

# Corporate PPAs

**October 29, 2019**

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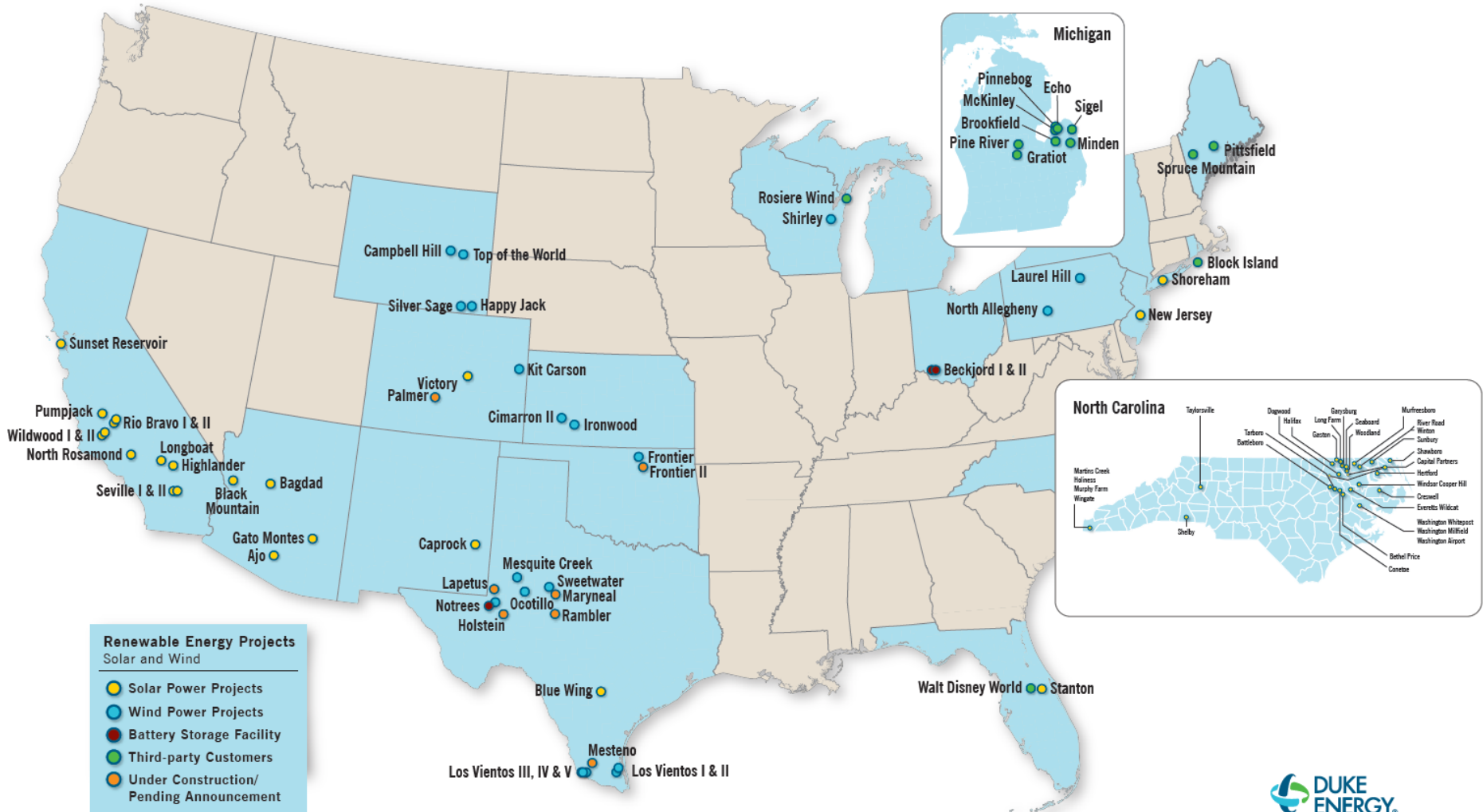
Managing Director,  
Development

Duke Energy Renewables

# DER: Commercial Arm of Duke Energy



## Duke Energy Renewables



# DER Corporate Customers



**Frontier II**  
**352 MW**  
**SPP**  
**2019**



**Maryneal**  
**182 MW**  
**ERCOT**  
**2019**



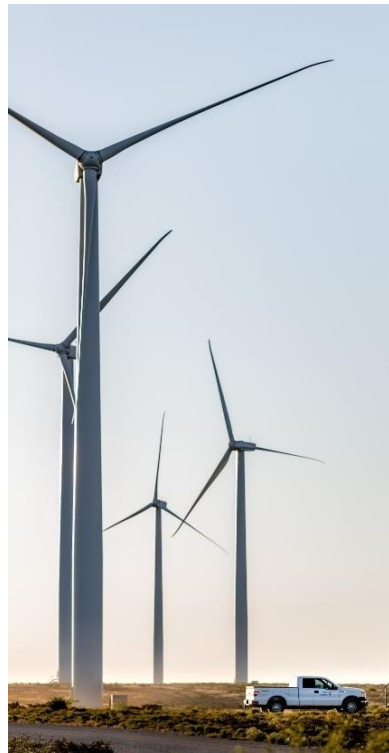
**Conetoe**  
**80 MW**  
**PJM**  
**2015-16**



**Mesquite Creek**  
**211 MW**  
**ERCOT**  
**2014**



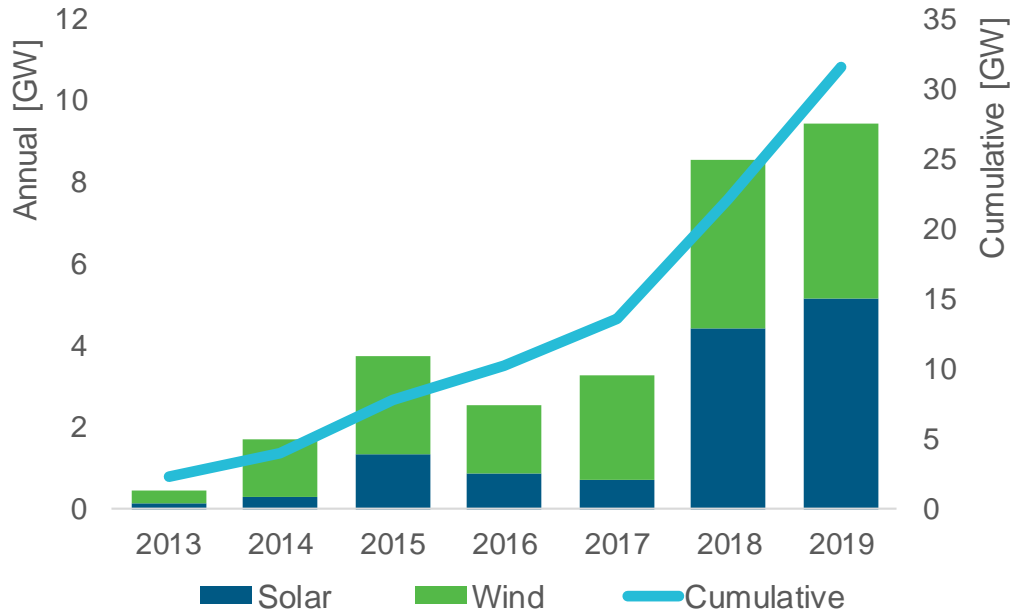
**Capital Partners**  
**53 MW**  
**PJM**  
**2014**



# Corporate Virtual PPAs are Growing

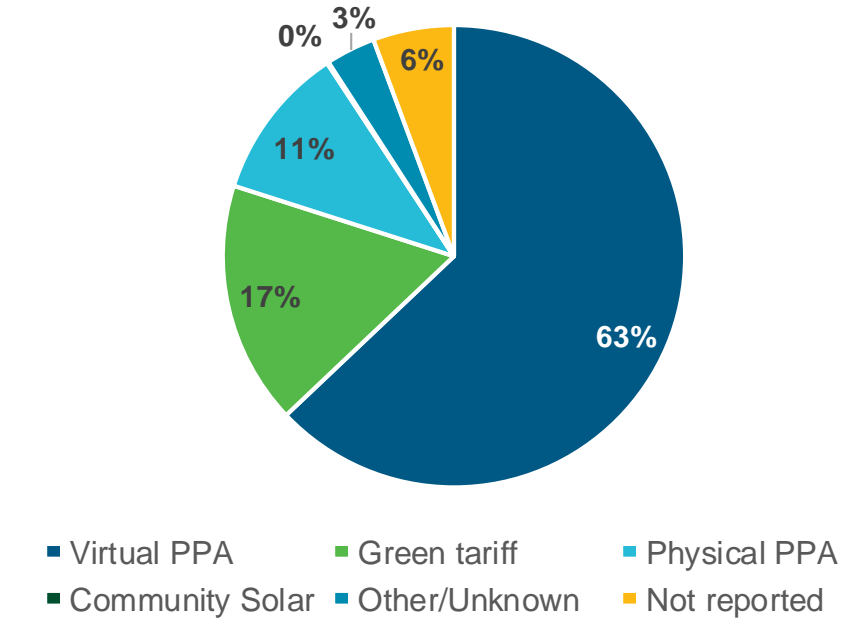


## 32 GW of Corporate PPAs in US



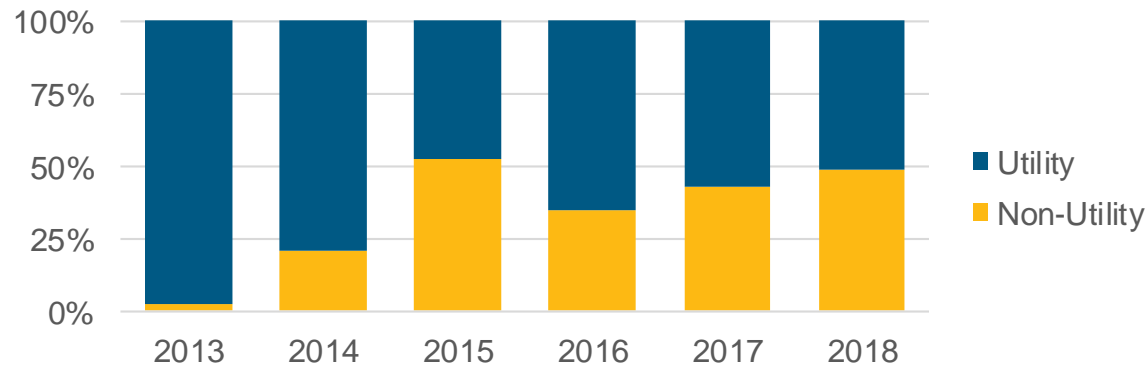
Source: Bloomberg NEF

## >60% are Virtual PPAs



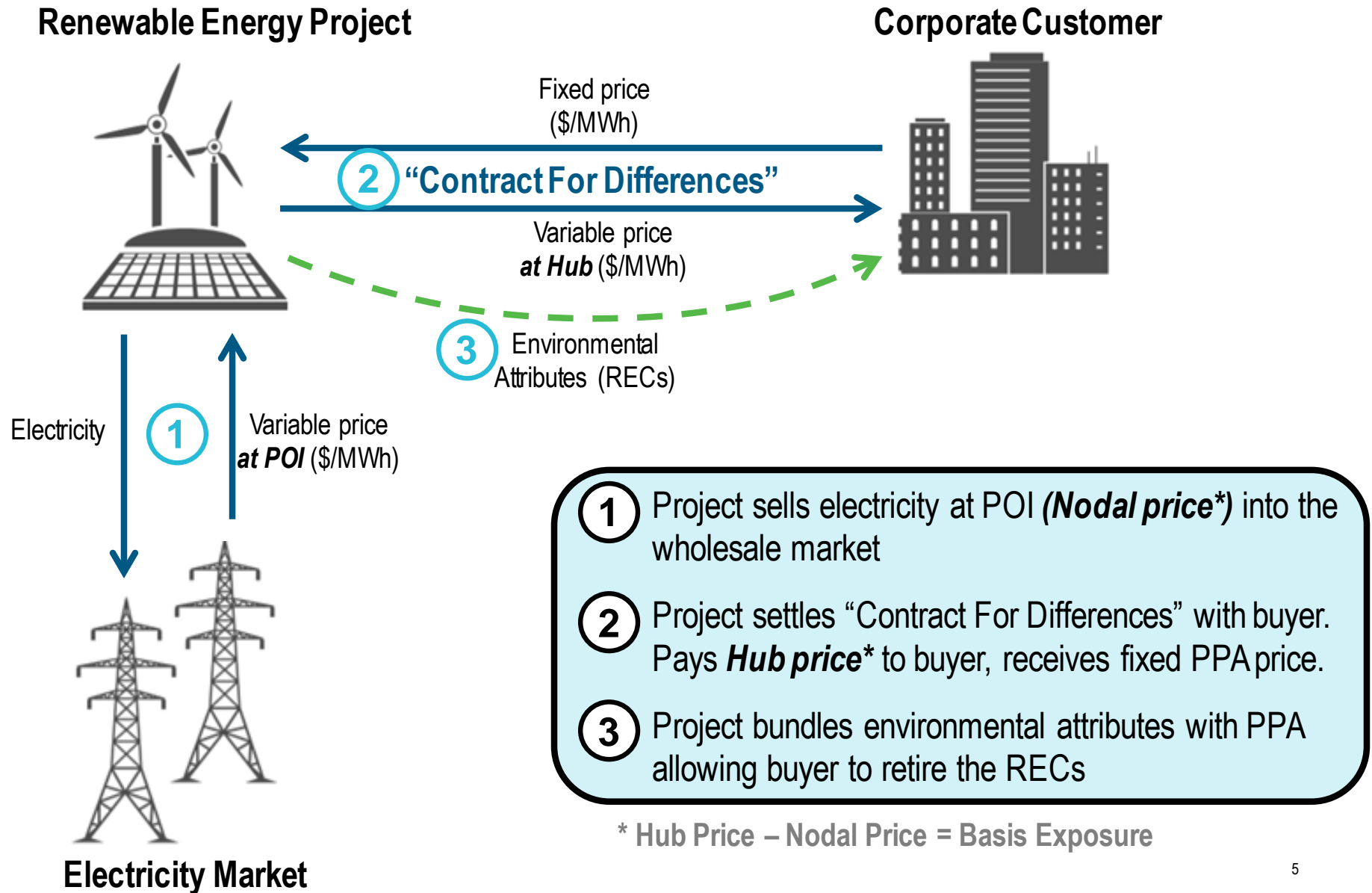
Source: Bloomberg NEF

## Wind PPAs by Customer Segment, U.S.



Source: AWEA

# Virtual PPA Mechanics



# PPA Differences



	Traditional Utility PPA	Corporate Virtual PPA
<b>Term</b>	15-30 years	12-15 years
<b>Target Size</b>	MW	MWh
<b>Settlement</b>	Busbar / Node	Hub
<b>Buyer Price Protection</b>	Buyer curtailment buckets	Zero price floor
<b>Environmental Attributes</b>	Less key (unless RPS)	Key driver, also “Additionality”
<b>Project Perception</b>		Sensitive to community issues
<b>Market Participant</b>	Utility	Developer / Owner
<b>Credit</b>	Generally creditworthy	Sometimes not investment grade, requires LoC
<b>Price</b>	Lower	Higher (covers higher seller risk)
<b>Newer Asks</b>	Integration charges	Exotic settlement structures Aggregate small buyers

# Key Takeaways



1. Economics + Sustainability Goals → Spike in Corporate Demand
2. Corporate buyers are a ***growing pool of customers***
  - Corporate interest is a key consideration in development
    - Access to Wholesale Market or Green Tariff?
    - Liquid trading hub to settle?
    - RE100 w/ Operations in State/Region?
  - VPPAs are getting increasingly complex

