

# 100% RENEWABLES

Public Utilities Board

6/12/2017



# DME Background

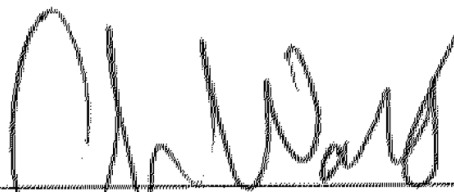
- Municipally owned utility since 1905
- 52,000+ customers
  - 88% residential / 12% commercial & industrial
  - 6<sup>th</sup> largest MOU in Texas
- DME annual budget: \$176 million
- Electric Reliability Council of Texas (ERCOT)
- City Council and Public Utilities Board

# RDP Resolution: R2016-014

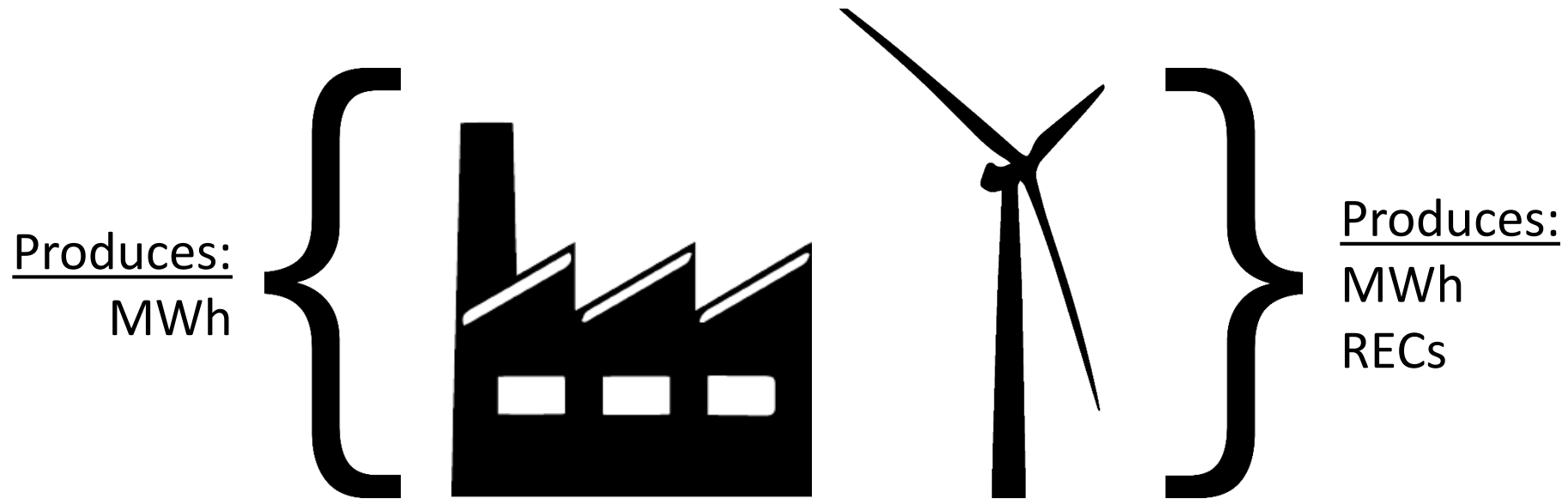
SECTION 3. Nothing expressed herein shall be deemed to limit the City's use of renewable energy in the future, to the amount of seventy (70%) percent of its load, as the City Council specifically endorses and sets a goal of achieving one hundred percent (100%) renewable by 2035, while continuing to offer competitive electric rates and electric reliability to its customers.

SECTION 4. This resolution shall take effect immediately from and after its adoption.

PASSED AND APPROVED this the 21st day of June, 2016.

  
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CHRIS WATTS, MAYOR

# Option 1: Renewable Energy Credits



# Option 1: Renewable Energy Credits

## Advantages:

- Simplicity
- Requires no capital investment
- Requires no long-term commitment
- Low Risk

## Disadvantages:

- Utilizes fossil fuels
- Subject to market volatility

# Option 2: Contract for 100% Renewables

- Offset all of your energy needs with renewables
- Backup from gas

## Advantages:

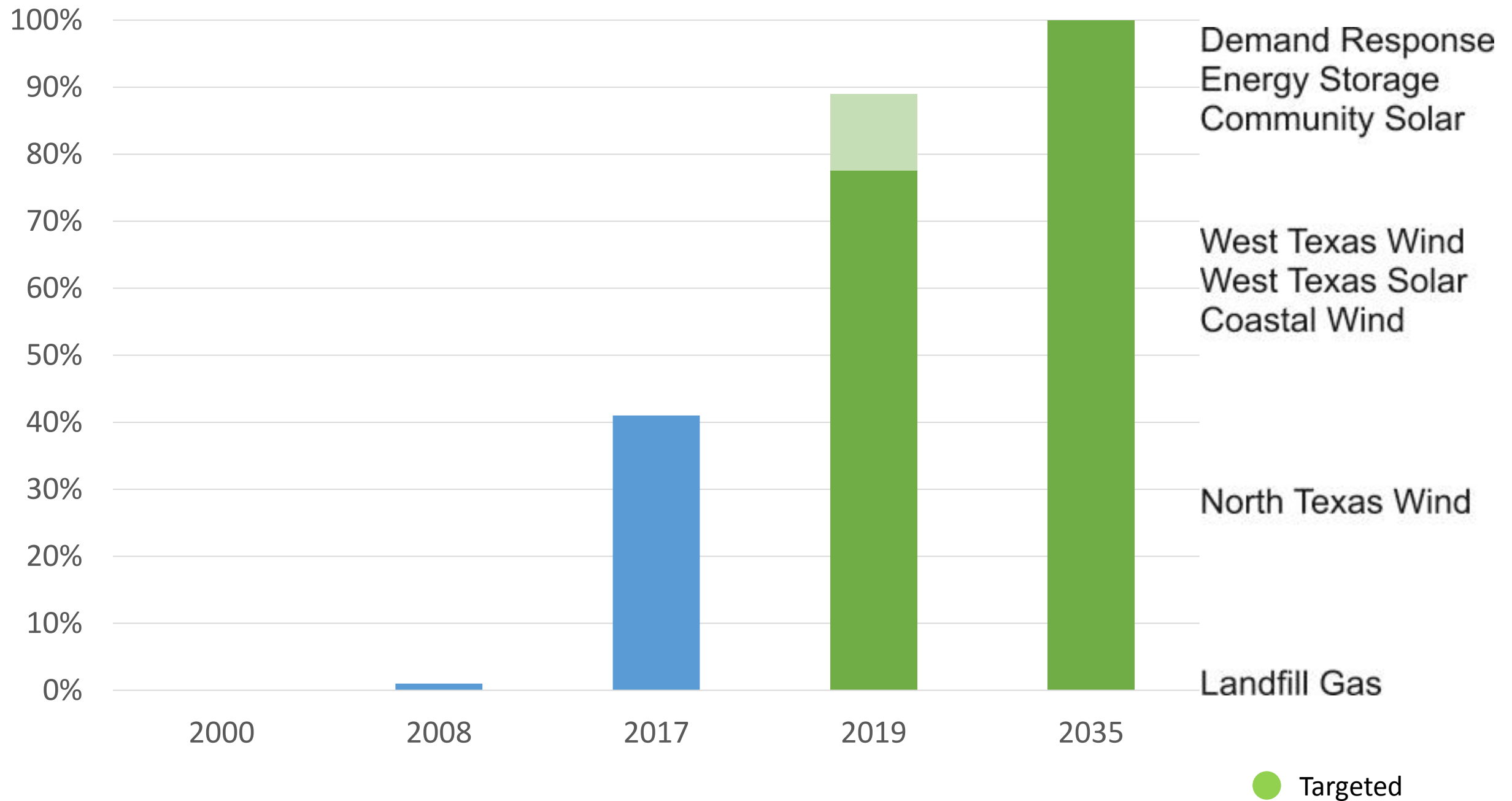
- Uses physical renewables

## Disadvantages:

- Utilizes fossil fuels
- Requires selling excess power

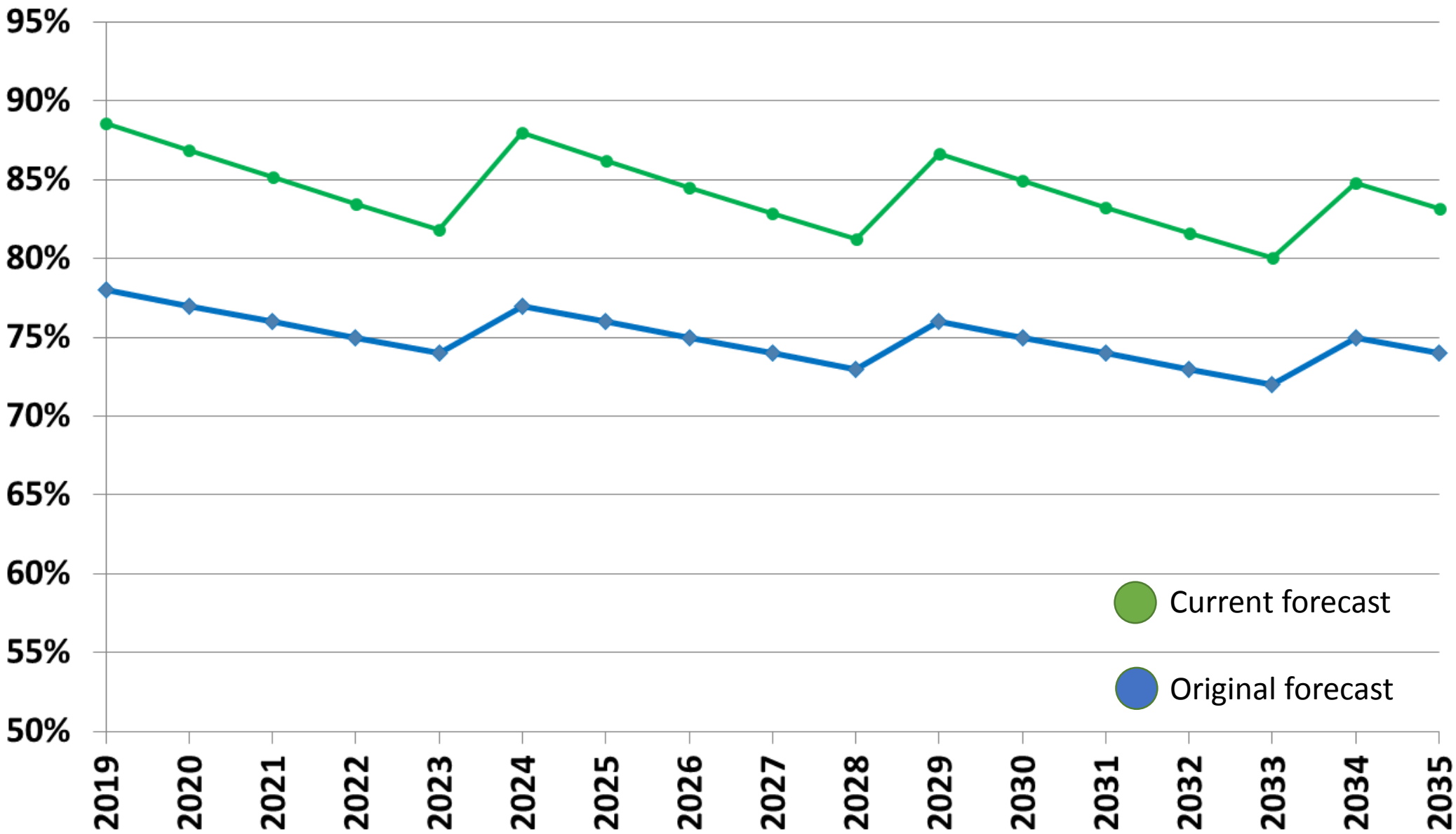
# Opportunities for Increasing Renewables

	<u>Option 1</u>	<u>Option 2</u>
Strategy	RECs	Contract for 100% Renewables
Advantages	<ul style="list-style-type: none"><li>• Simplicity</li><li>• No capital investment</li><li>• No long-term commitment</li><li>• Low risk</li></ul>	<ul style="list-style-type: none"><li>• Uses physical renewable energy</li></ul>
Disadvantages	<ul style="list-style-type: none"><li>• Utilizes fossil fuels</li><li>• Subject to REC market availability</li></ul>	<ul style="list-style-type: none"><li>• Utilizes fossil fuels</li><li>• Requires selling excess</li></ul>

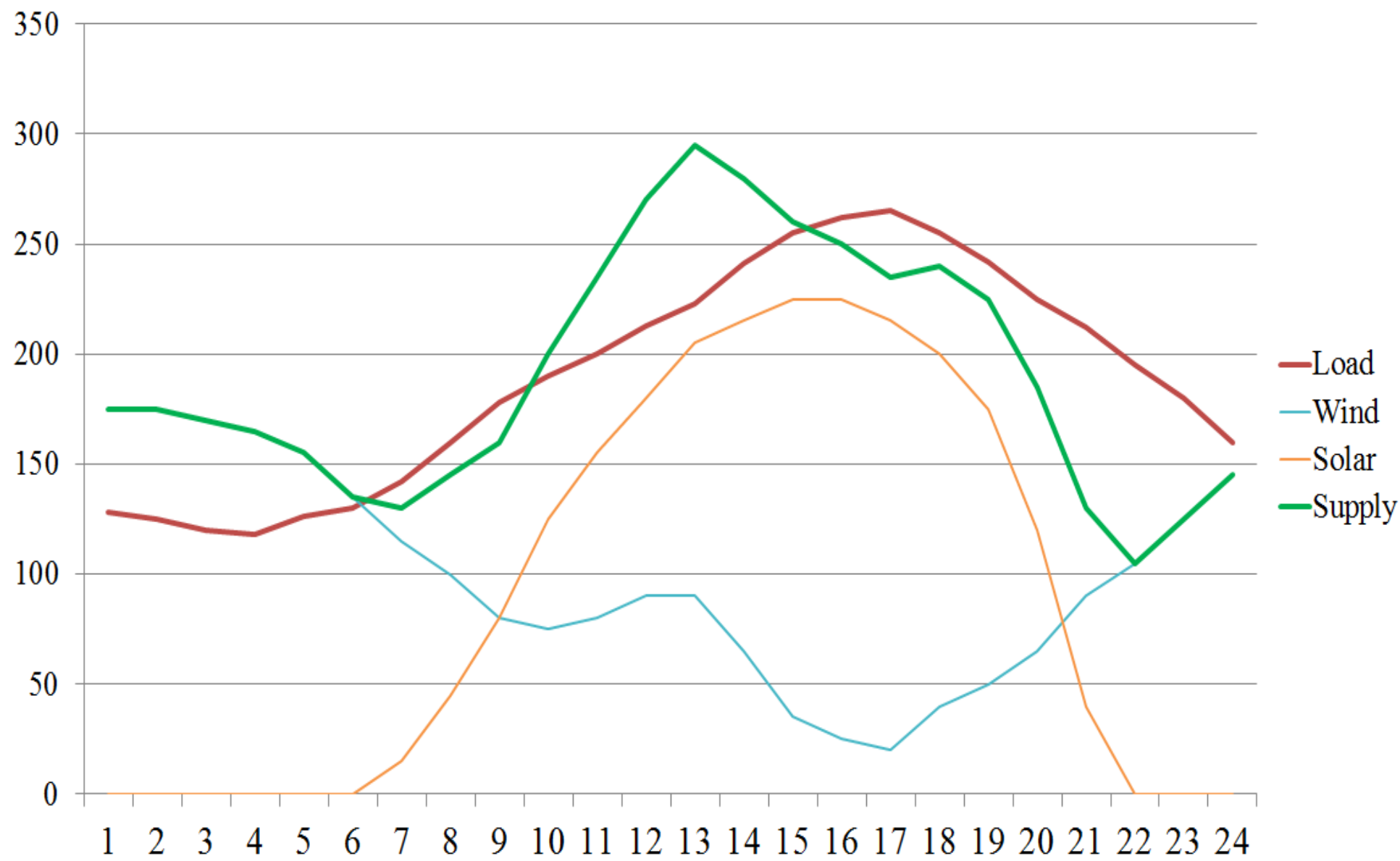




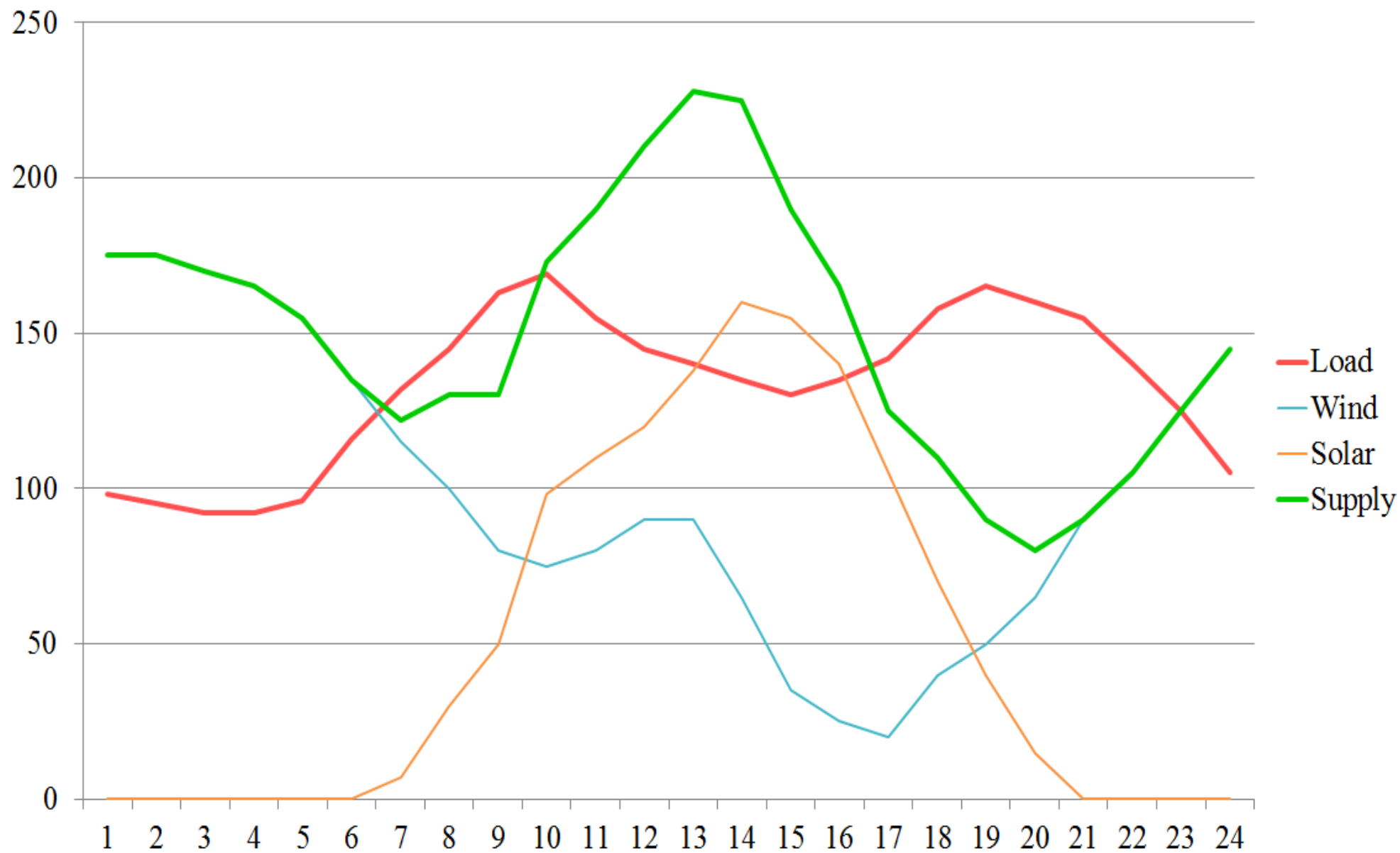
# Physical Renewable Percentage



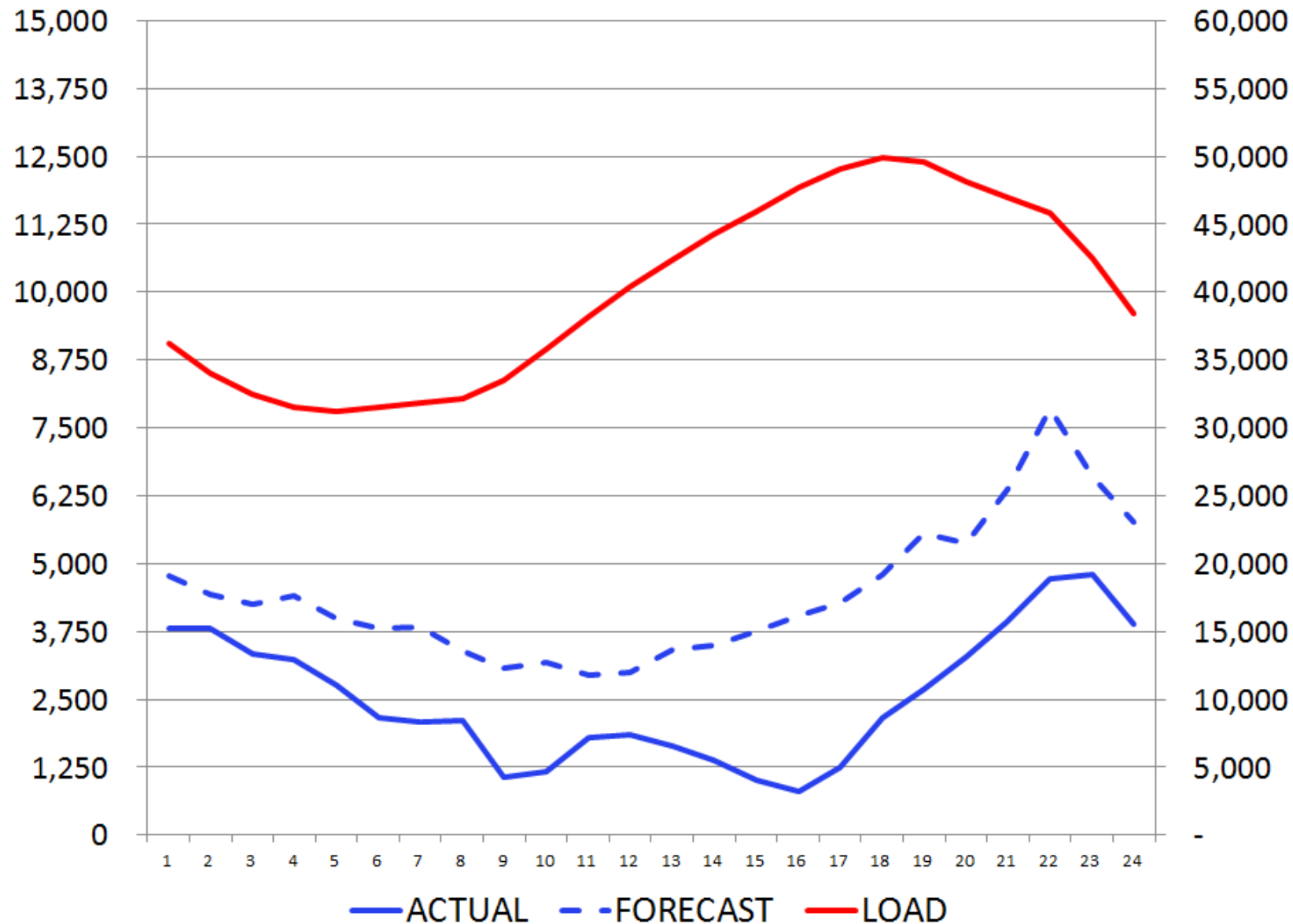
# Solar & Wind Output Verses Average Load Profile Jun-Sep



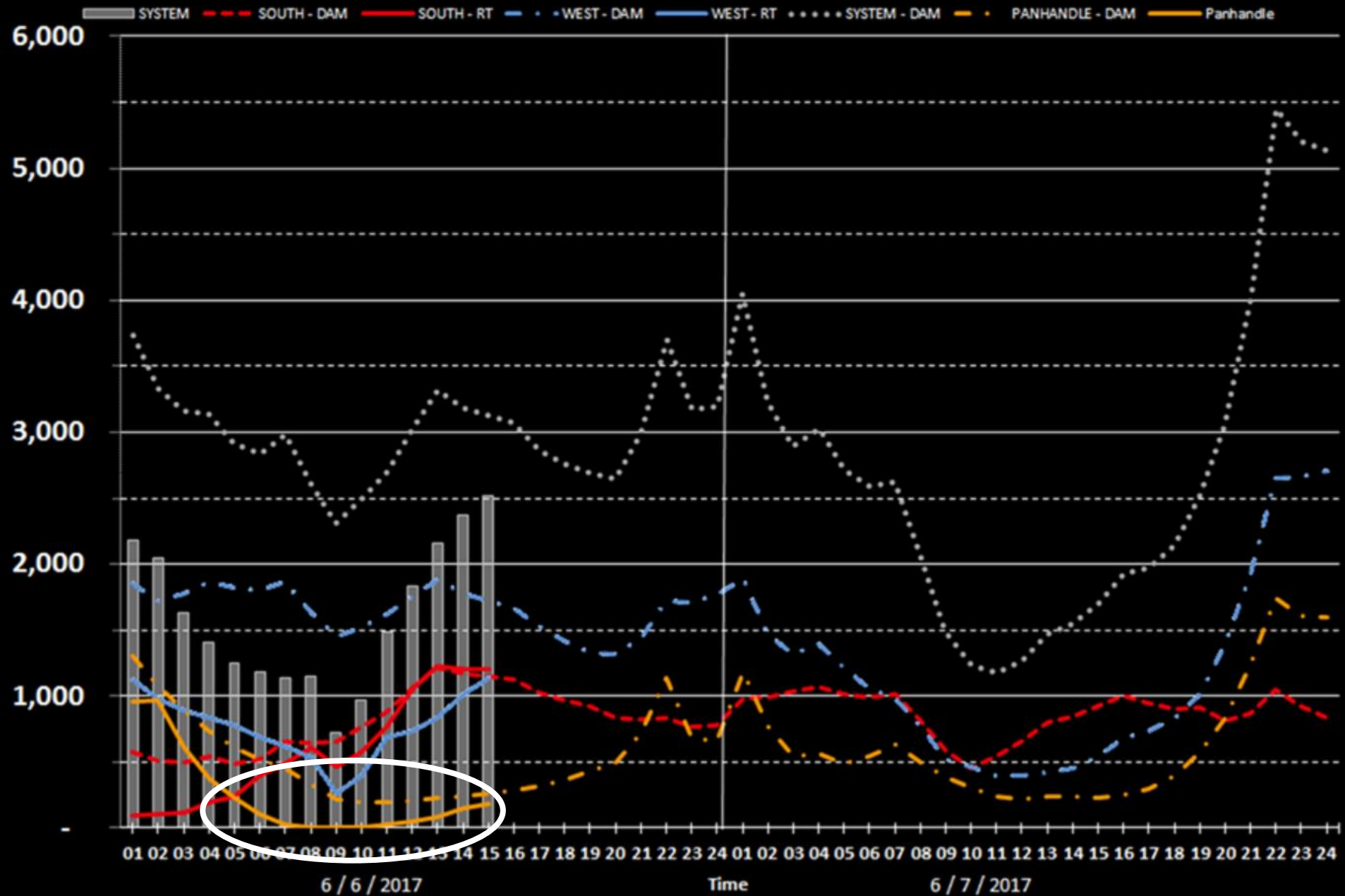
# Solar & Wind Output Verses Average Load Profile Jan-Apr



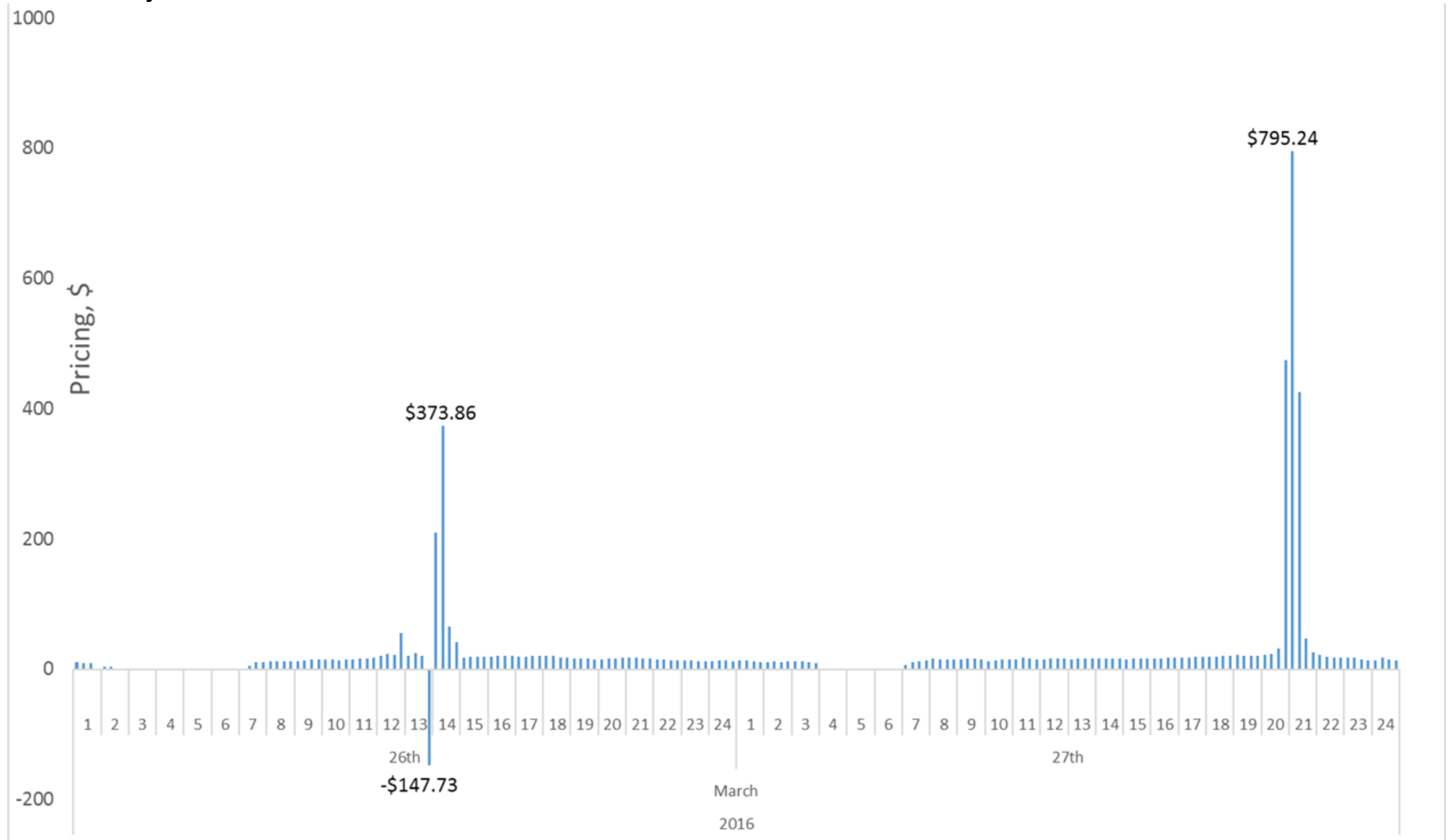
# ERCOT Forecast v Actual Wind – 5/29/2017

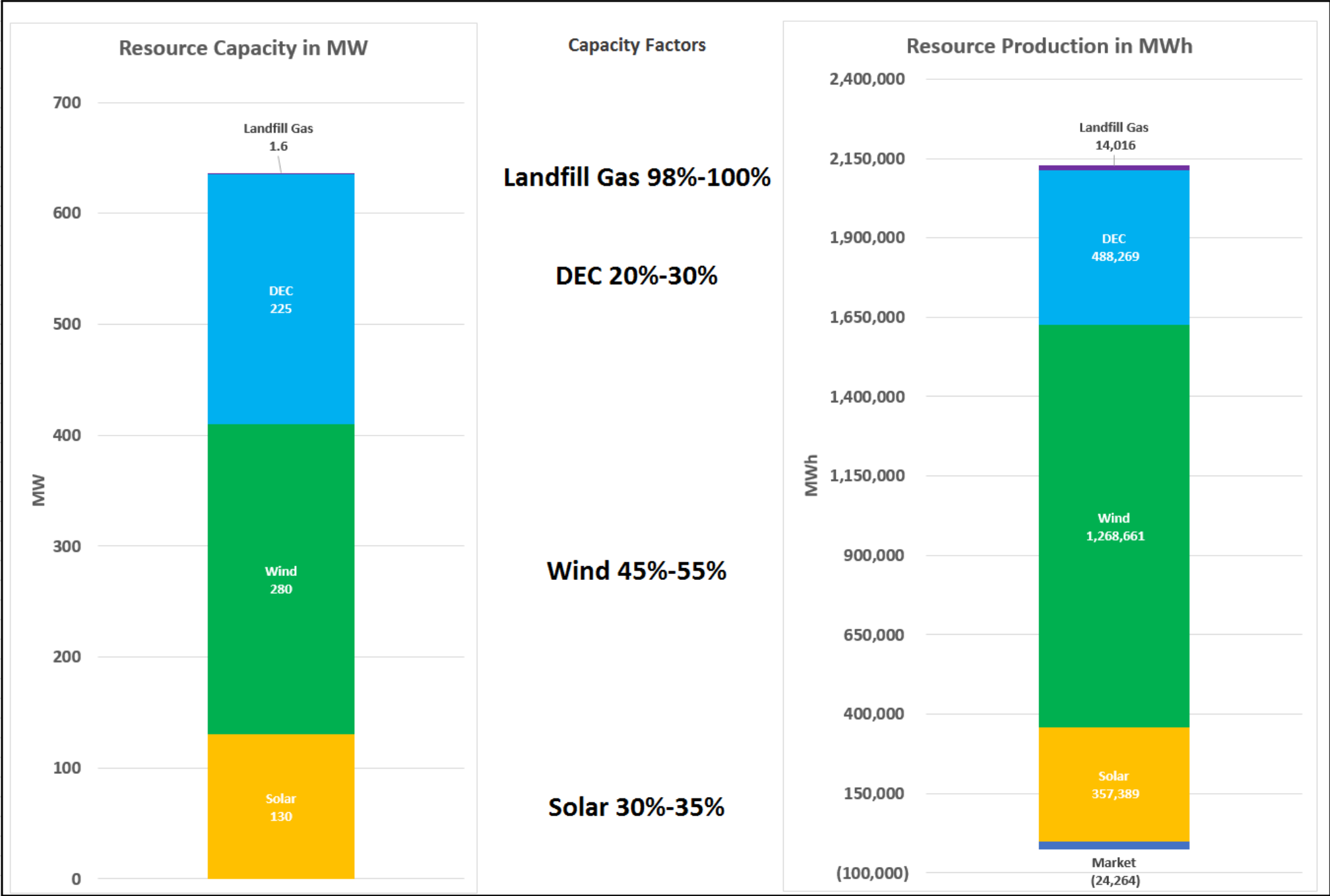


# WIND FORECAST - Day Ahead vs Real Time



# 2 Day Real-Time Price Fluctuation





# Residential Solar Rebates in Texas

Utility	4.5 kW <sub>AC</sub> System No Battery	4.5 kW <sub>AC</sub> System With Battery	9.0 kW <sub>AC</sub> System No Battery	9.0 kW <sub>AC</sub> System With Battery
DME	\$3,375	\$6,750	\$6,750	\$13,500
Austin Energy <sup>1</sup>	\$2,700	\$2,700	\$5,400	\$5,400
San Antonio (CPS) <sup>2</sup>	\$2,700	\$2,700	\$5,400	\$5,400
Garland (GP&L)	\$3,375	\$3,375	\$6,750	\$6,750
New Braunfels	\$2,250	\$2,250	\$3,000	\$3,000
San Marcos	\$5,000	\$5,000	\$5,000	\$5,000
AEP North Texas	\$3,600	\$3,600	\$7,200	\$7,200
AEP Texas Central	\$3,600	\$3,600	\$7,200	\$7,200
Oncor	\$2,429	\$2,429	\$4,858	\$4,858
Sharyland	\$1,251	\$1,251	\$2,502	\$2,502
CoServ	\$1,575	\$1,575	\$2,625	\$2,625
DME RANK	<b>3<sup>rd</sup> (tied)</b>	<b>1<sup>st</sup></b>	<b>3<sup>rd</sup> (tied)</b>	<b>1<sup>st</sup></b>

Bryan, College Station, Georgetown, Lubbock, and Greenville do not offer solar rebates or incentives at this time.

<sup>1</sup>Austin Energy is currently distributing rebates at the \$0.60 tier level

<sup>2</sup>CPS calculation includes only base incentive level at \$0.60 per watt



# Renewable Progress

- Community Solar
  - Benefits residents without access to rooftop solar
  - Details and community involvement opportunities under development
- Storage R&D
  - Discussing partnerships with universities, corporations, and national laboratories
- Rooftop Solar
  - 102 PV systems currently installed
  - \$1,211,666 in rebates since 2009
- Demand Response
  - Multiple commercial demand side management programs are available
- Energy Efficiency
  - Free in-home audits and GreenSense Rebates
- GreenSense Renewable Rate
  - Available since 2004
  - 168 residential accounts enrolled

# Summary

- Following Council's direction, DME has sought additional, competitively-priced renewable energy beyond 70%
- DME anticipates being approximately 88% renewable in 2019
- DME is pursuing various means for increasing renewable energy, including community solar, energy storage, and demand response

