COLOMBIA, STRATEGIC LOCATION FOR DATA CENTERS
2021
THE DATA CENTER INDUSTRY IN COLOMBIA
MULTINATIONALS HAVE CHOSEN COLOMBIA AS THE IDEAL INVESTMENT DESTINATION TO INSTALL DATA CENTERS
GLOBAL COMPANIES RECOGNIZE THE POTENTIAL OF THE DATA CENTER INDUSTRY IN COLOMBIA

IBM

IBM has fourteen centers in the country, three of them are located in Bogotá and its outskirts and the fourth one in Medellín. One of the most recognized Data Centers in the country is the IBM Cool Data Center certified as TIER III, which is located in Fusagasugá, Cundinamarca.

EQUINIX

The Equinix Data Center Homestead (formerly known as 4A), also known as the 4A of the American Continent, offers its customers 24/7 access to 17 major providers in the region and its about 150 centers thanks to Equinix's 4A of the American Continent.

DATABRIDGE

After building its Data Center in Brazil, Databridge has a new Data Center (IDC) in Bogotá, meeting TIER III with capacity to hold 1,000 racks with a total IT load over 50MW. Databridge will become a strong player in the region due to strategic alliances with GrupoCion, one of the top 10 players worldwide.

ZFB

ZFB has four data centers in the free zone park in Bogotá and has started the construction of a new one. TIER III Data Center with capacity to hold over 1,200 racks with a total IT load over 7MW. ZFB is the main player in the Wholesale Colocation market in Colombia.
COLOMBIA STANDS OUT AS ONE OF THE MOST ATTRACTIVE MARKETS IN THE REGION FOR DATA CENTERS

Source: Frost & Sullivan
WHY IS COLOMBIA THE IDEAL DESTINATION?

ENERGY SUPPLY  »  CONNECTIVITY  »  REAL STATE
THE ENERGY SUPPLY IN COLOMBIA IS RELIABLE, STABLE AND CLEAN

Since 1991, Colombia has not had a power blackout (national level). The country’s Energy Matrix is clean: it is composed of 68% hydro, 30% thermal, and <1% renewables. By 2022, there will be approximately 2,400 MW of installed capacity in different renewable energies, more than the 14% of its energy matrix.

Colombia has a backup system that secures power supply even in dry seasons.

» SUB SECTORS WITH OPPORTUNITIES

- [ ] THERMAL
- [ ] Fuel Cells (FUEL)
- [ ] Solar
- [ ] Wind
- [ ] Biomass
- [ ] Transmission Network
COLOMBIA RANKS #2 IN SOUTH AMERICA, ACCORDING TO THE ENERGY TRANSITION INDEX 2020 RANKING

The country is capable of providing energy in a self-sustainable, accessible and ecofriendly way.

166 power generation projects registered in stages 1 and 2 with a total installed capacity up to 3,177 MW.

17 public calls will be launched in 2021 to expand the transmission system while increasing reliability and making the system’s operation more flexible.

JFWE Energy Plan 2050 estimates the participation of unconventional energies reaching 25% of the energy matrix.

Colombia’s renewable potential is among the highest to develop these projects: 4.5 kWh/m² of average solar irradiation and 9 m/s of wind speed.
The installed capacity of power generation in 2019 was 17,529 MW, of which 11,041 MW (63%) corresponds to the generation of hydroelectric resources, followed by 5,147 MW of thermal generation.

The installed capacity of the country is located mainly in the center of the country, where they are located hydroelectric plants and some thermoelectric plants.
COMMERCIALIZATION

The country is capable of providing energy in a self-sustainable, accessible and eco-friendly way.

- Allotment from purchase price to rate
- Regulated charges for the regulated market
- Free margin for the non-regulated market

**REGULATED USERS**

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>13,477,701</td>
</tr>
<tr>
<td>Non-residential</td>
<td>1,287,163</td>
</tr>
<tr>
<td>Industrial</td>
<td>105,184</td>
</tr>
<tr>
<td>Commercial</td>
<td>1,060,961</td>
</tr>
</tbody>
</table>

**Billing (Millions USD) 2019**

(The table shows various entries with dollar amounts, but they are not legible in the provided image.)
THERE IS A GREAT POTENTIAL FOR THE GENERATION OF RENEWABLE ENERGY
TAX INCENTIVES FOR RENEWABLE ENERGIES

The development of renewable energies in COLOMBIA has INCENTIVES such as the DEDUCTION of 50% of the INCOME TAX for 15 years for investments in alternative sources.

The sale of RENAL energy by the generator is considered exempt from income tax.

Exclusion of IVA and VAT for the importation of equipment for the development of generation projects.

The automatic exclusion of VAT in the acquisition of solar panels and equipment for solar generation.

RESULTS
INCENTIVES FOR INVESTMENT IN NON-CONVENTIONAL SOURCES OF ENERGY – ENERGY EFFICIENCY

- **Income Tax**: Taxpayers who invest in the non-conventional sources of energy will be entitled to reduce 50% of the value of the investment during 15 years from the income tax. Income Tax will be reduced by 10% of the investment.

- **VAT**: Exemption of 12% for equipment, machinery, equipment, and inputs destined to new investments in projects of energy from non-conventional sources. These investments will be considered special tax credits for the acquisition of water, wind energy, solar energy, and geothermal energy.

- **Custom Benefits**: Machinery, equipment, materials, and inputs destined to new investments in projects of energy from non-conventional sources will be exempt from the payment of import duties, subject to the condition of maintaining an inventory of imported equipment.

- **Accelerated Depreciation**: High investment in energy efficiency and non-conventional sources will be depreciated at a rate of 20% or less.

[PROCOLOMBIA COLOMBIA CO]
IMPORTANT ADVANCES FOR THE INCLUSION OF RENEWABLE ENERGY SOURCES IN THE MATRIX

2018
50 MW

Colombia’s Government has established an MCULRE regulatory, institutional and market scheme that seeks to diversify the energy matrix, EXPANDING 50 times the installed capacity in alternative sources from 50 MW in 2018 to 2500 MW by 2022.

2022
2500 MW

2050
25%

According to the Energy Plan 2050, the participation of unconventional energies is projected to reach 25% of the energy matrix.
Supply (x1000 sqm) vs. Power (MW) in Bogota

Bogota's energy supply meets the needs of the sector

Supply in Bogota currently stands at 11 MW in load.

There is a wide variety of providers with some in the segment from traditional telecommunications such as Telefónica Móvil, through to managed services providers such as IBM.

More traditional data centre colocation providers have a small presence in the city, with Equinix who bought Verizon's data center in the city in 2016 as part of that under private operation and is now expanding its operation with a new 300kW data center.

The largest expansion was 2012/2013 with IBI's Data centre in Ibagué, 10MW.

Graph showing supply and power from 2019 to 2022.

- Supply (x1000 sqm) vs. Power (MW)
  - 2019: 12, 20; 2020: 16, 31; 2021: 25, 40; 2022: 30, 45
Currently, Bogota and the region have 68 high voltage substations.
BOGOTA HAS A STABLE, COMPETITIVE AND HIGH-CAPACITY ENERGY SYSTEM

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**Substation 200 kV**
- Cable 205 kV

**Substation 500 kV**
- Cable 560 kV

**Substation 110-115 kV**
- Cable 115 kV

**Substation Expansion Defined 2033**
- Annual expansion defined 2023

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**Average energy rate in Bogotá 2020 (USD/kWh)**

<table>
<thead>
<tr>
<th>Energy Rate—Industry (USD/kWh)</th>
<th>Energy Rate—Commercial (USD/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,1105</td>
<td>0,1309</td>
</tr>
</tbody>
</table>

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PROCOLOMBIA

COLOMBIA CO
WHY IS COLOMBIA THE IDEAL DESTINATION?

- Energy Supply
- Connectivity
- Real Estate
COLOMBIA HAS HIGHLY COMPETITIVE CONNECTIVITY INFRASTRUCTURE

» Colombia’s NAP was one of the first IXPs in the region. It started its operations at the beginning of 1998 and is a project of the Colombian Chamber of Information and Telecommunications, CIII (www.ciii.org.co).

» Currently, NAP Colombia has 20 members that generate an average traffic of 180 Gbps, which could constitute around 7% of the traffic of the entire country. Since 2009, there has been a permanent growth in traffic of between 20 and 40% per year.

» Currently, NAP Colombia is present in Bogota, but expansion initiatives are being evaluated in other cities such as Barranquilla and Cali, for the moment these are projects without concrete implementation plans.

» Colombia is a country that has a good level of connectivity to the Caribbean, to neighboring countries (Central and South America) and to Argentina, Brazil and the United States. The aggregated capacity of these cables that connect Colombia is 412 Tbps.
Colombia ranks #1 as the country with the highest number of submarine cables in Latin America, among Spanish speaking countries. Allowing, excellent and stable connections and faster data-transmissions.
COLOMBIA HAS COMPETITIVE INTERNET COST WITH A DEDICATED CHANNEL

Colombia has an infrastructure capable of maintaining world-class operations, and 11 telecommunications companies offer dedicated internet and IP telephony. Average prices listed for the internet in the dedicated channel in Mb.

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>AVERAGE PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated Internet (128 megabytes)</td>
<td>US $ 182.23</td>
</tr>
<tr>
<td>FBX Service Channels</td>
<td>US $ 90.3</td>
</tr>
</tbody>
</table>

[Logos of telecommunications companies: Une, Globenet, Claro, CenturyLink, Telefonica, Cable & Wireless Communications]
The map below shows the locations of data centers hot spots and facilities within ZFB, the free trade zone that concentrates the highest number of DCs.
WHY IS COLOMBIA
THE IDEAL DESTINATION?

ENERGY SUPPLY

CONNECTIVITY

REAL STATE
Bogota has land available for data center operations

**Availability**

- There is good real estate in the Bogota market for properties looking for colocation space.
- Rates vary by land use in the city. Rates are flexible and negotiable, allowing centers to adapt and react to market factors.
- Bogota's workforce is one of the most educated in the country, providing a talented labor force for data center operations.
- There is no deferral of wholesale power consumption in Bogota, allowing for smooth operation and the ability to scale to meet demand.

**Colocation Pricing Forecast**

<table>
<thead>
<tr>
<th>Year</th>
<th>Data Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>250k sq ft</td>
</tr>
<tr>
<td>2020</td>
<td>310k sq ft</td>
</tr>
<tr>
<td>2021</td>
<td>330k sq ft</td>
</tr>
</tbody>
</table>

**Supply**

- Total inventory: 7,371 sq ft / 31.4 CA
- Total vacant: 6,543 sq ft / 31.4 CA
- Under construction: 3,250 sq ft / 14.0 CA
- Vacancy Rate: 8.6%

**Demand**

- Expected average net absorption: 1-2MW

**Rental rates**

- $250/kW, 250k
- $600/kW (incl. E)
COLOMBIA HAS A COMPETITIVE FREE TRADE ZONE REGIME THAT GRANTS ONE OF THE MOST ATTRACTIVE INCENTIVE PACKAGES IN THE REGION

01. 20% income tax rate in free trade zones

02. Customs duties (VAT and customs duties) are not accrued or paid on merchandise that is introduced into the Free Trade Zone

03. Goods of no origin or origin introduced into the free trade zone may remain there indefinitely

04. Possibility of exporting your a Free Trade Zone to third-party countries

05. VAT exemption to raw materials, parts, inputs, and finished goods that are sold from the national customs territory to industrial users of Free Trade Zone goods or services
**FREE TRADE ZONES: ACCESS TO LOCAL MARKET**

- Free trade zones for different investor types.
- Benefit from international trade agreements.
- Allows access to the local market.

**Requirements for establishing industrial and services company in a permanent free trade zone**

<table>
<thead>
<tr>
<th>Total Assets (US$)</th>
<th>Investment Amount (US$)</th>
<th>Minimum Direct Jobs Creation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - 127,966</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>127,966 - 1,279,595</td>
<td>209,720</td>
<td>20</td>
</tr>
<tr>
<td>1,279,595 - 7,672,160</td>
<td>1,042,132</td>
<td>30</td>
</tr>
<tr>
<td>More than 7,672,160</td>
<td>2,397,000</td>
<td>50</td>
</tr>
</tbody>
</table>

**Outside a Free Trade Zone**

<table>
<thead>
<tr>
<th>Income Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
</tr>
</tbody>
</table>

**Inside a Free Trade Zone**

<table>
<thead>
<tr>
<th>Income Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
</tr>
</tbody>
</table>

**Investment Amount**

<table>
<thead>
<tr>
<th>Investment Amount (US$)</th>
<th>Minimum Direct Jobs Creation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,160,147 - 3,973,757</td>
<td>500</td>
</tr>
<tr>
<td>3,973,757 - 19,577,591</td>
<td>350</td>
</tr>
<tr>
<td>More than 19,577,591</td>
<td>150</td>
</tr>
</tbody>
</table>

Industrial users of FZ must take the investment and employee within three years following the declaration. This information is presented in dollars using a USD 1 = CUF 8,500 exchange rate. In 2021, the Minimum Monthly Legal Wage (MML.W) is CUF 938,526. The MML.W, as well as the exchange rate, are subject to variations.
DATA CENTERS IN BOGOTA

ZF Exennta
Gachancipa
- 276,322 m² at 30 km from Bogota
- Potential segments: ITO, BPO, KPO, industrial activities

ZF de Tocancipa
Tocancipa
- 387,000 m² at 35 km from Bogota
- Potential segments: autoparts, cosmetics, pharma, biotech, construction materials, manufacturing, logistics

ZF de Occidente
Bogotá
- 960,000 m²
- Potential segments: SCM and logistics, cosmetics and pharmaceutical, Biotech, (BPO, ITO, KPO)

ZF Metropolitana
Cota
- 235,320 m² at 3.5 km from Bogota
- Potential segments: ITC industry, BPO services, pharmaceutical, logistics, call centers

Intezona
Funza
- 860,000 m² at 2.2 km from Bogota
- Potential segments: diagnostic and medical devices, contact centers, data centers, logistics

ZF de Occidente
Mosquera
- 328,000 m² at 12 km from Bogota
- Potential segments: autoparts, logistics, O&G services, coatings, packaging, SW development.
FTZ BOGOTA

ENERGY SUPPLY
- Nearest substations:
  - Fontibon: 2.1 kms away
  - Florida: 4.6 kms away

CONNECTIVITY
- 4 nodes of submarine cables
- Providers:
  - Telefonica
  - C&W Networks
  - globenet
  - CenturyLink

DATA CENTERS INSTALLED
- Equinix, Tivit, Telefonica, Internexa, BT (Sencinet), DC Zetta
FTZ METROPOLITANA

ENERGY SUPPLY

» Nearest substations:
  • Siberia: 1km away, capacity of 8 MVA
  The FTZ offers 25Kbas x 1,000sqm of construction for new companies

CONNECTIVITY

» Nearest submarine cable: Columbus
» Providers: ETB, Tigo, Claro, Century Link, Telefonica

DATA CENTERS INSTALLED

» Odata
FTZ OCCIDENTE

ENERGY SUPPLY

» Nearest subestations:
  • Balsillas: 6kms away (4.5km underground wiring)
  • ZFO Subestation (owned by the FTZ): capacity of 5 MVA to expand to 15 MVA

CONNECTIVITY

» Providers: C&W Networks, Ufinit, Claro, Telefónica, ETB

HIGHLIGHTS

» Environmentally sustainable. Part of the Eco-Industrial Parks program of the UN
FTZ INTEXZONA

ENERGY SUPPLY

» Nearest subestations:
  • Noroeste: 1.8 kms away and capacity of 70 MW

CONNECTIVITY

» 4 providers with central stations located throughout the perimeter of the FTZ:
  1. CLARO – TELEMEX: Cable Ámex, enters through Cartagena and Salgar, Atanasio.
  2. TIGO-LINE: Cable Global Net, enters through Cartagena and Barranquilla.
  3. Co. nte: 5 cables entering through Barranquilla
  4. ETB: 2 cables entering through Buenaventura and Barranquilla

DATA CENTERS INSTALLED

» Small local data center for citizen services in Bogota
FTZ TOCANCIPA

Energy supply

- Nearest substations:
  - Gran Sabana: 1.5 km away, capacity of 80 MVA
  - Termozipa: 2.5 km away, capacity of 120 MVA

Connectivity

- Currently fiber optic networks reach the Free Trade Zone and our internal telematics network allowing each user to have various providers.
  - Providers: ETB, BT

Data Centers Installed

- BT, C&W, Hostdime, GTS. (Two other data centers that currently, name cannot be disclosed)
THANK YOU