

March, 2007

# Energy, Infrastructure and Project Finance Group

Insight of the Mexican Infrastructure for the 2006 – 2012 Administration

Following please find a general overview of available insight regarding infrastructure projects to be developed during the Felipe Calderón's administration (2006-2012).

Please note that, except as otherwise specifically provided, the information provided herein is based mostly on unofficial documentations or communications, does not represent a legal opinion or business advice and is prepared for informational purposes only. As a result of the above, some of the projects included herein might be cancelled or changed and others might be announced in the incoming months.<sup>1</sup>

Notwithstanding the foregoing, we envision that new projects and plans will be structured and announced and other might be cancelled. However, we feel confident and it is openly known that there will be continuance between former president

## I. Background

During the previous administration (2000 – 2006), President Felipe Calderon was the head of the *Banco Nacional de Obras y Servicios Públicos, S.N.C.* or Banobras, Mexico's main public works and infrastructure financial institution. Thereafter, he was Minister of the *Secretaría de Energía* (Ministry of Energy).

During the National Infrastructure Reunion, President Calderón assured that during

Vicente Fox's administration and President Felipe Calderon's administrations.

For purposes of the above, this memorandum is divided as follows:

### I. Background

#### II. Infrastructure Projects:

1. Toll Roads
2. Railroad Transportation
3. Ports and Harbors
4. Water Supply
5. Energy
  - A. Gas
  - B. Gas Exploration and Production
  - C. Oil (Pemex)
  - D. Power Plants under Independent Power Producer Scheme
  - E. Substations and Transmission Network Lines
6. Public Private Partnerships

his administration, infrastructure will supersede historic records in Mexico. Mr. Calderón mentioned that an investment of more than \$40 billion approximately per year during the next few years will be necessary in order to close the infrastructure deficit gap in Mexico. He specified that such resources will have to be destined in roads and highways, telecommunications, urban transportation equipment, provision of basic services, environmental clean up

#### Editors' Note

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<sup>1</sup> Among other information, for the preparation of this memorandum we have reviewed: (i) the Federal Budget for 2007 (*Presupuesto de Egresos de la Federación para el Ejercicio 2007*) published in the Official Gazette of the Federation (*Diario Oficial de la Federación*) of December 28, 2006, (ii) the Drafts of Exhibits to the Federal Budget for 2007 available at the Ministry of Finance's website: <http://www.apartados.hacienda.gob.mx/presupuesto/temas/ppef/2007/index.html>, and (iii) information available in the website of different governmental entities and agencies and recent news and unofficial political statements of the current governmental agencies, officials and members of the transition team of President Felipe Calderon.

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works and management of hazardous materials, as well as the energy sector. Moreover, Mr.

Calderón offered to make his administration the “government for the Mexican infrastructure”.<sup>2</sup>

## II. Infrastructure Projects

### 1. Toll Roads<sup>3</sup>

#### (a) General

- *Compostela-Las Varas-Puerto Vallarta*, with an approximate length of 89 km, and an estimate aggregate investment of Ps.\$3,567 million (\$392 million\* approximately)
- *La Piedad Bypass and Access to Mexico-Guadalajara Highway*, with an approximate length of 18 km, and an estimate aggregate investment of Ps.\$736 million (\$80 million approximately)
- *Chihuahua Bypass*, with an approximate length of 41 km, and an estimate aggregate investment of Ps.\$695 million (\$76 million approximately)
- *Irapuato Bypass*, with an approximate length of 29.5 km, and an estimate aggregate investment of Ps.\$621 million (\$68 million approximately) which was tendered on March 6, 2007 and
- *Bojórquez Bridge*, with an approximate length of 0.8 km, and an estimate aggregate investment of Ps.\$250 million (\$27 million approximately).

#### (b) FARAC Toll Roads

In 1997, the Mexican Government created a governmental trust for the rescue of toll roads after the 1994 economic crisis (*FARAC*, for its Spanish initials) for an estimate investment of \$20 billion. The following roads from FARAC are intended to be tendered for concession for a 30 year period:

- *Maratavío-Zapotlanejo*, with an approximate length of 309 km
- *Zapotlanejo-Guadalajara*, with an approximate length of 26 km
- *Zapotlanejo-Lagos de Moreno*, with an approximate length of 118 km and
- *León-Aguascalientes*, with an approximate length of 104 km.

All four toll roads involve an aggregate of 558 km, with 51,000 vehicle transit daily and over \$180 million approximately of toll fees annually. The value of this first package is estimated to be of approximately \$1.2 billion. In addition, the Government intends to progressively privatize the 23 remaining highways under the *FARAC*'s administration, which add up to approximately 4,400 km, and the sale proceeds from such privatizations will be destined to finance new projects.<sup>4</sup>

#### (c) Toll Roads Projects under Study

- *La Venta-Colegio Militar*, with an approximate length of 22 km, and an estimate aggregate investment of Ps.\$4,000 million (\$440 million approximately)
- *Tuxpam-Tampico and Tampico Bypass*, with an approximate length of 238 km, and an estimate aggregate investment of Ps.\$4,000 million (\$440 million approximately)

<sup>2</sup> October 17, 2006, Infrastructure National Meeting at the Mexican Chamber for the Construction Industry (*Cámara Mexicana de la Industria de la Construcción*) <http://www.cmic.org/cmic/comunicadosdeprensa/noticia171006.htm>

<sup>3</sup> SCT presentation entitled: “New Concession Model for Toll Road Development in Mexico”, dated January, 2007, available at <http://uac.sct.gob.mx/>, date of consultation: January 11, 2007.

<sup>4</sup> Article entitled: “*Constructoras y bancos se unen para la privatización de las autopistas mexicanas*”, dated January 7, 2007, available at <http://www.negocios.com/gaceta/articleview/58420>, date of consultation: January 11, 2007.

\* Calculated at Ps.\$11 per dollar exchange rate.

- *Guadalajara Bypass*, with an approximate length of 111 km, and an estimate aggregate investment of Ps.\$3,400 million (\$374 million approximately)
- *Cuernavaca Bypass*, with an approximate length of 34 km, and an estimate aggregate investment of Ps.\$2,900 million (\$319 million approximately)
- *Laguna Verde-Gutiérrez Zamora*, with an approximate length of 91 km, and an estimate aggregate investment of Ps.\$1,900 million (\$209 million approximately)
- *Santa Clara-Indios Verdes*, with an approximate length of 12 km, and an estimate aggregate investment of Ps.\$1,500 million (\$165 million approximately)
- *Morelia Bypass*, with an approximate length of 53 km, and an estimate aggregate investment of Ps.\$1,000 million (\$110 million approximately)
- *Tlaxcala Bypass* and *Xoxtla-Tlaxcala*, with an approximate length of 26 km, and an estimate aggregate investment of Ps.\$900 million (\$99 million approximately)
- *Hermosillo Bypass*, with an approximate length of 22 km, and an estimate aggregate investment of Ps.\$850 million (\$93 million approximately)
- *Acapulco Bypass*, with an approximate length of 22 km, and an estimate aggregate investment of Ps.\$800 million (\$88 million approximately)
- *Ciudad Obregón Bypass*, with an approximate length of 45 km, and an estimate aggregate investment of Ps.\$650 million (\$71 million approximately) and
- *Encarnación de Díaz-San Juan de los Lagos*, with an approximate length of 26 km, and an estimate aggregate investment of Ps.\$300 million (\$33 million approximately).

## 2. Railroad Transportation

- *Mixcoac-Taxqueña-Xochimilco* and *Magdalena Mixhuca-Zaragoza-Chalco* subway lines located in Mexico City, for an approximate investment of Ps.\$66,000 million (\$7,260 million approximately)
- *Mexico City-Guadalajara High Speed Train*, with an approximate length of 582 km in two rails, and an estimate aggregate investment of Ps.\$50,000 million (\$5,500 million approximately)
- *Guadalajara-Aguascalientes Railroad*, for an approximate investment of Ps.\$4,696 million (\$516 million approximately)
- *Saltillo-Monterrey Railroad*
- *Colonet-Mexicali-Frontera Railroad* and
- *Suburban Train Systems 2 and 3*.

## 3. Ports and Harbors

- *Tuxpan Port*, to be located in Tuxpan, Veracruz, in the Gulf of Mexico
- *Nautical Ladder of the Mar de Cortés (Escalera Náutica del Mar de Cortés)*, which consist of sustainable development project consisting of commercial and industrial ports and tourist resorts, among others, located throughout the Baja California Peninsula and
- *Manzanillo Cargo* and *Tourist Port*, The Mexican Government intends to expand the existing Manzanillo Port, one of the largest container ports in Mexico and currently the only facility on the Pacific Coast of Mexico able to service the largest transpacific services due to actual capacity insufficiency of the port

5 January 17, 2007 Darío Celis Estada's Column in Reforma Newspaper, available at [www.reforma.com](http://www.reforma.com), date of consultation: January 17, 2007.

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- *Puerto Marítimo Punta Colonet*, to be located 40 km south Ensenada, Northern Baja California Peninsula for an estimate aggregate investment of \$8,000 million.<sup>6</sup> The multimodal project will consist of (i) a 30 year port concession which will include the construction, operation and exploitation of the port terminal; (ii) a 30 year train concession which will include the construction, operation and exploitation of 350 km of railroad to connect the port with the class I railroad network in the United States of America above referred to as the *Colonet-Mexicali-Frontera Railroad*; and (iii) the urbanization of the port, which includes the planning and provision of basic land access to the port and the railroad facilities, housing, basic urban services (water, sewage, electricity, parks and gardens) and public service localities.<sup>6</sup>

### 4. Water Supply

- *El Zapotillo Dam* located in Río Verde, Jalisco, for an approximate investment of Ps.\$7,000 million (\$770 million approximately)
- *Pihilo Dam*, located throughout the states of Nayarit, Sinaloa and Sonora and
- *El Realito Dam*, located in the state of Guanajuato.

### 5. Oil, Gas and Energy

#### A. Gas (LNG, Supply, Pipelines)

- *LNG Terminal at Manzanillo and Supply Contract*, located in the state of Colima, with a capacity of 500 MCFD, tender by the Comisión Federal de Electricidad ("CFE"), which is in process
- *Manzanillo-Guadalajara Gas Pipeline for the CFE*, located throughout the states of Colima and Jalisco of a 500-1,000 MCFD

- *CFE Natural Gas Supply Contract for Chihuahua and Durango*, contract of 500 MCFD for CFE and
- *CFE Natural Gas Supply Contract for the Central Region*, contract of 500 MCFD for CFE.

#### B. Pemex Exploración y Producción

- *Chicontepec Gas Field*, located in the southeast of Mexico, which consist in the exploration drilling of approximately 10,697 development gas wells and
- *Burgos Gas Drillings*, located in the Burgos area in the Gulf of México, which consist in the exploration drilling of approximately 1,520 development gas wells in the Burgos area.

#### C. Pemex Petroquímica

- *Enhancement of Train Areomáticos I*, located in Coatzacoalcos, Veracruz, with a capacity of 468 MTA of PTA approximately and an estimate investment of Ps.\$3,491 million (\$384 million approximately) and
- *El Fénix Petroleum Chemistry Project*, located in the Gulf of Mexico, and the drilling of approximately 1,192 exploration wells in the Gulf of México, of which an estimate of around 151 consist of perforations in deep waters.

#### D. Pemex Refinería

- *Salina Cruz Refinery*, located in Salina Cruz, Oaxaca, with a capacity of 27 MDB of gasoline approximately and an estimate investment of Ps.\$17,145 million (\$1,885 million approximately)
- *Fuel Quality Project*, of 15 MPV sulfur in diesel and in gasoline process for an estimate investment of Ps.\$29,549 million (\$3,250 million approximately) and
- *Oil Refinery*, to be constructed in the southeast of Mexico, with an approximate capacity of 300 thousand barrels per day.

<sup>6</sup> Transparencia Mexicana's 11/01/06 – 11/01/06 Activities Bulletin entitled "Pacto Integridad Proyecto Bahía Colonet" available at: [www.sct.gob.mx](http://www.sct.gob.mx), date of consultation: January 17, 2007.

## **E. Comisión Federal de Electricidad**

### **(i) Combined Cycle Power Plants**

- *Pacífico I and II CC Carbon-Electric Power Plants*, located in Lázaro Cárdenas, Michoacán, with a 1,400 MW capacity approximately and an estimate investment of Ps.\$22,012 million (\$2,421 million approximately)
- *Norte CC Power Plant*, located in Durango, Durango, with a 391 MW capacity approximately and an estimate investment of Ps.\$5,418 million (\$595 million approximately) to be developed under an IPP scheme and
- *Norte II CC Power Plant*, located in Chihuahua, Chihuahua, with a 558 MW capacity approximately and an estimate investment of Ps.\$4,363 million (\$479 million approximately) to be developed under an IPP scheme.

### **(ii) Renewable Resources Power Plants**

Regarding renewable resources, the Government intends to develop five in-grid large scale wind energy projects through a \$70 million donation from the Global Environmental Facility (GEF). The donation will be divided into two phases, and will be focused on giving an incentive to the energy produced during the first five years of each project. In this sense, the Government intends to exploit one of the most important and potential areas for wind farms: the *La Ventosa Area*, located in the Istmo de Tehuantepec area in the state of Oaxaca. *La Ventosa Area* has an estimate wind power capacity production of 2,000 megawatts. Regarding such development, it is of our understanding that a 500 megawatt capacity has been assigned to the CFE, and the remaining 1,500 MW was made available through an open season. Likewise, we understand that the CFE will publicly bid 100 megawatts of its assigned capacity to be developed under an IPP scheme. There are four other projects considered under the same scheme, 100 MW each, that will be tendered from 2007 to 2010.

### **(iii) Wind Power Plants**

- *Agua Prieta II CC Solar Hybrid Power Plant*, located in the state of Sonora, with a 630 MW, for an investment of Ps.\$3,722 million (\$409 million). This project was tendered on August 29, 2006
- *Oaxaca I Wind Power Plant*, located in the state of Oaxaca, with a 100 MW capacity approximately and an estimate investment of Ps.\$1,842 million (\$202 million approximately) to be developed under an IPP scheme
- *La Venta III Wind Power Plant*, located in Juchitán de Zaragoza, Oaxaca, with a 101.4 MW capacity approximately and an estimate investment of Ps.\$1,651 million (\$181 million) to be developed under an IPP scheme. This project was tendered on February 27, 2007. and
- *La Venta IV Wind Power Plant*, located in the state of Oaxaca, with a 100 MW capacity approximately and an estimate investment of Ps.\$1,200 million (\$132 million approximately) to be developed under an IPP scheme.

### **(iv) Hydroelectric Power Plants**

- *La Yesca Hydroelectric Power Plant*, located in la Yesca, Nayarit, with a 746 MW capacity approximately and an estimate investment of Ps.\$10,141 million (\$1,115 million approximately). This project was tendered on February 27, 2007
- *La Parota Hydroelectric Power Plant*, located in Acapulco, Guerrero, near the *EL Cajón Hydroelectric Power Plant*, with a 905 MW capacity approximately and an estimate investment of Ps.\$13,292 million (\$1,462 million approximately). The Government has had problems with the landowners of the construction site for this power plant, however, the Government intends to tender the project immediately after such problems have been taken care of and

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### (v) Other Power Plants

- *Baja California II Turbo Gas Power Plant*, located in the state of Baja California, for an estimate investment of Ps.\$2,181 million (\$239 million approximately) to be developed under an IPP scheme
- *Tuxpan Turbo Gas Power Plant*, located in the state of Veracruz, for an estimate investment of Ps.\$110 million (\$12 million approximately) to be developed under an IPP scheme and
- *Cerro Prieto Steam Supply Power Plant*, located in the state of Baja California.

### (vi) Substations and Transmission Network Lines

- *Transmission Network associated to the Pacifico II and III Cabron-Electricity Power Plant*, of approximately 651 km throughout the state of Michoacán for an estimate investment of Ps.\$2,159 million (\$237 million approximately)
- *Transmission Network associated to the Tamazunchale II Combined Cycle Power Plant*, of approximately 456 km throughout several states of Mexico for an estimate investment of Ps.\$1,828 million (\$201 million approximately)
- *Sub Station 1116 Noroeste Transformation*, of approximately 457 km and 1,800 MVA throughout several states of México for an estimate investment of Ps.\$1,774 million (\$195 million approximately)
- *Transmission Network associated to the La Parota Hydroelectric Power Plant*, of approximately 550 km in Acapulco, Guerrero for an estimate investment of Ps.\$1,506 million (\$165 million approximately)
- *Sub Station 1114 Oriental Transmission and Transformation*, of approximately 546 km, 1,300 MVA and MVAR throughout several states

of México for an estimate investment of Ps.\$1,406 million (\$154 million approximately)

- *Sub Station 1112 Noroeste Transmission and Transformation*, of approximately 281 km, 399 MVA and 28 MVAR throughout several states of México for an estimate investment of Ps.\$1,292 million (\$142 million approximately)
- *Transmission Network associated to the Pacifico*, of approximately 297 km, 375 MVA and 21 MVAR throughout several states of México for an estimate investment of Ps.\$1,236 million (\$135 million approximately)
- *Sub Station 1113 Dynamic Compensation Donato-Laguna Verde Nuclear Power Plant*, of approximately 500 MVA and 1,435 MVAR throughout several states of México for an estimate investment of Ps.\$1,221 million (\$134 million approximately) and
- *Sub Station 1119 Sureste Transmission and Transformation*, of approximately 150 km, 875 MVA and 100 MVAR throughout several states of México for an estimate investment of Ps.\$1,170 million (\$128 million).

## 6. Public Private Partnerships (PPP or PPS, for its Spanish initials)<sup>7</sup>

Since the year 2003, the Mexican Federal Government has made an important effort to implement the Public Private Partnerships (PPP) scheme in Mexico through the so-called *Proyectos de Prestación de Servicios* (PPS) scheme. After successfully been implemented in roads, hospitals and technical schools in the years 2005 and 2006, the Federal Government has supported State Governments to implement the PPS scheme at a local level. Even though if no local project under the PPS scheme has been announced, we expect that those will be announced soon.

<sup>7</sup> Representative Ángel Aburto's statement available at <http://www.lacrisis.com.mx/index.php?option=content&task=view&id=5663&Itemid=184>, consultation date: January 12, 2007.

In the mean time, following please find some of the most relevant PPS projects announced for this and the following years:

#### **(a) Roads<sup>8</sup>**

- *Zacatecas-Salttillo*, with an approximate length of 213 km, and an estimate aggregate investment of Ps.\$5,450 million (\$599 million approximately)
- *Mitla-Tehuantepec Junction*, with an approximate length of 163 km, and an estimate aggregate investment of Ps.\$5,286 million (\$581 million approximately)
- *Salina Cruz-Huatulco*, with an approximate length of 146 km, and an estimate aggregate investment of Ps.\$5,123 million (\$563 million approximately)
- *Acayucan-La Ventosa*, with an approximate length of 170 km, and an estimate aggregate investment of Ps.\$4,856 million (\$534 million approximately)
- *Macuspana-State limit Campeche/Quintana Roo*, with an approximate length of 434 km, and an estimate aggregate investment of Ps.\$2,983 million (\$328 million approximately)
- *Apizaco-Calpulalpan*, with an approximate length of 51 km, and an estimate aggregate investment of Ps.\$2,070 million (\$227 million approximately) and
- *Arriaga-La Ventosa*, with an approximate length of 137 km, and an estimate aggregate investment of Ps.\$2,070 million (\$227 million approximately).

#### **(b) Hospitals**

- *Ciudad Victoria Specialty Regional Hospital*, located in state of Tamaulipas
- *Ixtapalucan Specialty Regional Hospital*, located in the Estado de México
- *Guanajuato Specialty Regional Hospital*, located in the state of Guanajuato
- *Guerrero Specialty Regional Hospital*, located in the state of Guerrero
- *Queretaro Specialty Regional Hospital*, located in the state of Queretaro
- *Chihuahua Specialty Regional Hospital*, located in the state of Chihuahua
- *Sinalia Specialty Regional Hospital*, located in the state of Sinaloa and
- *Coahuila Specialty Regional Hospital*, located in the state of Coahuila.

#### **(c) Sport Centers**

*Comisión Nacional del Deporte (CONADE) High Level Sport Center*

<sup>8</sup> SCT presentation entitled: "Private Service Contracts in Highways" dated January, 2007, available at <http://uac.sct.gob.mx/>, date of consultation: January 11, 2007.

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