

RISK MANAGEMENT: ADAPTABILITY TO 100% RENEWABLES

MDAG

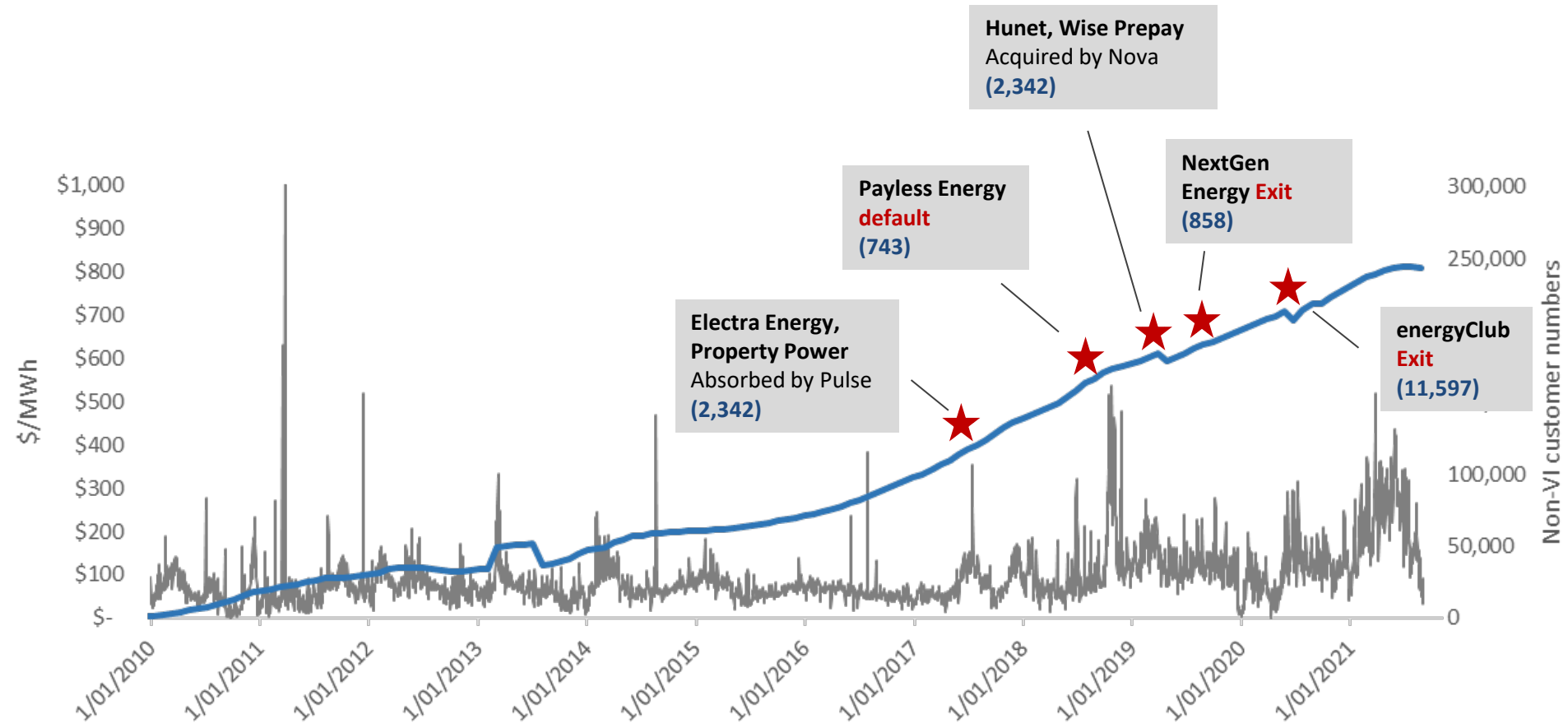
Question & Context

- Will market participants' risk management adapt to (volatile) 100% renewables (and transition)?
 - Confidence in the market to deliver affordability, security, environmental
 - E.g., competition, efficient investment in resources (revenue adequacy)
- Confidence in future adaptation could be improved through evidence that positive adaptation is occurring, and has occurred (without undue failure):
 - Quantitative evidence (hedge market data, retailer growth/exit, stress test)
 - Qualitative evidence – survey/interview
 - Period of focus – 2010 onwards: post ASX/retail growth

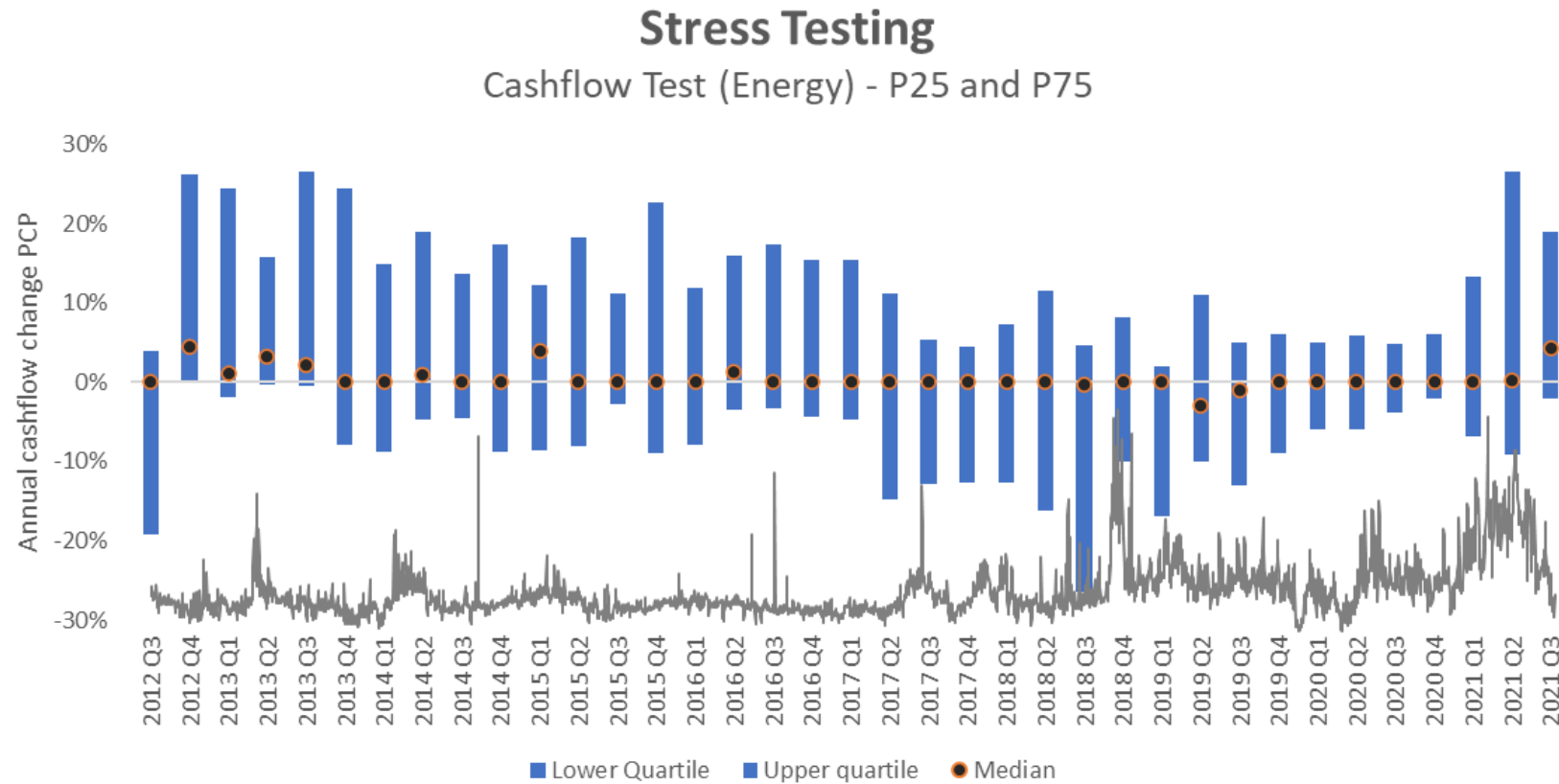
Market Data

- Caveat
 - Each data snapshot is only part of the tapestry; problem of silent evidence.
 - Data quality is an issue; granularity (e.g., participant type)
- But:
 - Minimal retailer default through volatile period
 - No evidence that stress tests have materially deteriorated
 - Non-VI hedging has increased over 2010-2021 period (in baseload products)

Retailer Exit



Stress Testing



Hedge Volumes



Survey

- Method

- ~ 1hour interviews with 12 participants across 3 cohorts: gentailers, independent retailers, brokers/traders, industrials
- All participants asked the same set of high-level questions

- Caveats

- Timing of survey?
- Significance of some cohorts (industrial, retailers)

- Impressions

1. Some issues were common across (almost) all cohorts
2. A number of issues were contentious (mainly between cohorts)
3. Some cohorts were particularly focused on areas not mentioned by other cohorts

1. Common views

1. Unambiguous agreement across all 12 that risk management (models, analysis, policies, product use) **have improved since 2010**
2. Range of sophistication of RM approaches from position limits through to multi-product VaR+; general acceptance that **further improvement likely or inevitable**
3. Common agreement that **ASX has become an expensive channel for hedging** (initial margins)
4. Views on current and future impediments varied....

2. Areas of contention

Issue		
<u>Sufficiency</u> of current product suite?	Generally satisfactory, although EnergyLink flex-CfD; 7-day peak; solar/wind firming all mentioned as potential for development	
<u>Liquidity</u> of current product suite?	Insufficient in peak, caps	Generally, all pricing requests are responded to.
How should future product innovation and liquidity be encouraged?	Managed market-making on exchange	Through OTC market
OTC credit conditions	Credit requirements have increased	Little change in credit conditions; or fair reasons for increase?
Increasingly active PPA market	Ability to get access (term); managing intermittency	Developer pricing expectations; cost of managing intermittency
Demand-side flexibility/response potential	Caution vis reality of growth, volumes	Significant potential being explored
Price of peak/swaptions/caps	Too high relative to risk	Fair representation of asset value
Dry year vs capacity risk?	Little mention of dry year; main concern is short-term volatility	Short term vol will be solved by batteries; big issue is dry year risk

3. Areas of cohort focus

- **Independent Retailers:** access to products: shape, liquidity, credit
- **Industrials:** Management/governance challenges; “explainability” of prices and price relativity (eg PPA vs ASX vs OTC)
- **Gentailers:** Thermal needs a plan (of different varieties); concern re: intervention and desire to pursue market-driven approaches