



HUNT INSTITUTE

FOR GLOBAL COMPETITIVENESS



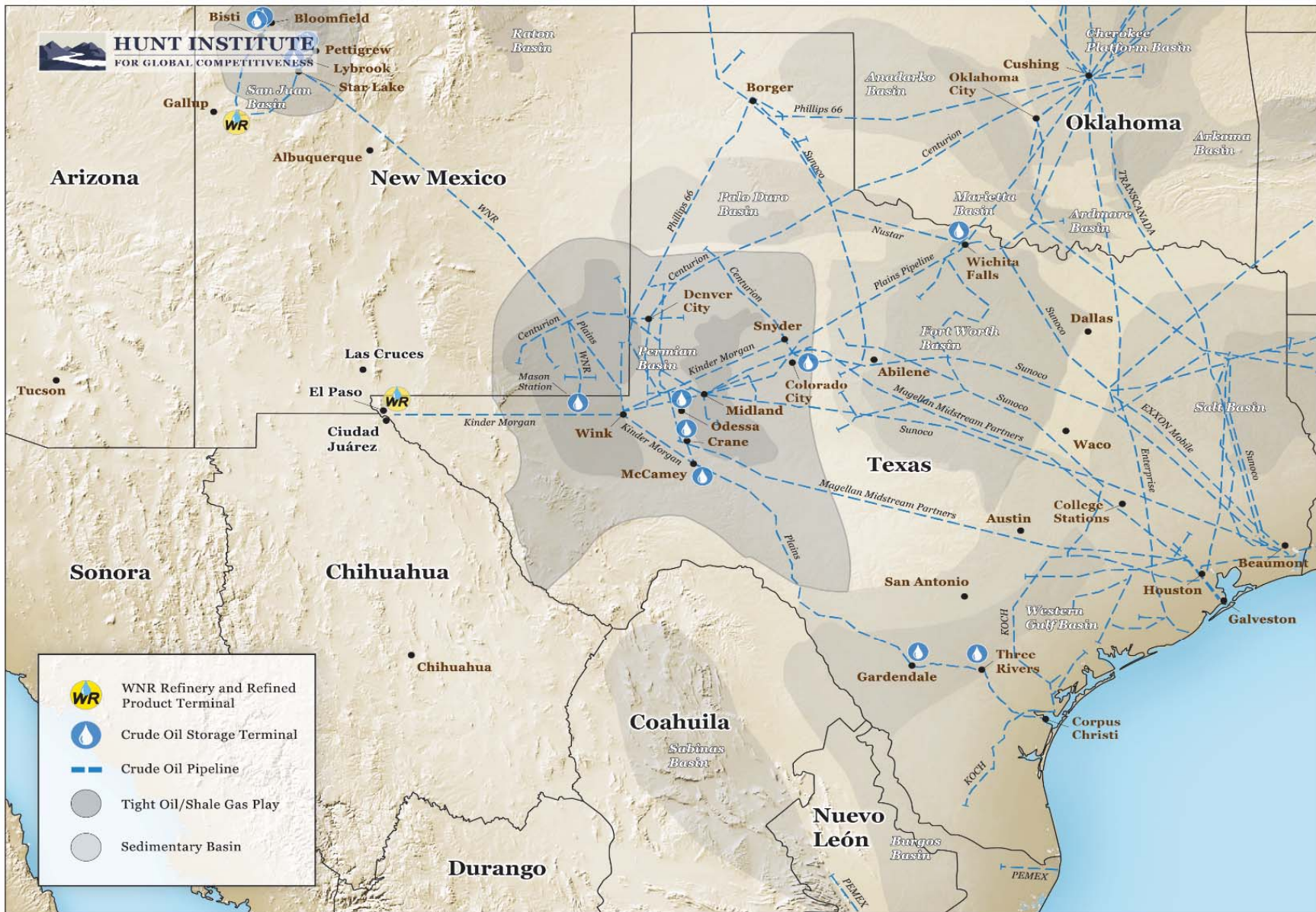
**Regional Energy Markets
In the Paso del Norte Region**








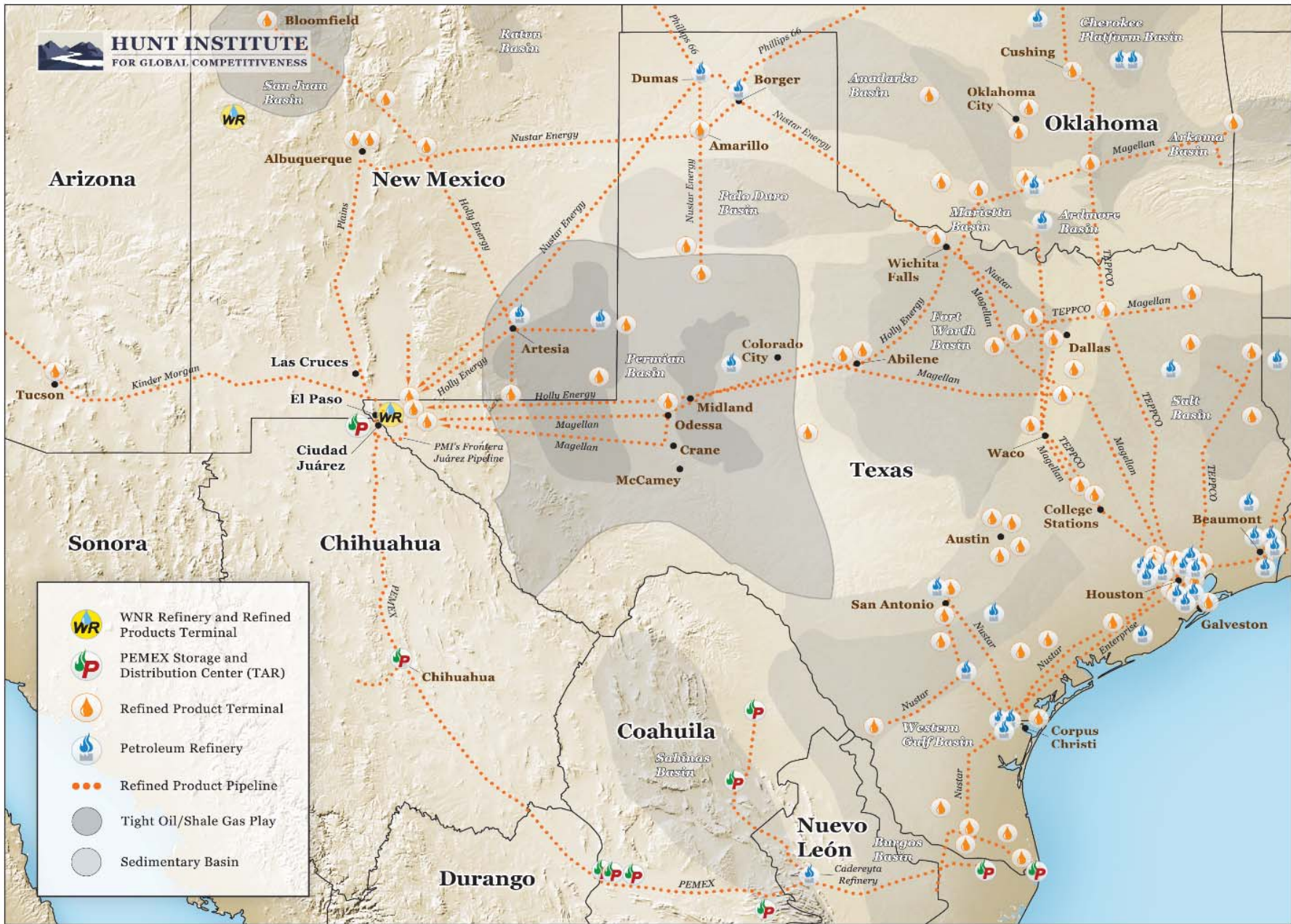
Source: Google Earth, 2016

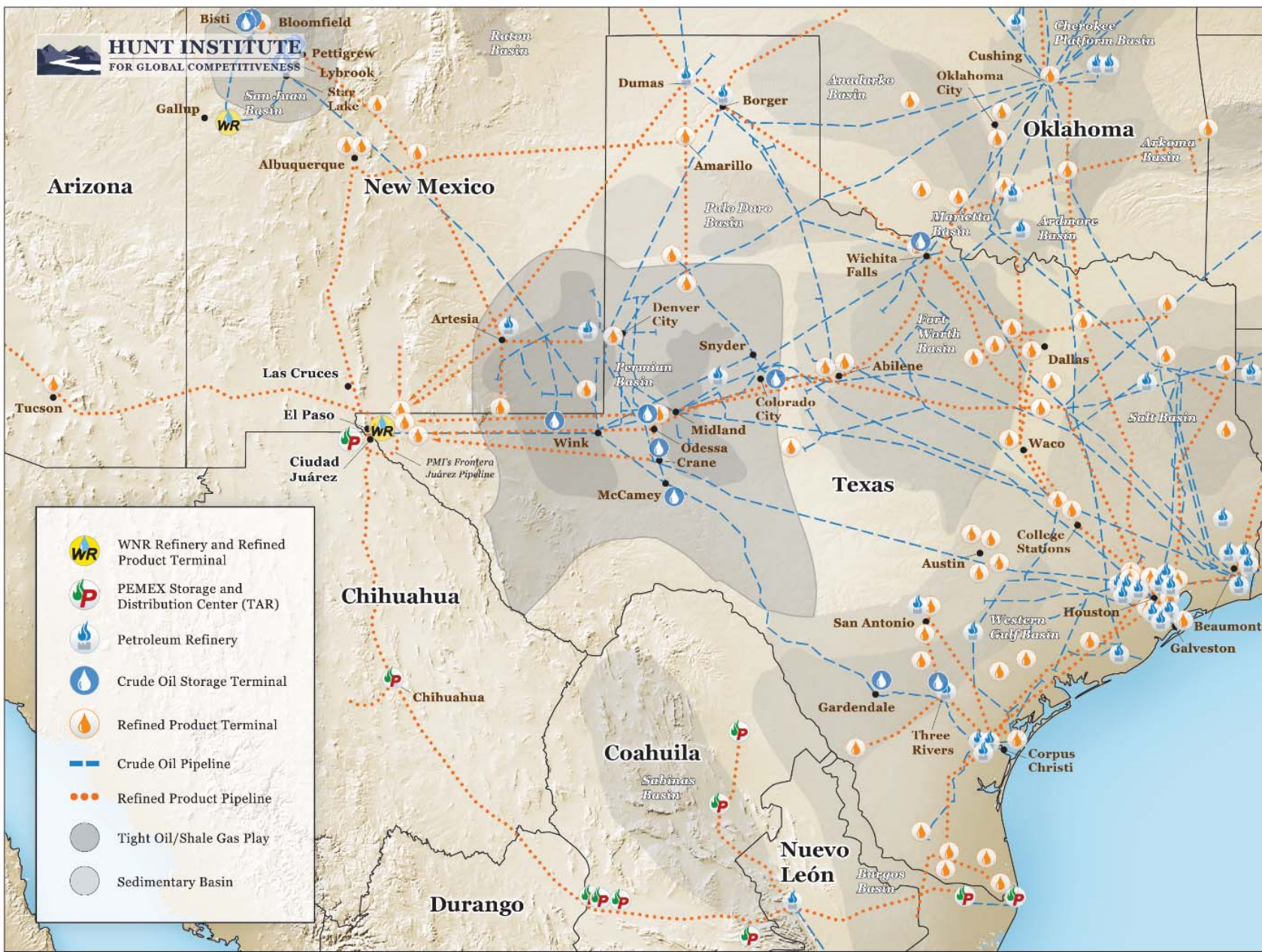











Source: Google Earth, 2016



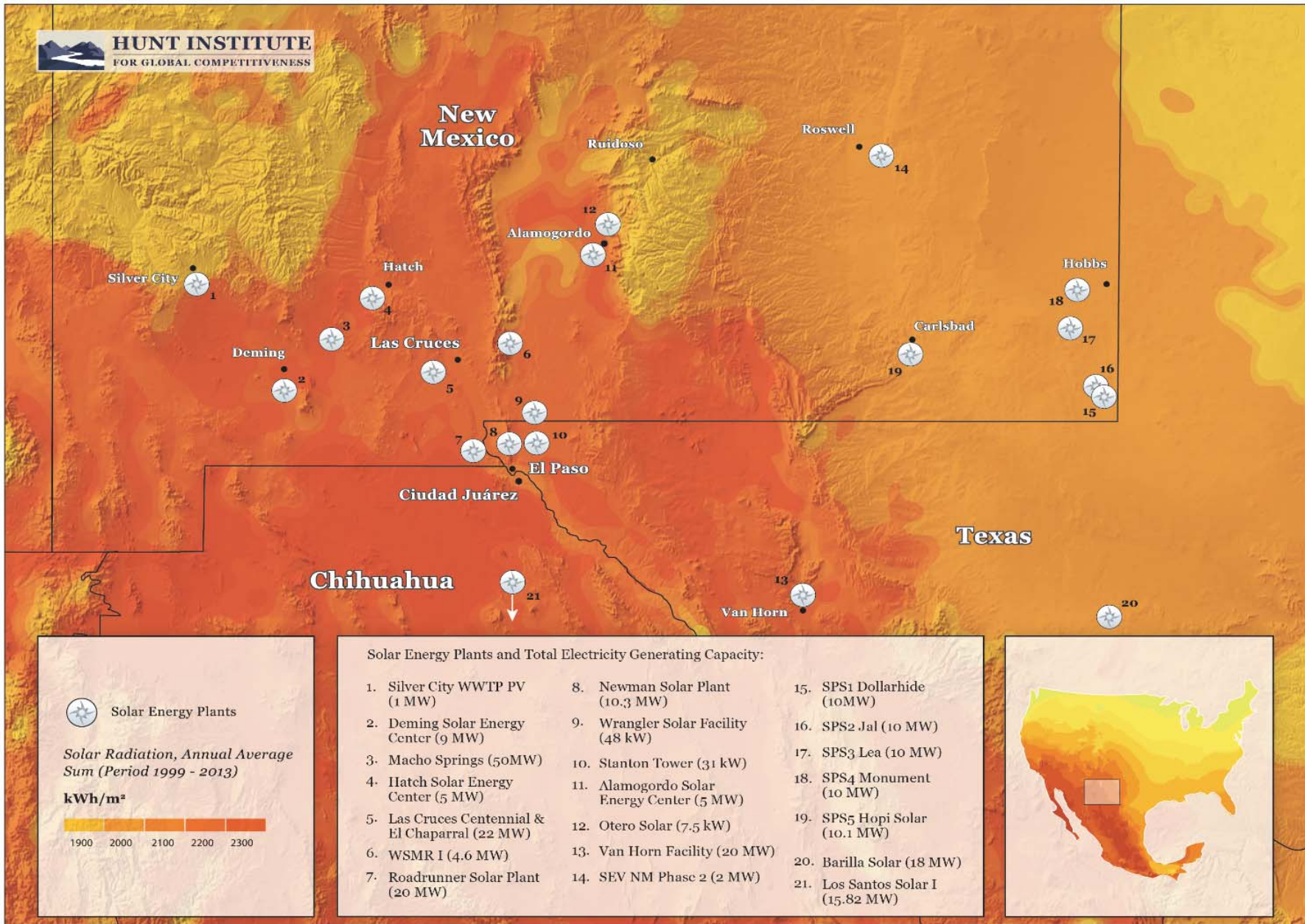
-  WNR Refinery and Refined Product Terminal
-  Crude Oil Storage Terminal
-  Crude Oil Pipeline
-  Tight Oil/Shale Gas Play
-  Sedimentary Basin

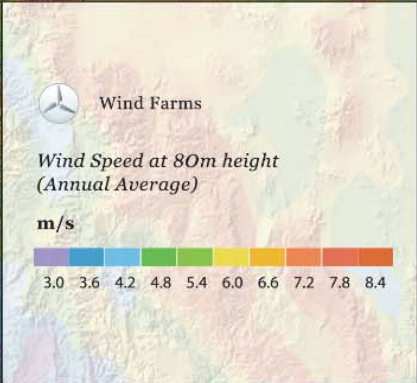
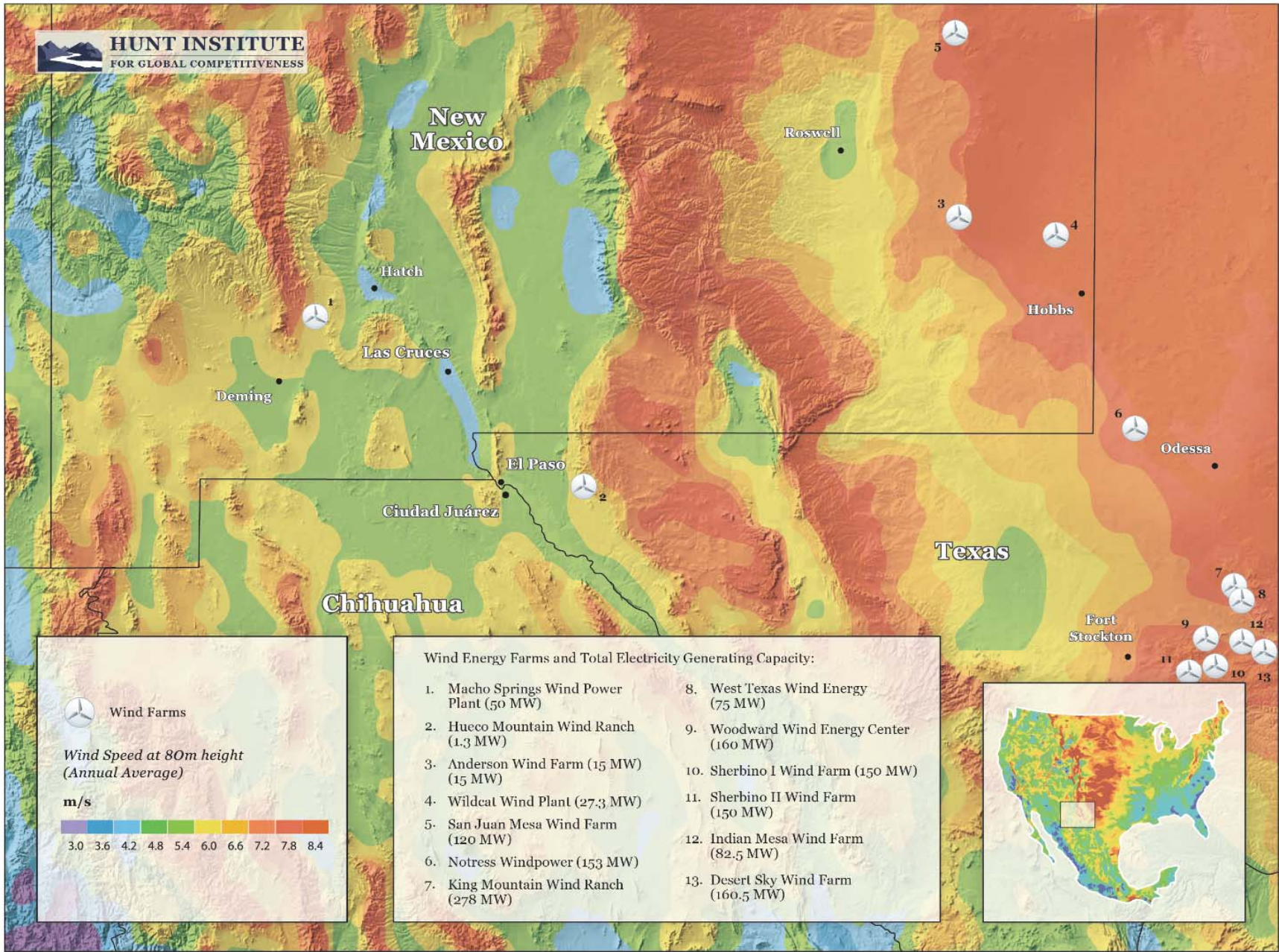




-  WNR Refinery and Refined Product Terminal
-  PEMEX Storage and Distribution Center (TAR)
-  Petroleum Refinery
-  Crude Oil Storage Terminal
-  Refined Product Terminal
-  Crude Oil Pipeline
-  Refined Product Pipeline
-  Tight Oil/Shale Gas Play
-  Sedimentary Basin

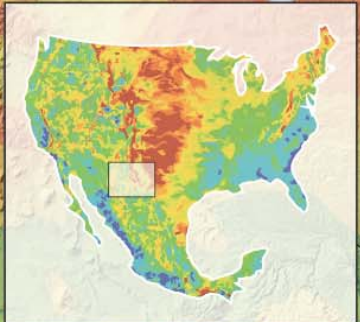


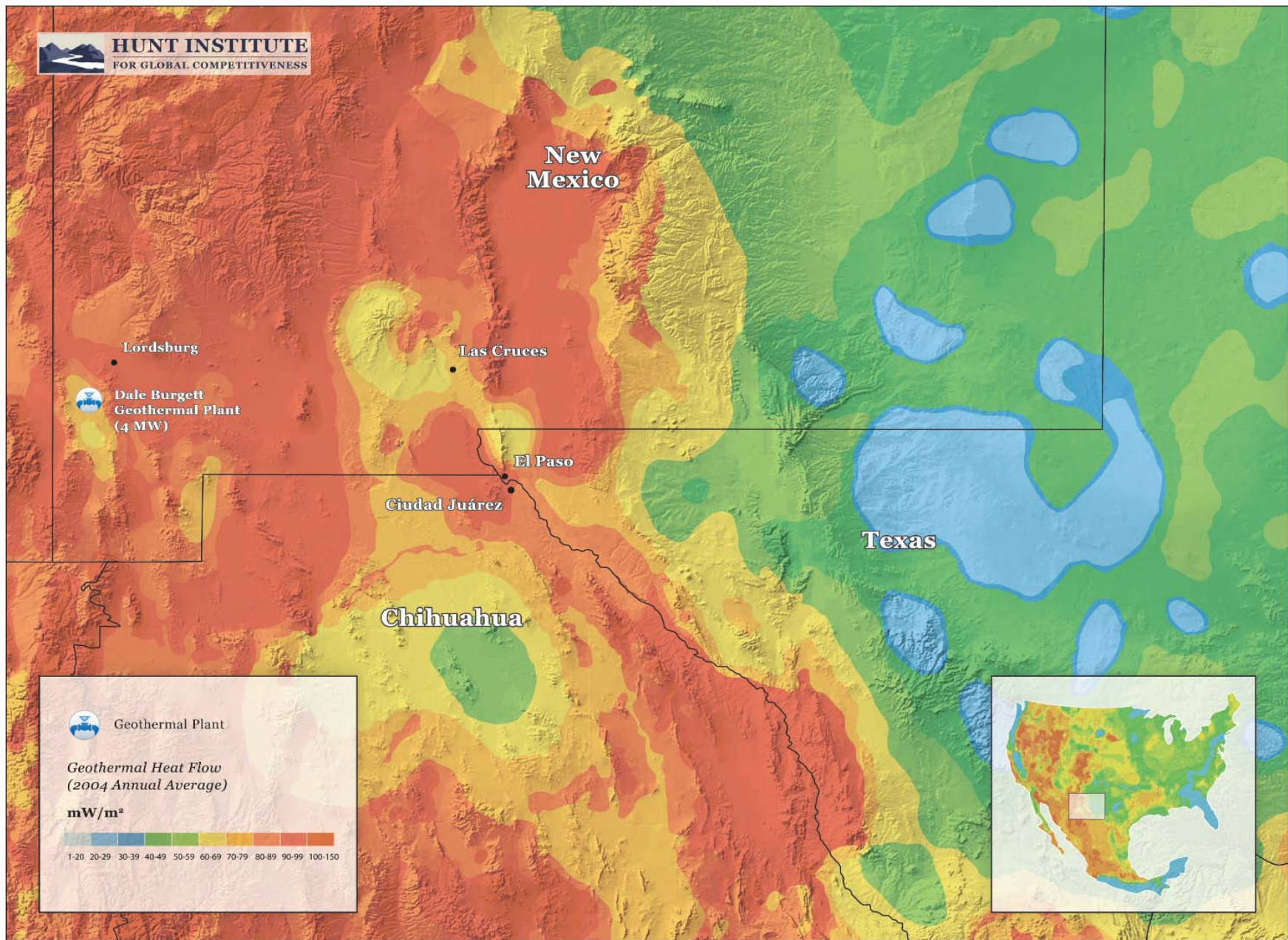


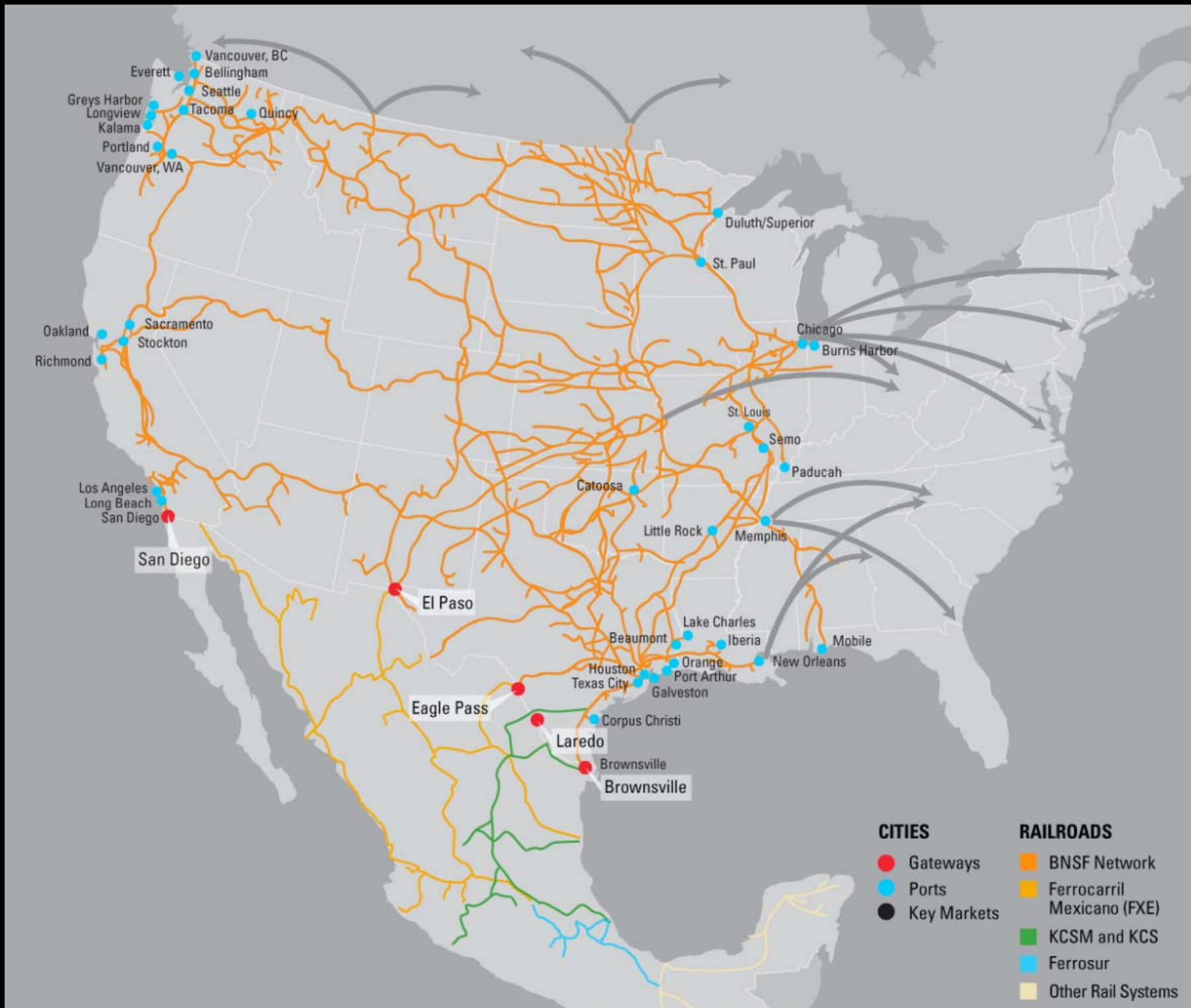


Wind Energy Farms and Total Electricity Generating Capacity:

1. Macho Springs Wind Power Plant (50 MW)	8. West Texas Wind Energy (75 MW)
2. Huelco Mountain Wind Ranch (1.3 MW)	9. Woodward Wind Energy Center (160 MW)
3. Anderson Wind Farm (15 MW) (15 MW)	10. Sherbino I Wind Farm (150 MW)
4. Wildeat 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 (160.5 MW)
7. King Mountain Wind Ranch (278 MW)	







Source: BNSF, 2016



Source: Union Pacific, 2016

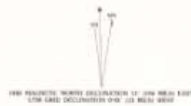




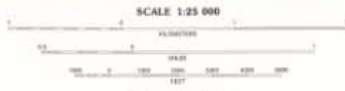
Produced by the United States Geological Survey
in cooperation with the Department of the Treasury,
U. S. Customs Service

Photography certified by optical scanning from color
infrared aerial photograph taken June 22, 1982, by the
Direccion General de Geografia del Terrestre Nacional (DGGTN),
Mexico D. F., Mexico

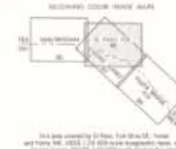
Projection and 2000-meter grid: Universal Transverse Mercator, zone 13
15,000-foot grid in the Texas coordinate system, central zone
1927 North American Datum
To place on the projected North American Datum 1983
move the projection north 8 meters north and 33 meters east



FOR INFORMATION
OF TEXAS AT AUSTIN
UNIVERSITY OF TEXAS
LIBRARIES
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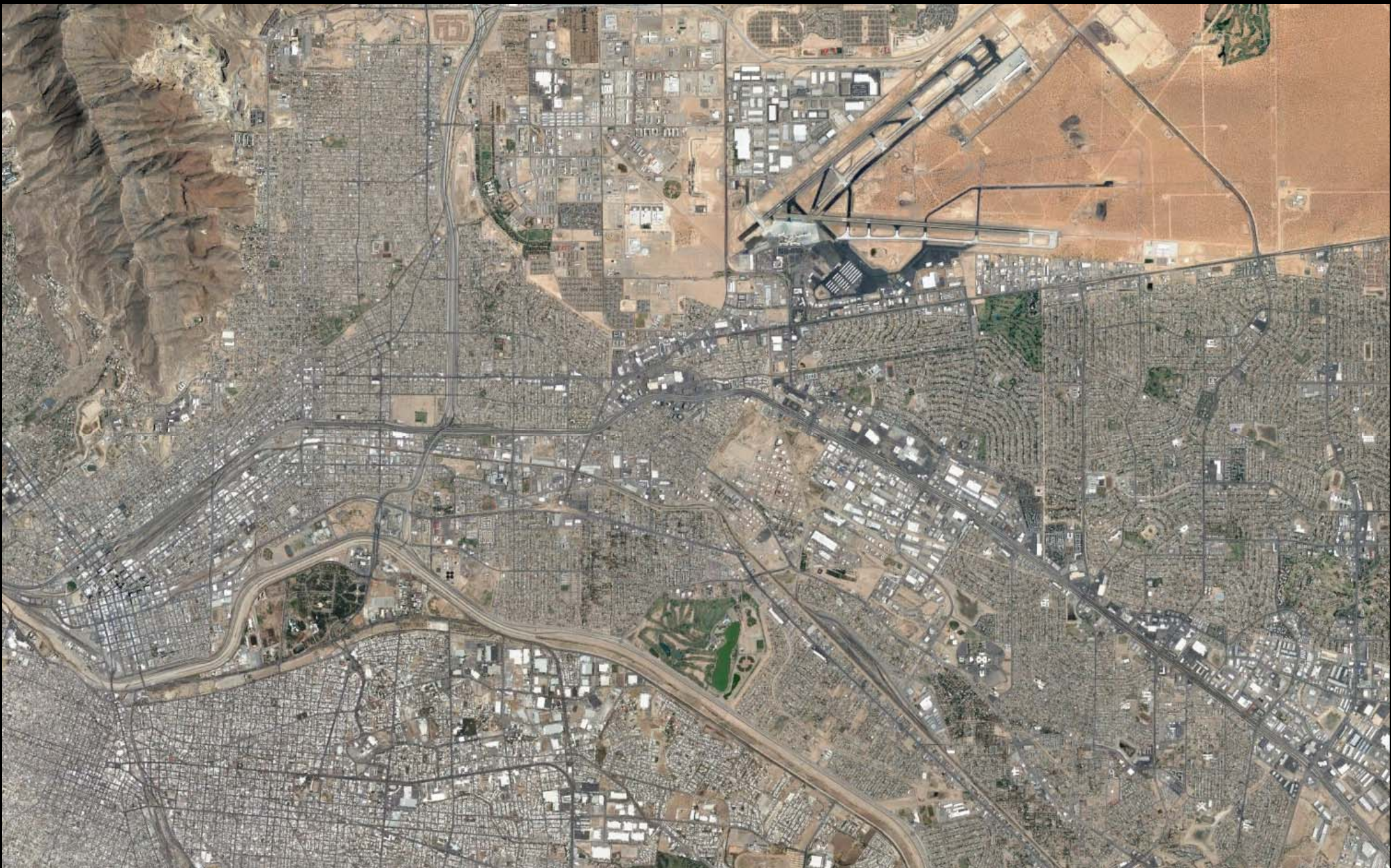


THIS MAP COMPLES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
AND BY CENTRO DE ASESORIA Y VENTA DE INFORMACION ESTADISTICA Y CARTOGRAFICA
BALDERAS #71, NEZAHUALCOYOTL, MEXICO D. F.



EL PASO
PORT OF ENTRY
TEXAS - CHIHUAHUA

1982
copy 1
SHEET 86
DUNGES-11485



Source: Google Earth, 2016

Average Regular Grade, Real Price (USD per Gallon)

Source: *ONEXPO and Pemex*



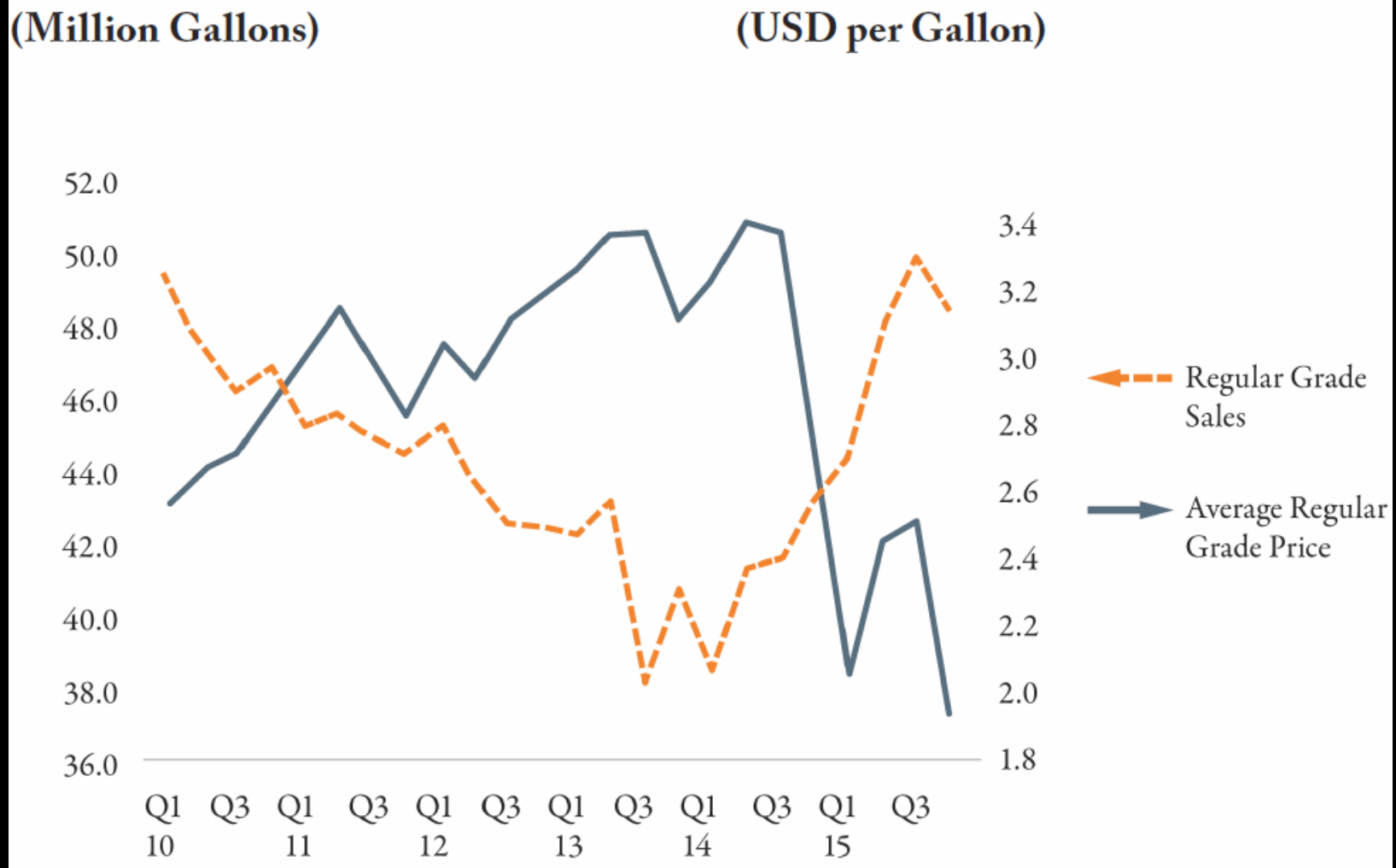
Average Diesel Grade, Real Price (USD per Gallon)

Source: *ONEXPO and Pemex*



Ciudad Juárez Regular Grade Sales and Average Real Price

Source: *Pemex*

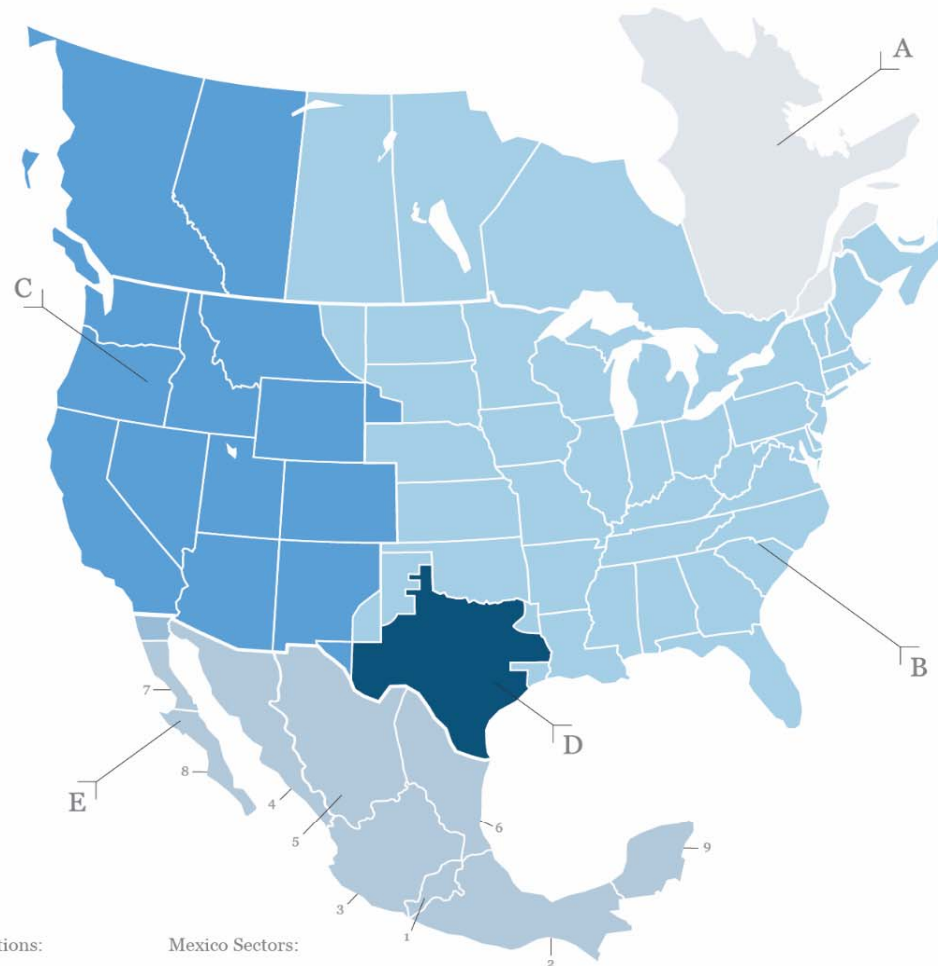


Paso del Norte Real Average Monthly Cost of Natural Gas (USD)

Provider	Year	Residential @ 6 Mcf	Commercial @ 30 Mcf	Industrial @ 300 Mcf
Texas Gas Service	2011	46.6	194.3	1,838.4
	2012	39.4	158.0	1,481.6
	2013	43.5	176.1	1,761.9
	2014	49.9	206.7	1,987.4
	2015	42.8	168.9	1,619.7
Gas Natural de Juárez	2011	71.1	510.1	1,740.6
	2012	67.4	482.2	1,642.8
	2013	65.9	471.5	1,605.9
	2014	62.3	446.8	1,524.6
	2015	51.1	366.8	1,251.7
Zia Natural Gas Company	2011	40.9	161.8	1,498.9
	2012	34.9	132.6	1,209.8
	2013	36.7	142.5	1,310.5
	2014	54.9	234.2	2,228.8
	2015	45.6	187.8	1,764.8

**Average September 2016 FIX exchange rate used for Ciudad Juárez. September 2016 = 100*

Source: *Texas Gas Service, DOF, and the New Mexico Public Regulation Commission, 2016*

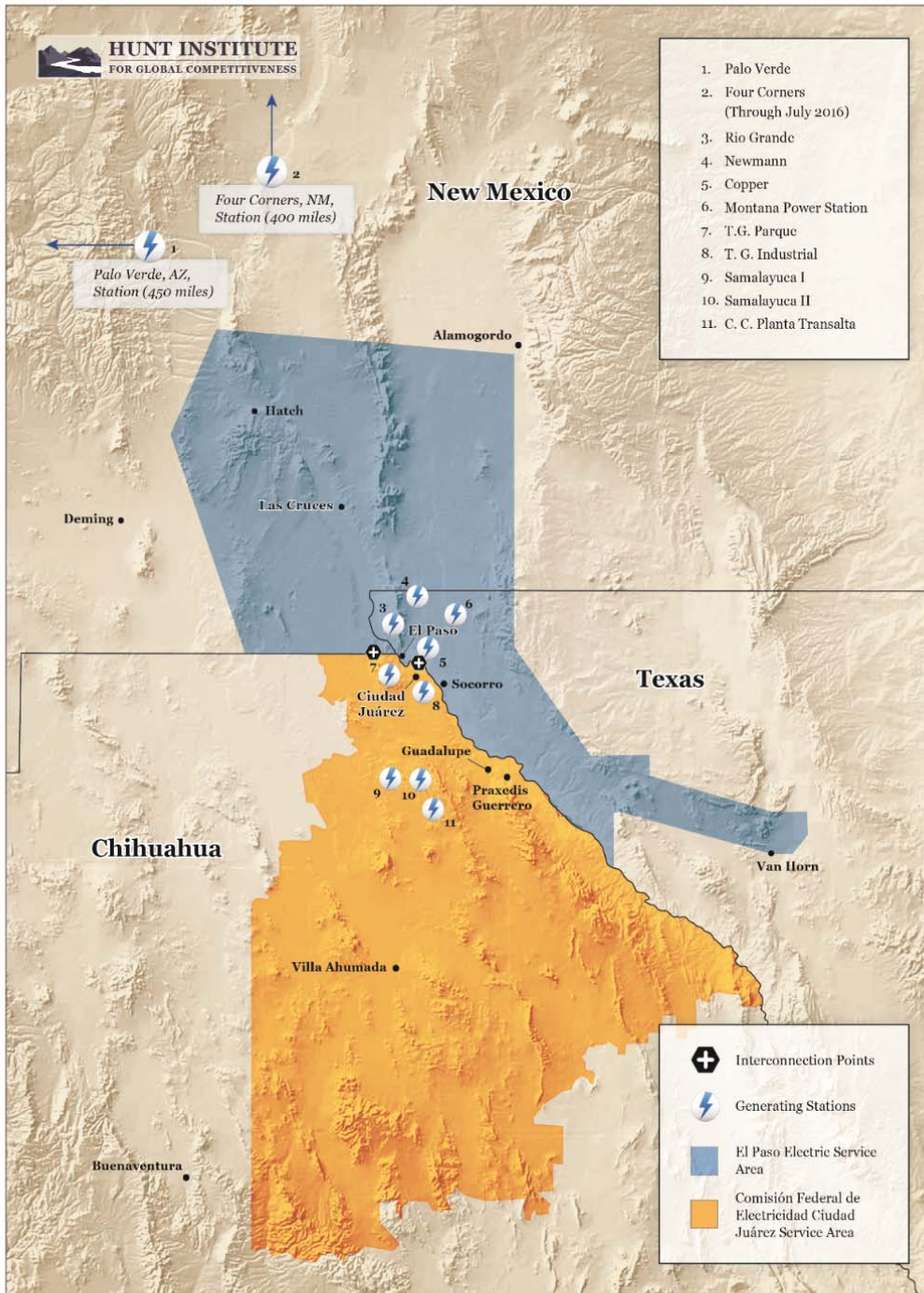


Interconnections:

- 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

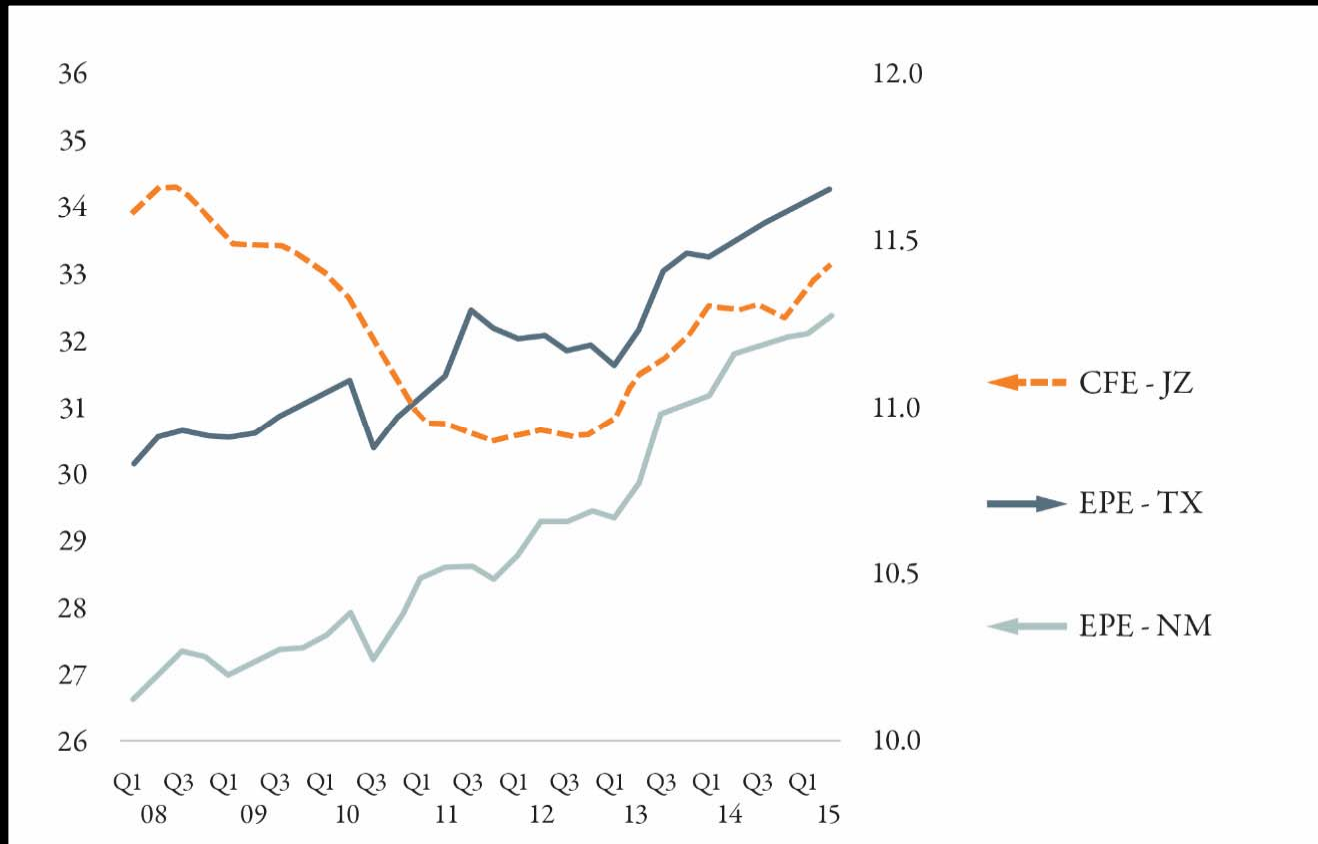
Average Residential Customers (Thousands)

Source: *CFE and EIA*



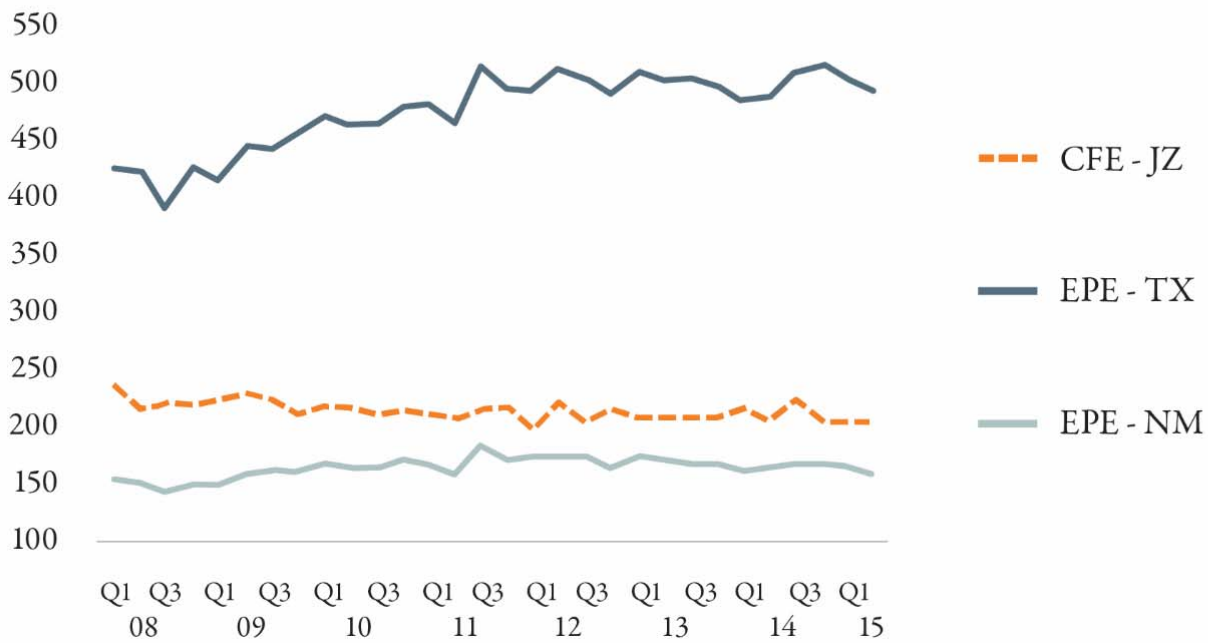
Average Non-Residential Customers (Thousands)

Source: *CFE and EIA*



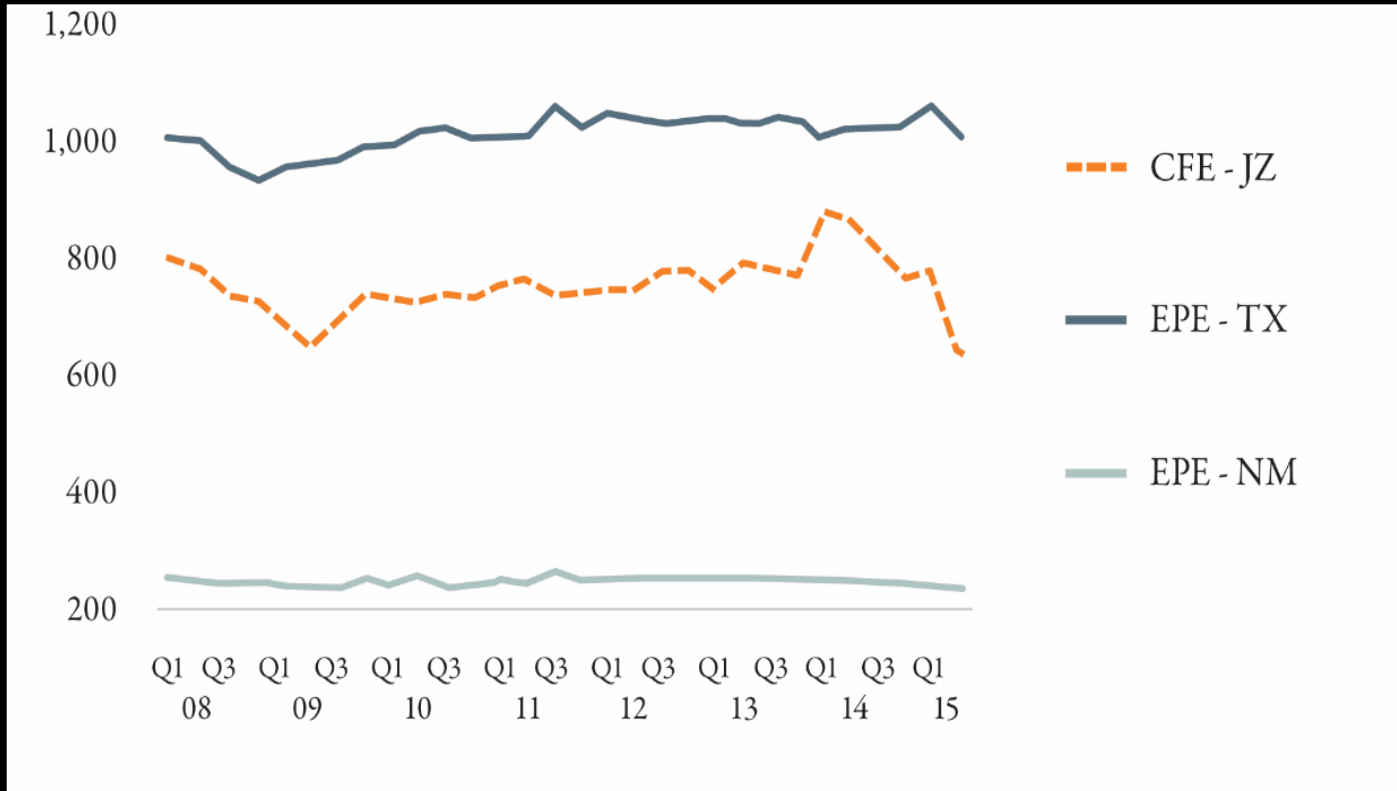
Residential Consumption (MWh)

Source: *CFE and EIA*



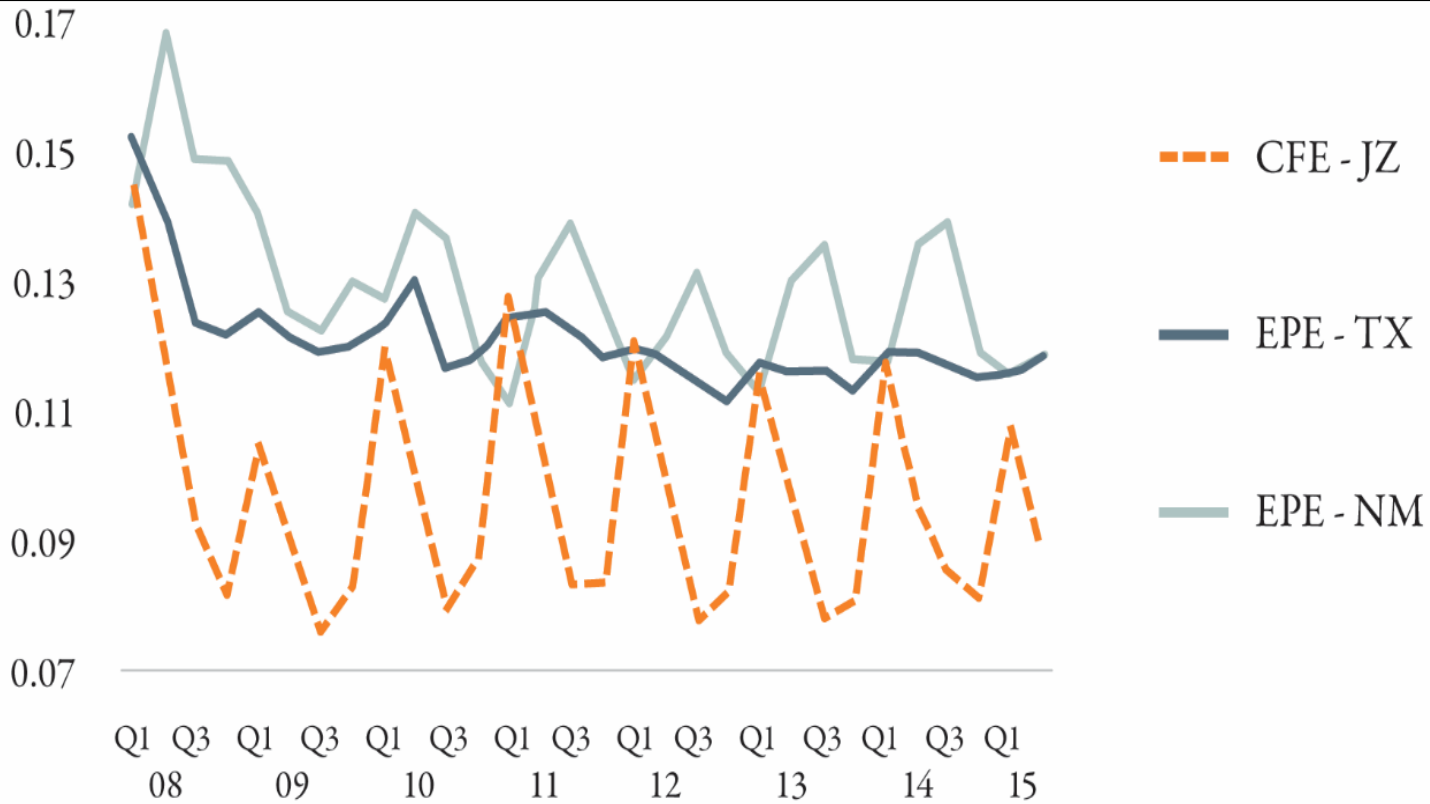
Non-Residential Consumption (MWh)

Source: *CFE and EIA*



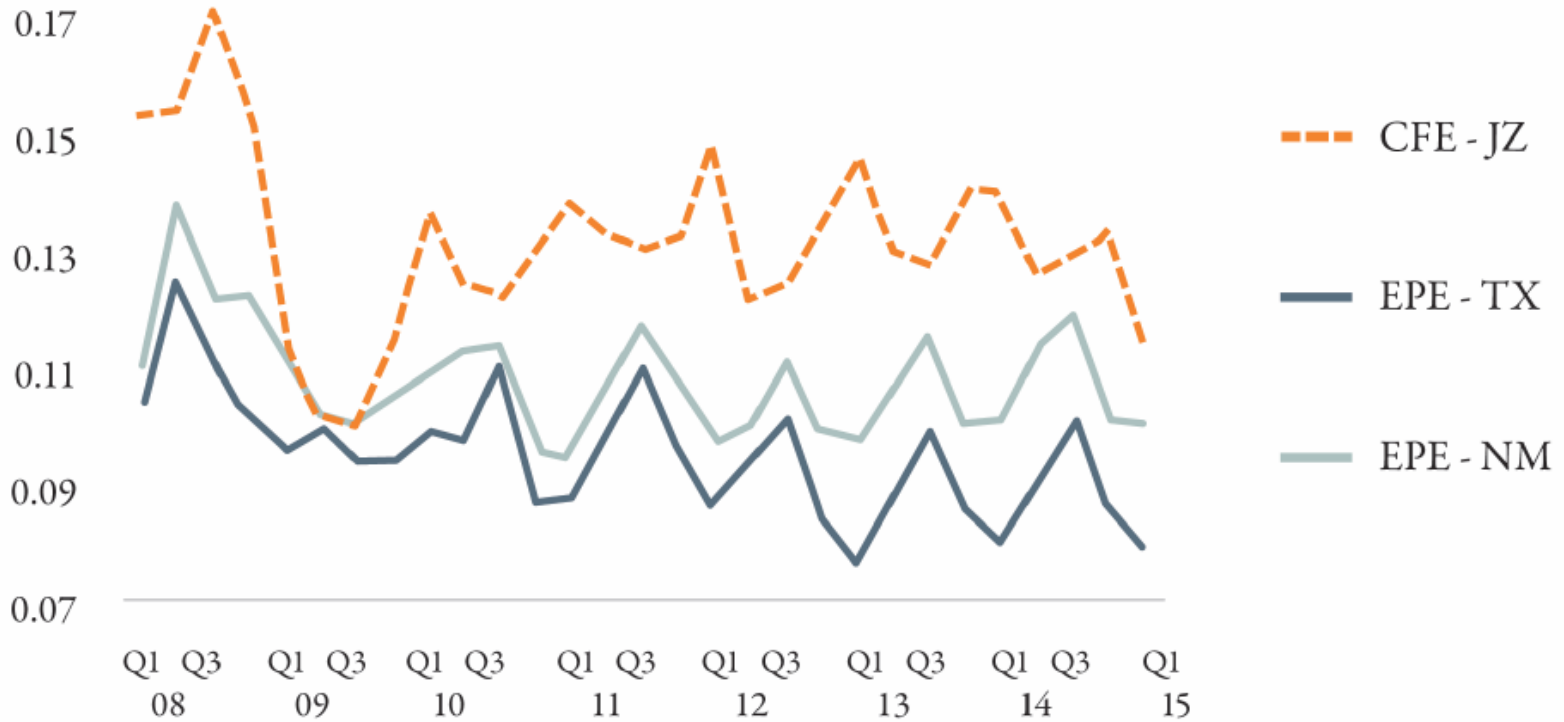
Average Real Residential Rates per kWh (USD)

Source: *CFE and EIA*



Average Real Non-Residential Rates per kWh (USD)

Source: *CFE and EIA*

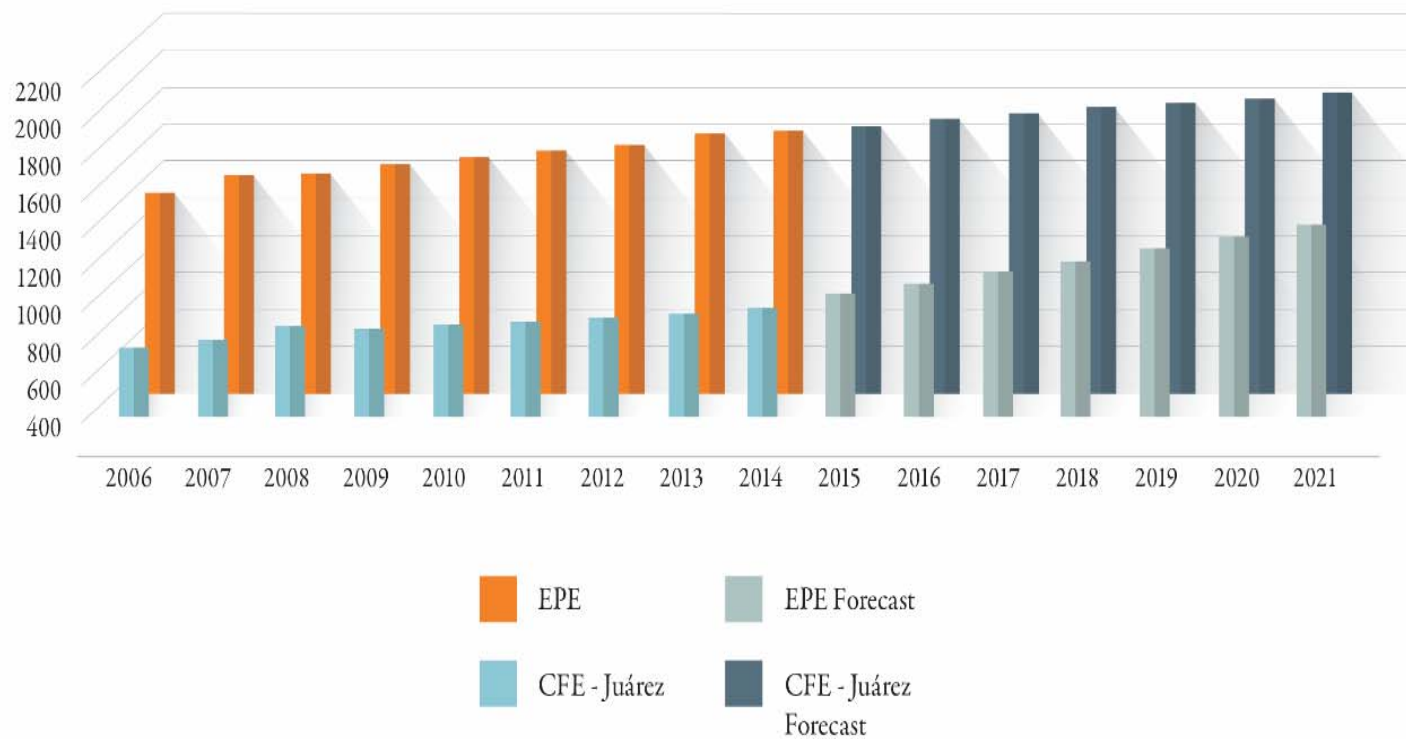


* U.S. CPI December 2015 = 100 and average monthly FIX exchange rate used.

Source: *Comisión Federal de Electric and the Energy Information Administration, 2015*

Native System Peak Demand (MW)

Source: EPE, *CFE* and *EIA*



Top 10 Customers in the CFE-Juárez Service Area

	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*

Paso del Norte Summer Residential Rates per kWh* (USD) 2016

Summer 2016			
	EPE-NM	EPE-TX	CFE-Juárez**
1 kWh - 150 kWh	0.07528	0.09455	0.03689
151 kWh - 300 kWh	0.07528	0.09455	0.04351
301 kWh - 450 kWh	0.07528	0.09455	0.05558
451 kWh - 600 kWh	0.07528	0.09455	0.14831
≥ 600 kWh	0.09338	0.09956	0.14831
Fuel Charge per kWh***	0.034444	0.02057	N/A
Customer Charge	7.00	6.90	N/A
DAP	N/A	N/A	1.05863

* Only base bill and fuel factor charges shown for El Paso Electric

** Average FIX exchange rate for October 2016 used

*** For New Mexico, the fuel rate charged in August 2016 was used

Source: El Paso Electric Company and Comisión Federal de Electricidad



Source: Google Earth, 2016



Source: Google Earth, 2016



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