

# Border Energy Forum XXI

Texas A&M International University  
Office of Global Initiatives

Monterrey, Nuevo León

October 15-17, 2014





# Texas A&M International University

## Office of Global Initiatives

Jobs & Education  
Texas/Mexico



# What Happened in Texas?

- Eagle Ford Boom! 2008-2013
- South Texas experienced a booming expansion of the oil & gas industry as a result of an improved hydraulic fracking process created by Texan George Mitchell. The Eagle Ford Shale Boom created an abundance of business that has produced revenues in excess of 82 billion dollars (2013) for Texans.

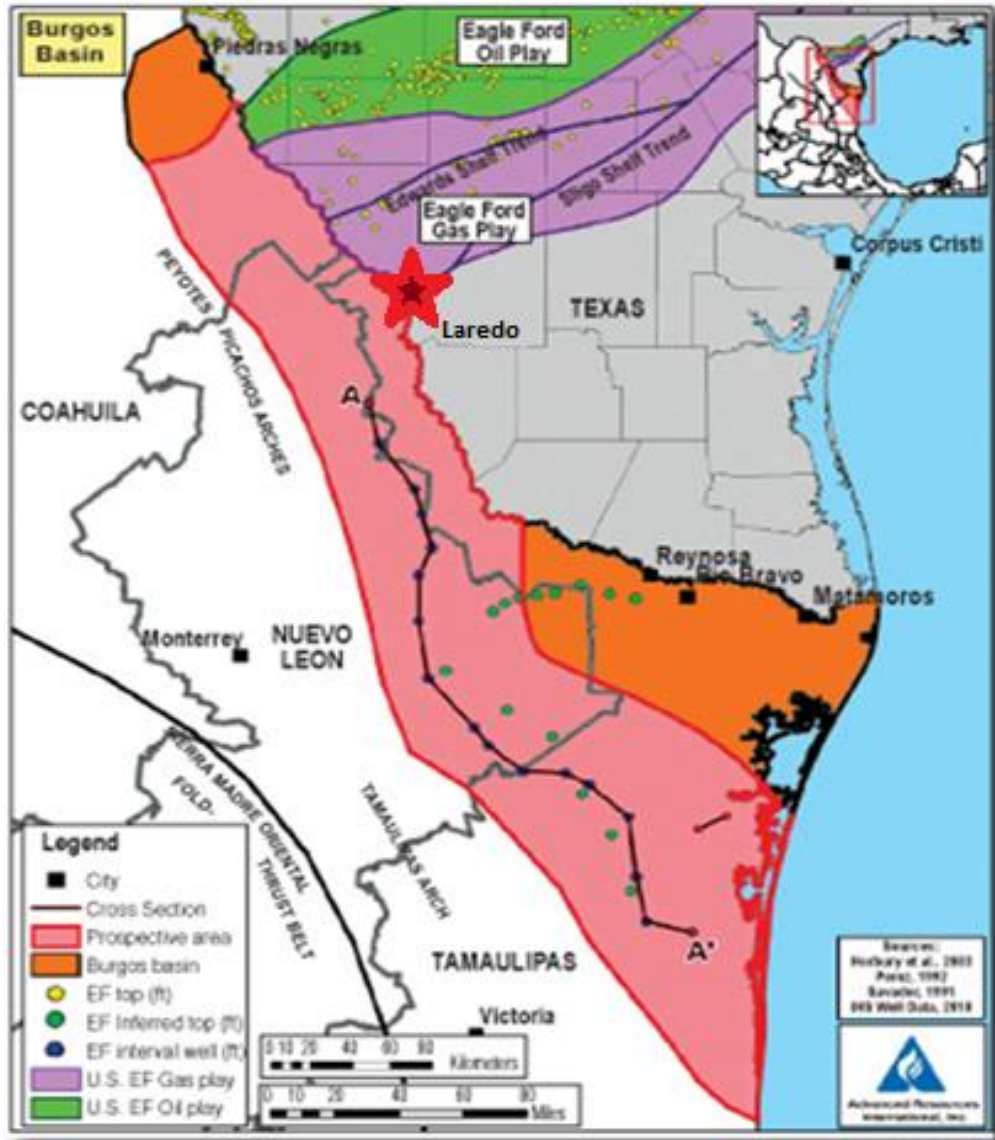


# What Happened In Mexico?

- Mexico amended its Constitution 12/12/2013 to allow private and foreign Petroleum Industry investors to participate in its oil industry.
- What does this mean for the Texas/Mexico Border and its neighbors?

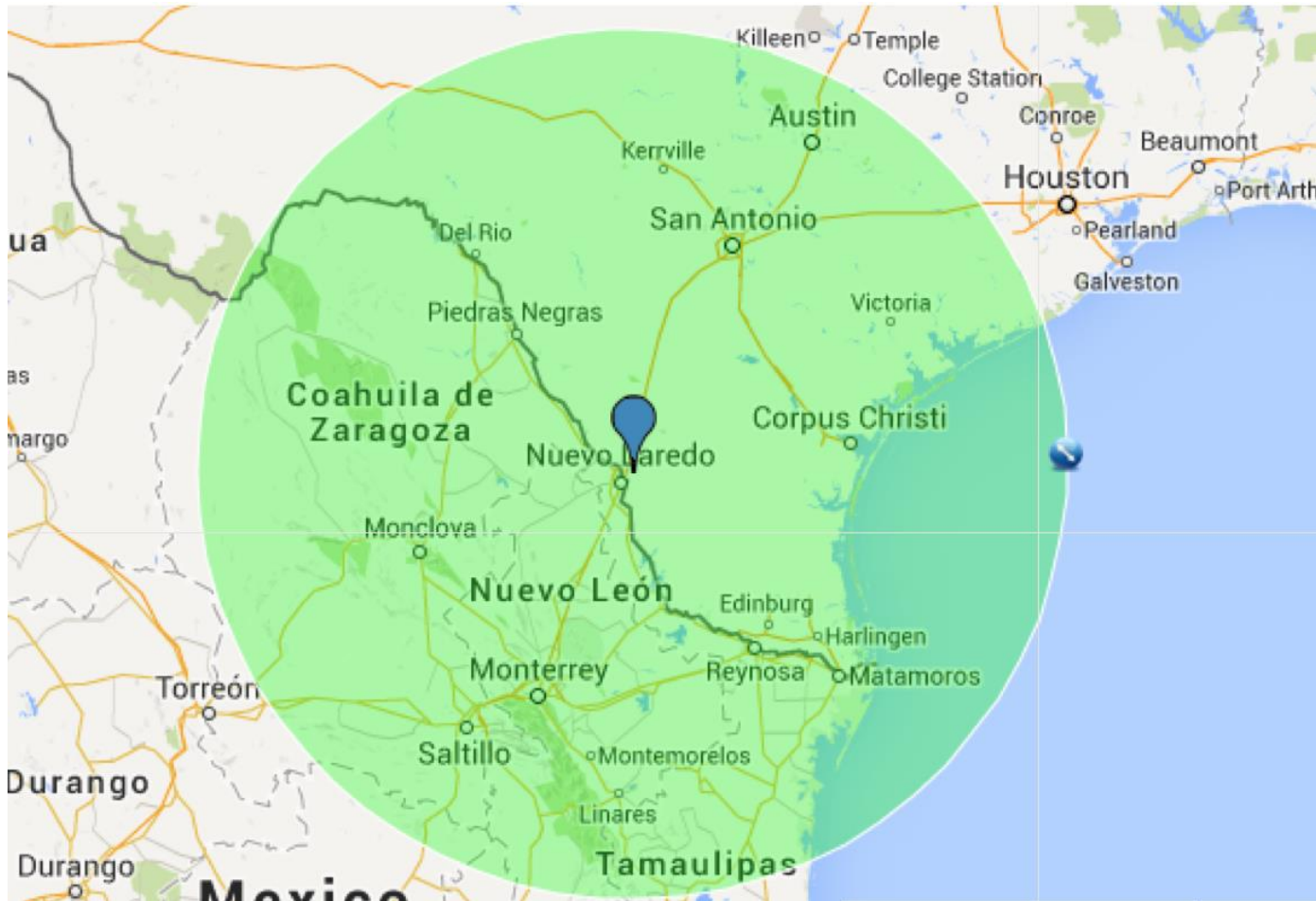


# Where are we?..





# Centers of Influence-250 miles







# Centers of Influence-300 miles





# Texas/Eagle Ford: Center of Influence

“What has Eagle Ford Shale Play done for Texas? Unambiguously positive” is a great way to describe the effect the current oil boom is having on the Texas economy, and it is why the state’s economy has significantly outperformed the national economy in recent years. One important thing to understand is that economists will tell **you that every dollar of capital invested by the oil and gas industry in Texas has a multiplier effect of an additional \$3 to \$4 in associated economic activity.** When the oil industry is booming, every hotel is full, every café is crowded, clothing stores can’t keep enough socks, underwear and khakis on the shelves, and local supermarkets tend to run out of milk and eggs before each day is through.”

*David Blackmon, Why the Shale Miracle Has Happened in Texas Forbes Magazine, May 1, 2013*





# In Mexico

The Multiplier effect in Texas as per Forbes' comment can be expected. Opportunities are limitless for private investors in international partnerships. *Who owns the mineral rights should not be a deterrent.*

- Need more
  - Over land roads
  - Rail spurs
  - Pipelines
  - In addition to housing, clinics, food supplies, workforce capacitation, transportation & its support systems, and the entire supply chain for the petroleum industry, etc.



# Mexico Border Region

- The future holds many opportunities for the South Texas/Northern Mexico Regions to develop into prosperous economic zones with the abundance of gas
- Supplier to the European Market
- Insures Near Shoring

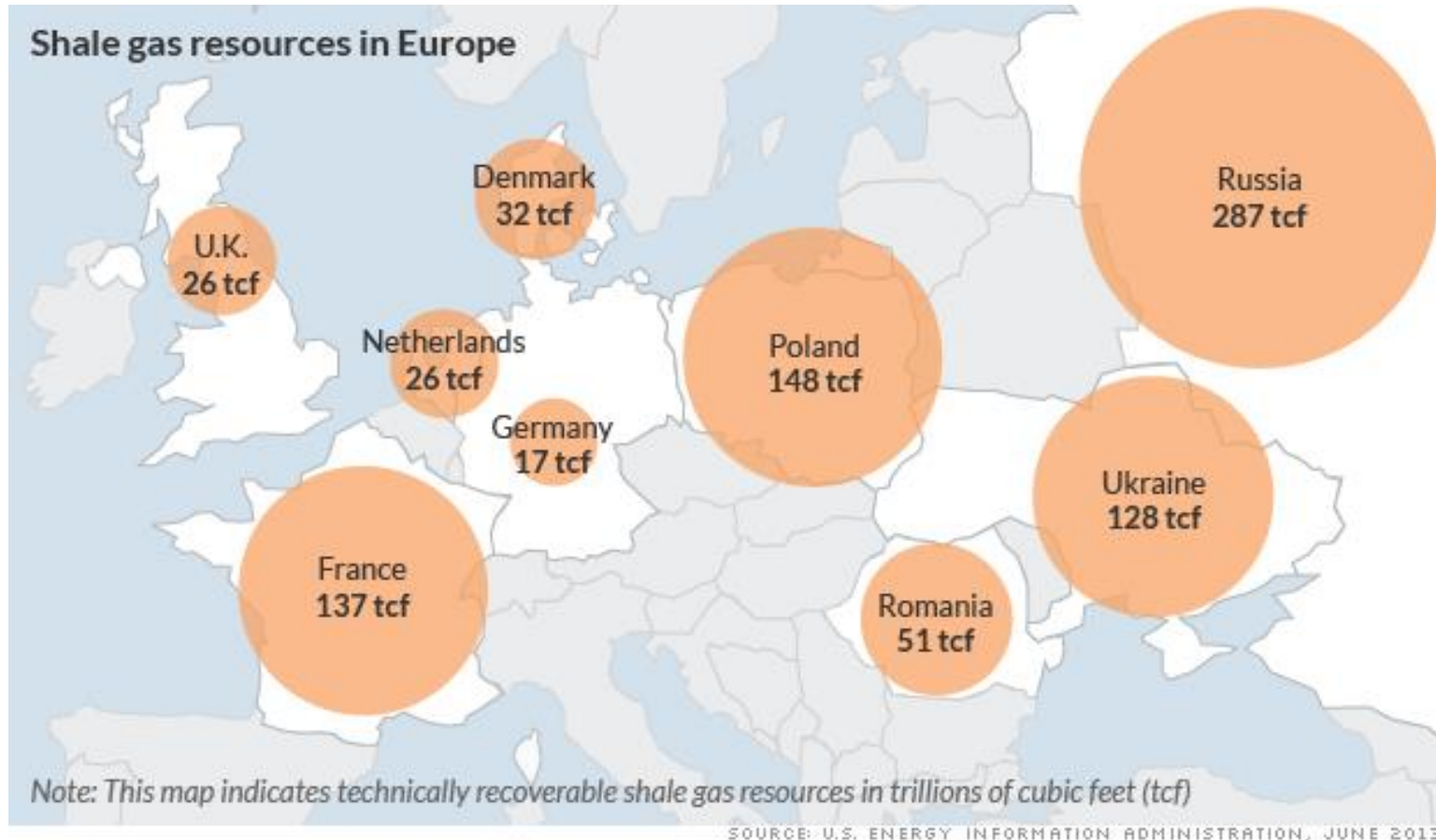


# Mexico: Supplier to the European Union

- Mexico has one of the world's largest shale gas resource bases, which could support increased natural gas reserves and production. According to the [U.S. Energy Information Administration's \(EIA\) assessment of world shale gas resources](#), **Mexico has an estimated 545 Tcf** of technically recoverable shale gas resources—the sixth largest of any country examined in the study. The figure of technically recoverable shale gas resources is far smaller than the total resource base because of the geologic complexity and discontinuity of Mexico's onshore shale zone.



# Mexico a Political Influence





# Industrial Regions

- Looking to the Future-
- Success is not just linked to the sale of energy to foreign markets but to the inexpensive supply of energy for industrial corporations. Our international region can support aggressive industrial development that will provide jobs for thousands of Texans and Mexican in the circle of Influence



## Population in Border Cities

Del Rio, Texas	35,543 (2012)
Cd. Acuña, Coah	136,755 (2010)
<b>Total</b>	<b>172,298</b>

Eagle Pass, TX	27,283 (2012)
Piedras Negras, Coah.	152,806 (2010)
<b>Total</b>	<b>180,089</b>

Laredo, Texas	244,731 (2012)
N. Laredo, Tam	384,033 (2010)
<b>Total</b>	<b>628,764</b>

Nva. Cd. Guerrero, Tamp.	4,477 (2010)
<b>Total</b>	<b>4,447</b>

Ciudad Mier, Tamaulipas	4,762 (2010)
<b>Total</b>	<b>4,762</b>

Roma, Texas	9,873 (2012)
M. Alemán, Tam	27,015 (2010)
<b>Total</b>	<b>36,888</b>

Rio Grande, TX	13,939 (2012)
Cd. Camargo, Tam	14,933 (2010)
<b>Total</b>	<b>28,872</b>

Sullivan, Texas	4,098 (2012)
Díaz Ordaz, Tam	15,775 (2010)
<b>Total</b>	<b>19,873</b>

Hidalgo, Texas	11,711 (2012)
McAllen, Texas	134,719 (2012)
Reynosa, Tam	608,891 (2010)
<b>Total</b>	<b>755,321</b>

Donna, Texas	16,204 (2012)
Río Bravo, Tam	118,259 (2010)
<b>Total</b>	<b>134,463</b>

Progreso, Texas	5,715 (2012)
N. Progreso, Tam	10,178 (2010)
<b>Total</b>	<b>15,893</b>

Valle Hermoso, Tam	63,170 (2010)
<b>Total</b>	<b>63,170</b>

Brownsville, Texas	180,097 (2012)
H. Matamoros, Tam	489,193 (2010)
<b>Total</b>	<b>669,290</b>

<b>GRAND TOTAL Border Residents</b>	<b>2,714,130</b>
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INEGI / United States Census Bureau

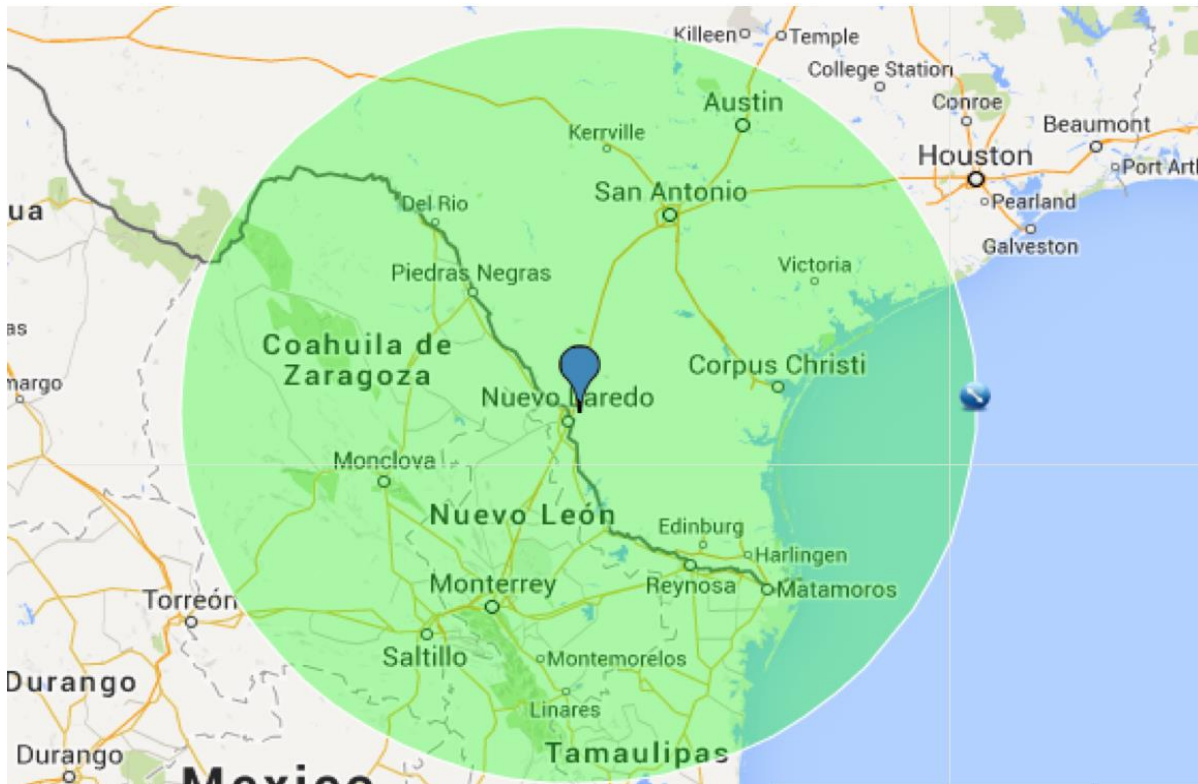




# Population & Education

## Population:

- Opportunity to expand urban development with quality of life as an integral component with new industry and job availability.





# Education: Texas A&M System

Preparing a workforce- 11 Universities with diverse educational curriculums located through Texas

- Starting with the most difficult to fill, the top 10 most in-demand energy jobs are:
  1. Mechanical engineer
  2. Field service technician
  3. Production operator
  4. Maintenance technician
  5. Heavy machinery operator
  6. Mechanic
  7. Petroleum engineer
  8. Geologist
  9. Quality assurance/quality control inspector
  10. Electrical engineer

[http://www.bizjournals.com/houston/blog/drilling-down/2014/09/the-most-difficult-to-fill-energy-jobs-are.html?ana=e\\_hstn\\_nrg&u=GSLGfOIkdkHk204wo+dmNBA0715e8a3&t=14107919](http://www.bizjournals.com/houston/blog/drilling-down/2014/09/the-most-difficult-to-fill-energy-jobs-are.html?ana=e_hstn_nrg&u=GSLGfOIkdkHk204wo+dmNBA0715e8a3&t=14107919)



# Texas A&M International University Logistic Center-Laredo, Texas

- Historically, we are an international community that serves a transportation industry.
- Our international inland port Laredo, Texas and Nuevo Laredo Mexico, located on the NAFTA corridor, handle \$253.15 billion in trade with the world, and ranks #1 as an inland port in the Western Hemisphere [Link to world city](#)



# Texas A&M International University Logistic Center-Laredo,Texas

- **NOW....we also share a shale play.** The Eagle Ford/ Cuenca Burgos shale play worth billions of dollars is our common geography and geology. For investors, this area becomes a hub with multiple resources.



# Texas A&M International University- Laredo, Texas

- Community colleges and Universities now face additional challenges.. Texas can barely keep up with the human resources required for its expanding oil& gas Industry; Mexico/Pemex projects that they have a deficit of 1000 engineers and technicians to assign to the northern region.



# Texas A&M International University- Laredo, Texas

- Seeking a fast track solution, TAMIU decided to take an inventory of the international regional strengths shared with Mexican universities and tech schools. TAMIU, a University structured by the State of Texas to work internationally, moved to identify the higher learning Institutions in Mexico that already had coursework related to the oil & gas Industry. By consolidating our mutual strengths, we have now embarked in a collaboration to create dual and joint degrees with Mexican universities.





# Texas A&M International University- Laredo, Texas

- Late 2015 will mark the start of our TAMIU International Energy Institute. The result of our collaboration will provide TAMIU with diverse and efficient tools for International Higher Education. We will have research opportunities and an international curriculum that will create international opportunities for a seamless bicultural, bilingual professional workforce that serves our border oil & gas industry.



# Texas A&M International University- Laredo, Texas

## NOW:

- Graduate Oil & Gas Certificate in Logistics, Accounting and Business Management
- Oil & Gas Language-English/Spanish

## Curriculum in Place:

- Earth Sciences & Engineering

## 2015:

- TAMIU International Energy Institute



# Interesting Data

- *According to Texas Railroad Commission, there are 20,000 square miles (50X400 miles) in Eagle Ford Shale, 12,800,000 acres, 320,000 wells at 40 acres each, 960,000 miles of pipe at 3 miles per well which would be 39 times around the Earth at 24,901 miles.*
  - *20,000 square miles in Eagle Ford*
  - *12,800,000 acres*
  - *320,000 wells at 40 acres each*
  - *960,000 miles of pipe at 3 miles per well*
  - *39 times around the Earth at 24,901 miles*



# Interesting Data

Transportation - Every 50 miles of pipeline, 20 inches in diameter replace 1,250 truck trips..

North Mexico does not yet have the pipelines in place...so they will need ..tires, spark plugs, brakes, transmissions, radiators, motors, drivers, mechanics, radios, hoses, etc. to drive the multiple trips to land or seaports for delivery to market or energy plants.



# Interesting Data

- 1250 trips per 50 miles per day x 300 miles within the circle of influence =15,000 trips per day per 600 mile round trip from origin to destination and back home
- or 5,475,000 truck drives per year
- Do we have 15,000 truck drivers?
- Do we have 15,000 trucks?
- Do we have enough service stations?



# Thank you

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