NEARSHORING:
PRIORITIES FOR REGIONAL DEVELOPMENT

Executive Summary

In recent years, the *nearshoring* phenomenon has been identified as an important opportunity for the Mexican economy and for increasing the attraction of investments focused on boosting the industry. However, in order to take advantage of this opportunity, the different regions of the country face some structural challenges in several key areas.

Since 2023, the **Mexican Institute for Competitiveness (IMCO) and the Friedrich Naumann Foundation (FNF) have analyzed different indicators identified as priorities by authorities, investors and potential investors in Mexico**. Based on these considerations, IMCO determined 21 variables related to the labor market, basic inputs, housing and the regulatory environment in the states.

Thus, information is provided to make a comparative exercise among the Mexican states and identify their relative level of preparedness for *nearshoring*, although it is not compared against an ideal level or a performance goal for each indicator. The variables considered go beyond Mexico's proximity to the United States and its current integration into global chains, taking into account the availability of local resources and the structural conditions that facilitate investment and productive efficiency.

The first axis considered is the **labor component**, which includes factors such as labor availability, educational level and infrastructure, and access to job training and skills such as English proficiency. These characteristics may be attractive to companies and workers interested in taking advantage of the benefits of participating in competitive labor markets.

Another structural axis takes into account **housing and public services** data. This section evaluates the availability of housing in the states and the access to basic services in homes, as well as the number of public transportation vehicles that allow workers to connect with their places of employment.

The third axis of conditions that are necessary to attract investment and facilitate the relocation of production chains to Mexican states is the **availability of basic inputs**, i.e., access to electricity and water at affordable prices and with a constant supply. In addition to the marginal prices of electricity and the availability of renewable water, the sufficiency of the hydraulic infrastructure of the states is analyzed.

Finally, in terms of the **rule of law and regulatory environment**, data is presented on the incidence of crime in companies, perception of the efficiency of the regulatory framework of the state and the existence of government programs aimed at promoting the attraction of investment. Countries and regions with clear regulatory frameworks and efficient institutions are in a better position to attract FDI, as they provide certainty to investors.

The 21 indicators considered in this study reflect the performance of the states in these four areas. The results show that Nuevo León, Aguascalientes and Coahuila have a better performance than the rest of the states and have the facilities to take advantage of the trend of relocating production chains.

In contrast, Oaxaca, Mexico State and Zacatecas are regions whose structural conditions make it difficult to attract investment and increase economic activities related to *nearshoring.*

In the second edition of this exercise, the indicators reflect an updated version of the structural challenges faced by the states in terms of competitiveness and preparation for the opportunities generated by the *nearshoring* phenomenon.

Variables considered.

Labor market							
Potential labor force	Labor informality rate	Monthly labor income	Higher education	Higher education institutions	Technical professional level schools	Job training	English proficiency

Housing and services				
Housing production	Piped water access in housing	Electricity access in housing	Drainage access in housing	Public passenger transport units

Basic inputs				
Electricity, water and natural gas sector	Local marginal price of electricity	Renewable water per capita	Water treatment plants	Industrial wastewater treatment

Regulatory environment		
Crime prevalence rate	Investment attraction programs	Regulatory framework efficiency

The addition of variables such as **housing construction, water infrastructure and English as a human capital skill** to the list of indicators made it possible to expand the evaluation of the economic and social conditions of the country's states and to identify the different structural challenges for each of them.

Thus, the diagnosis is a starting point for **outlining a tailor-made working plan that addresses the priority pending issues for each state and generates the necessary conditions to promote regional development in the country.**

Content

1. The requirements to take advantage of *nearshoring*

Over the last few years, the *nearshoring* phenomenon has been highlighted as an important opportunity for the Mexican economy and for increasing the attraction of investments focused on boosting the industry. The trend, which focuses on the relocation of essential productive activities to countries with geographic proximity and strong alliances, opens the door to a greater integration of Mexico with global value chains -with particular focus on its relationship with North America-.

To take advantage of this opportunity, the different regions of the country face some structural challenges in several key areas for national and state competitiveness. Since 2023, the **Mexican Institute for Competitiveness (IMCO) and the Friedrich Naumann Foundation (FNF) have analyzed different indicators identified as priorities by authorities, investors and potential investors in Mexico**.[1] Based on these considerations, IMCO determined 21 variables related to the labor market, basic inputs, housing and the regulatory environment in the states.

This second edition of the research project focuses on the characteristics that states need to take advantage of the *nearshoring* opportunity in terms of economic growth and development. The updated indicators are used to describe the states and compare the performance of the different regions in variables that determine their ability to attract investment linked to the relocation of production chains at the global level. In addition to taking into account the indicators evaluated in the first edition, some new ones were added. This provides information to make a comparative exercise among the states and identify their relative level of preparedness for *nearshoring*, although it is not compared against an ideal level or a performance target for each indicator.

2. Attractive factors for investment and characterization of the states.

In addition to Mexico's proximity to the United States and its current integration into global chains, companies interested in *nearshoring* and the country's potential take into account the availability of local resources and the structural conditions that facilitate investment and productive efficiency.

2.1 Labor market

2.1.1 Workforce availability

One of the key aspects for making decisions regarding the location of production plants is the availability of labor and human talent factors, which are necessary to facilitate production and guarantee the profitability of foreign and domestic investments. [2]

In order to identify the level of the population available to work in the different regions of the country -which is necessary to fill the jobs generated by possible investments-, it is useful to look at indicators that show the size of the potential labor force. Within that group, three different populations of working age individuals (15 years and older) are identified: 1) the Unemployed Population; 2) the Available Non-Economically Active Population (PNEA in Spanish) and 3) the PNEA that is currently Unavailable for employment but has an interest in working.

The first group consists of people who are not employed, but are actively seeking to engage in some economic activity. The second includes people who are neither employed nor actively

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[1] *Nearshoring: an opportunity that challenges Mexican states* (IMCO, 2023).
[2] Ramón Padilla and Caroline Gomes, *Determinants of outward FDI and effects on the issuing country* (ECLAC, 2015).

seeking employment, either because of a lack of incentives and motivation or because of a perception that they will not find employment due to conditions of age or level of education, for example. However, people in this group would be willing to accept a job under the right conditions. Finally, the third group is composed of people who, although they have an interest in working, do not have or seek employment because their circumstances prevent them from participating in economic activities.

Thus, the potential labor force reflects the number of people who, with the right incentives and conditions, can be incorporated into economic activities and fill the vacancies required by investors in each region.

Figure 1. Potential labor force as a proportion of the employed population (1Q2024).
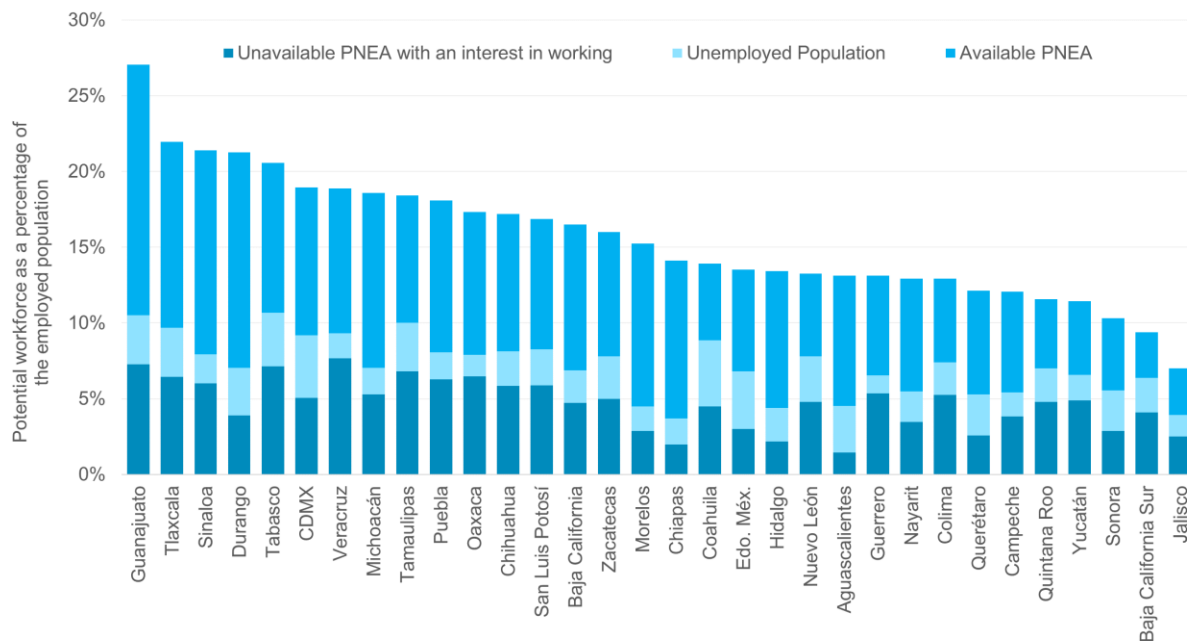
Source: Prepared by IMCO with data from INEGI's National Occupation and Employment Survey (ENOE).

In this sense, there are states that show greater potential for integrating people into the economy. In Guanajuato, Tlaxcala, Sinaloa and Durango, the employed population could increase by more than 21% by incorporating working-age populations that are currently untapped in the economy. In Baja California Sur and Jalisco, on the other hand, the labor market shows less slack and has a lower proportion of untapped personnel; the employed population in that region would grow by less than 10% by incorporating the potential labor force.

2.1.2 Attractive jobs

Another crucial aspect for ensuring the region's competitiveness and facilitating investment productivity is the quality of jobs. When labor conditions are adequate and guarantee that workers have access to their labor rights, labor productivity in companies is enhanced. By benefiting both groups, labor quality facilitates better economic performance. [3]

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[3] Sandrine Cazes, Alexander Hijzen and Anne Saint-Martin, *Measuring and assessing job quality: the OECD job quality framework* (OECD, 2015).

Figure 2. Monthly labor income and labor informality rate (1Q2024).
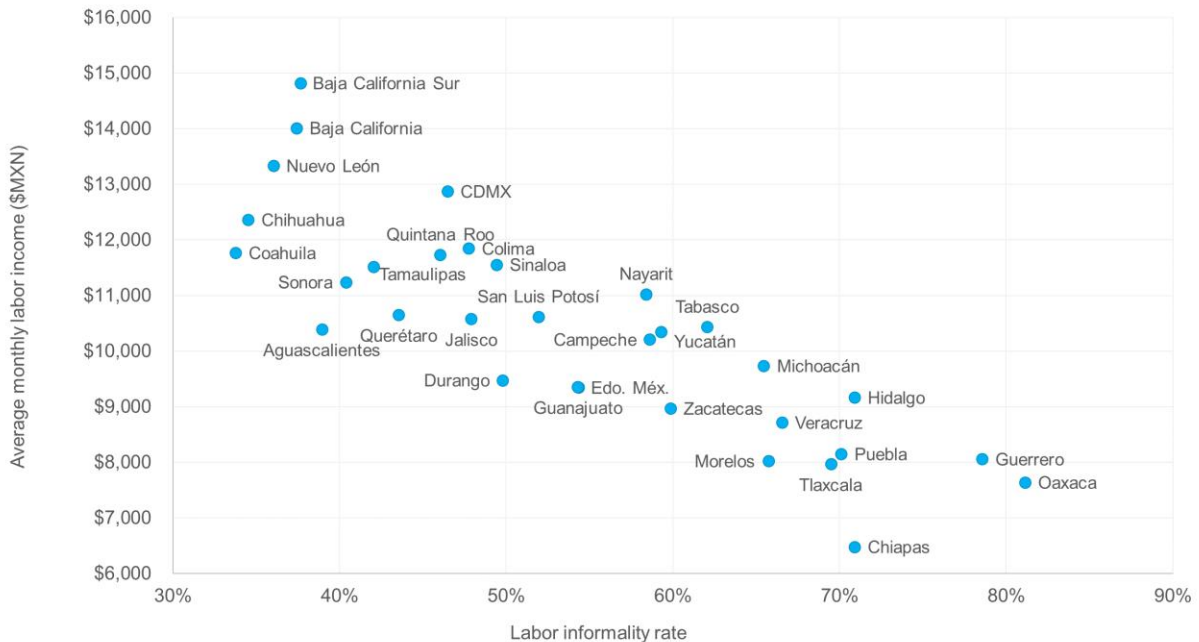
Source: Prepared by IMCO with data from INEGI's National Occupation and Employment Survey (ENOE).

One way to characterize the country's states in terms of the availability of attractive jobs is to evaluate two key indicators related to the labor market: informality and the level of labor income. Both variables are linked: informality is related to lower opportunities for training and professional growth (in addition to the characteristics of the bond that exists between workers and employers), thus leading to a lower level of productivity and lower income.

In both cases, the performance of the states is similar. According to INEGI's National Occupation and Employment Survey, Baja California Sur, Baja California and Nuevo Leon have the highest levels of monthly labor income in the country; an average worker earns $14,823, $14,014 and $13,336 pesos per month in labor income in those states, respectively. The three states are also among the five states with the lowest rates of labor informality, as less than 38% of the employed population is informally employed; the rates are lower than the 54.3% observed at the national level during the first quarter of 2024.

In contrast, Guerrero, Oaxaca and Chiapas are among the five states with the worst performance in both labor informality and average labor income. More than 70% of their employed population works in informal employment. In addition, an average worker earns less than $8,000 pesos per month for his or her work; in Chiapas, the average labor income is only $6,482 pesos per month.

2.1.3 Job Qualifications

In addition to the availability of personnel and the quality of the jobs offered, another important element for companies interested in the potential for *nearshoring* in Mexico and the possibility of starting or expanding operations in the country is access to skilled labor. The availability of personnel with the necessary skills to work in the economic activities integrated into global

production chains is a determining factor for the competitiveness of a region and its ability to attract investment.[4]

Map 1. Proportion of the Economically Active Population with higher education degrees (1Q2024).

State	%	State	%
CDMX	41.3%	Nayarit	25.8%
Sinaloa	31.0%	Jalisco	25.5%
Colima	29.9%	Durango	25.4%
Tamaulipas	29.6%	Yucatán	23.2%
Baja California Sur	29.3%	Morelos	23.2%
Baja California	29.1%	San Luis Potosí	23.1%
Sonora	28.8%	Tlaxcala	22.7%
Aguascalientes	28.7%	Zacatecas	22.7%
Nuevo León	28.6%	Hidalgo	22.2%
Tabasco	27.6%	Puebla	21.6%
Querétaro	26.9%	Veracruz	21.1%
Coahuila	26.8%	Michoacán	19.1%
Chihuahua	26.7%	Guanajuato	18.3%
Campeche	26.2%	Chiapas	18.0%
Edo. Méx.	26.2%	Guerrero	17.1%
Quintana Roo	26.0%	Oaxaca	16.9%

Source: Prepared by IMCO with data from INEGI's National Occupation and Employment Survey (ENOE).

Part of these skills comes from the education of the Economically Active Population (PEA in Spanish) in the region. In this sense, regions such as Mexico City (CDMX), Sinaloa and Colima have advantages, since 30% or more of the Economically Active Population (those who are seeking or have jobs) have a higher level of education, i.e., a bachelor's, engineering or graduate degree. In five states, including Michoacán, Guanajuato, Chiapas and Oaxaca, less than 20% of the PEA has this level of education.

In addition to higher education, job training courses are also qualifications that generate greater competitiveness in a region's labor market. These trainings are aimed at preparing the employed population to meet the needs of skilled labor in industry, agriculture, administration and commerce.[5]

In Campeche, Morelos and Hidalgo, the number of students approved in job training courses during 2022 as a proportion of the Economically Active Population is higher than in the rest of the country and is more than 5%. In contrast, students graduating from these courses represented less than 1.3% of the PEA in six states, including Colima, Baja California and Zacatecas.

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[4] Nicolo Gligo, *Effective Policies to Attract Foreign Direct Investment in Latin America and the Caribbean (*ECLAC, 2007).

[5] Ministry of Public Education, *Modelo Educativo y Académico de la Formación para el Trabajo* (SITEAL, 2018).

Figure 3. Students who passed job training courses as a proportion of the Economically Active Population (2022).
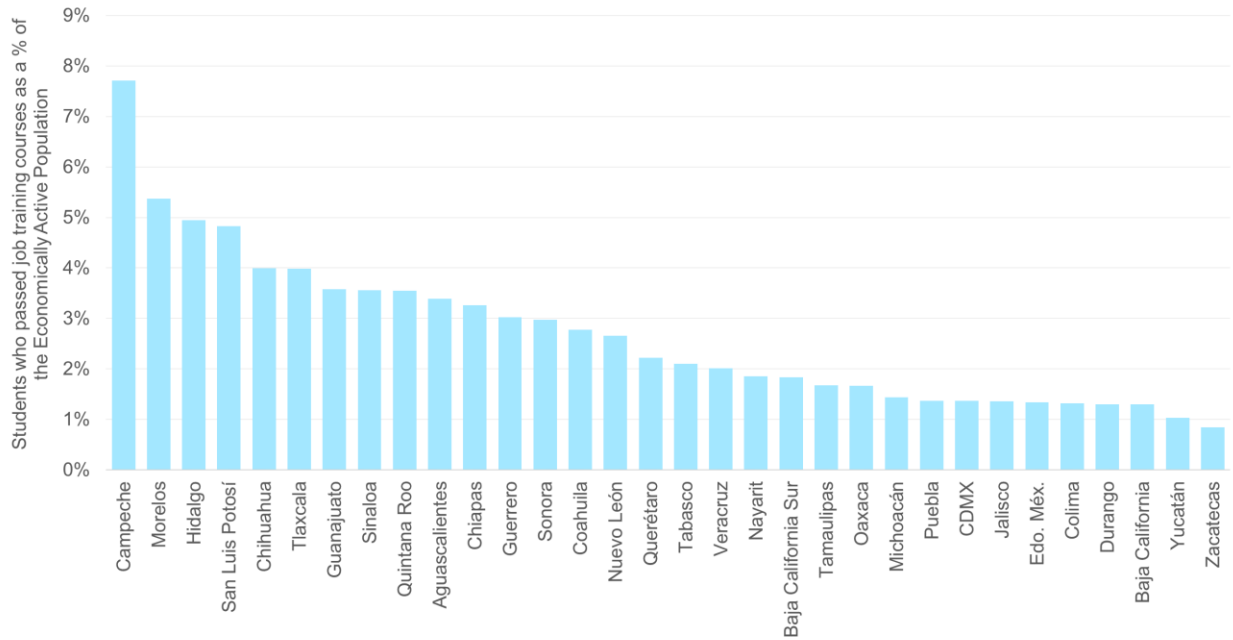
Given the fact that the main opportunities generated by *nearshoring* are linked to Mexico's greater integration into North American production chains, English language skills also represent an attractive element for investors and transnational companies that may come to the country. According to the English Proficiency Index 2023, prepared by Education First, Jalisco, Nuevo León and Michoacán are the states with the best command of the language and have a Medium level of proficiency. At the other extreme, Coahuila, Chiapas and Oaxaca have a Very Low proficiency level. At the national level, the level is Low, with a score of 451.

Map 2. Rating on the English language proficiency measure (2023).

State	Score	State	Score
Jalisco	538	CDMX	462
Nuevo León	531	Campeche	458
Michoacán	519	Durango	457
Querétaro	519	Guerrero	444
Morelos	518	Yucatán	438
Colima	516	Tamaulipas	437
Sonora	508	Puebla	435
Sinaloa	506	Tlaxcala	435
Guanajuato	505	Veracruz	433
Zacatecas	498	Chihuahua	432
Aguascalientes	492	Edo. Méx.	428
Nayarit	486	Hidalgo	422
San Luis Potosí	485	Baja California	413
Baja California Sur	480	Oaxaca	405
Tabasco	478	Chiapas	391
Quintana Roo	476	Coahuila	365

2.1.4 Educational Institutions

For the availability of skilled labor to become part of the attractiveness of an state for the consolidation of *nearshoring*, it is necessary to have educational institutions that facilitate the constant development of skills and capabilities. This development is necessary to ensure that human talent adapts to the requirements of the labor market; in addition, it can be an important tool to increase productivity and wages, thereby reducing poverty and inequality in the regions of the country.[6]

Figure 4. Institutions of higher education and technical professional level (school year 2023-2024).
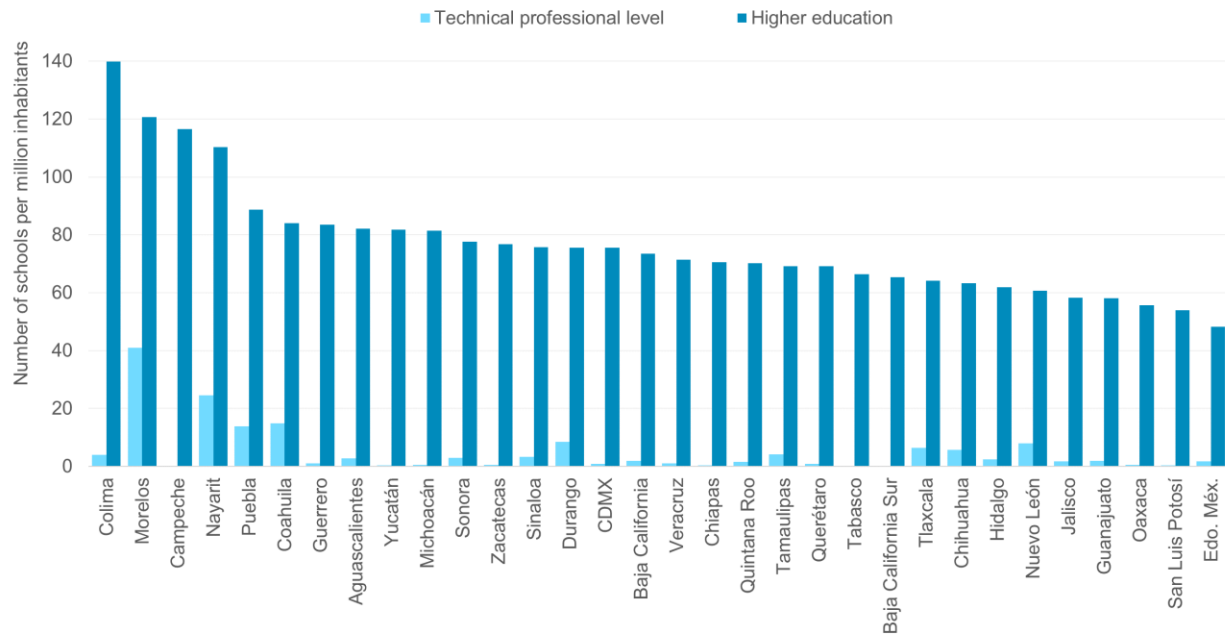
Source: Prepared by IMCO with data from the Interactive System of Educational Statistics of SEP (Sistema Interactivo de Estadística Educativa de la SEP).

The educational infrastructure for higher education is greater in Colima, Morelos and Campeche, where there are more than 115 schools per million inhabitants. In contrast, Oaxaca, San Luis Potosí and the State of Mexico have fewer than 56 higher education institutions per million inhabitants.

On the other hand, access to schools offering technical professional courses is greater in Morelos, Nayarit and Coahuila (more than 15 institutions per million inhabitants), while in states such as Yucatán, San Luis Potosí and Baja California Sur there are less than 0.5 institutions per million inhabitants.

2.2 Housing and services

In addition to the labor component, investors take into account another structural axis: the availability of housing and public services that workers and their families require to perform in the

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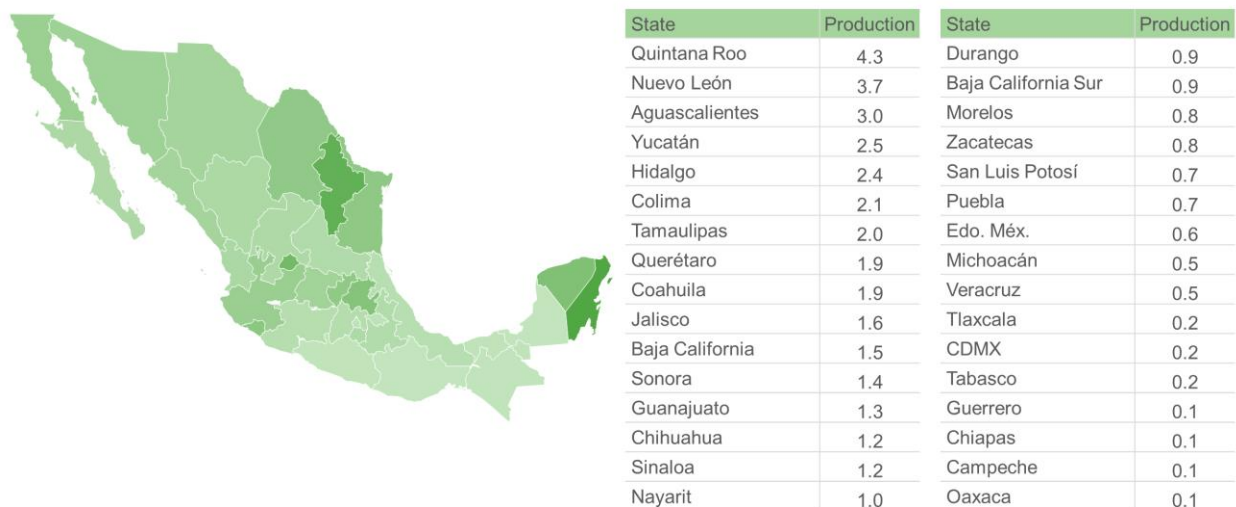[6] ILO, *Skills for Productivity Enhancement, Employment Growth and Development* (2008).

economy. These indicators reflect the ease of daily life in each state, which represents an advantage for the relocation of companies to a region.[7]

2.2.1 Housing production

By representing both a direct and indirect increase in the number of jobs, investments linked to *nearshoring* imply a greater need for housing for the employed population already living in the state, or those who come to it to fill new jobs.

Annual housing production shows the increase in available space for new workers and their families and reflects the adequacy of a state's housing infrastructure. Quintana Roo, Nuevo León and Aguascalientes had the highest housing production in 2023, generating more than 3 dwellings per 10,000 inhabitants. In contrast, Guerrero, Chiapas, Campeche and Oaxaca built only 0.1 housing units per 10,000 inhabitants in the same period.

Map 3. Annual housing production per 10 thousand inhabitants (2023).

State	Production	State	Production
Quintana Roo	4.3	Durango	0.9
Nuevo León	3.7	Baja California Sur	0.9
Aguascalientes	3.0	Morelos	0.8
Yucatán	2.5	Zacatecas	0.8
Hidalgo	2.4	San Luis Potosí	0.7
Colima	2.1	Puebla	0.7
Tamaulipas	2.0	Edo. Méx.	0.6
Querétaro	1.9	Michoacán	0.5
Coahuila	1.9	Veracruz	0.5
Jalisco	1.6	Tlaxcala	0.2
Baja California	1.5	CDMX	0.2
Sonora	1.4	Tabasco	0.2
Guanajuato	1.3	Guerrero	0.1
Chihuahua	1.2	Chiapas	0.1
Sinaloa	1.2	Campeche	0.1
Nayarit	1.0	Oaxaca	0.1

Source: Prepared by IMCO with data from INEGI's National Occupation and Employment Survey (ENOE) and the National Housing Information and Indicators System (SNIIV) of the Ministry of Agrarian, Territorial and Urban Development.
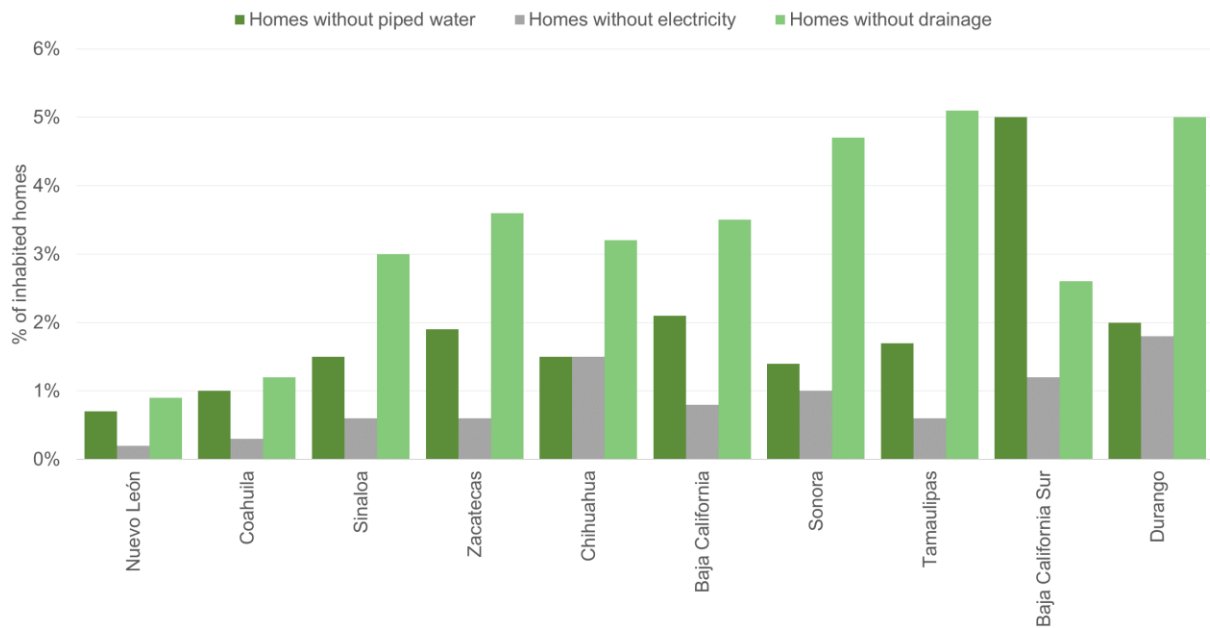
2.2.2 Access to basic services

In terms of services available in existing housing in the states, the performance shows differences at the regional level. States in the north of the country have lower deficiencies in access to piped water, electricity and drainage in homes.

Nuevo León and Coahuila have the lowest proportions of private homes lacking basic services. Even though homes in those states face some service deficiencies, only 1% or less lack piped water, less than 1% lack electricity and less than 2% lack drainage.

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[7] Nicolo Gligo, *Effective Policies to Attract Foreign Direct Investment in Latin America and the Caribbean (*ECLAC, 2007).

Figure 5. Access to basic services in housing in the northern part of the country (2020).

The problem of lack of basic services in housing is greater in the rest of the country. In the central zone, San Luis Potosí, Hidalgo and Puebla have the highest proportions of homes lacking basic services. In these states, between 3.9% and 7.4% of private homes lack piped water and between 0.8% and 1.4% lack electricity, while more than 4.8% lack drainage.

Figure 6. Access to basic services in housing in the central part of the country (2020).

The lack of basic services available in housing is even greater in the south of the country. In this region, there are states where the lack of access to basic housing services, such as drainage or piped water, affects more than 10% of inhabited private homes, as is the case in Oaxaca and Guerrero. Although the lack of electricity is less of a problem than the lack of water or drainage, it affects around 2% of homes in these states.
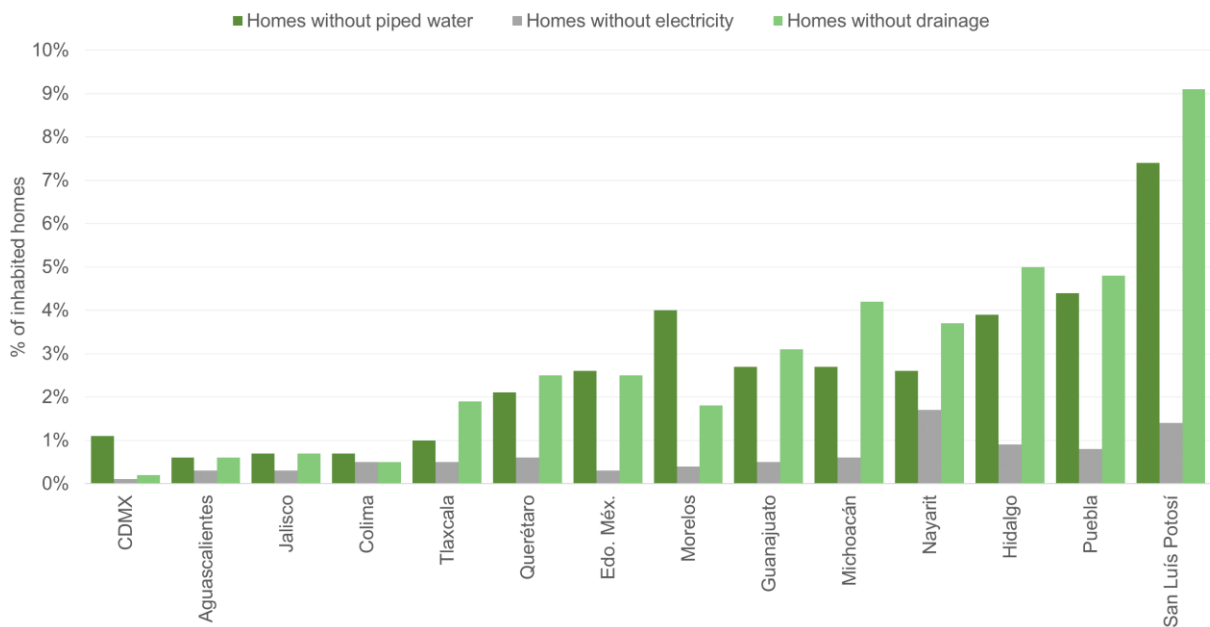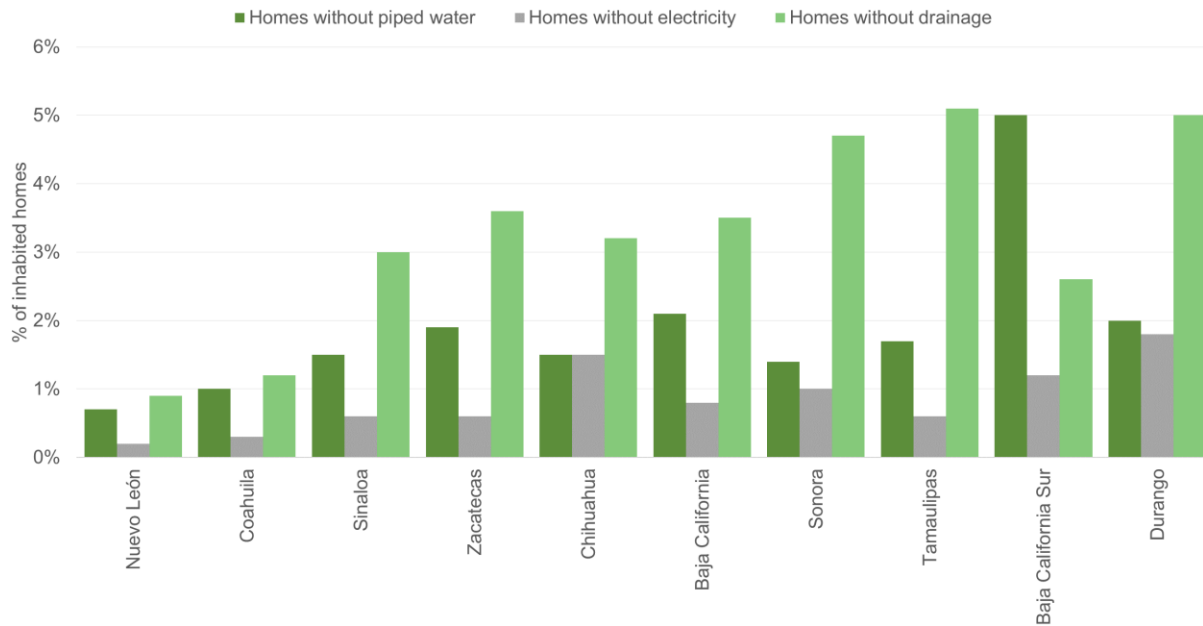
Figure 7. Access to basic services in housing in the southern part of the country (2020).

Source: Prepared by IMCO with data from INEGI's 2020 Population and Housing Census.

2.2.3 Public transportation

Public transportation facilitates mobility in cities and affects the efficiency of economic activities, since it connects one of the productive factors (labor) with producers (companies). In this sense, the availability of sufficient and efficient public transportation can be another attractive factor for attracting the location of companies and workers, as it helps to reduce costs, increase productivity and activate trade.[8]

To estimate the availability of public transportation in the states, the size of the federal public service passenger transportation fleet is a useful tool. There is a disparity in access to passenger transportation units between CDMX and the rest of the country. While in CDMX there are almost 3 thousand passenger transportation units per million inhabitants, in the remaining states the availability is between 126 and 767 units per million people. Chihuahua, Zacatecas and Colima have less than 160 passenger vehicles per million inhabitants.

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[8] BANXICO, *Report on regional economies July - September 2016* (Mexico, 2016).

Figure 8. Passenger transport vehicle fleet per million inhabitants (2022).
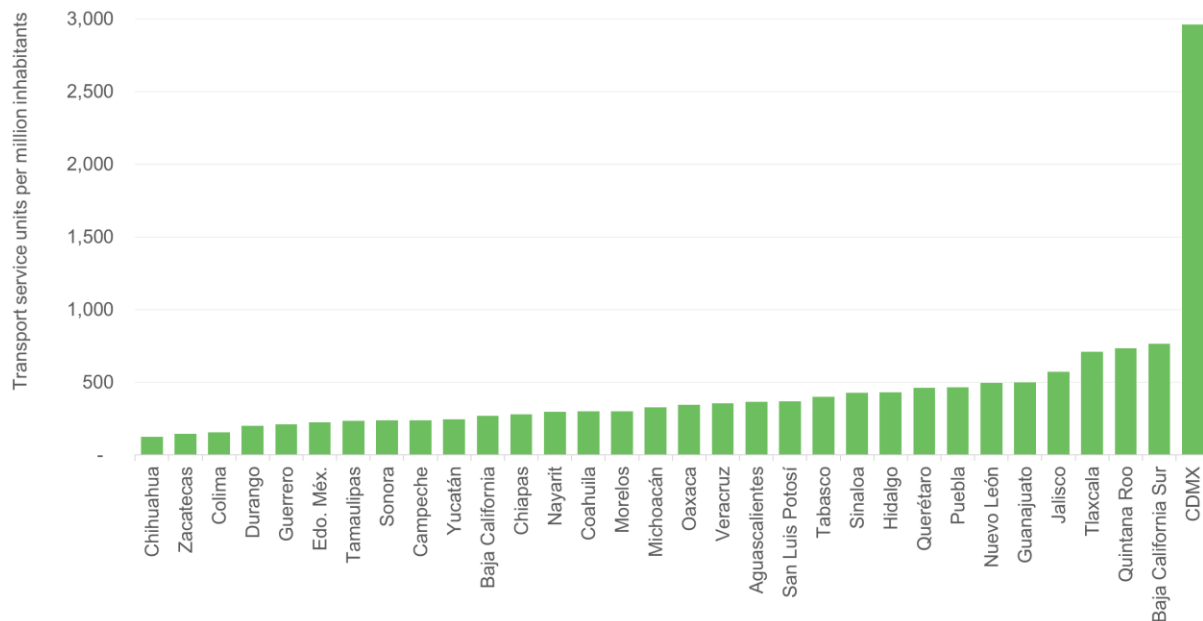
Source: Prepared by IMCO with data from the Anuario estadístico del Sector Infraestructura, Comunicaciones y Transportes 2022. The vehicle fleet of the federal public passenger transportation service is considered.

2.3 Availability of basic inputs

The third axis of structural conditions necessary to attract investment and facilitate the relocation of production chains to Mexican states is the availability of basic inputs, i.e., access to electricity and water at affordable prices and with a constant supply.

In the states, the economic sector most closely linked to basic input infrastructure is the generation, transmission, distribution and commercialization of electricity, water supply and natural gas through pipelines to the final consumer. Productive investment and growth in this economic sector can result in improvements in the supply of essential inputs for the operation of industry and other economic activities.

However, the physical volume index of the sector in 2022, which takes 2018 as the base year, shows that in the last 4 years, it has only grown in two states: Morelos and Tabasco. In the first case, the value of activities linked to electric power, water and natural gas in 2022 was twice the one observed in 2018; in Tabasco, the value has remained at practically the same level in that period.

In states such as Oaxaca and Yucatán, the value of production in the sector during 2022 was slightly lower than that observed in 2018, but in Coahuila and Colima the index registered values of less than 50, which means that economic activity in the sector was equivalent to less than half of that observed in 2018.

Figure 9. Physical volume index of the electric power, water and natural gas sector (2022).
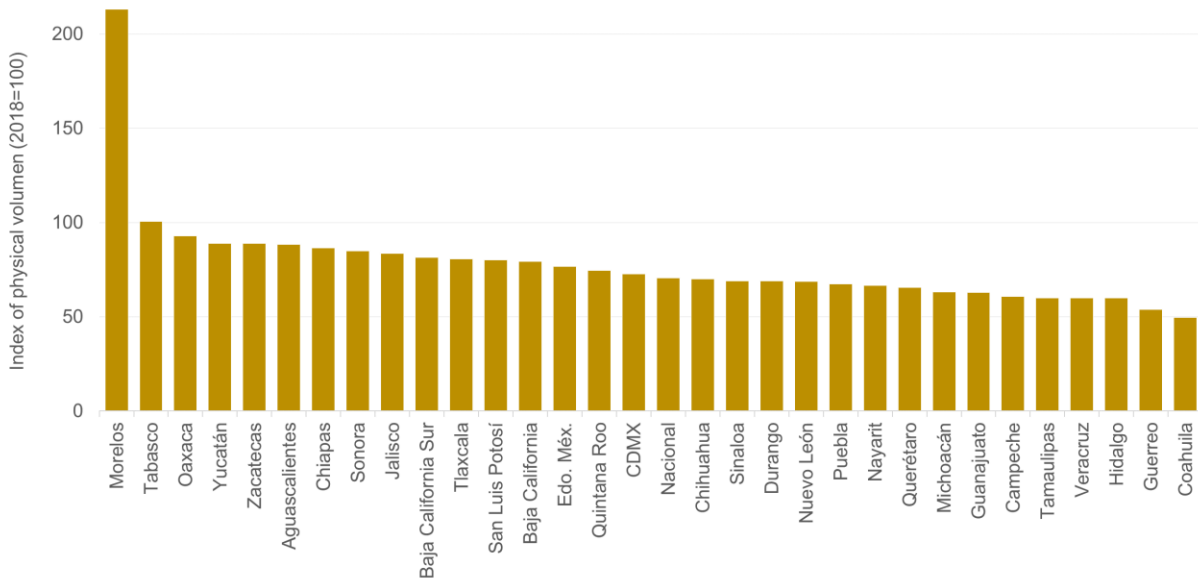
2.3.1 Electrical energy

Reliable and affordable electricity supply is a necessary feature for a region to be competitive, capable of attracting and retaining businesses and investment.[9]

Figure 10. Local marginal electricity price (June 2024).
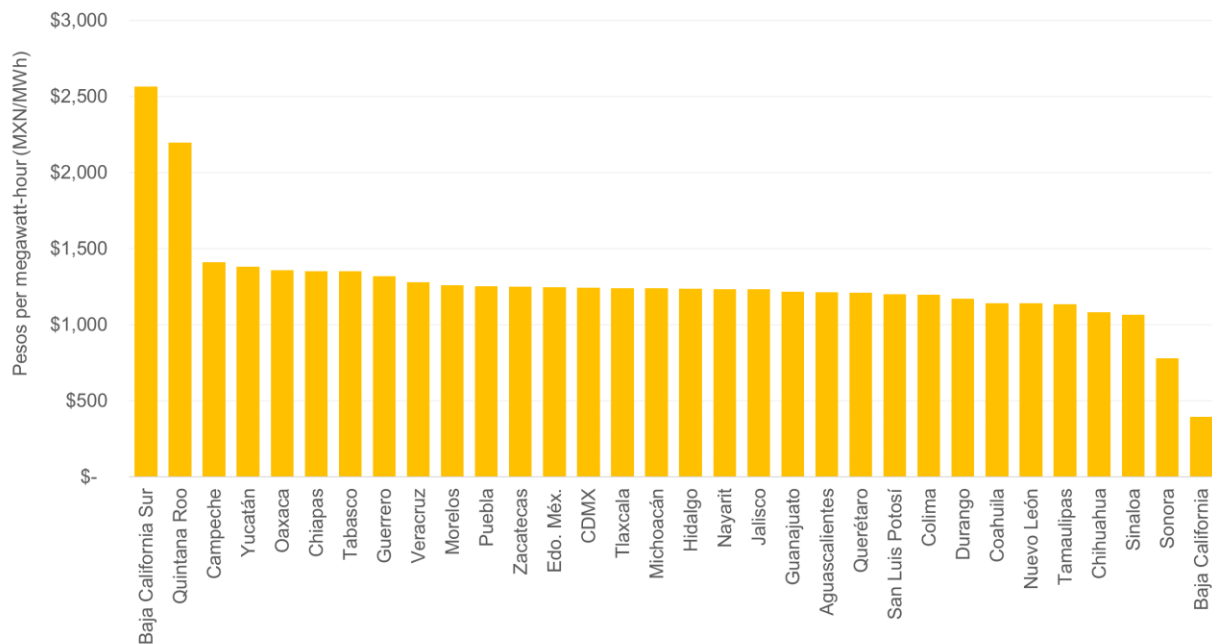
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[9] IMCO, *Mexico needs competitive energy to capitalize on nearshoring* (2023).
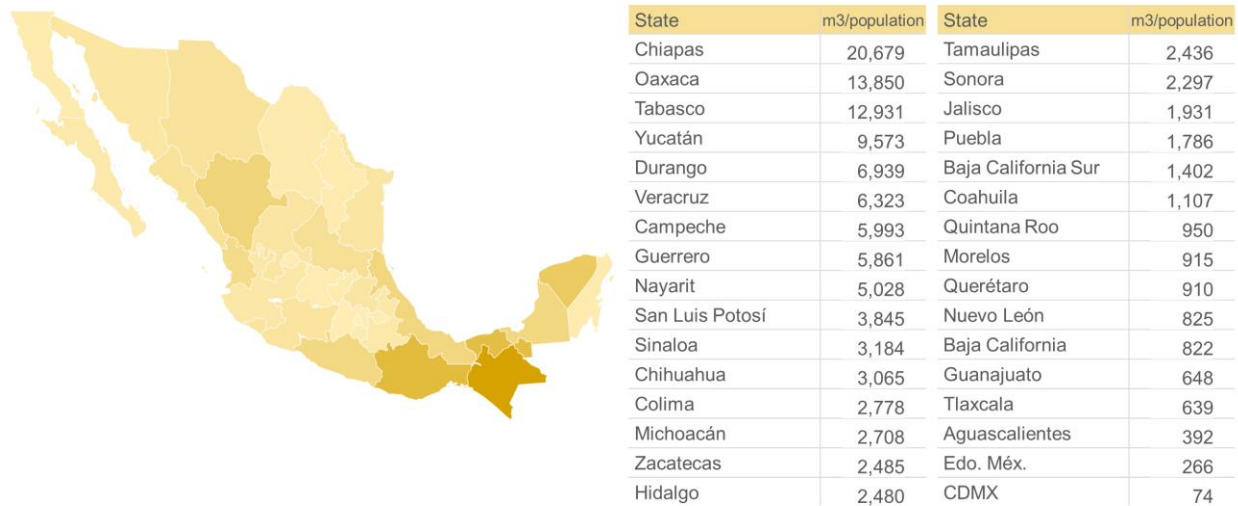
Electricity is obtained at more affordable prices in some northern states, particularly Baja California, Sonora, Sinaloa and Chihuahua, where the price per megawatt-hour is less than 1,100 pesos. In contrast, Baja California Sur and Quintana Roo have the highest electricity costs, as the marginal price exceeds 2,000 pesos per megawatt-hour.

2.3.2 Water

Like electric power, water is another fundamental input for productive activities. The availability of water resources is a strategic factor for the economic development of the country's regions, so proper water management is a determining factor in a region's capacity to guarantee a quality, sustainable, uninterrupted supply that minimizes losses and can respond to changes in water supply and demand.[10]

In terms of water availability, the south of the country has the advantage: Chiapas, Oaxaca and Tabasco have more than 10,000 cubic meters of renewable water per capita. In Aguascalientes and the State of Mexico, availability is less than 400 cubic meters, while in Mexico City there are only 74 cubic meters of renewable water per capita.

Map 4. Amount of renewable water per capita (2021).

State	m3/population	State	m3/population
Chiapas	20,679	Tamaulipas	2,436
Oaxaca	13,850	Sonora	2,297
Tabasco	12,931	Jalisco	1,931
Yucatán	9,573	Puebla	1,786
Durango	6,939	Baja California Sur	1,402
Veracruz	6,323	Coahuila	1,107
Campeche	5,993	Quintana Roo	950
Guerrero	5,861	Morelos	915
Nayarit	5,028	Querétaro	910
San Luis Potosí	3,845	Nuevo León	825
Sinaloa	3,184	Baja California	822
Chihuahua	3,065	Guanajuato	648
Colima	2,778	Tlaxcala	639
Michoacán	2,708	Aguascalientes	392
Zacatecas	2,485	Edo. Méx.	266
Hidalgo	2,480	CDMX	74

Source: Prepared by IMCO with data from CONAGUA's National Water Information System (SINA).

However, the availability of renewable water –which can be used without altering the ecosystem and is renewed by rain– is not enough to guarantee access to water as a basic input, since not all of it can be used in these states due to problems such as contamination, damage to the distribution network, lack of water infrastructure, and lack of control over concessions (particularly in the agricultural sector). Even the states with greater water availability face challenges, which require efficient regulation, management and investment in infrastructure to guarantee access and sanitation of water for personal, domestic, agricultural and industrial consumption.

Hydraulic infrastructure, particularly the existence of wastewater treatment plants, is essential to ensure that water availability translates into greater access to basic inputs for industry.

The number of plants dedicated to treating industrial wastewater relative to the amount of water licensed for industrial use in a region reflects the sufficiency (or insufficiency) of the infrastructure

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[10] IMCO, *Water in Mexico: scarcity or mismanagement?* (2023).

to reuse water resources and ensure their sustainable supply. Campeche and Baja California Sur are the states with the most treatment plants per cubic hectometer (hm^3 of water licensed for industrial use (more than 20 plants per hm^3). At the other extreme, 13 states have less than 1 plant per hm^3. In particular, the relative number of treatment plants in Veracruz, Nayarit, Chihuahua, Coahuila and CDMX is 0.3.

Figure 11. Number of existing industrial wastewater treatment plants per hm^3 of water licensed for industrial use (2020).
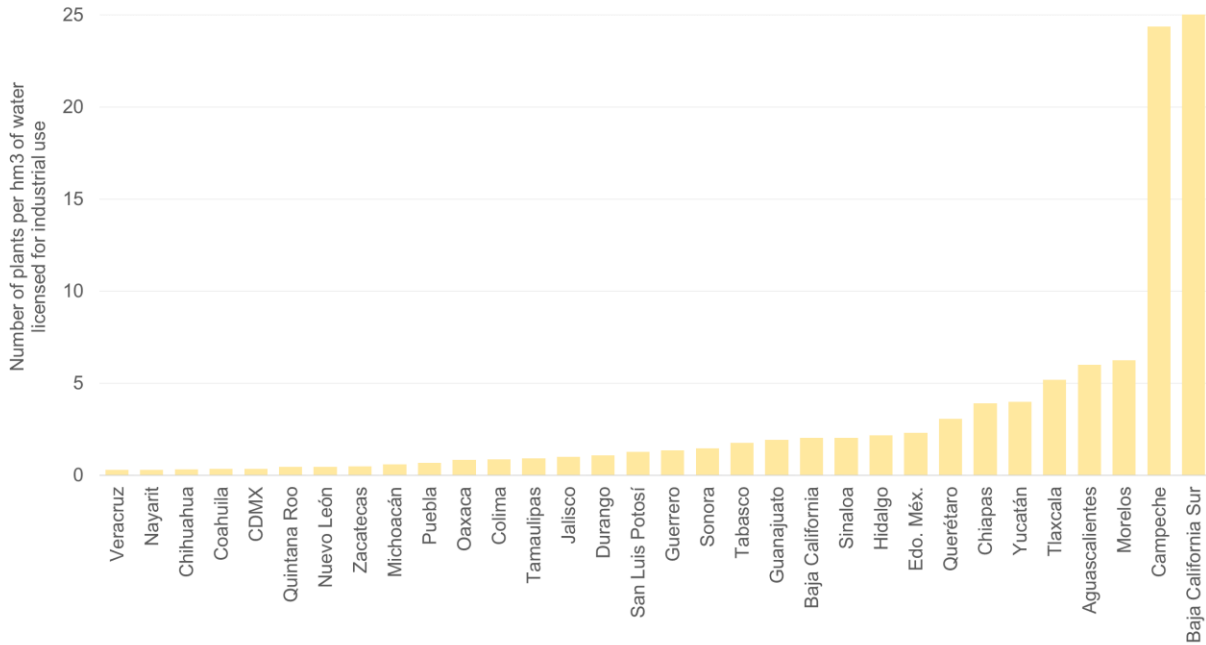
Source: Prepared by IMCO with data from CONAGUA's National Water Information System (SINA).

Adequate use of water infrastructure also shows the capacity of the states to meet the water needs of the industry. Not all states use their wastewater treatment capacities to the fullest extent. In Aguascalientes, San Luis Potosí, Chihuahua and Veracruz, the treated flow of industrial wastewater represents less than 50% of the flow that could be treated with the state's installed capacity.

In six states, including Baja California, Baja California Sur and Nayarit, installed capacity was fully utilized in 2023.

Map 5. Industrial wastewater flow treated as a proportion of installed capacity (2023).

State	%	State	%
Baja California	100%	Puebla	85%
Baja California Sur	100%	Tamaulipas	85%
Nayarit	100%	Sonora	84%
Nuevo León	100%	Guerrero	84%
Quintana Roo	100%	Sinaloa	83%
Campeche	100%	Tlaxcala	76%
Morelos	97%	Edo. Méx.	70%
Hidalgo	96%	Oaxaca	64%
Chiapas	95%	Colima	64%
Jalisco	94%	CDMX	63%
Michoacán	92%	Durango	60%
Coahuila	91%	Querétaro	51%
Tabasco	90%	Aguascalientes	49%
Guanajuato	90%	San Luis Potosí	48%
Yucatán	90%	Chihuahua	43%
Zacatecas	88%	Veracruz	42%
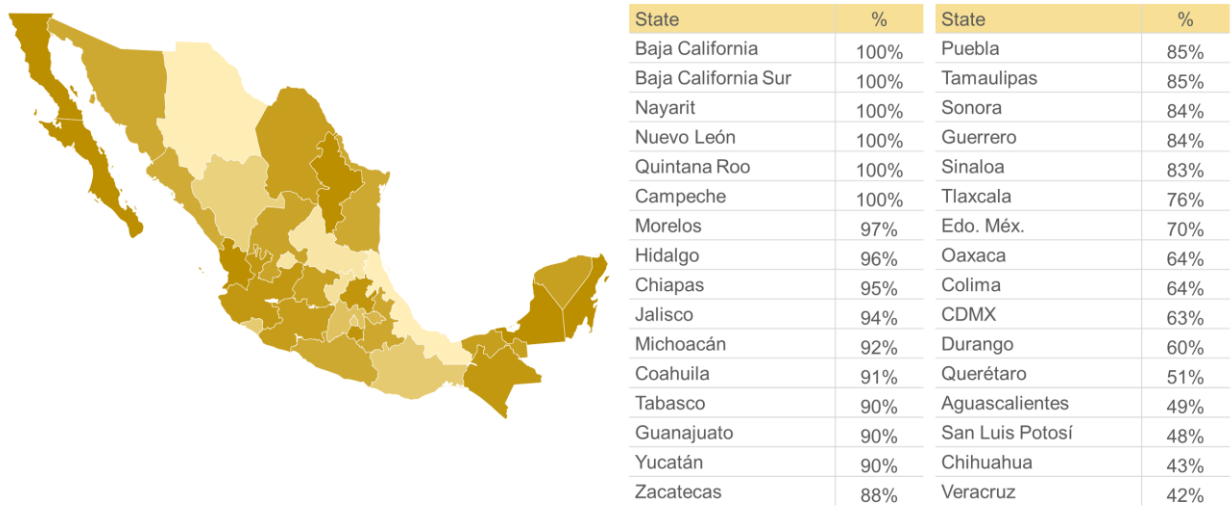
Source: Prepared by IMCO with data from CONAGUA's National Water Information System (SINA).

2.4 Regulatory environment

Beyond the characteristics of its population or the infrastructure and resource endowment of a country or region, the rule of law and the regulatory framework are important factors for an investment-friendly environment and to make a place attractive for business. Countries and regions with clear regulatory frameworks and efficient institutions are in a better position to attract FDI, as they provide certainty to investors.[11]

2.4.1 Safety

Security is a necessary element to ensure compliance with the rule of law in a region and to generate facilities for economic activity and business to take place. One indicator that reflects the level of security in the states is the crime prevalence rate. In Sonora, CDMX and Durango, more than 3,400 out of every 10,000 businesses reported being victims of crime in 2021. In Yucatán, the rate was less than 1,300 economic units, while in Jalisco 1,570 out of every 10,000 units reported crime in that year.

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[11] Nicolo Gligo, *Effective Policies to Attract Foreign Direct Investment in Latin America and the Caribbean (*ECLAC, 2007).

Figure 12. Crime prevalence rate per 10,000 economic units (2021).
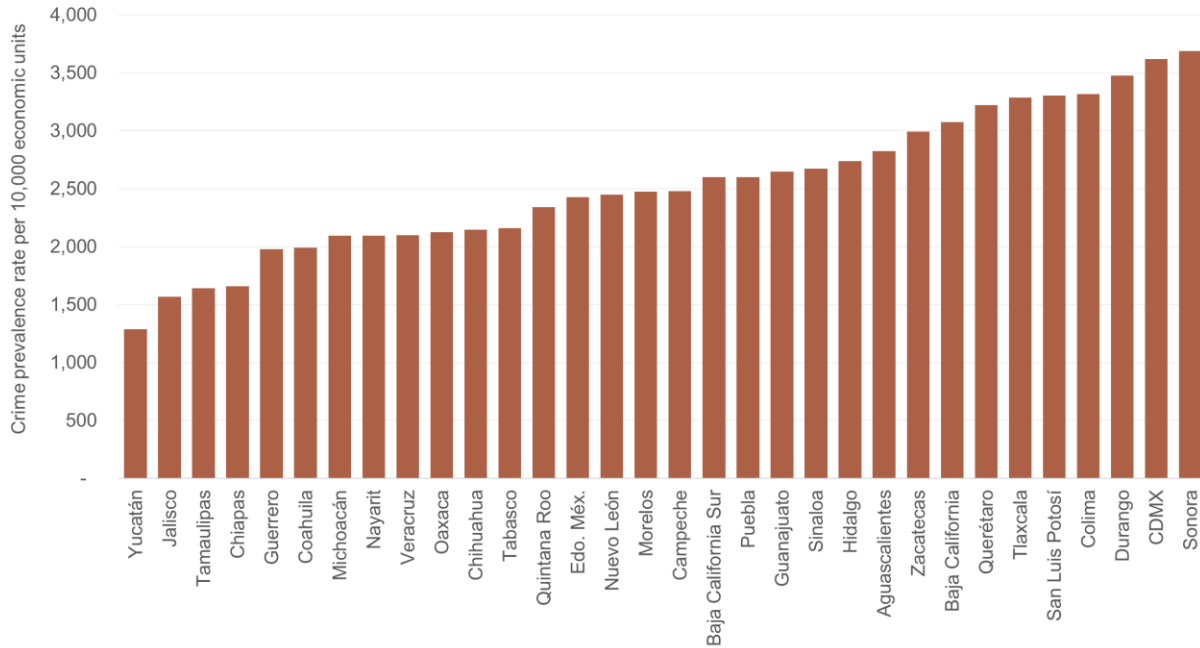
Source: Prepared by IMCO with data from INEGI's National Business Victimization Survey (ENVE) 2022.

2.4.2 Government regulation and programs

A state's regulatory framework has the potential to facilitate or hinder investment and economic activities in the region. On the one hand, government regulations and programs can provide a boost to businesses and increase competitiveness. On the other hand, an efficient regulatory framework is necessary for the fulfillment of the business objectives of the state's companies.

Map 6. Percentage of companies aware of government programs to attract investment in the region (2021).

State	%	State	%
Sinaloa	24%	Colima	11%
Yucatán	20%	Zacatecas	10%
Coahuila	18%	Quintana Roo	10%
Baja California Sur	18%	Guerrero	10%
Jalisco	16%	San Luis Potosí	10%
Veracruz	16%	Edo. Méx.	10%
Tabasco	15%	Chihuahua	10%
Durango	15%	Nuevo León	8%
Querétaro	14%	Tlaxcala	8%
Michoacán	14%	Chiapas	8%
Tamaulipas	13%	Sonora	7%
Campeche	13%	Baja California	7%
Guanajuato	13%	Oaxaca	6%
Aguascalientes	12%	Puebla	6%
Nayarit	11%	Hidalgo	5%
CDMX	11%	Morelos	4%

Source: Prepared by IMCO with data from INEGI's National Business Victimization Survey (ENVE) 2022.

In terms of investment attraction programs, Sinaloa and Yucatán have a better performance than the rest of the country. In these states, more than 20% of companies are aware of the existence

of a government program aimed at attracting investment in their municipality or territorial demarcation. In contrast, in Hidalgo and Morelos, less than 5% of companies identify any such program.

Map 7. Percentage of private companies perceiving the regulatory framework as an obstacle to their business objective (2020).

State	%	State	%
Michoacán	82%	Colima	14%
Jalisco	65%	CDMX	13%
Puebla	48%	Tlaxcala	12%
Veracruz	44%	Zacatecas	12%
Coahuila	42%	Hidalgo	11%
Baja California	39%	Tabasco	10%
Edo. Méx.	38%	Querétaro	10%
Quintana Roo	29%	Aguascalientes	8%
Guanajuato	25%	Guerrero	8%
Oaxaca	21%	Yucatán	8%
Campeche	18%	San Luis Potosí	8%
Baja California Sur	15%	Sonora	5%
Nayarit	15%	Chiapas	4%
Morelos	15%	Chihuahua	3%
Sinaloa	14%	Nuevo León	3%
Durango	14%	Tamaulipas	2%

Source: prepared by IMCO with data from INEGI's National Survey on Regulatory Quality and Government Impact (ENCIG) 2020.

Another useful indicator to understand the business "climate" in the states is the perception of private sector companies regarding the regulatory framework. In Michoacán, more than 80% of private companies are dissatisfied with the regulatory framework and consider it an obstacle to their business objectives. In contrast, in Chihuahua, Nuevo León and Tamaulipas, less than 4% of companies consider that carrying out procedures, complying with regulations, obtaining licenses and permits, or receiving government inspections in the state represents an obstacle to achieving their objectives.

3. The most and least attractive states for investment.

The 21 indicators considered in this study reflect the performance of the states in the four axes of labor market, housing and services, availability of basic inputs and regulatory environment. Some states stand out in more than half of the indicators evaluated, while others rank in the bottom 10 positions in most of them.

The results show that Nuevo León, Aguascalientes and Coahuila perform better than the rest of the states and have the conditions to take advantage of the trend of relocating production chains. Nuevo León stands out in 13 of the 21 variables considered and is in one of the last 10 positions in only seven variables. Both Aguascalientes and Coahuila stand out in 11 variables. Aguascalientes only performs poorly in three indicators, while Coahuila has one of the last positions in nine of them.

Table 1. Performance of the states in the indicators evaluated.

State	Number of variables in which it achieves one of the first 10 positions	Number of variables in which it achieves one of the last 10 positions	State	Number of variables in which it achieves one of the first 10 positions	Number of variables in which it achieves one of the last 10 positions
Nuevo León	13	7	Chiapas	6	13
Aguascalientes	11	3	Tabasco	6	14
Coahuila	11	9	Baja California	5	14
Colima	10	10	Michoacán	5	14
Jalisco	10	10	Campeche	5	15
Tamaulipas	9	10	Hidalgo	5	15
Morelos	9	11	Nayarit	5	15
Yucatán	9	11	Durango	5	16
Sinaloa	8	8	Guanajuato	5	16
Baja California Sur	8	12	Guerrero	4	16
Tlaxcala	8	12	San Luis Potosí	4	16
Querétaro	7	9	Puebla	4	17
Sonora	7	11	Veracruz	4	17
Chihuahua	7	12	Oaxaca	3	17
CDMX	7	13	Edo. Méx.	2	17
Quintana Roo	7	13	Zacatecas	2	17

Source: prepared by IMCO.

In contrast, Oaxaca, Mexico State and Zacatecas are states whose structural conditions hinder the attraction of investment and the increase of economic activities linked to *nearshoring*. The three states occupy one of the last 10 positions in 17 of the 21 variables evaluated, while they only have one of the first 10 positions in 2 variables (3 in the case of Oaxaca).

3.1 Nuevo León, Aguascalientes and Coahuila: favorable conditions are found in the central and northern regions.

Nuevo León's performance reflects good results in all four axes, although it achieves its highest positions in the indicators related to housing and basic services. It is the second state with the highest housing production, as the construction of 22,306 units in 2023 means that 3.7 housing units were generated for every 10,000 inhabitants. In addition, less than 1% of the housing units in the state lacked piped water, electricity or drainage.

In terms of labor, the state has the third lowest rate of informality at the national level and the third highest level of average labor income. It also has the second highest English proficiency score, behind only Jalisco.

In addition, it is one of the six states that uses its installed capacity to treat industrial wastewater to the maximum, and only 2.5% of its companies consider the regulatory framework to be an obstacle to business.

However, Nuevo León's performance in indicators such as the availability of higher education institutions, the availability of renewable water per capita and the number of industrial water treatment plants places the state among the last positions at the national level and highlights some structural challenges.

<p align="center">**Table 2**. Performance of Nuevo León in the evaluated indicators.</p>

Indicator	Value	Position
Potential labor force as % of employed population	13.3%	21
Labor informality rate	36.0%	3
Average monthly labor income	$13,336	3
% of PEA with higher education	28.6%	9
Higher education institutions per million inhabitants	61	27
Technical professional level schools per million inhabitants	7.9	6
Job training graduates as % of PEA	2.7%	15
English proficiency score	531	2
Housing produced per year per 10 thousand inhabitants	3.7	2
% of inhabited private homes that do not have piped water	0.7%	2
% of inhabited private homes that do not have electricity	0.2%	2

Indicator	Value	Position
% of inhabited private homes that do not have drainage	0.9%	5
Passenger transportation service units per million inhabitants	498	7
Physical volume index (2018=100) of the electric power, water and natural gas sector	68.8	20
Average local marginal price of electricity (MXN/MWh)	$1,140	6
M3 of renewable water per capita	825	26
Treatment plants per hm3 of industrial water concession	0.5	26
Industrial wastewater treated as % of installed capacity	100.0%	1
Crime prevalence rate per 10 thousand economic units	2,450	15
% of companies that know about government programs to attract investments	8.0%	24
% of companies that perceive the regulatory framework as an obstacle to their business objective	2.5%	2

Source: Prepared by IMCO with data from INEGI, CONAGUA, CENACE, SICT, SEDATU, EF and SEP.

In Aguascalientes, structural conditions also result in a higher level of preparation to take advantage of the opportunities generated by *nearshoring*. The performance in the area of housing and basic services stands out, as the state occupies one of the first three positions in the indicators of housing production -with 3 dwellings per 10 thousand inhabitants- and availability of piped water, electricity and drainage.

In terms of labor, the state's informality rate of 38.9% is 15 percentage points lower than that observed at the national level, and the proportion of the PEA with higher education is higher than that observed at the national level; it also ranks 10th in the labor training indicator.

The state also has 6 wastewater treatment plants for each hm^3 of industrial concessioned water, which places it in fourth position; however, treated wastewater only represents 49% of the total installed capacity.

Other structural challenges in the region are the crime prevalence rate and the availability of renewable water per capita.

Table 3. Performance of Aguascalientes in the indicators evaluated.

Indicator	Value	Position
Potential labor force as % of employed population	13.1%	22
Labor informality rate	38.9%	6
Average monthly labor income	$10,395	17
% of PEA with higher education	28.7%	8
Higher education institutions per million inhabitants	82	8
Technical professional level schools per million inhabitants	2.7	13
Job training graduates as % of PEA	3.4%	10
English proficiency score	492	11
Housing produced per year per 10 thousand inhabitants	3.0	3
% of inhabited private homes that do not have piped water	0.6%	1
% of inhabited private homes that do not have electricity	0.3%	3

Indicator	Value	Position
% of inhabited private homes that do not have drainage	0.6%	3
Passenger transportation service units per million inhabitants	368	14
Physical volume index (2018=100) of the electric power, water and natural gas sector	88.3	6
Average local marginal price of electricity (MXN/MWh)	$1,215	12
M3 of renewable water per capita	392	30
Treatment plants per hm3 of industrial water concession	6.0	4
Industrial wastewater treated as % of installed capacity	48.6%	29
Crime prevalence rate per 10 thousand economic units	2,827	23
% of companies that know about government programs to attract investments	11.6%	14
% of companies that perceive the regulatory framework as an obstacle to their business objective	8.5%	9

Source: Prepared by IMCO with data from INEGI, CONAGUA, CENACE, SICT, SEDATU, EF and SEP.

Coahuila is another state whose characteristics facilitate the attraction of investment and economic activity. In addition to having the lowest labor informality rate in the country, the state's labor income level - at $11,769 pesos per month - is the seventh highest. Coahuila has a high availability of technical professional schools, as well as higher education institutions for its inhabitants; it is in the third and sixth position in these indicators.

On the other hand, the crime prevalence rate is relatively low (1,992 out of every 10,000 economic units report crime) and has the third highest proportion of companies with knowledge of programs aimed at attracting investment. However, almost 42% of companies in the state consider that the state's regulations and processes generate obstacles for business.

The level of English proficiency and the availability of industrial wastewater treatment plants are some variables in which the state has opportunities for improvement. Coahuila ranks last in English proficiency and 29th in the number of industrial water treatment plants.

Table 4. Coahuila's performance in the indicators evaluated.

Indicator	Value	Position
Potential labor force as % of employed population	13.9%	18
Labor informality rate	33.8%	1
Average monthly labor income	$11,769	7
% of PEA with higher education	26.8%	12
Higher education institutions per million inhabitants	84	6
Technical professional level schools per million inhabitants	14.8	3
Job training graduates as % of PEA	2.8%	14
English proficiency score	365	32
Housing produced per year per 10 thousand inhabitants	1.9	9
% of inhabited private homes that do not have piped water	1.0%	5
% of inhabited private homes that do not have electricity	0.3%	3

Indicator	Value	Position
% of inhabited private homes that do not have drainage	1.2%	6
Passenger transportation service units per million inhabitants	301	19
Physical volume index (2018=100) of the electric power, water and natural gas sector	49.5	31
Average local marginal price of electricity (MXN/MWh)	$1,143	7
M3 of renewable water per capita	1,107	22
Treatment plants per hm3 of industrial water concession	0.3	29
Industrial wastewater treated as % of installed capacity	90.8%	12
Crime prevalence rate per 10 thousand economic units	1,992	6
% of companies that know about government programs to attract investments	18.3%	3
% of companies that perceive the regulatory framework as an obstacle to their business objective	41.5%	28

Source: Prepared by IMCO with data from INEGI, CONAGUA, CENACE, SICT, SEDATU, EF and SEP.

3.2 Oaxaca, State of Mexico and Zacatecas: states with structural challenges

In Oaxaca, the greatest structural challenges are found in the areas of the labor market and housing. Labor informality in the state is the highest in the country; with a level of 81.1%, it exceeds the national level by more than 26 percentage points. It also has the lowest level of PEA with higher education, and the level of labor income ($7,640 pesos per month) is the second lowest in the country. Other labor indicators in which the state occupies one of the last three places are English proficiency and the number of higher education institutions.

In terms of housing and basic services, Oaxaca was the state that produced the least housing per 10,000 inhabitants in 2023: 0.1 were built. In addition, it has the highest lack of electricity and drainage in homes.

Although Oaxaca has the second highest availability of renewable water per capita, it has only 0.8 industrial wastewater treatment plants per hm^3 of concessioned water and uses less than 65% of the installed capacity to treat wastewater. In addition, the marginal price of electricity is the fifth highest in the country.

Although the level of knowledge about investment attraction programs is low in the state and 21% of companies consider that the regulatory framework is not conducive to business, the crime prevalence rate is lower than that observed at the national level. 2,125 out of every 10,000 economic units had a criminal incident, the tenth lowest rate in the country.

Table 5. Performance of Oaxaca in the indicators evaluated.

Indicator	Value	Position	Indicator	Value	Position
Potential labor force as % of employed population	17.3%	11	% of inhabited private homes that do not have drainage	19.4%	32
Labor informality rate	81.1%	32	Passenger transportation service units per million inhabitants	348	16
Average monthly labor income	$7,640	31	Physical volume index (2018=100) of the electric power, water and natural gas sector	92.9	3
% of PEA with higher education	16.9%	32	Average local marginal price of electricity (MXN/MWh)	$1,357	28
Higher education institutions per million inhabitants	56	30	M3 of renewable water per capita	13,850	2
Technical professional level schools per million inhabitants	0.5	26	Treatment plants per hm3 of industrial water concession	0.8	22
Job training graduates as % of PEA	1.7%	22	Industrial wastewater treated as % of installed capacity	64.4%	24
English proficiency score	405	30	Crime prevalence rate per 10 thousand economic units	2,125	10
Housing produced per year per 10 thousand inhabitants	0.1	32	% of companies that know about government programs to attract investments	6.2%	29
% of inhabited private homes that do not have piped water	9.8%	30	% of companies that perceive the regulatory framework as an obstacle to their business objective	21.0%	23
% of inhabited private homes that do not have electricity	2.3%	32			

Source: Prepared by IMCO with data from INEGI, CONAGUA, CENACE, SICT, SEDATU, EF and SEP.

In Mexico State (Edo. Méx.) the results also reflect challenges in the four axes. The state has the lowest level of higher education institutions in the country, and has the second lowest availability of renewable water.

Its levels of job training and English proficiency are also lower than those observed at the national level, and the state ranks 27th in both cases. In addition, despite having the largest state population in the country -with more than 17 million people-, it has one of the lowest number of passenger transportation vehicles per inhabitant in the country and ranks 27th in the matter.

Mexico States' housing production in 2023 ranked 23rd nationally: only 0.6 homes were built for every 10,000 inhabitants. Only 0.3% of private homes in the state lacked electricity (the third lowest level in the country); however, 2.6% of them did not have access to piped water and 2.5% did not have drainage.

In the regulatory and governmental axis, 38% of the companies in the state perceived the regulatory framework as an obstacle -the seventh highest rate- and only 10% were aware of any governmental program to attract investments in 2021.

Table 6. Performance of the State of Mexico in the indicators evaluated.

Indicator	Value	Position
Potential labor force as % of employed population	13.5%	19
Labor informality rate	54.3%	18
Average monthly labor income	$9,347	23
% of PEA with higher education	26.2%	15
Higher education institutions per million inhabitants	48	32
Technical professional level schools per million inhabitants	1.7	18
Job training graduates as % of PEA	1.3%	27
English proficiency score	428	27
Housing produced per year per 10 thousand inhabitants	0.6	23
% of inhabited private homes that do not have piped water	2.6%	18
% of inhabited private homes that do not have electricity	0.3%	3

Indicator	Value	Position
% of inhabited private homes that do not have drainage	2.5%	11
Passenger transportation service units per million inhabitants	228	27
Physical volume index (2018=100) of the electric power, water and natural gas sector	76.6	14
Average local marginal price of electricity (MXN/MWh)	$1,245	20
M3 of renewable water per capita	266	31
Treatment plants per hm3 of industrial water concession	2.3	9
Industrial wastewater treated as % of installed capacity	69.9%	23
Crime prevalence rate per 10 thousand economic units	2,429	14
% of companies that know about government programs to attract investments	10.0%	22
% of companies that perceive the regulatory framework as an obstacle to their business objective	38.3%	26

Source: Prepared by IMCO with data from INEGI, CONAGUA, CENACE, SICT, SEDATU, EF and SEP.

Finally, Zacatecas faces challenges in indicators such as job training, public passenger transportation units, and the number of industrial wastewater treatment plants.

Table 7. Performance of Zacatecas in the evaluated indicators.

Indicator	Value	Position
Potential labor force as % of employed population	16.0%	15
Labor informality rate	59.9%	22
Average monthly labor income	$8,971	25
% of PEA with higher education	22.7%	24
Higher education institutions per million inhabitants	77	12
Technical professional level schools per million inhabitants	0.6	24
Job training graduates as % of PEA	0.8%	32
English proficiency score	498	10
Housing produced per year per 10 thousand inhabitants	0.8	20
% of inhabited private homes that do not have piped water	1.9%	14
% of inhabited private homes that do not have electricity	0.6%	11

Indicator	Value	Position
% of inhabited private homes that do not have drainage	3.6%	18
Passenger transportation service units per million inhabitants	149	31
Physical volume index (2018=100) of the electric power, water and natural gas sector	88.9	5
Average local marginal price of electricity (MXN/MWh)	$1,250	21
M3 of renewable water per capita	2,485	15
Treatment plants per hm3 of industrial water concession	0.5	25
Industrial wastewater treated as % of installed capacity	87.6%	16
Crime prevalence rate per 10 thousand economic units	2,992	24
% of companies that know about government programs to attract investments	10.4%	18
% of companies that perceive the regulatory framework as an obstacle to their business objective	12.1%	13

Source: Prepared by IMCO with data from INEGI, CONAGUA, CENACE, SICT, SEDATU, EF and SEP.

In indicators such as labor income, the proportion of the PEA with higher education and the number of technical professional schools, Zacatecas ranked in one of the last 10 positions at the national level. It also had the ninth highest crime prevalence rate in the country.

The state obtained its best position in the physical volume index of the electric power, water and natural gas sector; although the sector had a lower value in 2022 than in 2018, the decrease was not as steep as in other states. Additionally, the level of English proficiency in the state was the tenth highest in the country.

4. Final considerations

In the second edition of this exercise, the indicators reflect an updated version of the structural challenges faced by the states in terms of competitiveness and preparation for the opportunities generated by the *nearshoring* phenomenon.

The expansion of the list of indicators considered to include variables such as housing production, water infrastructure and English as a human capital skill made it possible to expand the evaluation of the economic and social conditions of the country's states.

The results not only show the states that are most and least prepared to take advantage of the growth opportunities derived from the relocation of production chains, but also identify the different structural challenges for each of the states.

While for an state such as Aguascalientes, for example, the difficulties are linked to the availability and hydraulic infrastructure, for Coahuila, the mastery of English or the regulatory framework are more pressing problems.

Similarly, in Oaxaca, housing production and access to basic services in housing, as well as informality and higher education are issues that should be addressed as a priority, but in Zacatecas, access to public transportation and the level of English are the lowest rated variables.

Thus, the diagnosis is a starting point to outline a tailor-made working plan that addresses the priority pending issues for each state and generates the necessary conditions to promote regional development in the country.

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