



# Interdepartmental Memorandum

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**To:** Board of Commissioners

**From:** Lisa Osborn  
Administrative Assistant

**Date:** April 27, 2016

**Subject:** **President's Briefing Agenda**  
**Wednesday, May 4, 2016**  
**Board Room -- 1:05 PM**

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1. Review Consent Agenda - Jerry R. Collins, Jr.
2. Trends in Renewable Generation Affecting MLGW - Becky Williamson
3. Other - Jerry R. Collins, Jr.

# Trends in Renewable Generation Affecting MLGW

5/4/2016

President's Briefing

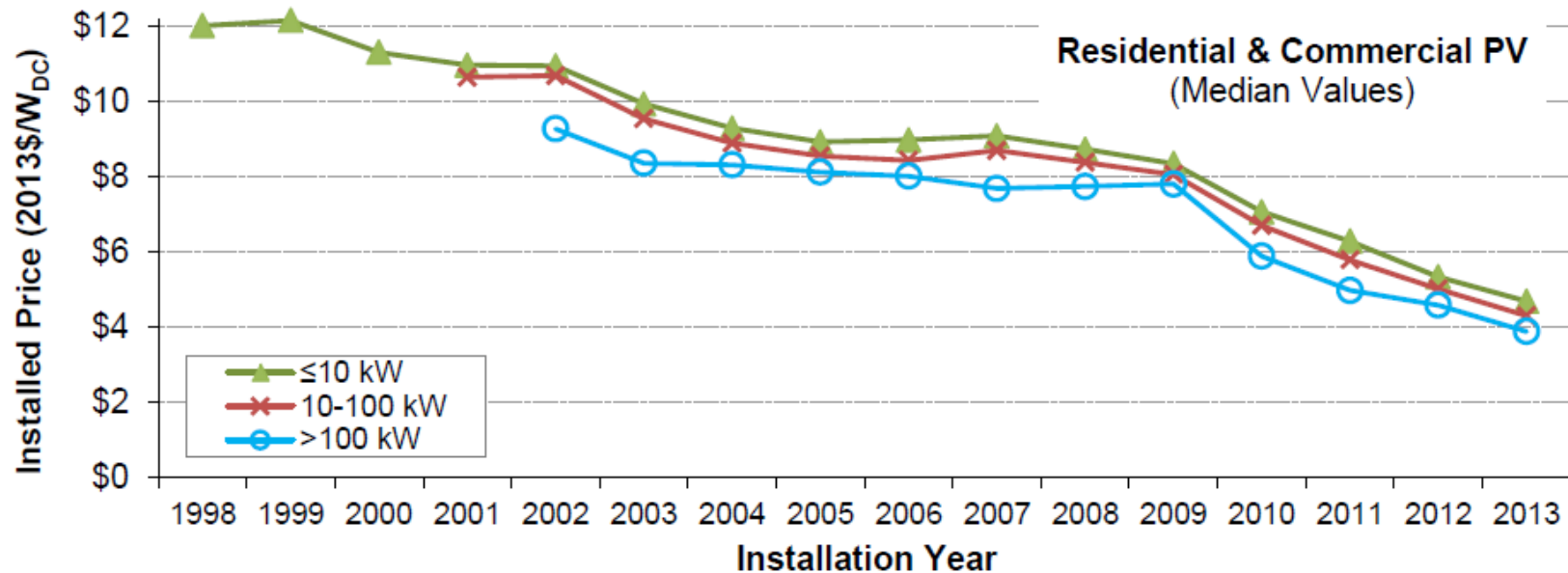
# TVA Program History

- Since 2003, TVA has met consumer interest in onsite renewable generation through:
  - Generation Partners\*
  - Green Power Providers\*
  - Renewable Standard Offer
- Participating customers sell 100% of output to TVA; continuing to buy 100% from MLGW
- MLGW has 82 customer projects totaling 4 MW under these programs
  - All are solar (PV), but other resources are eligible

\* These programs meet the intent of PURPA's net metering requirement

# PV Economics

- Prices for PV systems have fallen dramatically



- So have TVA's incentives
  - GPP initially paid \$0.12 premium above retail price
  - Starting with 2016 GPP agreements, it's retail price only (residential E-1 or deemed E-2 if non-residential)

[https://emp.lbl.gov/sites/all/files/Tracking%20the%20Sun%20VII\\_Report\\_0.pdf](https://emp.lbl.gov/sites/all/files/Tracking%20the%20Sun%20VII_Report_0.pdf)

# Renewable Energy Credits (RECs)

- Renewable power generation creates two products:
  - Physical Power (kWh)
  - Environmental attributes (RECs), the ability to claim “being green”/carbon offsets
    - 1 REC = 1 MWh
    - Green power – REC = standard power
    - Standard power + REC = Green power

# Renewable Energy Credits (RECs)

- TVA programs buy both the power and the RECs
  - GPP RECs support TVA's Green Power Switch program, where supporters "buy" green power
- RECs markets exist in states with Renewable Portfolio Standards (RPS) or voluntary markets, but not in the Tennessee Valley (except NC)
  - RECs currently trade mostly for under \$1 per MWh
  - RECs may have more value under Clean Power Plan
- With GPP incentive falling, some customers want to keep their RECs (to make green claims themselves), which opens doors for other options...

# Dispersed Power Production (DPP)

- TVA's long-standing solution for PURPA's interconnection requirement
  - Had 8 participants Valleywide, now about 80 participants with various "sell all" and "hybrid" contracts
  - Delivers "as-available" power
  - Pays short-term monthly avoided cost
    - averages \$0.03 per kWh
    - If > 50 kW or Time-of-Day pricing option, system requires interval metering with TVA remote access
  - Participant sells power to TVA but keeps the RECs
  - Requires MLGW to execute a wholesale billing adjustment for each project

# Self-Generation

- Customer generates power for use on-site and keeps RECs
  - Customer continues to buy from MLGW during bad weather, nights and peak periods when onsite generation does not meet demand
  - If system generates more power than instantaneous demand, power flows to grid without compensation
- MLGW loses revenue and ability to recover fixed costs tied to kWh sales, but still must maintain system to serve customer when needed—often during peak demand
- As battery storage technology improves, and costs fall, self-generation will be even more attractive



# Self-Generation Projects

- Customers already adopting self-generation:
  - 48 kW installed at military site, awaiting metering
  - 90 kW applied for commercial property
  - Many inquiries from customers and contractors
    - 1.3 MW for religious facility
    - 5 MW for logistics facility
  - Plus, unknown installations where MLGW is not contacted, so interconnection could be hazardous

# Hybrid: Self-Generation with DPP

- Customer generates power for use onsite and sells any excess to TVA through DPP contract
- 51 kW installed at commercial facility, awaiting appropriate metering
  - >50 kW so requires interval meter with public access card for TVA to read meter on calendar month
  - Electric Meter Operations has tested this new meter type in field; requires telecom and programming changes to accommodate TVA requirements

# Other Factors: Tax Incentives

- Consolidated Appropriations Act (12/2015) extended Federal tax incentives beyond 2016
  - Keeps original 30% of installed cost incentive through 2019 for residential and commercial, then residential incentive ends and for commercial:
    - Drops to 26% through 2021
    - Drops to 22% through 2022
    - Drops to 10% in perpetuity
    - Changes from “placed in service” date to “begins construction” date

# Other Factors: More Developers

- Handful of experienced local installers
- Most developers located elsewhere
  - 3 or 4 handled majority of projects in Shelby County
- Developers who previously ignored Tennessee Valley due to TVA's Green Power Providers structure are now entering local market, with business models common in other states
  - Some offer financing
  - Some offer leasing
  - Some propose to sell solar output to the customer
    - Not allowed; only MLGW can sell electricity (kWh) in Shelby County

# Other Factors

- TN Senator Lee Harris submitted “net metering” bill to give TRA rights to govern standardized process for small-scale onsite generation (SB1853/ HB2099)
- TN Senator Steve Dickerson submitted “Property Assessed Clean Energy Act” to help finance renewable generation and energy efficiency improvements (SB2352/HB2084)
- Community Solar is emerging across the U.S.
  - Customers buy shares of a centralized solar array in their area, then receive monthly bill credits for their portion of generation
  - Enables customers who rent, don’t have funds or lack good solar sites to reap financial benefits
  - TVA testing Community Solar with two LPCs, participants get RECs

# Preparation for New Options

- MLGW has updated project documents to reflect the variety of options now available
  - Applicants select option on forms for easy tracking
  - [www.mlgw.com/greenpower](http://www.mlgw.com/greenpower)
- MLGW is reviewing processes and policies
  - TVA reimburses MLGW for some expenses related to Green Power Providers, but not for other options
  - Important to avoid cross subsidization
- MLGW will propose new policies related to distributed generation at upcoming Board meeting

# Questions?

