



**GovEnergy**

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The Premier Energy Training Workshop  
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# A River of Energy Solutions

# Session Intent

## Session Learning Objectives:

1. Discover successful energy projects outside of the federal market.
2. Analyze implementation strategies for successful energy projects.
3. Evaluate lessons learned to avoid pitfalls.



# Renewable Energy

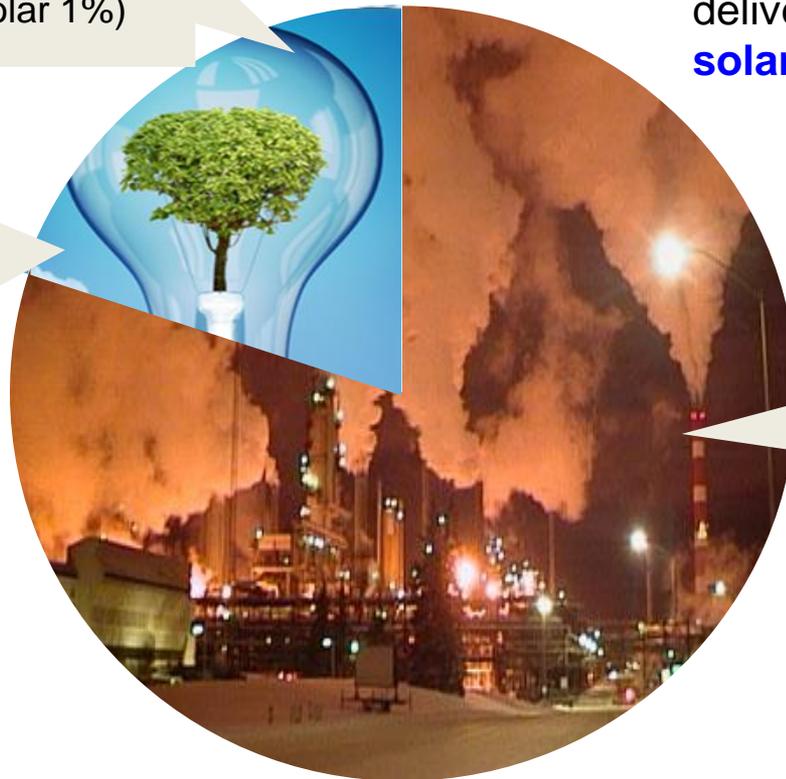
**About 8% comes from renewable energy**

(biomass 50%, hydro 34%, wind 7%, geothermal 5%, solar 1%)

- All kinds of predictions by each technology trade group
- Grid parity or 10 cent/ kWh delivered power for **solar and wind**

▪ **Projections are: renewable energy will reach 20% by 2030**

- Energy security
- Fuel diversification
- Improved cost



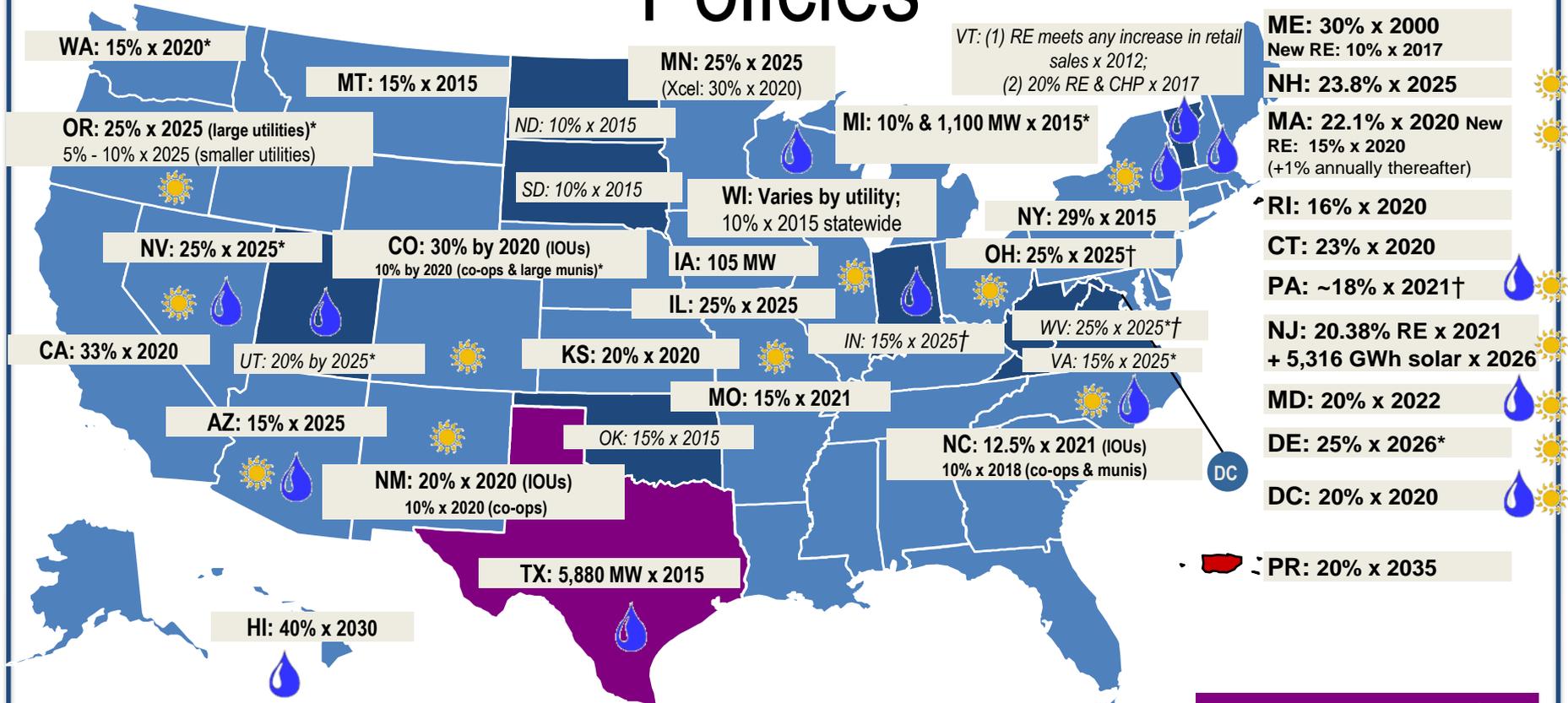
**Today, 83% of US energy comes from fossil fuels**

# Public Private Partnerships

- Federal, State and local incentives are still needed to make renewable energy projects economical
- An entity with tax appetite must be part of the transaction to monetize valuable tax credits and incentives
- RECs – state and utility driven through RPS



# Renewable Portfolio Standards (RPS) Policies



-  Renewable portfolio standard
-  Renewable portfolio goal
-  Solar water heating eligible

-  Minimum solar or customer-sited requirement
- \* Extra credit for solar or customer-sited renewables
- † Includes non-renewable alternative resources

**29 states + DC and PR have an RPS (8 states have goals)**

# Renewable Projects: Value drivers

- 30% ITC with different expiration dates

Note: cash grant expires 12/11

- 100% MACRES depreciation (exp. 12/11) – then reverts back to 5 years MACRS
- Developing national legislation for renewables – RPS, tax credits
- REC – state and utility driven through RPS
- Department of Defense (DoD) mandate to achieve 25% of all energy from renewable resources by 2025
- Grid Parity – solar and wind are close in select markets in the US
- Dramatic decline in pricing for Solar PV panels



# Renewable Energy: Landfill Gas



# Case Study: Baton Rouge, LA

## The Challenge

- Municipal Parish owns landfill with over 3000 SCFM of landfill gas
- Low electricity prices
- No single customer within 15 miles can take the entire amount of gas



## Siemens Answers

- Recommended type of project to develop (electricity or direct use)
- Helped third party investor negotiate all contracts and obtain permits
- Project delivered on time
- Project delivered under budget
- Designed, built, operate and maintain project

## Outcome

### **Project Owner: Sustainable Energy Solutions (SES)**

- Receives \$150k in total monthly gas payments from end use customers
- Makes monthly royalty payments to Baton Rouge Parish of approximately
- Holds risk for gas landfill produces

### **End User Customers: Exxon Mobile and Novolyte Technologies**

- Purchases the gas under long term take or pay contract from SES
- Public/Private Partnership with an \$11M investment
- Nominated for EPA's *Landfill Gas Project of the Year*

# Case Study: Three Rivers Solid Waste Authority

## The Challenge

- Almost 2000 scfm of landfill gas available in low cost electricity territory
- Second longest direct use landfill gas-to-energy pipeline project completed in U.S.



## Siemens Answers

- Recommended type of project to develop (electricity or direct use)
- Helped waste authority negotiate all contracts and obtain permits
- Project delivered ahead of schedule
- Project delivered under budget
- Operating 9% above guarantee point
- Designed, built, operate and maintain project

## Outcome



### **Project Owner: Three Rivers Solid Waste Authority**

- Receives \$120k in monthly gas payments
- Holds risk for gas landfill produces

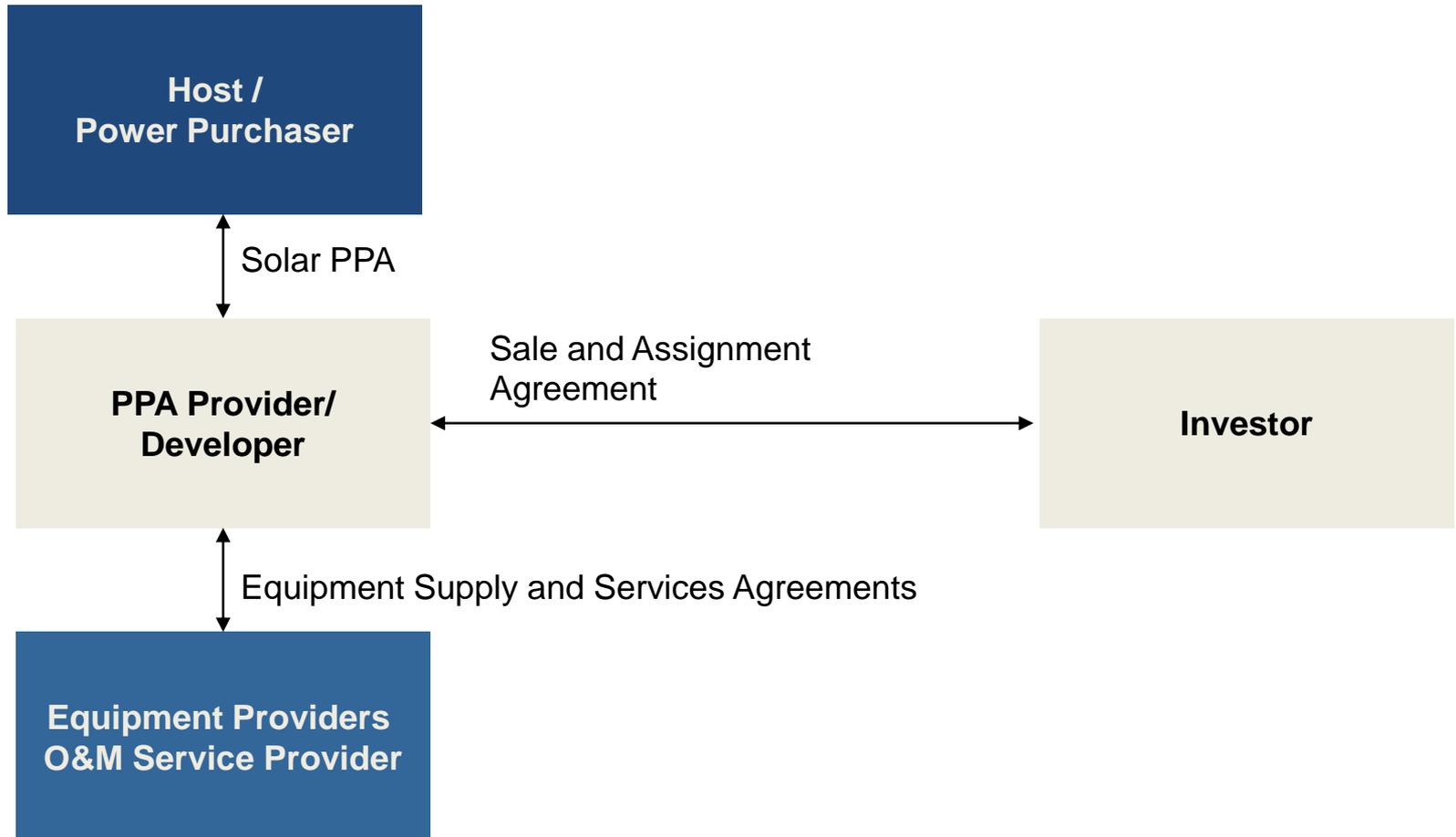
### **End User Customer: Kimberly-Clark Company**

- Purchases the gas under long term take or pay contract from Three Rivers SWA
- Public/Private Partnership to obtain \$11M in municipal bonds
- Nominated for EPA's *Landfill Gas Project of the Year*

An aerial photograph of a building's roof, which is almost entirely covered with a grid of blue solar panels. The panels are arranged in neat, parallel rows, creating a strong geometric pattern. The surrounding area includes a brick-paved courtyard with a white rectangular structure, a metal railing, and a building facade with windows and a light pole. The overall scene is brightly lit, suggesting a sunny day.

# Renewable Energy: Solar

# PPA Program Structure



# Roles and Responsibilities

## Government Entity/ Power Purchaser

- Purchase power produced by system at pre-determined price
- Lease roof or other project site to PPA Provider
- May keep rights to SRECs

## PPA Provider/ Developer/ ESCO

- Originates, Designs, Procures, and Builds project and enters into PPA
- Assigns rights under PPA to Investor including power purchase payments and ownership of solar system
- Retains responsibility for O&M and system performance

## Investor

- Purchases ownership of solar system and receives assignment of rights under PPA
- Bills/ collects power sales from Power Purchaser
- Receives other benefits (Tax and other) from the system, including ITC, PBIs and MACRS depreciation

# PPP Lessons Learned - Summary

## Government

- Meet or exceed RE Targets
- Utilize third party money
- Technical risk is bore by developer
- Keep rights to SRECs

## Developer/ ESCO

- Monetize tax credits to improve project economics
- Strong financial partner
- Involve all participants early in the process as possible
- Ability to perform O&M and monitoring system performance in-house

## Investor

- Strong financial backing
- Experience with chosen contract structure and technology
- Understanding of FARRs and how it relates to particular type of project

Contact

## **Clark Wiedetz**

Director Renewable Energy

Water and Wastewater Treatment

Siemens Industry, Inc.

Energy and Environmental Solutions

1745 Corporate Drive STE 240

Norcross, Georgia 30093

770-935-2000 (office)

770-935-2024 (fax)

678-427-0150 (cell)

[Clark.Wiedetz@siemens.com](mailto:Clark.Wiedetz@siemens.com)