



*Breakout session:*

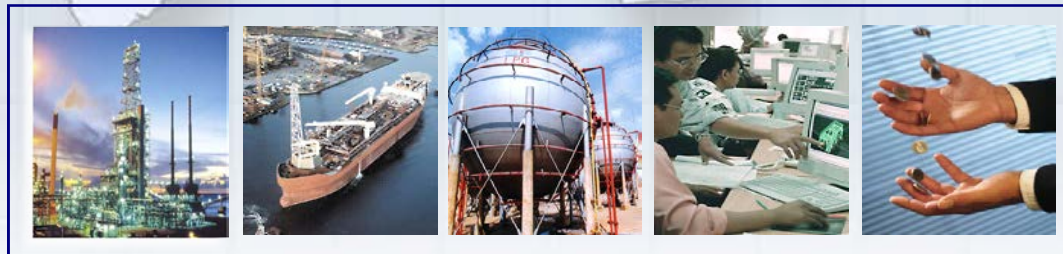
*LNG markets: Implications of a low energy price environment for demand and U.S. exports*

## **LNG: Long-Term Competitiveness in Asian Markets**

Keo Lukefahr

PetroChina International (America), Inc.

July 11, 2016





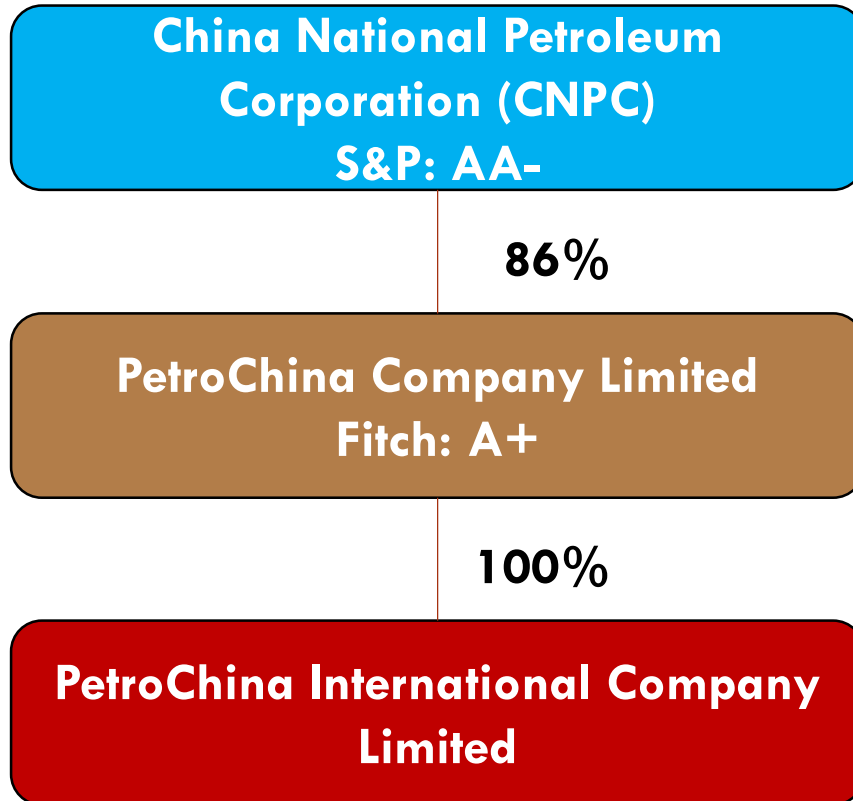
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# PetroChina Overview



- **China National Petroleum Corporation**
  - Largest of China's three fully state owned National Oil Companies
  - 4<sup>th</sup> Among Global 500 Companies
- **PetroChina Company Limited**
  - One of the world's leading integrated energy companies
  - Listed in Hong Kong, Shanghai & New York (PTR)
- **PetroChina International Company**
  - International commodity supply, trading and marketing arm & midstream and downstream investment vehicle





# Key Messages

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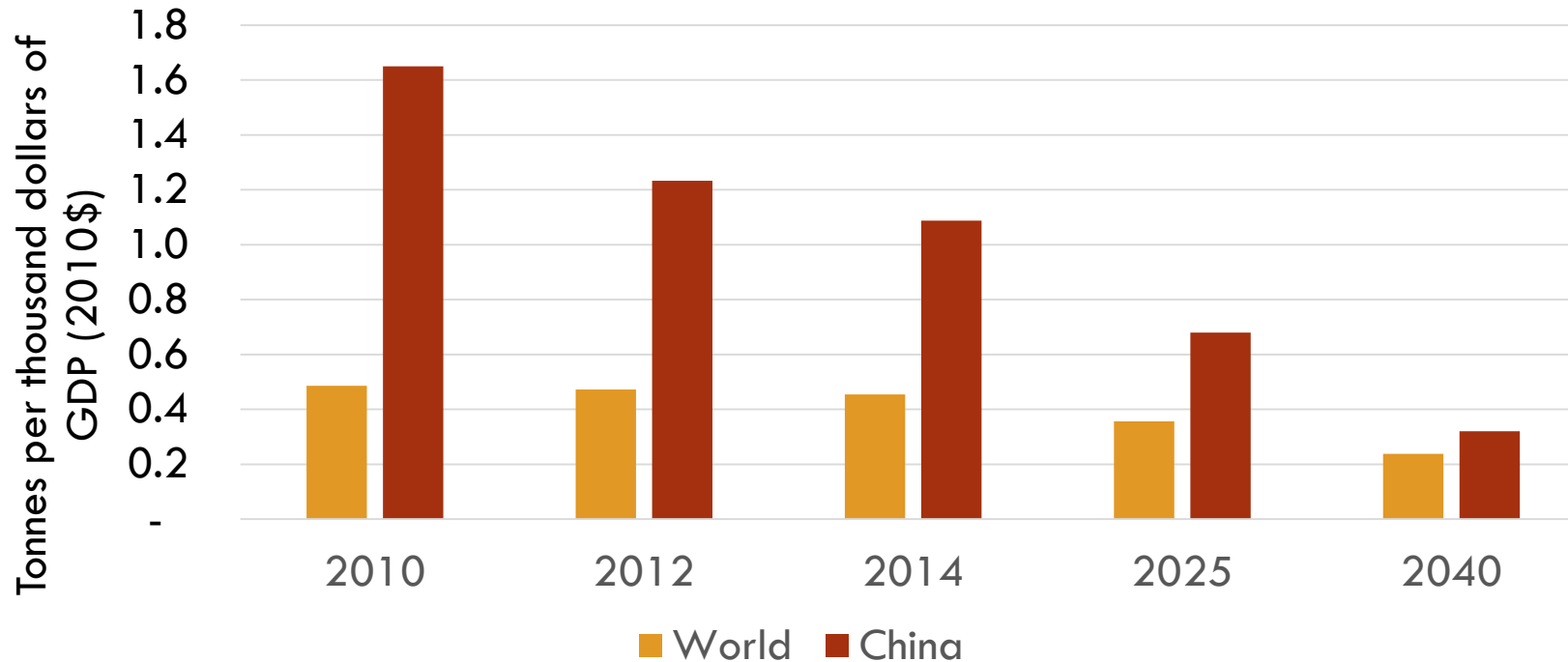
- While there is a portion of LNG demand that is purchased for the purpose of diversifying core energy supply (and has been contracted for under LTAs)...
- ...Most of new the LNG is a substitution fuel competing in the clean energy arena against alternatives
  - the alternatives are increasing in availability
  - while rapidly decreasing in cost
- The market has a surplus of expensive LNG
- Much of the surplus is underpinned by balance-sheet resellers rather than end-users
- The market potential for LNG continues to be vast but growth has very high price / quality elasticity
- Competitively priced LNG from high quality suppliers will find term off-takers among end-users



# There is a large and growing demand for lower carbon energy...



## Energy-Related CO2 Intensity



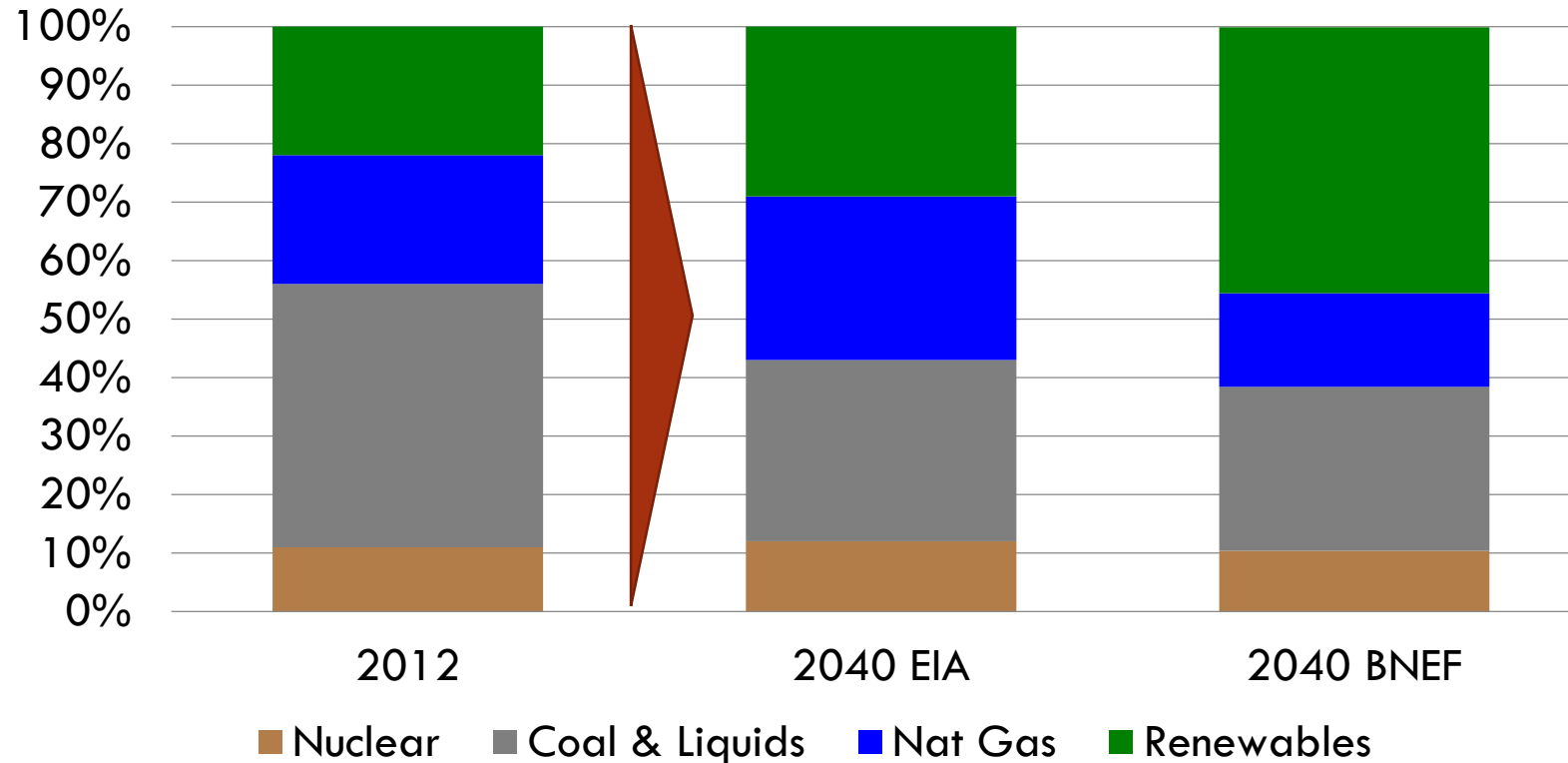
Source: ExxonMobil, "The Outlook for Energy: A View to 2040"





# ...But differing views on the role of natural gas

## 2040 Percent of Generation



Source: U.S. Energy Information Agency (EIA), Bloomberg New Energy Finance (BNEF)

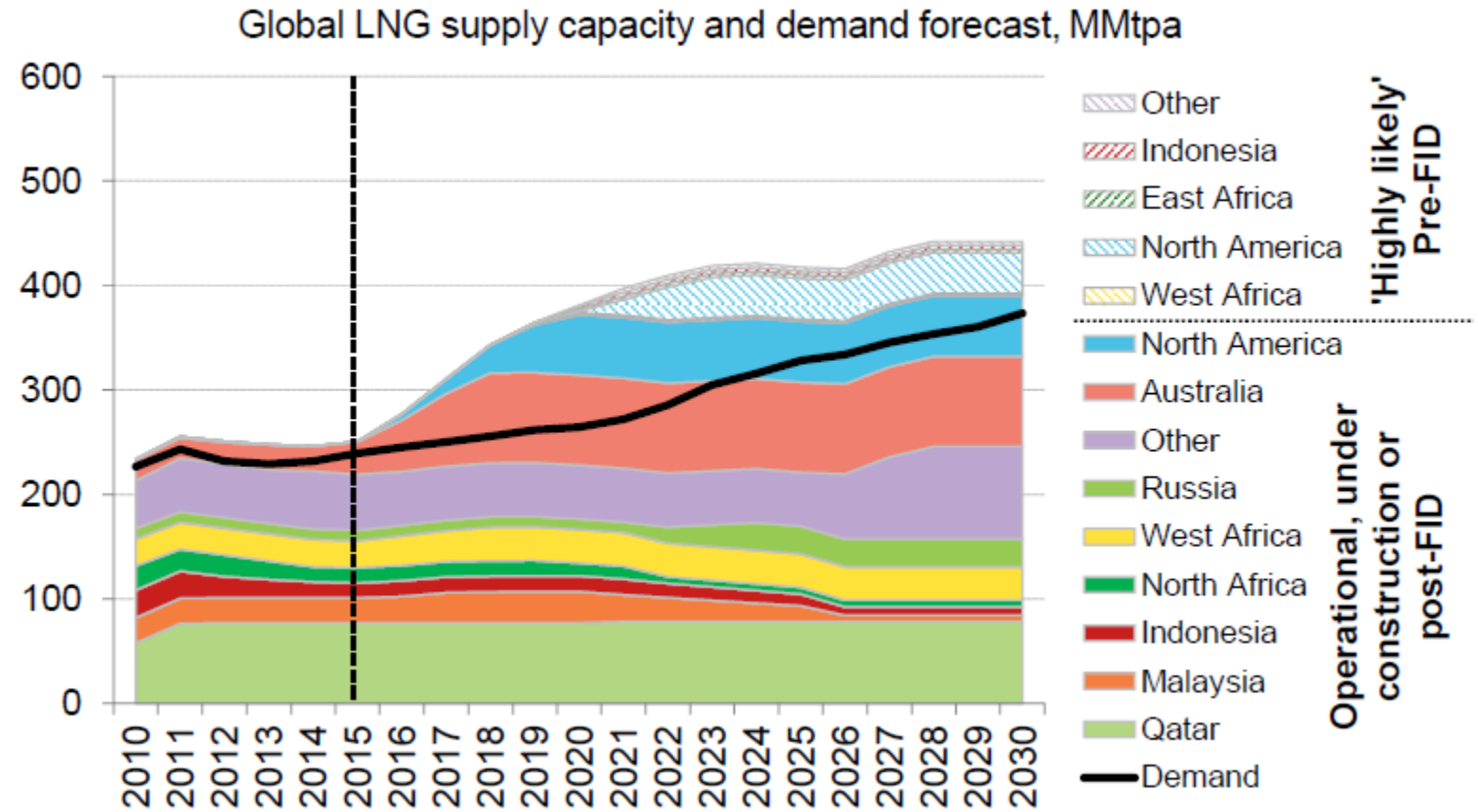
# LNG outlooks also vary with most projections showing a potential oversupply



Demand forecasts in 2030...

- Cheniere: ~500
- Inv. Banks: ~425
- BNEF: ~375

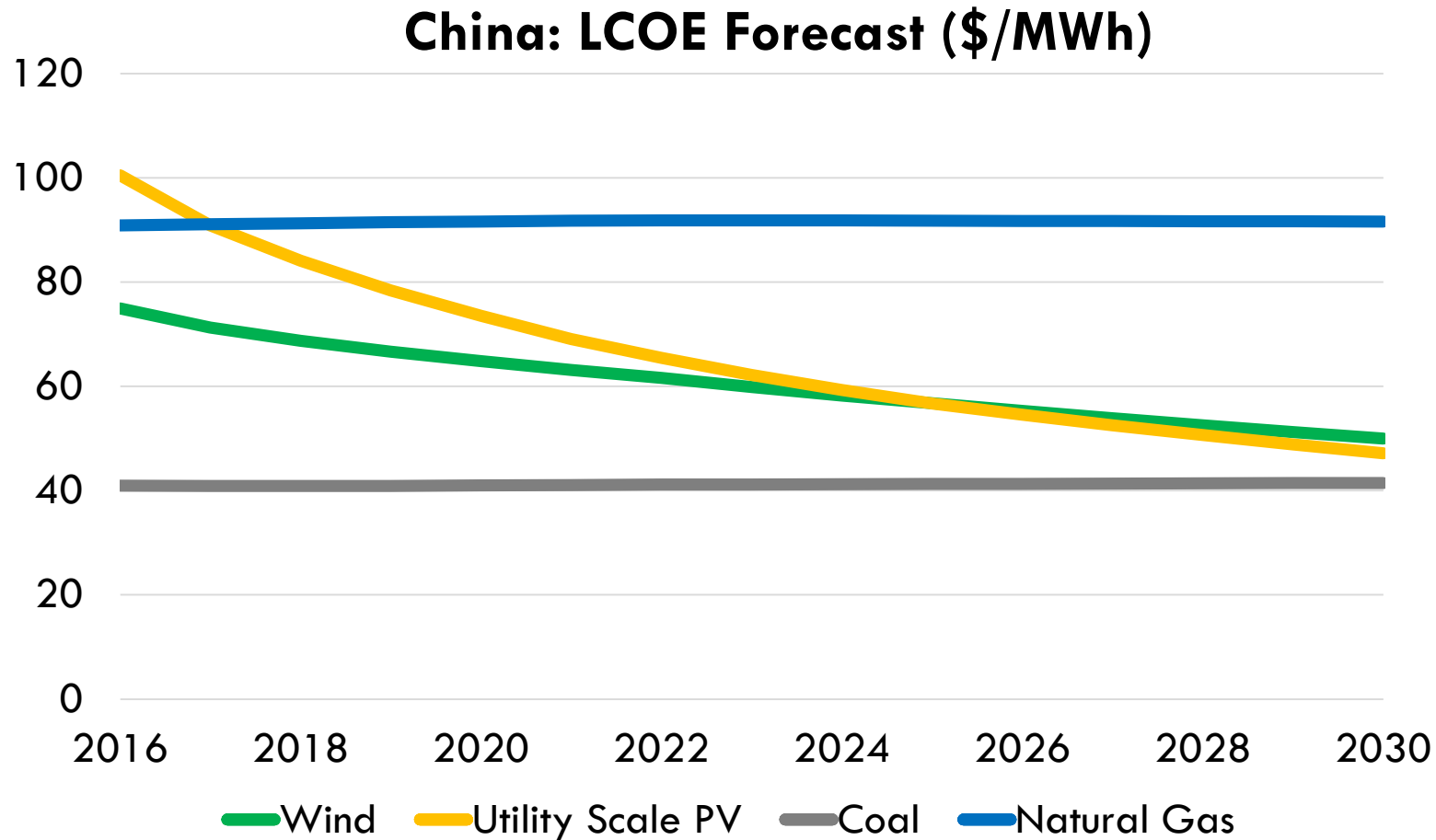
...Based on current projects (operational under construction, post-FID, and proposed) there is potential for oversupply of 100 to 200 MMtpa



Source: Bloomberg New Energy Finance (BNEF)



# LNG needs to be competitive with other low carbon generation options



Source: Bloomberg New Energy Finance (June 2016)







# What does it take for LNG to be competitive?

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- The industry continues to want to attach LNG to higher carbon energy and link its competitiveness to that or to an energy security premium
- Oil-linked pricing of LNG is an artifact of time when:
  - LNG was scarce
  - When gas production was largely oil-linked associated gas production
  - When there was significant amount of oil substitution in the demand pool
- There are 2 ways the LNG suppliers can guarantee that they are a significant part of the energy mix
  - Build an extremely competitive model with year on year price reductions that maintain competitiveness
  - Provide highly competitive rates today that can be locked in as part of the baseload energy mix



# Returning to the Key Messages

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