CRE

COMISION REGULADORA DE ENERGIA

XII Annual Economic Summit

Perspectives of the future of the energy sector in Baja California

San Diego, California
October 18, 2002

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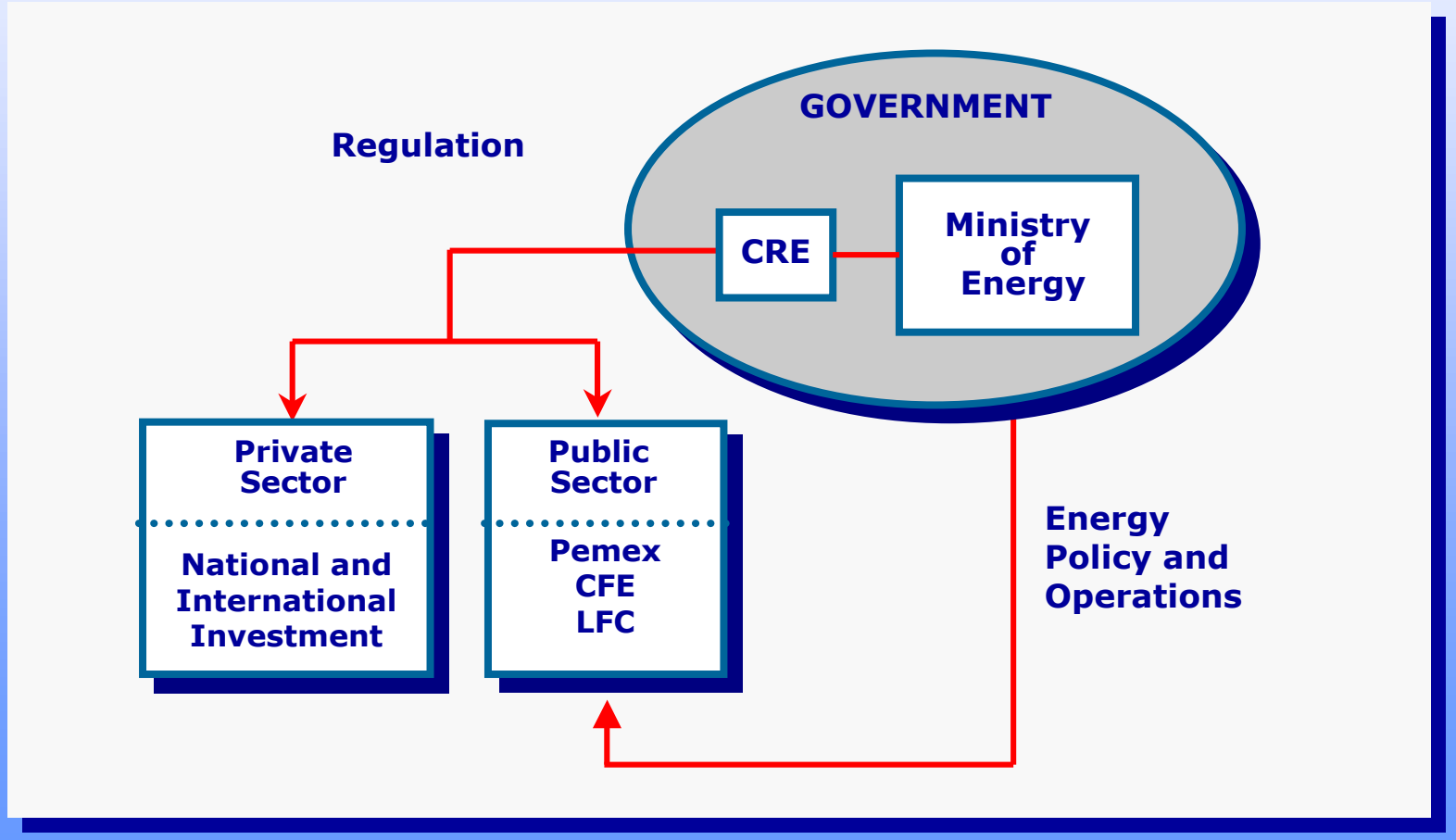
1. Introduction

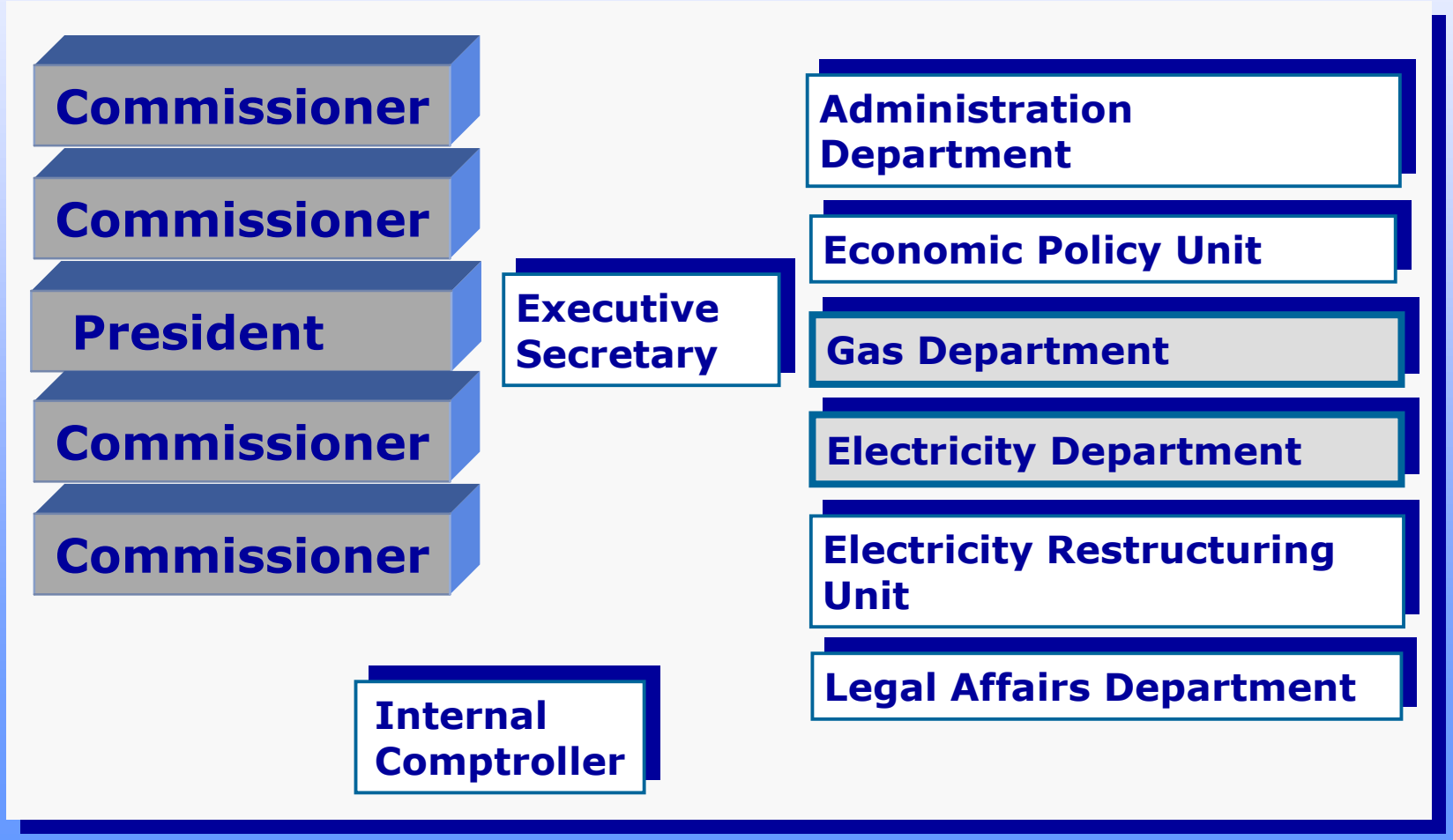
Institutional Framework

The Energy Regulatory Commission (CRE) is the body responsible for regulating public and private activities in the electricity and natural gas industries



CRE´s Structure

The CRE has technical and operational authonomy. It is composed by five commissioners, and has 150 employees

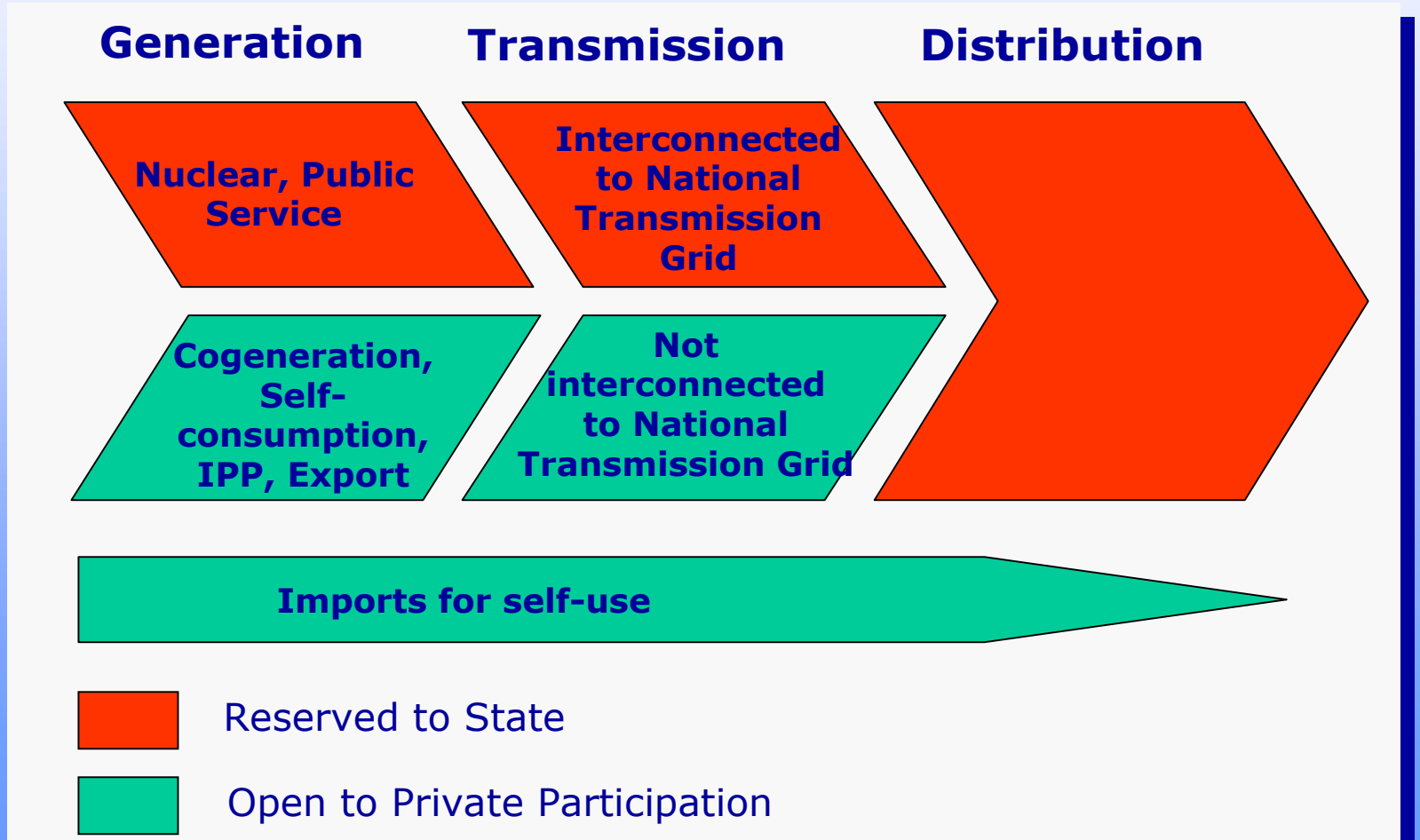


2. Energy Projects in Baja California

2.1. Electricity

Activities Open to Private Participation

- **Since 1992, private companies can generate or import electricity**



Electricity

Electricity activities regulated by the CRE:

I. Electricity generation, export and import performed by private participants

II. Electricity supply and sale to the customers of the public service

III. Electricity acquisition destined to the public service

IV. Electricity conduction, transformation and delivery services under the modalities of generation, exportation and importation

Permits Granted

Since 1994, the CRE has granted 191 Power related permits for a total capacity of 19,361 MW

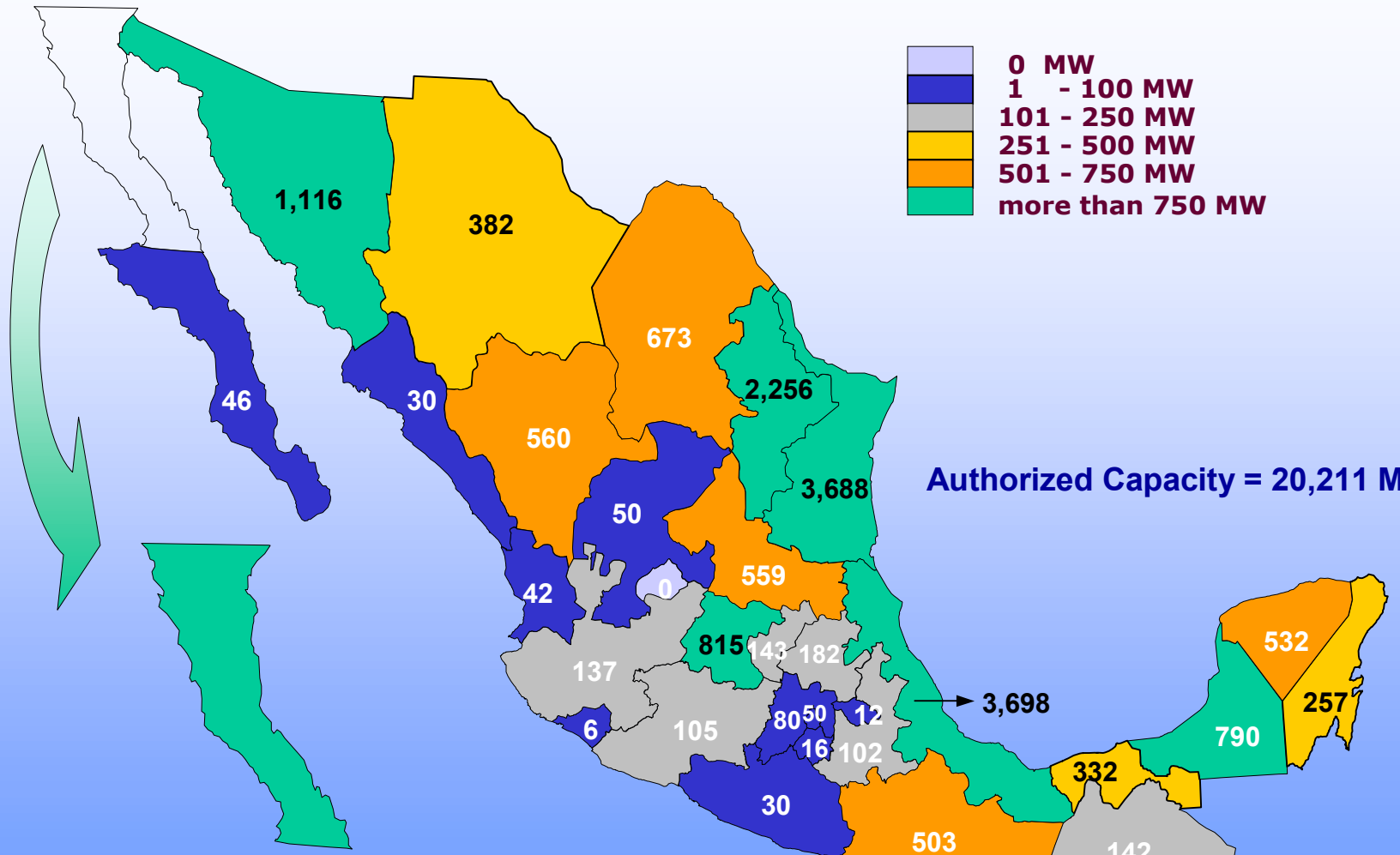
Type	Permits	Capacity (MW)	Investment (USD million)
Self-Supply	130	6,026	4,334
Cogeneration	33	2,095	1,157
IPP´s	17	9,277	5,102
Import	7	41	12
Export	5	2,171	1,379
TOTAL	**192**	**19,611**	**11,985**

The Challenge

Demand for electricity is expected to grow at an annual rate of 6% over the next 10 years

- ➔ **Assure and adequate, reliable and competitive power supply**
- ➔ **Attract investments that do not require government guarantee**

Authorized Capacity



Authorized Capacity = 20,211 MW

BAJA CALIFORNIA
2,881.12 MW
14.26%

Updated to 1st october 2002

Permits granted

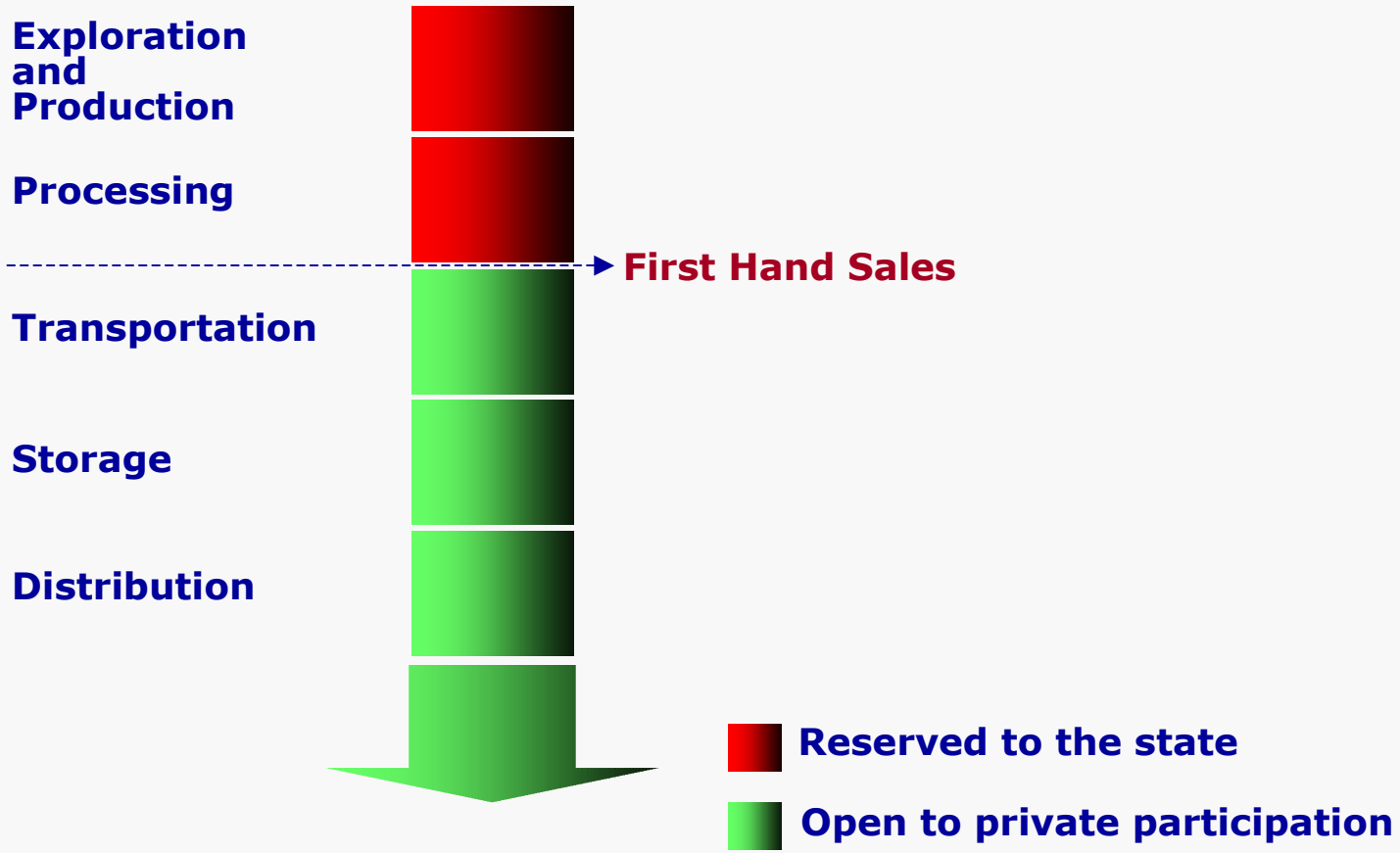
The CRE has granted 8 generation permits and 2 import permits for Baja California

Permitholder	Modality	Date Granted	Capacity (MW)	Estimated Generation (GWh / Year)	Investment (millions USD)	Project Status
Baja California 2000	Self Supply	01/14/98	60.5	166.0	72.6	Under Construction
Energía Azteca X	IPP	08/07/00	597.3	4,850.0	262.0	Under Construction
Energía Azteca X	EXP	12/20/00	298.6	2,425.0	134.0	Under Construction
Termoeléctrica de Mexicali	IMP	06/01/01	12.0	2.0	4.8	Under Construction
Termoeléctrica de Mexicali	EXP	08/09/01	679.7	5,835.0	373.8	Under Construction
Comisión Estatal de Servicios Públicos de Tijuana	Self Supply	12/11/92	20.0	140.2	20.0	Under Construction
Energía de Baja California	EXP	09/25/01	337.1	2,952.0	160.0	Under Construction
Energía de Baja California	IMP	04/22/02	20.0	6.0	8.0	Operating
AES Rosarito	EXP	10/15/01	556.0	3,500.0	278.0	Under Construction
Fuerza Eólica de Baja California	EXP	07/11/02	300.0	830.0	350.0	To Start Construction
Total			**2,881.1**	**20,706.2**	**1,663.2**	

2.2. Natural Gas

Activities Open to Private Participation

- Since 1995 downstream activities are open to private investment



Natural Gas Activities regulated by the CRE:

I. First Hand Sales

II. Transportation

III. Distribution

IV. Storage

Permits Granted

- **The CRE has granted 120 permits that represent more than USD 2.5 billion in investment commitments in the Natural Gas Industry**

Type	Permits	Length (miles)	Estimated Investment (million USD)
Transport	**99**	**7,162**	**1,567**
Open Access	16	6,797	1,348
Self-use	83	366	219
Distribution	**21**	**17,526**	**988**
TOTAL	**120**	**24,689**	**2,555**

Transportation Permits Granted

Natural Gas Permits

- **Baja California has two open access transmission permits, two self use transmission permits and one distribution permit**

Permitholder	Modality	Date Granted	Length (km)	Maximum Capacity (thousands of m^3d)	Investment (million USD)	Status	Date Since Operating
Transportadora de Gas Natural de B.C.	Open Access	12/16/98	36	22,920	28.2	Operating	06/15/00
Gasoducto Bajanorte	Open Access	12/15/00	217	11,328	125	Operating	09/01/02
Gasoducto La Rosita	Self Use	09/13/01	3.8	5,943	1.5	Operating	08/01/02
Termoeléctrica de Mexicali	Self Use	12/19/01	1.3	2,974	0.7	In construction	N/A
Distribuidora de Gas Natural de Mexicali	Distribution	09/27/96	403	710 *	18.2	Operating	Before 92
TOTAL			661.1	43,875	173.6	-	-

* Conducted Volume

4. Liquefied Natural Gas

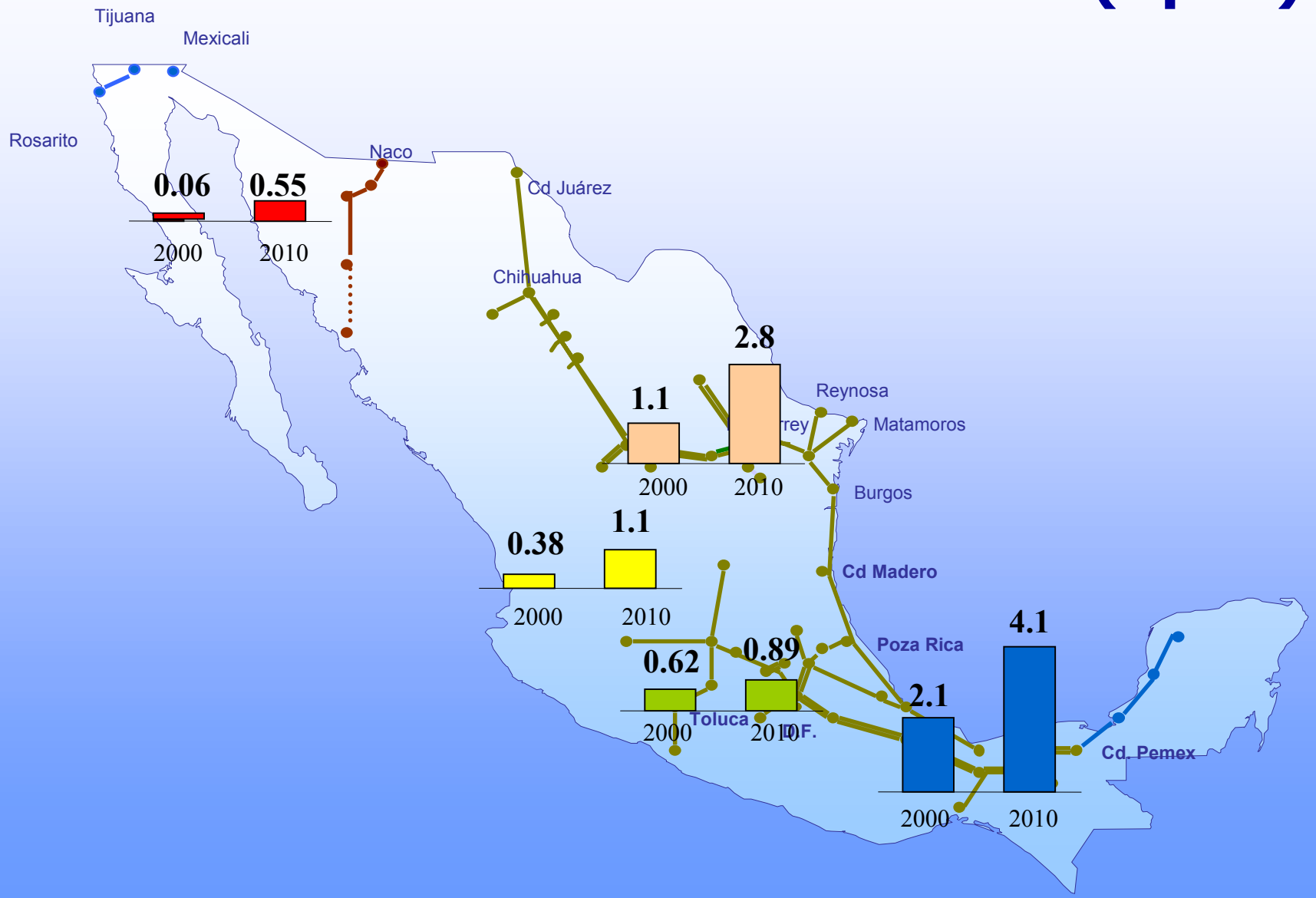
Main Characteristics

- LNG is the liquid form of Natural Gas with a containment of methane superior to 90%
- This fuel liquefies at –265°F (-161°C) at atmospheric preasure
- When liquefaction process is performed, its volume reduces 600 times
- As a liquid, it is heavier than air and approximately half as heavy as water
- In its gaseus state it is lighter than air
- Natural Gas is the fuel that has the least negative impact on enviroment

LNG Imports

- The expected demand of natural gas consumption has opened the opportunities for private sector participation in LNG terminals
- The goverment has adopted the regulatory framework to include the LNG storage and regasificaction
- The CRE has received more than 18 companies interested in regasification projects

Regional Demand of Natural Gas (bpcd)



Liquefied Natural Gas in Mexico

- **Marketable characteristics of liquefied natural gas:**

  - **Additional supply for the national natural gas**
  - **Allows the development of combined cycle generation plants**
  - **Fosters the regional development**
  - **Controls eventual peaks in demand (there are no storage projects in Mexico)**
  - **Stabilizes prices (through the long term contracts) and fosters competition and efficiency (through third parties services)**

LNG Sites Identified by Investors

The LNG Terminals

- **Altamira:**
  - Cover the regional energy demand (CCGT)
  - Strategic point in the SNG
  - Reduce imports from Texas
- **Baja California:**
  - Incipient energy market (natural gas & electricity)
  - Developement of IPPs to export electricity
  - Exports to California
- **Michoacan/Colima:**
  - Convert fuel oil power plants to natural gas
  - Industrial and local consumption
  - Build pipelines to interconnect with the SNG

Regulation of LNG projects

- **The main points for LNG regulations are:**
  - Safety
  - Open Access
  - Tariffs

Regularory Consistency

Safety: Requirements

All facilities are designed to prevent fires and contain the LNG (foresaw spilling)

- Storage tank: design, capacity, protection systems, tests, etc.
- Soil studies (geographical & geologial): earthquake analysis, kind of land, etc.
- Environmental studies: wind, moisture, temperature (heat flux), etc.
- Marine considerations: frequency of tropical storms, records of storms, visibility (fog), etc.
- External impacts: blast overpressure, missile impact, etc.

Safety: Operation and Maintenance

- **Process plant**
  - Description of the process
  - Operating philosophy (under all conditions)
  - Operation managent plan of the terminal
  - Maintenance schedule
- **The design, construction and the O&M should be based on known and accepted international standards and should be aimed at providing "best practice" in the worldwide LNG business**
- **Control and supervition by an international specialist**
- **Verification by the CRE and other authorities**

Open Access: Commercial Practice

- **Non-discriminatory third-party open access: essential for efficient operations**
- **The open access avoids:**
  - Under-utilization of investment
  - Slow circulation of inventory
  - Imposibility to buy in a "spot" market
  - Monopolize the market and the control of the natural gas imports
- **The open acces allows the optimization of the terminal**
- **The international LNG trade evolves to more flexible contracts, the open access is a common rule in many countries**

Regulated Tariffs

- **Flexibility on the methodology to set the tariff of the regasification plant, but will have to be congruent with the current regulatory framework:**
  - Tariffs set with reference to costs
  - Reflect expected costs and investments
  - Promote different services
  - No cross-subsides between different services
  - Opportunity to make fair returns
  - Maximun tariffs give a margen to negotiate
  - Non-discriminatory rates for end users
- **Methodologies will be approved by the CRE**

LNG Permits

The CRE grants LNG permits:

- Permits have an initial term of 30 years
- May be renewed for additional 15 years periods
- Do not confer exclusivity in the LNG terminal
- The permit will be granted for a capacity storage and regasification capacity
- Permits will be granted to all applicants that present a technically feasible projects

Applicant Requeriments

- Previous experience in the design, construction and operation of LNG terminals
- Demostrate that the technology used for all processes complies with the "best practice" worldwide
- To prove that the site location is suitable for building an LNG terminal
- Financial capacity for a long-term operation and sources to finance the project
- Contractual arrangements for long term access to LNG, and ships needed to tansport it
- ……., etc.

4. Final Remarks

Final Remarks

- Mexico's priority is to have an energy policy that addresses its energy security requirements
- Regulation allows the development of natural gas sotrage projects
- The construction of liquefied natural gas plants in Baja California will foster a higher regional development and will increase the supply source
- Investments in natural gas do not require State guarantees, so its economic convenience depends of the demand and supply in the region
- It is necessary to strengthen coordination between federal, local and municipal authorities to promote the development of efficient and secure projects
- The CRE will grant permits to all the applicants who comply with the regulatory framework. However, it is not the only permit companies will need to acquire, and ours is just one of many projetcs.

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