olade | LATIN AMERICAN ENERGY ORGANIZATION

SURVEY ON GOOD PRACTICES FOR THE MANAGEMENT OF ENERGY STATISTICS

RESULTS SYNTHESIS DOCUMENT

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

IDB

This document was prepared under the direction of:

Alfonso Blanco Bonilla
Executive Secretary

Medardo Cadena
Studies, Projects and Information Director

This document was prepared by:
Luciano Caratori

Contributors:
David Delgado
Katherine Segura

Design and Layout
CÍRCULO PUBLICITARIO (593 9) 995260754
ventascirculopublicitario@gmail.com • Quito - Ecuador

This document was produced with the financial support of the World Bank within the framework of the project **"Caribbean Energy Statistics Capacity Enhancement" (Grant No. TF0A5680)**, and the Inter-American Bank Development Bank (IDB) within the framework of the **"Program for Strengthening the Management and Dissemination of Information Energy for Sustainable Development in Latin America and the Caribbean"** (Technical Cooperation No. ATN/OC15923-RG).

In particular, we would like to thank the Member Countries of the Organization for all the support provided for the preparation of this document, as well as the technical team of the Directorate of Studies, Projects and Information who assisted in the review.

The opinions expressed in this document come from the processing of an opinion survey that was filled out by people related to the energy sector and, therefore, may not coincide with those of the participating organizations.

This document was developed thanks to the support of the Project "Caribbean Energy Statistics Capacity Enhancement" Agreement No. TF0A5680. The aforementioned project is supported by the World Bank Trust Fund for Statistical Capacity Building (TFSCB), with a generous contribution from the Department for International Development (DFID), Irish Aid and Korea. The aforementioned entities are not responsible for the content of this document.

The publication of this document has been carried out with the financial support of the Bank Inter-American Development Bank (IDB) within the framework of the "Program for the Strengthening Management and Dissemination of Energy Information for Sustainable Development in Latin America and the Caribbean" (Technical Cooperation No. ATN/OC15923-RG). The opinions expressed in this publication are those of the authors and not necessarily reflect the point of view of the IDB, its Board of Executive Directors or of the countries that It represents.

First edition, December 2022
ISBN: 978-9978-70-147-8

Contact OLADE
Avenue Mariscal Antonio José de Sucre N58-63 and Fernández Salvador
Quito - Ecuador
Phones: (593 -2) 2598 -122/2531-674

INDEX

FIGURES

TABLES

Prologue by the Executive Secretary of OLADE

Good practices in the management of energy statistics contribute to the continuous improvement of statistical activity, which must be planned and considers a wide range of actors that influence the performance of the sector.

In this way, by having energy statistics with high degrees of quality and credibility, they will support the design, formulation and monitoring of policies, plans and programs that promote the sustainable development of the energy sector in Latin America and the Caribbean.

Under this framework, the Latin American Energy Organization - OLADE, presents the document called Survey on Good Practices for Energy Statistics Management, in which the implementation state of some of the common practices around good statistical management of the energy sector in the countries of the region has been collected.

For the preparation of this document, OLADE, through a survey, has compiled the good practices in the management of energy statistics in the countries of Latin America and the Caribbean. Topics have been consulted regarding the institutional and legal frameworks for the management of energy sector statistics, the scope and depth of data collection and its links with other topics, the human capital of the organizations in charge of this type of statistics, as well as the internal processes handled at the national level from the collection, processing and analysis of information to the dissemination of energy statistics.

It is gratifying for our Organization to have obtained responses from 18 countries, based on which it has been able to verify an important advance in the management of energy statistics in Latin America and the Caribbean. In this regard, we encourage the replication of good practices and the implementation of guidelines for a better management of energy statistics, one of the fundamental pillars for the sustainable and planned development of the energy sector in our region.

Alfonso Blanco Bonilla
Executive Secretary
OLADE

1. Introduction and organization of the document

This document was prepared as part of the *Caribbean Energy Statistics Capacity Enhancement Project,* executed by OLADE and administered by the World Bank and is intended to complement the Manual of Good Practices for the Management of Energy Statistics in Latin America and the Caribbean with a first survey that allows knowing —as a starting point— the status of adoption of some of the good practices contained in said manual.

The document is organized as follows: firstly, the methodology and reception of the survey is presented, and then, followed by an executive summary summarizing an overview of the results with the most outstanding points and relevant findings.

The document addresses, first of all, **institutional aspects**, linked both to the nature of the entities for the integral management of energy statistics and to their legal conformation and their link with other statistical institutions, the degree of concentration and coordination of the activities of energy statistics management; the methodology for the appointment of its authorities and their stability in office, and finally the existence of inter-institutional energy information committees.

Next, **the scope and exhaustiveness of the compilation of energy statistics** is analyzed, exploring for the countries that responded to the questionnaire which are the specific chains and links that are surveyed, as well as issues related to the obligation to report.

This same section then explores the degree of involvement with issues that have become more relevant in recent decades, such as energy poverty and energy affordability; statistics related to gender and energy issues, to then focus the results on the degree of participation of the entities for the integral management of energy statistics in the preparation of the greenhouse gas inventories of their respective countries, in the contributions determined at the national level (NDC) and in the Long Term Strategies (LTS) of the countries to be submitted to the United Nations Framework Convention on Climate Change as part of the Paris Agreement.

Third, the document briefly analyzes aspects **related to the human capital of organizations**, highlighting the size of the endowments, their rotation in recent years and the practices related to the initial training of personnel and the existence of specific offices within the entity with the capabilities to meet the growing demand for activities related to information technology and geographic information.

The following section addresses issues **related to good practices in the statistical processes** of compilation, processing and analysis, as well as the existence of mechanisms to guarantee the confidentiality and privacy of the subjects surveyed, the formal documentation of the processes, the definition of statistical review, the use of different mechanisms and means for collecting statistics and the participation in international methodological harmonization activities, among others.

Finally, aspects associated with **good practices in the dissemination of energy** statistics are explored, in terms of frequency and updating of information, the existence of specific websites for their dissemination, the existence of calendars and public methodological documents, and the degree of openness of the data in terms of the characteristics of "open data".

2. Methodology and Response

Within the framework of the *Caribbean Energy Statistics Capacity Enhancement Project*, executed by OLADE and administered by the World Bank, and accompanying *the Manual of Good Practices for the Management of Energy Statistics in Latin America and the Caribbean*, published simultaneously with this document, OLADE has carried out a first edition of the Survey on Good Practices for the Management of Energy Statistics through questionnaires prepared in Spanish and English and distributed via email to 27 OLADE Member Countries between June 22 and August 11, 2020 and processed between August 20 and September 5, 2020, having received responses from the countries listed below. The questionnaire included context and control questions, from which the conclusions and observations synthesized in this document were drawn.

The countries that responded to this survey are:

As an executive summary

Institutional aspects

Regarding the degree of concentration of energy statistics management, of the 12 countries that responded to the question, only in two cases energy statistics on all sources and uses are collected and managed by the same entity, while in the majority of the countries that responded, a mixed scheme is presented whereby different entities collect energy data, but energy statistics on all sources and uses are managed by a single entity, and in the remaining three there are cases in which different entities collect and they manage energy statistics according to different sources and uses.

Of the 12 countries, ten responded that there is an entity responsible for the management of comprehensive energy statistics in their country, while in two cases the answer was negative. However, as can be seen in the subsequent responses, there are elements that make it possible to approximate sets that can be assimilated to an important subset of the management of comprehensive energy statistics.

Regarding the legal status of the entity responsible for the management of comprehensive energy statistics, in 6 of the 11 countries that responded, the entity responsible for the management of comprehensive energy statistics is directly a ministry, while in three cases they are second-level agencies, directly dependent on one ministry, and the remaining two are autarkic or semi-autarkic entities.

Of the same 11 countries that answered the previous question, in eight of them, these entities have been created by law, while two were created by decree, and the remaining one by ministerial resolution. Regardless of the original rule of creation, there are cases in which the attributions and functions have been determined, limited or subsequently modified by means of a wide variety of complementary or modifying instruments, usually of a lower rank than the original one.

In line with the formal instruments for the creation of the entities, in all cases of the 11 countries that responded, the entity has a mission and function statement.

Regarding the different coordination mechanisms of the national statistical systems, in 7 of the 11 countries that answered this question, the energy statistics management entities coordinate their activities with the highest statistical entity of their respective countries, while in two cases the integral management of energy statistics is carried out by the national statistical entity and in the remaining two, direct links are not declared for statistical operations, although there is informal collaboration with other entities for the preparation of specific reports.

Regarding the mechanisms and instruments for the designation of energy statistics line authorities, 2 of the 11 responses received indicate that the designation is made by law, two by decree and seven by other mechanisms.

In 6 of the 11 countries that responded, the appointment of authorities is carried out using competitive selection processes; in the remaining five, these processes are not used. It should be noted that only in 3 of these 11 countries are the designations of the highest line authorities made on time, while in the rest of the countries these designations are made without a deadline, or on a permanent or indefinite basis, a factor that provides regimes highly heterogeneous stability.

Despite the fact that the Interinstitutional Committees for Energy Information (ICEI), promoted among other organizations by OLADE, present a growing penetration in various countries of the region, at the moment only 3 of the 11 countries that responded on this issue report their existence.

Scope and exhaustiveness of statistical operations

The countries were consulted on the scope and obligation of reporting on the part of the obliged subjects about different activities and transactions related to the most common energy sources in the countries of the region.

In all cases, this is strongly influenced in the first place by the use of each source in the respective countries and secondly also by the characteristics related to the supply of said energy sources and their relative weight in the different energy matrices.

In the case of hydrocarbons, most of the countries reveal aspects related to their commercialization, both in the domestic market and in terms of foreign trade, and characteristics related to the prices of oil products.

Regarding coal, the primary source from which the region and in particular the countries surveyed are characterized by their low participation in the matrix, only two countries claim to collect statistics related to foreign trade and one on other aspects, such as production and marketing.

Regarding electric energy, most of the countries declare that they collect statistics mainly related to the demand for energy and power, with their counterparts being generation, installed power and the use of fuels, while other statistics located “downstream” in the electricity chain, such as transportation, distribution and distributed energy facilities are present to a lesser extent.

In the case of thermal energy, which, as mentioned above, has a lower frequency of use in the region as a public service or as a mass commercialization, only two countries claim to collect statistics on the subject.

Regarding biofuels, 7 countries state that they collect statistics related to production, while commercial aspects are collected in five.

Of the countries surveyed, it is notable that almost half reported collecting end-use statistics for most sectors.

Regarding the preparation of energy balances, 8 countries stated that they were carried out at the national level, while four declared that they were also carried out at the subnational level.

Finally, it is highlighted that 6 countries claim to collect statistics and information on infrastructure and expansion plans, while five claim to collect environmental statistics.

A separate note deserves uranium, whose data collected according to the survey results are exclusively observed in Argentina and for foreign trade (because it is the only one of the countries surveyed that has generation based on this technology, and does not produce it domestically).

Regarding the obligation to report, it is noted that in more than 90% of the cases (country-chain-link combinations), when the statistics are collected, this is done under the protection of said obligation, and that in more than 50% of cases under specific regulations.

Of the countries surveyed, only Uruguay reported the existence of specific statistical operations related to gender and energy issues within the framework of the entity's regular operations, while 7 of the 12 countries surveyed indicated the existence of specific statistical operations related to energy poverty and energy access.

The degree of involvement of the entities surveyed in the preparation of the greenhouse gas inventory of their respective countries for the purposes of its presentation to the United Nations Framework Convention on Climate Change is notable: of the entities surveyed, eight stated that they participated actively in the preparation of the chapter corresponding to Greenhouse Gas (GHG) inventory energy in consultation with the entity in charge of preparing it, while a minority prepares the entire chapter of the inventory of greenhouse gases related to the energy sector[1], or is “limited” to actively provide information to the entity in charge of preparing the inventory of Greenhouse Gases, preparing reports or presenting microdata at its request.

Human Capital

The number of agents belonging to the entity in charge of managing energy statistics for each of the countries surveyed is remarkably heterogeneous, a factor probably linked to the diffuse nature of the scope of each entity's activities in many cases, and to the complementation of internal services provided by other agencies belonging to the entity superior to this in hierarchical terms, with a very wide range of between 1 and 70 agents.

As a notable result, in all the countries that responded, the net incorporation of personnel was nil or slightly positive. In terms of rotation, it stands out that 6 countries had leaves, which in all cases were compensated or exceeded by the incorporation of additional personnel.

Just over half of the countries present initial training processes of a “formal” nature when a new agent joins the energy statistics teams, while the rest of the countries use more informal training procedures.

In the rest of the cases in which these formal induction processes exist, the trainings are carried out in the same institution by the technicians of the organizations themselves.

Despite the growing mass of actionable data and dependence on digital media for the acquisition and processing of statistical data, only 5 of the 11 countries that responded to this question state the existence of a specialized office for information technology within the entity and only four declare the existence of an office specialized in geographic information.

[1] 2006 IPCC Categories 1A and 1B.

Good practices in the collection and production processes

Most of the surveyed countries responded that there are mechanisms to guarantee the confidentiality and privacy of the surveyed subjects. In most cases, the collection and guarantee mechanisms respond to rules that stipulate the terms and types of confidentiality, generally at the level of national statistical systems, usually combined with specific authorization procedures and restrictions on access and publication of individual data for cases in which the information collected is covered by statistical secrecy rules, with different degrees of scope.

Regarding the formal documentation of internal processes, it stands out that a greater proportion of countries that document them in the “upstream” activities, related to the collection, processing and analysis of data and information, while the processes located “downstream”, as storage and dissemination are generally less well documented.

A particular case is that of quality control and/or assurance, which in various contexts tends to be assimilated precisely to “process documentation”, which is the one with fewer countries documented.

It should be noted, however, that many of the countries surveyed stated that although certain processes are not yet formally documented, there are informal procedures, which may or may not be at a documentation stage.

A situation similar to the previous ones can be appreciated in terms of the policies for the revision of statistics, for which only Argentina, Paraguay and Venezuela claim to have them defined.

Regarding the methodologies used to collect statistical data, it should be noted that in most of the countries statistics derived from other statistical operations are used, and that in 7 of the 10 countries that responded, administrative data are used to obtain them. On the other hand, less than half stated that they used censuses for the collection, and finally, only 3 countries would use measurements for data collection, and three would use sampling techniques.

The countries were also consulted on the different types of software used for the different stages of the statistical process, based on their proprietary characteristics of the code (proprietary or open code, or own developments), and on its gratuity (paid or free), and the use of more than one type of software may coexist for each process.

In this regard, it is noted that 6 of the 11 countries that responded systematically showed the use, in conjunction with software provided by third parties, of their own developments in most of the stages of the statistical process.

Likewise, the degree of overlap in the activities of dissemination and collection of energy statistics between different entities was consulted, observing that while in the case of collection only in 3 countries different public entities collect the same statistical data, in the dissemination stage, overlapping efforts is observed in more than half of the countries surveyed, with few countries declaring the absence (by default) of these types of overlaps.

In response to the consultation on the participation of entities in activities of methodological harmonization, standardization and/or international normalization, it is notable to observe the high degree of linkage of these entities with international organizations, whether regional, international or sectoral, through which the entities consulted declared that they participated in activities with

between 2 and 10 organizations, with an average participation for the 11 national entities of 4.7 international initiatives.

Responses were naturally led - due to the list of recipient countries for this survey - by participation in OLADE activities (all those surveyed), participation in the JODI initiative (JODI Oil and JODI Gas, Joint Organisations Data Initiative) is also noteworthy[2], in which seven of the eleven entities that responded to the consultation, and also with seven entities, the United Nations Framework Convention on Climate Change (UNFCCC) participated in activities mainly related to the preparation of national inventories of gases from greenhouse effect and others under the Paris Agreement.

Good practices for the dissemination of statistics

Regarding the existence of specific websites for the dissemination of energy statistics, 10 of the 12 countries surveyed stated their existence. On the other hand, the existence of public calendars for the dissemination of energy statistics is notably scarce in the countries surveyed, present in only three cases.

A similar situation is observed in the publication of the methodologies used for the collection and processing of statistics: of the 12 countries that answered this question, only 4 state that they publish the methodologies used for these processes.

In order to try to understand the degree of openness of energy data in the surveyed countries, the surveyed countries were asked to identify the presence of a set of attributes related to the data dissemination processes and energy statistics, whose presence would define jointly the existence of "open data" in the entity.

The results show that none of the countries reported the existence of all the attributes that make up "open data" in their dissemination processes, attributes that are reported to be present in different measures, however, the presence of common elements in most of the countries show a gradual approach to these policies of openness.

[2] Joint initiative between APEC, Eurostat, GECF, IEA, IEF, OLADE OPEC and the United Nations Statistics Division that aims to provide global data related to global oil and natural gas production and consumption on a monthly basis.

4. Institutional aspects

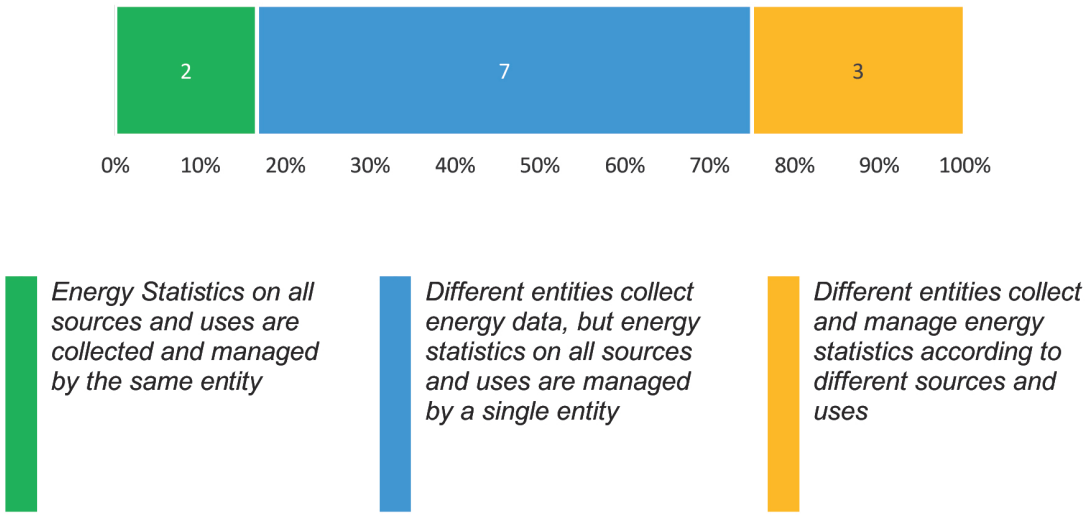
4.1 Degree of concentration of energy statistics management

Question: Please indicate which statement is the most appropriate for your country's energy statistics management at the national level.

Answers: 12

Of the 12 countries surveyed that responded to the question, only in two cases (17%, Uruguay and Venezuela) *energy statistics on all sources and uses are collected and managed by the same entity*, while in most of the countries that responded (7 countries, 58%) a mixed scheme is presented by which *different entities collect energy data, but energy statistics on all sources and uses are managed by a single entity*, and in the remaining three (25%) they are given cases in which *different entities collect and manage energy statistics according to different sources and uses* (Guatemala, El Salvador and Suriname).

FIGURE 1: Degree of concentration of energy statistics



Source: Own elaboration based on the processing of the survey results

4.2 Existence of an entity responsible for the management of comprehensive energy statistics

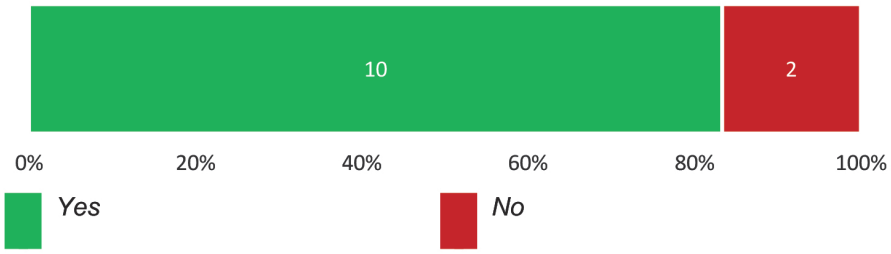
Question: Is there an entity responsible for the management of comprehensive energy statistics in your country?

Answers: 12

Of the 12 countries, 10 responded that there is an entity responsible for the management of comprehensive energy statistics in their country, while in two cases the answer was negative.

However, as can be seen in the subsequent responses, there are elements that make it possible to approximate sets of activities within the Ministry of People's Power for Petroleum of Venezuela with elements that can be assimilated to an important subset of the management of comprehensive energy statistics.

FIGURE 2: Existence of an entity responsible for the management of comprehensive energy statistics



Source: Own elaboration based on the processing of the survey results

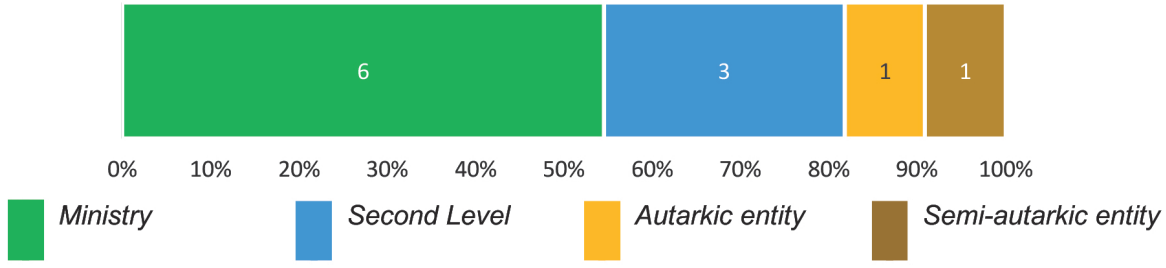
4.3 Legal status of the entity responsible for the management of comprehensive energy statistics

Question: What is the legal status of this entity?

Answers: 11

In 6 of the 11 countries that responded to the question, the entity responsible for the management of comprehensive statistics on energy is directly a ministry (Belize, Ecuador, Guatemala, Jamaica, Uruguay and Venezuela), while in three cases these are second level agencies, directly dependent on a ministry (Argentina, Costa Rica and Paraguay), and the remaining two are autarkic or semi-autarkic entities such as the National Energy Council of El Salvador or the Guyana Energy Agency (GEA), a semi-autonomous corporation within the scope of the Ministry of Public Infrastructure of Guyana.

FIGURE 3: Legal status of the entity responsible for the management of comprehensive energy statistics



Source: Own elaboration based on the processing of the survey results

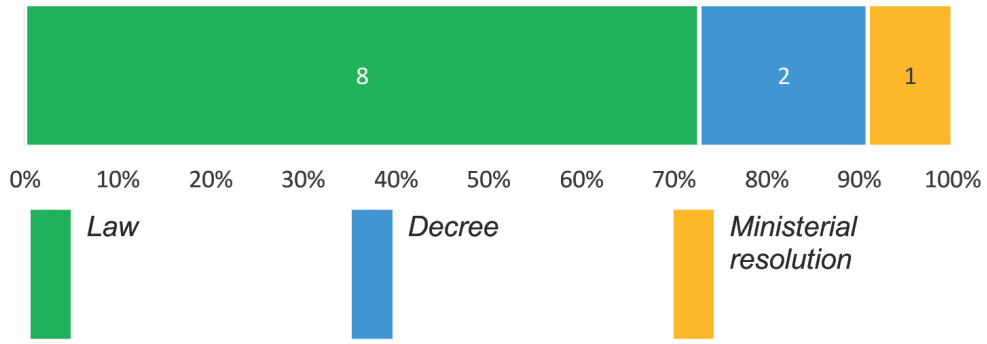
4.4 Instrument for creating the entity responsible for the management of comprehensive energy statistics

Question: What is the type of legal instrument by which it was created?

Answers: 11

Of the 11 countries that answered this question, 8 (73%) stated that the entity responsible for the management of comprehensive energy statistics was created by law, while two would have been created by decree, and the remainder by a ministerial resolution. It should be noted here that regardless of the original rule of creation, there are cases in which the attributions and functions have been determined, limited or subsequently modified by means of a wide variety of complementary or modifying instruments, usually of lower rank than the original one (for example, complementation of laws through regulatory decrees and ministerial resolutions).

FIGURE 4: Instrument for creating the entity responsible for the management of comprehensive energy statistics



Source: Own elaboration based on the processing of the survey results

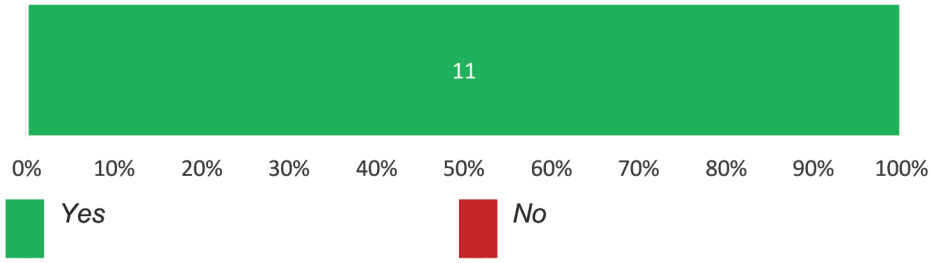
4.5 Existence of a mission statement and functions of the entity responsible for the management of comprehensive energy statisticss

Question: Does the entity have a mission and functions statement?

Answers: 11

In line with the formal instruments for the creation of entities, in all cases the countries responded that the entity has a mission statement and functions.

FIGURE 5: Existence of mission statement and functions of the entity responsible for the management of comprehensive energy statistics



Source: Own elaboration based on the processing of the survey results

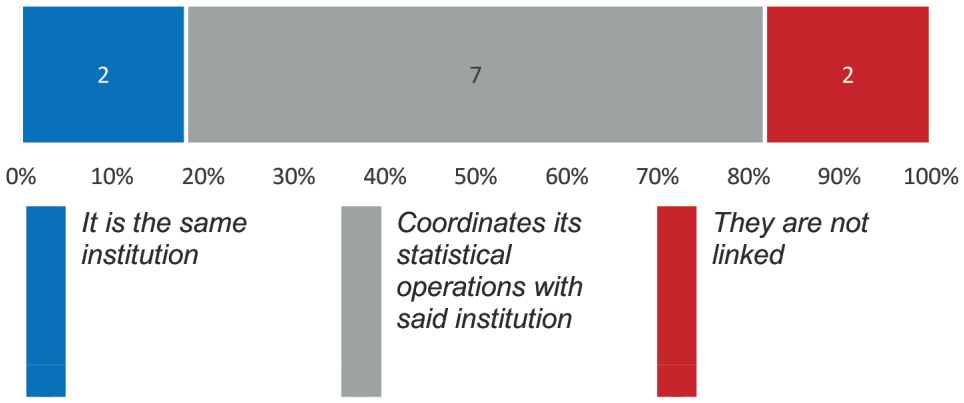
4.6 Degree of coordination of energy statistics management with the rest of the country's statistical operations

Question: Indicate the relationship between the energy statistics management entity and the highest statistical entity in your country.

Answers: 11

Regarding the different coordination mechanisms of national statistical systems, in most of the countries that answered this question (7 out of 11, 63%), energy statistics management entities coordinate their activities with the highest statistical entity of their respective countries, while in two cases the integral management of energy statistics is carried out by the national statistical entity (Guatemala and Venezuela) and in the remaining two (Argentina and Jamaica) no direct links are declared for statistical operations although there is, for example, in the case of Argentina and within the framework of the National Statistical System, collaboration for the preparation of specific reports made by the National Institute of Statistics and Censuses.

FIGURE 6: Degree of coordination of energy statistics management with the rest of the country's statistical operations



Source: Own elaboration based on the processing of the survey results

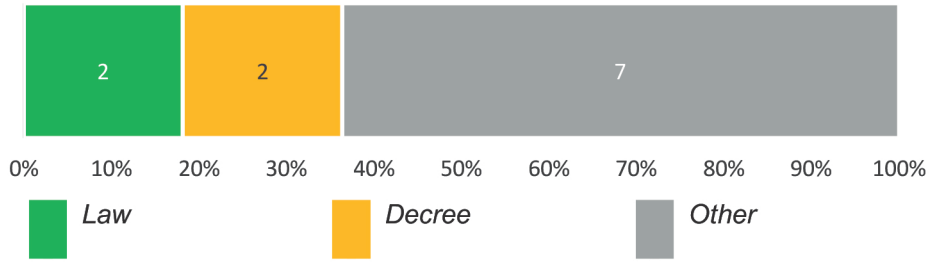
4.7 Designation instruments for the highest energy statistics authority

Question: By what type of mechanism or instrument is the highest (line) authority for energy statistics designated in your country?

Answers: 11

Regarding the mechanisms and instruments for the designation of energy statistics *line* authorities, the countries surveyed show a high degree of heterogeneity: while in Guyana and Jamaica the instrument used is a Law and in Ecuador and Paraguay the designation is made by Decree, the rest of the countries resort to different instruments for the designation of different levels and issued by the respective institutions, depending on the hierarchy, the constitution and the legal status of the various entities, such as "Administrative Decision", "Government Act" Or "Account point" (Argentina, Guatemala and Venezuela, respectively), or the selection of an Executive Secretary (El Salvador) in charge of the Board of Directors of the institution.

FIGURE 7: Designation instruments for the highest energy statistics authority



Source: Own elaboration based on the processing of the survey results

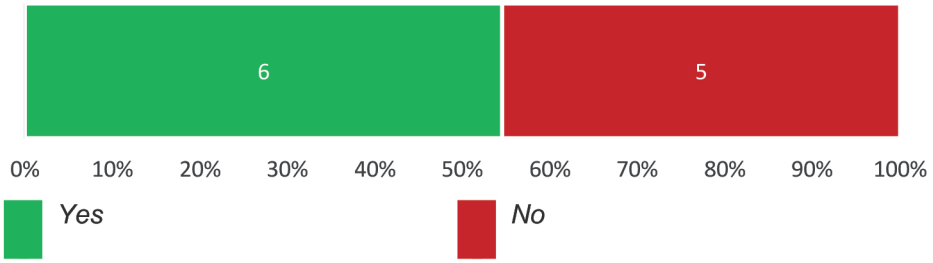
4.8 Use of competitive examination process by opposition of antecedents for the selection of authorities

Question: Question: Does the selection process for the highest (line) authority in energy statistics include a competitive background examination process?

Answers: 11

In 6 of the 11 countries surveyed, according to the responses to the survey, the use of selection processes by opposition of antecedents (Argentina, Belize, Guyana, Jamaica, El Salvador and Uruguay) is observed, while the rest of the countries they would use other types of mechanisms for the selection of the highest energy statistical authority.

FIGURE 8: Use of background competitions for the selection of authorities



Source: Own elaboration based on the processing of the survey results

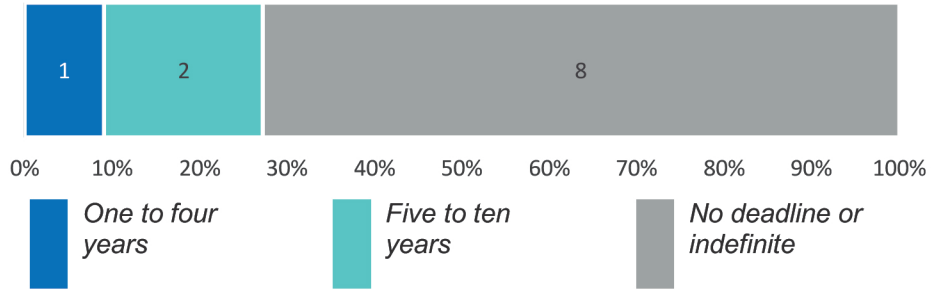
4.9 Term of validity of the appointment in the position of the highest authority of energy statistics

Question: What is the term of validity of the appointment in the position of the highest authority (line) of energy statistics in your country?

Answers: 11

Among the answers to this question, it stands out that only in three of the cases surveyed the appointments of the highest line authorities are made on a term (Paraguay, between one and four years; Argentina and El Salvador, between five and ten years), while in the rest of the countries these appointments are made without a term, either permanently or indefinitely, or with additions and withdrawals at the discretion of higher authorities, a factor that provides highly heterogeneous stability regimes.

FIGURE 9: Term of validity of the appointment in the position of the highest authority of energy statistics



Source: Own elaboration based on the processing of the survey results

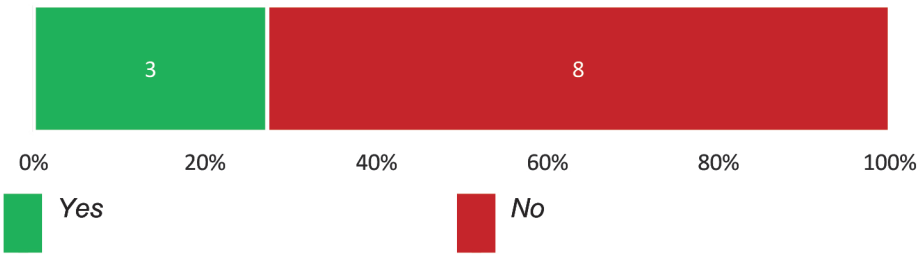
4.10 Existence of inter-institutional energy information committees

Question: Is there an Inter-Institutional Energy Information Committee made up of representatives of official entities and other organizations linked to the energy sector?

Answers: 11

Despite the fact that the Interinstitutional Committees for Energy Information (ICEI), promoted among other organizations by OLADE, present a growing penetration in various countries of the region, at the moment only 3 of the 11 countries surveyed report their existence among the countries surveyed.

FIGURE 10: Existence of inter-institutional energy information committees



Source: Own elaboration based on the processing of the survey results

5. Scope of statistical operations

5.1 Scope and exhaustiveness of statistical operations[3]

Question: Indicate, of the following, what type of energy statistics are collected by the entity.

Answers: 10

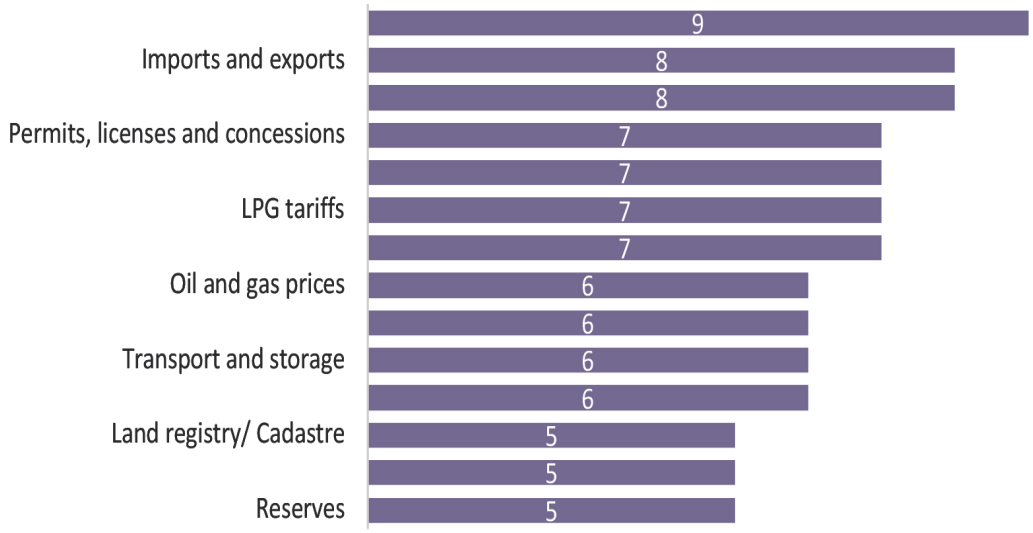
The countries were consulted on the scope and obligation of reporting on the part of the obliged subjects about different activities and transactions related to the most common energy sources in the countries of the region.

The results are presented below by chain, indicating the number of occurrences (in terms of countries) with which each data is collected by the entities that answered the question.

Note that in all cases, this will be strongly influenced in the first place by the use of each source in the respective countries (for example, not in all countries thermal energy or coal is directly traded) and secondly also by the related characteristics with the supply of said energy sources and their relative weight in the different energy matrices.

In the case of hydrocarbons, as can be seen, most of the countries reveal aspects related to their commercialization, both in the domestic market and in terms of foreign trade, and characteristics related to the prices of oil products.

FIGURE 11: Hydrocarbons - Energy statistics collected

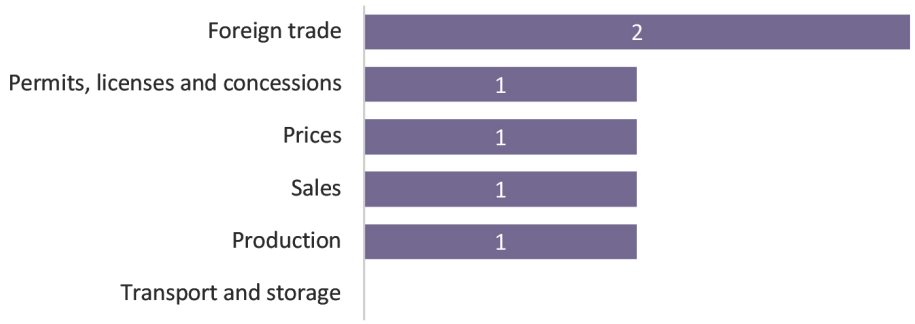


Source: Own elaboration based on the processing of the survey results

[3] Note that in the case of El Salvador, some cases were included as surveyed statistics in which the respondent did not comment on the survey, but on the existence of the obligation to report.

Regarding coal, the primary source of which the region and in particular the countries surveyed are characterized by their low participation in the matrix, only 2 countries (Argentina and Jamaica) claim to collect statistics related to foreign trade, while only one of them (Jamaica) collects statistics related to production, marketing, prices, permits, licenses and concessions.

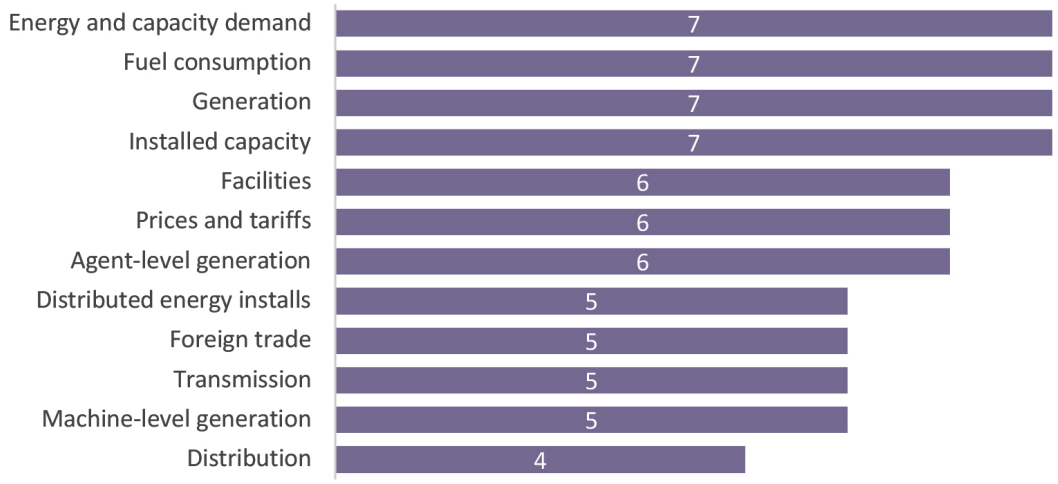
FIGURE 12: Coal - Energy statistics collected



Source: Own elaboration based on the processing of the survey results

Regarding electrical energy, most of the countries that have answered this question (7 out of 10) state that they collect statistics mainly related to the demand for energy and power, with their generation counterparts, installed power and the use of fuels, including in six cases the facilities and generation at the agent level (five of them at the machine level), and also aspects related to prices and tariffs, while other statistics located "downstream" in the electricity chain, such as transportation, distribution and distributed energy facilities are presented to a lesser extent (five countries or less).

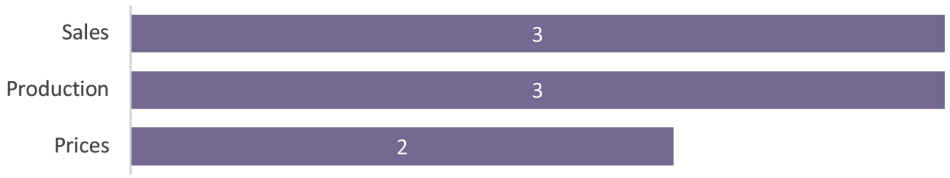
FIGURE 13: Electricity energy - Energy statistics collected



Source: Own elaboration based on the processing of the survey results

Regarding thermal energy, which, as mentioned above, has a lower frequency of use in the region as a public service or as a mass commercialization, only 3 countries claim to collect statistics related to its production and sales: Belize, El Salvador and Jamaica, the latter two of which also report prices.

FIGURE 14: Thermal energy - Energy statistics collected



Source: Own elaboration based on the processing of the survey results

Regarding biofuels, 7 of the 10 countries that responded to the question state that they collect statistics related to production (Argentina, Belize, Costa Rica, Ecuador, El Salvador, Guyana, and Uruguay), while the commercial aspects (sales, trade foreign and prices) are collected in five cases (Argentina, Costa Rica, Ecuador, El Salvador and Uruguay).

FIGURE 15: Biofuels (including biomass and biogas) - Energy statistics collected

Source: Own elaboration based on the processing of the survey results

Of the countries surveyed, five (Argentina, Ecuador, El Salvador, Jamaica and Uruguay) stated that they collect statistics on final use for the residential, commercial, transportation and industrial sectors, while in the case of agriculture they would be collected exclusively by Argentina, Ecuador, El Salvador and Uruguay.

FIGURE 16: End use - Energy statistics collected

Source: Own elaboration based on the processing of the survey results

Regarding the preparation of energy balances, a highly relevant instrument for energy statistics, 8 countries (Argentina, Belize, Costa Rica, Ecuador, El Salvador, Guyana, Jamaica and Uruguay) stated that they were carried out at the national level, while four (Argentina, Ecuador, El Salvador, Jamaica) state that they are also carried out at the subnational level.

FIGURE 17: Energy balances - Energy statistics collected

Source: Own elaboration based on the processing of the survey results

Finally, it should be noted that 6 countries claim to collect statistics and information on infrastructure and expansion plans (Argentina, Ecuador, El Salvador, Guyana, Jamaica and Uruguay), while five claim to collect environmental statistics (Argentina, Ecuador, El Salvador, Guyana and Uruguay).

FIGURE 18: Others - Energy statistics collected

Source: Own elaboration based on the processing of the survey results

A separate note deserves uranium, whose data collected according to the results of the survey are exclusively observed in Argentina and for foreign trade (since it is not produced in the country).

Regarding the obligation to report, it is noted that in more than 90% of the cases (country-chain-link combinations), when the statistics are collected, this is done under the protection of said obligation, and in more than 50% of cases under specific regulations.

5.2 Other results related to the management of energy balance information

This section presents in a complementary some of the results of the virtual survey developed by OLADE to the countries of the region between May and August 2018. The survey was developed within the framework of the Program for Strengthening the Management and Dissemination of Energy Information for Sustainable Development in Latin America and the Caribbean, with technical support from the Inter-American Development Bank (IDB) and the International Energy Agency (IEA).

The survey was framed within the component corresponding to the process of methodological harmonization of energy balances with the IRES international standards, in order to make a regional diagnosis and comparison, to establish priority actions that promote better management of energy statistics in Latin America and the Caribbean.

As for energy balances, responses were obtained from: Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Grenada, Guatemala, Guyana, Jamaica, Mexico, Panama, Paraguay, Dominican Republic and Uruguay.

The following are the answers to questions related to the handling of certain data and variables for the preparation of energy balances.

Question: Specify under which activity the bunker (fuel delivered to ships or planes for consumption during international trips) is accounted[4] for within the energy balance of your country

Answers: 17

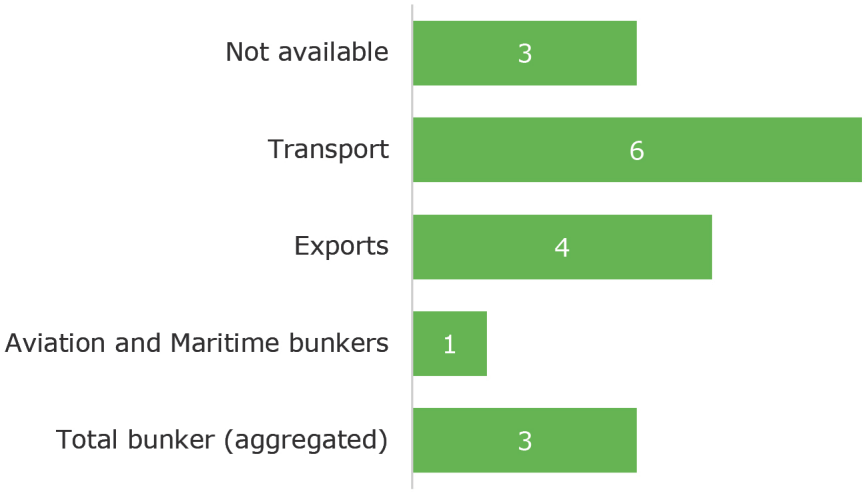
Bunker records are handled in different ways in each country. Cuba, Guatemala and Uruguay count as total bunker. Brazil is the only country that provided a breakdown of bunker accounting by air and sea.

Other countries such as Argentina, Jamaica, Mexico and Panama record these values under "bunker and export" or "export" activity. Depending on the administrative records and information systems of some countries (Chile, Costa Rica, Ecuador, Grenada, Guyana, Paraguay), they record the bunker as a value within the transportation sector.

Finally, Belize, Bolivia and Colombia have responded that they do not have bunker records.

[4] A journey is considered to be international when the country to which the port or airport of origin belongs is different from that of destination.

FIGURE 19: Bunker- Activity in which the bunker is accounted for by number of countries



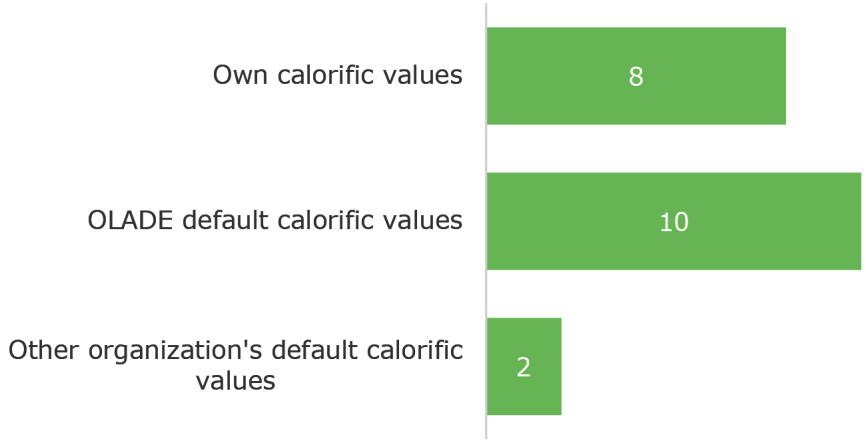
Source: Own elaboration based on the processing of the survey results

In relation to calorific values, 8 countries have mentioned that they use their own calorific value factors for the elaboration of the energy balance in energy units. These are Argentina, Brazil, Colombia, Costa Rica, Cuba, Guyana, Mexico, and Uruguay. In the case of Guyana, in addition to the country factors, it uses the OLADE default heating powers.

Other countries such as Belize, Bolivia, Ecuador, Grenada, Guatemala, Jamaica, Panama, Paraguay and the Dominican Republic, use exclusively the default factors proposed by OLADE.

In the case of Chile and Panama, they mention the use of caloric factors from other international organizations, specifically from the International Energy Agency.

FIGURE 20: Calorific values - Utilization of factors by number of countries



Source: Own elaboration based on the processing of the survey results

Question: Check the subsectors that your country accounts for to disaggregate the energy consumption of the industrial sector (according to ISIC Rev. 4)

Answers: 18

Of the countries surveyed, Colombia has responded that it has a greater disaggregation according to ISIC Rev. 4 regarding energy consumption in the industrial sector: Iron and steel, chemical and petrochemical, non-ferrous metals, non-metallic minerals, transport equipment, machinery, food - beverages and tobacco, pulp-paper-printing, wood and wood products, construction and textiles and leather.

Among the countries that have a disaggregation of industrial consumption with good detail are Brazil, Chile, Costa Rica and the Dominican Republic.

Finally, those that manage industrial consumption in an aggregate way are: Argentina, Belize, Bolivia, Ecuador, Grenada, Guatemala, Guyana, Panama and Paraguay.

FIGURE 21: Industrial Consumption - Disaggregation by subsector according to ISIC Rev.4 by number of countries

Source: Own elaboration based on the processing of the survey results

Question: Check the subsectors that your country accounts for to disaggregate the energy consumption of the transport sector (according to ISIC Rev. 4)

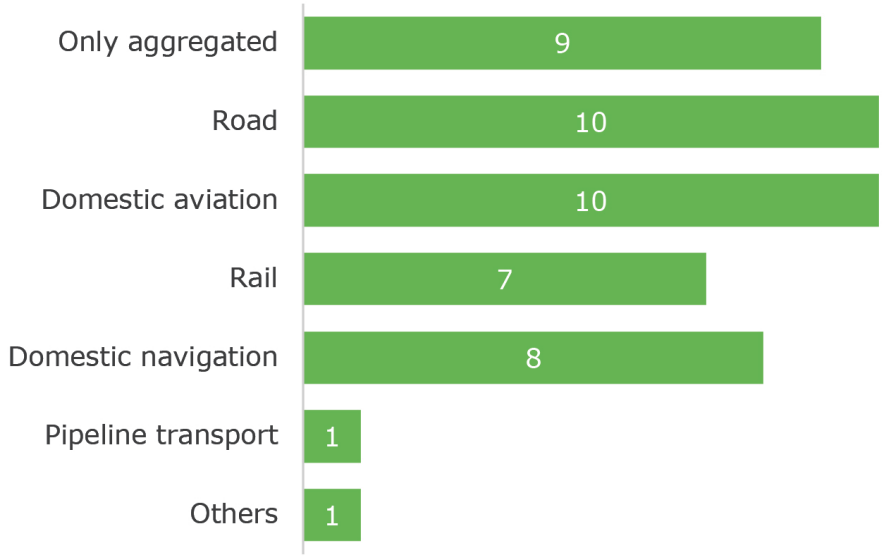
Answers: 18

According to the responses provided by the countries, Brazil is the country with the highest disaggregation of the transport sector (road, aviation, rail, shipping and pipeline transport)

Other countries such as Chile, Colombia, Cuba, Mexico and Uruguay have a similar disaggregation to that of Brazil, with the exception of energy consumption for pipeline transport. On the other hand, the Dominican Republic, Costa Rica and Jamaica have a disaggregation of consumption in this sector, but do not have information on pipeline or rail transport.

Finally, it has been observed that 9 countries generate their consumption records for the transport sector in an aggregate manner, which are Argentina, Belize, Bolivia, Ecuador, Grenada, Guatemala, Guyana, Panama and Paraguay.

FIGURE 22: Disaggregation of transport consumption - Disaggregation by subsectors by number of countries



Source: Own elaboration based on the processing of the survey results

Question: Check the subsectors that your country accounts for to disaggregate its energy own consumption (according to ISIC Rev. 4)

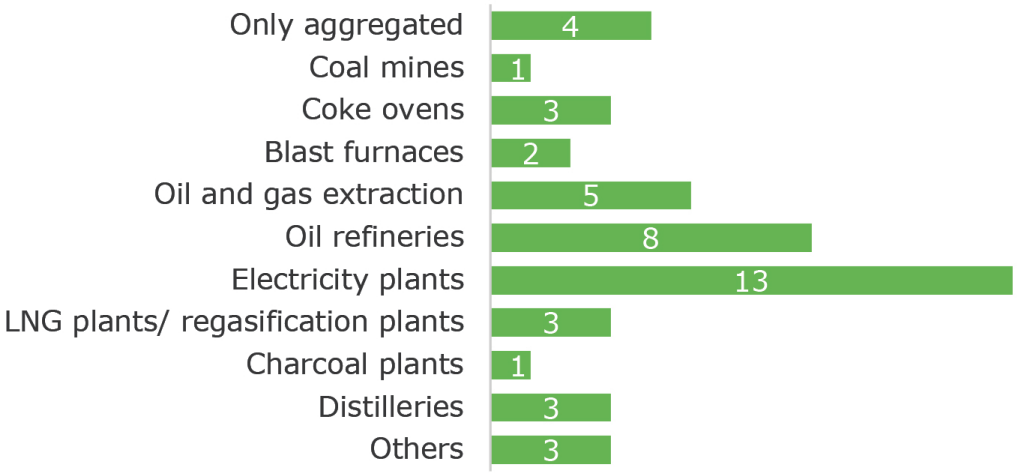
Answers: 18

In accordance with the most relevant energy activities in the region, the main disaggregation in terms of own energy consumption fall on power plants, refineries, and oil and gas extraction.

Argentina, Bolivia, Brazil and Chile are the countries with the highest disaggregation of the own consumption subsectors, according to ISIC Rev.4. Energy consumption in power plants is available in most countries, followed by refineries, and to a lesser extent a record of consumption is available in oil and gas extraction activities.

As of the date of the survey, the countries that reported not having a disaggregation of their own consumption in the energy sector are Belize, Ecuador, Grenada and Mexico.

FIGURE 23: Disaggregation of own consumption. Disaggregation by subsector according to ISIC Rev.4 by number of countries



Source: Own elaboration based on the processing of the survey results

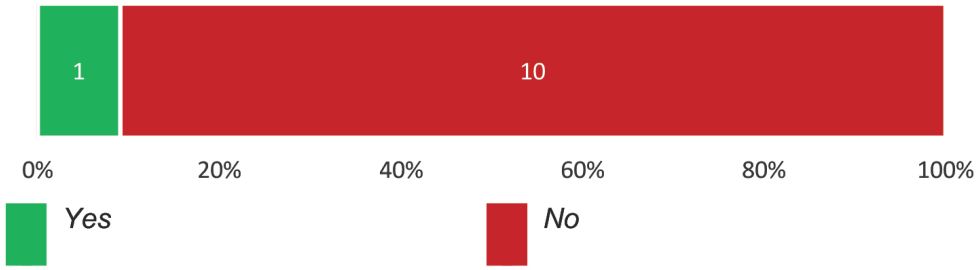
5.3 Existence of specific statistical operations related to gender and energy issues

Question: Are there specific statistical operations related to gender and energy issues in the entity?

Answers: 11

Of the countries surveyed, only Uruguay reported the existence of specific statistical operations related to gender and energy issues within the framework of the entity's regular operations.

FIGURE 24: Existence of specific statistical operations related to gender and energy issues



Source: Own elaboration based on the processing of the survey results

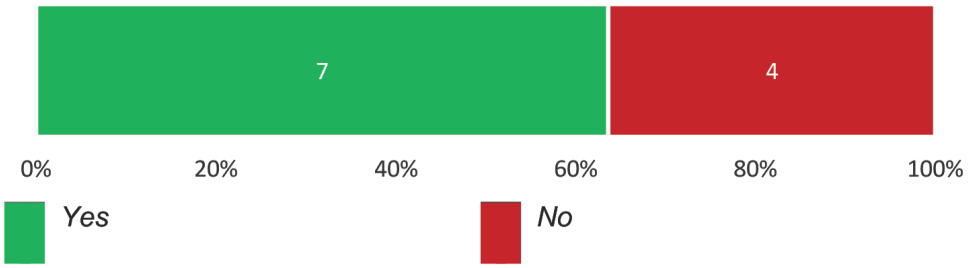
5.4 Existence of specific statistical operations related to energy poverty and energy affordability

Question: Are there specific statistical operations in the entity related to issues of energy poverty and affordability in access?

Answers: 11

Regarding energy poverty, access and affordability of energy, 7 of the 11 countries surveyed reported the existence of specific statistical operations related to these issues: Argentina, Ecuador, Guyana, Jamaica, El Salvador, Paraguay and Uruguay. However, it should be taken into account that in many cases, even in the absence of specific operations, surveys related to energy prices and tariffs can provide inputs that, when crossed with socioeconomic information by other agencies, belonging or not to national statistical systems, allow to approximate notions or statistics related to these issues.

FIGURE 25: Existence of specific operations related to energy poverty



Source: Own elaboration based on the processing of the survey results
and energy affordability

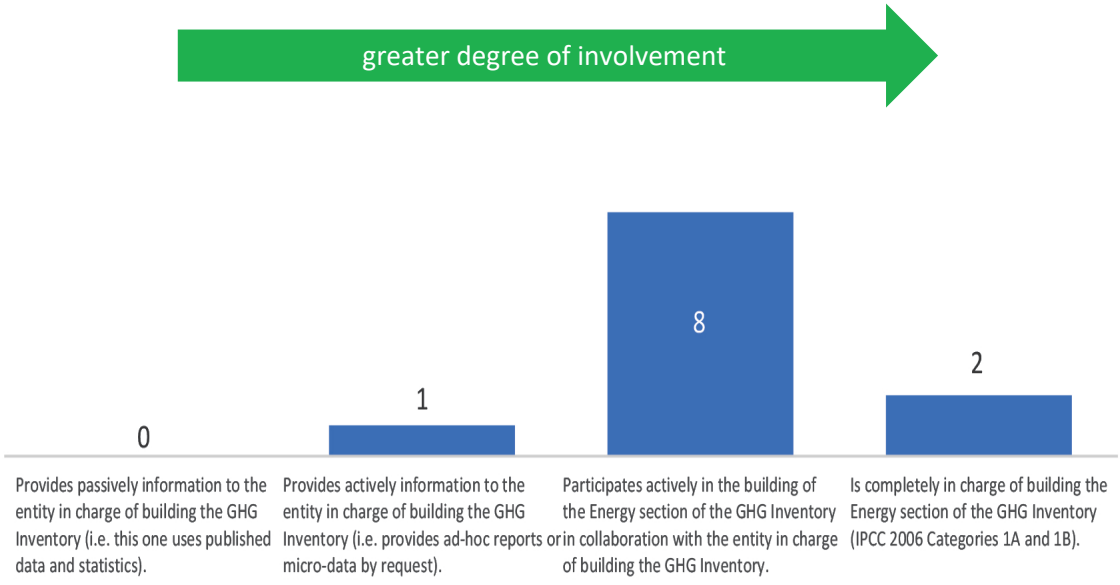
5.5 Degree of involvement of the energy statistics entity in the preparation of the national greenhouse gas inventory

Question: Indicate the degree of involvement of the energy statistics entity in the preparation of the greenhouse gas inventory of the country for the purpose of its presentation to the United Nations Framework Convention on Climate Change.

Answers: 11

The degree of involvement of the entities surveyed in the preparation of the greenhouse gas inventory of their respective countries for the purposes of its presentation to the United Nations Framework Convention on Climate Change is notable: of the entities surveyed, eight stated that they participated actively in the preparation of the chapter corresponding to Energy in consultation with the entity in charge of preparing the inventory of Greenhouse Gases (Argentina, Belize, Ecuador, El Salvador, Guyana, Jamaica, Paraguay, and Venezuela), while two prepare the entire chapter of the greenhouse gas inventory related to the energy sector[5] (Guatemala and Uruguay) and one of the entities (Costa Rica) is "limited" to actively providing information to the entity in charge of preparing the inventory of Greenhouse Gases by preparing reports or presenting microdata at its request.

FIGURE 26: Degree of involvement of the energy statistics entity in the preparation of the greenhouse gas inventory



Source: Own elaboration based on the processing of the survey results

5 2006 IPCC Categories 1A and 1B.

5.6 Participation of the energy statistics entity in the preparation of the NDC and Long-Term Low Carbon Development Strategies within the framework of the Paris Agreement

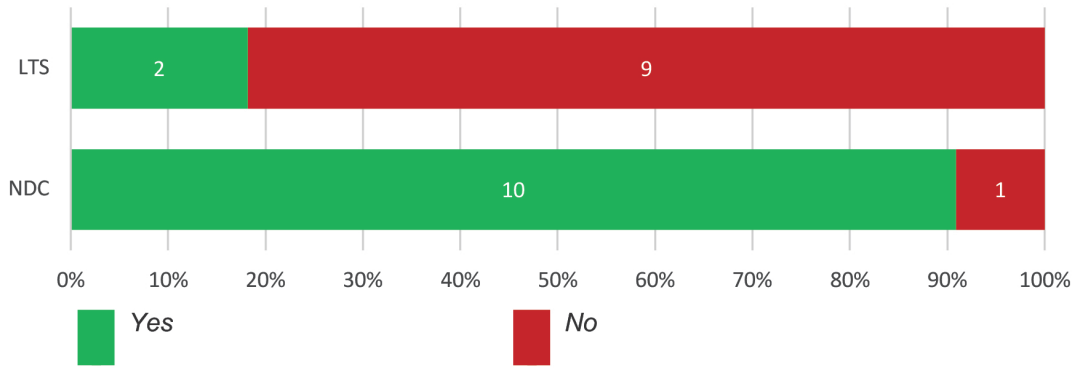
Question: Does the entity participate in the preparation of the Contribution determined at the National Level and the Long-Term Development Strategy (LTS) within the framework of the Paris Agreement?

Answers: 11

In line with the previous answer, it is also noted that 10 of the 11 countries that responded to this question show a certain degree of involvement with the preparation of the nationally determined contribution (NDC[6]) of their countries presented (and that must be periodically updated) to the United Nations Framework Convention on Climate Change, while only two (Costa Rica and Paraguay) claim to participate in the construction of the Long-Term Strategy (or LTS[7]) decarbonization to be submitted by the countries to the same entity under the Paris Agreement.

It should be noted here that while the NDCs already have more than five years of experience and iterations in the framework of international negotiations on climate change (from the INDCs, or planned and determined contributions at the national level, mostly presented during 2015), in the case of LTS, the vast majority of the countries are still in the process of being prepared, which could at least partially explain the low degree of declared involvement.

FIGURE 27: Participation of the energy statistics entity in the preparation of NDC and LTS within the framework of the Paris Agreement



Source: Own elaboration based on the processing of the survey results

6 https://unfccc.int/es/process-and-meetings/the-paris-agreement/the-paris-agreement/contribuciones-determinadas-a-nivel-nacional-ndc#eq-4

7 https://unfccc.int/process/the-paris-agreement/long-term-strategies

6. Human capital

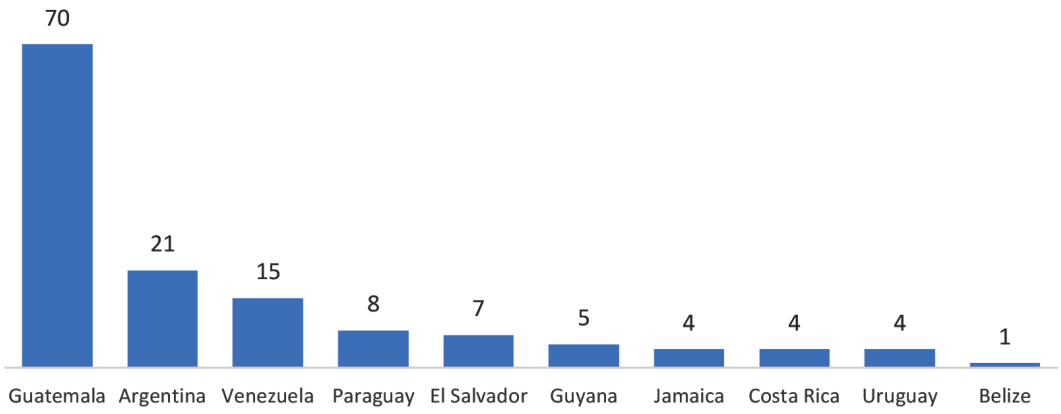
6.1 Number of agents in the entity in charge of statistics management

Question: How many agents does the entity in charge of managing energy statistics in your country comprise?

Answers: 11

The number of agents belonging to the entity in charge of managing energy statistics for each of the countries surveyed is remarkably heterogeneous, a factor linked to the diffuse nature of the scope of each entity's activities in many cases, and to the complementation of internal services provided by other agencies belonging to the entity superior to this in hierarchical terms, with a very wide range of between 1 and 70 agents.

FIGURE 28: Number of agents in the entity in charge of statistics management



Source: Own elaboration based on the processing of the survey results

6.2 Rotation of agents in the entity in charge of statistics management

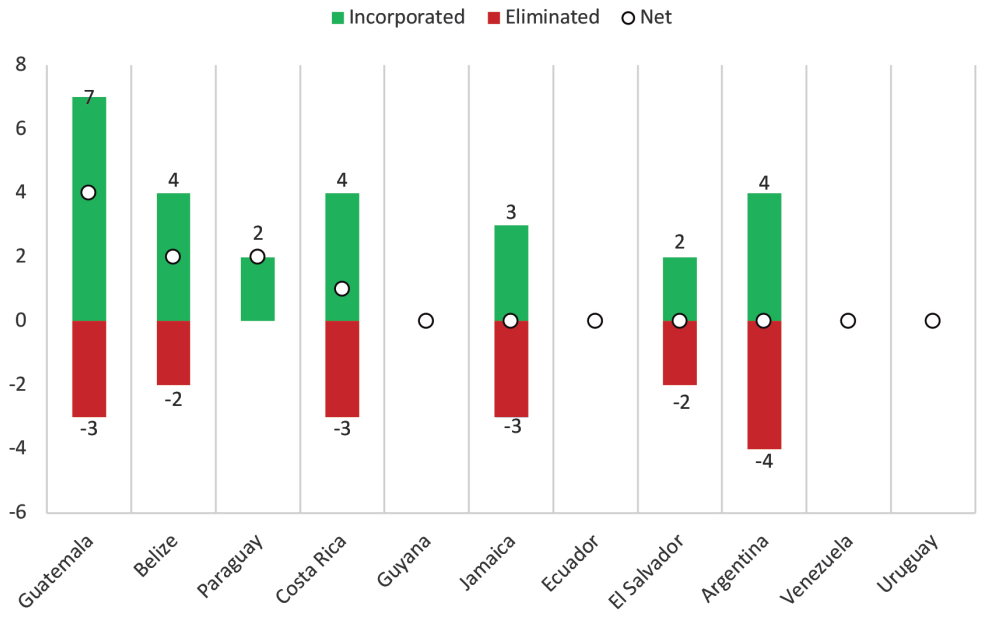
Question: Identify the addition and rotation of personnel in the unit during the last four years.

Answers: 11

Likewise, in connection with the previous question, the participants were consulted on staff turnover in the last four years prior to the survey, requiring answers on the amount of income and exits of agents to the teams.

As a notable result, in all the countries that responded, the net incorporation of personnel was zero (7 out of 11, 64%) or slightly positive (in the remaining four countries), among one agent (Costa Rica) and 4 agents (Guatemala). In terms of turnover, it is noteworthy that 6 countries had casualties (Argentina, Belize, Costa Rica, El Salvador, Guatemala and Jamaica), which in all cases were compensated or exceeded by the incorporation of additional personnel.

FIGURE 29: Rotation of agents in the entity in charge of statistics management



Source: Own elaboration based on the processing of the survey results

6.3 Existence of formal initial training processes for new agents

Question: Is there a formal “induction” or initial training process for new agents?

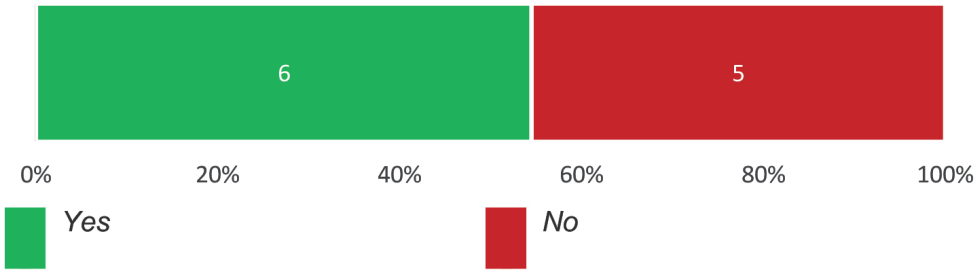
Answers: 11

Just over half of the countries (6 out of 11: Argentina, Ecuador, Guyana, El Salvador, Paraguay and Uruguay) present initial training processes of a “formal” nature when a new agent enters the energy statistics teams, while the rest of countries use more informal training procedures.

It is highlighted at this point that in the case of Paraguay, although the answer to the question highlights that these processes are not formalized (that is, they are not part of a documented Training Program), initial training activities are carried out and continuous dictated in the body both by its own personnel and by third parties, which for the purposes of this survey have characteristics compatible with formal induction processes.

In the rest of the cases in which these formal induction processes exist, the trainings are carried out in the same institution by the technicians of the organizations themselves.

FIGURE 30: Existence of formal initial training processes for new agents



Source: Own elaboration based on the processing of the survey results

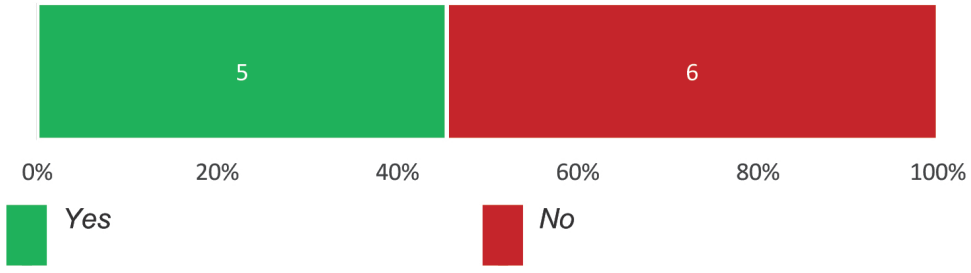
6.4 Existence of offices specialized in information technology.

Question: Does the entity have an office specialized in information technology?

Answers: 11

Despite the growing mass of actionable data and dependence on digital media for the acquisition and processing of statistical data, only 5 of the 11 countries that responded to this question state the existence of a specialized office for information technology within the entity: Argentina, Costa Rica, Ecuador, El Salvador and Venezuela, while the rest are provided as services by teams external to the entity, belonging to organizations of equal or higher hierarchy.

FIGURE 31: Existence of offices specialized in information technology



Source: Own elaboration based on the processing of the survey results

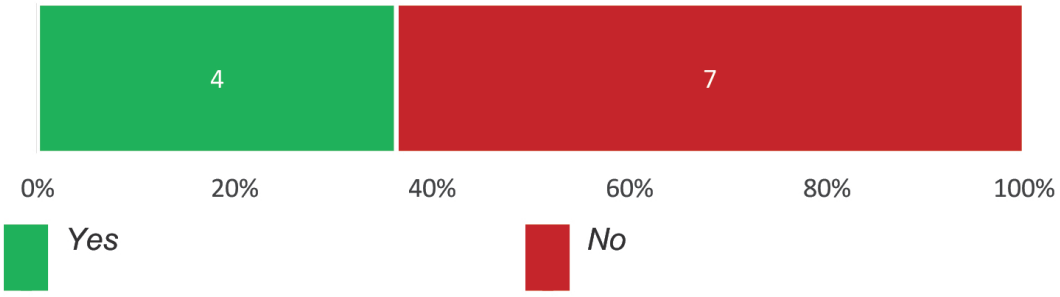
6.5 Existence of specialized geographic information offices.

Question: Does the entity have an office specialized in geographic information?

Answers: 11

In the case of geographic information offices, penetration is even lower than that of information technology offices, since of the 11 countries that responded to this question, only 4 reported the existence of a specialized office within the entity: Argentina, Ecuador, Paraguay and Venezuela.

FIGURE 32: Existence of an office specialized in geographic information



Source: Own elaboration based on the processing of the survey results

7. Good practices related to processes

7.1 Existence of mechanisms to guarantee the confidentiality and privacy of the subjects surveyed

Question: Are there mechanisms to guarantee the confidentiality and privacy of the subjects surveyed (who provide information)?

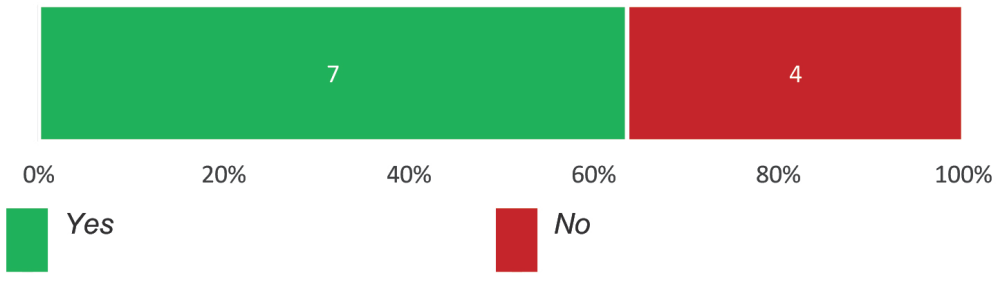
Answers: 11

Most of the surveyed countries (7 out of 11) responded that there are mechanisms to guarantee the confidentiality and privacy of the surveyed subjects: Argentina, Belize, Jamaica, Paraguay, Uruguay and Venezuela.

In most of the cases surveyed, the collection and guarantee mechanisms respond to rules that stipulate the terms and types of confidentiality, generally at the level of national statistical systems, usually combined with specific authorization procedures and restrictions on access and publication of individual data for cases in which the information collected is covered by statistical secrecy rules, with different degrees of scope.

However, in the rest of the countries the existence of specific mechanisms for this type of protection has not been manifested in the responses.

FIGURE 33: Existence of mechanisms to guarantee the confidentiality and privacy of the subjects surveyed



Source: Own elaboration based on the processing of the survey results

7.2 Formal documentation of internal processes

Question: Indicate, of the following, which types of internal processes are formally documented

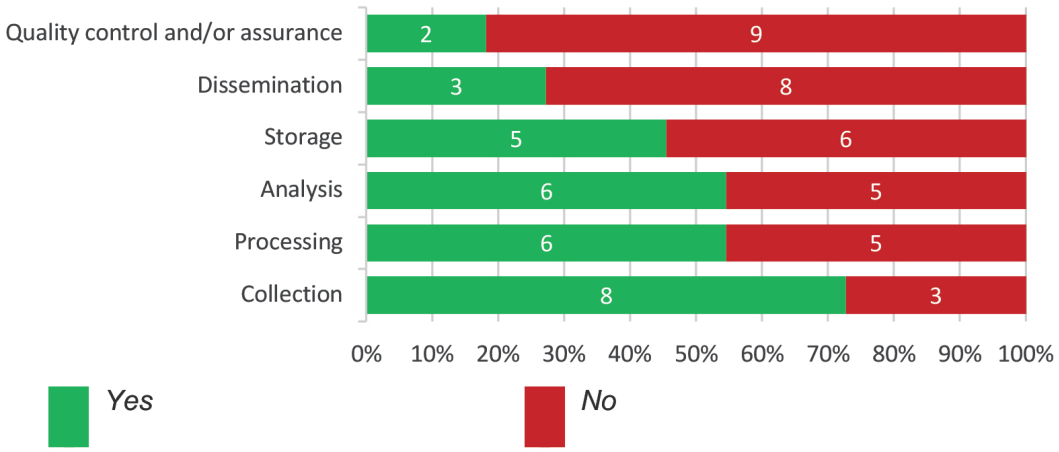
Answers: 11

Regarding the formal documentation of internal processes, there is a higher proportion of countries that document them in the "upstream" activities, related to collection (8 of 11), processing (6 of 11) and analysis (6 of 11) of data and information, while downstream processes such as storage (5 of 11) and dissemination (3 of 11) are generally less well documented.

A particular case is that of quality control and/or assurance, which in various contexts tends to be assimilated precisely to "process documentation", which is the one with fewer countries documented (2 out of 11).

It should be noted, however, that many of the countries surveyed stated that although certain processes are not yet formally documented, there are informal procedures, which may or may not be at a documentation stage.

FIGURE 34: Formal documentation of internal processes



Source: Own elaboration based on the processing of the survey results

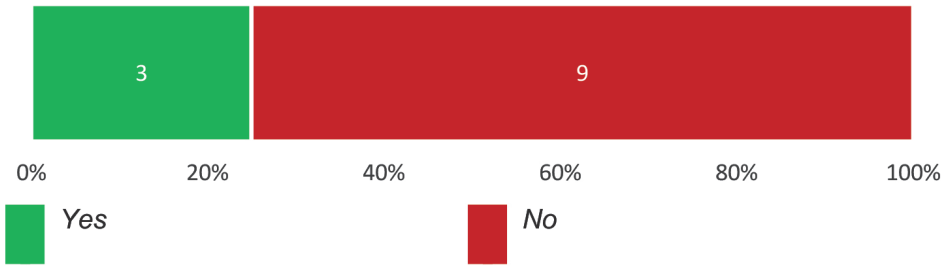
7.3 Existence of explicit policies for the revision of statistics

Question: Is there an explicit policy on reviewing statistics??

Answers: 12

A situation similar to the previous ones can be appreciated in terms of the policies for the revision of statistics, for which only Argentina, Paraguay and Venezuela claim to have them defined.

FIGURE 35: Existence of explicit policies for the revision of statistics



Source: Own elaboration based on the processing of the survey results

7.4 Methodologies used to collect statistical data

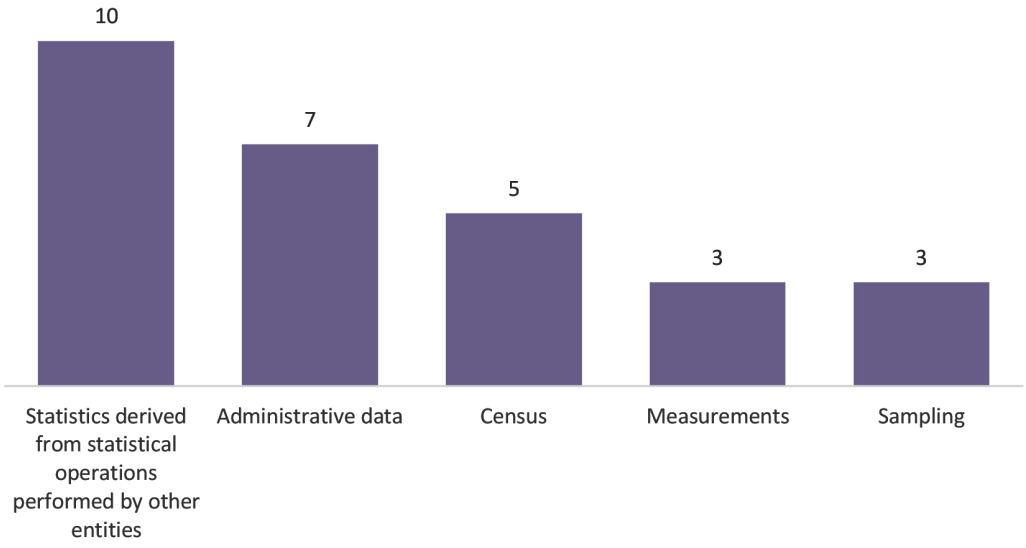
Question: Indicate the methodologies used to collect statistical data.

Answers: 11

Regarding the methodologies used for the collection of statistical data, it should be noted that most of the countries (10 out of 11) use statistics derived from other statistical operations, and that 7 of the 10 countries use administrative data to obtain them. For their part, less than half (5 out of 11) stated that they used censuses for collection (mainly through digital forms, in the 5 countries, but also through paper in Argentina and Uruguay, and through face-to-face or telephone interviews in Uruguay).

Finally, only 3 countries would resort to measurements for data collection (Argentina, Uruguay and Venezuela), and three would use sampling techniques (Costa Rica, Paraguay and Uruguay), usually through face-to-face interviews, which in Uruguay are complemented by sampling through telephone interviews or by digital form.

FIGURE 36: Methodologies used to collect statistical data



Source: Own elaboration based on the processing of the survey results

7.5 Characteristics of the software used by stage of the statistical process

Question: Indicate, for each phase, the characteristics of the software used.

Answers: 11

The countries were consulted on the different types of software used for the different stages of the statistical process, based on their proprietary characteristics of the code (proprietary or open code, or own developments), and on its gratuity (paid or free), and the use of more than one type of software may coexist for each process.

In this regard, it should be noted that 6 of the 11 countries surveyed systematically manifested the use, in conjunction with software provided by third parties, of their own developments in most of the stages of the statistical process (Argentina, Costa Rica, Ecuador, Jamaica, Paraguay and Uruguay), with a participation of only three cases for the audit or quality control stage (Argentina, Ecuador and Jamaica), and a second widespread use of proprietary code software, generally free to use.

TABLE 1: Characteristics of the software used by stage of the statistical process

		Collection	Processing	Analysis	Storage	Dissemination	Audit
Proprietary code	Payment	1	2	1	2	1	1
	Free	4	2	3	4	4	1
	Both	2	2	2	1	2	1
Open source	Payment	3	2	2	3	3	1
	Free	1	1	1	1	1	0
	Both						
Own developments	In the entity	6	6	6	6	6	2
	Outside the entity						1

Source: Own elaboration based on the processing of the survey results

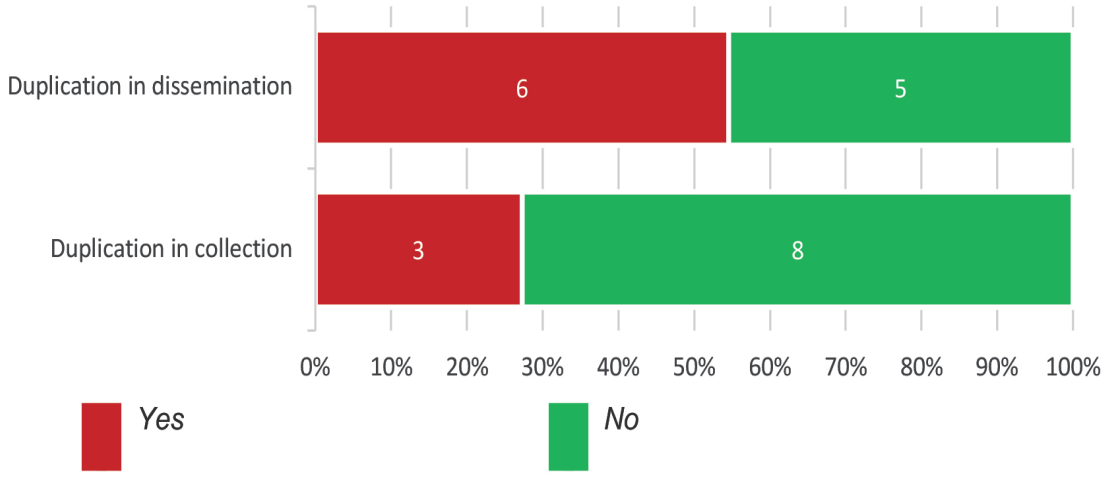
7.6 Multiplicity of efforts in the collection and publication of energy statistics

Question:
Is there duplication of effort in the collection or publication of energy statistics?

Answers: 11

The countries surveyed were consulted on the degree of overlap in the activities of dissemination and collection of energy statistics between different entities, observing that while in the case of collection only in Belize, Costa Rica and Venezuela different public entities collect the same statistical data, in the dissemination stage the overlapping of efforts is observed in more than half of the countries surveyed (Argentina, Belize, El Salvador, Guatemala, Jamaica and Paraguay). For their part, Ecuador, Guyana and Uruguay did not declare duplication of efforts in these two fields.

FIGURE 37: Multiplicity of efforts in the collection and publication of energy statistics



Source: Own elaboration based on the processing of the survey results

7.7 Participation in methodological harmonization, standardization and/or normalization activities

Question: Indicate if the entity participates in methodological harmonization, standardization and/or international standardization activities linked to the following entities.

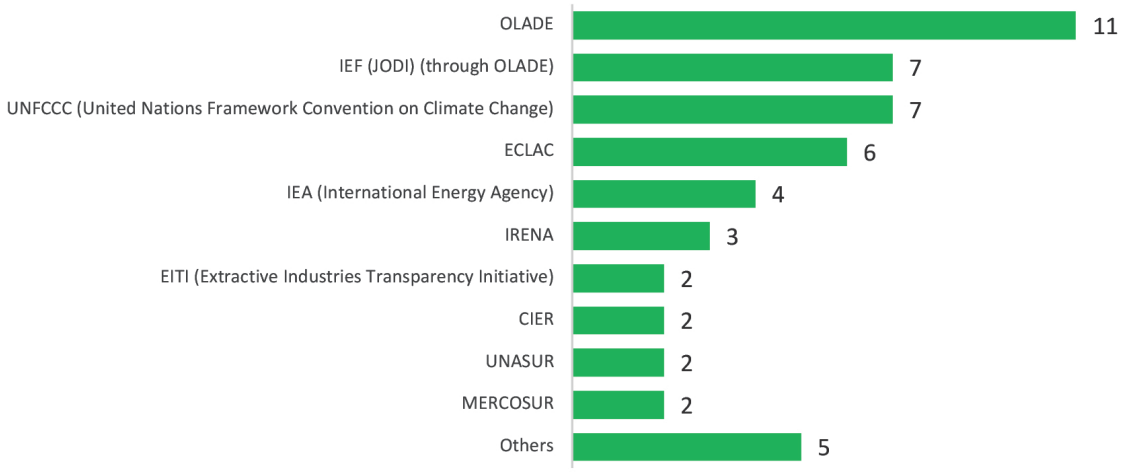
Answers: 11

In response to the consultation on the participation of entities in activities of methodological harmonization, standardization and/or international normalization, it is notable to observe the high

degree of linkage of these entities with international organizations, whether regional, international or sectoral, through which the entities consulted declared that they participated in activities with between 2 and 10 organizations, with an average participation for the 11 national entities of 4.7 international initiatives.

Responses were naturally led - due to the list of recipient countries for this survey - by participation in OLADE activities (all those surveyed), participation in the JODI initiative (JODI Oil and JODI Gas, Joint Organisations Data Initiative[8]) is also noteworthy, in which seven of the eleven entities that responded to the consultation, and also with seven entities, the United Nations Framework Convention on Climate Change (UNFCCC) participated in activities mainly related to the preparation of inventories of gases from greenhouse effect and others under the Paris Agreement.

FIGURE 38: Participation in methodological harmonization, standardization and/or normalization activities



"Others" include UNSD, the Mesoamerica Project, the SICA Hydrocarbons Directors Committee, ISA/ NSEI (International Solar Alliance/National Solar Energy Institute of France) and NEICH (National Energy Information Clearing House).

Source: Own elaboration based on the processing of the survey results

8 Joint initiative between APEC, Eurostat, GECF, IEA, IEF, OLADE OPEC and the United Nations Statistics Division that aims to provide global data related to global oil and natural gas production and consumption on a monthly basis.

8. Good practices related to dissemination

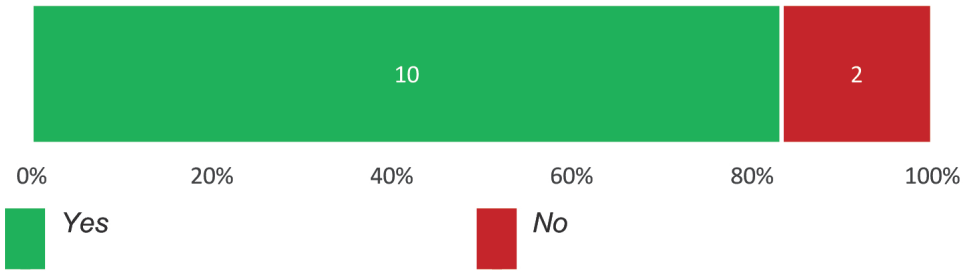
8.1 Existence of specific websites for the dissemination of energy statistics

Question: Does the entity have a specific website for the dissemination of energy statistics?

Answers: 12

Regarding the existence of specific websites for the dissemination of energy statistics, 10 of the 12 countries surveyed stated their existence (with the exception of Belize and Suriname).

FIGURE 39: Existence of specific websites for the dissemination of energy statistics



Source: Own elaboration based on the processing of the survey results

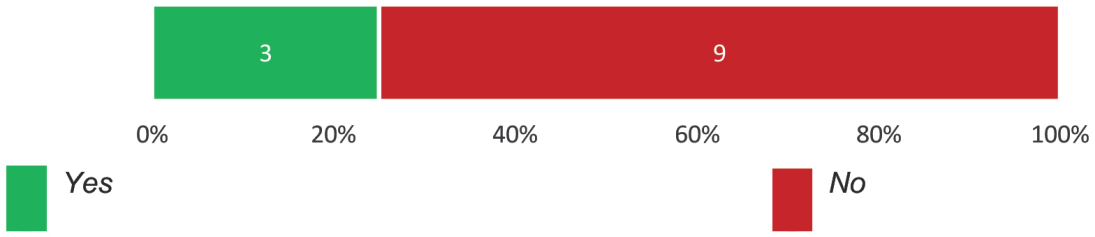
8.2 Existence of public calendars for the dissemination of energy statistics

Question: Does the entity have a public calendar for the dissemination of statistics?

Answers: 12

The existence of public calendars for the dissemination of energy statistics is remarkably scarce in the countries surveyed, present in only three cases (Ecuador, El Salvador and Guyana).

FIGURE 40: Existence of public calendars for the dissemination of energy statistics



Source: Own elaboration based on the processing of the survey results

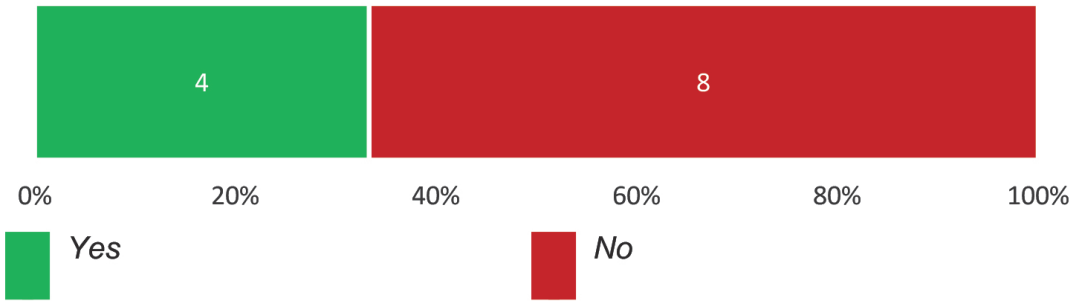
8.3 Publication of methodologies for the collection and processing of statistics

Question: Does the entity publish the methodologies used for the collection and processing of statistics?

Answers: 12

Similar situation observed in the existence of the calendars of dissemination is observed in the publication of methodologies used for the collection and the process of statistics: of the 12 countries that answered this question, 4 (Argentina, Ecuador, Paraguay and Venezuela) stated the publication of methodologies used for these processes.

FIGURE 41: Publication of methodologies for the collection and processing of statistics



Source: Own elaboration based on the processing of the survey results

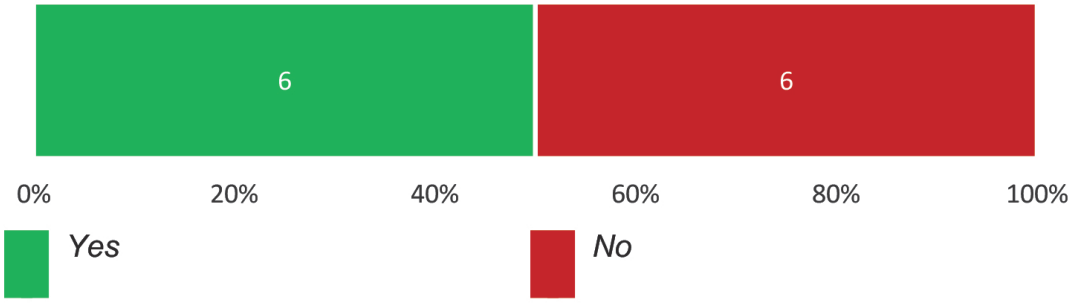
8.4 Elaboration of own indicators

Question: Does the entity produce its own energy indicators?

Answers: 12

Of the 12 countries that answered this question, half (Costa Rica, Ecuador, Jamaica, Paraguay, Uruguay and Venezuela) stated that they produce their own energy indicators, as a complement to the use of common or standard energy indicators.

FIGURE 42: Elaboration of own indicators



Source: Own elaboration based on the processing of the survey results

8.5 Degree of openness of the entity's data

Question: Please identify the presence of the following attributes in the entity's dissemination processes.

Answers: 11

In order to try to understand the degree of openness of energy data in the surveyed countries, the surveyed countries were asked to identify the presence of a set of attributes related to the data dissemination processes and energy statistics, whose presence would define jointly the existence of "open data" in the entity.

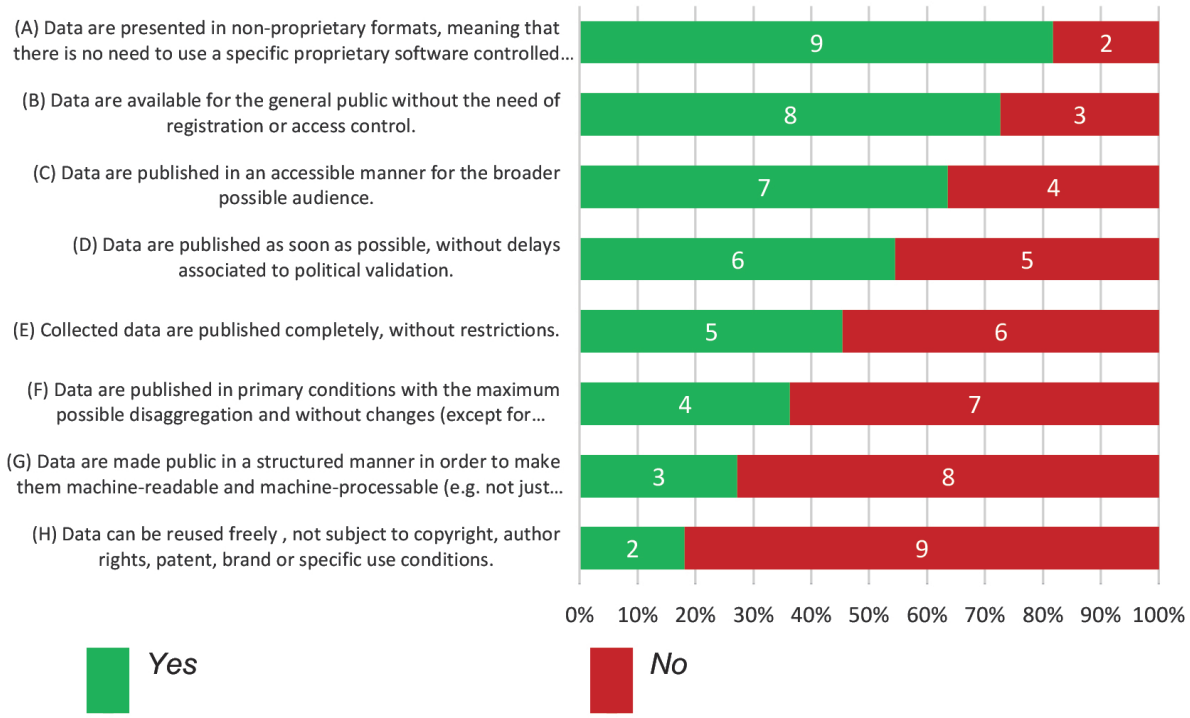
From the results, it stands out, firstly, that none of the countries manifested the existence of all the attributes in their dissemination processes, with a more or less frequent existence, which is presented ordered in the graph from highest to lowest.

Most of the countries (9 out of 11) stated, however, that the data are presented in non-proprietary formats and supports, in the sense that they do not require the use of specific software whose use or acquisition is controlled exclusively by an entity or entities (A), and that the data are also frequently (8 out of 11) available to the general public, without the need for registration or access control (B) and that the data are made public in a manner accessible to the widest possible number of users (C), in 7 out of the 11 cases.

On the other hand, in six cases it was stated that the data is made public as soon as possible, without delays related to political validation processes (D), and in five that the data collected is made available in a complete way, without restrictions (E).

Only in 4 of the 11 surveyed cases it was stated that the data are made public in their primary conditions, with the highest possible level of disaggregation and without modifications, except for issues related to security or privacy (F), while two characteristics strongly linked with open data practices, such as making the data public in a structured way in order to allow its processing by machines (G) and the absence of restrictions for reuse, so that it can be done freely without subjecting it to accessible property rights, of author, patents, trademarks or conditions of use (H) are observed respectively only in three cases and in two cases.

FIGURE 43: Degree of openness of the entity's data



Source: Own elaboration based on the processing of the survey results

The Latin American Energy Organization (Olade) is pleased to present the ***Energy Statistics application for Latin America and the Caribbean***. A technological and innovative tool that contains the most relevant energy information from the 27 OLADE Member Countries. Just a click away on your mobile device.

It is an agile application for consulting national and regional energy information that facilitates quick access to relevant and comparative figures.

Olade's APP displays information on the most relevant demographic, economic and energy general characteristics, as well as data on energy supply and demand, electricity generation, generation installed capacity, proven reserves of fossil fuels, Sankey diagrams of the energy balance, and socioeconomic-energy and environmental indicators.

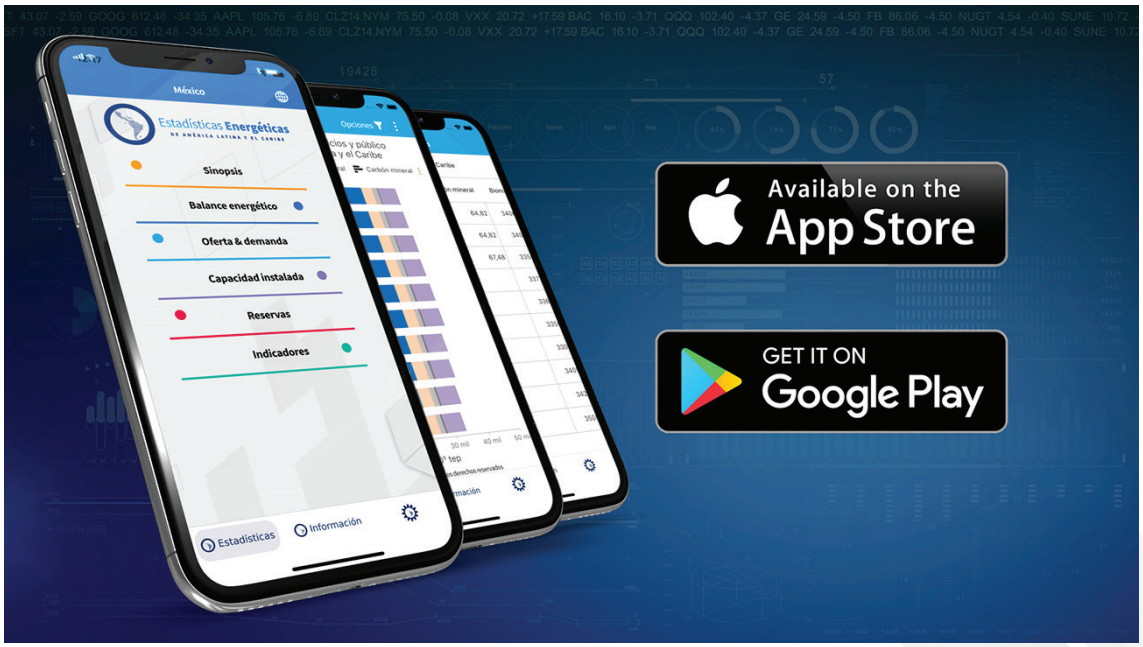
Olade in its constant interest to innovate its channels of consultation and dissemination of statistical energy information invites you to interact and download this application through the various virtual stores (Google Play and Apple APP Store) and navigate this innovative tool that is a reference material for consultation at the service of the energy sector in Latin America and the Caribbean. It can be found as: Olade

Virtual stores to download the Olade app:

APP-Store

Google-Play

More information at:
YouTube:
Olade APP: Latin America and the Caribbean Energy Statistics Application



MEMBER COUNTRIES OF OLADE

Argentina
Barbados
Belize
Bolivia
Brasil
Chile
Colombia
Costa Rica
Cuba
Dominican Republic
Ecuador
El Salvador
Grenada
Guatemala
Guyana
Haiti
Honduras
Jamaica
Mexico
Nicaragua
Panama
Paraguay
Peru
Suriname
Trinidad & Tobago
Uruguay
Venezuela
Argelia (Participating Country / Permanent Observer)

olade
LATIN AMERICAN ENERGY ORGANIZATION
Energy joins us

ISBN: 978-9978-70-147-8

OLADE - Organización Latinoamericana de Energía

olade.org

@OLADEORG

Organización Latinoamericana de Energía OLADE

Avenue Mariscal Antonio José de Sucre
N58-63 and Fernández Salvador
OLADE Building, San Carlos Sector
Quito - Ecuador

Phone: (593 2) 2598 122
2598 280

olade@olade.org
www.olade.org