts and engagement</i>		6.4.5	Goal 1: No Poverty	54	✓
	SE2 <i>Indigenous peoples</i>		6.3.9, 6.4, 6.4.5	Goal 1: No Poverty	56	✓
	SE3 <i>Involuntary resettlement</i>	Principle 1	6.4.5	Goal 1: No Poverty	57	✓
	SE4 <i>Social investment</i>		6.4.5	Goal 1: No Poverty	57	✓
Local content	SE5 <i>Local content practices</i>		6.6.6	Goal 1: No Poverty	66	✓
	SE6 <i>Local hiring practices</i>	Principle 1,4 y 5	6.6.6	Goal 12: Responsible Consumption and Production	NA	✓
	SE7 <i>Local procurement and supplier development</i>	Principle 1 y 4	6.6.6	Goal 12: Responsible Consumption and Production	67	✓
Human rights	SE8 <i>Human rights due diligence</i>	Principle 1 y 2	6.3, 6.3.3, 6.3.5 y 6.3.8	Goal 16: Peace and Justice Strong Institutions	70	✓
	SE9 <i>Human rights and suppliers</i>	Principle 1, 2 y 4	6.3.4, 6.3.8, 6.3.10, 6.3.7 y 6.3.9		67, 73, 79	✓
	SE10 <i>Security and human rights</i>	Principle 1 y 2	6.3, 6.3.3 y 6.4.4		74	✓
Business ethics and transparency	SE11 <i>Preventing corruption</i>	Principle 10	6.6		75	✓
	SE12 <i>Preventing corruption involving business partners</i>	Principle 10	6.6.3		78	✓
	SE13 <i>Transparency of payments to host governments</i>	Principle 10	6.6.4	Goal 17: Partnerships to achieve the Goal	80	✓
	SE14 <i>Public advocacy and lobbying</i>		6.6.4	Goal 17: Partnerships to achieve the Goal	81	✓
Labour practices	SE15 <i>Workforce diversity and inclusion</i>	Principle 3 y 6	6.3.9 y 6.4	Goal 5: Gender Equality Goal 10: Reduced Inequality	82	✓
	SE16 <i>Workforce engagement</i>	Principle 3, 4, 5 y 6	6.4, 6.4.3, 6.6.4, 6.3.10 y 6.4.7	Goal 8: Decent Work and Economic Growth	85	✓
	SE17 <i>Workforce training and development</i>	Principle 3	6.4.7	Goal 8: Decent Work and Economic Growth	86	✓
	SE18 <i>Non-retaliation and workforce grievance system</i>			Goal 8: Decent Work and Economic Growth	88	✓

ASSURANCE LETTER



(Translation from Spanish Language Original)
This letter has been translated from the Spanish language original and for the convenience of foreign/English-speaking readers – in case of discrepancy, Spanish prevails.

Verification Letter

To the readers of this Report:

We have conducted a review of the non-financial information contained in the “2017 Sustainability Report” of Petróleos Mexicanos (hereinafter “PEMEX”), for the period January 1 to December 31, 2017 (hereinafter “the Report”). The information reviewed is limited to the indicators referred as “verified” in the section entitled “Index” of the Report. The review of the financial information contained in the Report is excluded from the scope of this verification.

PEMEX, through its “Environmental Protection, Energy Management and Sustainability” Office (hereinafter “the Office”), is responsible for the preparation and presentation of the Report in accordance with the “Oil and gas industry guidance on voluntary sustainability reporting” of the International Petroleum Industry Environmental Conservation Association (IPIECA), the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP), hereinafter “the IPIECA/API/IOGP Guidance”. PEMEX is also responsible for the information and statements contained therein, for the determination of its objectives in relation to the selection and presentation of information related to sustainability performance, and for establishing and maintaining the performance management and control systems which are the source where the information is obtained.

It is our responsibility to conduct a limited review and, based on the work performed, to issue a Verification Letter which refers exclusively to the information under our scope and for the period January 1 to December 31.

Our work was carried out in accordance with the Standard ISAE 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standard Board (IAASB) of the International Federation of Accountants (IFAC) and in accordance with the AccountAbility Assurance Standard (2008) AA1000 AS (2008). These standards and our assurance methodologies require that we plan and perform our work in such a way that we obtain limited assurance about whether the Report is free from material misstatements and that we comply with ethical requirements, including those of independence established in the Code of Ethics of the International Ethics Standards Board for Accountants.

The scope of the evidence-gathering procedures performed in a limited review engagement is lower than that of a reasonable assurance engagement, and, consequently, so is the level of assurance that it provides. This Report cannot, under any circumstances, be understood as an audit report.

We have applied the following information gathering procedures to evidence the performance of our work.

- To verify the consistency of the information obtained from their systems and/or internal documentation.
- To analyze sustainability material topics, through both internal and external mechanisms, to identify relevant issues during the exercise covered by the Report.
- To identify the mechanisms of communication and participation implemented by PEMEX with its different stakeholders.
- To review the consideration of requirements to declare that the Report has been prepared in accordance with the “Oil and gas industry guidance on voluntary sustainability reporting” of the International Petroleum Industry Environmental Conservation Association (IPIECA), the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP).
- To Interview relevant staff on the implementation of sustainability policies and strategy.
- To Interview relevant staff responsible for providing the information contained in the Report.

KPMG Cárdenas Dosal, S.C.
Manuel Ávila Camacho 176 P1,
Reforma Social, Miguel Hidalgo,
C.P. 11650, Ciudad de México.
Teléfono: +01 (55) 5246 8300
kpmg.com.mx

- To analyze data gathering and internal control processes related to the quantitative data published in the Report.
- To perform a sampling review of the information and indicators under scope included in the Report. Such review was centralized and performed at the Corporate Offices as well as at selected workplaces, by selecting supporting documentation managed by PEMEX.

The detail of the verified information considers both Corporate and workplaces data where PEMEX operates. The information provided for our documentary review, and, as consequence, for the verification of the Report, comes from the following workplaces:

- Hospital Central Norte
- Terminal de Almacenamiento y Despacho 18 de Marzo
- Bateria de Separación Poza Rica II
- Complejo Procesador de Gas Poza Rica
- Estación de Medición y Control Cauchy
- Terminal de Almacenamiento y Despacho Manzanillo
- Refinería “Ing. Antonio M. Amor”
- Refinería “Miguel Hidalgo”

Based on the procedures performed as previously described, there is no evidence that leads us to believe that the data compiled in the 2017 Sustainability Report of PEMEX, for the period January 1 to December 31, 2017, was not obtained under reliable procedures, that the information is not disclosed in an adequate manner, or that there are significant deviations or omissions. Furthermore, there is no evidence that the Report was not prepared, in accordance with material aspects of the “Oil and gas industry guidance on voluntary sustainability reporting” of IPIECA, the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP).

As a result of our work, we have provided findings, observations and suggestions to PEMEX Management that were reported through an internal management letter.

Notwithstanding these document’s conclusions, we briefly summarize the most significant findings and recommendations:

- To perform a review of data collection and reporting processes at the workplaces and at corporate level, aiming to improve their consistency and control mechanisms.
- To improve consolidation processes through complementary control activities, which in case of deviation, ensure alerts and clarification actions prior to definition of the final version of the information.
- To increase the level of control in the emission of the final data and for different users and groups, through processes of reconciling information between the different sources.
- To improve the definition and information generation schemes related to key sustainability indicators.
- To strengthen the definition of objectives and accountability regarding communication of environmental and social performance in the medium and long term.
- To reinforce the mechanisms of identifying, gathering and disclosing information to meet the requirements of the indicators of the IPIECA/API/IOGP Guidance.

KPMG Cárdenas Dosal, S.C.

Juan Carlos Resendiz Muñiz
Mexico City, June 1st, 2018.



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Aguascalientes, Ags.
Cancún, Q. Roo
Ciudad de México
Ciudad Juárez, Chih.
Culiacán, Sin.
Chihuahua, Chih.

Guadalajara, Jal.
Hermosillo, Son.
León, Gto.
Mérida, Yuc.
Mexicali, B.C.
Monterrey, N.L.

Puebla, Pue.
Querétaro, Qro.
Reynosa, Tamps.
Saltillo, Coah.
San Luis Potosí, S.L.P.
Tijuana, B.C.

ACRONYMS AND ABBREVIATIONS

1P Proved reserves
2P Probable reserves
3P Possible reserves
5S Sort, set, shine, standardize, and sustain
ADV C Area Voluntarily Dedicated to Conservation (Área Destinada Voluntariamente a la Conservación)
AMEXHI National Oil and Gas Industry Association (Asociación Mexicana de Empresas de Hidrocarburos)
AMEXCID Mexican agency of International Cooperation for Development (Agencia Mexicana de Cooperación Internacional para el Desarrollo)
API American Petroleum Institute
AR5 IPCC Fifth Assessment Report
ARP Processes risk analysis (Análisis de Riesgos de Procesos)
ARPEL Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America and the Caribbean (Asociación Regional de Empresas del Sector Petróleo, Gas y Biocombustibles en Latinoamérica y el Caribe)
ASEA Safety, Energy and Environment Agency for the Hydrocarbon Sector
CAPEC Emergency and Civil Protection Advisory Commission (Comisión Asesora de Emergencias de Protección Civil de Petróleos Mexicanos)
CAS Chemical Abstract Service
CASES Security, Ecology and Survival Training Centers (Centros de Adiestramiento en Seguridad, Ecología y Supervivencia)
CCAC Climate and Clean Air Coalition
CCAE Center for Coordination and Emergency Support (Centro de Coordinación y Apoyo a Emergencias)

CCEPM Business Advisory Committee of Petróleos Mexicanos and its Subsidiary Productive Enterprises (Comisión Consultiva Empresarial de Petróleos Mexicanos y sus Empresas Productivas Subsidiarias)
CDI National Commission for the Development of Indigenous People (Comisión Nacional para el Desarrollo de los Pueblos Indígenas)
CECOA Advanced Operations Coordination Centers (Centros Coordinadores de Operaciones Avanzados)
CESIPAM Social and Integral Center for the Elderly (Centro Social e Integral para los Adulto Mayores)
CESPEDES World Business Council for Sustainable Development, CHAPTER Mexico (Comisión de Estudios del Sector Privado para el Desarrollo Sustentable)
CFE Federal Electricity Commission (Comisión Federal de Electricidad)
CIEP Integrated Extraction and Production Contracts (Contratos Integrales de Extracción y Producción)
CIF Family Integration Centers (Centros de Integración Familiar)
CNH National Hydrocarbons Commission (Comisión Nacional de Hidrocarburos)
CO₂ Carbon dioxide
CO_{2e} Carbon dioxide equivalent
COA Annual Operation Card (Cédula de Operación Anual)
COMIMSA Mexican Engineering Corporation (Corporación Mexicana de Ingeniería)
CONABIO National Commission for the Knowledge and Use of Biodiversity (Comisión Nacional para el Conocimiento y Uso de la Biodiversidad)

CONAFOR National Forestry Commission (Comisión Nacional Forestal)
CONANP National Commission of Natural Protected Areas (Comisión Nacional de Áreas Naturales Protegidas)
CONAPRED National Council to Prevent Discrimination (Consejo Nacional para Prevenir la Discriminación)
CONOCER National Council for Standardization and Certification of Labor Competences
CPG Gas Processing Center (Centro Procesador de Gas)
CRE Energy Regulatory Commission (Comisión Reguladora de Energía)
CURR Regulated Registration Code (Clave Única de Registro del Regulado)
DJ Legal Department (Dirección Jurídica)
DS Sustainable Development (Desarrollo Sustentable)
DOPA Operational Directorate of Procurement and Supply (Dirección Operativa de Procura y Abastecimiento)
DUC Profit Sharing Duty (Derecho por Utilidad Compartida)
EBITDA Earnings Before Interest, Taxes, Depreciation, and Amortization
ECCC Environment and Climate Change Canada
ECP Electro-centrifugal pumping
EISI Institutional Social Inclusion Strategy (Estrategia de Inclusión Social Institucional)
EITI Extractive Industries Transparency Initiative
EMS Energy Management System
ENDESU Sustainable Development Civil Organization (Espacios Naturales y Desarrollo Sustentable A. C.)
EOP Terrestrial Electrooptic Surveillance Systems (Sistemas terrestres de vigilancia electroóptica)
EPP Personal Protection Equipment

EPS Subsidiary Productive Companies (Empresa Productiva Subsidiaria)

EVIS Social Impact Assessments (Evaluación de Impacto Social)

FCPA U.S. Foreign Corrupt Practices Act

GHG Greenhouse gas

GHS Global Harmonized System

GIE Internal Emergency Group (Grupo de Emergencia Interno)

GMI Global Methane Initiative

GMn National Multipartite Group for the Adhesion of Mexico (Grupo Multiparticipa Nacional para la adhesión de México)

GOA Donations Granting Group (Grupo de Otorgamiento de Apoyos)

GRDS Responsibility and Social Development Management (Gerencia de Responsabilidad y Desarrollo Social)

GRAM Regional Groups for Emergency Attention and Management (Grupo Regional para Atención y Respuesta a Emergencias)

GWP Global Warming Potential

HC Hydrocarbon

HIIP Integral Supplier Information Tool (Herramienta Integral de Información de Proveedores)

HRC Foundation of Human Rights Campaign

IFRS International Financial Reporting Standards

ILO International Labor Organization

INAI National Institute of Transparency, Access to Information and Protection of Personal Data (Instituto Nacional de Transparencia, Acceso a la Información y Protección de Datos Personales)

INDAABIN National Asset Management and Valuation Institute (Instituto de Administración y Avalúos de Bienes Nacionales)

IOGP International Association of Oil & Gas Producers

IPCC Intergovernmental Panel on Climate Change

IPIECA International Petroleum Industry Environmental Conservation Association

ISO International Organization for Standardization

JATUSA Jaguaroundi, Tuzandépetl and Santa Alejandrina

JCCP Japan Cooperation Center Petroleum

JOGMEC Japan Oil, Gas and Metals National Corporation

KMZ Ku-Maloob-Zaap

LGBT Human rights civil society organization for lesbian, gay, bisexual, transgender, and queer

LGBTTTI People with disabilities, lesbian, gay, bisexual, transgender, transgender, transvestite and intersexual

LSO Social License to Operate (Licencia Social para Operar)

MIA Environmental Impact Statement (Manifestación de Impacto Ambiental)

MIIND Equality and Non-Discrimination Board (Mesa de Inclusión, Igualdad y No Discriminación)

MIPYMES Micro, small and medium-sized enterprises (Micro, Pequeñas y Medianas Empresas)

MPI Best International Practices (Mejores Prácticas Internacionales)

MMmh Million man-hour

MRV Monitoring, reporting and verification

NAFIN Nacional Financiera

NOx Nitrogen oxides (Óxidos de Nitrógeno)

NRCan Natural Resources Canada

OBM Mutual Benefit Work (Obras de Beneficio Mutuo)

OECD Organization for Cooperation and Economic Development

OGCI Oil and Gas Climate Initiative

OGMP Oil and Gas Methane Partnership

OHCHR Office of the High Commissioner for Human Rights

PACI Partnering Against Corruption Initiative

PACMA Support Program for the Community and the Environment (Programa de Apoyo a la Comunidad y Medio Ambiente)

PCPP Person-Position Compatibility Procedure (Procedimiento de Compatibilidad Puesto Persona)

PEJ Jaguaroundi Ecologic Park (Parque Ecológico Jaguaroundi)

PEMEX Petróleos Mexicanos

PEP Pemex Exploración y Producción (Pemex exploration and production)

PETH Pemex Etileno (Pemex ethylene)

PFER Pemex Fertilizantes (Pemex fertilizers)

PERP Supplier Evaluation and Responsibility Program (Programa de Evaluación y Responsabilidad de Proveedores)

PLOG Pemex Logística (Pemex logistics)

PPS Pemex Perforación y Servicios (Pemex perforation and services)

PNC National Contingency Plan for Spills of Hydrocarbons and Harmful Substances in the Mexican Marine Zones

PRE Emergency Response Plan (Plan de Respuesta a Emergencias)

ProAire Management Programs to improve Air Quality

PROAs Programs, work and actions (Programas, obras y/o acciones)

PSA Payment for Environmental Services (Pago por Servicios Ambientales)

RS Social Responsibility (Responsabilidad Social)

SAST Occupational Health Administration Subsystem (Subsistema de Administración de la Salud en el Trabajo)

SASP Process Safety Management Subsystems (Subsistema de Administración de la Seguridad en los Procesos)

SDGs Sustainable Development Goals

SDS Safety Data Sheets

SEC Security Exchange Commission

SEDENA Secretary of National Defense (Secretaría de la Defensa Nacional)

SEDESOL Ministry of Social Development (Secretaría de Desarrollo Social)

SEMARNAT Ministry of Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales)

SEN National Grid System (Sistema Eléctrico Nacional)

SENER Ministry of Energy (Secretaría de Energía)

SEP Ministry of Public Education (Secretaría de Educación Pública)

SEPr Process safety events

SGMD Duct Maintenance Management System (Sistema de Gestión de Mantenimiento de Ductos)

SIADI Institutional System of Individual Performance Management (Sistema Institucional de Administración del Desempeño Individual)

SIDP Institutional Project Development System (Sistema Institucional de Desarrollo de Proyectos)

SIPOT Transparency Obligations Portals System (Sistema de Portales de Obligaciones de Transparencia)

SISPA Industrial Safety Information and Environmental Protection System (Sistema de Información de Seguridad Industrial y Protección Ambiental)

SO₂ Sulfur dioxide

SO_x Sulfur oxides

SSA Health Ministry (Secretaría de Salud)

SSPA Safety, Health and Environmental Protection (Seguridad, Salud y Protección Ambiental)

STPS Ministry of Labor and Social Security (Secretaría del Trabajo y Previsión Social)

TAD Storage and Dispatch Terminals

TSP Total Suspended Particles

TRI Pemex Transformación Industrial (Pemex industrial transformation)

UBA Ultra-low sulfur (Ultra Bajo Azufre)

UCII Institutional Internal Control Unit (Unidad de Control Interno Institucional)

UDLAP University of the Americas Puebla (Universidad de las Américas Puebla)

UNCAC United Nations Convention against Corruption

UNDP United Nations Development Program

UNEP United Nations Environment Program

UNAM National Autonomous University of Mexico (Universidad Nacional Autónoma de México)

UNIDO United Nations Industrial Development Organization

US EPA United States Environmental Protection Agency

VOC Volatile Organic Compounds

WBCSD World Business Council for Sustainable Development

UNIT NOMENCLATURE

%	Percent
B	Barrel
d	Day
G	Giga
J	Joule
h	hour
hp	Horse power
Km	Kilometers
M³	Cubic meters
M	Thousand (10 ³)
MM	Million (10 ⁶)
MMM	Billion (10 ⁹)
MMMM	Thousand billion (10 ¹²)
P	Pesos
pc	Cubic feet
pce	Oil equivalent
PJ	Petajoule
t	Tonelada
US\$	American dollars
W	Watt