



THE TRES AMIGAS PROJECT

*Project Development, Business Case, and
Benefits*

-ERCOT Presentation Jan 22, 2010 –

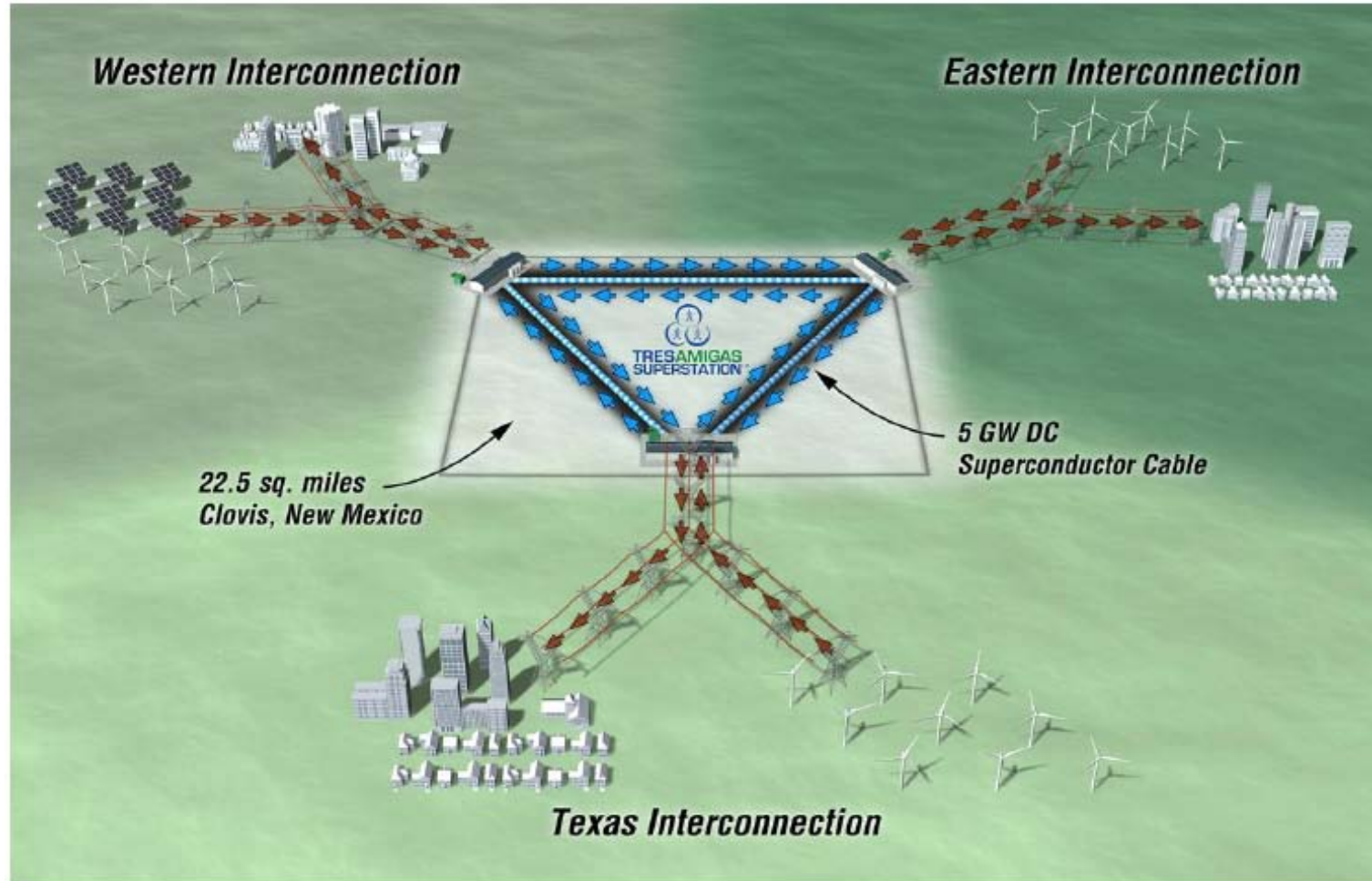
- Project Overview
 - Project Objective
 - Project Description, Technology , Location and Benefits
 - Development Path and Project Timeline
- Business Model
- Project Benefits to ERCOT
 - Reduce Energy Cost – Overview of Historical Trends
 - Provide Transmission and Reliability Services to the ERCOT Region
 - Summary of Benefits to ERCOT
 - Who are Tres Amigas Transmission Customers

**TRES AMIGAS WILL NOT ALTER THE
CURRENT ERCOT JURISDICTIONAL
PARADIGM**

Project Objectives

- Tres Amigas will:
 - Connect the three US synchronous power grids through a DC hub that can regulate the direction and level of power flows between the grids
 - Provide economic incentives to further drive the growth of the nation's renewable goals
 - Optimize the value of existing and planned AC infrastructure by utilizing state-of-the-art technology
 - Provide open access and cost effective transmission services consistent with NERC standards and regional reliability requirements
 - Provide voltage support and capacity firming for renewable through larger generation portfolio across the regions

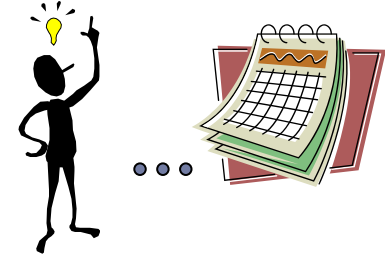
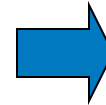
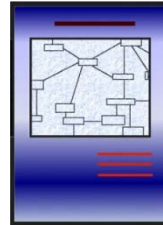
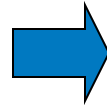
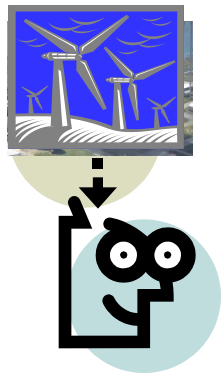
The Tres Amigas SuperStation



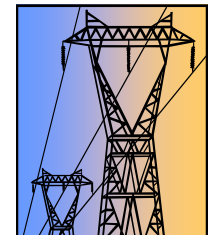
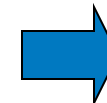
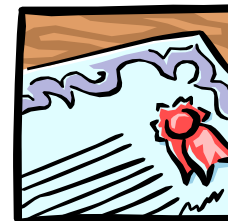
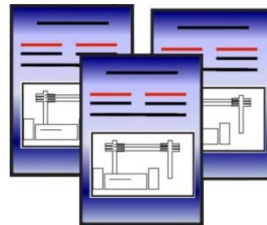
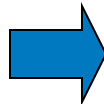
- Voltage Source Converters (VSC)
 - VSC control systems determine both power levels and direction and are capable of varying power levels from +100% to -100% incrementally, as desired. This is possible without any converter function interruption or equipment interruption (switching shunt banks or filters)
 - Unlike traditional converter technology, VSC design supports the multi-terminal ring design goals of Tres Amigas and is scalable
 - The VSC converters make power control flow changes rapidly and accurately
 - Dispatch control is significantly improved and simplified, thereby improving the performance and efficiency of the interconnected AC networks
 - Converter are able to provide +/- 50% of their capacity for reactive support

The Development Path

- I. - Issue an RFP to vendor (Q1 2010)
- Negotiate with Transmission Providers to interconnect with Tres Amigas (2010)
- II. - Initiate users groups process to address auction design
- Perform reliability & transmission service assessment for all three Regions (Q4 2010)
- III. - Finalize Transmission Providers Contracts & Anchor Tenant (Q1 2011)



- IV. - File open access & auction rules as soon as practical
- Auction off transmission rights (no later than Q4 2011)
- V. Sign Interconnections Agreements (2010-2012)
- VI. Obtain financing (2011 - 2012)
- VI. - Sign Contract to Build the Station (no later than Q4 2012)
- VII. Construction period (18 to 24 months)
- VIII. Go live (Q4 2014)



Tres Amigas Benefits to ERCOT



- Tres Amigas will improve the reliability and operating flexibility of the electric system in Texas by:
 - Increasing the benefits of the CREZ transmission system
 - Reducing the cost of electricity in Texas by making low-cost energy from out-of-state available many hours of the year
 - Decreasing or eliminating wind curtailments
 - Creating numerous new jobs and other opportunities for economic development for wind and other renewable generation in western Texas and eastern New Mexico
 - Providing cost effective transmission and reliability services

Provide Transmission Services

The creation of the Superstation will likely enable the following opportunities:

Reduce energy cost

Share Operating Reserves

Reduce Wind Curtailments

Reduce Losses

Provide Firming for Renewable Energy

Reduce Capacity related costs

Increase Peak Load Diversity

Other critical services:

Dynamic Voltage Support

Emergency Power Imports/Exports

Black Start Capability

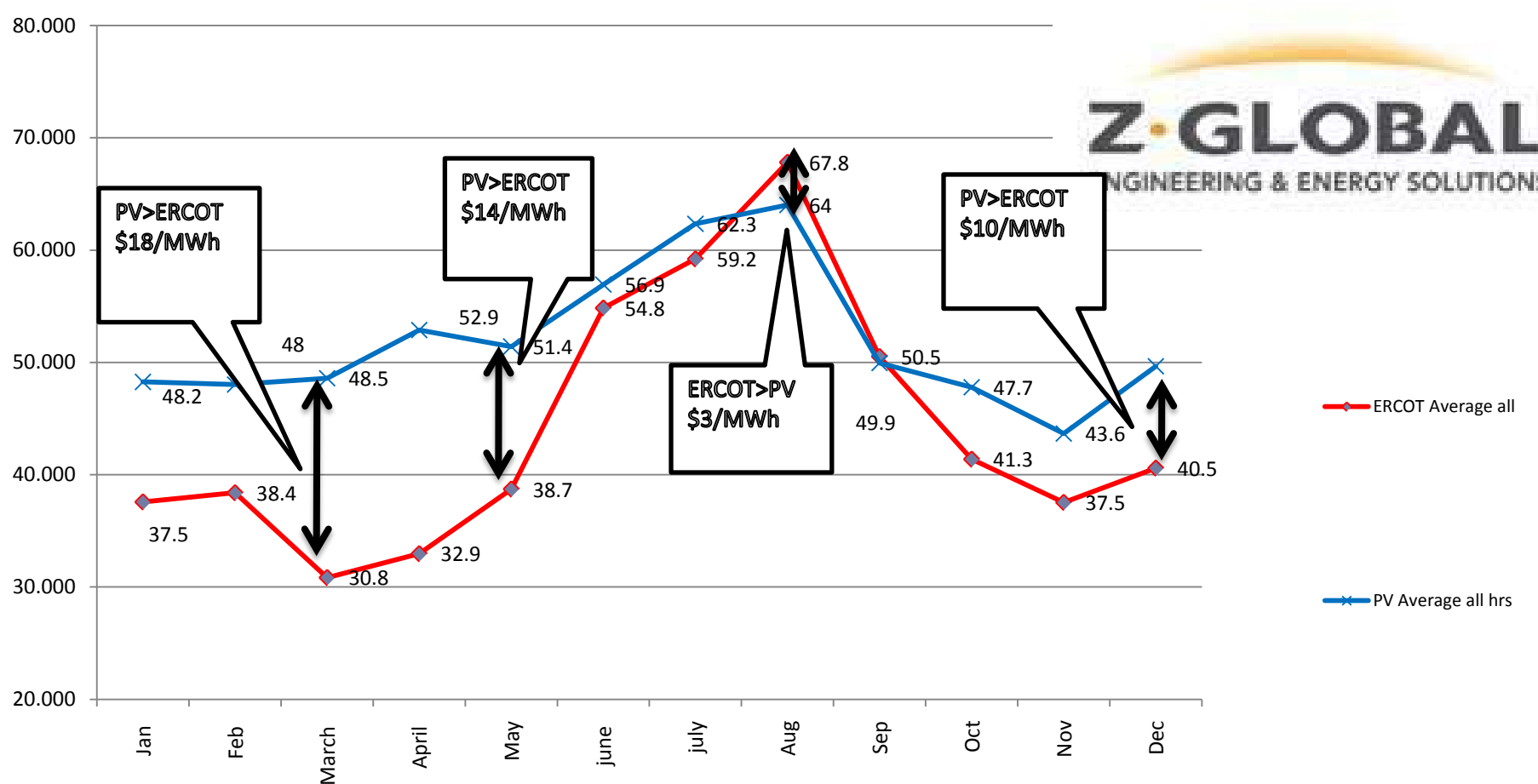
- **The Goal: provide transmission service across the 3 interconnecting regions**
- **FERC Filing for Market Based Rate**
 - Owners and Investors Assume all Development Risks
 - Form a balancing authority with WECC
 - Request an interconnection to SPP and ERCOT
 - Comply with all NERC reliability rules and regulations

Business Model (cont.)

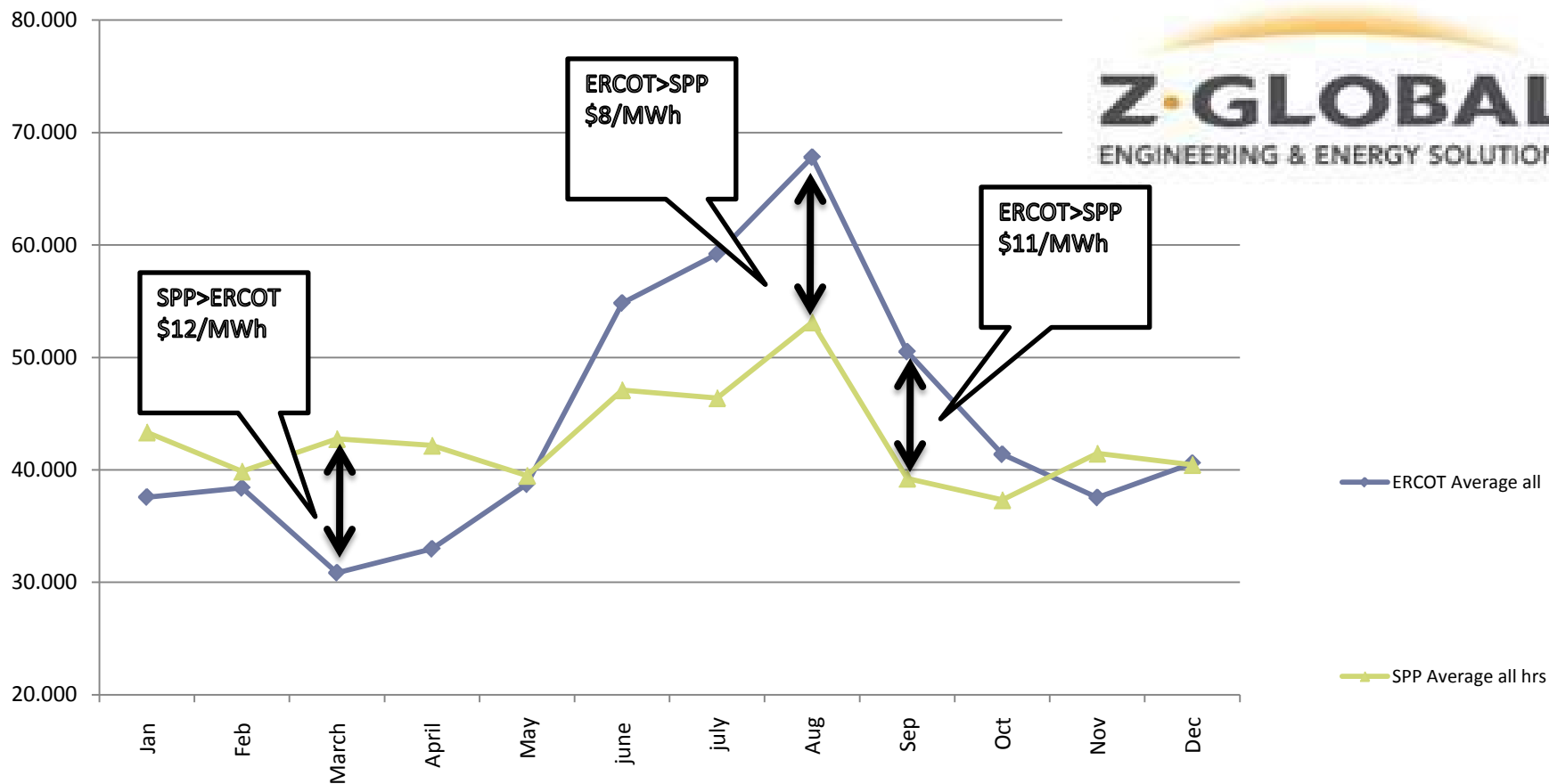
- Auctioned Transmission Capacity
 - 80% on a long-term basis
 - 20% on short-term basis
 - Comply with all transmission access rules (including OASIS reservation)
 - Transmission is sold to the highest bidder through an open season auction
 - All auction rules will be developed through a stakeholder process and filed with FERC for approval

PROJECT BENEFIT TO ERCOT

2008 Annual Comparison of ERCOT and WECC(PV) Prices



2008 Annual Price Comparison between ERCOT and SPP



Energy Price Spread (2008)

	Sum of all positive delta price differential (receiving - sending) for all hrs in \$/MWh per yr	Sum of all positive delta price differential (receiving - sending) for heavy load hrs in \$/MWh per yr	Sum of all positive delta price differential (receiving - sending) for all light load hrs in \$/MWh per yr	HRS where Delta > 0	HRS > 50 \$/
ERCOT to SPP	\$133,216	\$91,633	\$41,583	4028	1029
ERCOT to SP15	\$254,749	\$160,664	\$94,085	5781	1744
ERCOT to PV	\$198,025	\$126,574	\$71,451	5842	1336
SPP to ERCOT	\$154,285	\$102,177	\$52,108	4463	579
SP15 to ERCOT	\$116,144	\$90,433	\$25,710	2710	443
PV to ERCOT	\$101,912	\$74,663	\$27,249	2649	325
PV to SPP	\$32,862	\$25,078	\$7,783	2097	107
SP15 to SPP	\$208,396	\$120,965	\$87,431	6091	1074
SP15 to SPP	\$68,927	\$53,637	\$15,289	3993	220
SP15 to SPP	\$48,723	\$40,191	\$8,531	2400	191

ERCOT energy Price are Lower
ERCOT prices are higher

The # of hourly of negative energy prices in the west zone of ERCOT are projected to continue under the Nodal Market

2008 (Jan-June) Histogram

<i>Range of Energy Prices (\$/MWh)</i>	<i>Frequency</i>
Price=-30 or less	518
-30>Price<-20	134
-20>Price<-10	73
-10>Price<0*	69
0>Price<10	80
10>Price<20	220
20>Price<30	144
30>Price<40	201
40>Price<50	437
Higher than 50	2490

Total # Hours where the Prices is Less than Zero: 794

2009 (Jan-June Histogram)

<i>Range of Energy Prices (\$/MWh)</i>	<i>Frequency</i>
Price=-30 or less	216
-30>Price<-20	172
-20>Price<-10	79
-10>Price<0*	104
0>Price<10	148
10>Price<20	1183
20>Price<30	1281
30>Price<40	767
40>Price<50	239
Higher than 50	153

Total # of hours where the Prices is Less than Zero: 571

- We calculate the average price by using the hourly prices for each market and taking a simple average of those prices
- Based on 2008 real-time energy prices, ERCOT's weighted average price is \$12/MWh higher than SPP, and \$18/MWh higher than MISO
- The coefficient of variation is a measure of the volatility of market prices
- The volatility of ERCOT, SPP, Palo Verde and SP15 varies significantly and are 162%, 60%, 42%, and 65% respectively
- Volatility is calculated as the standard deviation divided by the overall simple average price

Market Comparison: ERCOT vs. West

January 10, 2010

Day-ahead markets for delivery Jan 8 (\$/MWh)

ERCOT Index Change Range Deals Volume Avg \$/Mo

On-peak

ERCOT, North	95.21	37.55	91.00-102.50	82	5,725	61.58
ERCOT, Houston	92.87	37.78	87.00-96.05	34	1,925	59.71
ERCOT, West	89.60	39.11	87.00-90.00	6	375	55.88
ERCOT, South	89.61	36.76	84.95-96.50	21	1,300	58.05

Off-Peak

ERCOT, North	76.43	31.72	62.00-80.05	73	5,925	45.77
ERCOT, Houston	70.56	26.49	65.50-75.00	17	800	44.34
ERCOT, West	72.67	36.60	67.75-78.00	9	575	45.00
ERCOT, South	67.65	24.53	64.50-73.05	36	1,875	44.06

West† Index Change Range Deals Volume Avg \$/Mo

On-peak

COB	52.88	3.64	52.50-54.00	7	200	50.53
Mid-C	51.34	4.85	49.00-54.00	120	3,175	48.83
Palo Verde	53.38	5.03	50.50-55.00	19	575	49.31
Mead	53.16	4.54	52.00-54.25	8	200	49.75
Mona	49.25	2.00	49.25-49.25	N.A.	N.A.	46.50
Four Corners	55.50	7.00	55.50-55.50	N.A.	N.A.	49.75
NP15	54.25	3.00	54.25-54.25	N.A.	N.A.	52.25
SP15	56.50	6.50	56.50-56.50	N.A.	N.A.	51.82

Off-Peak

COB	43.95	3.89	43.50-44.00	8	250	42.74
Mid-C	43.02	3.62	42.25-44.00	52	1,500	42.25
Palo Verde	38.64	5.08	38.00-40.50	42	1,500	35.63
Mead	40.50	4.25	40.50-40.50	N.A.	N.A.	38.25
Mona	39.00	6.00	39.00-39.00	N.A.	N.A.	34.89
Four Corners	43.25	9.00	43.25-43.25	N.A.	N.A.	37.22
NP15	43.75	4.25	43.75-43.75	N.A.	N.A.	42.58
SP15	42.00	5.00	42.00-42.00	N.A.	N.A.	40.75

Market Comparison: ERCOT vs.SPP/MISO

January 11, 2010

Day-ahead markets for delivery Jan 8 (\$/MWh)

ERCOT Index Change Range Deals Volume Avg \$/Mo

On-peak

ERCOT, North	95.21	37.55	91.00-102.50	82	5,725	61.58
ERCOT, Houston	92.87	37.78	87.00-96.05	34	1,925	59.71
ERCOT, West	89.60	39.11	87.00-90.00	6	375	55.88
ERCOT, South	89.61	36.76	84.95-96.50	21	1,300	58.05

Off-Peak

ERCOT, North	76.43	31.72	62.00-80.05	73	5,925	45.77
ERCOT, Houston	70.56	26.49	65.50-75.00	17	800	44.34
ERCOT, West	72.67	36.60	67.75-78.00	9	575	45.00
ERCOT, South	67.65	24.53	64.50-73.05	36	1,875	44.06

MISO Index Change Range Deals Volume Avg \$/Mo

On-peak

Michigan Hub	64.50	8.75	64.50-64.50	N.A.	N.A.	57.00
First Energy Hub	70.00	-13.75	70.00-70.00	N.A.	N.A.	67.85
Cinergy Hub	64.00	0.25	64.00-64.00	N.A.	N.A.	59.30
Illinois Hub	61.75	-1.00	61.75-61.75	N.A.	N.A.	57.60
Minnesota Hub	61.50	1.50	61.50-61.50	N.A.	N.A.	61.10

Off-Peak

Michigan Hub	37.00	-0.50	37.00-37.00	N.A.	N.A.	37.35
First Energy Hub	38.00	-8.00	38.00-38.00	N.A.	N.A.	41.10
Cinergy Hub	36.00	-3.00	36.00-36.00	N.A.	N.A.	37.95
Illinois Hub	30.75	-6.00	30.75-30.75	N.A.	N.A.	35.95
Minnesota Hub	30.50	-5.50	30.50-30.50	N.A.	N.A.	35.80

SPP/MRO Index Change Range Deals Volume Avg \$/Mo

On-peak

MAPP, South	85.00	17.50	85.00-85.00	N.A.	N.A.	63.70
SPP, North	81.00	12.25	81.00-81.00	N.A.	N.A.	63.75

Off-Peak

MAPP, South	63.00	12.50	63.00-63.00	N.A.	N.A.	47.55
SPP, North	61.00	9.75	61.00-61.00	N.A.	N.A.	47.45

TRANSMISSION SERVICES

Initial Benefits from Connecting to Tres Amigas Initial Transmission Benefits

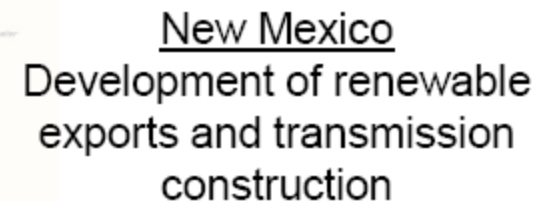
Initial analysis indicates potential Tres Amigas benefits to ERCOT customers

Potential Benefits TP and Their Customers	\$/kWh per year	\$/MWh
Transmission Enhancement / Voltage Support	200 to 315	
Capacity Firming		3 to 5.00
Renewable Integration		0.75 to 4.00
Fuel Savings		6 - 13.24
Installed Capacity	65 – 80	
T&D Deferral	350 - 558	
Reduce Losses		0.45 to 1

Potential Transmission Connections

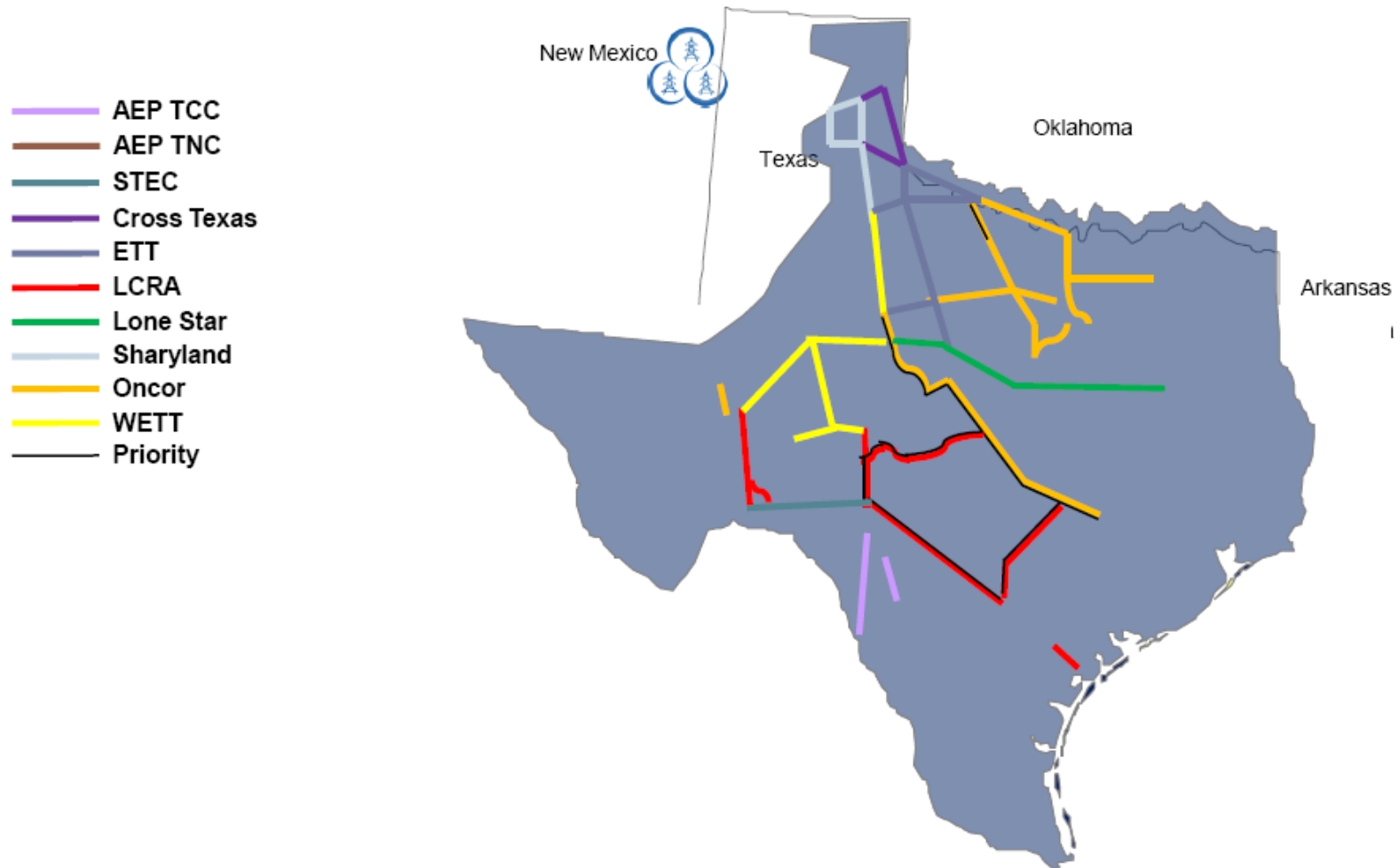
- Transmission Services (Six Scheduling Points)

Node	Sending	Receiving
1	ERCOT	SPP
2	ERCOT	WECC
3	SPP	ERCOT
4	SPP	WECC
5	WECC	ERCOT
6	WECC	SPP



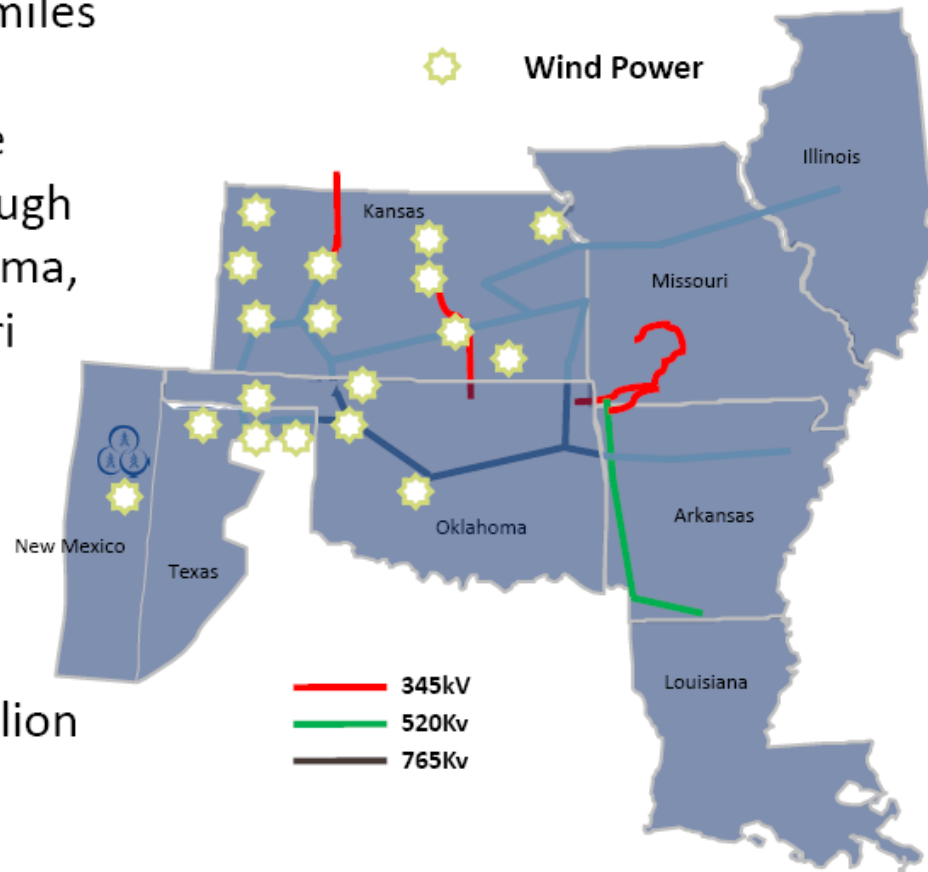
Arizona Ratepayer benefits from renewable imports

Potential ERCOT Connections



Potential SPP Connections

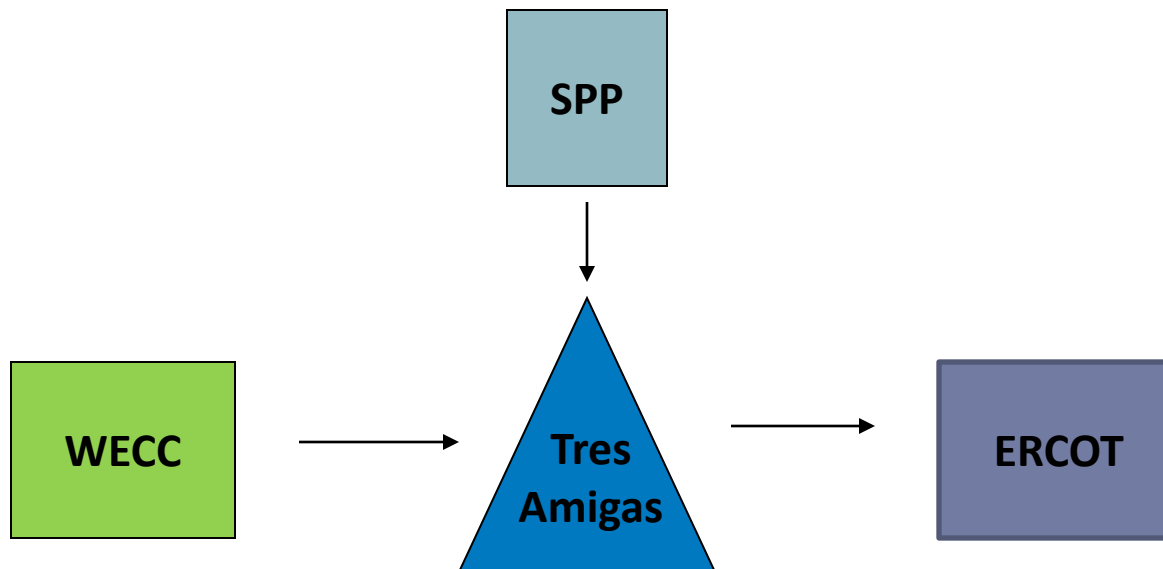
- SPP is studying 2850 miles of 765 and 500kV transmission from the Texas panhandle through Texas, Kansas, Oklahoma, Arkansas and Missouri (SPP EHV Overlay)
- These projects are in various stages of development
- The total cost is \$8 billion



- Independent DC Wind and Solar Projects
- Any generating resources

Next Step

Coordinate with ERCOT and stakeholders to evaluate Tres Amigas reliability and economic benefits



Case 1	2 GW
Case 2	3.5 GW
Case 3	5 GW

Questions?

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Senior Management Team

Phil Harris, Managing Partner and CEO: Phil has extensive experience in the electricity sector . He has worked across the nation with various entities associated with the investment , regulatory, and utilities side of the business to advance the evolution of the energy market. His years as the CEO of the PJM ISO have primed him for a leadership role in public relations and nation-wide policy development.

Ziad Alaywan, Managing Partner, COO: Ziad has over 22 years of project experience in the energy sector; primarily in transmission, generation and market operations. He founded ZGlobal Inc., an engineering & consulting firm, after working for almost a decade with Pacific Gas & Electric as Manager of Real Time Grid Operation. Ziad was the first CAISO employee and successfully led the implementation of the CAISO market & grid system in 12 months. Ziad was Managing Director of CAISO Market & Grid Operations until 2004.

Russ Stidolph, Managing Partner and CFO: Russ is the founder and a Managing Director of AltEnergy, LLC a private equity firm focused on alternative energy investing. Prior to founding AltEnergy, Russ was a Principal at J.H. Whitney & Co., LLC a middle-market private equity firm. Currently, Russ is the Chairman of the board of directors of Viridity, Inc, and sits on the board of directors of Tres Amigas, LLC; American Heartland Development, LLC; AgriSol Energy, LLC and GRP Funding, LLC. He received a Bachelor of Arts degree from Dartmouth College.