



CLÚSTER

MINERO-PETROLERO
DE COAHUILA, A.C.

Challenges and Strategic Services

Energy Reform

Constitutional reform approved December 2013:

- Resources underground, state property. No concessions allowed
- Private companies may participate in the whole hydrocarbon value chain
 - In E & P activities through contracts or licenses, by public biddings managed by NHC (CNH)
 - In Mid & downstream activities through permits. From the Energy Department and ERC (CRE)

Secondary laws already being analyzed in Congress,

Vote estimated end of June

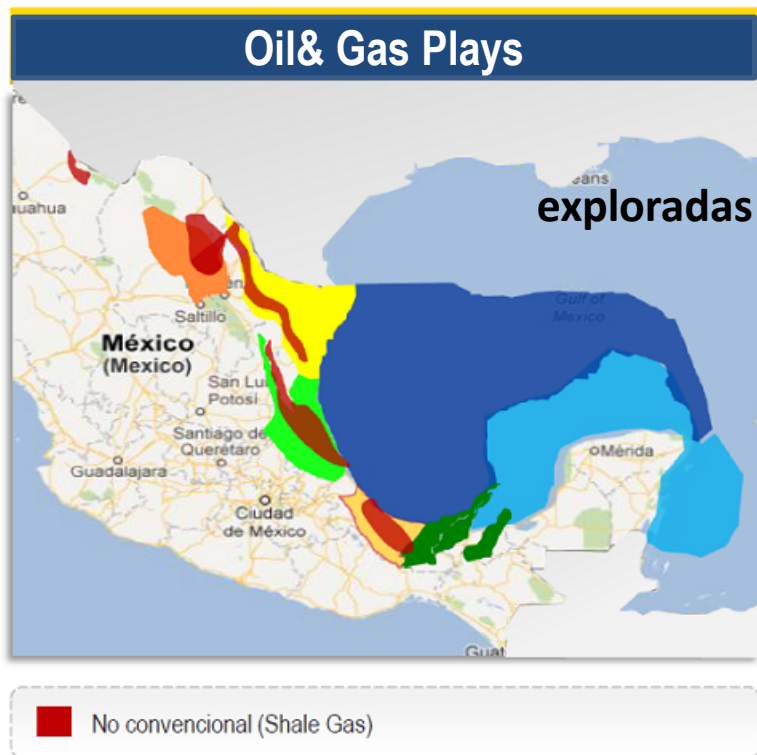


CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Mexican Potential

Total Resources



Total Resources Billion Barrels Oil Equivalent

Cuenca	Prod. Acum.	Reservas			Rec. Prosp.		Total
		1P	2P	3P	Conv.	No Conv.	
Sureste	45.4	12.2	18.2	25.1	20.1		114.8
Tampico Misantla	6.5	1.0	7.0	17.7	2.5	34.8	
Burgos	2.3	0.4	0.6	0.8	2.9	15.0	
Veracruz	0.7	0.2	0.2	0.2	1.6	0.6	
Sabinas	0.1	0.0	0.0	0.0	0.4	9.8	
Aguas Profundas	0.0	0.1	0.2	0.7	26.6		
Plataf. Yucatán					0.5		
Total	55.0	13.9	26.2	44.5	54.6	60.2	

Proyectos de desarrollo y explotación *Proyectos exploratorios*

In addition, there are other places with hydrocarbons potential that have not been explored so far: Baja California, Mar de Cortés, Chihuahua, Sierra Madre Oriental, Sierra de Chiapas y Progreso

The challenges

Conditions that explain success in EFS, not yet present in Mexico

- Regulatory framework, in process, not mature
 - Land Rights
 - More than 50 % social property (Ejido)
 - Rest private, not yet much market experience
 - Human resources, in process of building up
 - Infrastructure, not enough

Great risks if not solved adequately:

- Disorderly growth of cities:
- Insufficient housing, public services, roads, airports and rail
- Pressure in education and health services,
- Insufficient supply of trained workforce and professionals



Coahuila Organization

- A Cluster as a NGO (Civil Partnership)
- An alliance of
 - State & Local governments
 - Universities and research centers
 - Companies and business organizations
- More than 75 members
 - 47 companies
 - 8 universities and 3 research centers
 - Coahuila State Government & 17 municipalities



CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Government Authorities



Gobierno de
Coahuila



Higher education institutions and research centers

ITSM
INSTITUTO TECNOLÓGICO SUPERIOR DE
MONCLOVA EJÉRCITO MEXICANO



COECYT

SEDU



Companies and Organizations



Companies and Organizations



COMBUSTIBLES
Y LUBRICANTES
S.A. DE C.V.



Cluster Operation

▶ 6 working committees:

▶ Human Resources

▶ Infrastructure

▶ Supply Chain

▶ Environment

▶ Land Rights Negotiation

▶ Technology and Innovation

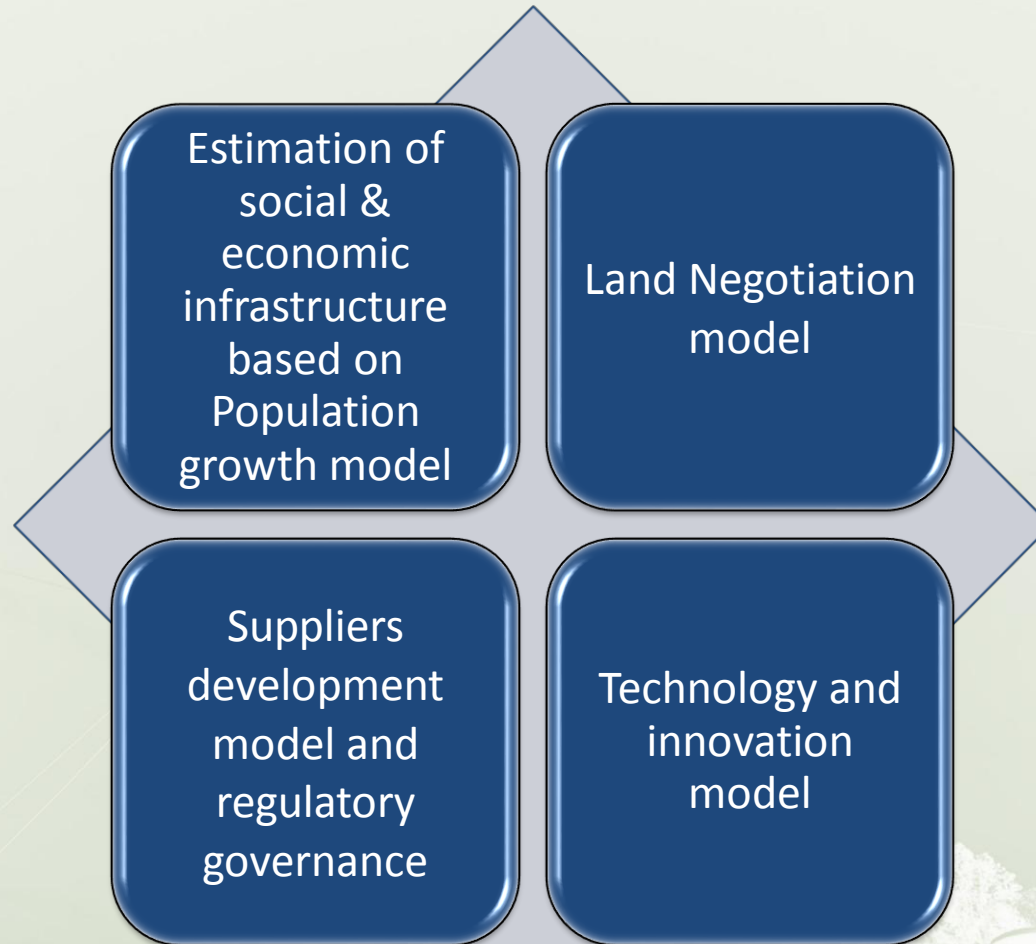


CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Some strategic services, in development:

Currently, the Cluster focus its work on four strategic services:



Estimation of social & economic infrastructure based on Population growth model

Necessary to foresee negative effects of an accelerated economic and demographic growth, as was the case of the maquiladora industry in border cities

Average Annual Population growth rate

City	1990-2000
Cd. Acuña, Coah	7.0
Cd. Juárez, Chih.	4.3
Nuevo Laredo, Tamps.	3.5
Reynosa, Tamps.	4.1

Population growth estimates will be made from scenarios of employment needs; from such model, public services and social & economic infrastructure will be estimated



Texas. Population Growth

Eagle Ford. Total Population and growth rate, 2008 – 2013

Texas / Eagle Ford Shale	2008		2013	
	Total population	Total population	Total population	Growth rate 2008-2013
Texas	24 304 290	26 448 193		1.76
<i>Eagle Ford Shale (20 counties)</i>	2 678 344	2 955 239		2.07
With active drilling (14)	514 035	560 751		1.82
With Related Economic Development (6)	2 164 309	2 394 488		2.13

Source: U.S. Department of Commerce. United States Census Bureau.



CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Bilingual Center Library/ Texas A&M
International University

➤ **Before 2008, Eagle Ford's counties grew at a rate of 1.58%**

Texas. Employment Growth

Eagle Ford. Direct and indirect new employment, 2012.

Texas / Eagle Ford Shale	2012		
	Direct	Indirect and induced	Total
<i>Eagle Ford Shale (20 counties)</i>	46 289	70 219	116 508
With active drilling (14)	42 263	44 068	86 331
With related economic development (6)	4 026	26 151	30 177

Source: *UTSA Institute for Economic Development. Economic Impact of the Eagle Ford Shale, march 2013.*



CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Official demographic projections

Predict small growth for the region

“Official” Population projections 2014 - 2020

Total and by region	2014	2020	Net Increase	Annual Growth rate
Total regions	892 300	950 709	58 409	1.02
North Region	400 539	428 647	28 108	1.09
Carboniferous Region	184 168	195 195	11 027	0.94
Center Region	307 593	326 867	19 273	0.98

Source: CONAPO. Proyecciones de la Población de los Municipios de México 2010 – 2030.

With the current trend, 9,700 per year.



New estimates needed

- However , such projections do not consider the impact of the exploitation of shale gas and oil.
- To account for such impact, a new estimate is being constructed, using:
 - number of wells to be operated annually in Coahuila, (federal government sources will be used)
 - Employment estimates (based on Texas experience)



Public services demand :

Estimation will be based on:

- A diagnosis of current coverage on services of drinking water, drainage, electric energy, education and health.
- New estimates of increases of population,
- Desired coverage indexes (international agencies standard) for
 - Number of houses
 - Drinking water, drainage and electricity needs
 - Educational spaces and teaching personnel
 - Hospitals and equipment. Medical personnel.



Economic infrastructure

Diagnosis: An evaluation of present situation in topics as:

Roads and highways

Rural roads

Airports

Railways

Pipelines

Projections: From diagnosis, projects of required infrastructure will be identified



CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Land negotiation model

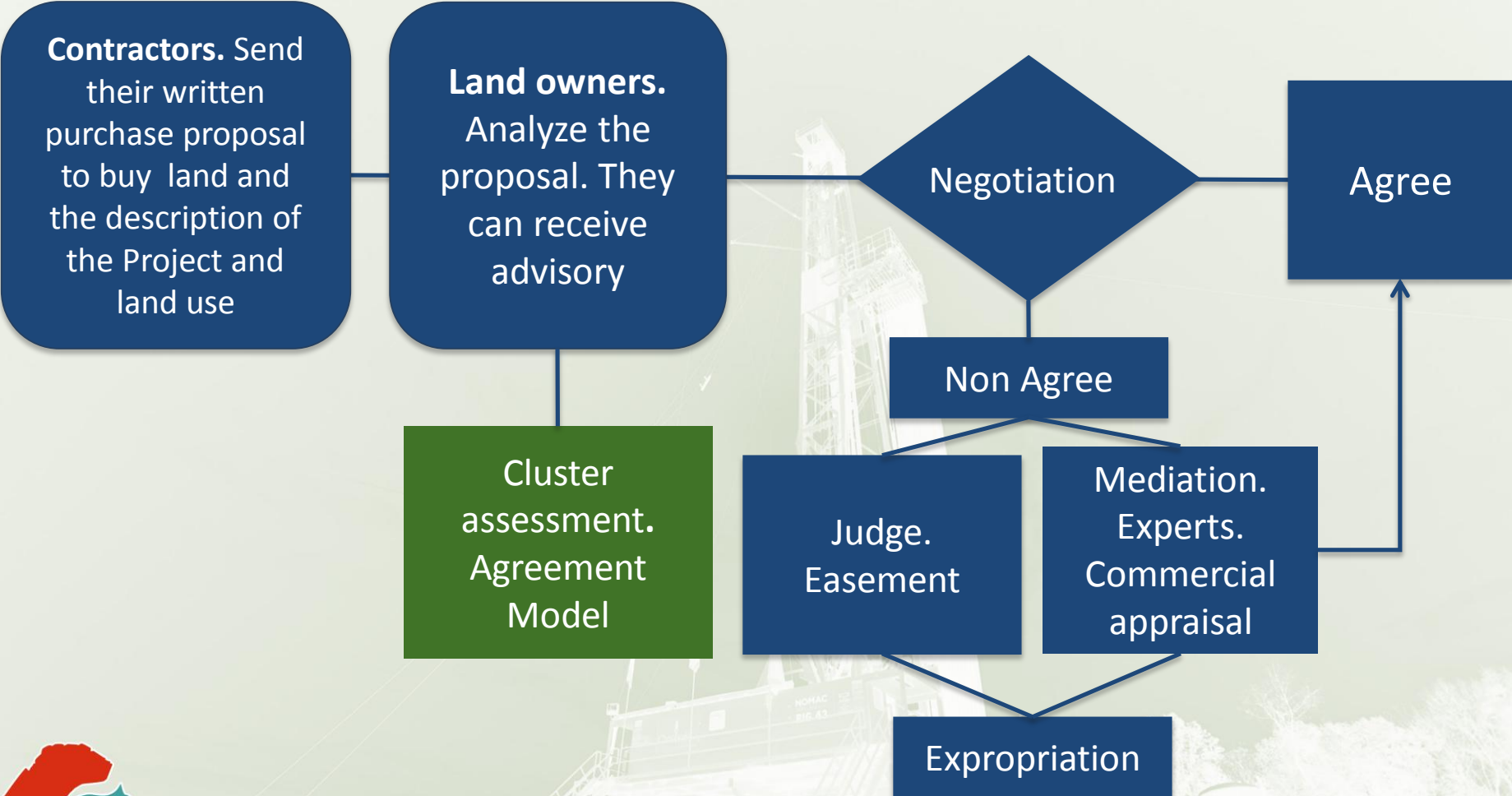
- General objective: facilitate investment projects to be developed in harmony with the communities.
- Specific objective: Develop a negotiation process model and pertinent contracts, that grant legal and social certainty to companies, and a fair treatment to land owners, according to law provisions.



CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Proposed negotiation process



Suppliers development and regulatory governance

Goal: Promote national content

Lines of work:

- Analyze the value chain of the shale gas exploitation.
- Identify opportunities for Mexican companies to provide goods, services and employment & links with financing sources.
- Promote joint ventures of Mexican and foreign companies
- Establish a certification program in Corporate Social Responsibility.
- Organize an Expo of Companies and Suppliers
- Start up a Regulatory Governance Program to ease the companies' opening and operation red tape processes.



Technology and Innovation model

Goal

To implement policies that encourage technology innovation activities in the companies linked to the energy industry, for increase the competitiveness of the State

Lines of Work

Currently we are working on:

- A directory of experts and researchers specialized on the mining and oil sector.
- Inclusion, of the Cluster, in the State Agenda for Innovation.
- Mining-Oil Information Portfolio.



CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Technology and Innovation model

Lines of Work

Currently, we are working on:

- Mining-Oil Sector studies, that strengthen the technology capabilities of companies or local and national agencies.
- A Program of certification for human capital, specialized on energy and security areas.
- Identification of projects of research, tech development and innovation (R+D+I).



CLÚSTER
MINERO-PETROLERO
DE COAHUILA, A.C.

Binational Center Library/ Texas A&M
International University

Conclusions

- Mexican Energy Reform has opened a big New Market.
- Great investment opportunities
- Small and Medium companies will be privileged.
- But also challenges are presented. The Cluster Minero – Petrolero de Coahuila provides a secure way to cope them.

