

# Nodal Trading and Hedging Outlook

Platts Nodal Trader Conference

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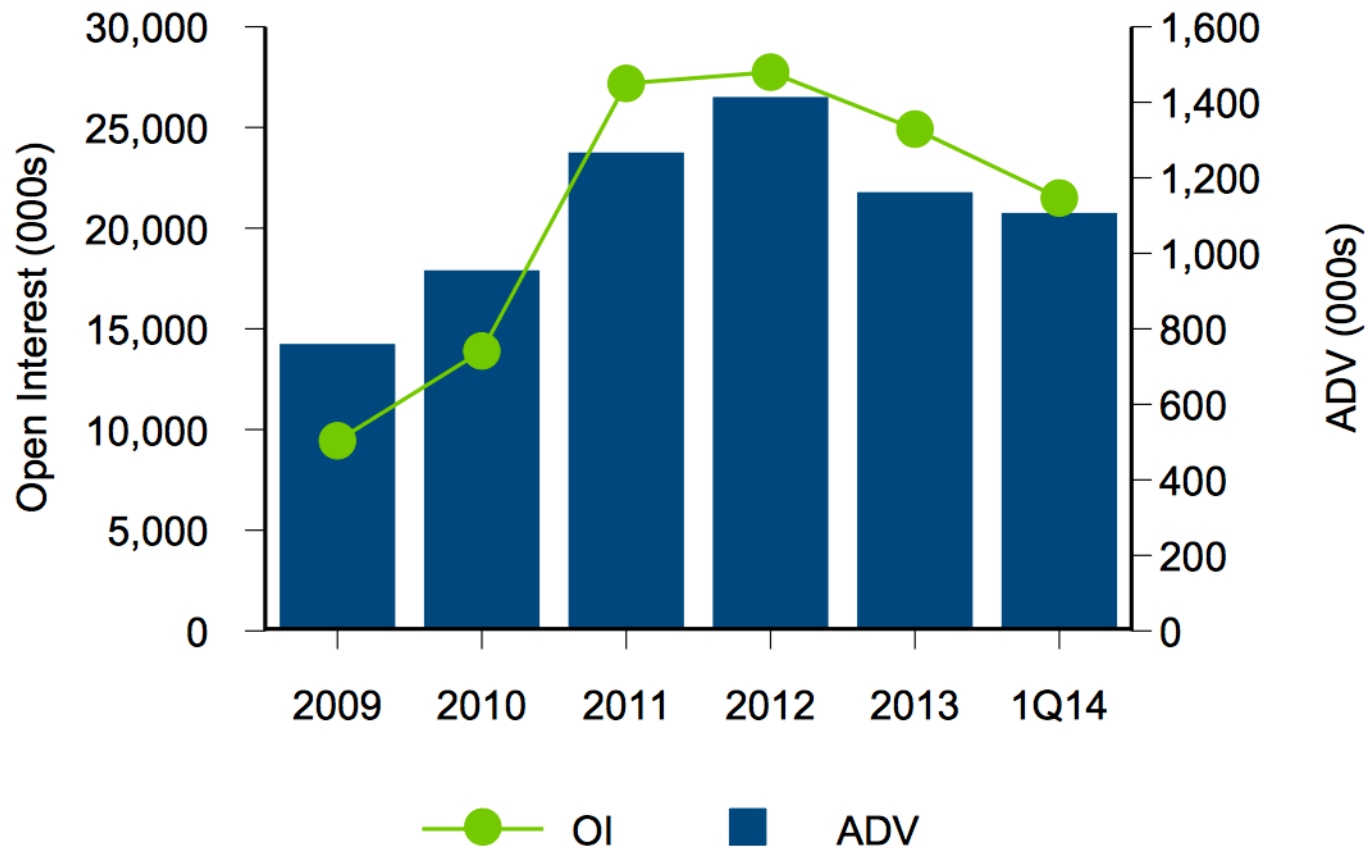
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# Natural Gas trading and open interest on ICE is down measurably from previous years

## North American Nat Gas ADV & OI



ADV = Average Daily Volume  
OI = Open Interest





# Liquidity in Power contracts has decreased significantly since 2011

## Power Market Liquidity

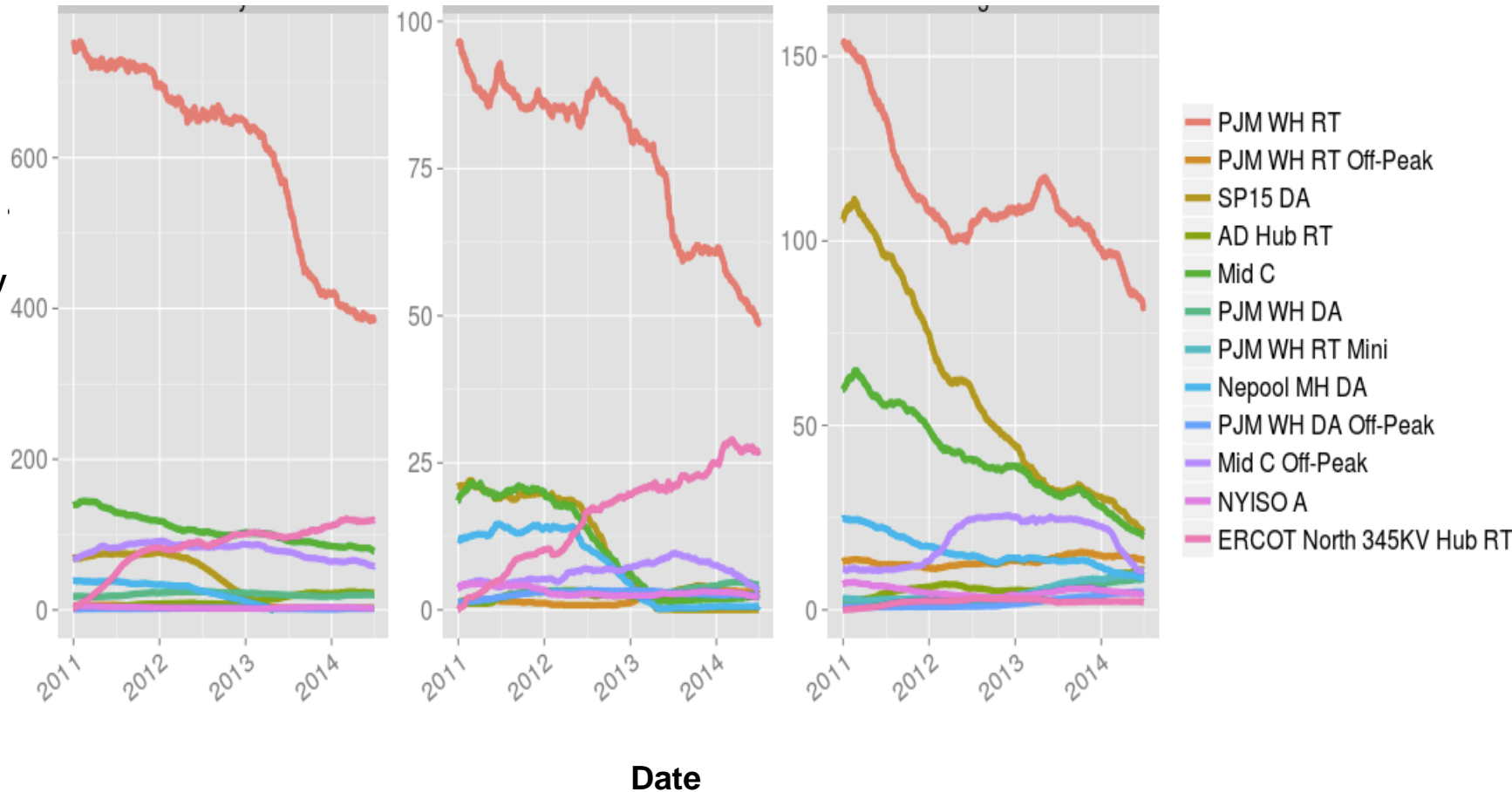
– 2010-2014 –

### Daily

### Intramonth

### Monthly and Long Term

Trades/Day  
(TTM  
Average)



Source: DC Energy analysis; derived from volumes on the major exchanges listing futures contracts for US power

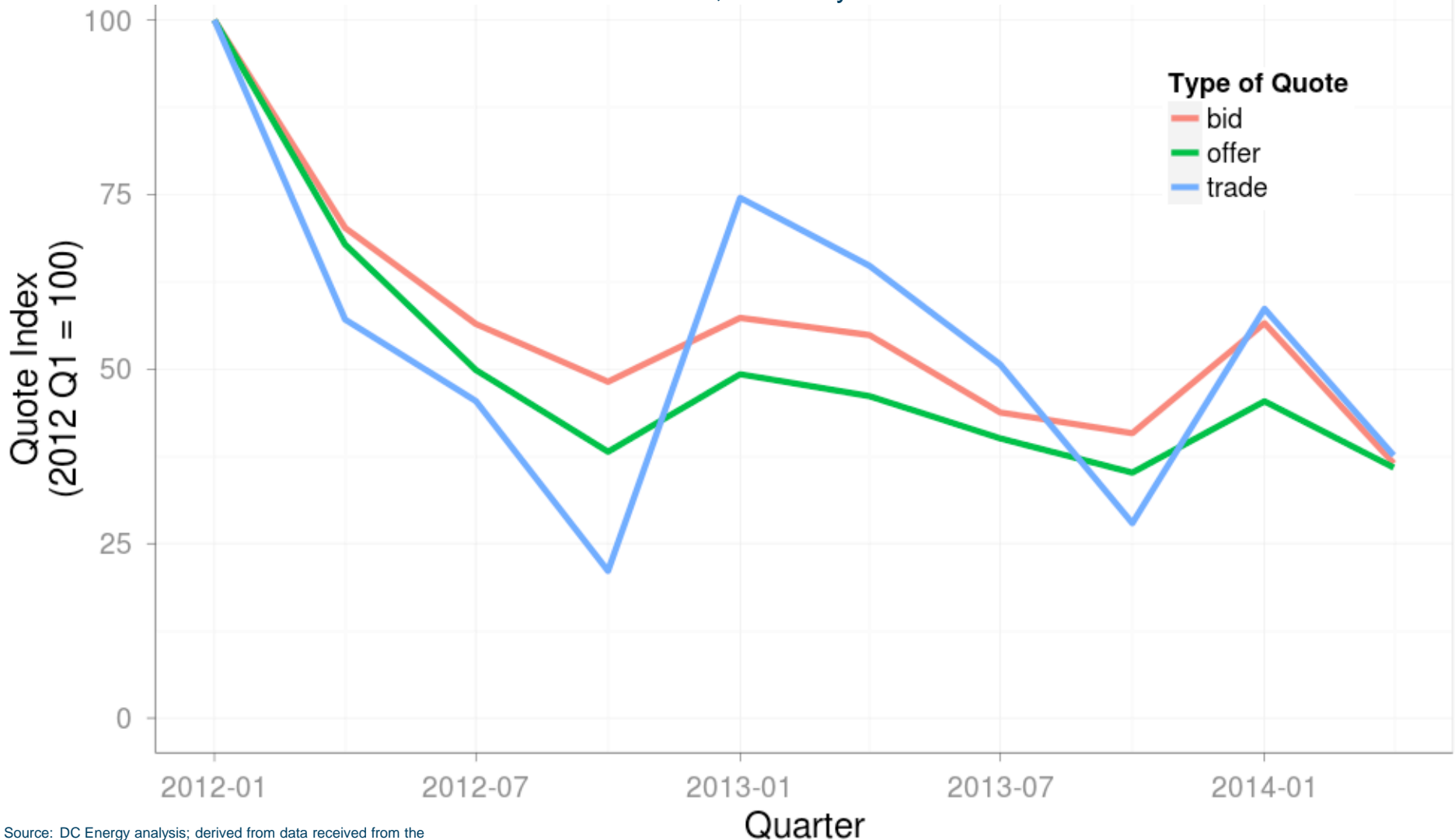




# Market activity has declined substantially for power spreads since the first quarter of 2012

## Power Spread Market Activity

– All US RTOs, Quarterly Data –



Source: DC Energy analysis; derived from data received from the largest currently active brokers in the US RTO markets



# Financial participants are essential for the power market to function

## Role of Financial Participant



- **Location** (limited transmission)
- **Timing** (limited storage)
- **Product** (generator and load entities often want different products)
- **Credit Support**

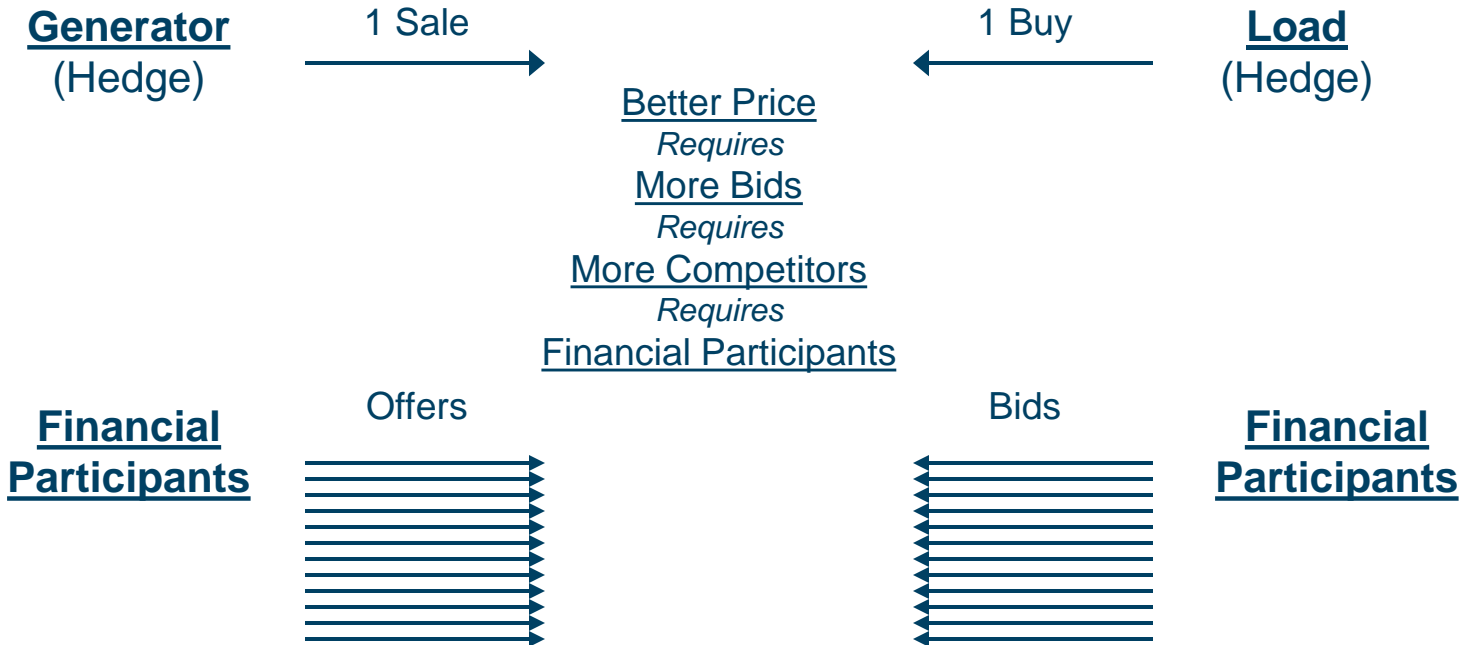
***No one entity can provide all these components in isolation.  
It is critical to have a robust financial marketplace.***





# Financial participants are critical to the efficiency of the market

## Market Efficiency Role



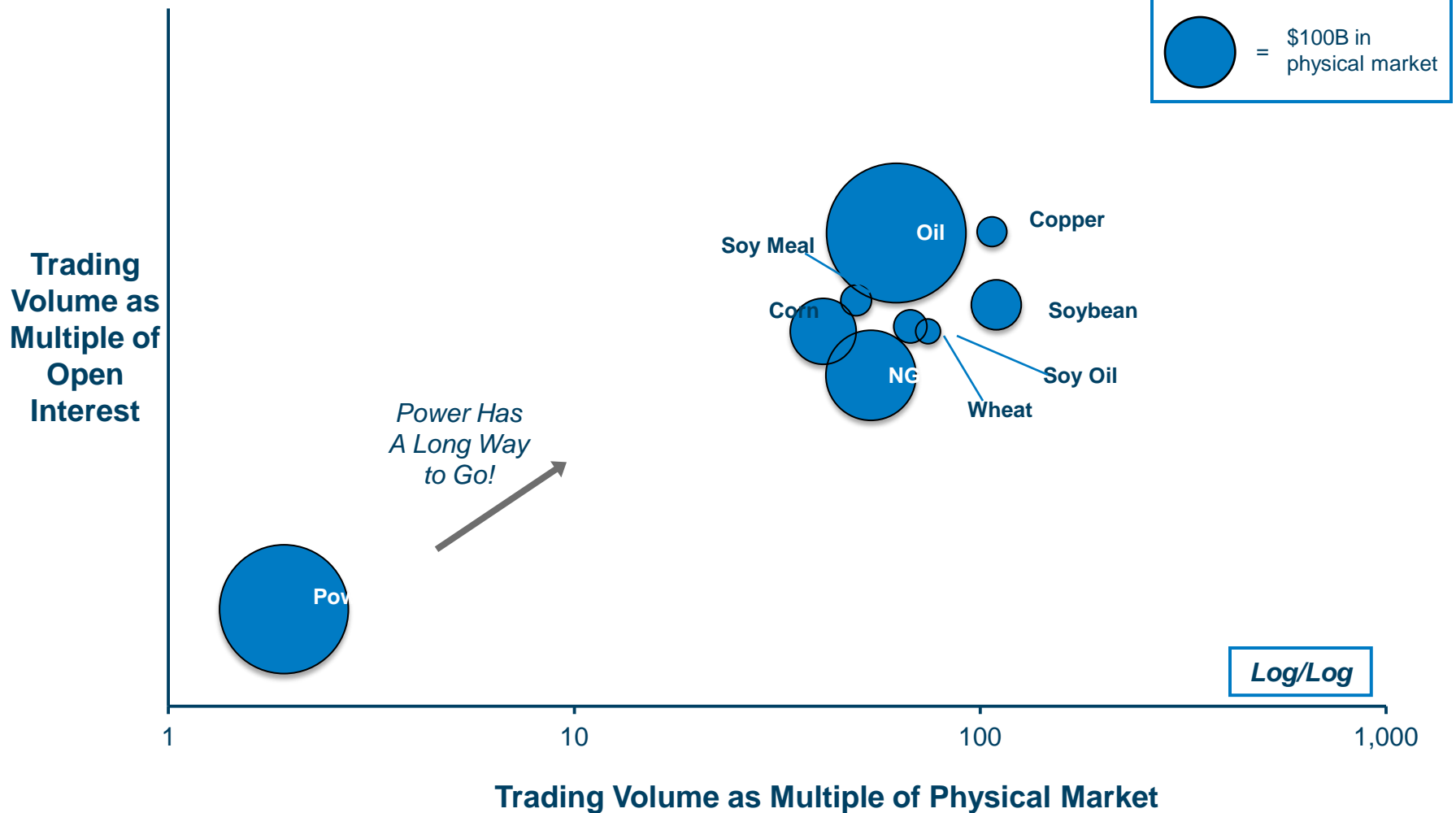
- 1) The ratio of physical to financial trading in “efficient” markets is 1 to 20 or higher
- 2) More speculation reduces volatility
- 3) More speculation reduces the costs of hedging
- 4) More speculation reduces industry risk through diversification





# How much financial trading volume is needed can be gauged by looking at other efficient markets. Power has a long way to go!

## Cleared Transaction Liquidity







## Factors Contributing to Poor Liquidity

- **Delivery complications**
    - Transport, storage or delivery complications reduce eligible counterparties
  - **Poor spot liquidity**
  - **Poor price discovery**
  - **Market power in physical participants**
  - **Few Financial participants**
  - **Inefficient bilateral market**
    - Margin inefficiency
    - Clearing Infrastructure
    - Low/no bid/ask order flow
- **Addressed through ISO Market Tariffs that promote competition**
- **Addressed through Exchanges**

