



# TAMAULIPAS

## ENERGY SECTOR INVESTMENT OPPORTUNITIES



**CETAM**  
COMISIÓN DE ENERGÍA  
DE TAMAULIPAS





# STRATEGIC LOCATION



UNITED STATES  
OF AMERICA



TEXAS

NUEVO LEON

**TAMAULIPAS**

GULF OF MEXICO

SAN LUIS POTOSI

VERACRUZ



MEXICO



PACIFIC OCEAN

BORDER  
WITH USA  
**370 KM**

LAND AREA  
**80,249 KM<sup>2</sup>**

SHORELINE  
GULF OF MEXICO  
**433 KM**



“THE CLOSEST ROUTE FROM ASIA TO **CENTRAL, EASTERN US AND CANADA**”



PACIFIC OCEAN

ASIA

ECONOMIC CORRIDOR OF THE NORTH OF MEXICO

UNITED STATES OF AMERICA



CANADA



THUNDER BAY

OTTAWA

MINNEAPOLIS  
INTERSTATE 35

TORONTO

KANSAS CITY

INDIANAPOLIS  
INTERSTATE 69

OKLAHOMA CITY

MEMPHIS

DALLAS

SHREVEPORT

SAN ANTONIO

HOUSTON

NUEVO LAREDO

MCALLEN

REYNOSA

BROWNSVILLE

MATAMOROS

GULF OF MEXICO

MAZATLAN



MEXICO







MANZANILLO

LAZARO CARDENAS



# INFRASTRUCTURE



-  HIGHWAYS **14,014 km**
-  RAILWAYS **937 km**
-  INTERNACIONAL AIRPORTS **5**
-  SEA PORTS **2**
-  SEA PORT **1**  
(UNDER CONSTRUCTION)
-  INTERNATIONAL CROSSING **18**

# ROAD CONNECTIVITY



**TAMAULIPAS**  
▶ **14,000 KM** ROAD SYSTEM

ROAD CONNECTIVITY THAT LINKS  
GEOGRAPHICAL AND ECONOMIC REGIONS

## TRUNK AXLES

- MAZATLAN-MATAMOROS
- MANZANILLO-TAMPICO WITH BRANCH TO L. CARDENAS
- MEXICO CITY-NUEVO LAREDO
- VERACRUZ-MONTERREY WITH BRANCH TO MATAMOROS

SOURCE: SCT

**ECONOMIC CORRIDOR OF THE NORTH OF MEXICO**



UNITED STATES OF AMERICA



CANADA



LAZARO CARDENAS

MEXICO

# RAILWAY TRANSPORT IN TAMAULIPAS



RAILWAYS **937 km**

RAILWAY INTERNATIONAL CROSSINGS **2**

## TRANSPORT OF FREIGHT VIA RAILWAY

### IMPORT

BORDER	Volume (Million tonnes)	Involvement (Total)
Nuevo Laredo	19.6	46.4%
Matamoros	2.8	6.7%
<b>National Total</b>	<b>42.2</b>	<b>100%</b>

PORT	Volume (Million tonnes)	Involvement (Total)
Altamira	3.3	17.1%
Tampico	0.2	1.1%
<b>National Total</b>	<b>19</b>	<b>100%</b>

### EXPORT

BORDER	Volume (Million tonnes)	Involvement (Total)
Nuevo Laredo	5.9	40.8%
Matamoros	0.7	4.7%
<b>National Total</b>	<b>14.4</b>	<b>100%</b>

PORT	Volume (Million tonnes)	Involvement (Total)
Altamira	0.4	8.4%
Tampico	0.0	0.2%
<b>National Total</b>	<b>4.2</b>	<b>100%</b>

## RELEVANT PRODUCTS TRANSPORTED BY RAIL



KCSM  
FERROMEX

# AIR CONNECTIVITY



## TAMAULIPAS 5 INTERNATIONAL AIRPORTS

19 FLIGHTS

1.4 MILLIONS OF PASSENGERS, 2017

- UNITED
- AEROMAR
- AEROMEXICO connect
- interjet
- viva aerobus
- TAR Aerolíneas



SOURCE: SCT

# MARINE CONNECTIVITY



3 SEA PORTS:  
**MATAMOROS**  
(DEVELOPING)  
**ALTAMIRA**  
**TAMPICO**



CARGO  
HANDLING

29.4 MILLION TONS  
PER YEAR



14 SHIPPING COMPANIES



# PORT OF MATAMOROS



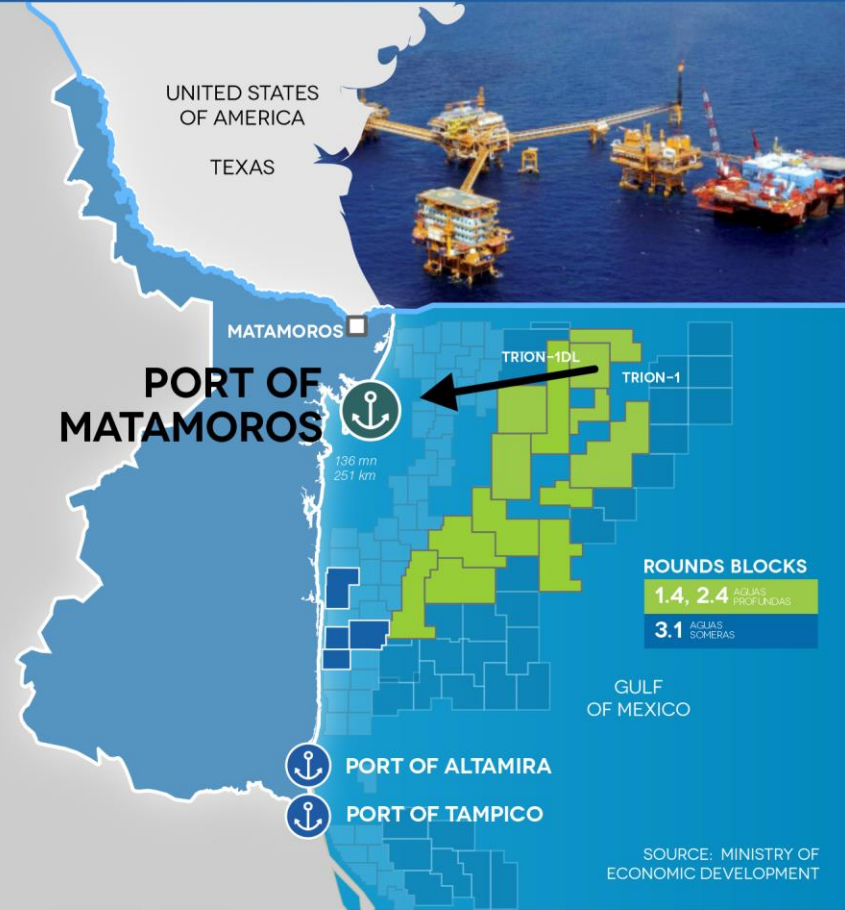
**340 HECTARES**  
**POTENTIAL DEVELOPMENT AREA**

- EXPANSION OF BREAKWATERS (100%)
- DREDGING OF ACCESS CHANNELS (85%)
- DREDGING OF WATER FRONTAGE
- ACCESS ROAD TO THE PORT (100%)
- PIER REHABILITATION (100%)
- URBAN DEVELOPMENT
- ELECTRICITY

**CONSTRUCTION OF MARINE TERMINAL  
FOR LOGISTIC SERVICES**

**PORT  
VOCATION**

- OIL INDUSTRY
- MANUFACTURING
- BULK
- FREIGHT



**ROUNDS BLOCKS**

**1.4, 2.4** AGUAS PROFUNDAS

**3.1** AGUAS SOMERAS

GULF OF MEXICO

SOURCE: MINISTRY OF ECONOMIC DEVELOPMENT

# PORT OF ALTAMIRA



**5,000 HECTARES OF INDUSTRIAL DEVELOPMENT ZONE**  
**MARITIME TERMINALS IN DEVELOPMENT**

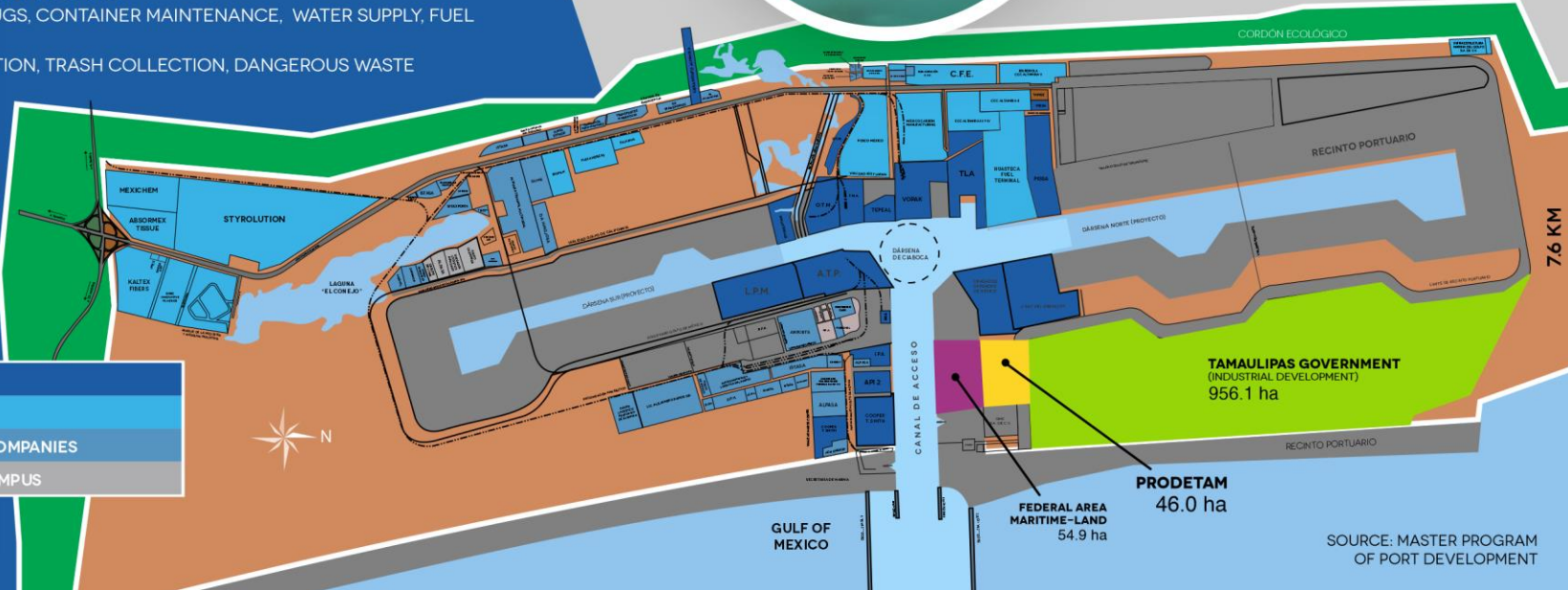
## 21 ASSIGNEES

- MANUFACTURE AND REPAIR OF OFFSHORE STRUCTURES, OIL PLATFORMS
- TRANSPORT OF MINERALS, PETROCHEMICALS AND AGRICULTURAL PRODUCTS
- FUEL STORAGE TERMINAL
- IMPORT OF WIND INDUSTRY COMPONENTS

## 52 SERVICE PROVIDERS

- PROVISIONING, TUGS, CONTAINER MAINTENANCE, WATER SUPPLY, FUEL AND LUBRICANTS
- LOADING INSPECTION, TRASH COLLECTION, DANGEROUS WASTE

MARITIME TERMINALS
INDUSTRIAL PARK
LOGISTIC SERVICES COMPANIES
STRATEGIC FISCAL CAMPUS



**TAMAULIPAS GOVERNMENT (INDUSTRIAL DEVELOPMENT)**  
 956.1 ha

**PRODETAM**  
 46.0 ha

**FEDERAL AREA MARITIME-LAND**  
 54.9 ha

SOURCE: MASTER PROGRAM OF PORT DEVELOPMENT

**38 HECTARES**  
**POTENTIAL DEVELOPMENT**  
**AREA IN THE PORT**

## 50 ASSIGNEES

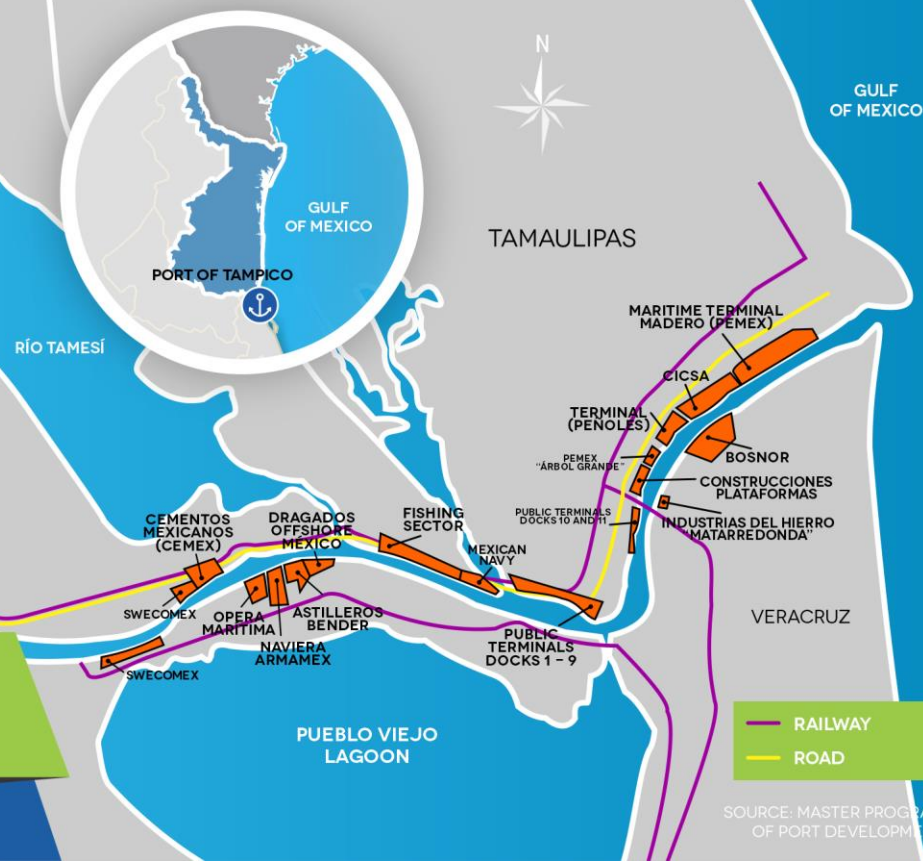
- MANUFACTURE AND REPAIR OF OFFSHORE STRUCTURES, OIL PLATFORMS, FISHING VESSELS
- TRANSPORT OF FERTILIZERS, GRAINS AND MINERALS

## 37 SERVICE PROVIDERS

- PROVISIONING, TUGS, WATER SUPPLY, FUEL AND LUBRICANTS

## PORT VOCATION

- OIL INDUSTRY
- FREIGHT
- NAUTICAL TOURISM



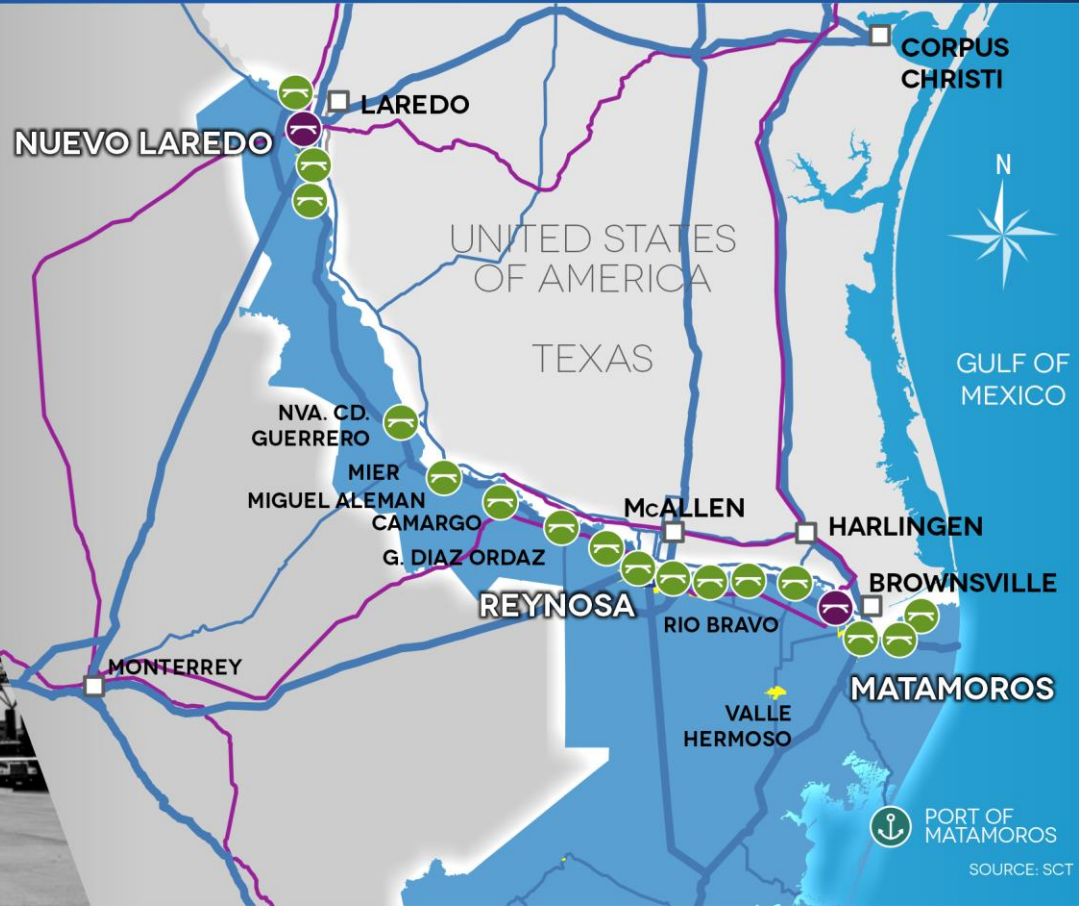
# INTERNATIONAL BORDER CROSSING CONNECTIVITY WITH NAFTA



## ▶ 18 INTERNATIONAL BORDER-CROSSINGS

 16 VEHICULAR

 2 RAILWAY


















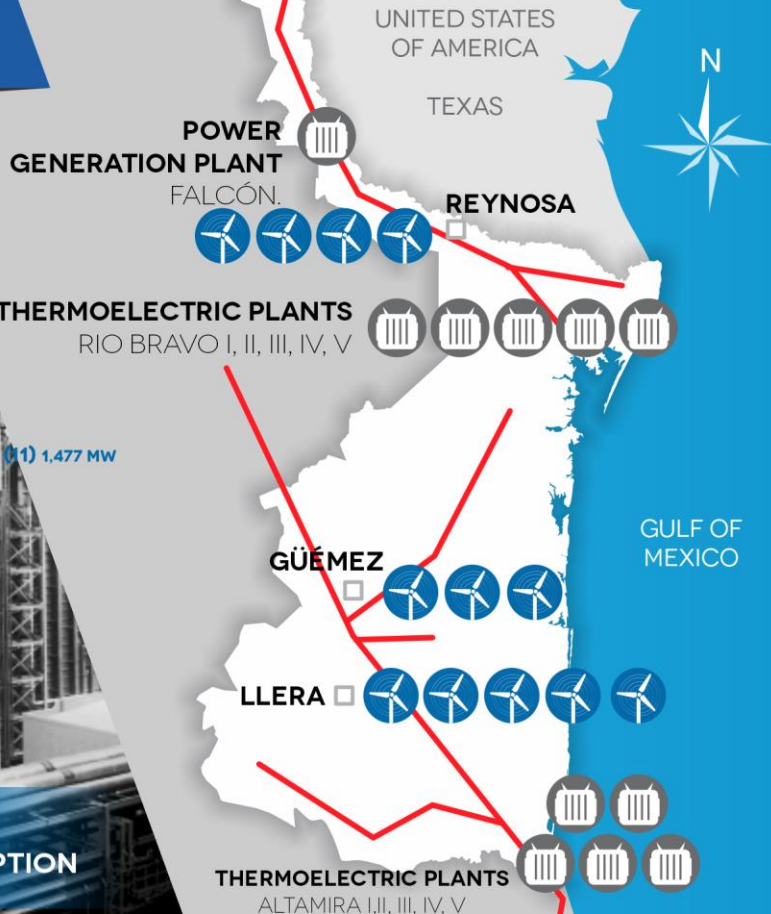
# TAMAULIPAS HAS COMPETITIVE ENERGY INFRASTRUCTURE

# ENERGY INFRASTRUCTURE



-  **REFINERY**
-  **PETROCHEMICAL COMPLEX**
-  **NAVY TERMINAL**
-  **325 KM FUEL PIPELINES**
-  **5 PUMP STATIONS**
-  **366 KM PIPELINES (OIL)**
-  **5 STORAGE TERMINALS**
-  **1,363 KM GAS PIPELINES**
-  **10 GAS COMPRESSION STATIONS**
-  **4 CRYOGENIC PLANTS**
-  **2 GAS PROCESSING PLANTS**
-  **LOS RAMONES GAS PIPELINE**
-  **TEXAS-TUXPAN MARINE PIPELINE (IN PROCESS)**

# ELECTRICITY GENERATION



▶ EFFECTIVE CAPACITY TO PRODUCE ELECTRICITY **7,300 MW** (12.6% OF THE NATIONAL TOTAL).

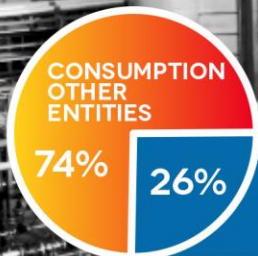
▶ **87.5%** OF THE ELECTRICITY PRODUCED IS GENERATED BY NATURAL GAS.

▶ **SECOND NATIONAL PLACE** IN ELECTRICITY PRODUCTION.

 **11** POWER PLANTS

 **12** WIND PROJECTS IN OPERATION

— **1,380 KM** LINES OF TRANSMISSION



STATE CONSUMPTION



**TAMAULIPAS  
HAS GREAT  
ENERGY  
POTENTIAL  
IN ALL THE  
TERRITORY**

# ENERGY POTENTIAL

## TAMAULIPAS, HOME OF FOREIGN DIRECT INVESTMENT IN THE ENERGY SECTOR IN MEXICO

### CONVENTIONAL



**OIL**  
DEEP WATER,  
SHALLOW WATER  
AND LAND



**PETROCHEMICAL**  
BASIC AND SECONDARY  
REFINING 10.1% NATIONAL  
60% OF MEXICO'S RESINS



**SHALE GAS**  
BASINS OF SABINAS,  
BURGOS AND  
TAMPICO-MISANTLA  
EXPLORATION WORKS



**NATURAL GAS**  
(ASSOCIATED &  
NON-ASSOCIATED)



**ELECTRICITY**  
2ND PLACE IN NATIONAL  
PRODUCTION 33,558 GWH  
13% NATIONAL GENERATION



### RENEWABLE

### ALTERNATIVE



**WIND**  
26 REGISTERED  
PROJECTS  
21,000 MW



**SOLAR**  
RADIATION  
AVERAGE 4.8 KWH/M2



**BIOMASS**



**BIOFUELS**  
ETHANOL AND BIODISEL PRODUCTION  
1ST PRODUCER OF SORGHUM 3.1 MILLION TONS  
5TH PRODUCER OF SUGARCANE 3.7 MILLION TONS

# HYDROCARBON POTENTIAL (PETROLEUM BASINS)

TAMAULIPAS TERRITORIAL  
AREA 80,249 KM<sup>2</sup>

▶ 59%  
WITH HYDROCARBON  
POTENTIAL



UNITED STATES  
OF AMERICA

TEXAS



GULF OF  
MEXICO



BASIN  
OF BURGOS  
NATURAL GAS

PERDIDO  
FOLDED BELT  
DEEP SEA OIL



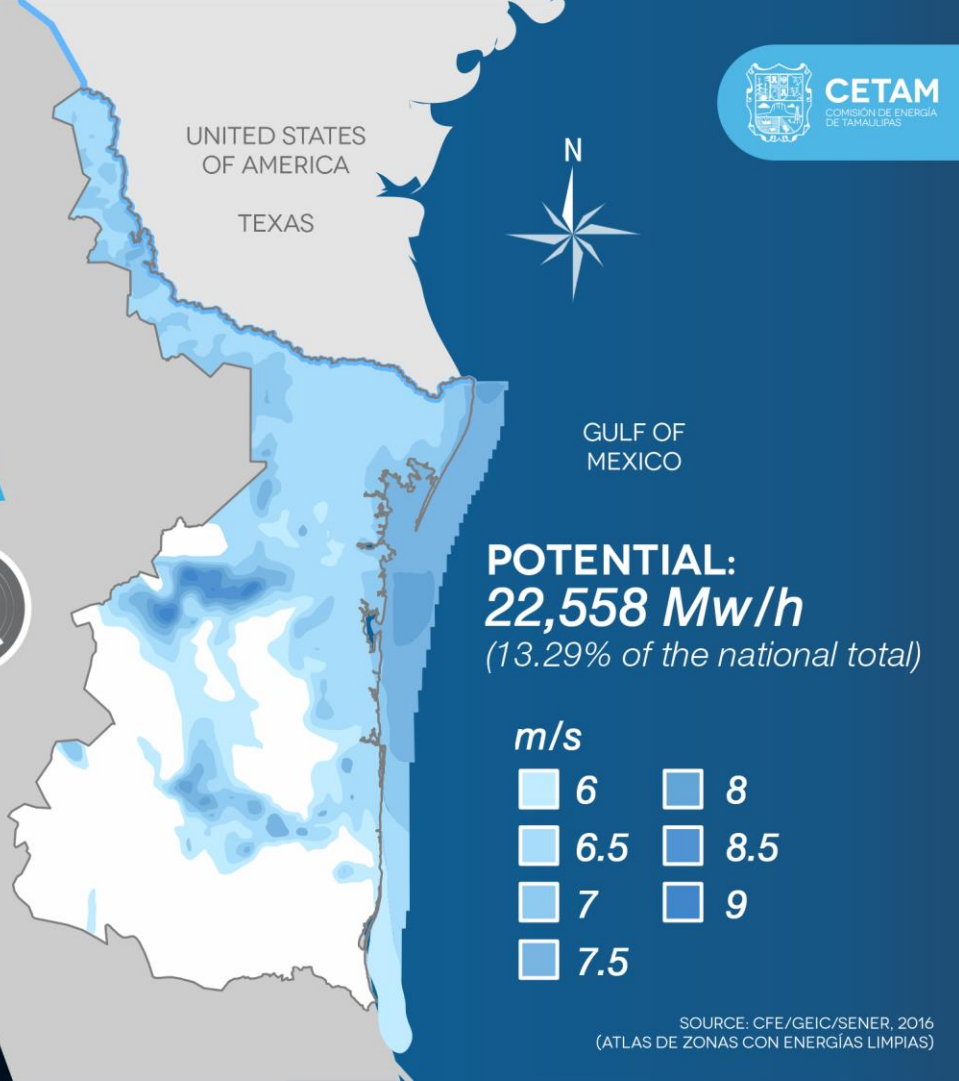
DEEP  
GULF  
OIL



TAMPICO-MISANTLA  
NATURAL GAS  
OIL ON LAND AND  
SHALLOW WATERS

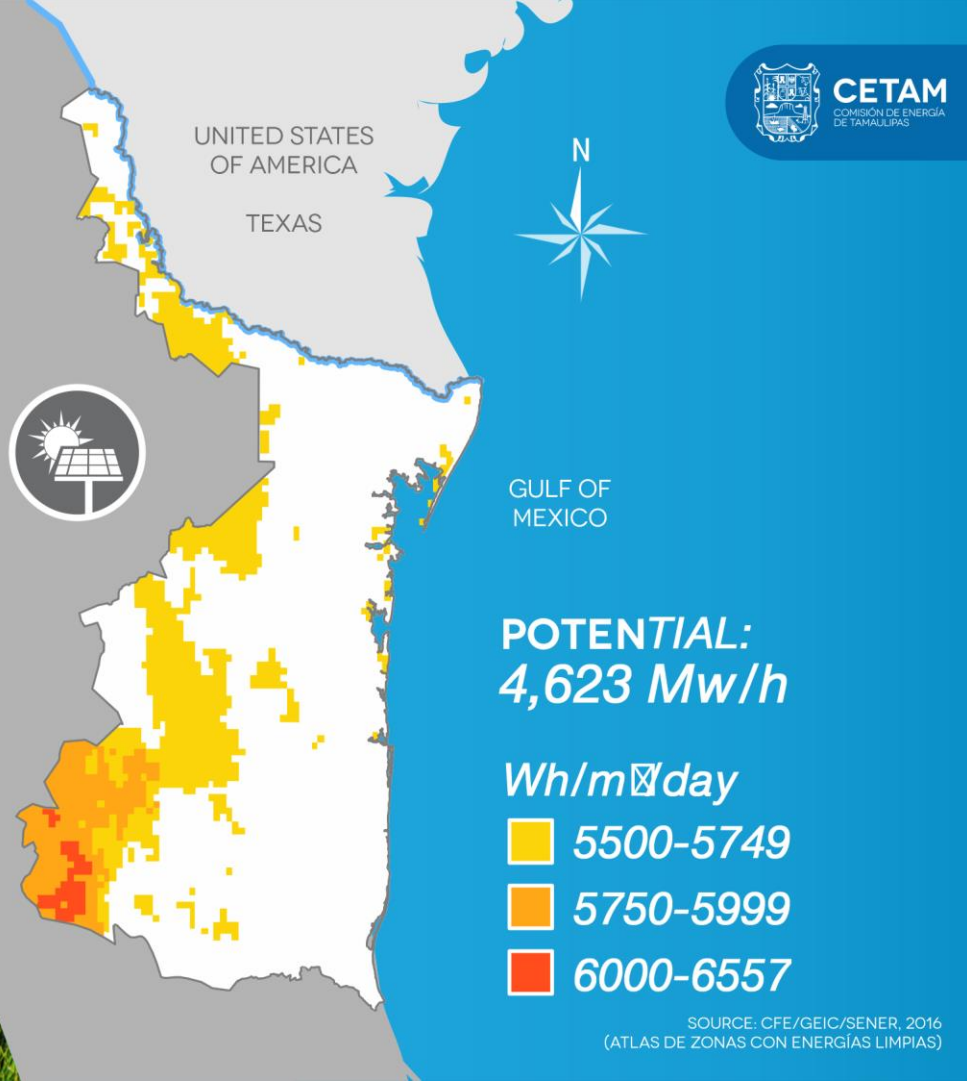
# HIGH QUALITY WIND POWER ZONES

ALMOST 70% OF THE STATE TERRITORY HAS FAVORABLE WIND CONDITIONS FOR THE GENERATION OF ELECTRIC ENERGY.



# HIGH QUALITY SOLAR ZONES

MORE THAN 10% OF THE STATE TERRITORY HAS SOLAR CONDITIONS FOR THE GENERATION OF ELECTRIC ENERGY



# ALTERNATIVE ENERGIES (BIO-FUELS)





 **USE OF SANITARY WASTE**  
WITH POTENTIAL FOR GENERATING ENERGY (INCINERATION OR BIOGAS)

► **POTENTIAL FOR THE PRODUCTION OF BIOFUELS**

**ETHANOL:** EXTRACTED FROM SORGHUM AND SUGARCANE

**BIODIESEL:** PRODUCED FROM VEGETABLE OILS

AGRICULTURAL YEAR 2016, PRODUCTION OBTAINED

	SORGHUM: <b>2,205,552 t</b>
	SUGAR CANE: <b>3,047,889 t</b>



# PROJECTS IN THE ENERGY SECTOR OF TAMAULIPAS

# AREAS TO TENDER IN TAMAUlipAS

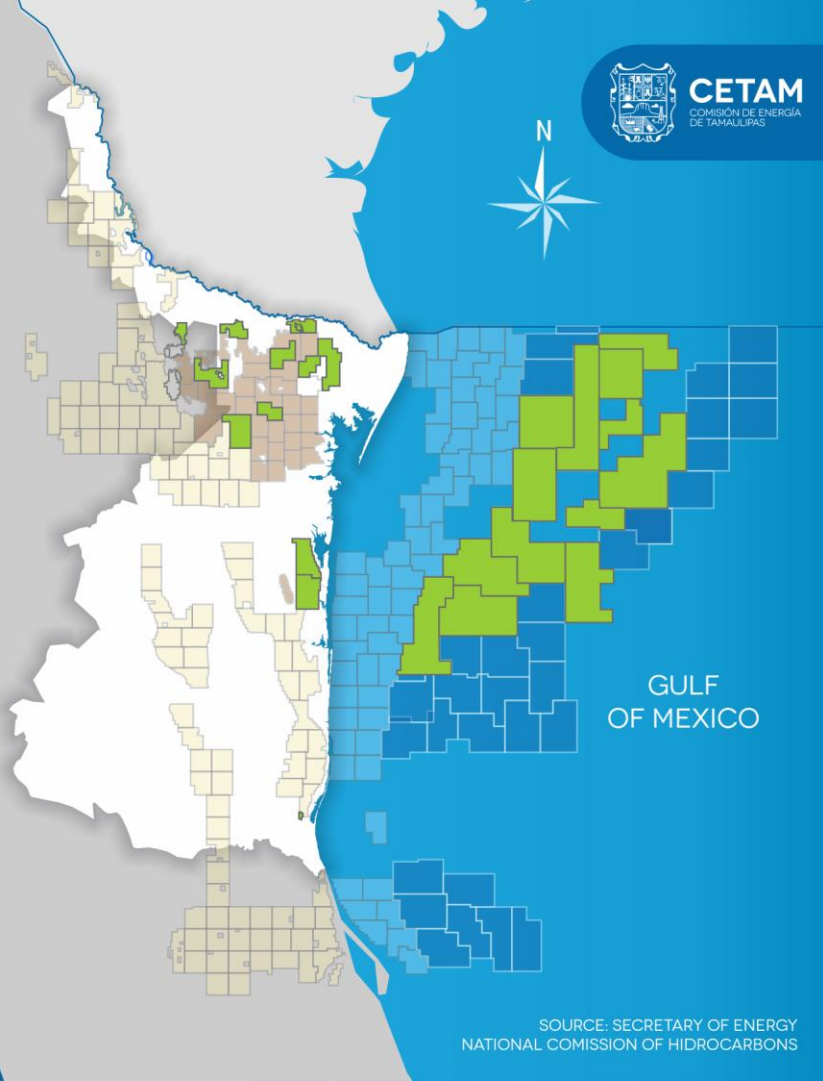
## EXPLORATION AND PRODUCTION OF HYDROCARBONS

Type	Basin	Reserves Estimation (MMboe)	Area (km <sup>2</sup> )	Number of areas
DEEP WATER	PERDIDO	1,662	36,861	37
SHALLOW WATERS	BURGOS	1,290	21,075	53
NON CONVENTIONAL LAND	SABINAS-BURGOS	7,560	19,272	66
CONVENTIONAL LAND	SABINAS-BURGOS	400	10,166	40
		<b>10,912</b>	<b>87,374</b>	<b>196</b>

*Mmboe\** Million barrels of oil equivalent

▶ FROM 509 AREAS FOR EXPLORATION AND PRODUCTION IN MEXICO, **TAMAUlipAS HAS 196** (38% FROM TOTAL)

**TENDERED AND AWARDED ROUNDS**  
**1.3, 1.4, 2.2, 2.3, 2.4, 3.1**





# INVESTMENTS EXPLORATION AND PRODUCTION OF HYDROCARBONS



## PEMEX ASSOCIATIONS

(FARMOUTS)

### ▶ TRION BLOCK

DEEP WATER

TENDER: CNH-A1-TRION/2016

### PERDIDO FOLDED BELT

LIGHT OIL, ASSOCIATED GAS EXTRACTION

WINNING BIDDER	AREA	AREA IN km <sup>2</sup>	COUNTY OF ORIGIN
 <b>bhpbilliton</b> Petróleo Operaciones de México	<b>TRIÓN 1</b>	1,285.2	<i>Australia</i>



SOURCE: SECRETARY OF ENERGY  
NATIONAL COMMISSION OF HYDROCARBONS



# INVESTMENTS EXPLORATION AND PRODUCTION OF HYDROCARBONS



## ► ROUND 1.3



LAND

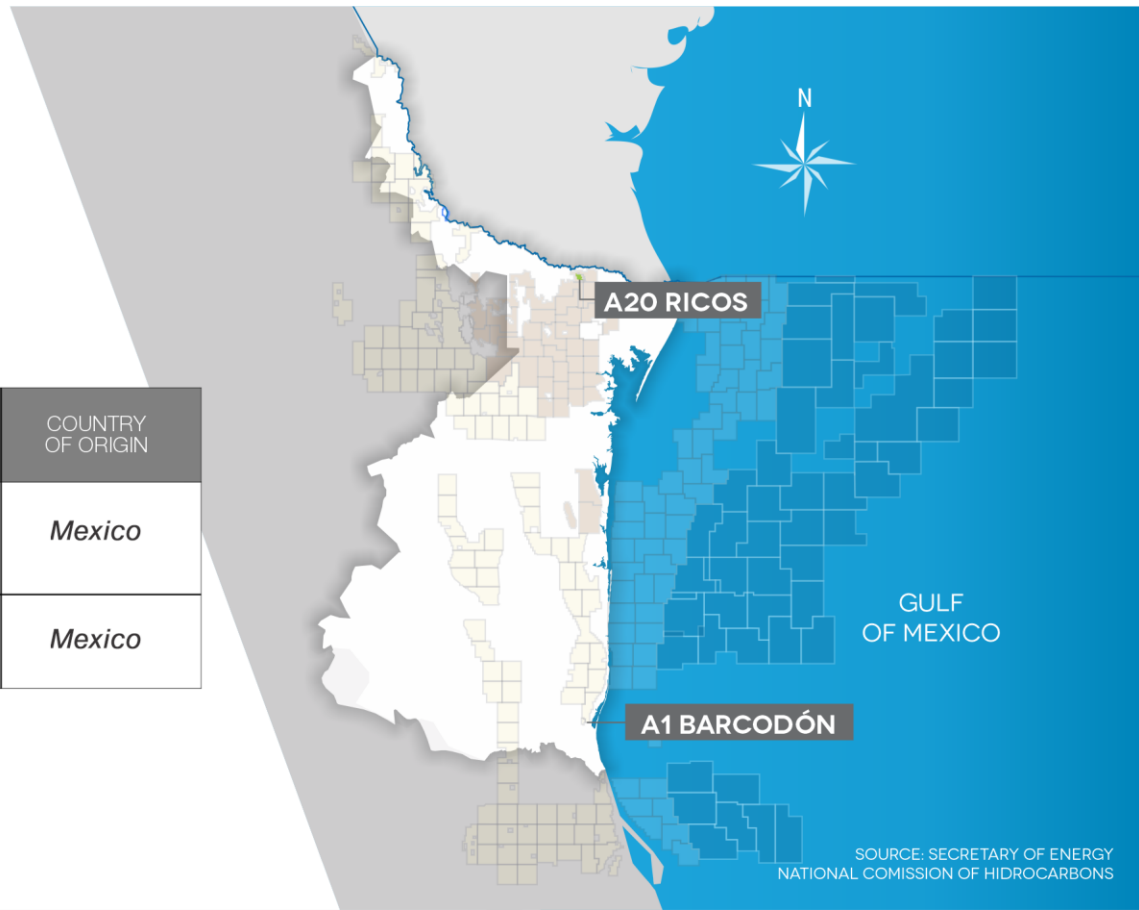
TENDER CNH-RO1-LO3-A1/2015

TENDER CNH-RO1-LO3-A20/2016

### BURGOS BASIN

OIL AND GAS EXTRACTION

WINNING BIDDER	AREA NUMBER	AREA IN km <sup>2</sup>	COUNTRY OF ORIGIN
	1 BARCODÓN	11	Mexico
	20 RICOS	24	Mexico



SOURCE: SECRETARY OF ENERGY  
NATIONAL COMMISSION OF HYDROCARBONS



# INVESTMENTS EXPLORATION AND PRODUCTION OF HYDROCARBONS










## ▶ ROUND 1.4

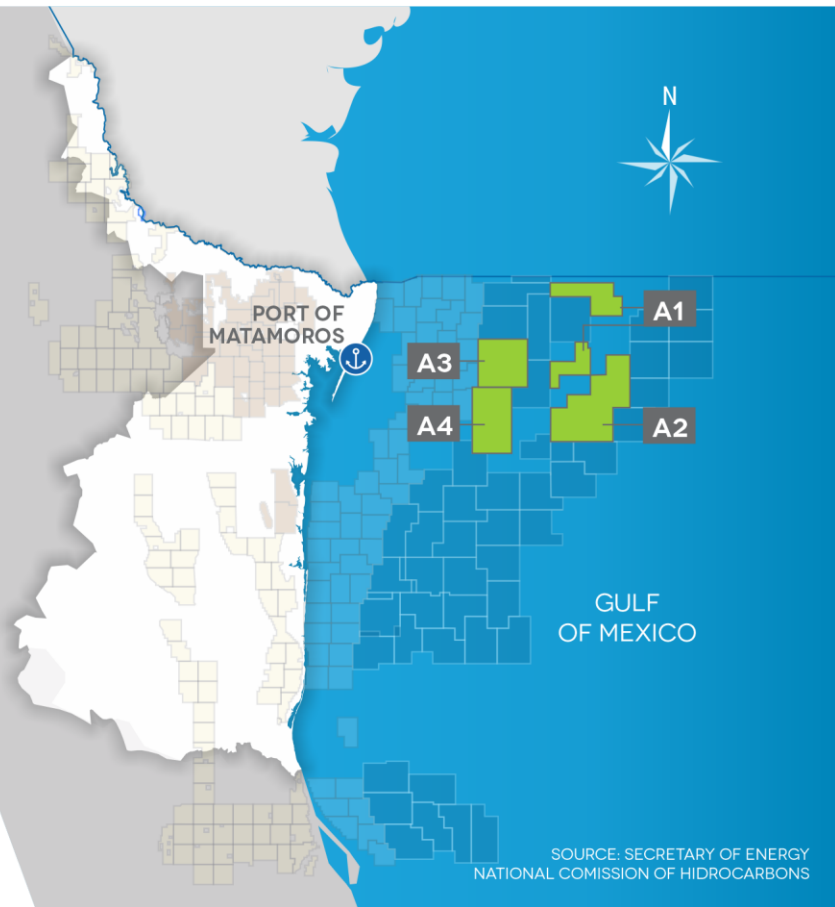
DEEP WATER

TENDER: CNH-RO1-LO4/2015

### PERDIDO FOLDED BELT

LIGHT OIL, SUPER-LIGHT OIL,  
WET GAS EXTRACTION

WINNING BIDDER	AREA	AREA IN km <sup>2</sup>	COUNTRY OF ORIGIN
 <b>中国海油</b> CNOOC China Offshore Oil Corporation E&P Mexico	1	1,678	China
 <b>TOTAL</b> 	2	2,977	France/USA
 <b>Chevron</b>  <b>PEMEX</b> 	3	1,687	USA/Mexico/Japan
 <b>中国海油</b> CNOOC China Offshore Oil Corporation E&P Mexico	4	1,877	China





# INVESTMENTS EXPLORATION AND PRODUCTION OF HYDROCARBONS






## ▶ ROUND 2.2

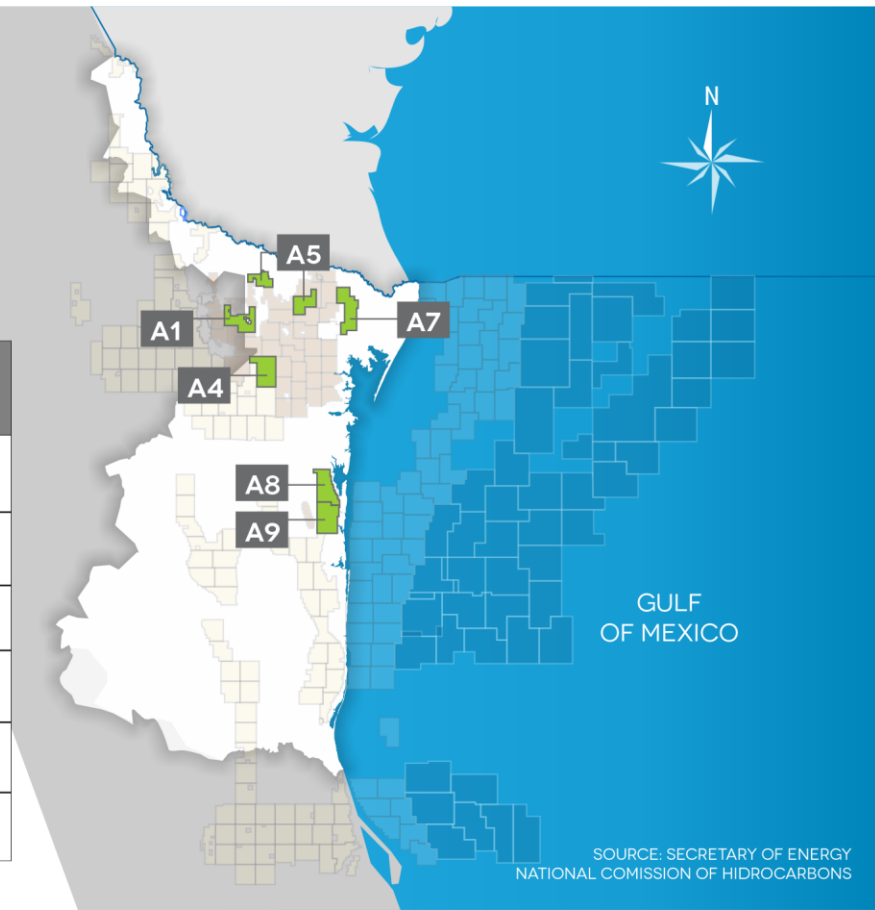
LAND

TENDER: CNH-RO2-LO2/2016

### BURGOS BASIN

WET GAS EXTRACTION

WINNING BIDDER	AREA	AREA IN km <sup>2</sup>	COUNTRY OF ORIGIN
 Iberoamericana de Hidrocarburos 	1	360	Mexico / Mexico
 	4	440	Canada / Mexico
 	5	445	Canada / Mexico
 	7	445	Canada / Mexico
 	8	416	Canada / Mexico
 	9	464	Canada / Mexico



SOURCE: SECRETARY OF ENERGY  
NATIONAL COMMISSION OF HYDROCARBONS



# INVESTMENTS EXPLORATION AND PRODUCTION OF HYDROCARBONS










## ▶ ROUND 2.3

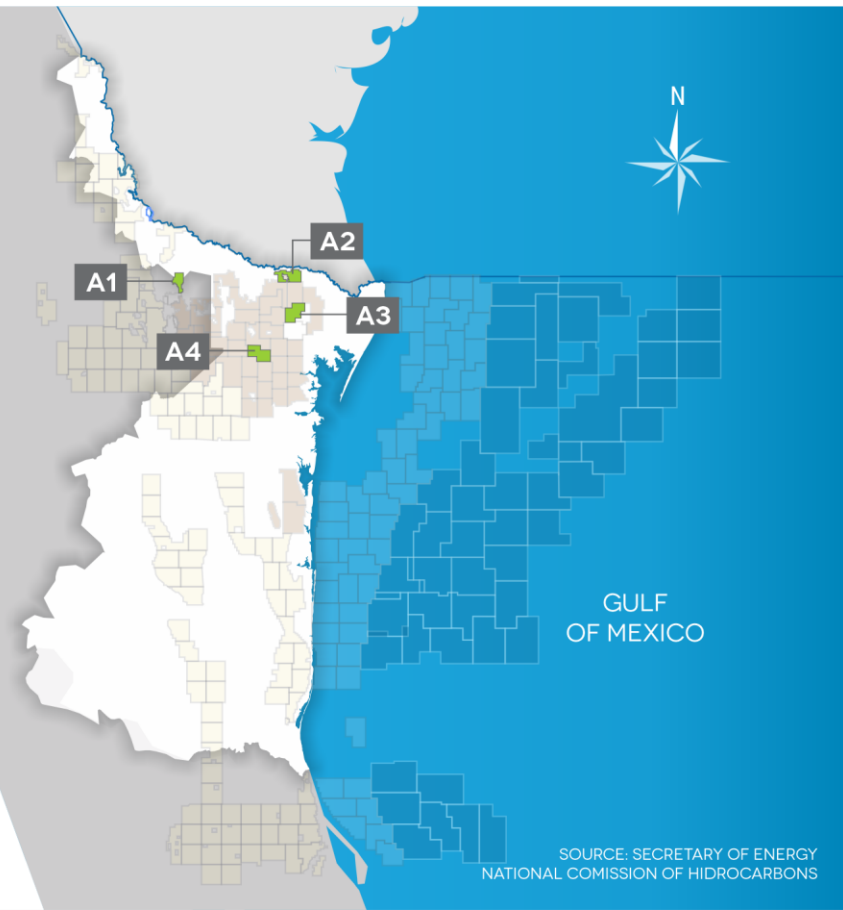
LAND

TENDER: CNH-RO2-LO3/2016

**BURGOS BASIN**

WET GAS EXTRACTION

WINNING BIDDER	AREA	AREA IN km <sup>2</sup>	COUNTRY OF ORIGIN
 Iberoamericana de Hidrocarburos 	1	99	Mexico / Mexico
 Newpek LLC  VERDAD OIL & GAS CORPORATION	2	163	Mexico / USA
 Newpek LLC  VERDAD OIL & GAS CORPORATION	3	200	Mexico / USA
 Iberoamericana de Hidrocarburos 	4	199	Mexico / USA



SOURCE: SECRETARY OF ENERGY  
NATIONAL COMMISSION OF HYDROCARBONS



# INVESTMENTS EXPLORATION AND PRODUCTION OF HYDROCARBONS



## ▶ ROUND 2.4

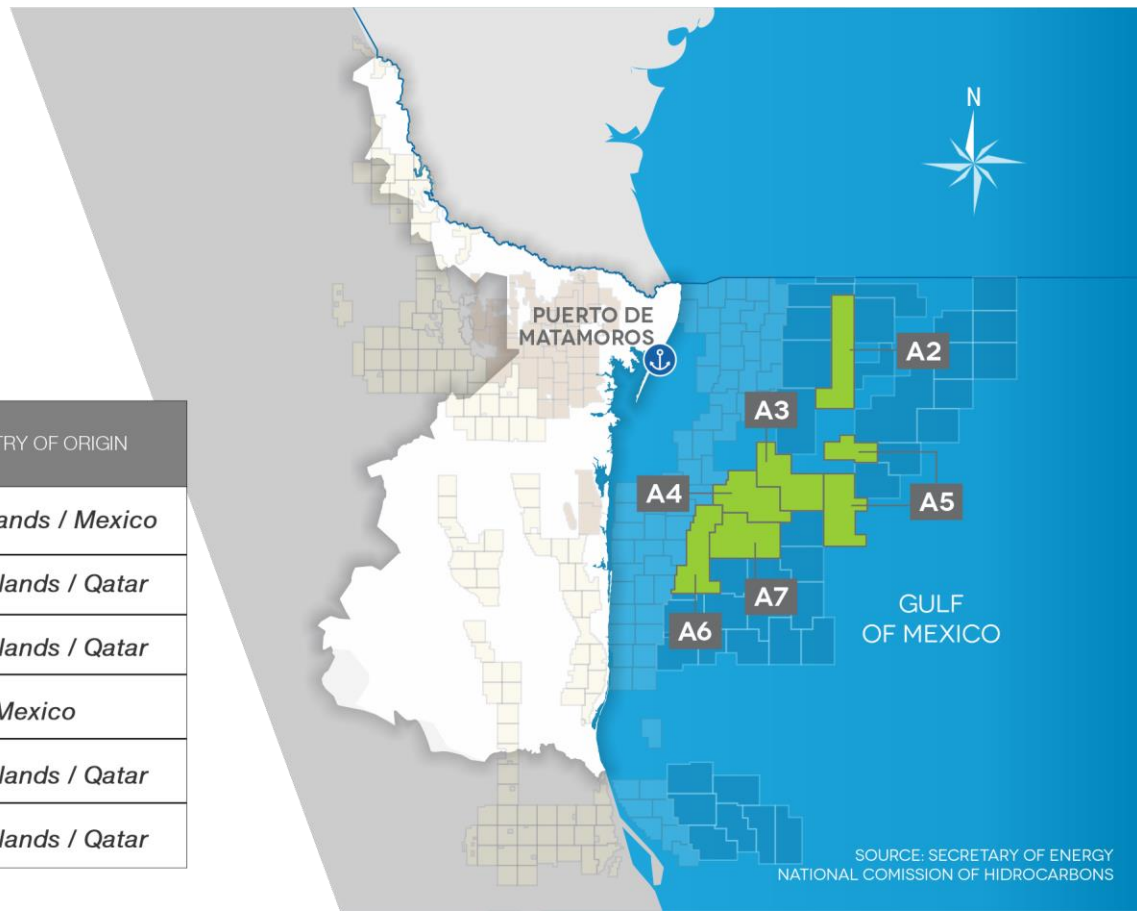
DEEP WATER

TENDER: CNH-RO2-LO4/2017

### SALINA DEL BRAVO PERDIDO FOLDED BELT

LIGHT OIL, SUPER-LIGHT OIL,  
DRY GAS EXTRACTION

WINNING BIDDER	AREA	AREA IN km <sup>2</sup>	COUNTRY OF ORIGIN
	2	2,146	<i>Netherlands / Mexico</i>
	3	2,062	<i>Netherlands / Qatar</i>
	4	1,900	<i>Netherlands / Qatar</i>
	5	2,733	<i>Mexico</i>
	6	1,891	<i>Netherlands / Qatar</i>
	7	1,968	<i>Netherlands / Qatar</i>





# INVESTMENTS EXPLORATION AND PRODUCTION OF HYDROCARBONS



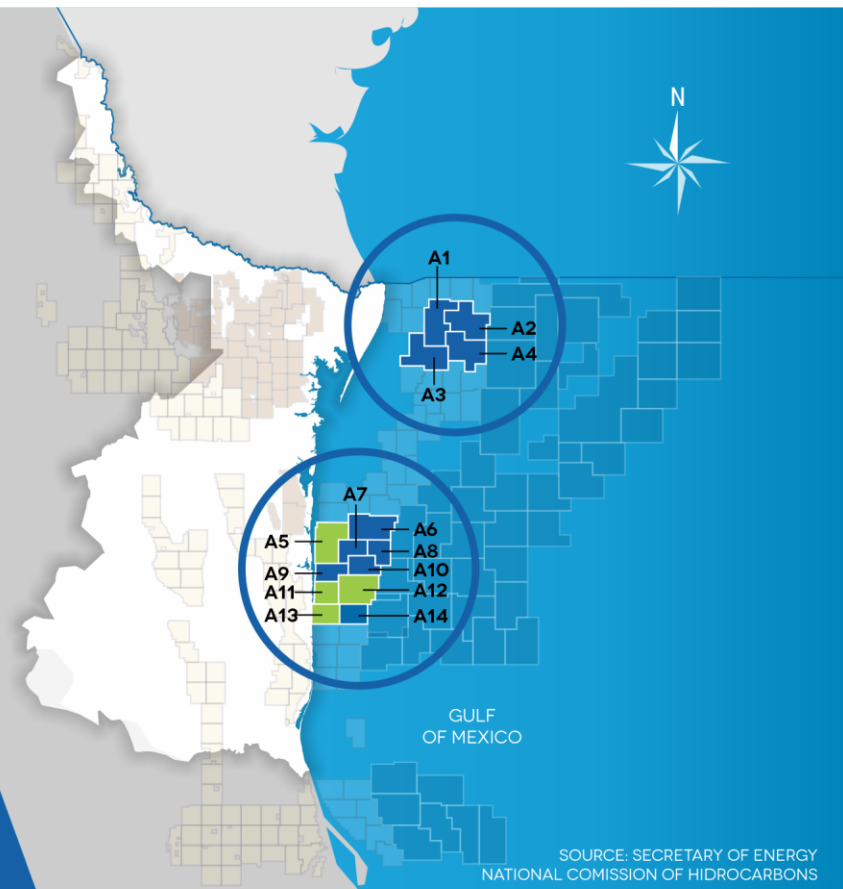
## ▶ ROUND 3.1

### BURGOS SHALLOW WATER

LICITACIÓN CNH-R03-LO1/2017

### LIGHT OIL AND WET GAS

WINNER BIDDER	AREA	AREA IN km <sup>2</sup>	COUNTRY OF ORIGIN
 <b>REPSOL</b>	5	814	Spain
 <b>PremierOil</b>	11	391	United Kingdom
 <b>REPSOL</b>	12	811	Spain
 <b>PremierOil</b>	13	392	United Kingdom



SOURCE: SECRETARY OF ENERGY  
NATIONAL COMMISSION OF HYDROCARBONS

# WIND RESOURCES

TAMAULIPAS HAS MORE THAN 2,200 MW IN PROJECTS THAT WILL BE OVER 4,000 MW, ONLY %19 OF THE TOTAL POTENTIAL CAPACITY

+2,700 MUSD OF INVESTMENT



## OPERATION (12) 1,572 MW

Reynosa - Reynosa	424 Mw
Mesa La Paz - Llera	300 Mw
El Cortijo - Reynosa	183 Mw
Vic. Guerrero - Güemez	118 Mw
Salitrillos - Reynosa	100 Mw
Tres Mesas IV - Llera	95 Mw
Tres Mesas II - Llera	85 Mw
Tres Mesas I - Llera	63 Mw
El Porvenir - Reynosa	54 Mw
Victoria - Güemez	50 Mw
La Mesa-Güemez	50 Mw
Tres Mesas III - Llera	50 Mw

## CONSTRUCTION (4) 453 MW

San Carlos - San Carlos	198 Mw
Santa Cruz - Reynosa	138 Mw
Delaro - Reynosa	117 Mw

## PROJECT (9) 2,811 MW

3	Matamoros
2	Villagrán
2	San Fernando
2	Reynosa



# ALTAMIRA PETROCHEMICAL COMPLEX



## BENEFITS

- ▶ **ADVANCED TECHNOLOGY** IN INDUSTRIAL CORRIDOR OR PETROCHEMICAL CLUSTER
- ▶ **OWN TECHNOLOGIES** WITH PARTICIPATION IN THE INTERNATIONAL MARKET



## OPPORTUNITIES

- ▶ THE CURRENT NEED TO IMPORT PETROCHEMICAL FEEDSTOCK
- ▶ 24 BILLION USD INVESTMENT IN PETROCHEMICAL INDUSTRY
- ▶ 8 BILLION USD INVESTMENT IN OIL AND GAS SEPARATION

**CHALLENGES**  
GUARANTEE THE  
SUPPLY OF PETROCHEMICAL  
FEEDSTOCK

- ▶ **70% NATURAL GAS  
CURRENT IMPORT**  
SOURCE: STATISTICAL RECORD SENER DIC 20



Tam | energia  
ALIANZA

The logo features the word "Tam" in a white, cursive script font. To its right is a vertical white line, followed by the word "energia" in a white, cursive script font. Below "energia" is the word "ALIANZA" in a white, uppercase, sans-serif font. The entire logo is centered within a light blue horizontal bar with rounded ends, which is positioned over a dark blue background. A green horizontal bar is also visible above the light blue one.

# TAM ENERGÍA ALIANZA S.A. DE C.V.

- ▶ Majority State holding company with general characteristics and requirements of a variable capital company.
- ▶ I has legal personality and its own assets under the terms of the applicable laws as well as management autonomy, created by Government Decree published in the Official Journal dated July 13th, 2017
- ▶ Sectorized to the Tamaulipas Energy Commission

## MAIN CHARACTERISTICS

Its purpose is to participate in the activities of the energy sector in the United Mexican States and abroad through the legal acts that are permitted by the Constitution of the United Mexican States and by the legal provisions applicable to the energy sector.

## MISSION

To promote and develop robust energy infrastructure projects to enhance and diversify the industrial vocation of the regions in Tamaulipas.

## VISION

To be a quality company, leader in the national energy sector that contributes to the social development of the state.

## VALORES



TRANSPARENCY



PROBITY

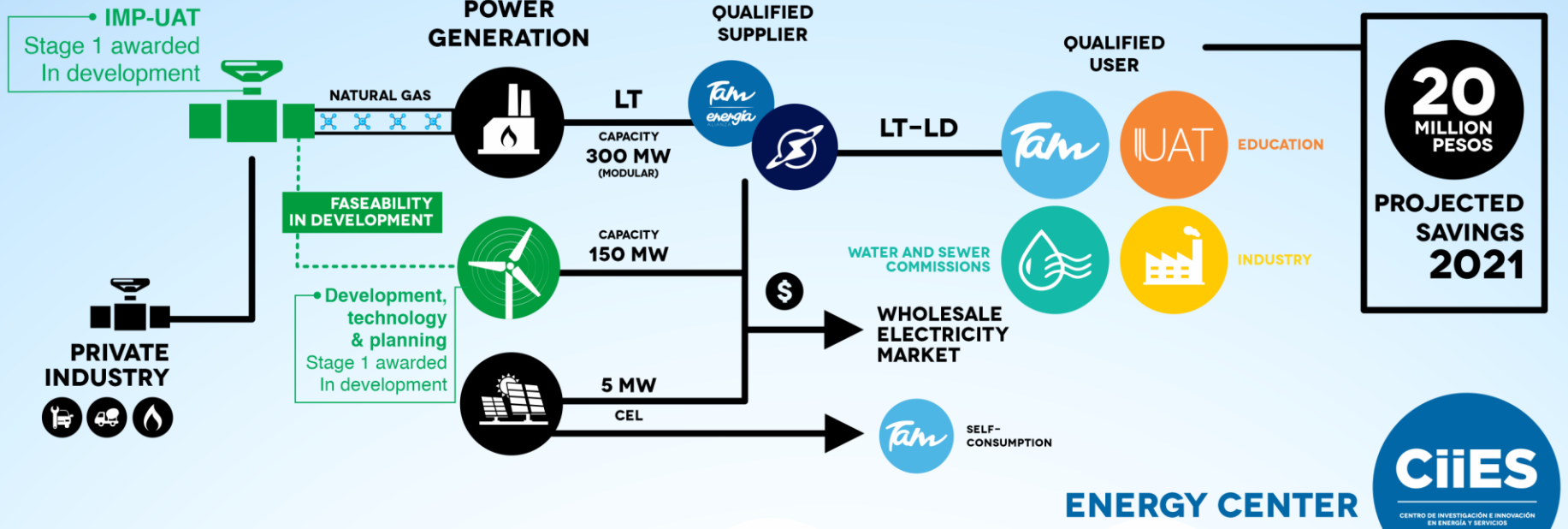


DISCIPLINE



RESPONSIBILITY

# POWER GENERATOR HOLISTIC MODEL IN TAMAULIPAS



**ACADEMY PARTNERS**

**UAT**

UAT  
Natural, atmospheric, oceanographic resources and education.



IMP  
Oil & gas, marketing

# FEASIBILITY PROJECT CD. VICTORIA GAS PIPELINE

## OBJETIVE:

TO REALIZE A FEASIBILITY STUDY OF A GAS PIPELINE THAT SUPPLIES NATURAL GAS TO CD. VICTORIA TO DETONATE INDUSTRIAL DEVELOPMENT OF THE CENTER OF THE STATE

### VILLAGRÁN - CD. VICTORIA

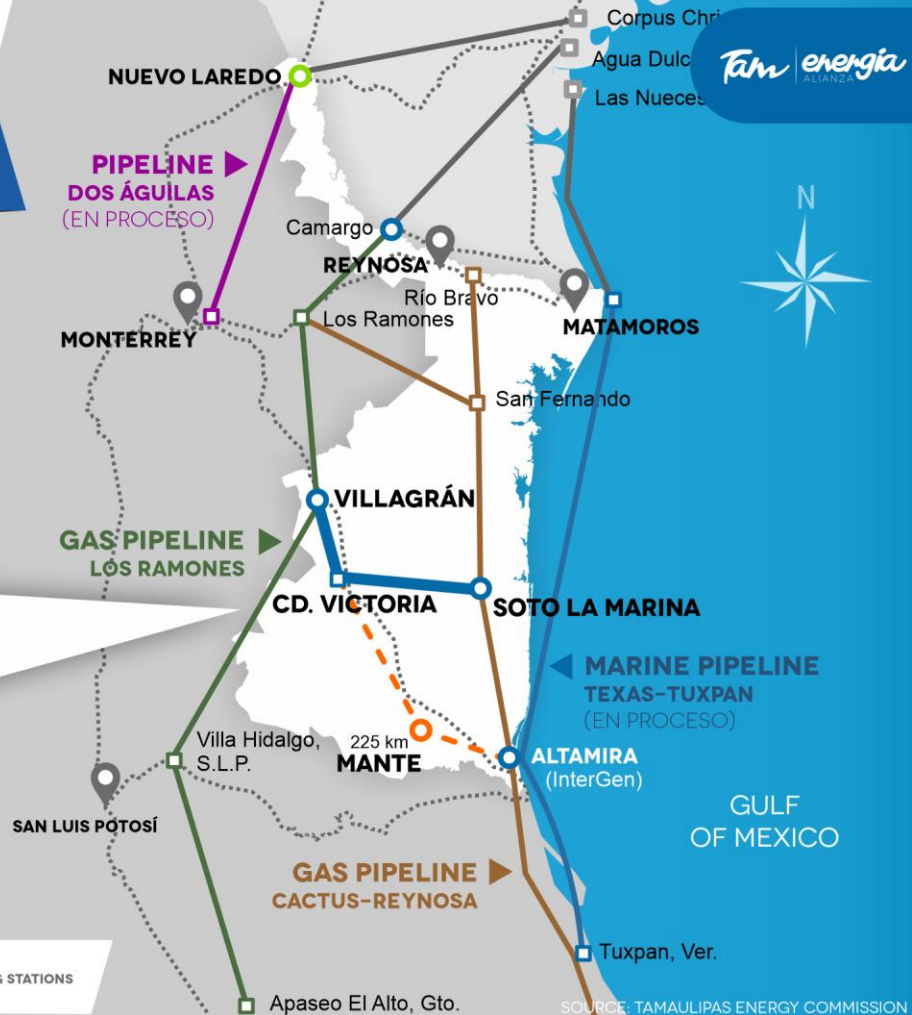
- ▶ Diameter pipe: 12-16"
- ▶ Track: *to be defined*
- ▶ Length: 90-110 km (tentativo)
- ▶ Amount: 100-200 mmdpcc

### SOTO LA MARINA - CD. VICTORIA

- ▶ Diameter pipe: 12-16"
- ▶ Track: *to be defined*
- ▶ Length: 70-110 km (tentativo)
- ▶ Amount: 100-200 mmdpcc

## PARTNERS:

- ▶ SENER
- ▶ CENAGAS
- ▶ CRE
- ▶ Gas distribution companies
- ▶ Energy logistic companies
- ▶ Industrial parks developers



# PROJECT: CONSTRUCTION AND OPERATION PLANNING OF ELECTRIC TRANSMISSION LINE JACALITOS-REGIOMONTANO

**OBJECTIVE:** BUILD ROBUST ELECTRIC TRANSMISSION LINE TO RECEIVE AND TRANSPORT THE ENERGY GENERATED BY WIND FARMS IN THE NORTH OF THE STATE.

**DETONATE THE WIND FARM DEVELOPMENT IN THE NORTHERN REGION.**

**PARTNERS:** CFE AND THIRD INTERESTED

**TYPE OF CONTRIBUTION:** IN-KIND (MANAGEMENT AND STUDIES)

**PROJECTED UTILITY:** ≤ 5% FOR 25 YEARS

**CONCEPT OF INCOME:** PORTAGE CHARGE

**PROPOSED  
POWER  
TRANSMISSION  
LINE**

Tam | energia  
ALIANZA

NUEVO  
LAREDO

UNITED STATES  
OF AMERICA  
TEXAS

WINDFARM  
REYNOSA

REYNOSA

MATAMOROS

GULF OF  
MEXICO

SAN FERNANDO

**21  
WIND  
PROJECTS  
IN THE  
REGION**

CIUDAD VICTORIA

— ELECTRICAL  
TRANSMISSION LINES

CIUDAD MANTE

TAMPICO-CD. MADERO  
ALTAMIRA

SOURCE: TAMAULIPAS ENERGY COMMISSION



# PROJECT: CLEAN ENERGY GENERATION



**OBJETIVE:** TO MAKE TAMAULIPAS IN A PIONEER STATE ON CLEAN ENERGY GENERATION PROMOTING THE ENERGY SUSTAINABILITY.

## PHASE 1

2.5 MW

### QUALIFIED SUPPLIER

Generation capacity: 2.5 MW  
Reduction of emissions: 1,383 tons of Co<sub>2</sub> (per year)

- ▶ Tam Energía Alianza as technical manager
- ▶ Academic Benefits
- ▶ Electrical Market (MEM) participation

## PHASE 2

5 MW

### STATE SOLAR PARK

Generation capacity: 5 MW  
Reduction of emissions: 1,844 tons of Co<sub>2</sub> (per year)

- ▶ Affiliate with a developer and the State Government
- ▶ Phase 1 expansion

## PHASE 3

150 MW

### WIND FARM

50 wind turbines  
Generation capacity: 150 MW  
Emissions reduction: 215,650 tons of Co<sub>2</sub> (per year)

- ▶ Plant factor  $\geq 40\%$
- ▶ Commercialization with Tamaulipas industrial parks

# STATE SOLAR PARK

Tam | energia  
ALIANZA

TAM ENERGÍA ALIANZA AS A POWER GENERATOR, MAKING **TAMAULIPAS THE FIRST STATE IN MEXICO GENERATING CLEAN ENERGY** WITH PARTICIPATION ON THE WHOLESALE ELECTRICAL MARKET (MEM)

- ▶ Generation capacity: **2.5 MW**
- ▶ Energy: **203.4 MWH per month**
- ▶ Reduction of emissions: **1,383 tons of CO<sub>2</sub>**
- ▶ Expansion potential up to **7.5 MW**
  - Reduction of emissions: **2,766 tons of CO<sub>2</sub>**

Clean energy equivalent of the electricity consumption:

**6,250** household



# PROJECT: TAMAULIPAS ENERGY CENTER

Tam | energia  
ALIANZA

PEMEX - C.A.S.E.S. REYNOSA  
CENTRO DE ADIESTRAMIENTO EN SEGURIDAD, ECOLOGÍA Y SOBREVIVENCIA

**OBJECTIVE:** INCORPORATE THE DIFFERENT CAPABILITIES OF OUR INSTITUTIONS TO ENHANCE ITS PROFESSIONAL EXPERIENCE AND PROVIDE A SUSTAINABLE SELF-SUFFICIENT REGIONAL DEVELOPMENT

- UAT (ENVIROMENT, ATMOSPHERIC, OCEANOGRAPHIC AND EDUCATION)
- IMP (OIL&GAS, MARKETING)
- CEE (ELECTRICAL STUDIES CENTRE)
- UPV (CERTIFICATION)

## ACTIVITIES

- EDUCATION AND CERTIFICATION
- RESEARCH
- PUBLICATION
- DIFFUSION AND CONNECTIONS
- INSTITUTIONAL RELATIONS

## TARGETS

- IMPROVE THE CAPABILITIES OF ALL THE STATE-LEVEL ENERGY INSTITUTIONS
- TRANSFORM THE ENERGY CENTER IN A NATIONAL AND INTERNATIONAL EPICENTER OF ENERGY STUDIES
- IMPROVE THE ACADEMIC PROGRAMS QUALITY AND STRENGTHEN OUR PARTNERSHIPS WITH OUR EDUCATIONAL CENTERS AND THE ENERGY INDUSTRY
- GUIDE AND SUPPORT THE RESEARCH ON THE ENERGY SECTOR

## ACADEMIC OFFERINGS

- ▶ PHD, MASTER AND BH IN SCIENCES OR ENGINEERING
- ▶ MASTER AND BH IN DIRECTION AND MANAGEMENT STRATEGIC PROJECTS



**CETAM**

COMISIÓN DE ENERGÍA  
DE TAMAULIPAS

**COMISIÓN DE ENERGÍA  
DE TAMAULIPAS**

CIUDAD VICTORIA, TAMAULIPAS.  
TORRE GUBERNAMENTAL JOSÉ LÓPEZ PORTILLO,  
PISO 8, BLVD. PRAXEDIS BALBOA S/N,  
COL. HIDALGO C.P. 8709.

[www.tamaulipas.gob.mx/](http://www.tamaulipas.gob.mx/)

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