

## Recognising the Speed of Change

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## Agenda – Recognising the speed of change

### 1. Energy market over the past 10 years

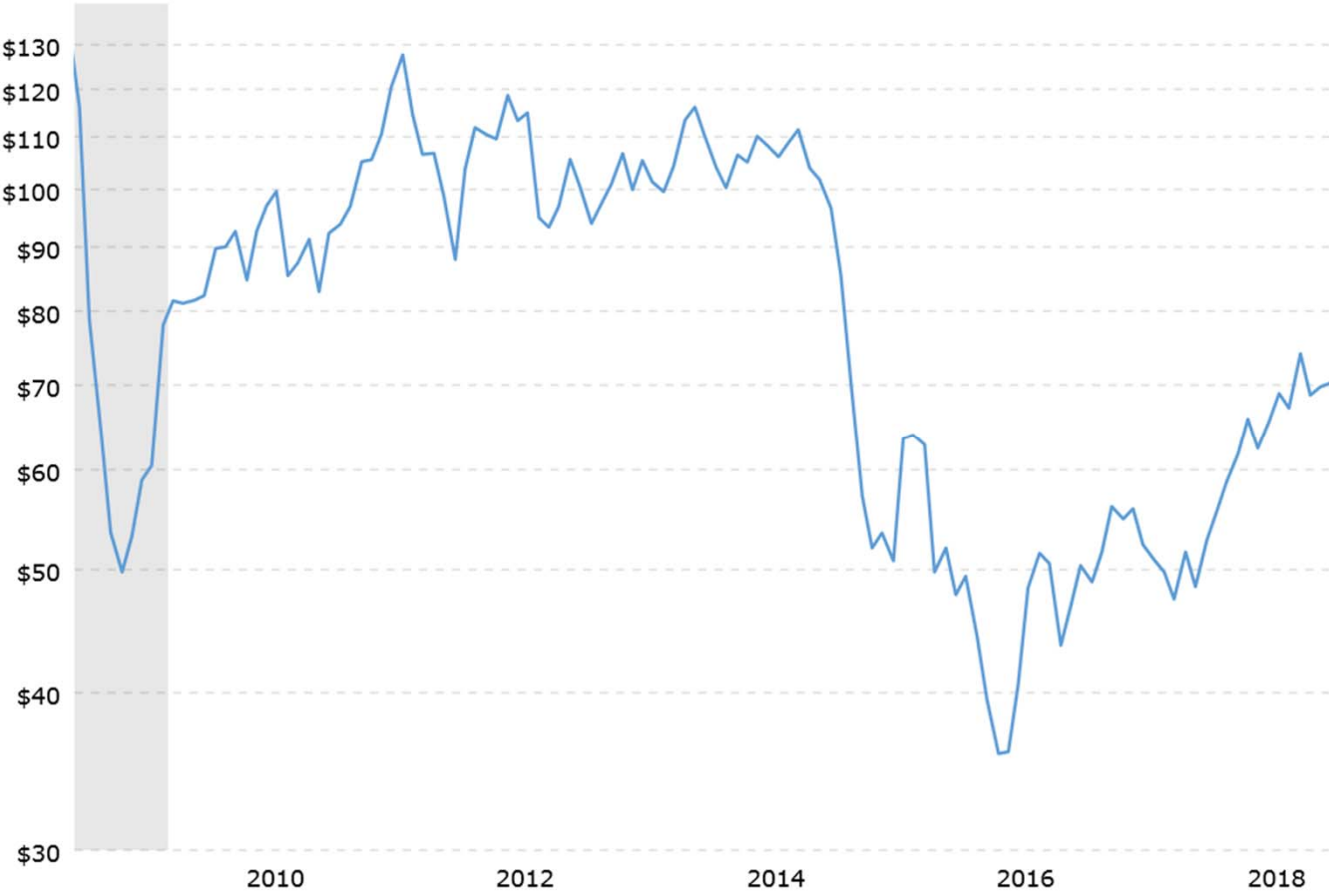
- Commodity price volatility
- Major shifts in industry
  - LNG
  - Shale
  - Iran
  - Venezuela
- Climate change
  - Renewable energy

### 2. Insurance Market over the past 10 years

- Mergers and acquisitions
- Capacity
- Major events
- Disruptive Technologies

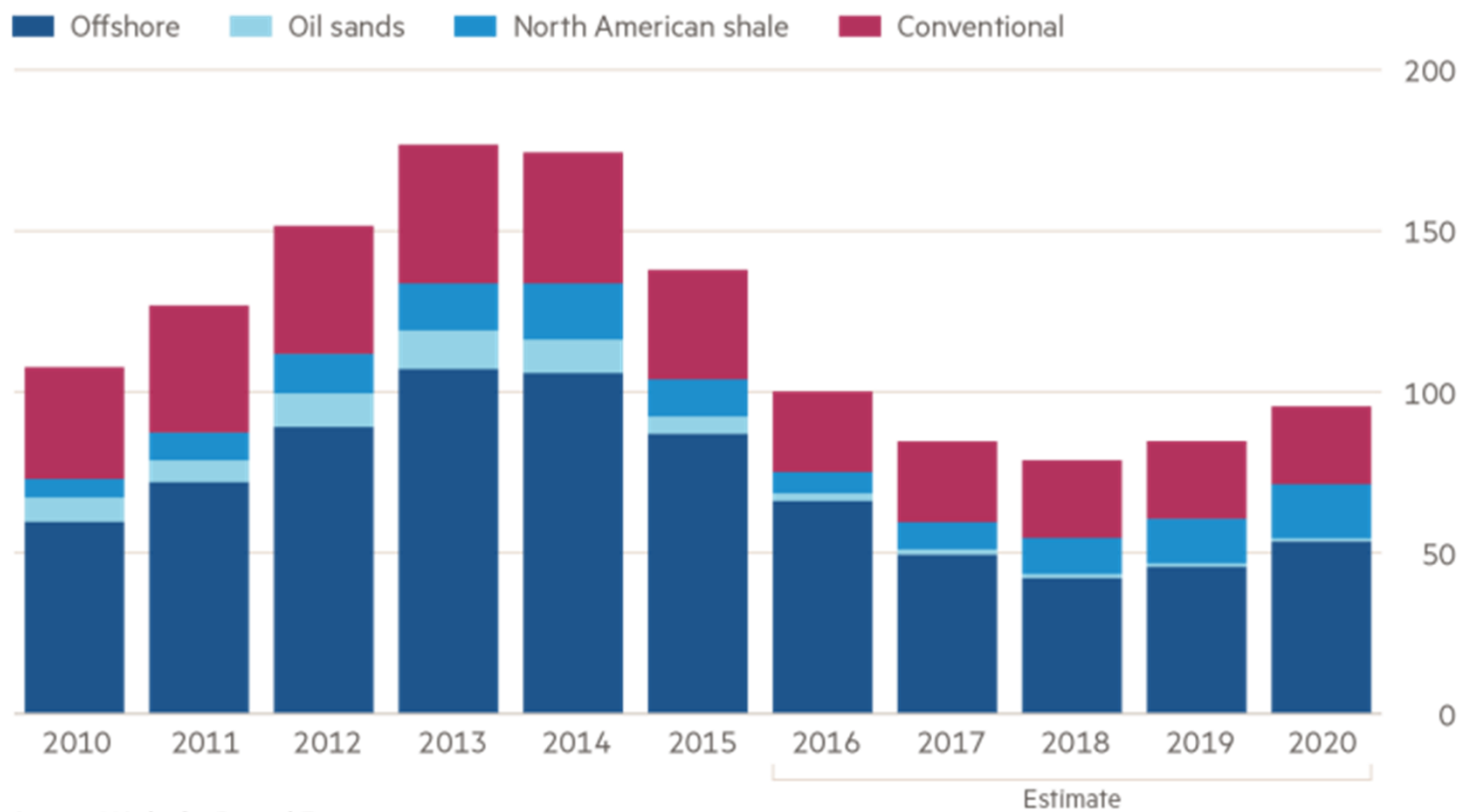
### 3. **What does it all mean?**

# Commodity Price Volatility - US WTI Crude Oil Price



## Oil and gas majors scale back on investment

Value by sector (\$bn)



Source: UCube by Rystad Energy  
© FT

## Oil and Gas Industry – Speed of Change

- Top down cost focus
- M&A activity e.g. Schlumberger / Cameron (\$14.8bn), divestures of majors in North Sea
- Renegotiation/Cancellation of contracts
- Innovative approaches within industry e.g. zipper fracking, shared offshore transfers
- >\$50 oil adequate for a large number of oil and gas investments (ex Oil Sands, Arctic etc)
- Improved rig count in the US
  - US Baker Hughes Rig Count

•December 2015	1,575
•Low point June 2016	318
•December 2016	477
•September 2018	1,048
- Confidence is back in the market
  - 100bn of investment in UKCS, Extraction Oil and Gas (\$633m IPO)

## **Iran and Venezuela**

### **Iran**

Oil exports fallen \$500,000 bpd since May (source IEA)

Reduction in buyers including South Korea, France, China

US Sanctions coming into effect November

OPEC currently bridge gap 32m b/d – increases from Saudi Arabia, Iraq and Nigeria

Global supply - \$100m b/d August 2018

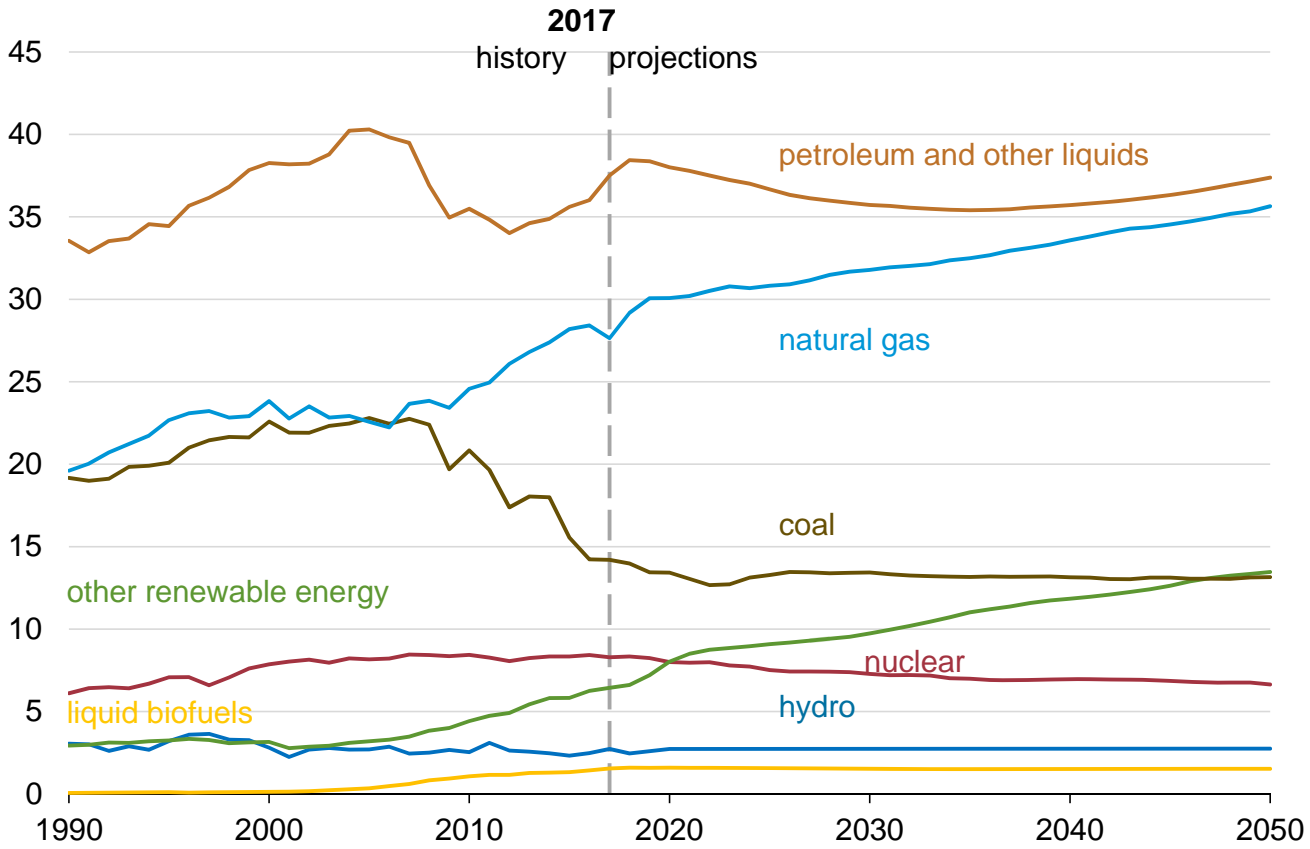
### **Venezuela**

Hyper-inflation

Plan to boost production through 7 companies (\$30m investment, production increase of \$614k b/d)

# US Energy consumption by fuel

quadrillion British thermal units

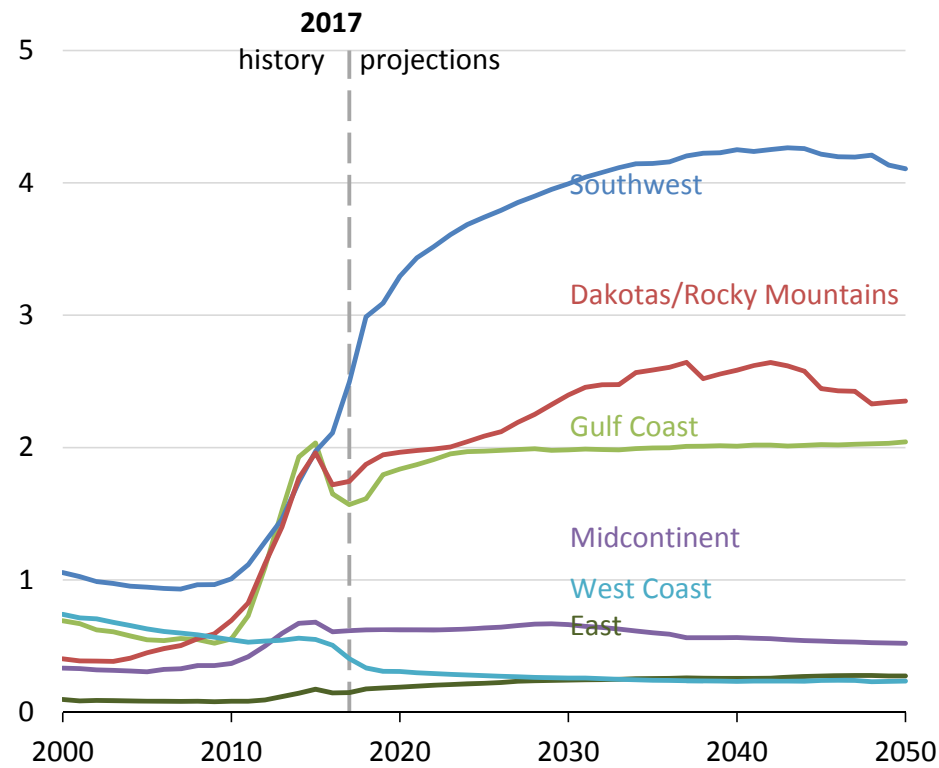


Source: US Energy Information Administration



## US Shale Production

Lower 48 onshore crude oil production by region  
million barrels per day



Source: US Energy Information Administration

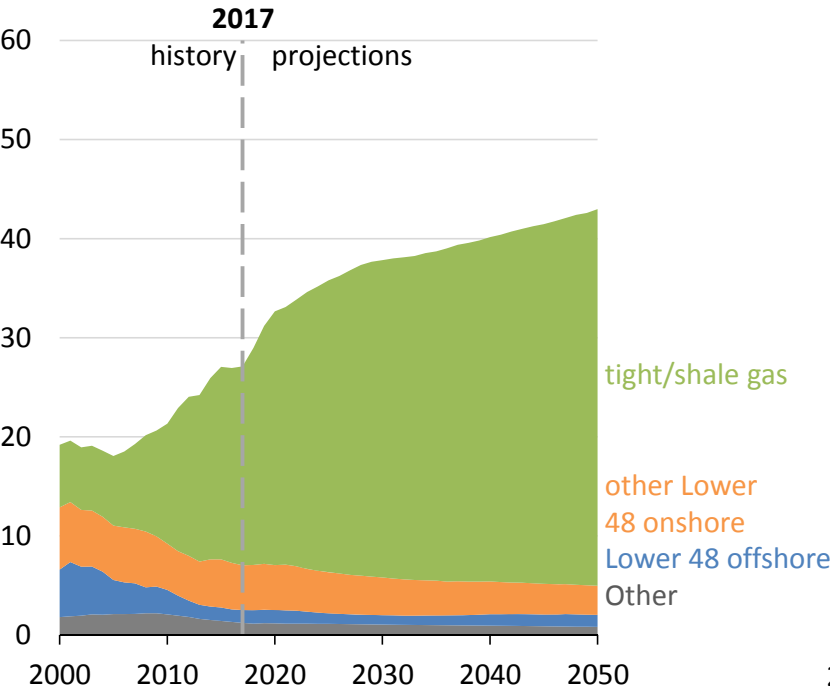
IEA - 'relentless growth led by record output from the US'

- limited in part by infrastructure bottlenecks e.g. Permian basin pipeline capacity constraints

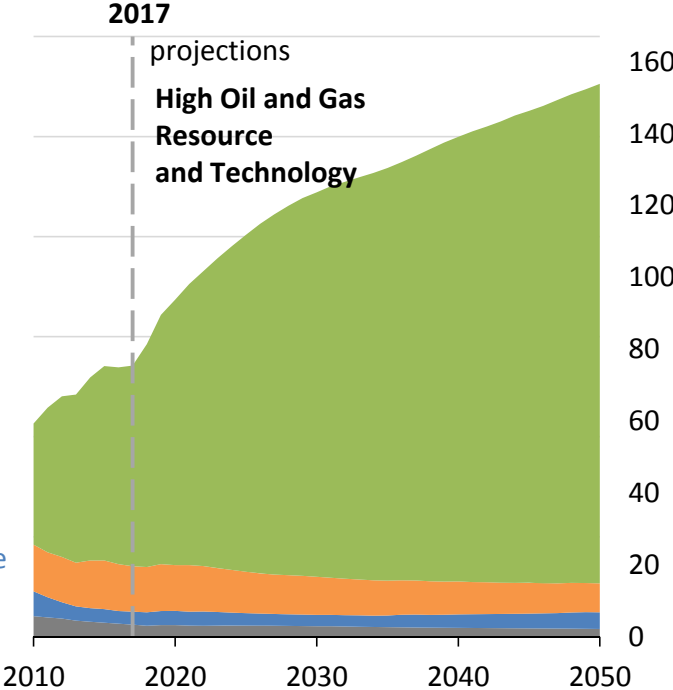


# Increased U.S. natural gas production

**Natural gas production by type**  
trillion cubic feet



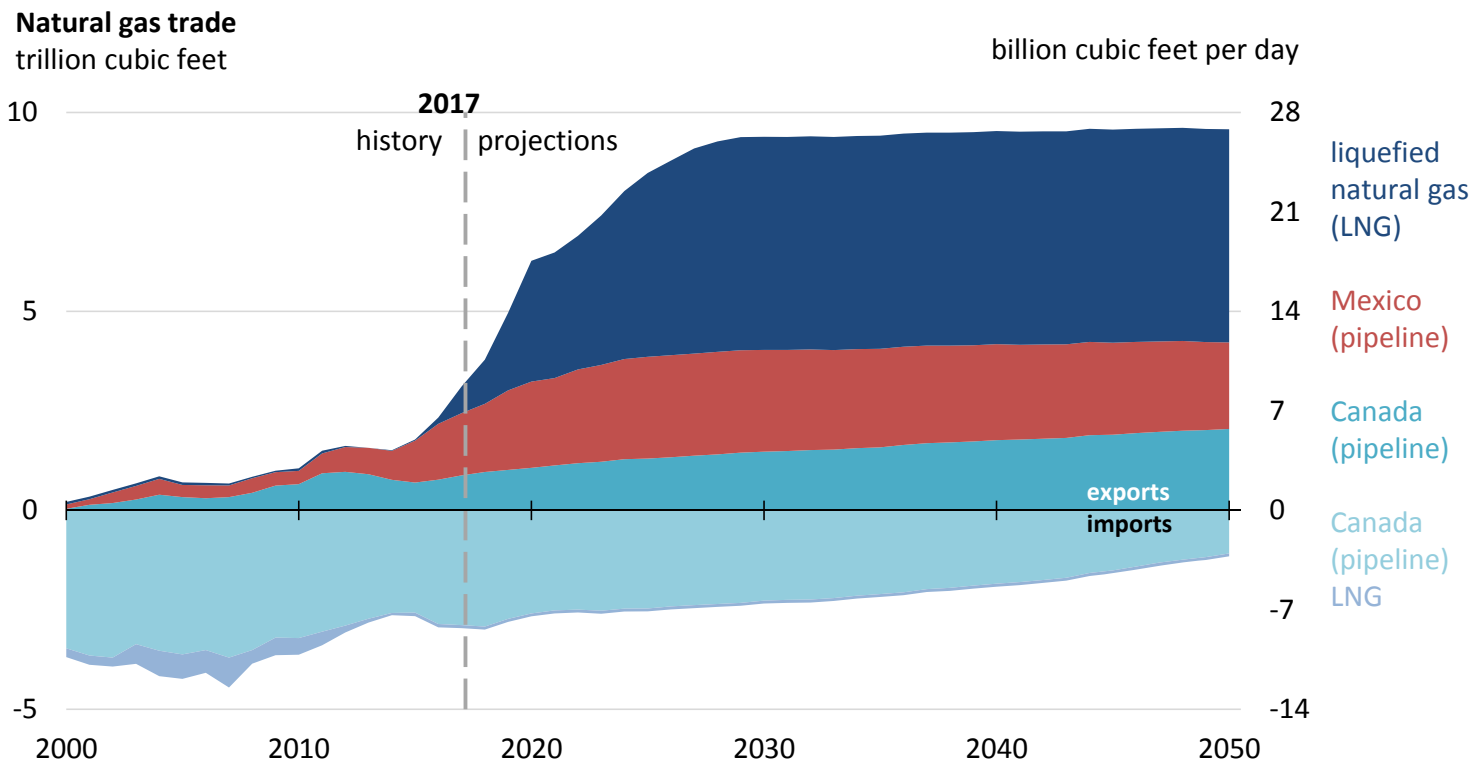
billion cubic feet per day



Source: US Energy Information Administration



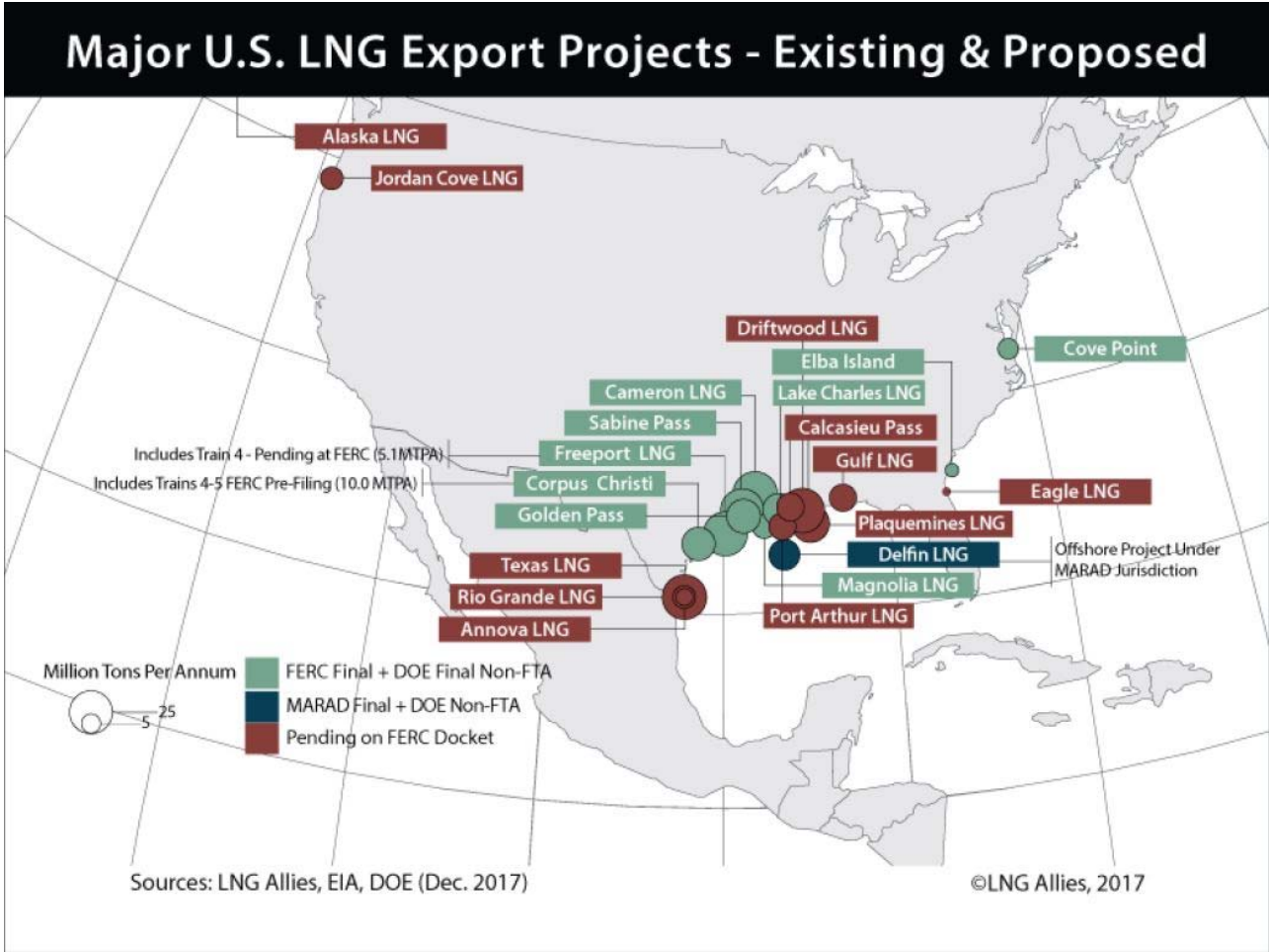
# The United States is a net natural gas exporter because of near-term export growth and continued import decline



## LNG Marketplace

- Global LNG demand rose 25 MTPA in 2017 to reach 285 MTPA, recording the highest annual growth since the Fukushima incident in 2011 led to a surge in Japanese demand.
- Demand growth is expected to slow during 2019-22 and recover to >4% annual growth beginning in 2023.
- By 2030, demand for LNG is expected to grow to 490 MTPA, driven principally by Asia.
- Global LNG production capacity from facilities currently in operation or under construction is expected to peak at 396 MTPA in 2021.
- To support expected further demand growth, final investment decisions are likely to be made on 118 MTPA of export projects, mainly in the U.S., Qatar, Mozambique, and Papua New Guinea.
- Lack of new investment in LNG supply is expected to lead to a shortage around 2023.

# LNG Projects

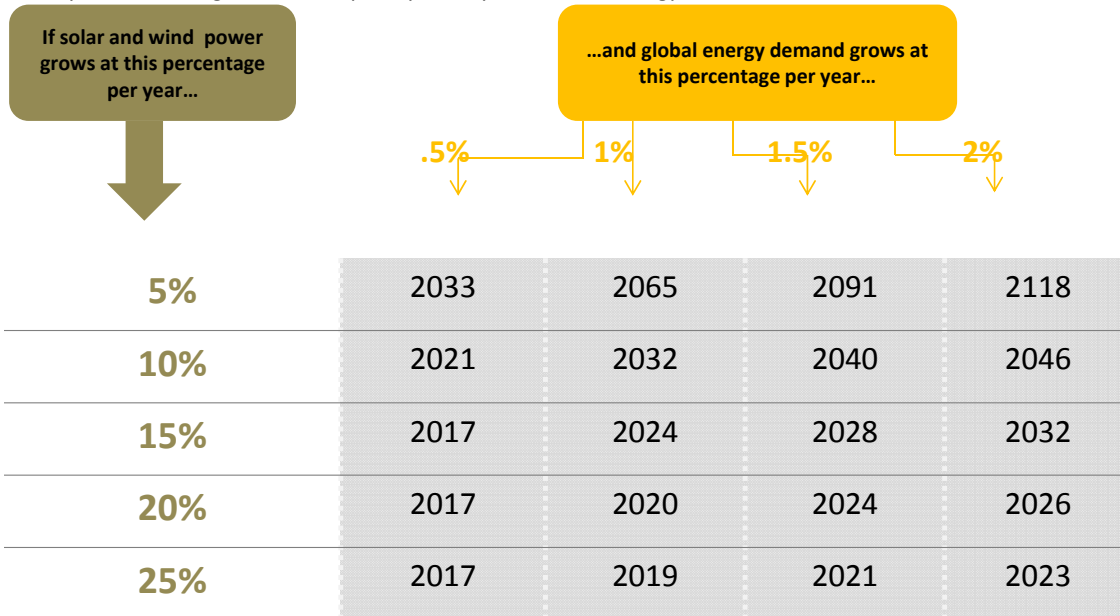


# Climate Change and Renewables

Royal Dutch Shell Chief Executive - Ben van Beurden - "There's no other issue with the potential to disrupt our industry on such a deep and fundamental level"

Exxon Chief Executive - Darren Woods - "committed to being part of the solution on climate change"

'Tipping point' – when one years demand growth is completely met by renewable energy



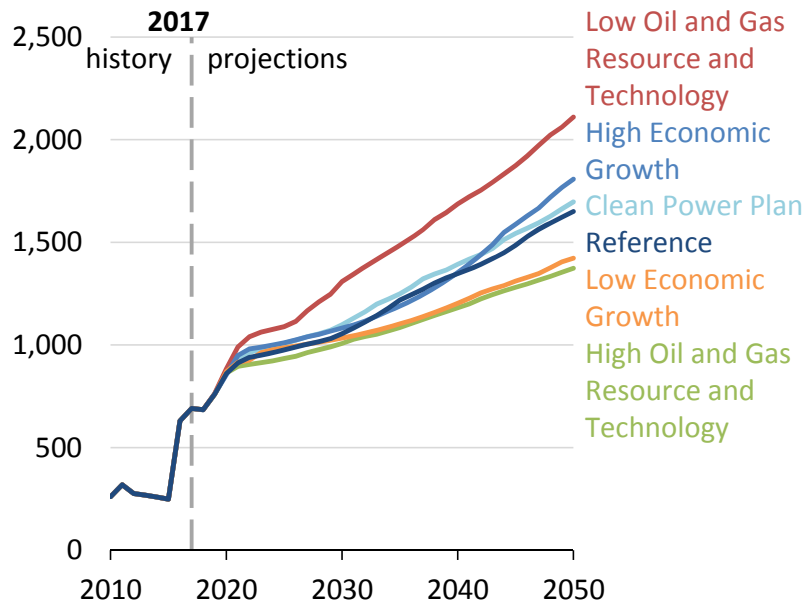
### Industry Estimates

- Shell 25 years
- BP 30 years
- Exxon 75 years
- International Energy Agency 35 years

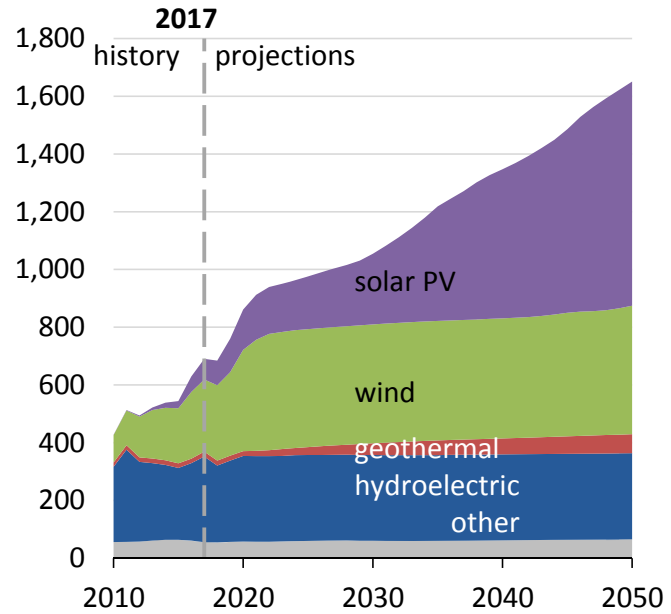


# Generation from renewable sources

**Total renewables generation, including end-use generation**  
billion kilowatthours

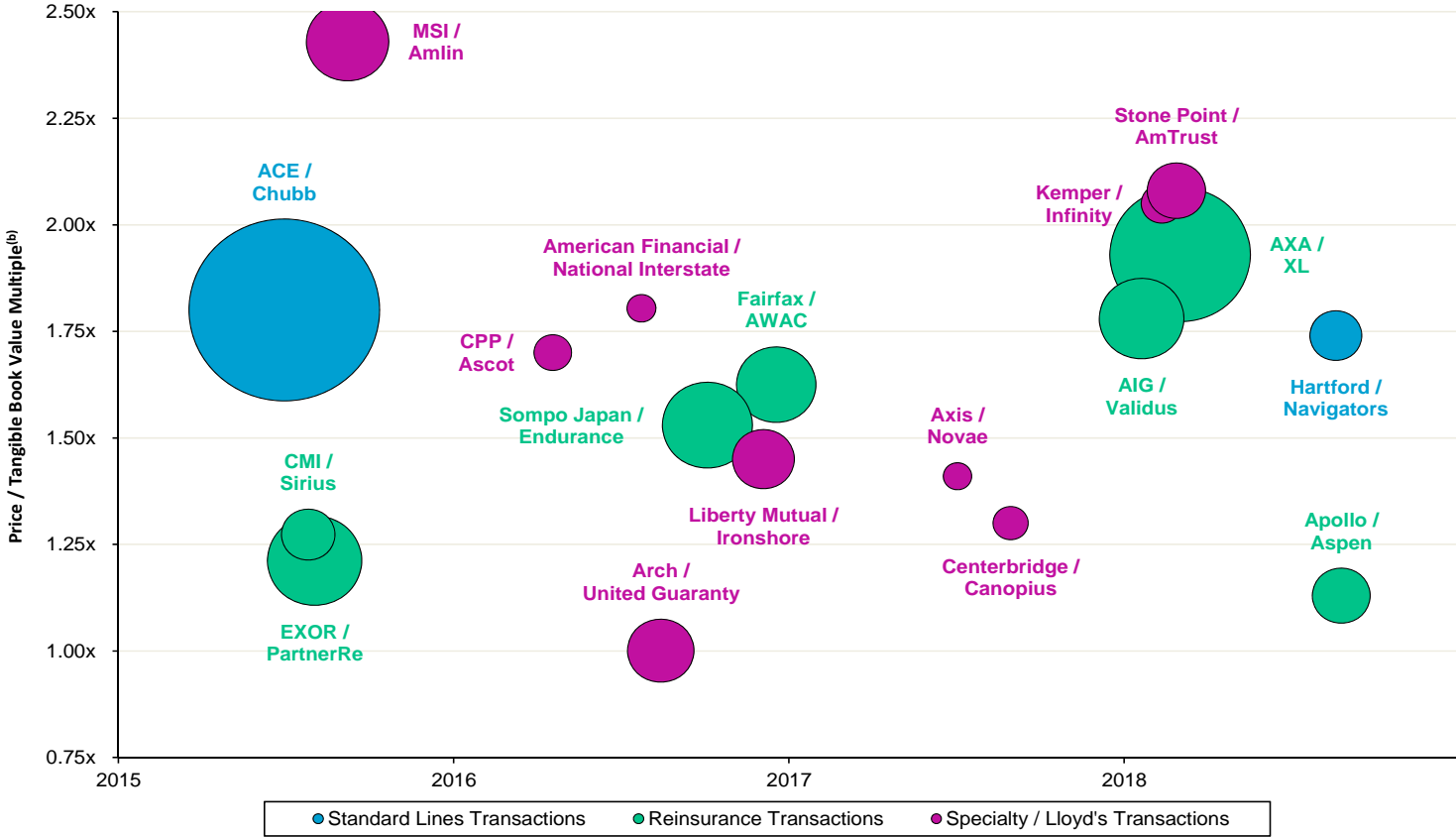


**Renewable electricity generation, including end-use generation (Reference case)**  
billion kilowatthours



# Insurance Market - (Re)insurance M&A Transaction

P&C and reinsurance deals with total consideration of \$500+ million since 1/1/2015<sup>(a)</sup>

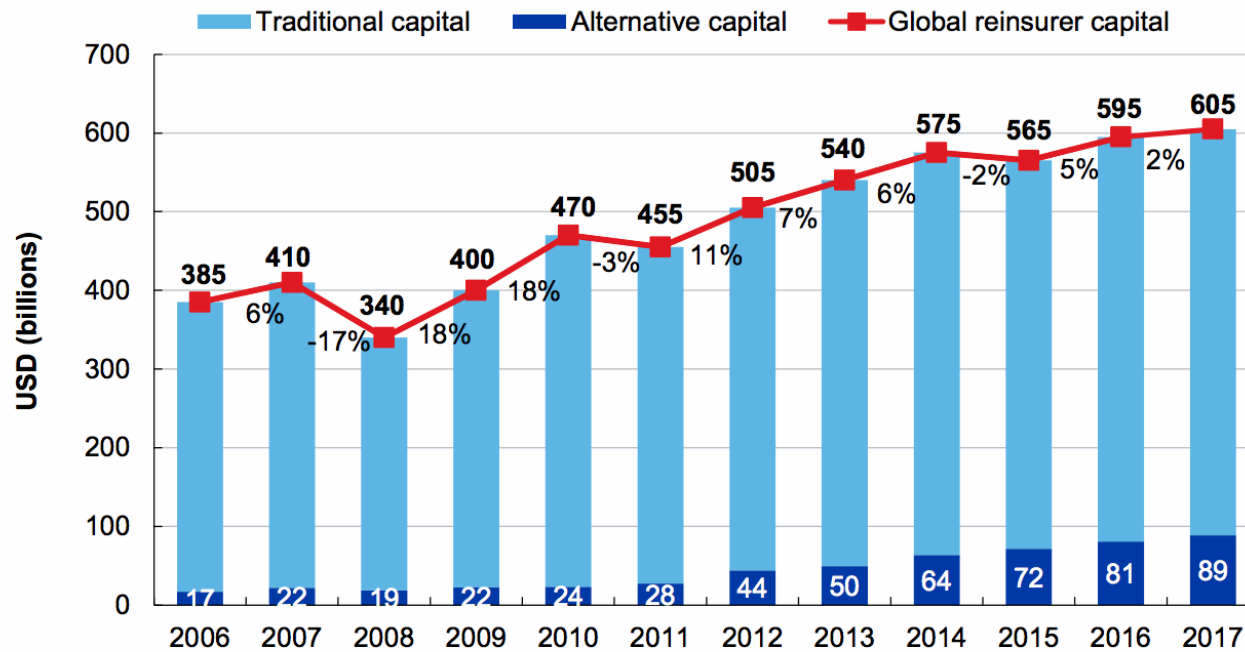


Notes: Includes deal announced by 08/31/2018. Buyer is mentioned first, seller second.  
 Source: S&P Capital IQ, Willis Towers Watson M&A Transaction Database.  
 (a) Markel / State National not included in the chart. Deal value of \$929 million and Price / TBV of 3.03x.  
 (b) Price to Book Value number for the Hartford Navigator transaction.

## Global Reinsurer Capital

- Rise of ILS capital
- Post HIM, demonstrated its abilities as a viable long term alternative to traditional RI capacity
- Alternative capital makes up \$89bn of total reinsurance capital - 2017 (4% in 2006)

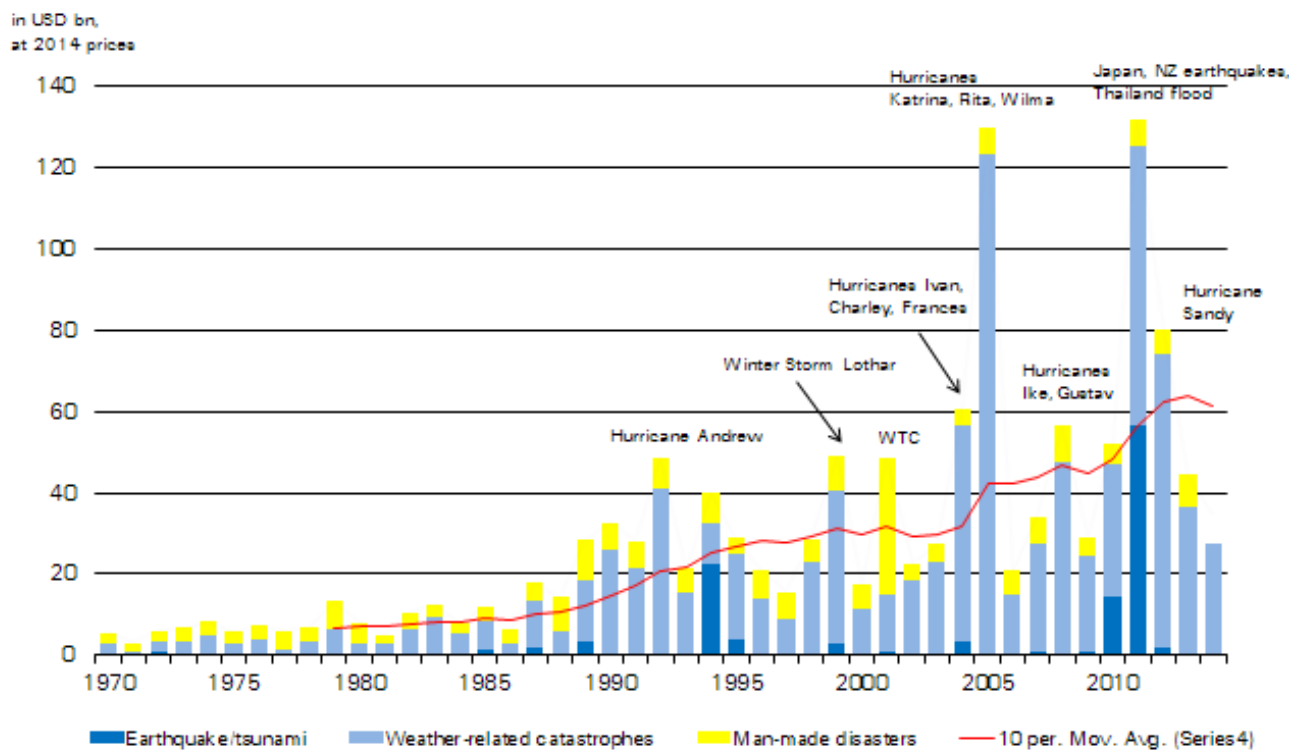
Exhibit 1: Change in global reinsurer capital



Sources: Company financial statements / Aon Benfield Analytics / Aon Securities Inc.



## Major Events Over Time

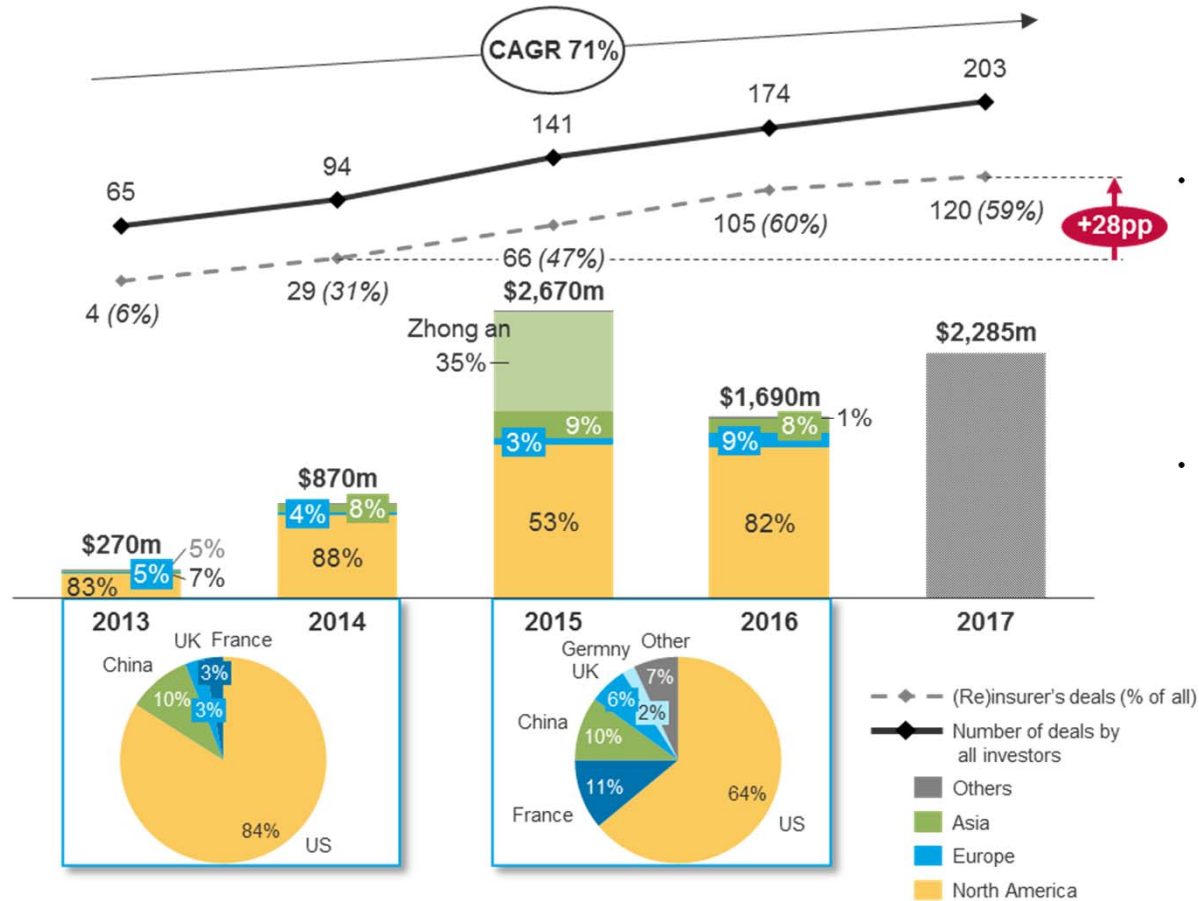


**2017** Harvey, Irma, Maria, California wild fires, Mexico earthquake **\$135bn insured loss**

**2018** YTD Florence, Typhoon Jebi, Hokkaido Earthquake, Typhoon Mangkhut

# Technology and Insurance

## Tech investment by targeted geographies by all investors & (Re)Insurers



- Digital revolution is threat to insurance industry
  - On Demand Insurance
  - Peer to peer insurance
  - Blockchain insurance
  - Amazon
- Internet of Things
  - Predictive analytics e.g GE Predix
  - Wearables

## What does it all mean?

Insurance market can take significant learning from the Energy Industry in managing change

***Be strategic, adapt quickly, be bold***

Client centricity

'Longer for longer' and 'New Norm' analogies and theories are invalid

An every changing risk profile with layers of added complexity requires proactivity and a shift away from price sensitivity

Continue to drive added value through data analytics

Traditional market cycles are no longer applicable

Be prepared to embrace potentially disruptive technologies

Always be the most ***relevant*** , fit for purpose, with a defined value proposition... there is choice

Focus on the product (wordings and coverage), learn from events and apply these learnings to our business

Thank You and Questions?

