THE REPORT

Mexico 2018
Hidalgo

OVERVIEW
TRANSPORT
LOGISTICS
INDUSTRY
EDUCATION
ENERGY
R&D
ECONOMY
INTERVIEWS

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WHY TO INVEST IN PLATAH INDUSTRIAL PARK?

CONNECTIVITY

Strategic location in Central Mexico

Only 48 kms. from Mexico City (toll road)

Direct access to main highways (Arco Norte, NAFTA 57) and railroads (Ferromex)

78 kms. to Mexico City International Airport

QUALITY OF LIFE AND PEACEFUL ENVIRONMENT

- Hidalgo, among the most peaceful states in Mexico.
- Private and public health services, bilingual schools, hotel and business centers, profesional golf courses, tennis clubs and fitness facilities.
- Shopping centers, restaurants, financial services, leading transportation system.

INFRASTRUCTURE

- Class A Industrial Park, focused on high added value industries operating manufacture and logistics facilities.
- Infrastructure that complies with the Mexican Standard for Industrial Parks NMX-R-046-SCFI-2015, electricity, water, drainage, natural gas and telecommunications.

SKILLED WORKFORCE

- Highly prepared, organized and skilled workforce.
- Access to 1.4 million inhabitants in a 15 mile / 24 km radius and 6.8 million inhabitants in a 31 mile / 49 km radius from Platah.
- Special training programs supported by Hidalgo's government.
- Talent searching process through the Ministry of Labour.

EDUCATION

- More than 30 universities and technical schools.
- Dual education model for both technical and professional.
- High level technician graduates.
- Bachelor's degree, Master's degree and PhD.
- Scientific & technological infrastructure.

FRIENDLY GOVERNMENT

- Hidalgo strives to create favorable conditions to establish companies in less time guaranteeing dynamic and transparent processes.

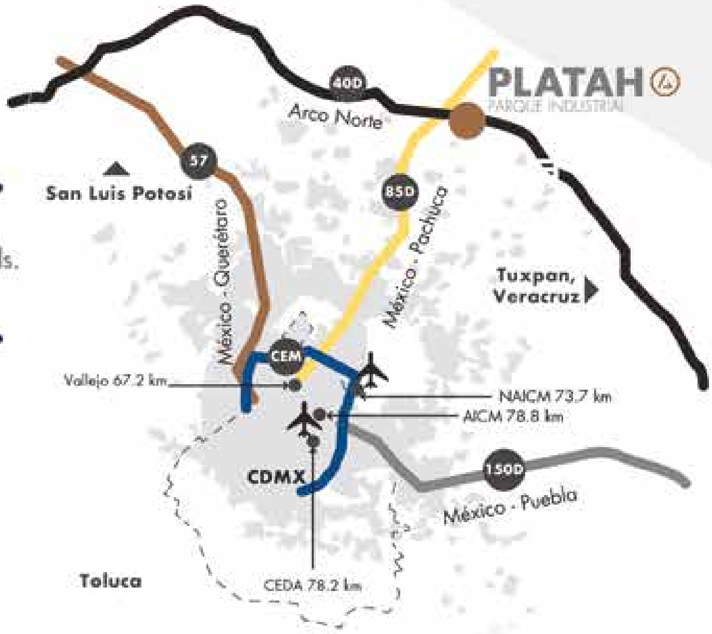
LOCATION WITH STRATEGIC PURPOSES

LOCATED 30 MINUTES FROM MEXICO CITY AND 1 HOUR 15 MINUTES FROM MEXICO CITY INTERNATIONAL AIRPORT.

Connection to main Gulf and Pacific ports by railroads.

Road connection with the Valley of Mexico through main highways:

- Arco Norte: 5 min.
- Circuito Exterior Mexiquense: 36 min.
- Mexico Pachuca highway: 3 min.



Location
- PLATAH Industrial Park
- Urban Area
- 30 minutes from Mexico City
- Connected to Mexico City through main highways:

México - Pachuca (85D)
México - Querétaro (57)
Arco Norte (40D)
México - Puebla (150D)
Circuito Exterior Mexiquense (CEM)

NAICM - Mexico City New International Airport
AICM - Mexico City International Airport
CEDA - Central de Abastos (Central Market of Supplies)

LEGEND
- PLATAH
- MAIN HIGHWAYS
- MAIN PORTS
- MAIN RAILROADS
- MAIN AIRPORTS

HIDALGO

AMONG THE MOST PEACEFUL STATES IN MEXICO, WITH ONE OF THE LOWEST CRIME INCIDENTS RATE IN THE COUNTRY

- MULTICULTURAL EDUCATION
- RECREATIONAL INFRASTRUCTURE
- TOURISM OFFERING

TOURISM & QUALITY OF LIFE

Investment destination

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Legislative reforms aimed at creating an attractive business environment along with government strategies that leverage the state's strategic location are starting to pay off, with private investment rising steadily in recent years. In order to sustain this growth, the state government has targeted developing four strategic sectors: energy, sustainable mobility, agro-industry and pharmaceuticals.

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State of craft

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While the state has long been a manufacturing hub, industrial activity has picked up in recent times. A number of multinational auto-parts providers and carmakers have opened up factories, and supply chains for more advanced products, such as electric cars, are also being developed. Government strategies have supported this growth, with special economic zones helping to attract foreign investors.

ISBN 978-1-910068-XX-X

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The state has become a prominent destination on investors' radars

On the map

Improved conditions for investment attract attention

Hidalgo is the 26th largest of the country's 32 federal entities, and accounts for 1.1% of Mexico's total landmass. Located in the central-eastern part of the country, Pachuca, the state's capital city, is just 90 km from the country's capital Mexico City.

Named after one of the initiators of Mexico's War of Independence, Miguel Hidalgo y Costilla, Hidalgo's state authorities have been working to enhance the state's position through more effective inter-dependance with the country's capital, based on the state's proximity, logistics capabilities and ongoing developments in key industrial sectors.

With a rich mining history, an unrivalled location both for exporters and companies serving the domestic market, and escaping relatively unscathed from the drug-trafficking violence that afflicts other parts of Mexico, Hidalgo has the tools to flourish, despite being one of the less developed states in the country. Indeed, the state has become an increasingly prominent destination on investors' radars and was shortlisted as the location for several potential flagship projects – including Mexico City's new airport and a BMW manufacturing plant. Though these ultimately settled for other locations, the state's bids served to put it on the map for investors.

Hidalgo also submitted one of the 238 bids from across North America to host online retailing giant Amazon's second headquarters in 2017, though none of the three Mexican states to throw their hats in the ring were shortlisted. Undeterred, Hidalgo's current government has looked to accelerate efforts to attract investment since taking office, launching a package of reforms designed to ensure that being next door to one of the world's largest consumer markets is an asset for the state and its people.

INVESTMENT: These efforts have been paying off, with private investment under the new administration hitting record levels. In November 2017, just 14 months after the governor of Hidalgo, Omar Fayad Meneses, assumed office, Grupo Modelo – the Mexican arm of the world's largest beer maker, AB InBev – announced it would invest MXN14bn ($756.6m) in a brewing and bottling plant in the southern part of the state. This represents the largest private investment ever to be made in Hidalgo, and – alongside several other local and international arrivals – means investment is entering the state at an unprecedented rate.

GEOGRAPHY & CLIMATE: With a territory of 20,905 sq km, Hidalgo is the 26th largest of the country's 32 federal entities, and accounts for 1.1% of Mexico's total landmass. Located in the central-eastern part of the country, Pachuca, the state's capital city, is just 90 km from the country's capital Mexico City.

Hidalgo is home to the most elevated village in Mexico, Real del Monte, which sits 2718 metres above sea level; the state's highest point is Cerro La Peñuela at 3350 metres. Near the north-eastern tip of the state is San Felipe Orizatlán, its lowest municipality, at just 175 metres above sea level. Located in the Huasteca region, the state shares borders with six others. To the north is the state of San Luis Potosí. To the north-east is the coastal state of Veracruz, while to the south-east is Puebla. Southern Hidalgo borders the states of Tlaxcala and Mexico, while the industrial powerhouse of Querétaro lies to the west. Hidalgo's climate is generally mild, with an average temperature of 16°C and average annual rainfall of 800 mm.

PRE-COLONIAL IMPORTANCE: Hidalgo's mild climate means the region has attracted human settlements since long before colonial times. Indeed, the oldest artefact to have been discovered is an axe dating back to 11,000 BCE. The archaeological site at Tula, the city in the west of the state where Petróleos Mexicanos now has a refinery, exists as a reminder of a time when it was the most important city in the region after the fall of Teotihuacán beginning in the 6th century.

MINING DISCOVERIES: Yet it was shortly after the arrival of the Spanish colonists in the early 16th century that Hidalgo discovered an economic vocation that would last for four centuries. In 1552 the first mines were discovered in the vicinity of today's state capital Pachuca and the nearby village of Real del Monte, following the earlier appearance of the Plomo

Part of the Huasteca region and sharing borders with six other states, Hidalgo represents 1.1% of Mexico's total landmass and is home to the country's most elevated city, at 2718 metres above sea level.

Pobre mines near Ixmiquilpan. Hidalgo's importance as a mining centre was established early on, when Pachuca-based Spanish merchant Bartolomé de Medina discovered the patio process for extracting silver from ore using mercury amalgamation in 1554. It was a notable advance in mining that was to be used across the world for 300 years.

However, fortunes were inconsistent for the mining industry. In the 1720s the mines in Pachuca and Real del Monte were flooded and remained largely out of use until being drained and operations restarted 20 years later, bringing about another mining boom that produced more than 7m pesos of pure silver, according to historical records produced by the state.

CORNISH FLAVOUR: The Mexican War of Independence, in 1810-21, left the mines of Pachuca and Real del Monte in ruin and flooded yet again, with more than half abandoned and those that remained in use operating at just 10% of capacity.

The Mexican government, realising the importance of mining as a key source of jobs and tax revenues, intervened to reactivate the sector by seeking and facilitating foreign investment.

The *tercer conde* (third count), who owned most of the mines of Pachuca and Real del Monte, found a group of English investors – brought together in a company called the Compañía de Caballeros Aventureros (Gentlemen Adventurers' Company) – and began recruiting miners from Cornwall. The UK's most south-western county, Cornwall was known for having the most skilled miners in the world. Some 130 Cornish miners set sail on the first boat from England – though many died before completing the arduous journey to Mexico – bringing new technologies such as the steam engine to drain the mines.

Thus began Hidalgo's unlikely historical connection with Cornwall – one that endures today in the local gastronomic specialty: *pastes*, pronounced pasties, which look (and taste, in their traditional form) exactly like the famous Cornish Pasty.

English miners also left an indelible mark on Pachuca and Real del Monte with the construction of traditional Cornish mine houses and by bringing football to Mexico for the first time. Indeed, Pachuca is the oldest football club in the country. However, the English ownership of the mines was a more passing influence. The Gentlemen Adventurers' Company sold up in 1849, having failed to make enough money to justify their investment, though many of the English stayed to work the mines that began to flourish again under an independent Mexico.

FOUNDING THE STATE: What is today Hidalgo had been part of the old Estado de México since the first Mexican Constitution of 1824. When this entity was deemed to be too large to manage, President Benito Juárez created the state of Hidalgo in January 1869, with Pachuca as state capital. By this time, Pachuca had begun to experience rapid growth. In 1851 the discovery of the Rosario mine brought the largest mining boom yet to the region, and Pachuca's population increased from 4000 in 1850 to 15,000 in 1869.

The state of Hidalgo was carved out of Mexico State in 1869, with Pachuca designated its capital city

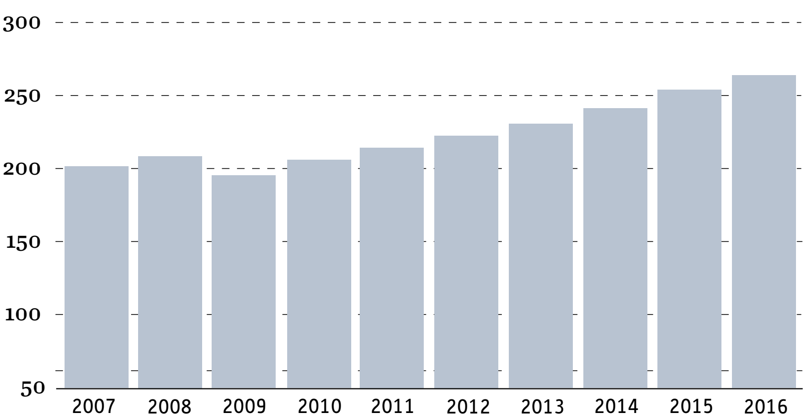
INDUSTRY IN APAN: Alongside mining, other industries were also developing around the time Hidalgo was established as a state. In particular, the production of *pulque* – an alcoholic drink made from the agave plant – was reaching new heights. In the same southern Apan region where 150 years later Grupo Modelo would build its brewery, pulque producers were already reaping the benefits of Hidalgo's proximity to the large consumer market of Mexico City.

This boom brought developments including, in 1866, the opening of the railway line between Apan and Mexico City as part of the line running from Mexico City to Veracruz. By 1899 there were 374 km of railway lines in Hidalgo operated by five companies.

The arrival of the railway was accompanied in the latter part of the 19th century by other technological advances, such as the telegraph and the telephone. Indeed, investment in the mining and pulque sectors brought a range of advances in other industries in Hidalgo. It was thanks to the mining industry, for

Hidalgo's importance as a mining centre was established early on, when a Pachuca-based Spanish merchant discovered a process for extracting silver from ore using mercury amalgamation in the 1550s.

Hidalgo's GDP, 2007-16 (MXN bn)



Source: IIEG

The state benefits from a number of motorway connections to ports on both the Gulf and Pacific coasts

example, that Hidalgo was one of the first places in Mexico to have energy produced by the private sector.

TODAY'S ECONOMY: Despite its colourful economic history, Hidalgo's key economic indicators show there is significant room for growth and development. Representing some 2.4% of the population, the state contributed 1.6% to national GDP in 2016.

State efforts to improve the business environment in the state are crucial to enhancing the lives of residents. The proportion of Hidalgo's workforce in formal employment has been lower than the national average over the last decade. As of the end the fourth quarter of 2017, the labour informality rate hit 75%, the fourth-highest level across the country, according to data from the National Institute of Statistics and Geography (Instituto Nacional de Estadística, Geografía e Informática, INEGI).The national average was 57%. Recent investments in the state have started to reverse this trend, with jobs in the formal sector hitting a record high in April 2018 and wages also rising as higher-skilled positions open (see analysis).

POLITICS: Given its current standing and potential for growth, economic development has been a key priority for the state government over its six-year term, which is due to end in 2022. Governor Fayad, a former mayor of Pachuca, is a member of the Institutional Revolutionary Party (Partido Revolucionario Institucional, PRI). He came to the state house as part of a coalition with the PRI, the Ecologist Green Party of Mexico and the New Alliance Party.

At his inauguration, the governor promised a hard line against corruption and vowed to make attracting investment from both Mexico and abroad a priority for Hidalgo. Fayad placed José Luis Romo Cruz at the helm of the state's economy. The Harvard-educated economist is in charge of attracting investment in his role as secretary of economic development.

Two ratings agencies boosted the state's credit worthiness, citing strong fiscal management under the new administration, which oversaw a reduction of public debt from 2.5% of GDP to 1.8% in its first year.

PUBLIC FINANCES: The state's economic management has garnered attention. International credit ratings agency Standard & Poor's (S&P) raised Hidalgo's credit rating from "mxA-" to "mxA" in May 2017 with a stable outlook – a rating it retained in May 2018 – putting it in line with the state of Chiapas and above Oaxaca ("mxA-"), but still below important industrial states such as Aguascalientes, Querétaro, and Guanajuato (all of which are rated "mxAA+"). In making the upgrade, S&P said the state had shown a "consistent improvement" in its budgetary performance and it expected the authorities to maintain a disciplined fiscal policy. S&P also said it expected Hidalgo to continue to reduce its debt. According to the state government's first-year evaluation, public debt had fallen to 1.8% as of September 2017, down from 2.5% a year earlier. Moody's affirmed Hidalgo's "A2.mx" credit rating in January 2018, highlighting the expected long-term growth in the state's payroll tax collection from new investments such as Grupo Modelo's brewery. At the same time, however, Moody's also cited ongoing challenges for the state, including "low own-source revenues and modest liquidity levels".

In an interview with OBG, Fayad credited the upgrade to his administration's efforts to rebalance the budget away from recurrent spending. This included making efficiency savings by streamlining public offices that duplicated functions or complicated the business environment with unnecessary procedures and reorganising the staffing structures. "What we want is greater growth in investment spending, rather than current spending," Fayad said.

CONNECTIVITY: Attracting investment will be facilitated by the state's strong transport links. The Arco Norte (Northern Arc) motorway, which began operations in two phases in 2009 and 2011, marked the most recent addition to Hidalgo's existing connections to the rest of the country.

Acting as a bypass around Mexico City, the 223-km toll road passes through the southern part of Hidalgo, effectively connecting the state to Mexico's central

Efforts are under way to enhance education outcomes for residents region. This also puts Hidalgo on the route between Mexico's eastern Gulf ports and the Pacific.

Already in Hidalgo's favour were its proximity to the Pacific ports, and the so-called Nafta Highway, or Carretera 57, which leads to the US.

Lastly, Hidalgo has the only intermodal logistics terminal where both cargo rail networks – Kansas City Southern de México and Ferromex – connect with road links that criss-cross the country. The terminal is a joint venture between local conglomerate Grupo UNNE and global giant Hutchison Ports.

In terms of public transport, within Pachuca, the Tuzobús integrated bus rapid transit system comprises 134 vehicles travelling across 18.5 km of routes. City dwellers make around 130,000 journeys a day on the network. Hidalgo also maintains a higher number of vehicles per person than the national average, at 2.9, versus a country-wide level of 2.3.

A PIECE OF PEACE: In addition to being well connected, Hidalgo ranks as the sixth most-peaceful state in Mexico, after Yucatan, Tlaxcala, Campeche, Coahuila and Chiapas, according to the 2018 Mexico Peace Index by the Institute for Economics and Peace, a global think-tank. The index combines measures such as the murder rate, violent crime, firearm crime, organised crime and the number of unconvicted prisoners to produce an overall score. Hidalgo fares better than the national average in all five categories. Furthermore, at 5.1 per 100,000 residents in 2016, Hidalgo's murder rate was lower than the 5.4 registered in the US, according to FBI data.

Hidalgo is also renowned as a peaceful state in terms of the labour market. There has not been a local or federal strike in the state for over 15 years.

DEMOGRAPHICS: Hidalgo's population of 2.96m is made up of 47.8% men and 52.2% women, according to the latest INEGI data from the fourth quarter of 2017. Among those aged 15 or under, just over half (51.9%) are male. However, of the 2.13m residents of a working age, slightly less are men, at 46.1%.

Some 50.6% of Hidalgo's population were classified as living in poverty in 2016, according to the National Council of the Evaluation of Social Development Policy. While this represents an improvement on the 54.7% registered in 2010, it remains above the national average of 43.6%, and is the ninth-highest rate in the country. GDP per capita was $5095 in 2016, according to the most recent figures from S&P, against $8800 for Mexico as a whole. The UN placed Hidalgo in 24th position among Mexico states in its most recent human development index from 2012.

According to the most recent INEGI data from March 2015, the population is well spread across the state, with only 277,375 people living in the capital and largest urban area, Pachuca. Tulancingo de Bravo is the second-largest city in the state, with a population numbering 161,069. Hidalgo is home to a significant number of indigenous Mexicans. According

Hidalgo is the only state with an intermodal logistics terminal where both of Mexico's two cargo rail networks connect with road links that criss-cross the country.

Between September 2016 and March 2018 inward investment totalled

$1.5bn

to INEGI, in 2015 nearly 15% of Hidalgo's population spoke some kind of indigenous language, of whom 10% did not also speak Spanish.

EDUCATION & RESEARCH: Rapid growth in educational institutions over the past two decades has increased the number of people ages 19-25 who are in or have completed higher education from 5% in 1995 to 33% in 2015. This growth at the tertiary level suggests a much-needed shift in access is beginning, though there is still significant work to do. The average time spent in education for those aged 15 and over stands at just eight years, according to a 2016 diagnosis from the state Secretariat of Education.

Some of the issue is a generational one: of the 35.5% of those aged 15 and over who have an educational lag – either not having completed school or being unable to read and write – half are 50 or older.

Figures are thus likely to improve as today's students become tomorrow's graduates. According to the secretariat, all of Hidalgo's primary school-aged children are enrolled in education.

CITY OF KNOWLEDGE: The government has big plans for the education sector, both in terms of ensuring the population is well prepared for an expected swathe of new investments, and by placing innovation at the centre of its economic agenda. Some 39% of homes in Hidalgo have internet connections – against the national average of 47%.However there are around 2.6m of internet users in the state, approximately 90% of the population. Pachuca City of Knowledge and Culture, a 175.6-ha plot of land less than a 20-minute drive from the historical centre of the state capital, is a testament to the administration's vision of turning the state into a centre of innovation for industry.

What today is mostly empty land will become a smart city occupied by technology companies, research centres and academic institutions, alongside the residential and commercial facilities required in a complex that will house some 25,000 people.

TIME FOR A TURNAROUND: The clearest evidence that fortunes may be on the up for Hidalgo is found in the private investment in the state since Fayad became governor in the third quarter of 2016. Between the new administration taking office and March 2018, some MXN27.3bn ($1.5bn) of investment arrived in the state. By comparison, inflows received during the first two years of the previous administration, which was in office in 2011-16 totalled MXN5.96bn ($322.1m).

OUTLOOK: With plenty more investment in the pipeline, the task now facing Hidalgo's government is to ensure that the benefits are felt across the state's broader economy and remain localised. "We want the pesos that come to Hidalgo to stay in Hidalgo," Romo told OBG. "If we do not create an ecosystem whereby the new investments are linked to local companies, we will end up with isolated investments that have no multiplier effect." Developing that ecosystem will involve using natural and administrative advantages.

Legislative amendments complement the state's existing advantages

Investment destination

Work under way to make the most of an advantageous location

Centrally located and right next door to the large consumer market that is Mexico City, Hidalgo is ideally placed to benefit from its access to key markets across the country, as well as the ports that open access to markets around the world. National development preceded unevenly over recent decades, however, and the state has slipped into the shadow of its wealthier and more developed neighbours. To reverse this trend, the current authorities are working to shine a light on the natural and logistical advantages the state offers, while at the same time building a legislative environment that will attract new businesses and foster innovation.

CAPITAL CONSTRAINT: Hidalgo's proximity to Mexico's capital city has for a long time meant the social and economic development that should come hand in hand with industry has leaked out of the state.

"Our closeness to Mexico City has had an important impact on Hidalgo because, historically, the benefits from industries that have been successful here in the state have either gone to Mexico City or outside the country," Andrés Manning, director-general of the State Commission for the Development and Saving of Energy, told OBG. "Even as recently as 20 years ago, people in Hidalgo would go to Mexico City to go to the supermarket."

Indeed, though the state's closeness to Mexico City – the largest market in Latin America – is now being promoted as one of the state's major advantages to potential investors, it has previously been a double-edged sword. "The state's geographical position gives us advantages and disadvantages," Noé Paredes, head of Grupo Corporativo UNNE, an industrial and logistics group, told OBG. "There is infrastructure that has not been developed here because Mexico City is close to Tula de Allende, where UNNE is based, and certain facilities within the capital are more accessible for hidalguenses than they are for many people in Mexico City itself." However, according to Paredes, Hidalgo's profile is growing rapidly, which should bring advantages to the state.

BACK ON THE MAP: Even before the wave of recent investments overseen by current governor, Omar Fayad Meneses, who took office in 2016, investors were already beginning to see Hidalgo's potential.

There are a number of reasons for this increasing attention. First, the rapid growth of the Mexico City metropolitan area has naturally turned eyes towards Hidalgo as it is the only flat territory towards which the capital city can expand. Atitalaquia is a key destination in that regard, being well located to the north of Mexico City with lots of land to expand and good road connections making it a prime location for logistics companies serving the capital. Similarly, Tepeji, which is on the main motorway from Mexico City to the Bajío, and also passes through Queretaro, offers a less congested point for logistics companies.

Adding to this has been the gradual realisation by the state government of the importance of taking advantage of Hidalgo's privileged position to propel economic growth. "The last four governors, including the current one, have agreed that there needs to be a joint effort to push the state forward," Edgar Espínola, president of the Business Coordinating Council of Hidalgo (Consejo Coordinador Empresarial de Hidalgo, CCEH), told OBG.

Several previously promoted projects brought Hidalgo back onto the radar for large-scale investment projects. Tizayuca, in the west of the state, was proposed as the ideal location for Mexico City's new airport, for example. It was only in September 2014 that then-President Enrique Peña Nieto confirmed the project would be in Texcoco, in Mexico State.

"In the end, the airport won't happen here, but while it was on the table we did gain the Arco Norte (Northern Arc) motorway, and gradually the rest of the country began to understand that there's a state with great potential here," Espínola told OBG.

Though its proximity to Mexico City acted as a drain on resources for many years, the authorities are now working to attract investment based on the ease of access this location provides to Latin America's largest consumer market.

Cities such as Atitalaquia and Tepeji offer the space and transport links to make them attractive locations for logistics firms serving the capital, developments which would enable the state to take advantage of its natural strengths.

Incoming investment in the first six quarters of the new administration's tenure totalled $1.5bn

The state's development plan targets growth in four strategic sectors: energy, sustainable mobility, agro-industry and pharmaceuticals.

Hidalgo was also one of German car manufacturer BMW's final two options for its Mexico plant. In 2014 BMW decided on the other location, but many in the state saw what could have been considered as another let down as an encouraging sign of progress.

"We didn't win the BMW factory, but playing such a prominent role in the process has put Hidalgo in the eyes of investors," Paredes told OBG. "The state fought to the end and that put us on a new stage."

WAVE OF INVESTMENT: The Fayad administration has wasted no time in taking advantage of this platform, and private investments have arrived at an increased rate since he took office.

In 2016 there was just MXN160m ($8.6m) of private investment, according to Fayad. From the beginning of his term through to March 16, 2018, this figure reached MXN27.3bn ($1.5bn), according to data from the Secretariat of Economic Development (Secretaría de Desarrollo Económico, SEDECO). On top of that, the government estimates some MXN56bn ($3bn) of potential investment that could arrive from parties that have already expressed interest.

In November 2017 came the long-awaited, large-scale, flagship project that enabled Hidalgo to catapult itself to the headlines. Grupo Modelo – the Mexican arm of the world's largest beer maker, AB InBev – announced it would build one of the largest breweries in the world in the southern hidalguense municipality of Apan. SEDECO estimates that Grupo Modelo's MXN14bn ($756.6m) investment will create 16,700 jobs, directly and indirectly, and is the largest private investment in the state.

Although measures of private investment on a state-by-state basis are not available, based on the Ministry of Economy's overall figures, Hidalgo's secretary for economic development, José Luis Romo Cruz, estimates that Hidalgo was in the top-five states for private investment in 2017. Through March 2018, 22 major investments have been announced.

In the first five months of 2018 formal employment in the state reached record levels, thanks to new investment which created 9908 new jobs.

STRATEGICALLY TARGETED: Although certain private sector players have been spotting positive signs for several years, SEDECO's own diagnosis of the state's economic panorama when the new administration took office was "not very encouraging".

The introduction to SEDECO's 2017-22 development plan highlighted a "complex commercial and financial context" due to "global uncertainty". It adds that higher fuel prices, a weaker exchange rate and a reduced federal budget are complicating the outlook for the Mexican economy. Lastly, it said that Hidalgo's economy was "held back" and therefore "weak".

If taking advantage of Hidalgo's proximity to Mexico City is a central part of the plan to turn it into a thriving satellite economy, the state's ambitions go beyond just becoming a factory for the neighbouring capital. Recent investment announcements suggest that Hidalgo is on the way to economic revival, but it is important to note that there is a clear strategy behind the government's efforts to attract private investment. It is not a case of "seeking investment for the sake of seeking it", Romo told OBG. SEDECO's aim, as detailed in the 2017-22 plan, is to create not just more jobs, but also better jobs and to improve the quality of life of hidalguense families.

INVESTING IN PEOPLE: "If we do not close the salary gap it will be very difficult to stop the leakage of our human capital," Romo told OBG. "At the moment we are investing in the state's health, education and security, but people are going to work elsewhere."

This gap is critical. A government presentation in January 2018 put the average monthly salary in the state at MXN8640 ($467) – a third of that in Mexico City (MXN25,553, $1381) and 30% less than northern neighbour Querétaro, where the average salary is MXN11,334 ($612) per month. However, early progress is encouraging. In the first five months of 2018, 9908 new jobs were created in the formal sector, bringing Hidalgo's formal workforce to a record level, according to the Mexican Social Security Institute. Furthermore, wages to formal sector workers rose 4% in relation to 2017, bringing the average to MXN9203 ($497) as of February 2018.

Specifically, SEDECO is targeting four strategic sectors that it believes would bring in jobs with earning potential three times the average in Hidalgo. These are: energy; sustainable mobility; agro-industry; and the pharmaceuticals industry. These sectors were selected because there is already a precedent for them, with Hidalgo boasting suitable infrastructure to host the industries, in addition to them having strong growth potential and added value.

ONE-STOP SHOP: The government's first step towards enabling these investments was to create what it calls the *ventanilla única* – or single window. The official government plan outlines the benefits of putting all state procedures and services in one accessible place, as it allows citizens and businesses to carry out transactions quickly and simply. By streamlining the state's bureaucratic services, some stakeholders credit the window with turning around the environment for doing business in Hidalgo. "The single window for businesses is literally the fourth floor of the governor's office," Paredes of Grupo UNNE, told OBG. "This makes us all work more efficiently, and we all know that when we have an important requirement, the doors are open and we'll receive a quick answer." He added that the development is a clear example of the government taking actions, not just talking about what it wants to do.

Indeed, when Mexican construction company Grupo Gicsa announced a MXN1.95bn ($105.4m) investment in Pachuca in February 2017, its CEO, Elías Cababie, noted his approval of the investment process. Having a single window at which to attend to investors allowed Gicsa to "turn a project on paper into construction work," he told local press.

Fayad is clear about the benefits he hopes the single window will bring investors. "This single coordination mechanism for establishing investments was probably the major achievement of our first year in government," he told OBG. "Investors sometimes have to go through municipal, state and federal processes, which rather complicates things. We want them to be able to solve all these doubts in one place.

REGULATORY HOUSEKEEPING: The single window comprises part of SEDECO's first working area in the 2017-22 economic development plan: creating a good business environment. To start working towards this goal, the government had to "clean the house", Romo told OBG. "Instead of doing what other states do and start offering fiscal incentives to investors, we decided to establish differentiating factors," he said. "We began by making it easy to open and operate businesses so as to create an ecosystem of suppliers that would in turn help to attract big investments. This is what will allow us to take advantage of the potential that our strategic location grants us."

Housekeeping began with a strong stand against corruption and passage of new legislation. In March 2017 Hidalgo's Congress approved a new regulatory improvement law that is widely regarded as a potential model for federal use. In early 2018 the state's economic development team was invited to the San Lázaro Legislative Palace in Mexico City to discuss the country's national regulatory framework.

Recognising the gains enabled by the new law, the National Observatory of Regulatory Improvement (Observatorio Nacional de Mejora Regulatoria, ONMR) ranked Hidalgo as the state with the joint best regulatory policy in Mexico, alongside Nuevo León.

Article 41 of the new law states that its aim is to "incentivise economic development" using high-quality regulation to promote competitiveness via government efficiency and legal certainty, as well as by removing unnecessary barriers to commerce.

The thrust of this a reduction in the number of processes, response times, requirements and forms prospective businesses must complete, as well as an increased use of technological tools. These improvements have delighted many in the private sector. Espínola of the CCEH, which had been lobbying for a

As part of the 2017-22 development plan, state authorities are working to ease the business environment

reduction in red tape and advised on the drafting of the law, says that the differences are already notable.

"In the past opening a business took 30 or 40 days, and it took 120 days to obtain a construction licence," Espínola told OBG. "Now gaining permission for construction projects under 1500 sq metres can take just seven days, which is a significant improvement."

According to the ONMR, Hidalgo is not quite as well positioned in terms of the quality of its institutions and the tools it has at its disposal – the other two categories it examines. But such is the strength of Hidalgo's policy that the state still comes in seventh out of 32 in the ONMR's overall classification.

EXPERT OPINIONS: Seeking to ensure that its new legislation means that Hidalgo's regulatory environment really does constitute a differentiating factor, the state government has sought collaboration from international experts. Fayad signed an agreement with the OECD in June 2017, and continues to work with the organisation on regulatory improvements.

"We wanted to receive advice on the best international practices from the people with the greatest experience," Fayad told OBG.

The CCEH was one of the organisations invited to discussions with the OECD, and Espínola told OBG the meetings highlighted how well drafted the new legislation is. "We even managed to get all the 84 municipal heads to agree to the new laws," he said.

BEYOND MANUFACTURING: SEDECO is now looking to build on the second leg of its development plan: "strengthening existing economic activity", which in turn leads on to the third stage, which is to "encourage new local, national and foreign investments".

The fourth part of SEDECO's strategy provides a better idea of its focus: "to drive entrepreneurship, innovation, and the development of new strategic sectors". This is the segment of the strategy that needs to be successful if the government is not only to bring in jobs, but create the level of jobs it wants.

Introduction of a single window for investors has eased procedures for businesses seeking to enter the state and has been cited by both the authorities and private players as a positive step.

The local authorities are looking to expand the state's range of trade partners outside of North America

Though the state's GDP growth has matched national growth, at 2.8%, over the last two decades, the authorities would like to see the pace quicken to catch up with more developed states.

"I'm not in favour of the *maquiladora* economic model," Romo told OBG, referring to the Mexican assembly plants that are usually owned by US companies looking to take advantage of their southern neighbour's cheaper labour and Customs advantages to assemble goods for the US market.

"This model is very popular, but we want to generate more value," he added. "That's why we want to create research and development clusters. We believe patents can emerge from Hidalgo."

Therefore, the selection of energy, sustainable mobility, agro-industry and pharmaceuticals as strategic sectors may initially appear unusual for a state whose economic history revolves around mining, metals and textiles, but each one is designed to keep Hidalgo away from the maquiladora model.

To further its aims to develop these knowledge-intensive sectors and create high-level jobs for the state's residents, the authorities are establishing the Pachuca City of Knowledge and Culture on the outskirts of the state capital. This new city will provide a physical base for innovation to take off (see analysis).

MOULDING THE LAW: Such ambitions, however, require the ability to compete with rival states. While Hidalgo's location – close to major motorways, next door to the capital city and near to ports – is attractive, it has significant ground to make up to compete with other areas of the country, which have a longer history of economic growth and development.

A 2016 report by the Mexican Institute for Competitiveness, Hidalgo ranked 20th among the 32 federal entities. Based on data from 2014, the ranking represents an improvement of two spots from the previous iteration of the report from 2014, using data from 2012. The state government is well aware that the states that have experienced the most growth over the last two decades – Querétaro, Aguascalientes and Quintana Roo – top the list, and will be hoping that its efforts to improve the investment environment will be reflected in the upcoming report. The authorities are aware that the state needs to catch up in order to keep up.

Legislation has been introduced to ease investment by promoting new business arrangements, such as the development of special economic zones and public-private partnerships.

Hidalgo's average GDP growth of 2.8% over the last 20 years may put it roughly in line with the national average, but it is not enough for a state that has historically lagged to make up lost ground.

With its business framework now among the best, the state authorities are now turning their attention to meeting challenges on the other fronts that potential investors examine, such as the availability and cost of their other infrastructure needs, including energy and transport networks.

To this end, 2018 began with the presentation of a second set of legislative reforms in Hidalgo to regulate new business arrangements such as special economic zones and public-private partnerships, as well as an energy development law and legislation creating a state energy agency. The latter three were published in the Official Hidalgo Gazette in April 2018, with the economic zone law awaiting approval.

The laws meet OECD standards, according to Romo. "I want to show foreign investors we have regulations of the quality they are accustomed to," he told OBG. "This can be the state's differentiating factor."

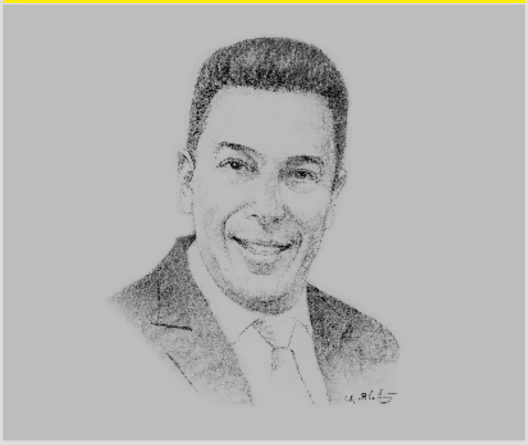
FAIR COMPETITION: In this spirit of competition, Hidalgo is also looking to overcome the up-and-down relationship that Mexico is currently enduring with the US, and which the government flagged in its diagnosis of the economic panorama.

When it comes to seeking investment, the state is pursuing a diversification policy away from the US that has allowed the proportion of investment from its northern neighbour to drop from 80% in 2016 to just 8% in 2017. "We have sought to send a clear message to the US that our dealings are strictly business," Romo told OBG. For his part, Fayad said that there are "great niches of opportunity" away from the US which Hidalgo could begin to take advantage of, highlighting the Middle East, Europe, South America and Asia as increasingly important potential trade partners for the state 's businesses going forward. "We are particularly interested in making ourselves known to Asian markets," Fayad told OBG.

GROWING OPTIMISM: With its well-defined strategy already starting to pay dividends in terms of legislative progress and rising investment levels, optimism is growing among private sector players.

"I think the government has understood that we businesses are the main creators of jobs, not the government," Grupo UNNE's Paredes told OBG. "They are doing this in a very coordinated fashion."

Miguel Yáñez, the general manager of the Hidalgo Intermodal Logistics Terminal, a joint venture operated by Hutchison Ports and Grupo UNNE, told OBG he feels that Hidalgo is finally "finding its vocation", both in terms of its economic growth strategy and in developing the tools with which to pursue it. "With this strong economic development model, Hidalgo is discovering its strengths as an exporter," Yáñez said. "We are very optimistic about the future."


Omar Fayad Meneses

A safe path

Omar Fayad Meneses, Governor of Hidalgo, on foreign investment and coordinated efforts to improve infrastructure and security

How could regulatory reforms make Hidalgo more attractive to foreign investors?

FAYAD: The improvements that can be made in this regard are numerous, and Hidalgo has already embarked upon the path of regulatory reform. We are planning a wide-ranging constitutional and legal reform that will ultimately create a comprehensive new set of laws and, more importantly, modern state legislation. These measures will help to attract investment by removing obsolete procedures centred on excess bureaucracy, regularising the legal framework and boosting the ease of doing business. Although this is just the first step, it is a critical one that will lay the groundwork for Hidalgo to become a more attractive and competitive state.

Additionally, we have to take more steps to combat bad business practices linked to corruption. We have constructed one of the most advanced anti-corruption systems in the world thanks to our constitutional reform and the secondary laws associated with it. We are implementing mechanisms that will facilitate business growth in multiple facets and are removing obstacles to investment. The primary objective is to assure the investor that they are dealing with a government that is serious about putting an end to corruption and is committed to boosting transparency in business practices in both the public and private sectors.

What diversification efforts are in place to attract new strategic sectors?

Although Hidalgo has a strong industrial heritage in a number of sectors such as mining and textiles, in order to diversify and add value to the economy, there are four sectors that are of strategic interest towards ensuring Hidalgo's economy becomes one of the most advanced in Mexico. These are sustainable mobility, agro-industry, renewable energy and the pharmachemical sector. These sectors have high added value, allowing us greater ease of access to global value chains as they involve the production of goods that are in constant demand globally, such as electric cars, foodstuffs, power and medicine.

This focused economic development strategy will also protect the state from external shocks and, in addition, is well-suited to supplement Hidalgo's existing qualities in terms of supply chain, human capital and geographical location. We have a final strategic sector – services – which is all-encompassing, complimentary and relevant for all other aspects of the economy.

What types of collaborations are taking place between Hidalgo and neighbouring states?

FAYAD: Hidalgo has a very good relationship with all of the surrounding states, independent of the political affiliation of their government. Because of our location in the megalopolis, the urban agglomeration of Greater Mexico City, we collaborate with neighbouring states on a number of infrastructure projects, sharing plans, tenders and resources so that all citizens of Mexico can benefit. Two examples of such projects are the expansion of the motorway from Pachuca to Mexico City, and the construction of the Arco Norte motorway that connects Hidalgo to the industrial Bajío region, as well as to the coastlines along the Gulf of Mexico and the Pacific Ocean.

Building transport infrastructure is not the only area of collaboration between the different governments; neighbouring states are also working together on improving security. There is intelligence sharing between our respective ministries of security, including, but not limited to, the coordinated monitoring of all of the major roads connecting our largest towns and cities. This is done through a comprehensive network of intelligent roadways, each of which have electronic monitoring systems that can track the movements of specific vehicles.

Hidalgo is home to automotive, metals, plastics and textile industries

State of craft

Attention shifts to Hidalgo as an up-and-coming manufacturing powerhouse

The rejuvenation of manufacturing in Hidalgo can be attributed to a number of recent high-profile investments, as well as government support.

The potential of Hidalgo as an industrial hub is hardly a new discovery, stemming back to the 1950s when the manufacturing city of Fray Bernardino de Sahagún in the southern municipality of Tepeapulco was founded as part of a federal government initiative to house the Mexican automotive producer National Diesel, also known as DINA, and national rail construction company Constructora Nacional de Carros de Ferrocarril (Concarril). Shortly after, the state began attracting other private companies in the automotive, metal, plastic and textile manufacturing industries. More recently a new focus has been placed on Hidalgo as global companies, new industrial parks and high-tech sectors are setting up shop backed by government support.

MAKING A COMEBACK: Growth in the region has not always followed a smooth trajectory, with several companies based in Sahagún going bankrupt in the 1980s and 1990s; however, the region has experienced something of a comeback. Canadian rail company Bombardier acquired Concarril in 1992 and won contracts to build trains from Monterrey and Guadalajara to Sahagún.

Currently, Bombardier manufactures light rail vehicles and metro cars operating in Mexico City. The firm also supplies components for projects in New York, Vancouver and Kuala Lumpur, further consolidating the importance of Sahagún to North American trade. According to the company, almost 70% of the rolling stock and transportation systems in Mexico were built at its Sahagún plant. Another major catalyst of Hidalgo's rejuvenation came in 2006, when local automotive producers and distributors Giant Motors Latin America decided to put their 65,000-sq-metre minivan and truck factory and distribution centre in Sahagún.

The area has also received help from the public sector. According to Claudia Ávila, executive director of the Mexican Association of Industrial Parks (Asociación Mexicana de Parques Industriales, AMPIP), the reactivation of Sahagún also owes a great deal to the state government's work in recognising the strong points in the area and actively promoting them. "One of Sahagún's advantages is the productive chain that exists as a legacy of the industrial origin of the city," Ávila told OBG. "The capabilities of the labour force, such as welders for train-building, are also widely recognised. These are the strengths that Hidalgo can work on expanding."

RECENT MOVES: It is these advantages that have attracted international companies to Hidalgo in more recent years. In the second half of 2014 Brazilian-owned steel company Gerdau Corsa began production at its $600m mill. The plant has an installed capacity of 1m tonnes of liquid steel and 700,000 tonnes of finished product, including beams, pipes, sheets and angles. The mill was responsible for creating some 4000 indirect jobs at the time of construction, and currently hires 500 direct employees, generating about 2000 indirect jobs. "The plant is expected to reduce current imports of steel to Mexico," Juan Ángel Córdova, a member of the board of directors at Gerdau Corsa, said in a company statement. "This is expected to bring notable benefits to all parties involved in the distribution, sale and use of structural steel," he added.

The production of raw materials and component parts locally is part of efforts to reduce dependency on imports and develop local capacity. "In the last three or four years, there has been a big effort to improve the local supply chain," Elías Massri Sasson, CEO of Giant Motors, told OBG. "We have successfully managed to substitute previously imported components with parts from local producers."

NEW PARTNERS: One of the most significant developments to Sahagún's industrial landscape came in February 2017, when Chinese automakers Anhui Jianghuai Automobile (JAC Motors) announced a

MXN4.4bn ($238m) investment in conjunction with Giant Motors to build two new sports utility vehicle (SUV) models in Hidalgo. Under the deal, Giant Motors will produce 10,000 vehicles annually with the JAC Motors brand for the domestic market.

The decision came less than a month after Ford Motor Company cancelled a proposed manufacturing plant in the state of San Luis Potosí due to political pressure coming from the administration of US President Donald Trump. The Hidalgo plant will use mainly Chinese imported parts and target domestic and Latin American markets. This means that the firms can circumvent regulations stipulated by the North American Free Trade Agreement (NAFTA), which at the time of publishing was under renegotiation with the US and Canada.

A state government press release recognised the importance of JAC's investment to the automotive industry in Sahagún. It is expected that the company will attract new auto-parts providers to the region, while bringing attention to the area's growing infrastructure and technological capabilities as an electric vehicles manufacturing hub.

ELECTRIC CARS: The development of supply chains is largely what is behind the government's eagerness to develop Hidalgo into Mexico's centre for electric cars. "Sustainable mobility is a huge sector for the state," José Luis Romo Cruz, secretary of economic development for the state of Hidalgo, told OBG. "This is the future. Adapting existing car factories to handle new technologies can take up to 30 years; however, we already have a good head start."

Indeed, the JAC Motors investment was something of a seal of approval for this strategy, with Giant Motors and JAC also planning to build electric SUVs and sedan models in Sahagún. JAC's involvement is particularly relevant given the company is a partner in the biggest electric vehicle project in the world: a $12bn joint venture with Volkswagen.

According to the Secretariat of Economic Development (Secretaría de Desarrollo Económico, SEDECO), plans for the sector include promoting electric vehicles usage, and installing electric charging points so that the cars become a viable alternative for residents. "We missed a lot of chances to build an automotive industry in Hidalgo," Andrés Manning, director-general of the National Commission for the Efficient Use of Energy, told OBG. "However, we are now in a position to become the manufacturing centre for electric cars in Mexico."

A number of factors bode well for this goal. The supply chains and assembly of electric cars have important differences to traditional cars. Components in an electric car have to be more lightweight than those of traditional automobiles, for instance, which means strong auto manufacturing hubs, such as Querétaro or San Luis Potosí, do not hold a particular market advantage – creating opportunity for Hidalgo. Echoing these sentiments, Omar Fayad Meneses, the governor of Hidalgo, told OBG that because competition across established industries in Mexico is so high, it does not make sense for Hidalgo to focus on attracting large original equipment manufacturers to the state as it did with BMW unsuccessfully under the previous government. "Hidalgo could potentially transform itself into the electric vehicle operational centre and logistics hub for all of the Americas," Fayad told OBG.

The state's proximity to Mexico City is also a boon. "Because Mexico City is close by, we have access to good logistics connections with ports for both imports and exports," Manning told OBG.

COMMERCIAL VEHICLES: Some firms have begun producing electric vehicles for commercial and official use. In collaboration with metal-mechanics company Moldex, a subsidiary of bread-making giant Grupo Bimbo, and a number of local academic institutions, Giant Motors is developing electric utility cargo vehicles that Bimbo can use for product distribution. Each vehicle has a loading capacity of 600 kg and a range of 70 km. According to Massri, the firm produced 600 such vehicles in 2017 that are already in use. Moldex and Giant Motors are planning to commercialise the vehicle to other companies with similar distribution needs.

In another move aimed at reducing Mexico's dependence on NAFTA, the coalition are also working on a 100% locally manufactured and assembled electric car, which is expected to be used as alternative taxi vehicles for Mexico City.

BATTLING FOR BATTERIES: One of the challenges in building a cluster of electric car suppliers is the battery segment, with manufacturers secretive about the technology. But Manning also feels that Hidalgo could be the place for the assembly of electric car batteries. "Lithium would come from outside Mexico, Chile for instance, but assembling car batteries here would be a huge step," he told OBG.

Commenting on the topic, Massri, of Giant Motors agreed. "Across the world the cost of the batteries are the biggest obstacle; however, if the government provides the necessary support, Hidalgo could attract battery manufacturers as well."

IN THE ZONE: In an effort to ensure it has the legislation to match its ambitious plans, the local government in Hidalgo is looking to take advantage of Mexico's Federal Law on Special Economic Zones (SEZs), which was passed in 2016. An electric vehicles cluster could be one of the industries to benefit if Hidalgo can gain approval for an SEZ, which primarily offers federal fiscal incentives to attract high-value companies. The law was designed to ignite economic development in the 10 states with highest levels of extreme poverty, including Hidalgo. Five of these states have already gained authorisation from central government, but for Hidalgo to do so it needs a local law to regulate the process. With this in mind, in December 2017 the state government presented a new SEZ law. If approved, an SEZ could see the state generate 56,000 new jobs and MXN190bn ($10.3bn) in new investments over the next 20 years. According to

If the new special economic zone (SEZ) law is approved, an SEZ in the state of Hidalgo could generate 56,000 new jobs and $10.3bn in new investment over the next 20 years.

New plants opening in Hidalgo will focus on the Mexican, Chinese and Latin American markets, allowing firms to circumvent certain regulations stipulated in the North American Free Trade Agreement.

Hidalgo's proximity to Mexico City means manufacturers already have access to key logistics connections

SEDECO, an SEZ would create a development hub, bring investments in strategic sectors, and drive productivity and competitiveness, among others.

INDUSTRIAL PARKS: Amid the numerous high profile investments, Hidalgo's industrial parks have become the region's new focus, offering potential opportunities for international companies and investors. "None of the industrial parks here can compare in quality with the best parks in places like Querétaro and San Luis Potosí. This is one area where we are lacking," Edgar Espínola, president of the Business Coordinating Council of Hidalgo, told OBG. "However, given the agility and openness to change that the local government has shown so far, I'm sure it won't be long until they bring in big investors to modernise the existing parks."

Commenting on the situation, AMPIP's Ávila agreed, saying that Hidalgo has great potential to develop more industrial parks. "Compared to the Bajío region, Hidalgo's offering of industrial parks is limited – especially in terms of privately built parks with modern amenities," she told OBG.

Hidalgo has 10 industrial parks – seven private and three publicly owned. The local government is looking to reactivate, develop and expand industrial zones and parks to capture productive investments and consolidate the industrial sector in the state. "We have divided the state into 12 industrial regions to evenly distribute economic activity so that we don't end up like the Bajío region, where the clusters compete with each other," Romo told OBG.

The state is home to
10
industrial parks

A number of global firms have already recognised Hidalgo's industrial park potential, however. In 2014 Mexican fund Artha Capital began developing the Logistics Platform of Hidalgo (Plataforma Logística de Hidalgo, Platah) in Villa de Tezontepec in a public-private partnership with the state of Hidalgo. The 343-ha site is equipped with industrial sites, commercial areas and state facilities for education, health care and business tourism, and caters to local and global manufacturing firms.

Additionally, in 2011 international firm Hutchison Port Holdings began limited operations at its Logistics Activities Zone near the Port of Veracruz. The port is expected to begin fully operating at the beginning of 2019, with a capacity for 9000 twenty-foot equivalents. The zone is part of the wider Hidalgo Intermodal Logistics Terminal.

COMMUNITY DEVELOPMENT: The progress made by Hidalgo's industrial base has also presented the government with clear opportunities to put money into the surrounding areas. The lack of urbanised areas around certain parks has been a drawback, contributing to longer commute times, and is something the state is eager to develop. "The main town of Tepeji del Río, for example, is located some 10-15 minutes from the plant, and public transport is not sufficient for the workers. Sometimes the company has to contract private services to transport employees to and from the town," Igor Flores, plant manager at local firm Frialsa in Tepeji del Río, told OBG.

Investing in the surrounding community is particularly important when considering why BMW opted to build its manufacturing plant in San Luis Potosí over Hidalgo in 2017. Indeed, many firms have noticed that enticing people to live and work in these areas is a key part to attracting global brands. "It's one of the factors that can determine whether a company locates its operation. For instance, foreign workers require good-quality accommodation for executives, social services and bilingual schools for their children," Ávila told OBG.

Companies are also considering whether their local workforce will have access to public services, transport, schools and sometimes child care. Platah, for example, in addition to offering hotels and other amenities for its foreign workers, will offer 50 ha of open green spaces, commercial areas and sports fields, as well as child care facilities.

In August 2017 local real estate firm Grupo GICSA announced it would be building a MXN2bn ($108.1m) shopping and entertainment centre in Pachuca in Hidalgo as part of state efforts to promote urban development. The 185,000-sq-metre Explanada Pachuca Commercial Complex will be home to a hotel, fitness centre, commercial and entertainment zones, restaurants, bank branches, as well as accompanying power infrastructure.

Explanada is one of four major real estate projects under way in Pachuca – alongside Via Dorada, Qualia Luxury Towers and Torre Dioon – which together suggest the capital will be improving its offering. Combined private investment in these projects is estimated at MXN5.6bn ($302.6m).

Local stakeholders are optimistic that Hidalgo will offer global firms the kind of services and investment climate conducive to becoming a major player. "We're less than two years into Governor Fayad's term, and already the current administration's policies are showing positive results," Espínola told OBG.

José Luis Romo Cruz

Future goals

José Luis Romo Cruz, Secretary of Economic Development, State of Hidalgo, on the importance of a strategy for long-term prosperity

How would you describe the government's long-term economic priorities?

ROMO: Even with a diversified plan to attract investment, our priority is to generate a system that organically fosters growth by creating synergies between all companies: local and international, new and old. If investments that arrive are isolated, there will be no multiplier effect, which is crucial to wider economic growth. In terms of labour, our problem is the reverse of many other states: we have an abundance of human capital, but we are losing it to other states. Therefore, our ultimate economic goal is not necessarily investment but the job creation that results from it.

To this end, we have chosen four strategic sectors that will allow us to provide high-paid job opportunities to our population. The first of these is renewable energy, which thanks to Hidalgo's high altitude and mild temperatures make it the perfect place to run solar panels efficiently. The second is sustainable mobility, where we already have significant investment in place through a joint venture to manufacture electric vehicles between China's JAC Motors and Mexico's Giant Motors. Even though electric car sales are still marginal, it is a sector with very positive long-term prospects. The third is agro-industry, as the growing Mexican and world populations means there will always be a need for foodstuffs, regardless of any prevailing negative macroeconomic environment. The chemicals segment is the last strategic industry, and due to its high value will boost research and development in the state, and complement existing pharmaceutical and chemical clusters close by in Mexico State and Mexico City.

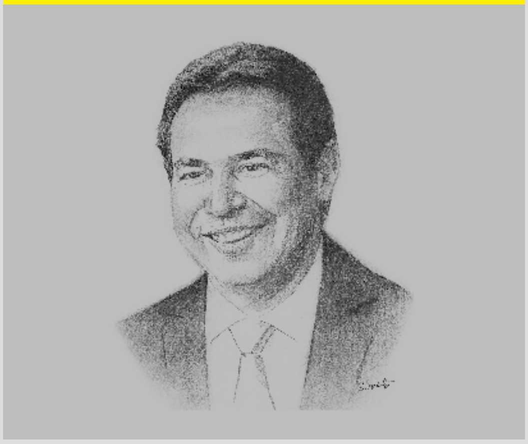
What measures are in place to make Hidalgo more attractive to investors in the coming years?

ROMO: In spite of impressive recent growth figures and foreign direct investment (FDI) inflows, Hidalgo remains one of the least developed states in the country. Many states in the central Bajío region have undertaken the same investment strategy for a number of years, which involved a combination of promoting the state and offering fiscal incentives such as free land or tax breaks.

However, because of Hidalgo's lower levels of economic development, we have chosen to take a different path to attract and consolidate investment: institutional certainty. This began with a process of "cleaning house" to reform the state's laws and bureaucracy to make it an attractive place to invest and manage business activities, by providing stability, security and a transparent framework. Many of the new regulations being implemented are highly advanced, and have been lauded by the federal government for their design. In terms of our institutional framework, this puts us in the same league as Nuevo León, often considered the most developed state in Mexico. This set of reforms can undoubtedly be attributed to the recent boost in FDI inflows, where Hidalgo was among the top-five Mexican states for investment in 2017.

How is a state like Hidalgo working to engage with a new economic reality in the face of increasing global uncertainty?

In the two decades since NAFTA was signed, the structure and power dynamics of the global economy has changed beyond recognition. Mexico has moved from the model of building maquiladora plans to churning out cheap goods for the US. To engage with that, In Hidalgo we have a distinctive growth model strategy to many of the other states. This involves developing a truly economically sustainable and integrated ecosystem through our strategic sectors. We have to build a solid and prosperous internal market that consumes as well as produces. In 2017 Hidalgo posted record investment in nominal terms, but it is noteworthy that less than 8% of this investment came from the US as compared with the year before. However the NAFTA renegotiation turns out, we will have to engage with the new post-NAFTA reality.



Mauricio Levya Arboleda

Strategic advantage

Mauricio Levya Arboleda, CEO, Grupo Modelo, on the drivers of the local and national brewery industry

What are the main structural strengths of the brewery industry in Mexico?

LEYVA: Today, Mexico is the fourth-largest beer producer globally after China, the US and Brazil, even ahead of traditional beer-producing countries such as Belgium, Germany and the Netherlands. The country's strengths lie in internal consumption, with a population of nearly 130m people and infrastructure that allows for easy export to global markets, many of which demand Mexican beer brands. In terms of sales, the industry continues to post strong growth, above the global average. Some plants have posted double-digit growth for the past three years, which reflects strong demand in both the national and international markets. This means that brewers of all sizes in Mexico are expanding their operations to ensure they stay ahead of the demand curve. Although brand identity remains strong in Mexico, with local beers forming the mainstay of the market, there has been noticeable and solid growth among a number of foreign-branded beers on the market.

What energy- and water-saving measures are being implemented in the industry to boost sustainability?

LEYVA: In light of the high growth figures in beer sales, and given the high rate at which raw materials and energy are consumed in the production process, large agri-business companies often tend to be the most innovative in terms of energy and production efficiency. New systems using aerobic and anaerobic processes mean that 100% of the water consumed, around 2.8 litres per litre of beer produced, can now be redistributed to other beer-making processes or sent back to the original source as clean, treated water.

In addition, a number of Mexican breweries are at the forefront of a renewable energy drive. As with many other firms with industrial plants in the country, they plan to produce much of their electricity through renewable sources. For example, a plant in Hidalgo intends to have 100% of its energy supplied by renewable sources by 2025. Such progress has been assisted by companies such as Spanish renewables firm Iberdrola, which underlined their 15-year commitment to provide renewable energy to the industry in a memorandum of understanding with Grupo Modelo in 2017. Overall, this was made possible by the country's energy reform and its wholesale electricity market initiative.

How strategically well equipped is the state of Hidalgo to locate a brewery?

LEYVA: The state of Hidalgo has a number of competitive advantages that make it ideal for the location of an industrial plant, particularly a brewery. Two key factors are its central location between the Atlantic and the Pacific coasts, and infrastructure that connects it with Mexico City and the Bajío industrial region. Its human capital is also an advantage for firms, especially those looking at large-scale projects, as there is almost an oversupply of human capital given its lower level of development compared to other states. The local government has been instrumental in creating alliances between the private sector and academia to ensure the state's labour force has the correct techniques for agri-business projects of such magnitude.

One of the most important supply-chain advantages is the state's agricultural production heritage. In particular, within 30 km of where the landmark $800m brewery will be located, is the municipality of Apan, which has the highest levels of national barley production. On the national scale, there are three key reasons why Mexico is a central partner for the beer industry: first, unlike many Latin American markets, it has posted sustained, solid economic growth for a number of years. Second, it has a consistent monetary policy due to sound, independent fiscal administration that provides investor certainty. Third, and above all, Mexico – especially Hidalgo – provides investors legal certainty, ensuring their investments are secure and well established in the long term.

Several motorways provide quick and easy access to Mexico City

On the move

Strong transport connections offer potential for the development of logistics businesses

With its central location complemented by strong transport connections that link the state both to the large consumer market of Mexico City next door and destinations further afield – including ports that provide access to imports and exports – it is no wonder that Hidalgo is promoting its transport links as a key incentive for businesses looking for a Mexican base to set up shop.

STRONG CONNECTIONS: Most obviously, there is Hidalgo's inherent strategic geographical location, lying in the centre of Mexico and thus close to not only both Pacific and Gulf ports, but also accessible to north and south of the country. Additionally, the state lies directly to the north-east of Mexico City. Beyond that, some 11,000 km of roads and 800 km of railway lines ensure that Hidalgo is well connected, as well as being strategically positioned.

Indeed, its location and infrastructure have been instrumental in securing recent industrial investments. In November 2017 Grupo Modelo, the local arm of global beer giant AB InBev chose the municipality of Apan, in the south of Hidalgo, to construct what will be one of the largest breweries in the world.

Mauricio Leyva Arboleda, CEO of beer maker Grupo Modelo, told OBG it was Hidalgo's transport infrastructure – which boasts both strong internal links and connections beyond Mexico's borders – that was the first factor in making the state the ideal location for its latest major investment.

"The motorway network will allow us to distribute to the centre of the country, especially, and at competitive costs," Leyva told OBG, adding that, "The railways that connect Hidalgo to the ports mean the state is also a strategic location for exports."

Like the states in the Bajío corridor to the north, Hidalgo has easy access to the US via the so-called Nafta Highway, Carretera 57, which goes straight through Tepeji del Río in the west of the state, opening access to another strategically important market.

Connectivity between Carretera 57 and the rest of Hidalgo was significantly improved in 2009, with the opening of the Arco Norte (Northern Arc) motorway, a bypass around the Mexico City metropolitan area that passes just 25 km from Hidalgo's state capital Pachuca on the way to Puebla.

Eastwards there is access to Gulf ports. Grupo Modelo's chosen site for the brewery, the municipality of Apan, for instance, is 246 km from Tuxpan and 318 km from Veracruz, both home to major ports. Additionally, Apan as just 12 km from the Arco Norte, putting domestic markets within easy reach.

When the Arco Norte was extended to the west of Mexico City in 2011, as far as Atlacomulco, it further facilitated road access from Hidalgo to Guadalajara, Mexico's second-largest city, and the Pacific ports.

Closer to the capital city than the Arco Norte is the Circuito Exterior Mexiquense, Mexico City's peripheral motorway. The circuito also connects with the Pachuca-Mexico City motorway, which itself was widened to four lanes in each direction in 2016, reducing congestion and lowering journey times.

INTERMODAL ADVANTAGES: Yet, if many states can lay claim to a highly advantageous location, there are perhaps two major factors that allow Hidalgo to stand out in terms of logistics infrastructure.

The first is the state's high level of inter-connectivity of the national rail network, which largely comprises three main networks owned by two companies. Of the five places where the two rail operators meet, two are in Hidalgo: one in Apan, and the other at the Intermodal Logistics Terminal of Hidalgo (TILH) in Tula, where a joint venture between local conglomerate Grupo UNNE and global ports group Hutchison operates an inland port.

"The rail convergence contributes to making the TILH the best-connected inland port in Mexico," Noé Paredes, head of Grupo Corporativo UNNE, told OBG. "No other port directly connects both Kansas

The state is served by 11,000 km of roads and 8000 km of railway lines, making it well connected to key markets and infrastructure across the country.

Two of the five locations where the country's two train operators meet are in Hidalgo, providing a key logistical advantage to the state and the businesses based there.

The state has strong potential to act as a key distribution centre thanks to the availability of space

City Southern de México (KCSM) and Ferromex rail services, meaning this is the only terminal where a client can switch directly from one to the other."

As an example, cargo can be sent from Nuevo Laredo, the US-Mexico border town served by KCSM, to Manzanillo – the port on the Mexican Pacific coast served by Ferromex – via the TILH where the connection between one line and the other is carried out.

CAPITAL GAINS: The other clear advantage Hidalgo can boast compared to its northern neighbours in the Bajío, for example, is that it is far closer to, and boasts much easier access to, Mexico City – the largest consumer market in Latin America.

According to Don Ratliff, founding executive director of the Supply Chain and Logistics Institute at the Georgia Institute of Technology, Hidalgo's proximity to Mexico City is what gives the state its biggest logistical advantage. The Atlanta-based university collaborated with Monterrey Institute of Technology and Higher Education on a study called "Strengthening Hidalgo State's Logistical Capacities", which was presented in January 2018.

However, Hidalgo's geography is interesting because it is in between major ports on both the east and west coasts, without being particularly close to any. "When I got involved in the state, the first big question I had to answer was: could Hidalgo become a logistics centre?" Ratliff told OBG. "The state's biggest advantage is that it is located directly between the US and Mexico City. The southern half of the state has huge potential as a logistics hub serving Mexico City, in particular."

A 343-ha industrial park has been proposed to take advantage of the convergence of key motorway routes that give access to the country's main supply chains.

LOGICAL INVESTMENTS: This is the thesis that local private real estate investor Artha Capital was betting on when it invested in a new industrial park, the Logistical Platform of the State of Hidalgo, known as Platah, being promoted by the state government.

Located just outside Villa de Tezontepec, just five minutes away from intersection of the Arco Norte and the Pachuca-Mexico City motorway and 20 minutes from the Circuito Exterior Mexiquense peripheral road, the proposed 343-ha park is a clear example of an initiative looking to make the most of all the state's geographical advantages.

Describing it as "the new industrial destination of central Mexico", Artha Capital's presentation of the Platah project highlights its access to the main supply chains of the country, which it hopes will optimise logistical and production costs for tenants.

Not only is Platah close to Mexico City, it is also accessible from other manufacturing centres, being 128 km from Puebla and 180 km from Querétaro via the Arco Norte motorway route.

Another key investment is under way just to the east of Tula in Atitalaquia, where US logistics company Bulkmatic building a fuel storage unit. Due to be completed in the first half of 2019, it is the first such plant in Mexico to be constructed privately.

Bulkmatic's facility will connect with both the road network and KCSM railway, and will have storage capacity for 600,000 barrels (see energy analysis).

DISTRIBUTION HUB: All this ties in closely with the authorities' vision for the state to become a logistical centre. "New distribution centres in Mexico City are out of the question, and Hidalgo is a logical location for them," Ratliff told OBG. "Like everywhere else in the world, Mexico City will be served by the likes of Amazon, Walmart and Alibaba; this is where people will buy from in the future."

These large-scale, largely online retailers require massive logistics and distribution facilities, and as a natural midpoint between Mexico City and the US, Hidalgo is ideally placed to take advantage of this demand, according to Ratliff.

Whereas its proximity to Mexico City has in the past been a drain on resources and investment (see overview), Ratliff believes that Hidalgo's greatest potential and biggest opportunity lies in learning to serve the nearby capital city, which has a rapidly growing population but is running out of land.

Indeed, these infrastructure developments are designed to allow Hidalgo to reap the economic benefits engendered by the ease with which goods and services flow from it to the capital.

Projects such as Platah and the TILH "are allowing us to stop seeing having Latin America's biggest consumer market on our doorstep as a bad thing," Edgar Espínola, president of the Business Coordinating Council of Hidalgo, told OBG. "Trucks and trailers should no longer have to enter Mexico City, but can use Hidalgo as a base for more agile distribution in smaller vehicles, around the capital," he added.

A related benefit for investors is the space Hidalgo offers as it is not yet pressured by the urban development needs of Mexico City and its suburbs, Miguel Yáñez, general manager of the TILH, told OBG. "Many companies are looking to relocate and this is where Hidalgo is competitive. There is lots of space here."

Hidalgo's moves towards becoming a logistics centre are well under way. Indeed, US supermarket chain

Walmart already houses its distribution centre for all of southern Mexico in the state. Mexican logistics company Frialsa runs Walmart's distribution facility in the Tepeji del Río industrial park.

The US supermarket chain is the largest client at Frialsa's Tepeji base, which is itself the Mexican company's biggest facility in terms of space capacity and the numbers of palettes in operation. The local firm has invested MXN12m ($648,000) in its refrigerated facility, which opened in 2014.

"The company began the Hidalgo project with the idea of getting out of the [capital] city," Igor Rogelio Flores, manager of the Tepeji plant, told OBG. "Walmart was very interested in finding a larger space."

Initially, Frialsa started with capacity for 30,000 palettes, with possible expansion projected for six years after opening. But due to high demand the firm installed 10,000 more in June 2017. At the time OBG spoke to Flores in February 2017, the facility was at 85% occupancy – even though it was low season.

With most of Walmart's major providers coming from the north, and the distribution focused on the south, Frialsa's experience is a good demonstration of the suitability of Hidalgo as a logistical hub.

FOOD FOCUS: Some 95% of Frialsa's storage is used by food companies, with the company's speciality being cold storage of either frozen or processed products. Ratliff believes Hidalgo particularly lends itself to the food and agricultural industry.

"Every state wants to do manufacturing because it brings in highly paid jobs, but it's not always the best option," Ratliff told OBG. "I'm not saying Hidalgo should eliminate heavy manufacturing altogether, but when it comes to becoming a logistics hub, I do recommend it focuses on its strengths. With the transportation infrastructure already in place, food and agriculture is a logical place to start."

Ratliff said that Grupo Modelo's new brewery is an "ideal" place to start, given that many agricultural products are transported by rail, and Hidalgo's location allows it to serve Mexico City and the rest of the country. "Hidalgo has the land and they have the transportation, so focusing on developing the agro-industrial sector is a very logical move," he said.

DOMESTIC MARKET: Although Hidalgo has reasonable access to ports – a necessity for industries that require imports from Asia, for example – its railway infrastructure and access to Mexico City is where it really stands out from other states.

Thus the bulk of companies investing in the state produce goods for the consumer market. That said, some heavy manufacturing companies still find Hidalgo to be a suitable location for their business needs, with several operating in Ciudad Sahagún, a key industrial centre in the state.

But while other industrial belts in Mexico are geared towards exports, most companies in Sahagún focus on the domestic market. For example, Giant Motors Latin America, a local company that picked Sahagún as its base for a vehicle assembly plant in 2006, serves the domestic market exclusively.

The bulk of companies investing in the state produce goods for the domestic consumer market

"Sahagún offers good connections to ports and railways, and allows us to transport quickly from the factory to the rest of the country," Elias Massri Sasson, CEO of Giant Motors, told OBG.

Similarly, when Brazilian steel company Gerdau invested $600m on a new mill in Sahagún in 2014, it was to serve the Mexican market.

FLYING HIGH: An extra advantage to being so close to Mexico City is the short distance to the second-busiest airport in Latin America. Pachuca is less than an hour and a half – approximately 90 km – by car from the Mexican capital's international airport, while Platah and the TILH are even closer.

And though the new Mexico City airport will not be built in Hidalgo itself, as once mooted, its chosen location at Texcoco – in Mexico State – will further reduce the journey between the state and the facility. The government estimates the travel time from Pachuca to the new airport will be less than one hour via existing roads and a proposed shuttle service.

TAKING ADVANTAGE: The vision for the development of Hidalgo's economy outlined by the Secretariat of Economic Development (Secretaría de Desarrollo Económico, SEDECO) is largely focused on ensuring that the infrastructure is in place to turn the western side of the state into the logistical hub that its location gives it the potential to be.

In its 2016-22 development plan, SEDECO highlighted that the Mexico City-Pachuca and Arco Norte motorways have generated a "dynamic of important movement of goods, people and products" in the western area of the state. What remains now is for the authorities to tie together the existing transport infrastructure and logistics facilities with the raft of business-friendly initiatives being put in place by the current administration. Effective use of its built environment should enable the state to take advantage of its privileged geographical position in the growing megalopolis of the Valley of Mexico.

The state is gaining prominence as a key point in the supply chain for agricultural and processed food products, given its storage capacity and transport links.

Though it was not ultimately chosen as the site for Mexico City's new airport, the state remains well connected to the capital's existing and proposed facility.

There are three science and technology parks in the state

Attracting innovators

Focus on research and development at key clusters is designed to make the state a centre of science and technology

Since the beginning of its industrial history, innovation has played a major role in Hidalgo's development. It was in Pachuca that Bartolomé de Medina discovered the so-called patio process, which uses mercury amalgamation to extract silver from ore, back in 1554. This innovation would go on to be used in the global mining industry for 300 years.

In search of a stand-out economic vocation for the state in the 21st century, Hidalgo's government is aiming to become a centre for research and development (R&D). The state government describes the incorporation of science, technology and innovation as one of three so-called cross axes of public policy that should be taken into account across all areas.

With 13 R&D centres putting the state third from the bottom nationally in terms of number of such facilities per 100,000 inhabitants in 2016, Hidalgo's government did not encounter a particularly amenable backdrop to meeting this goal when it took office. In its favour, however, the state boasts three science and technology parks that the authorities are looking to develop as key centres of economic growth: the Centre for Technology and Business in Ciudad Sahagún; the Hidalgo Scientific and Technological Park in San Agustín Tlaxiaca; and the Pachuca City of Knowledge and Culture.

KNOWLEDGE ECONOMY: Plans laid out by the state authorities highlight the incorporation of research, technological development and innovation in education as essential to creating a society and economy based on knowledge. The Council of Science, Technology and Innovation of Hidalgo (Consejo de Ciencia, Tecnología e Innovación de Hidalgo, Citnova) is the institution primarily charged with this task.

Reflecting the newly elevated status of science, technology and innovation, the government has removed Citnova from under the Secretariat of Economic Development (Secretaría de Desarrollo Económico, SEDECO) and turned it into an independent entity that reports directly to the state governor. "This is effectively a strengthening of the institution," Alonso Huerta, director of Citnova, told OBG. "We have much closer access to all sectors – not just economic development."

MOVING ON FROM MINING: Nothing stands as testament to this vision quite like the Pachuca City of Knowledge and Culture, a new science and technology park. With mining's heyday in Pachuca long gone, the city was left without a strong economic vocation, according to Huerta. "Looking for that vocation, it emerged that generation of knowledge was a very important area," he told OBG.

Citnova's objective is to turn the Pachuca metropolitan area into a "cluster of knowledge". According to Oscar Suchil, director of the city, the new science and technology park, which is being built as a smart city, is aimed at generating innovation with a hidalguense identity and a social impact.

If the current emptiness of the 170-ha site is perhaps an indicator of the size of the challenge facing Hidalgo, the vastness of the space and futuristic entry arch also serve as good metaphors for the government's level of ambition. The state's vision for 2030 is for the hidalguense entrepreneurial environment to have become synonymous with high-impact entrepreneurship. The administration's strategy envisages centres of research, technology and innovation "that attract different players in the global ecosystem to collaborate on new projects that change the realities of the world".

The city being developed in Pachuca is one such centre. Announced in early 2013, backed by then-President Enrique Peña Nieto and the National Polytechnic Institute (Instituto Politécnico Nacional, IPN) as its anchor tenant, the city's goal is to "cement a society based on knowledge, culture and innovation that contributes to increasing competitiveness, productivity and social well-being in Hidalgo".

In a sign of the primacy of its remit, the Council of Science, Technology and Innovation was removed from under the Secretariat of Economic Development and now reports directly to the state governor.

Sectors targeted for development at the state's science parks include logistics, aerospace, textiles and apparel, industrial metals, agro-biotechnology, and information and environmental technologies.

IPN will house its largest campus outside Mexico City in the centre, with 10,000 students expected to study there once the project is completed. Suchil estimates there will be 25,000 residents and visitors living in the city in 10 years' time. Initially focused on textiles and apparel, industrial metals, agro-biotechnology, and information and environmental technologies, under the administration of Omar Fayad Meneses, the state governor, the city has added logistics and aerospace to its selected sectors. "We are looking to become not just a national point of reference, but an international one," Suchil told OBG.

EARLY TENANTS: Already, it can boast an impressive list of educational and scientific institutions in the process of setting up within the park. The National Hydrocarbons Commission is moving four of its *litotecas* (mineral collections) across Mexico to establish a central collection in the city. Additionally, the National Seismological Service – in conjunction with the National Autonomous University of Mexico – will build an alternate monitoring centre at the site.

Furthermore, the city is serving to activate Hidalgo's aerospace sector, with the Mexican Space Agency set to establish a facility at Pachuca. It will work with the Newton Fund to convert two antennae in nearby Tulancingo – virtually out of action since they were built to broadcast the 1968 Mexico City Olympics – into radio telescopes.

There will also be R&D centres of national importance for the textile and apparel industries, in agro-biotechnology, and transport and logistics – with a collaboration of Georgia Tech University – among other partners. Outside of academia, multinational players such as Petricore, which provides analysis to oil exploration companies, and Duons, the French network technology company, have also set up operations in the city.

QUADRUPLE HELIX: The City of Knowledge and Culture is evidence of the quadruple helix model – in which government, academia, business and society come together to drive development – at work. For the government the business arm of this helix is key to its drive to bring more and better jobs to the state via a focus on science, technology and innovation.

"This environment is designed to work for the benefit of companies that want to come to invest in Hidalgo and be motors of growth," Suchil told OBG.

One of the issues that the state government raised when it took office was that science, technology and innovation policy had not been directed to the productive sector in the past. Changing this means harnessing Hidalgo's higher education sector and the graduates it produces, many of whom struggle to find suitable jobs for its graduates. The state's numerous tertiary institutions can also play a role in encouraging the private sector to invest in R&D.

"Two decades ago we did not have the higher education institutions, but now we do," Huerta told OBG. "It is time to push on, and the development of these research centres are the next stage of the consolidation of the knowledge economy."

If Citnova and the city succeed, and Hidalgo can become a model in this field, it will become easier to attract firms with a focus on R&D, Huerta believes. The Citnova director admits that it is not a simple process, given these are structural changes, but he says the state is well placed after recent efforts.

The government has stated that the fundamental challenge in R&D is to drive the virtuous circle between the insertion of human capital educated in science, technology and innovation and make the most of them in technological and industrial development, which should lead to more job creation.

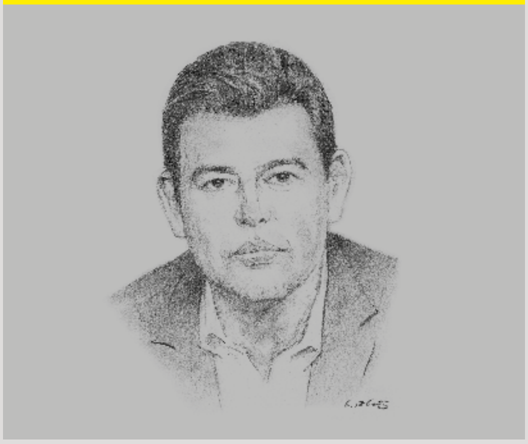
BUSINESS COLLABORATION: One of the specific tasks that SEDECO set itself in this area is to facilitate collaboration between educational or research institutions and businesses on developing strategic projects and improving productive processes.

Citnova itself runs an initiative called Young Masters and Doctors in Industry. The programme offers grants for recent graduates of master's and doctorate degrees to work in the private sector. Firms eligible to participate must be small and medium-sized companies interested in starting or strengthening research activities, technological development, and/or innovation management. "We offer the grants for a year and the expectation is that the company then hires the graduates," Huerta told OBG.

Amid the wave of private investment that has arrived under this administration, there are already signs of companies taking R&D seriously. Food group Grupo Lala, for example, announced in October 2017 that it would be investing MXN1bn ($54m) in its deli meats factory, using the Nutri Deli brand.

As well as making the plant the most modern in the sector in Mexico, the development will also include a centre for technology and innovation that will focus on creating tools to ensure the quality and safety of raw materials, developing products, and adapting them to market demands and consumer preferences.

The state's innovation agenda relies on the quadruple helix model, in which government, academia, business and society come together to drive development.



Noé Paredes

Centre stage

Noé Paredes, CEO, Grupo Corporativo Unne, on how the state's strategic location is being leveraged for economic development

What makes Hidalgo attractive for logistics firms?

PAREDES: Even before its recent growth spurt, Hidalgo has always had economic potential, largely due to its strategic geographic position. Additionally, the state has excellent connectivity to other parts of the country by both road and rail. With expanded road connections to nearby Mexico City, Highway 57 – which forms part of the Arco Norte (Northern Arc) federal highway that connects Hidalgo with the Bajío region and the State of Mexico – and an improved road to the coastal state of Veracruz, Hidalgo's connectivity is a very positive attribute. Importantly for investors, it also has a favourable social peace index, ranking above the majority of Mexico's 32 federal entities. Even so, the state government has installed a video surveillance network on roads for extra security. This ensures the seamless transport of goods, safeguarding logistics operations.

Lastly, thanks to university collaborations with the private sector, the state has a diverse and specialised workforce that fulfils the needs of companies. These local universities are of a high standard compared to surrounding states, and many are working together with private firms on patents in various sciences.

Are logistics costs higher in Mexico than the US?

PAREDES: Logistics costs are higher in Mexico than in the US, and there are two main reasons for this. First, prices are measured against the value of goods. As goods tend to be expensive in Mexico, so are the proportionate logistics costs. Second, Mexico's infrastructure is less developed, making it more expensive for logistics operators to deliver their goods, particularly when using railways, as these haven't been expanded in decades. It is unlikely that the existing railway network capacity will remain adequate for the country's growing exports. Overall, we still need better infrastructure nationwide. Expanding it will be crucial to meeting long-term needs. We are making progress in highways, however. Mexico previously had north-south road infrastructure to facilitate exports to the US, but now there are three perpendicular highways that criss-cross the country, with one of these being the Arco Norte that passes through Tula.

How is the Intermodal Logistics Terminal of Hidalgo (Terminal Intermodal Logística de Hidalgo, TILH) strengthening the state as a logistics hub?

PAREDES: The TILH is the centrepiece of Hidalgo's logistics infrastructure. Opened in 2012, it has three terminals to handle cars, grain, and cars and liquid. The latter has the capacity to handle 2m barrels a year, making it the largest liquid-handling facility in Mexico. It has also its own Customs facilities, 10 ha of storage and 2400 metres of rail lines. Crucially, it is one of the few places where the country's two rail networks – Ferromex and Kansas City Southern – meet, providing convenient rail connections between Mexico and the US.

In what ways will the energy reform impact the state's economic development?

PAREDES: The state has a lot of potential to capitalise on the energy reform; however, the challenge is to build a strategy around the national energy infrastructure. Its strategic location between Mexico City, Tuxpan, Veracruz and the Bajío regions means Hidalgo is increasingly becoming a focal point of the midstream sector, particularly as the closest port to Mexico City is Tuxpan on the Gulf coast, which is often described as the epicentre of the energy reform. Hydrocarbons passing between Tuxpan and Mexico City – the latter of which accounts for 30% of all fuel consumed in the country – must pass through Hidalgo. Being between the Gulf of Mexico and the capital opens a lot of doors, especially in Tula, which is set to become another major centre for energy logistics. Its modernised refinery will boost output by around 40%, which will have wide-ranging implications not just for energy stakeholders, but for the whole ecosystem of companies that need reliable energy.


The number of new graduates was twice that of new jobs in 2016

At your service

Rising uptake of higher education provides a ready workforce for new businesses

The state's investment target aims to create
10,000
new jobs

Indicators suggest that Hidalgo's education system has been sharply improving for several years. The percentage of 19 to 25 year olds in Hidalgo who are in, or have completed, higher education has risen from 5% in 1995 to 33% in 2015. But much of this investment in education often leaks out of the state because economic activity has not grown at the same rate as higher education coverage. This has created "an important imbalance between the number of university graduates and the productive sector's capacity to absorb these young people", according to the state's development plan.

STEMMING EMIGRATION: In other words, Hidalgo's challenge when it comes to human capital is not just educating the population, but retaining its most qualified people as Hidalguenses have become economic migrants to other states in Mexico. This is one reason why the Secretariat of Economic Development (Secretaría de Desarrollo Económico, SEDECO) has aimed its economic policy specifically at job creation. According to José Luis Romo Cruz, state secretary of economic development, several thousand more students are graduating from higher education institutions every year in Hidalgo than the number of jobs being created. "The MXN10bn ($540.4m) investment target [during this administration] is not random," Romo told OBG. "It's what will allow us to create those 10,000 jobs; at the moment those students are going to Mexico City, Querétaro and other states."

READY TO DEPLOY: The mismatch between graduates and job creation highlights the scale of the problem. According to the Council of Science, Technology and Innovation of Hidalgo, 16,133 students graduated from higher education institutions in 2016, versus 8544 new jobs.

The council's director, Alonso Huerta, indicated that this dynamic was a double-edged sword. "Of course it is a good thing to create such well-prepared human capital, and this allows companies investing in Hidalgo the chance to hire highly skilled workers in competitive conditions," he told OBG. But at the same it is a challenge as many young people are either emigrating or only finding work below their profiles. "This creates a social challenge," Huerta added, noting that just 1709 of those newly created jobs were professional positions.

According to the state's Secretariat of Education development plan, at the start of the administration's term 34% of young people and adults had the necessary competencies to access "decent employment" and entrepreneurship, but only 40% of young professionals had a job related to their university degree.

This may contribute to one key advantage for investors in Hidalgo's labour market. According to Romo, the staff turnover rate in the state is just 3%. A survey of aerospace and automotive companies by Catch Consulting put the rate in other industrial states far higher. In Coahuila it was 8.86% in the second half of 2017, in San Luis Potosí it reached 7.06%, in Puebla it was 6.94% and in Guanajuato, 5.73%.

Available human capital was an attractive factor for Grupo Modelo when it decided to build its largest brewery in Apan, Hidalgo. Construction of the brewery will require 3500 jobs during the construction phase and 1200 jobs once in operation. In Apan and the surrounding municipalities, there is an economically active population of 52,219, of which 4802 are unemployed. This provides an "immediate labour force", stated SEDECO.

EDUCATION GROWTH: After the rapid growth in the education sector in the last 20 years, there are now 106 higher education institutions in Hidalgo, with over 102,000 students enrolled. Among these are some of the highest-quality institutions in Mexico.

Both the Monterrey Institute of Technology and Higher Education and the National Polytechnic Institute – the second- and fourth-ranked universities nationally, according to the QS World University

Rankings – have campuses in Pachuca. The former is also ranked the fourth-best university in Latin America by the UK firm. Times Higher Education, meanwhile, stated that the Autonomous State University of Hidalgo, the state's oldest and largest tertiary institution, is "known as one of the best universities in Ibero-America and Latin America", highlighting it for postgraduate studies.

Around 70% of the students enrolled on higher technical or bachelor's degree programmes study engineering, manufacturing and construction, or social sciences, administration and legal studies.

FINDING A VOCATION: Another major change that has accompanied the growth in higher education in Hidalgo is that universities are no longer solely concentrated in Pachuca, but spread across the state in accordance with the industrial development being targeted in each respective area. "In most cases the courses offered by universities are aligned with their local economic vocation," Huerta told OBG.

For example, the Technological Mining University of Zimapán is located in the north-western municipality of Zimapán, which is home to important mining activity. The university opened in September 2013 with 58 students, and now has enrolment of 405 learners. Elsewhere, near the refinery in Tula de Allende is the Polytechnic University of Energy, which opened in December 2014. The institution now has a student body numbering 500.

Through both SEDECO and the Secretariat of Education, a major component of the state's strategy is to continue to improve not just the quality, but also the relevance, of the higher education system – as well as increase links with the productive sector.

One key to this is the *Mi Primer Empleo, Mi Primer Sueldo* (My First Job, My First Salary) programme that the administration of state governor, Omar Fayad Meneses, launched in 2017, offering recent graduates paid, six-month internships in the private sector.

SEDECO stressed that the programme will help young people find work at Grupo Modelo's new brewery. "New investors are arriving and looking for a new labour force," Fayad told OBG. "We are taking recent graduates with the best grades, placing them with the new companies and paying their salary for six months. We know that when they perform well the company will employ them, so we are matchmaking."

PRIVATE SECTOR DRIVE: Companies including Giant Motors, logistics company Frialsa and Hutchison Ports, which all have operations in the state, told OBG that they already have arrangements with educational institutions near their business locations.

"We are beginning to see a virtuous cycle between educational institutions and companies," Miguel Yáñez, general manager of the Intermodal Logistics Terminal of Hidalgo (TILH), told OBG.

Other private sector players are going further. Local conglomerate Grupo UNNE, which runs the TILH alongside Hutchison Ports, partnered with state agency Hidalgo Institute for Work Training to launch a school training cargo-vehicle drivers in Atitalaquia.

The state is funding six-month internships for top graduates to facilitate their employment prospects

Grupo Modelo, which has a policy of hiring locals, is allying itself with universities and technical centres to promote talent development for agro-industry. This involves training professionals in areas including business administration, accounting, planning and regional development, international trade, sustainable agricultural innovation, food and drink, gastronomy, industrial productivity and quality control.

NEW FRONTIER: As well as developing local training programmes, several universities are also taking advantage of foreign expertise by sending students on exchange programmes. Partnerships with Asian universities are increasingly sought after as the state works to expand its trade ties. Chinese car giant JAC Motors is to open its first plant in Mexico in Hidalgo, in collaboration with Giant Motors.

Autonomous State University of Hidalgo renewed its study abroad arrangement with Jeju National University in South Korea in January 2018.

"Being bilingual is very important and it's not just about English," Fayad told OBG. "We want to diversify and if we want to interact with Asia our young people will need to have knowledge of the languages so that they can be actors in this process."

DIGITAL OPPORTUNITY: The expansion of educational opportunities is not limited to young people preparing to enter the workforce for the first time. The state is also keen to ensure that Hidalguenses who are in work can access higher education.

With this in mind, the current administration founded the Hidalgo State Digital University, which will offer remote learning via nearly 230 access centres across the state. Importantly, courses will be free for indigenous people as well as those from the poorest backgrounds, while other students with top marks will have access to 70% grants. The university offers undergraduate degrees in alternative tourism, software engineering, business and project management, and a master's degree in science teaching.

Provision of tertiary education is increasingly spread across the state, with universities and training centres specialising in courses that match local industrial needs.

A new digital university has been established to expand access to education, offering free tuition and scholarships to those with financial needs or high academic achievements.

Patrick Plichon

Flexible growth

Patrick Plichon, General Manager, Bombardier Transportation, on the development of human capital and supply chains

How would you characterise the strengths and weaknesses in the supply chain of Mexico's manufacturing sector, and in particular, in regards to the state of Hidalgo?

PLICHON: Due to Hidalgo's industrial heritage, it has a solid base of local suppliers, which ensures that state-based original equipment manufacturers (OEMs) meet their manufacturing needs. The vast industrial experience of providers means that the local sourcing of certain parts and components is easy, as many of these products can be sourced within the state, providing time and costs savings for manufacturers.

Small and medium-sized industrial companies in Hidalgo have increasing opportunities to boost their capacity and the quality of their labour force. Although many local suppliers have invested in modern machinery, they still require training to use these systems and processes and must also obtain international certifications. Crucially, they need to be flexible and adapt to changes in market requirements. Although there may be an assumption that the automotive and railway manufacturing industries have similar product requirements, they are in fact different, as some suppliers must adapt their production processes for building rolling stock material. The railway industry is highly customised and sophisticated, meaning that providers must be highly specific and flexible with the products they supply.

In addition, the importance of state government-sponsored programmes in supporting local small and medium-sized enterprises cannot be understated. These provide key sources of financing and training, helping companies to build their productive capacity. However, it is also the role of the OEMs to assist their suppliers in building capacity through the provision of support and guidance on a range of issues from knowledge sharing to supporting their adoption and use of advanced technology, as well as providing insight on global value chains in the manufacturing sector.

In what ways is the digitisation of Mexican industry affecting sector operations and what steps are required to prepare for Industry 4.0?

PLICHON: There is a worldwide trend towards Industry 4.0, and Mexico is no exception. Developing smarter industrial plants that respect the environment is a core goal of the most advanced national and international manufacturing firms based in Mexico. This involves long-term investment and a focus on the renovation of industrial infrastructure both inside and outside of the plants. Particularly crucial is the introduction of modern machinery and control systems.

To what extent is skills training important to the development of human capital and the economic trajectory of Hidalgo?

PLICHON: It should be recognised that the state government has made significant progress in developing its workforce in recent years. It has achieved this through a number of different initiatives in partnership with companies, such as the BÉCATE programme implemented by the Secretariat of Labour and Social Security, which provides workers with practical training designed around the specific requirements of particular industries. For example, in 2017 and 2018, agreements between Bombardier Transportation and the BÉCATE programme resulted in a hiring rate of 98% for apprentices who completed training in metrology and welding. In addition, Bombardier has an ongoing agreement with the Hidalgo State Work Training Institute to provide training to the workforce. Through such initiatives, the state government supported Bombardier in the skills training of more than 125 people in the year to mid-2018, increasing their potential on the labour market. Many other public-private alliances between the government and international firms have also proven successful, especially in regards to the high-demand skill sets such as welding and others in the metal-mechanic industry of Hidalgo.

Agro-industry is one of four strategic sectors prioritised for growth

Hop to

Large-scale investments showcase development potential

In November 2017 Grupo Modelo – part of global brewing giant AB InBev and Mexico's largest beer maker – announced plans for its eighth brewery. The proposed project, to be developed in the municipality of Apan, is by far the biggest private investment ever to be made in Hidalgo, at MXN14bn ($756.6m).

As the second-biggest producer of barley in Mexico, with plentiful water, and located next door to the largest consumer market in Latin America and with easy access to ports, Hidalgo was the ideal choice for Grupo Modelo to build what has the capacity to become the second-largest brewery in the world.

For Hidalgo's state government, which has prioritised agro-industry as one of its four strategic sectors, it was a strong sign that its efforts to develop the economy around its key strengths are paying off.

"Anyone who knows about business will tell you, food is a constantly growing sector," José Luis Romo Cruz, the secretary of economic development for the state of Hidalgo, told OBG. "It allows us both to export – and we have the infrastructure for that – and to take advantage of being 80 km from Latin America's largest market," he added.

AN IMPORTANT ARRIVAL: To build its brewery Grupo Modelo also purchased 196-ha of land on which it will be sited. The area, which had previously been reserved for other projects, came ready to be developed into a large-scale industrial site.

Construction of Grupo Modelo's new brewery began in late 2017, and the plant is set to begin operations in the first half of 2019. The plant will open with capacity to brew 12m hectolitres of beer per year – the equivalent of 3.35bn bottles. For now the brewery's footprint takes up just 100 ha, meaning there is room at the site for the company to double its production capacity to 24m hectolitres annually.

"All the structure, land and design of the brewery is being made in such a way that it can be expanded," Grupo Modelo's CEO, Mauricio Leyva Arboleda, told OBG. "The state of Hidalgo has facilitated the infrastructure surrounding the plant to ensure it is in condition to absorb such volume in the future."

The Hidalgo plant will increase Grupo Modelo's capacity by 17%. In doing so, it is expected to create 1200 direct jobs and 5000 indirect positions. During construction it could also support up to 10,500 jobs.

BROADER INTEREST: Grupo Modelo's investment embodies several of the government's key targets: attracting a top-tier company to the state; creating well-paid employment; and developing its strategic sectors. Similar to other developments of recent years, Hidalgo is building impressively on existing strengths. In fact, Apan itself has a history of producing alcohol. A century and a half before Grupo Modelo arrived in Hidalgo, the municipality was a leading producer of *pulque*, an alcoholic drink made from the agave plant, for the local market.

And though Grupo Modelo is currently stealing the headlines, other international companies had spotted Hidalgo's potential for agro-industry long before. Most notably, global food commodities supplier Cargill, the largest privately held company in the US, has been present in Hidalgo since 1995.

Cargill's Hidalgo plant has been key in the distribution and crushing of oilseed, as well as the production of high-quality oils, flours and maize. The company's facility in Atitalaquia is home to its only refinery in Mexico, and one of Cargill's five most important globally when it comes to grinding and refining oils. The seven different oils processed there are the base for 168 different products. From Atitalaquia, Cargill exports to all 32 federal entities of Mexico.

Furthermore, in 2014 Cargill responded to growth in the market with the expansion of its oils refinery and packaging factory, increasing its production of oils from 264,000 to 336,000 tonnes per year.

"Access to the railways and natural gas, alongside the well-developed industrial park, and Hidalgo's

Hidalgo ranks

2nd

in the country in terms of barley production

The new brewery plans to undertake significant water recovery and treat all residual water for reuse

28.7%

of Hidalgo's territory is dedicated to agriculture

proximity to some of the country's main consumer centres were key factors that guided our decision to base our operations here," Luis Ferrari, superintendent of Cargill's Atitalaquia complex, told OBG.

Another recent investment in the sector came from a domestic giant of the global food industry. In December 2017 Mexican bread maker Grupo Bimbo completed the construction of a new MXN100m ($5.4m) factory in Tepeji Park.

HIGH-TECH: Additionally, the month before Grupo Modelo announced its investment, Mexican dairy company Grupo Lala opened its first deli meats production facility in Tizayuca, generating 350 jobs directly for the state. Lala produces deli meats under the Nutri Deli brand, and has developed a technology and innovation centre to ensure the quality of raw materials and develop new products.

This focus on technology ties the agro-industry investment to Hidalgo's broader economic development aims of pursuing innovation-based growth, and is also a major feature of Grupo Modelo's brewery.

"The new factory will employ cutting-edge technology not only for production and quality, but also to optimise resources," Grupo Modelo's Leyva told OBG.

In particular, best practices in terms of water recovery could lead to savings of up to 40%. Further to this the plant will treat all residual water, part of which will be used to water the factory's green areas. "This means we are not wasting any of the water we use to produce beer," Leyva told OBG.

A TRANSFORMATIVE MODEL: A brewery brochure produced jointly by the Secretariat of Economic Development (Secretaría de Desarrollo Económico, SEDECO) and Grupo Modelo claimed it will be a transformative project for the region, which is envisaged to have a multiplier effect on activity in various sectors. "We should see a chain of providers that can reactivate the local economy," Edgar Espínola, president of the Business Coordinating Council of Hidalgo, told OBG. "This project is big enough to generate new hotels, restaurants and schools."

The plant also promises good jobs. According to the brochure, the average wage of a worker at the brewery will be MXN30,121 ($1630) per month, which compares favourably to the average salary in the manufacturing industry of MXN11,426 ($617). Moreover, it is 3.2 times more than the existing average wage in Hidalgo of MXN9203 ($497). SEDECO estimates that the project will double the number of formal jobs in the municipality of Apan, and the government is proactively seeking to ensure that local businesses become major suppliers. "The construction sector is set to be the first to benefit from these big investments," Espínola told OBG. "The government is encouraging these companies to give priority to hidalguense businesses." The state governor, Omar Fayad Meneses, hosted meetings between Grupo Modelo and local business lobby groups and chambers of commerce in January and February 2018 with this aim. SEDECO has identified sectors where Grupo Modelo's investment can create opportunities for local businesses, including: concrete, steel and laminate providers; logistics services; machinery hire; engineering and architecture; and transport.

Miguel Yáñez, general manager of the Hidalgo Intermodal Logistics Terminal in Tula run by Hutchison Ports, points out that Grupo Modelo is already one of Hutchison's main export clients at the port group's Veracruz facility. "We view these kinds of announcements with great optimism," he told OBG.

RURAL POTENTIAL: But perhaps where the transformative effect of such a large project is most urgently needed is in the countryside, where the state's Secretariat for Agricultural Development says there is a "complex reality". Some 28.7% of Hidalgo's territory is dedicated to agriculture; however, while 48% of the population is rural, and 77% of the Hidalguenses who work in the primary sector are employed in agriculture, 22% of these workers do not receive income, and 44% make minimum wage.

"One of Grupo Modelo's principles is to make investments not just in major cities, but in different municipalities where we can develop the surrounding area economically and socially," Leyva told OBG. "We want to do the same in Hidalgo from 2019."

Grupo Modelo had been working with barley farmers in Apan for three years before announcing its investment, and expects increased demand to support the sector. Apan produces 57,238 tonnes of barley per year, while the municipalities of Tepeapulco, Almoloya and Zempoala – all within a 25 km radius of the plant – each produce more than 20,000.

Grupo Modelo will buy the barley on a contract-farming basis, meaning the price is defined before harvest and payment is guaranteed. Domestic firm Munsa Molinos committed to do the same when signing a MXN210m ($11.3m) investment in a facility to industrialise wheat, seeds and other agricultural products in the state in June 2017, benefitting both farmers and the state's agro-industrial development.

Two new investments based on cereals have committed to buying grain from local farmers on a contract basis, meaning the price is defined before harvest and payment is guaranteed.

New investments are expected to create a number of highly paid jobs

Cure-all

Investment in chemicals and pharmaceuticals has grown since being named a strategic sector

Of all the sectors deemed as strategic for Hidalgo's economic development, chemicals and pharmaceuticals are perhaps the least explored territory. Unlike the well-known centres of Guadalajara and Cuernavaca, Hidalgo did not have any pharmaceutical laboratories, for example, when the current government took office in 2016.

But the state's ambitions to develop the sector may not be as unlikely as they first seem. "The keys to the pharmaceuticals sector are logistics and human capital," José Luis Romo Cruz, Hidalgo's secretary of economic development, told OBG. "We can offer firms in the business the logistical infrastructure to access one of the largest markets on the planet, as well as competitive advantages for exports."

INCOMING: There has been growing investment since the government made the sector a priority. Mexican company Sifatec began operations in the state in 2010 at the Tula industrial park from which it manufactures, commercialises and exports agro-chemical and chemical products, as well as laboratory equipment. In May 2017 the firm announced an MXN80m ($4.3m) expansion of its facility.

The largest investment has come from Quimpharma, the Mexican laboratory, which is investing MXN102m ($5.5m) in a new facility to produce pharmaceutical products and dietary supplements, promising some 300 jobs.

Chemical gas producer Criogas, meanwhile, is slated to begin operations at the new Platah industrial park in the second half of 2018 – after a MXN35m ($1.9m) investment that will create 39 jobs. Criogas will be joined in Platah by fellow domestic chemicals company, Cinética Química, which is also due to begin operations in the second half of 2018 on the back of a MXN50m ($2.7m) investment that could create 35 jobs. Cinética works in water treatment, the paper segment and cosmetics. Also in Platah is Farcomer, which is investing MXN30m ($1.6m) in a factory producing packaging for pharmaceutical products via its new subsidiary, Gamex Pack.

LOGISTICAL ADVANTAGES: The clustering of companies in the sector in Platah, which the state government is promoting as Mexico's new industrial hub, points clearly to Hidalgo's principal advantage for chemical-pharmaceutical companies: logistics.

Platah is five minutes from both the Mexico City-Pachuca motorway and the Arco Norte (Northern Arc) – the ring road for the Mexico City metropolitan area. Just as proximity to the country's capital gives companies easy access to a large consumer market, the Arco Norte's connections to major national motorways makes Platah a sensible place to distribute across the country. Furthermore, at its westward end, the Arco Norte becomes a motorway to Guadalajara, where many laboratories are found.

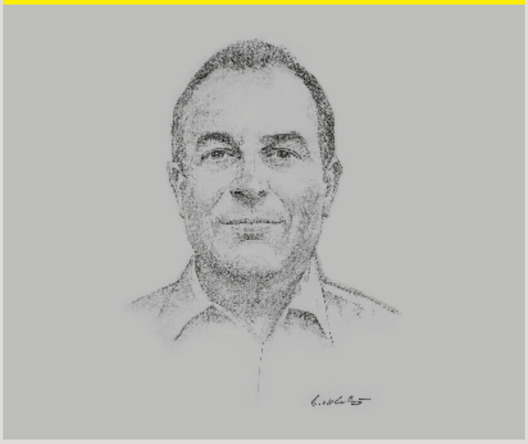
In the case of Farcomer, Hidalgo's location was the top advantage when the firm, which is mainly dedicated to distributing medicine across Mexico, saw an opportunity in the medical packaging segment.

"Being in Hidalgo allows us to secure a large enough piece of land with excellent road connections," Deni Abonza, chief legal officer at Farcomer, told OBG. "From here we can easily reach north, south, east or west of Mexico."

WINNING CLIMATE: Hidalgo also offers pharmaceutical firms an ideal climate in which to operate – both in terms of the weather and the business environment. "The state government was very supportive with the paperwork and logistics," Abonza told OBG.

The state's mild climate is ideal for pharmaceutical companies which must meet certain international standards with regards to, among other things, temperature. With average temperatures between 12°C and 17°C, depending on the season, Pachuca is an ideal location, offering a clear advantage over the southern and northern states of Mexico, which can be much hotter, and helping to support development.

Firms are being drawn to the state by its strong logistics infrastructure, mild climate and well-regulated business environment.



Elías Massri Sssson

Industrial drive

Elías Massri Sasson, CEO, Giant Motors, on the state's industrial legacy and the future of electric cars

What makes Hidalgo attractive to investors?

MASSRI: It is often forgotten that Hidalgo has a long-standing industrial heritage, stretching from mining to heavy manufacturing. This makes it an attractive place due to its established and well-developed supply chains. Beyond that, compared to other states, its abundance of essential utilities such as water and electricity are of great value to a variety of manufacturing firms looking for a base in Mexico. Most importantly, its strategic geographic location, in conjunction with its excellent road and rail infrastructure, is ideal for reaching the Gulf of Mexico, the Pacific Ocean, Mexico City, the Bajío region and the US. In order to better position itself as a key investment centre, the state should bolster its services and social and cultural infrastructure to attract foreign executives from multinational firms. Apart from Pachuca, it is difficult to find globally competitive health clinics, international schools or upmarket restaurants, which are needed to put the state on the map in terms of quality of life. While it is progressing, there is a long way to go outside of core urban centres.

How would you rate the state's human capital?

MASSRI: Hidalgo performs extremely well in terms of its human capital readiness. In particular, its workforce has been well trained to meet specific demands from the different strands of industry that operate in the state. However, moving to a more automated world, companies will increasingly put more value on knowledge and soft skills. Above all, bilingualism is an absolute must in a globalised industrial workforce, especially when there are many investors coming from China who do not speak Spanish. Links between the private sector and universities are also essential, and in Hidalgo these are strong. There is a willingness among students and academics to strengthen the state's readiness for industrial innovation. For instance, a number of existing programmes bring students into manufacturing plants to assist in the development of patents, a clear example of how industry and academia can collaborate on one of the state's economic objectives.

How prepared is Mexico for electric vehicles (EVs)?

MASSRI: The only way to bring EVs into the mainstream is to make them a financially and practically viable option to replace petrol vehicles. They cannot just serve as a gimmick to supplement existing vehicles.

On the logistics front, Giant Motors has spent several years working with food giant Bimbo and the Monterrey Institute of Technology and Higher Education to design and build small delivery vans to boost operational efficiency in Bimbo's distribution network. Although around 600 are in use, we have yet to see if they are financially viable for smaller operators with 30-40 vehicles.

Another urgent requirement in Mexico is the need to renew the capital's ageing 40,000-strong taxi fleet. We have three prototypes ready to be produced, but the high mileage of Mexico City's taxis make them more demanding on battery power, which make the vehicles more expensive for taxi drivers. As with the sale of any vehicle, availability of financing is the main barrier, and we are waiting for a more accessible scheme to be provided to taxi drivers to allow them to finance the purchase of EVs, and therefore allow us to start production. There are currently no incentives from any level of government for the purchase or operation of EVs, in marked contrast to many other countries.

Arguably the most important long-term incentive is supporting infrastructure. We need a coordinated effort from the Federal Electricity Commission to make charging vehicles cheaper than operating electricity in homes, and we need comprehensive public infrastructure in key urban areas. Strategically speaking, setting up comprehensive charging infrastructure in smaller cities is more viable for governments to implement. Using a city such as Pachuca, Tepeji or Tula as a prototype would be entirely viable as a stepping point to a more integrated nationwide infrastructure.

Public-private partnerships will drive development and create jobs

Working together

Legislation regulating public-private partnerships is now on the books

Though its major motorway and railway infrastructure rivals any state in Mexico, Hidalgo is well aware further works are needed to fully make the most of its privileged geographical position. Improving the state's infrastructure – in terms of roads, logistics and services – continues to be a priority, with the state now focused on creating the legal framework for funding the works that will keep things moving.

Public-private partnerships (PPPs) have been identified as a key model to employ to this end, with the state government including a law on productive alliances to govern such structures in its second package of legislative reforms in late 2017, which was subsequently passed in March 2018. Projects that emerge from the law are expected to drive economic activity, generating additional and better-paid jobs, according to the government.

BENEFITS: Under previous regulations, when the government wanted to carry out an infrastructure project, it would have to wait a year before being able to include the costs of a feasibility study in the budget. Further waits of up to eight months were required for projects to be tendered, and the government would assume any interest costs if debt were required. Moreover, the government would then have to maintain the project, adding ongoing costs to the state's budget.

The new law should speed up the process as projects undertaken via PPP would not be subject to public budgets, and private investors would assume the costs for studies and permits. Furthermore, these investors can participate at all stages of a project – from feasibility studies through to maintenance – bringing additional expertise to the works.

The law offers 12 different financing models, provides scope for projects of up to 40 years – a time frame that public entities have difficulty budgeting for – and allows private investors to propose projects – though state Congress has to approve them.

Other key advantages that the new law brings the state include an increase in the number of studies and projects for productive infrastructure, and freeing up resources for other social needs.

NEW STANDARDS: José Luis Romo Cruz, secretary for economic development for Hidalgo, stated the new law is "better than the federal law", because of the level of certainty it offers investors. The state consulted a broad range of advisors – including the OECD – to ensure its law was as robust as could be.

"If I want to bring in French investors, for example, I need to offer them a law with the standards that they expect," Romo told OBG.

Miguel Donovan, director of consultancy at Currie & Brown, which consulted on the legislation, agrees that the new law is very innovative for Mexico. "It is the first law in Mexico that reflects the complexity of the projects," he told OBG, though he is keen to emphasise that "being flexible does not mean it is less strict in terms of accountability."

One innovation of note is that the law does not just restrict the alliances to the private sector, but allows for partnerships with other states, NGOs, or between two public entities, for example.

"The main shortcoming of the previous law was that there was just one type of contract and one way of originating projects," Donovan told OBG. "Now there are far more ways of modelling projects."

As well as adding to the range of partners the law applies to, it also expands the types of projects for which partnerships can be developed. PPPs in Mexico have traditionally meant hospitals and roads, but the new law broadens the range of projects that can be bid on and allows features such as bundling.

The range of models included in the new law allows projects in every branch of state activity. This could be public spaces, grant programmes, small business funds, renewable energy generation and public services. The challenge now is to ensure the law is used.

The law on productive alliances allows for

12

different financing models

The introduction of public-private partnerships is expected to reduce the time needed to develop key infrastructure works and take pressure off the state's budget.

Recent reforms have liberated the electricity pricing scheme

Power play

Sector reforms and renewables projects energise the economy

Power infrastructure in the state includes two generation plants, a network of gas pipelines and a refinery, alongside potential to develop renewable sources.

With its existing power plants and related infrastructure and scope for further development, energy has been named as one of four strategic sectors identified by the Secretariat of Economic Development (Secretaría de Desarrollo Económico, SEDECO) as a focus for the economic development of Hidalgo.

The thermoelectric plant in Tula and the hydroelectric station in Zimapán help rank the state as the fifth-largest energy producer in Mexico. Add in an impressive gas pipeline network, the closest refinery to Mexico City, exceptional climatic conditions for solar energy and the largest consumer market in Latin America on its doorstep, and it becomes clear that few – if any – states are as well positioned as Hidalgo to take advantage of Mexico's energy reform.

THE ENERGY OPPORTUNITY: Now that reforms have opened up private investment in the sector and liberated the pricing regime, the state can look to attract investors, increase energy output and diversify energy sources (see Energy chapter). The fact that Hidalgo consumes less than half of the energy it produces adds to its attraction as an investment destination for energy providers and producers.

"Hidalgo has an opportunity to be an energy provider, exporting to the rest of the grid," Andrés Manning, director-general of the Hidalgo State Energy Commission (Comisión Estatal de Fomento y Ahorro de Energía, CEFAEN), told OBG.

Indeed, SEDECO recognised that as the transformation of the energy industry picks up pace, the state will have "a primordial role for the economic functioning of the region."

Two new laws passed by the state legislature in March 2018 seek to take advantage of federal-level reforms which have opened the energy sector to private investment and liberalised price-setting mechanisms.

Spotting the potential, the state government proposed two state energy laws to take advantage of the federal regulation. As SEDECO described in the presentation of the new law, they provide a "legal framework to attract more than $650m of investment to the sector and generate more accessible energy for the people and companies of Hidalgo."

The state Congress approved both laws in March 2018, and the authorities expect that being able to guarantee better access to energy will increase the state's competitiveness, bringing in business. When that happens, demand for energy should rise further.

"To avoid bottlenecks in Hidalgo's economic growth, it is necessary to have a framework that allows for opportune energy supply at a good price," the SEDECO report on the legislation said.

Though, on aggregate, Hidalgo produces more energy than it consumes, the need to raise output could become urgent as new industrial investments from the likes of Grupo Modelo are secured.

To ensure it is prepared to meet the needs of potential heavy energy users in the future, CEFAEN has been talking to the National Centre for Energy Control about how to deal with rising demand.

TAKING ADVANTAGE: While the state's natural geographical advantages – being close to ports and Mexico City – mean it is well positioned to produce low-cost energy, logistics and infrastructure also contribute to it enjoying very competitive prices.

Key among these infrastructural advantages is the presence of the state-owned Petróleos Mexicanos (Pemex) refinery in Tula, which is connected to the Gulf port of Tuxpan via one of the most important gas pipelines in Mexico. Added to this, generation plants in Tula and Zimapán offer electricity supplies.

"Hidalgo should really expect to have some of the cheapest energy prices in Mexico," Francisco Javier Fuentes, director-general of consulting firm Energía Regional, which focuses on helping local governments make the most of energy reform, told OBG.

As states compete to gain influence and maintain their competitiveness in the changing energy market, authorities are increasingly looking to develop strategies to support existing facilities and generate new infrastructure. This will ultimately lower costs and diversify energy retailers, according to Fuentes.

"Hidalgo's aim with the new laws are clear: to have the cheapest energy in Mexico," Fuentes told OBG.

The energy reform, therefore, has presented Hidalgo with a unique opportunity. But the state must still rise to meet certain challenges.

For petrol and diesel, the state government wants to increase the pipeline and terminal infrastructure to lower costs, and diversify sales points to generate greater competition. In liquid petroleum gas, the priority is to optimise supply and bring in more competition, while for natural gas the focus is on making the most of the existing pipelines running from Tuxpan-Tula and Tula-Villa de Reyes. In electricity, the transmission networks is at risk of saturation, according to the government. The state has also announced its intentions to develop competitive contracts for clean energy supplies.

ENERGY AGENCY: Meeting these challenges will require plenty of investment, to which end the state passed legislation that establishes a new state energy agency to lead the investment charge. Though project authorisations often come from federal authorities, energy projects occur in states and municipalities with local laws, such as construction permits, which require local approval. This can create a challenging environment for prospective investors, burdens that the new agency seeks to alleviate.

The energy agency law aimed specifically to enhance the assistance investors will receive by converting CEFAEN into the State Energy Agency, a new decentralised state organism. The creation of this agency aims to give new projects a soft landing as they prepare to commence operations in Hidalgo.

This is increasingly important after several projects across Mexico that were made possible by the federal reform encountered opposition from local communities – including Sempra Energy's Tuxpan-Texas pipeline. Sector stakeholders have argued that some of these issues could have been avoided had more clarity been available locally. "Now we will be able to ensure that all new projects are properly accompanied by the state government," Manning told OBG.

Another advantage highlighted by Fuentes is that the agency can promote projects and coordinate interested investments. "Until now, investors would have to be knocking on a lot of doors to ensure they got all the correct permits," he said. "Under this law, they just speak to a single agency, which can also help to create alliances with different companies to get projects off the ground."

The new agency's reach is wider than CEFAEN's, and includes: participating in consortia via public-private partnerships; carrying out economic activities and identifying financing; constructing energy-related public works; proposing subsidies, supports and incentives; managing, structuring and attracting investment; and coordinating with other entities.

"Other states such as Jalisco and Veracruz have created similar agencies, but in Hidalgo the new law gives the agency greater reach and legal force," Fuentes said of the breadth of the body's remit.

Authorities are looking to develop strategies to support existing facilities and generate new infrastructure

SUSTAINABLE ENERGY DEVELOPMENT: The second energy law, called the Law for Promotion of Sustainable Energy Development, creates a framework for communication between the state and its municipalities. Aiming to align the aims of different arms of government, the law defines SEDECO and the municipalities as authorities, and establishes "transversal strategies" in terms of project development.

According to Fuentes, the new laws generate a legal framework for an understandable and clear business environment, which he expects will speed up projects. Moreover, he told OBG other states are likely to replicate the law, making Hidalgo a model for future energy sustainability across the country.

TRANSPORTATION & STORAGE: Like the other sectors that the state government is promoting, one major advantage for the energy sector in Hidalgo is the proximity to Mexico City, which represents almost never-ending demand for energy.

Add to this that the pipeline from Tuxpan, the largest port for Mexican imports, ends in Hidalgo, and it is clear why private companies are already eyeing up opportunities for what is effectively a newly opened segment of the logistics sector.

"There is great potential for storage facilities to meet the demand of the Mexico City metropolitan area, and this is what we are pursuing," Manning told OBG, adding that the energy reform has opened up good business opportunities in this area.

US logistics firm Bulkmatic became the first private company to enter the local fuel storage market when it announced plans for a hydrocarbons terminal in Atitalaquia – complete with a railway spur connected to Kansas City Southern de México's network. The company will invest MXN1bn ($54m) in the facility, which will be located 70 km from Mexico City and next to Pemex's refinery. The terminal will have a capacity of 690,000 barrels and is slated to begin operations in the first half of 2019, the firm said.

Proximity to Mexico City is encouraging investment in fuel storage and transportation, with a new privately developed storage terminal with capacity of 690,000 barrels set to be built in Atitalaquia, which is just 70 km from the capital.

Encouraging clean energy ties in with the aim of putting science and technology at the centre of growth

13%

of the state's 2651.2-MW generation capacity comes from clean sources

Local conglomerate Grupo UNNE and global firm Hutchison Ports, which together own the Intermodal Logistics Terminal of Hidalgo (TILH) in Tula, are also looking to take advantage of the reforms with a fuel transfer terminal at the TILH, due to be open by the end of 2018. UNNE, which already accounts for 14% of Pemex's logistical operations, is considering opening three further fuel storage terminals: one at the TILH, another on the Pacific, and a third on the Gulf. "This would allow us to build a network connecting both coasts with the centre of Mexico," Noé Paredes, head of Grupo Corporativo UNNE, told OBG.

The TILH's versatility is particularly useful here, according to Paredes. "We can receive – via railway, road or pipeline – products for distribution," he told OBG. "There are not many terminals in Hidalgo that can do that, and it simplifies the process."

RENEWABLE POTENTIAL: As of early 2018, Hidalgo's energy generation capacity stood at 2651.2 MW, of which 13% came from clean sources. SEDECO points out that while non-renewable sources are being exploited more quickly than renewables can substitute them at the global level, in Hidalgo the potential for both solar and wind energy is larger than production of other fuels.

A presentation prepared by SEDECO shows the federal Ministry of Energy estimates that Hidalgo would be able to install solar capacity of up to 4948 MW – 1.9 times what it is currently generating from all sources. Wind farms, meanwhile, could provide capacity of 1871 MW, 0.7 times the state's output.

Encouraging clean energy ties in with two of the state government's broader aims, namely putting science and technology at the centre of economic development and establishing Latin America's first cluster of electric vehicles in Hidalgo. Alongside the two energy laws, the government also proposed a law governing special economic zones with an eye towards promoting this high-potential cluster.

A solar plant due to come on-line in the second half of 2019 will be able to generate 300 GWh of power, saving more than 215,000 tonnes of CO^2 emissions.

Hidalgo is particularly competitive in solar energy because large swathes of the state are at higher altitudes, meaning temperatures stay lower and panels work more effectively. A significant amount of land receives more than 5.7 hours of sun per day, without reaching unduly high temperatures

This means Hidalgo could compete with a state like Sonora, in the north-west of Mexico, which has been identified as having huge potential for solar energy. Sonora receives more sun than Hidalgo, but is also far hotter. Furthermore, Hidalgo's location is another key advantage compared to Sonora, which is not close to any major Mexican cities.

In keeping with the theme, Grupo Modelo's proposed brewery – the state's flagship investment achievement – has pledged to having its plants running 100% on renewable energy by 2025. The Apan-based brewery will have the "most advanced" technology in terms of sustainability, water usage and energy use, according to Grupo Modelo press statements about its new investment.

In terms of wind, a study from many years ago had for a time dashed any hopes that Hidalgo harboured of developing wind farms, as it argued that winds in the state, though strong, were not constant enough to be suitable. However, a more recent study has said that the measures were not taken at a high enough altitude to rule out wind as a power source.

ATLAS INVESTMENT: Hidalgo's renewable energy plans received a huge lift in late March 2018, just two weeks after the local Congress approved the energy law. Atlas Renewable Energy, which is backed by emerging markets private equity firm Actis, acquired the Guajiro solar project in the municipality of Nopala de Villagran from SunPower. The company is proposing to build a plant capable of generating 100 GWh of solar electricity per year on a 410-ha site.

Expected to generate 200 jobs, the Atlas investment will save more than 215,000 tonnes of CO^2 per year, according to the government – equivalent to the emissions of 46,000 cars.

Guajiro, which is due to begin operating in the second half of 2019, is contracted under a long-term power purchase agreement with Mexico's Federal Electricity Commission. It had been awarded to SunPower in the National Centre for Energy Control's first electricity auction after the federal reforms.

BIG PLANS: The government has big plans, and looks to have all the conditions to achieve them. Indeed, Fuentes told OBG that Hidalgo's aim to have the cheapest energy prices in the country is realistic. For that to become a reality will require Hidalgo to make the most of the energy reforms and take advantage of its price competitiveness, energy generation capacity and privileged logistics.

SEDECO's vision for 2030 is to encourage hydrocarbons exploration in the Huasteca and Otomí-Tepehua region, while the state also wants to host Mexico's leading clean energy cluster given its clear advantages for solar energy, something that, though feasible in the long term, is for now just a plan.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