



HUNT INSTITUTE

FOR GLOBAL COMPETITIVENESS

Cross Border Market Analysis in the Paso del Norte

Overview of Geostrategic Context





Methods

Data Resources

Dynamic and Static Maps

Regulatory and Quantitative
Strategic Sector Analysis

Economic Impact Modeling

MUSEIC Technical Secretariat

Data Resources



Institutional Databases

Business & Economic Development

- [Income and Poverty](#)
- [Employment](#)
- [Population Demographics](#)
- [International Trade](#)
- [Other Economic Indicators](#)

Energy & Natural Resource Management

- [Oil and Petroleum](#)
- [Natural Gas](#)
- [Mining, Fuel, and Minerals](#)
- [Renewable Energy](#)
- [Electricity](#)
- [Water and Hydropower](#)

Infrastructure & Urban Planning

- [Transportation](#)
- [General Indicators](#)

Business and Economic Development

I. Income and Poverty

A. United States

1. Texas

- [Per Capita Personal Income Texas, U.S. Census Bureau \(CENSUS\).](#)
- [Local Area Personal Income, 2014, U.S. Census Bureau \(CENSUS\)](#)
- [QuickFacts Texas.](#)
- [Economy at a Glance Texas, Bureau of Labor Statistics.](#)
- [Percent of Total Population in Poverty, 2014, United States Department of Agriculture \(USDA\).](#)
- [Texas Poverty, 2014, Texas Legislative Council \(TLC\).](#)

a. El Paso County

- [QuickFacts El Paso County.](#)
- [Economy at a Glance El Paso, TX, Bureau of Labor Statistics \(BLS\).](#)

2. New Mexico

- [Per Capita Personal Income New Mexico, U.S. Census Bureau \(CENSUS\).](#)
- [Local Area Personal Income, 2014, U.S. Census Bureau \(CENSUS\).](#)
- [QuickFacts New Mexico.](#)
- [Economy at a Glance New Mexico, Bureau of Labor Statistics \(BLS\).](#)
- [Percent of Total Population in Poverty, 2014, U.S. Department of Agriculture \(USDA\).](#)

- [Complete Health Indicator Report of New Mexico Population Demographics – Children under Age 18 Living in Poverty, New Mexico's Indicator-Based Information System \(NM-IBIS\).](#)

a. Doña Ana County



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Site Selection Database for Doña Ana County

July 2016

UNIVERSITY OF TEXAS AT EL PASO





Interactive Data Tools

The Hunt Institute uses interactive data tools to present findings in an intuitive fashion, illuminating patterns and trends across a wide range of data gathered from the Paso del Norte region.

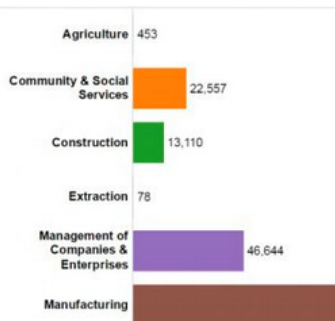


Click on the icon to access the data-tool

A Comparison of Cost of Living Variables, Economic Performance Indicators and Crime Rates for El Paso & Other Selected Metropolitan Areas.

This interactive graph displays cost of living variables, economic performance indicators, and crime rates for El Paso and nine other Metropolitan Statistical Areas (MSA) in U.S.-Mexico border states.

[Published on 10/28/16]



Click on the icon to access the data-tool

Employment by Economic Activity in the Juarez Municipality (1997-2016)

These two interactive graphs display employment by economic activity from 1997 to 2016 in the Juarez Municipality.

[Published on 08/10/16]



Employment by Occupation

El Paso and Dona Ana counties

[Download Full Dataset](#)

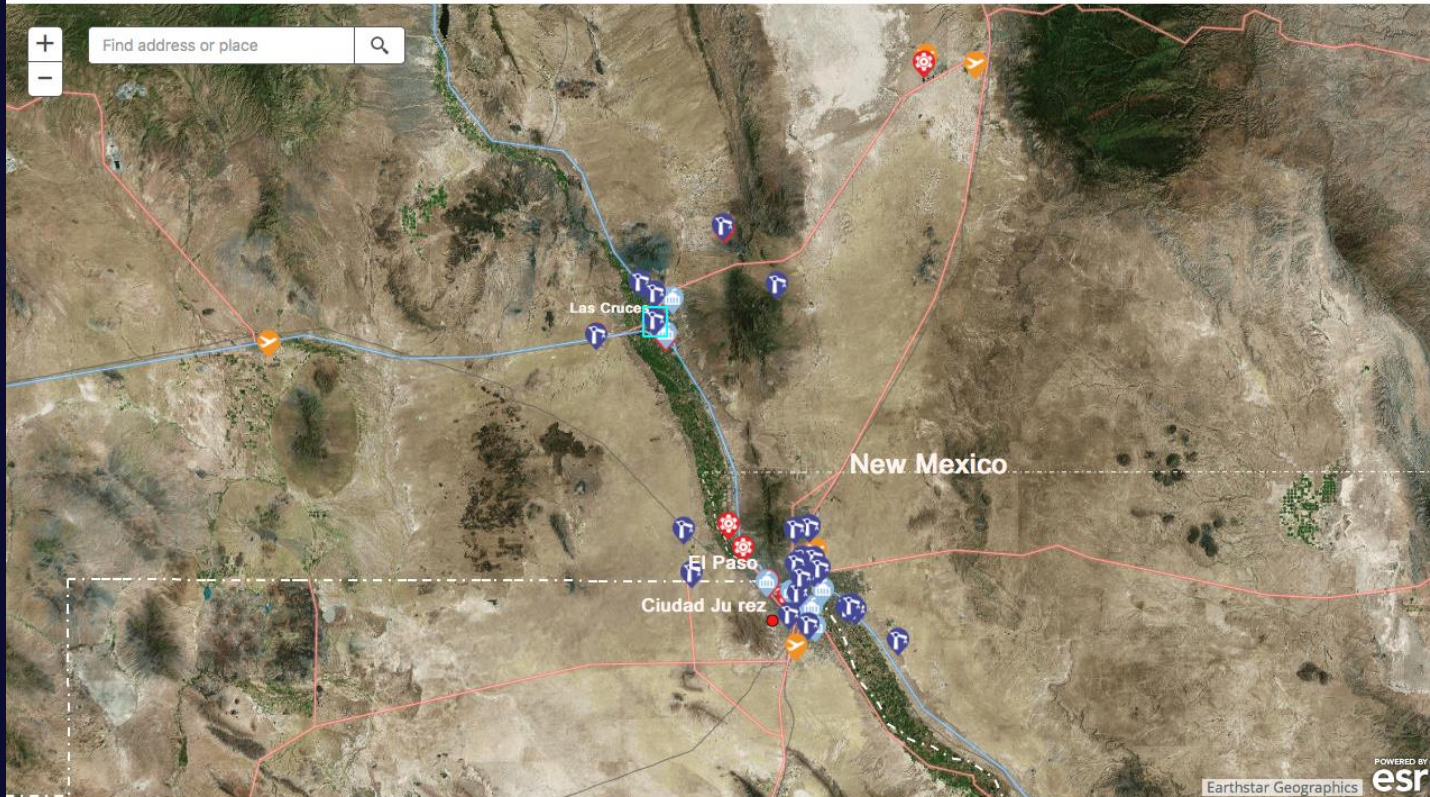
Employment by Occupation								
Occupation*	1999	2000	2001	2002	2003	2004	2005	2006
Management, Business, & Financial**	28.663	29.442	29.444	30.202	30.822	31.187	31.882	32.187
% Change from previous period***		2.72	0.01	2.57	2.05	1.18	2.23	0.94
Computer, Math, Architecture, & Engineering**	9.821	10.168	10.149	10.308	10.563	10.783	10.761	11.000
% Change from previous period***		3.53	-0.19	1.57	2.47	2.08	-0.2	2.14
Life, Physical, & Social Science**	2.086	2.149	2.164	2.206	2.233	2.279	2.349	2.400
% Change from previous period***		3.02	0.7	1.94	1.22	2.06	3.07	2.13
Community & Social Service**	3.915	4.011	4.091	4.241	4.461	4.664	5.05	5.200
% Change from previous period***		2.45	1.99	3.67	5.19	4.55	8.28	2.97
Legal**	1.835	1.891	1.907	1.928	1.93	1.998	2.071	2.100
% Change from previous period***		3.05	0.85	1.1	0.1	3.52	3.65	1.43
Education, Training, & Library**	17.754	18.314	18.726	19.208	19.684	20.026	20.719	20.900
% Change from previous period***		3.15	2.25	2.57	2.48	1.74	3.46	0.87
Arts, Design, Entertainment, Sports, & Media**	3.763	3.807	3.764	3.967	4.019	3.748	3.551	3.300
% Change from previous period***		1.17	-1.13	5.39	1.31	-6.74	-5.26	-7.33
Healthcare**	19.836	20.181	20.382	21.712	22.065	22.665	23.592	24.000

Dynamic and Static Maps

Paso del Norte Transboundary Aerospace Sector Map



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1 feature(s) selected



Calculex, Inc.

Contact Information:

Address:
132 W. Las Cruces Av. Las Cruces, NM 88001
Phone:
575-525-0131
Website:
www.calculex.com

Capabilities:

Processes:
CALCULEX systems engineering hardware and software solutions (data acquisition and analysis, fault-tolerant closed-loop control, and man-in-the-loop and hardware-in-the-loop computer-based simulation and training)

Products:
Modular Non-volatile Selectable Storage Recorder (M2050/2051, M2100, M2300 V2, M2300 V3, FlashCache III, M6600); Board level products (PCM Input, PCM Output, IRIG Time Code generator, ECL to PCI Interface); Software (Setup & Control Utility, Download & Val)

Supplies Equipment:

Quality_Certifications:

General Company Information:

NAICS:

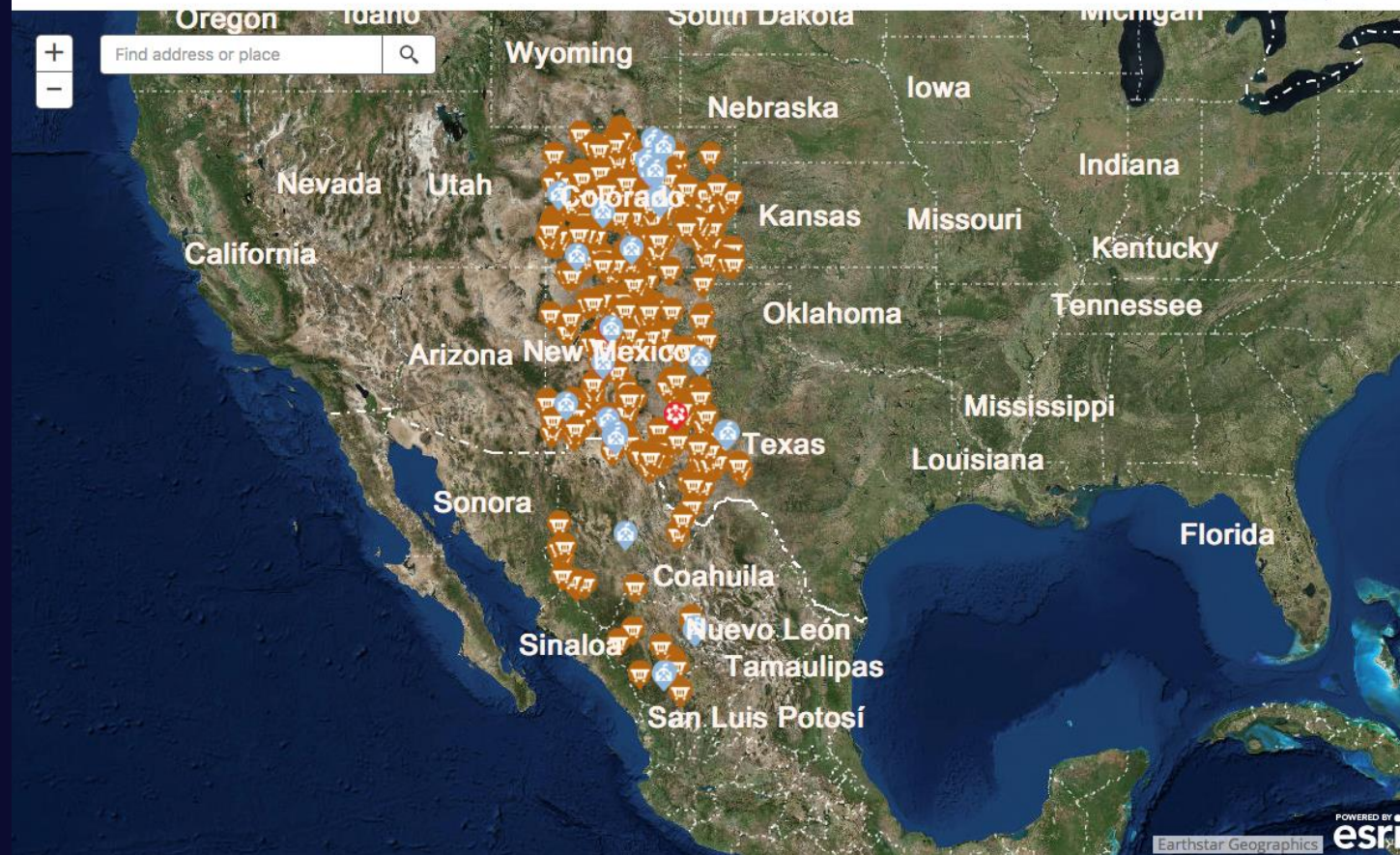
Parent Company:

Employees:

Paso del Norte Transboundary Mining Sector Map



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Click an icon for details



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PASO DEL NORTE REGION



Legend

- Interstate highway
- Multiline highway
- Highway
- State highway
- Other road
- Railway
- International boundary
- State boundary

1:3,000,000

0 25 50 100 miles

0 25 50 100 km



Regulatory and Quantitative Strategic Sector Analysis



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PASO DEL NORTE ECONOMIC INDICATOR REVIEW
SPRING 2015
UNIVERSITY OF TEXAS AT EL PASO



Figure 1
Structure of Employment

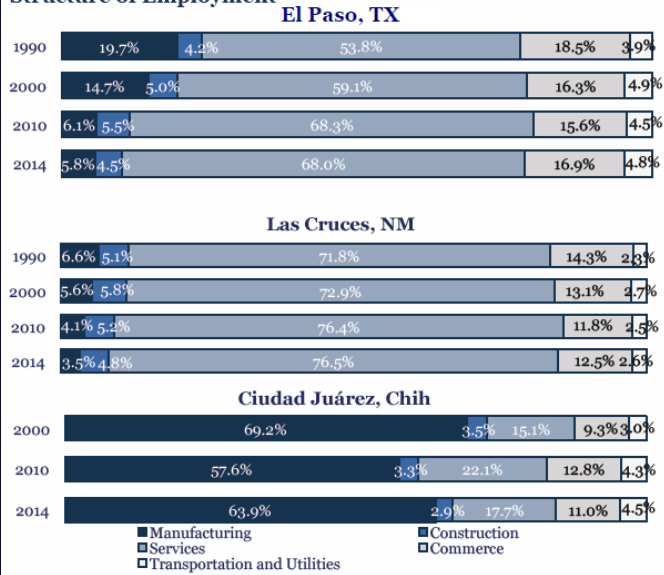


Table 3

Average Monthly Wages by Employee for Export-Oriented Manufacturing Firms (USD) December 2014

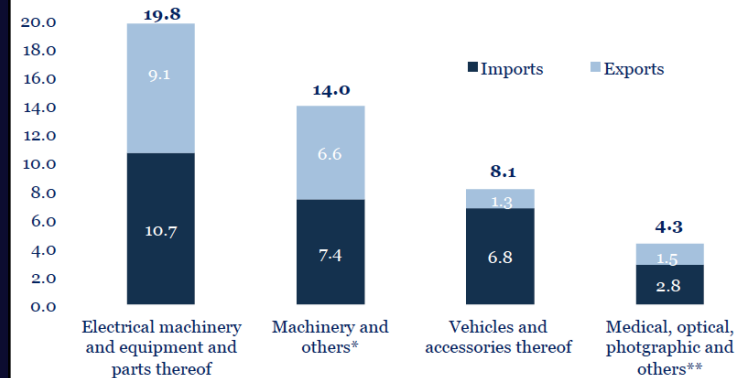
	All Workers	Non Production Workers	Production Workers
Mexico	802.8	2,045.8	582.7
Interior	884.7	2,029.5	628.9
Border	667.6	2,096.5	513.6
Mexicali	824.0	2,169.4	626.6
Nuevo Laredo	697.3	1,853.8	554.8
Tecate	746.0	2,139.3	644.3
Tijuana	713.6	2,223.3	583.9
Reynosa	642.9	2,052.5	483.0
Nogales	707.4	1,559.8	604.6
Matamoros	684.6	1,822.6	523.3
Ciudad Juárez	599.6	2,238.0	422.2
Ciudad Acuña	533.1	1,732.7	400.9

Table 5

Composition of Total Surface Trade with Mexico through the El Paso Ports 2014

	Rail	Truck
Agricultural products	16.7%	3.3%
Chemical and related products	3.3%	7.1%
Metals and manufactured articles made mostly of metal	76.7%	78.2%
Mineral products	1.7%	0.2%
Non - consumable animal and plant products	1.6%	1.9%
Non - metallic mineral products	0.0%	0.5%
Other highly manufactured and special - purpose goods	0.0%	5.5%
Textiles and apparel	0.0%	3.3%

Figure 5
Top Export and Import Value of Goods Moved through El Paso Ports with Mexico as the Trading Partner (USD Billion) 2014





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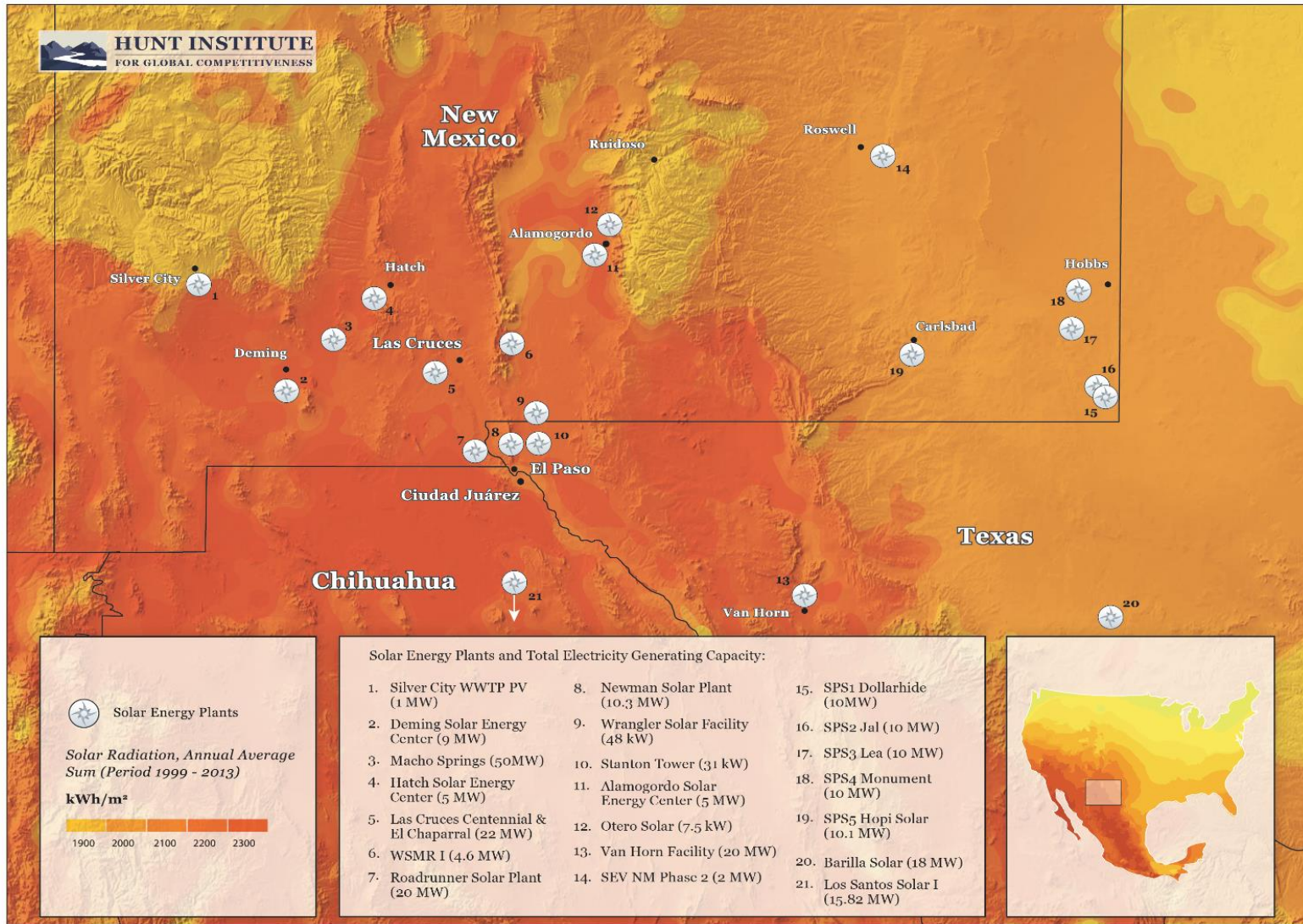
PASO DEL NORTE ENERGY SECTOR REVIEW
FALL 2016
THE UNIVERSITY OF TEXAS AT EL PASO








-  Natural Gas Compression Station
-  Natural Gas Processing Plants
-  Natural Gas Pipeline
-  Natural Gas Pipeline Under Construction
-  Tight Oil/Shale Gas Play
-  Sedimentary Basin



 Solar Energy Plants

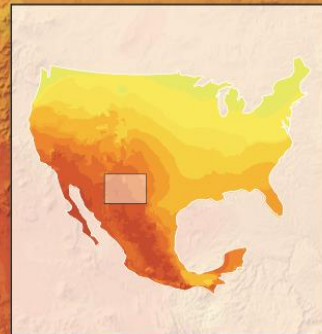
Solar Radiation, Annual Average Sum (Period 1999 - 2013)

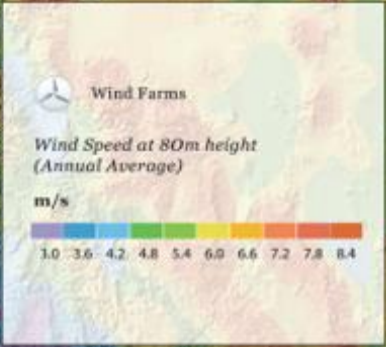
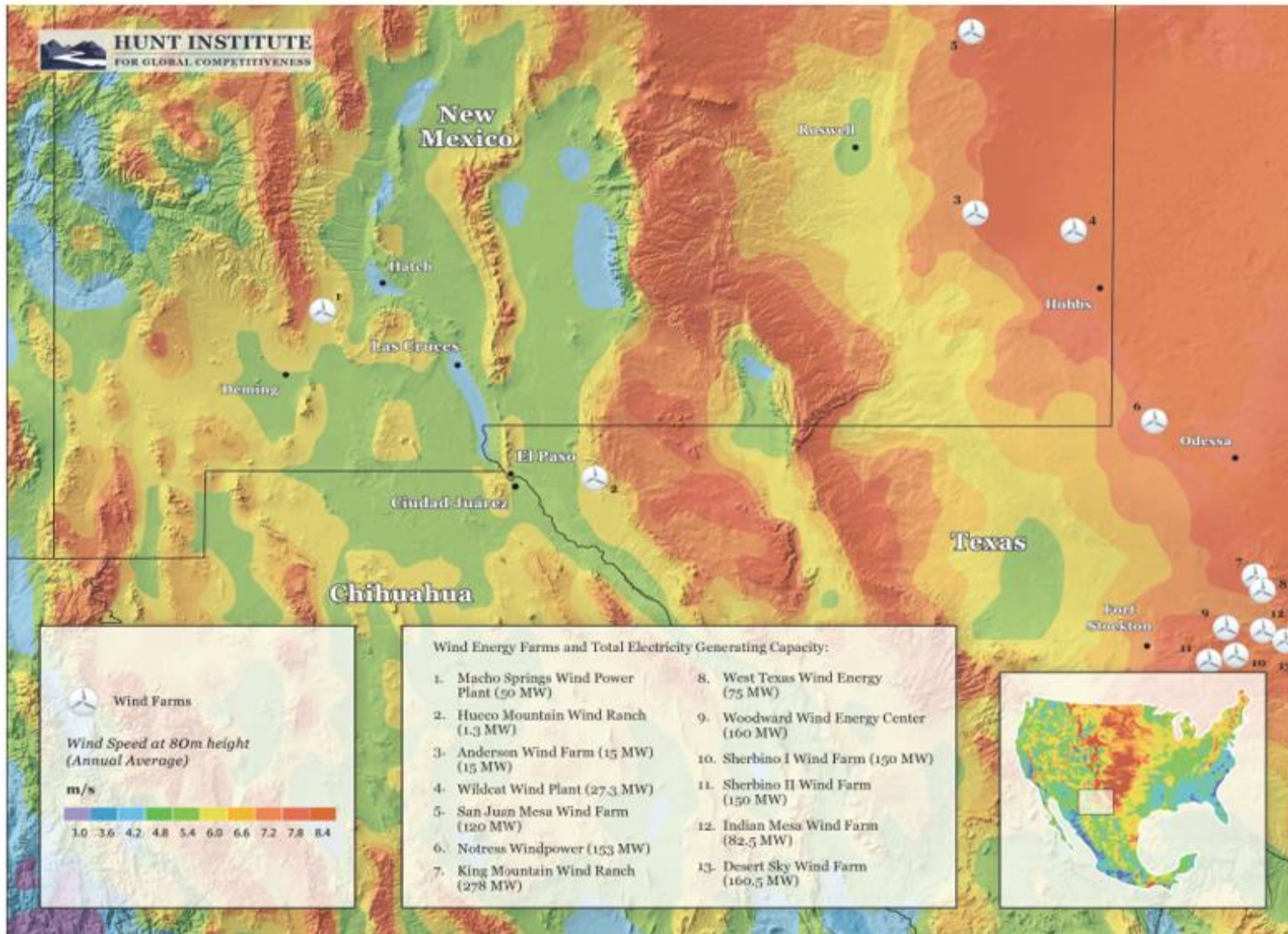
kWh/m²



Solar Energy Plants and Total Electricity Generating Capacity:

- | | | |
|---|---|-----------------------------------|
| 1. Silver City WWTP PV (1 MW) | 8. Newman Solar Plant (10.3 MW) | 15. SPS1 Dollarhide (10MW) |
| 2. Deming Solar Energy Center (9 MW) | 9. Wrangler Solar Facility (48 kW) | 16. SPS2 Jal (10 MW) |
| 3. Macho Springs (50MW) | 10. Stanton Tower (31 kW) | 17. SPS3 Lea (10 MW) |
| 4. Hatch Solar Energy Center (5 MW) | 11. Alamogordo Solar Energy Center (5 MW) | 18. SPS4 Monument (10 MW) |
| 5. Las Cruces Centennial & El Chaparral (22 MW) | 12. Otero Solar (7.5 kW) | 19. SPS5 Hopi Solar (10.1 MW) |
| 6. WSMR I (4.6 MW) | 13. Van Horn Facility (20 MW) | 20. Barilla Solar (18 MW) |
| 7. Roadrunner Solar Plant (20 MW) | 14. SEV NM Phase 2 (2 MW) | 21. Los Santos Solar I (15.82 MW) |

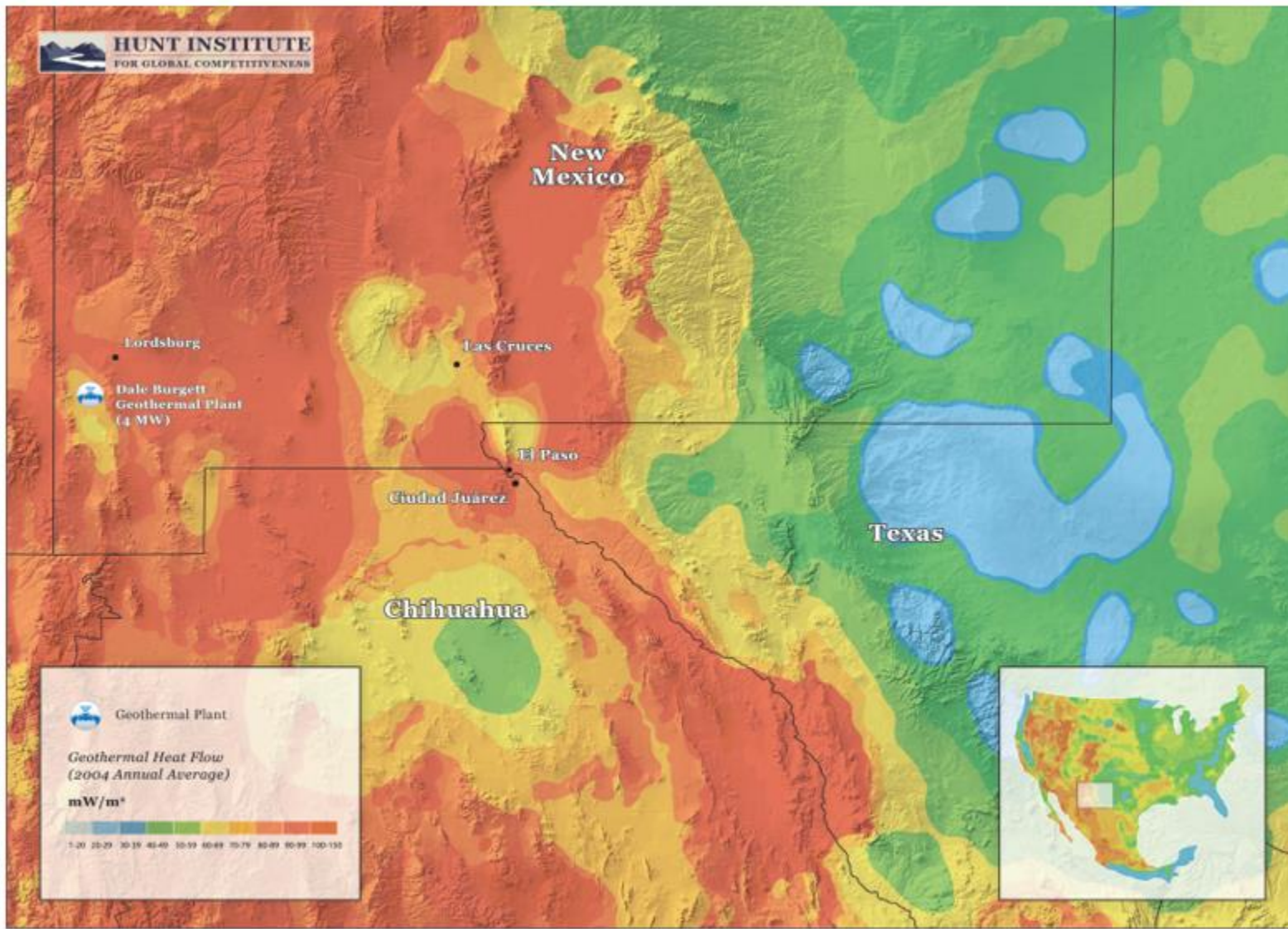




Wind Energy Farms and Total Electricity Generating Capacity:

1. Macho Springs Wind Power Plant (50 MW)	8. West Texas Wind Energy (75 MW)
2. Hueco Mountain Wind Ranch (1.3 MW)	9. Woodward Wind Energy Center (160 MW)
3. Anderson Wind Farm (15 MW)	10. Sherbino I Wind Farm (150 MW)
4. Wildcat Wind Plant (27.3 MW)	11. Sherbino II Wind Farm (150 MW)
5. San Juan Mesa Wind Farm (120 MW)	12. Indian Mesa Wind Farm (82.5 MW)
6. Notress Windpower (153 MW)	13. Desert Sky Wind Farm (100.5 MW)
7. King Mountain Wind Ranch (278 MW)	





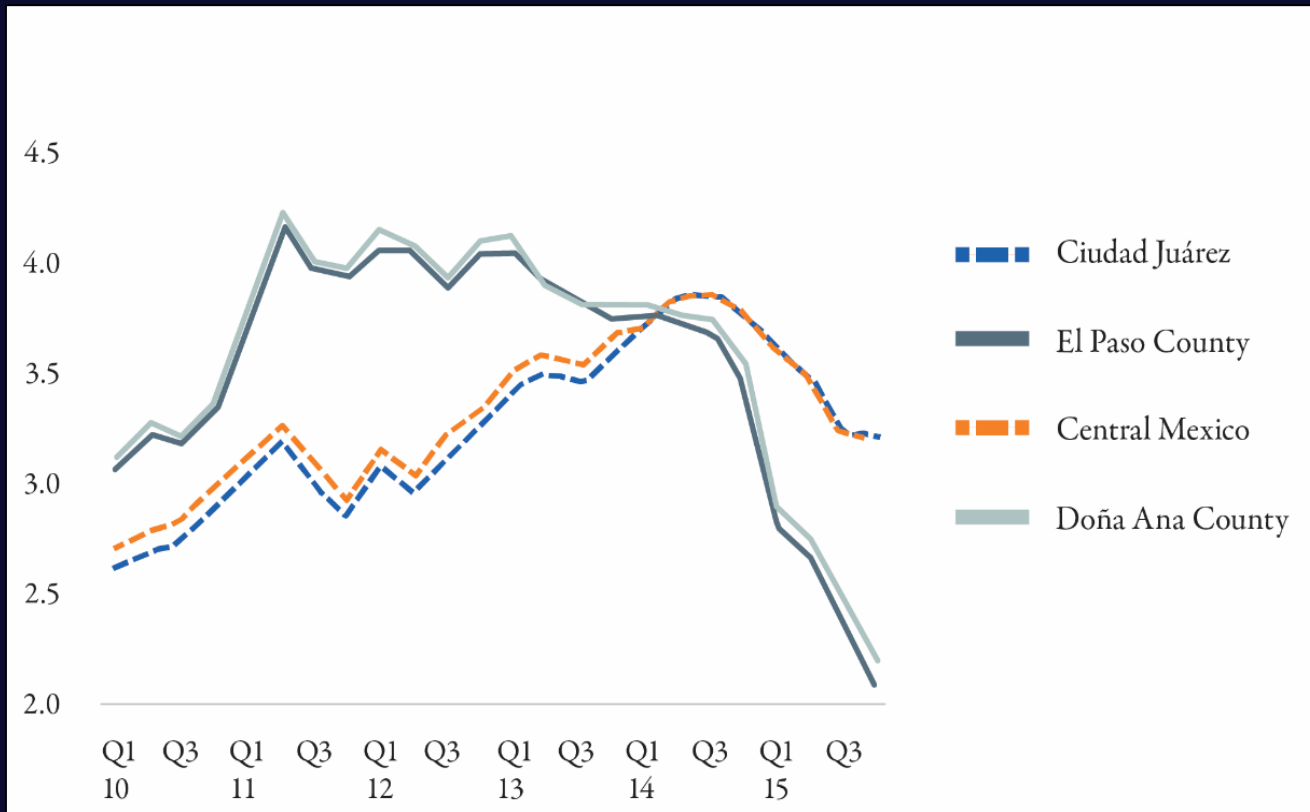
Average Regular Grade, Real Price (USD per Gallon)

Source: *ONEXPO and Pemex*



Average Diesel Grade, Real Price (USD per Gallon)

Source: *ONEXPO and Pemex*



Ciudad Juárez Regular Grade Sales and Average Real Price

Source: *Pemex*

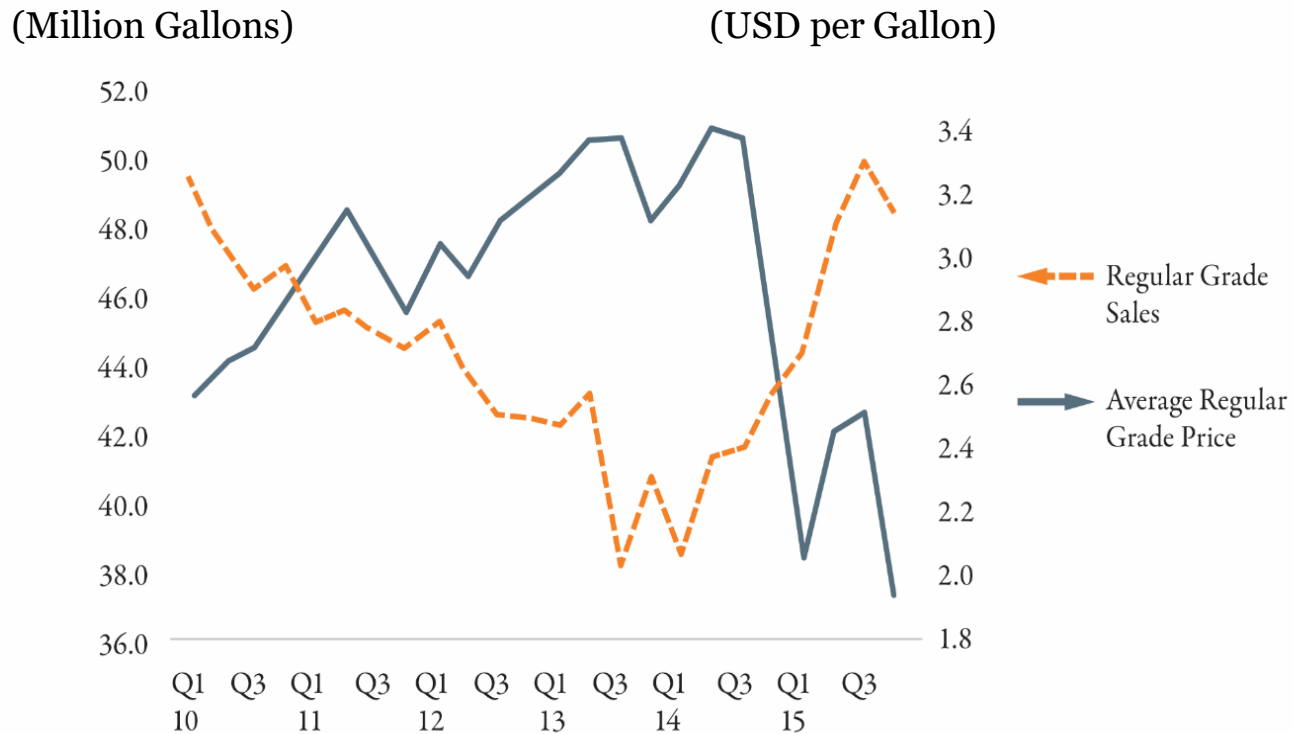


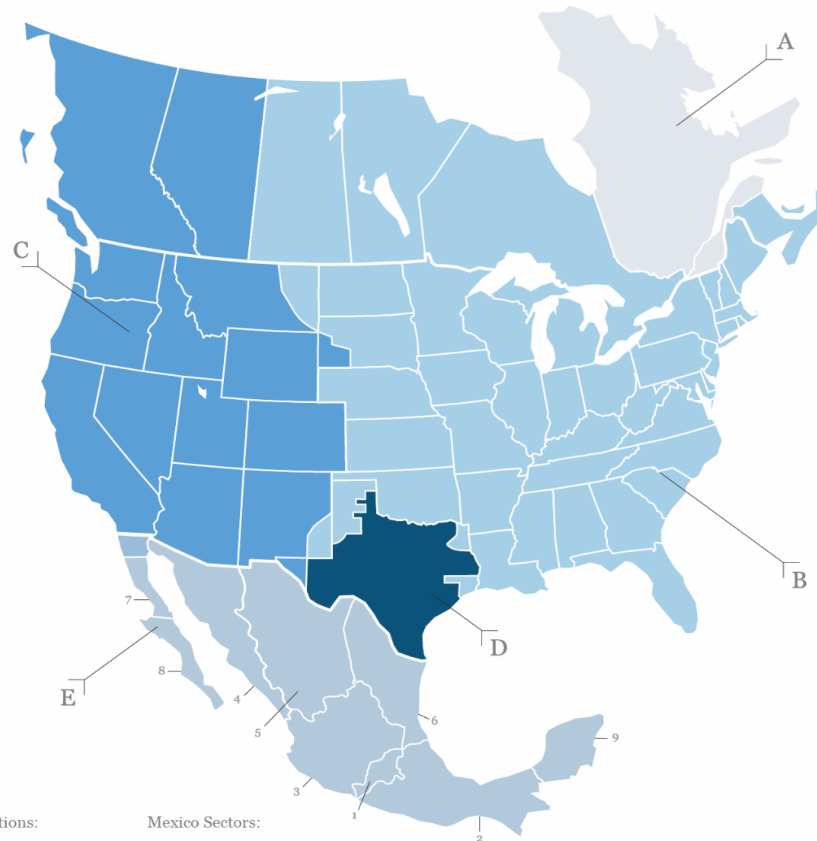
Table 1

Paso del Norte: Average Monthly Bill of Natural Gas (USD)*

Provider	Year	Residential @ 6 Mcf	Commercial @ 30 Mcf	Industrial @ 300 Mcf
Texas Gas Service	2011	45.9	191.4	1,811.0
	2012	38.9	155.7	1,459.6
	2013	42.8	173.5	1,735.7
	2014	49.1	203.6	1,957.8
	2015	42.2	166.5	1,595.5
Gas Natural de Juárez	2011	69.3	496.9	1,695.5
	2012	69.4	496.8	1,692.6
	2013	70.9	507.5	1,728.9
	2014	70.3	504.1	1,720.2
	2015	62.2	446.2	1,522.5
Zia Natural Gas Company	2011	40.3	159.4	1,476.6
	2012	34.3	130.7	1,191.9
	2013	36.2	140.4	1,291.0
	2014	54.1	230.7	2,195.6
	2015	44.9	185.0	1,738.4

* Average end of month FIX exchange rate used for Juárez rates. October 2015 = 100.

Source: Texas Gas Service, DOF, and New Mexico Public Regulation Commission.

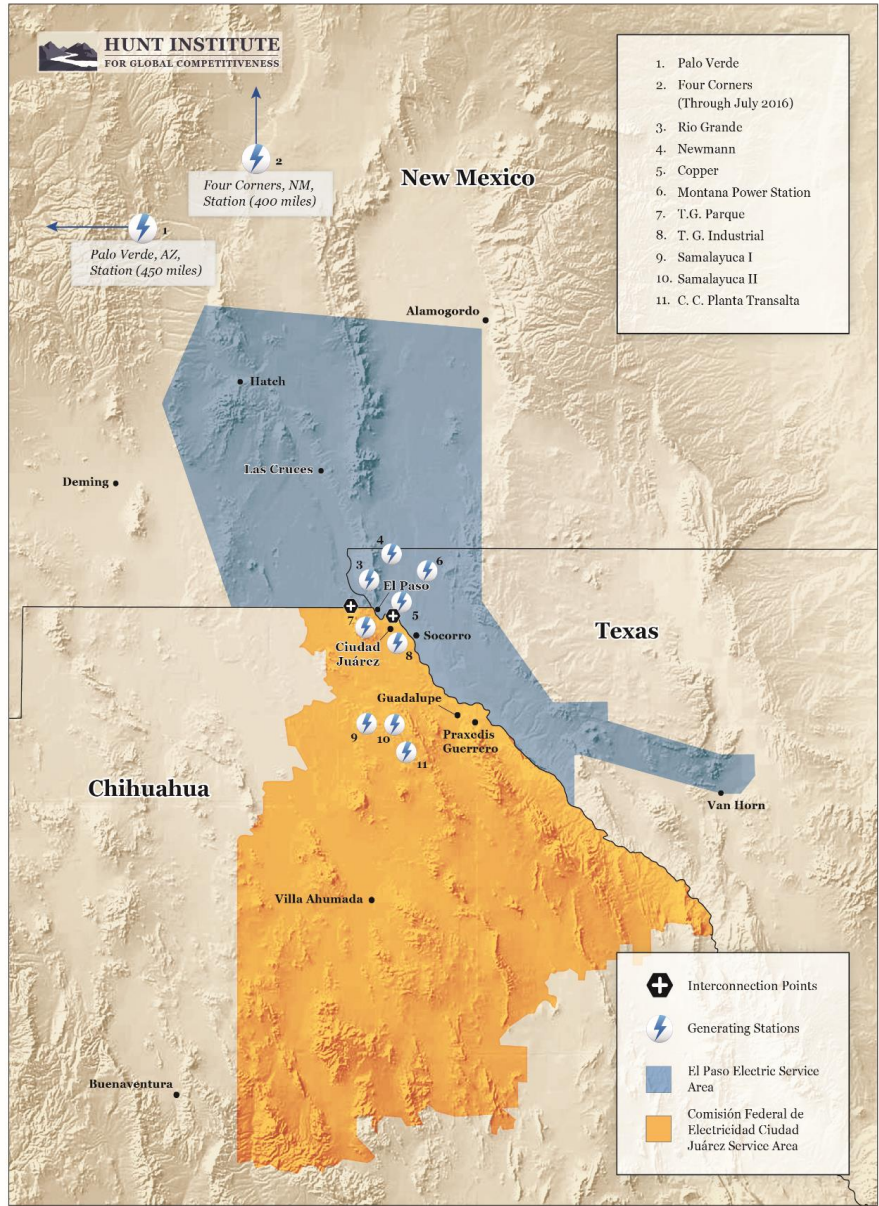


Interconnections:

- A. NPCC Québec
- B. Eastern Interconnection
- C. Western Electricity Coordinating Council (WECC)
- D. Electric Reliability Council of Texas (ERCOT)
- E. *Sistema Interconectado Nacional (SIN)*

Mexico Sectors:

- 1. Central
- 2. Eastern
- 3. Western
- 4. Northwest
- 5. North
- 6. Northeastern
- 7. Baja California
- 8. Baja California Sur
- 9. Peninsular



1. Palo Verde
2. Four Corners
(Through July 2016)
3. Rio Grande
4. Newmann
5. Copper
6. Montana Power Station
7. T.G. Parque
8. T. G. Industrial
9. Samalayuca I
10. Samalayuca II
11. C. C. Planta Transalta

-  Interconnection Points
-  Generating Stations
-  El Paso Electric Service Area
-  Comisión Federal de Electricidad Ciudad Juárez Service Area

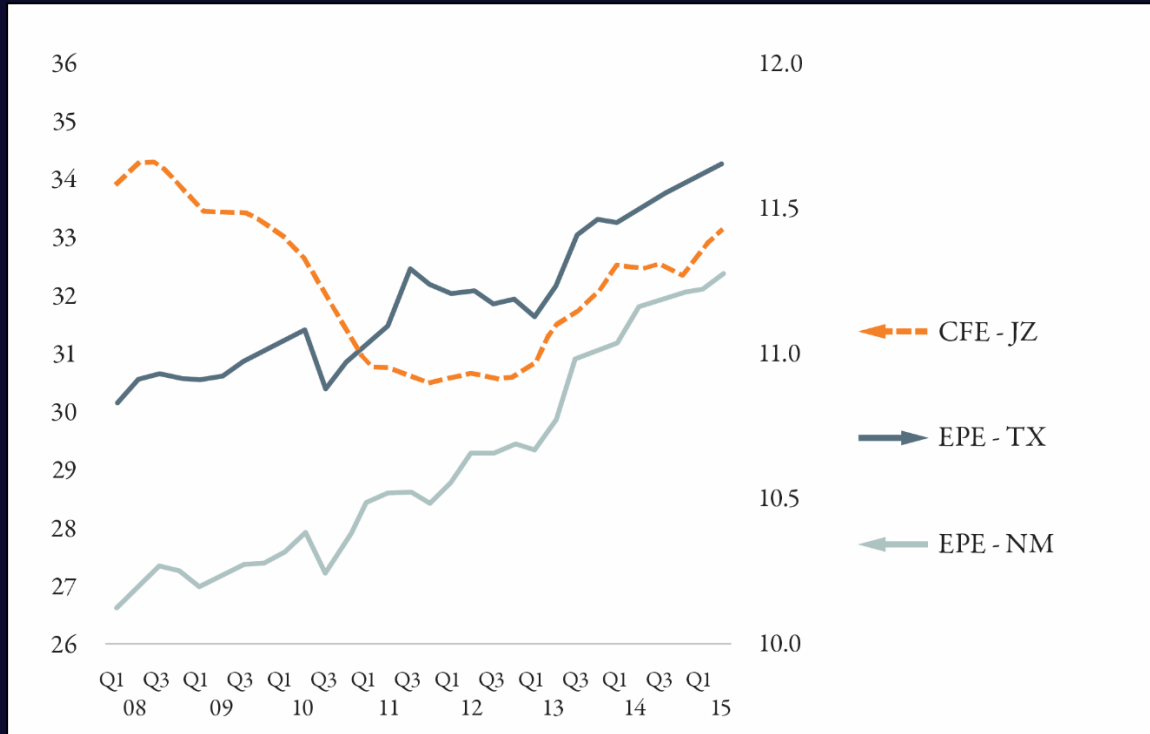
Average Residential Customers (Thousands)

Source: *CFE and EIA*



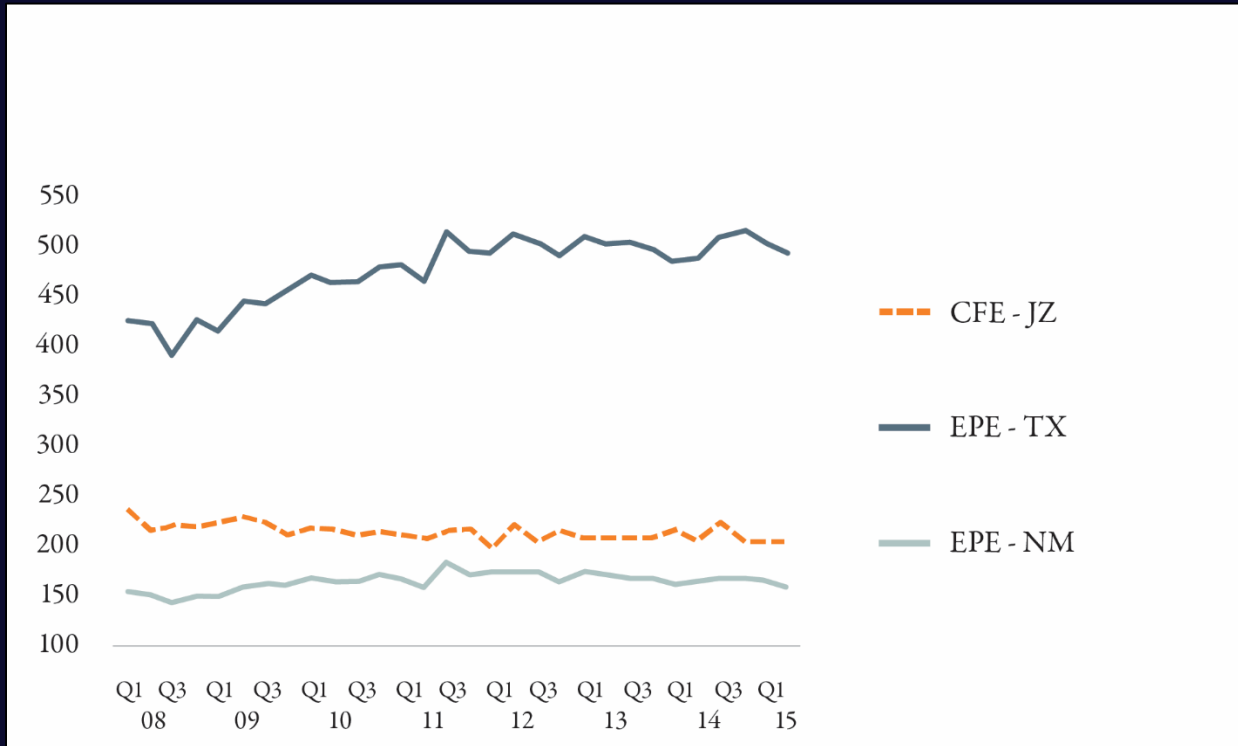
Average Non-Residential Customers (Thousands)

Source: *CFE and EIA*



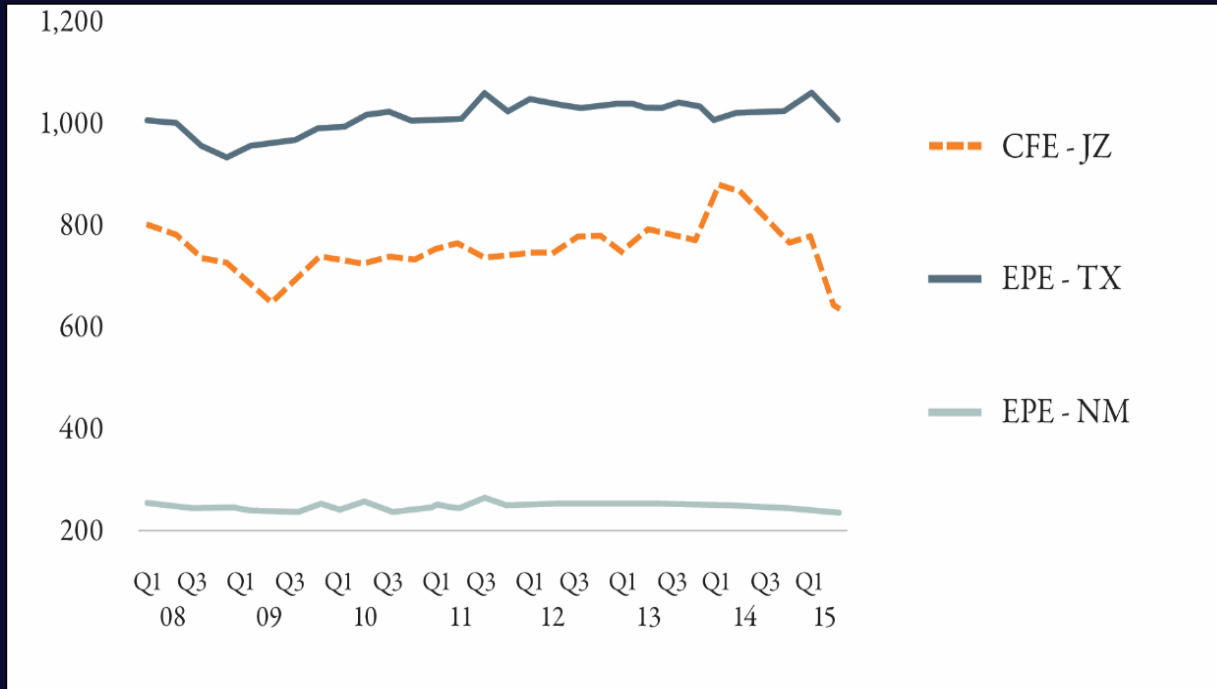
Residential Consumption (MWh)

Source: *CFE and EIA*



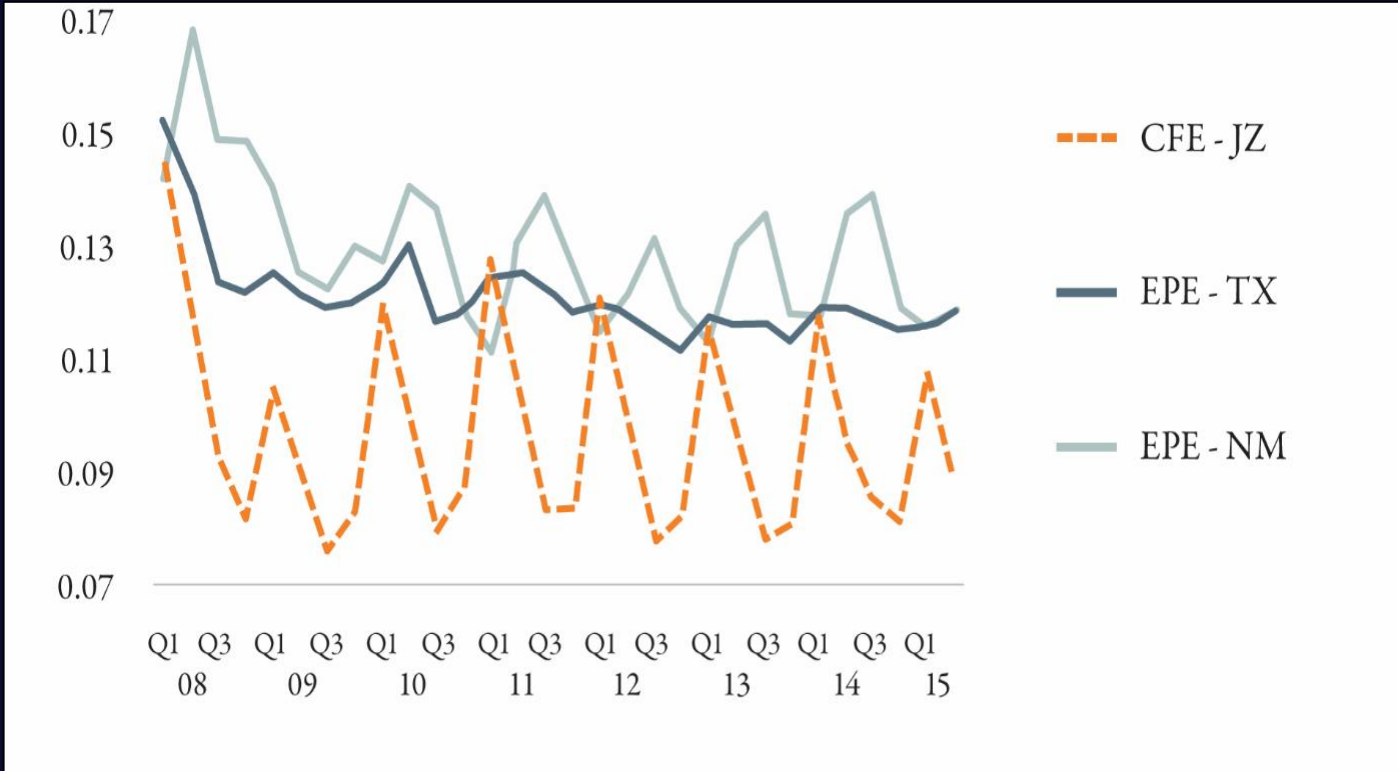
Non-Residential Consumption (MWh)

Source: *CFE and EIA*



Residential Average Real Price per kWh (USD)

Source: *CFE and EIA*



Non-Residential Average Real Price per kWh (USD)

Source: *CFE and EIA*

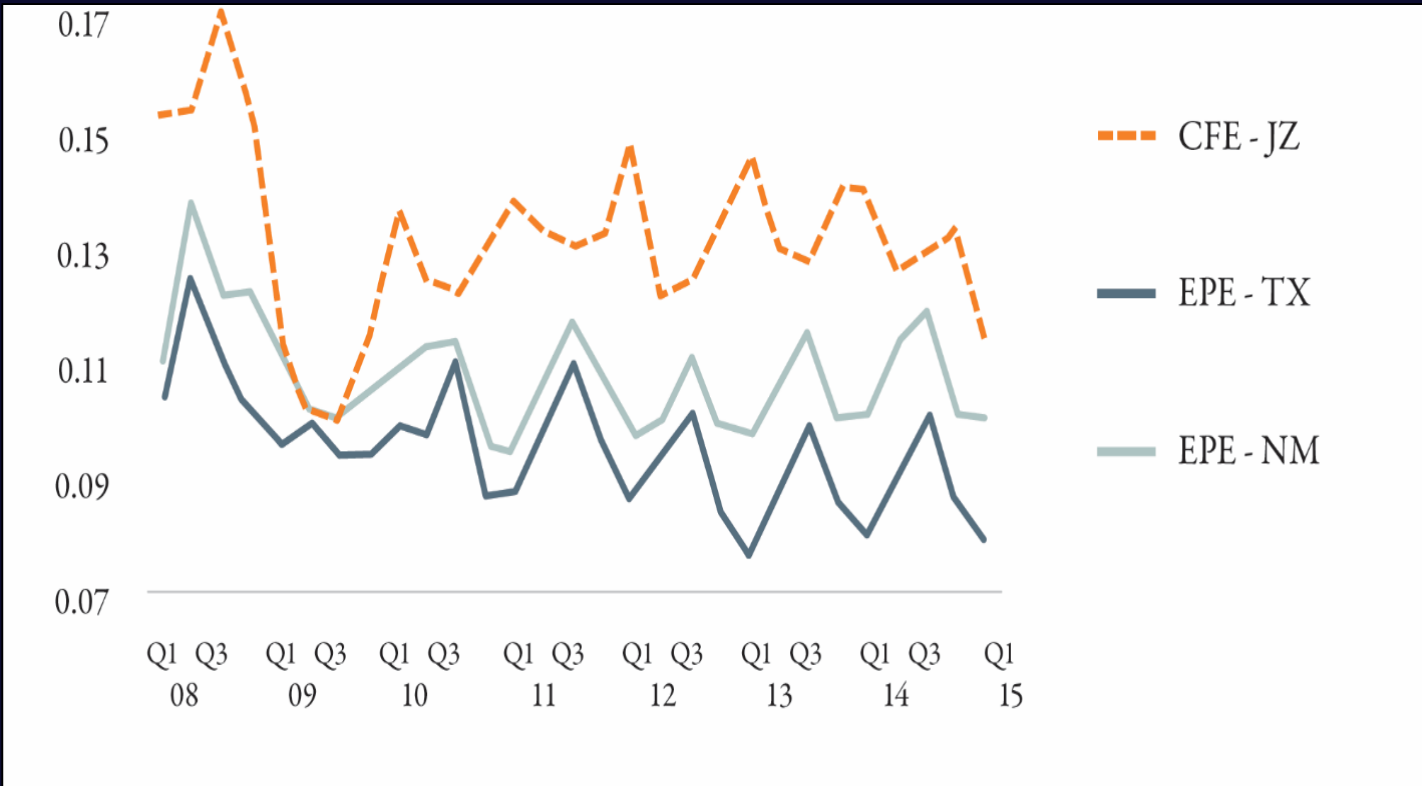


Table 5**CFE- Juárez: Top 10 Customers**

	Firm Name	Maquila (Yes/No)	Main Economic Activity	Jan-Aug 2015 (GWh)
1	Electrolux Home Products of México	Yes	Electronics	53.63
2	Grupo Cemento de Chihuahua	No	Concrete	45.89
3	Tecnología de Iluminación Automotriz	Yes	Automotive	35.26
4	Lexmark Internacional	Yes	Electricals	23.74
5	Flextronics	Yes	Electronics	21.64
6	Bel Manufacturera	Yes	Electronics	18.86
7	Robert Bosch Sistemas Automotrices	Yes	Automotive	18.54
8	Scientific Atlanta México	Yes	Electronics	17.86
9	PCE Technology de Juárez	Yes	Electricals	17.66
10	Cordis de México	Yes	Medical	14.30
			Total	267.39

Source: *Index Juárez and Bloomberg Business.*

Table 8**Paso del Norte: Average Residential Rates per kWh (USD)**

Summer 2015			
	EPE-NM	EPE-TX*	CFE Juárez**
1 kWh - 150 kWh	0.11790	0.10802	0.04449
151 kWh - 300 kWh	0.11790	0.10802	0.05250
301 kWh - 450 kWh	0.11790	0.10802	0.06702
451 kWh - 600 kWh	0.11790	0.10802	0.17890
≥ 600 kWh	0.13599	0.10802	0.17890
Customer Charge	7.00	5.00	N/A
DAP	N/A	N/A	1.2515

* A fuel charge of USD 0.02057 is included.

** End of month FIX exchange rate 2015 is used.

Source: EPE and CFE, 2015.

Economic Impact Modeling



Summer 2016

The Hub of Human Innovation: Economic Impacts of the UTEP – Paso del Norte Clean Energy Incubator Program in El Paso, TX. (January 2016 – June 2016)

The Clean Energy Incubator program is a partnership between The Hub for Human Innovation and UTEP funded through a contract award from the Emerging Clean Technology Program for the Texas Comptroller of Public Accounts, State Energy Conservation Office (SECO) and UT Austin's Austin Technology Incubator (ATI). The UPDN CEI program seeks to facilitate the creation of clean energy companies and help them to generate business, create jobs, and become self-sustaining firms.

After conducting a thorough economic analysis, the Hunt Institute concluded that support from the UPDN CEI program awarded to small clean energy businesses will have considerable benefits to the local economy.

[See Full Report](#)

Trends in Occupational Employment Size, Growth and Average Hourly Wages in El Paso and Doña Ana Counties (1999-2017)

Employment size, growth and average hourly wages are explored individually in each county and in the region as a whole, allowing readers to identify workforce opportunities and challenges for the region.

[See Full Report](#)

[Published in June 2016]

MUSEIC Technical Secretariat



MUSEIC
MEXICO-U.S. ENTREPRENEURSHIP
AND INNOVATION COUNCIL

2016

ANNUAL REPORT

Building a bridge to competitiveness







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