



How will LNG exports impact the US  
natural gas industry?

Gas/Electric Partnership Conference  
Thomas Shattuck  
February 8<sup>th</sup>, 2017

# Agenda

- Highlights and current events impacting the LNG industry
- Global liquefaction capacity 2011-2025
- US LNG export terminals under construction or completed
- US natural gas disposition by sector 2011-2025
- Futures outlook for global gas pricing
- International competitiveness of US natural gas prices
- Concluding thoughts on the evolution of US LNG business models

# 2016 was an inflection point in US LNG & global gas markets, with current oversupply expected through early 2020s



US natural gas production increased from 51 bcf/d to 74 bcf/d between 2005 and 2016<sup>1</sup> even as prices declined from \$8.70 per million btu down to only \$2.50<sup>2</sup>



US exported its first cargo from the L48 in February, and November was the first month in 60 years that the US was a net natural gas exporter<sup>3</sup>



Sabine pass is up and running, with five other projects under construction – and several others awaiting permitting and/or FID<sup>4</sup>

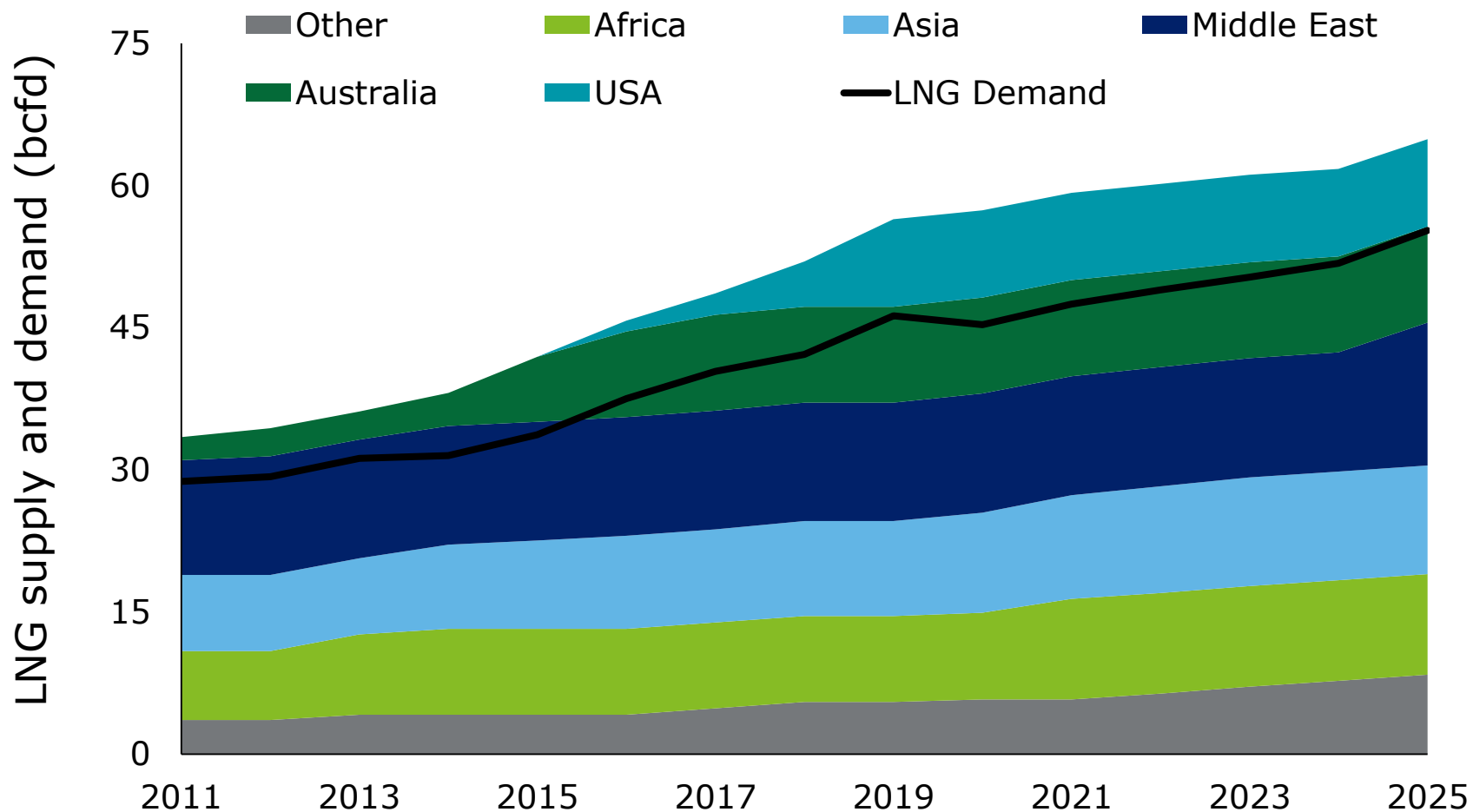


Excess liquefaction capacity and low oil prices have weighed on markets, with Japanese LNG import prices falling from \$18.30 per million btu peak in 2014 to a low of \$4.1 in 2016<sup>5</sup>



Despite recent low prices and supply overhang – long-term potential outweighs current volatility

# US LNG part of a global trend in increasing liquefaction capacity



Note: LNG supply cited are gross numbers, actual supply will be less due to maintenance, unplanned outages, etc.

Source: Deloitte MarketPoint analysis<sup>6</sup>

# Currently six US projects exporting or under construction

## Cheniere, Corpus Christi

Corpus Christi, TX
<b>Capacity:</b> 2.1 Bcf/d
<b>Est start:</b> 2020

## Freeport LNG

Freeport, TX
<b>Initial capacity:</b> 1.40 Bcf/d
<b>Est start:</b> 2018

## Cheniere, Sabine Pass

Sabine Pass, TX
<b>Initial capacity:</b> 2.1 Bcf/d
<b>Start:</b> 2016

## Dominion, Cove Point

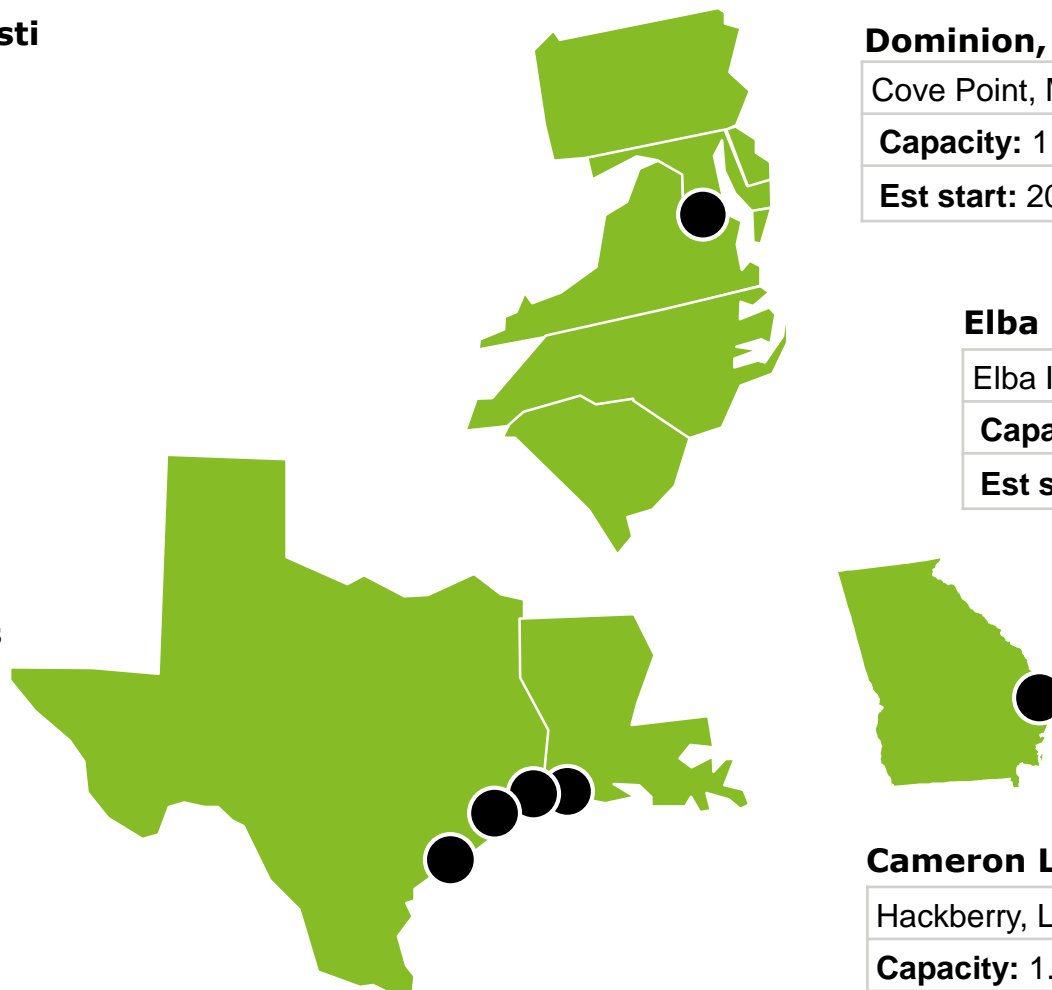
Cove Point, MD
<b>Capacity:</b> 1 Bcf/d
<b>Est start:</b> 2017

## Elba Island

Elba Island, GA
<b>Capacity:</b> 0.2 Bcf/d
<b>Est start:</b> 2018

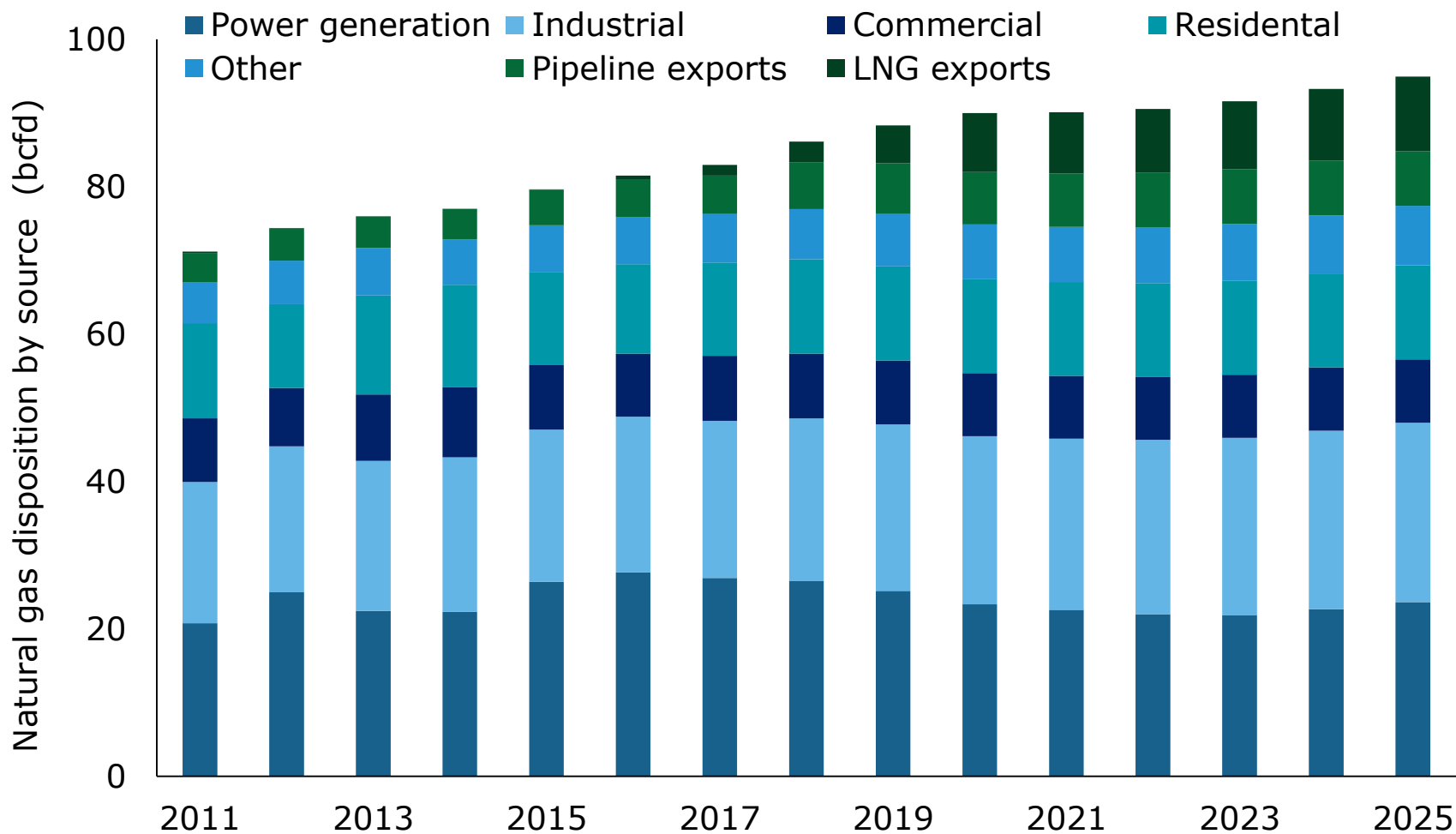
## Cameron LNG

Hackberry, LA
<b>Capacity:</b> 1.7 Bcf/d
<b>Est start:</b> 2018



Source: Deloitte analysis, FERC<sup>7</sup>

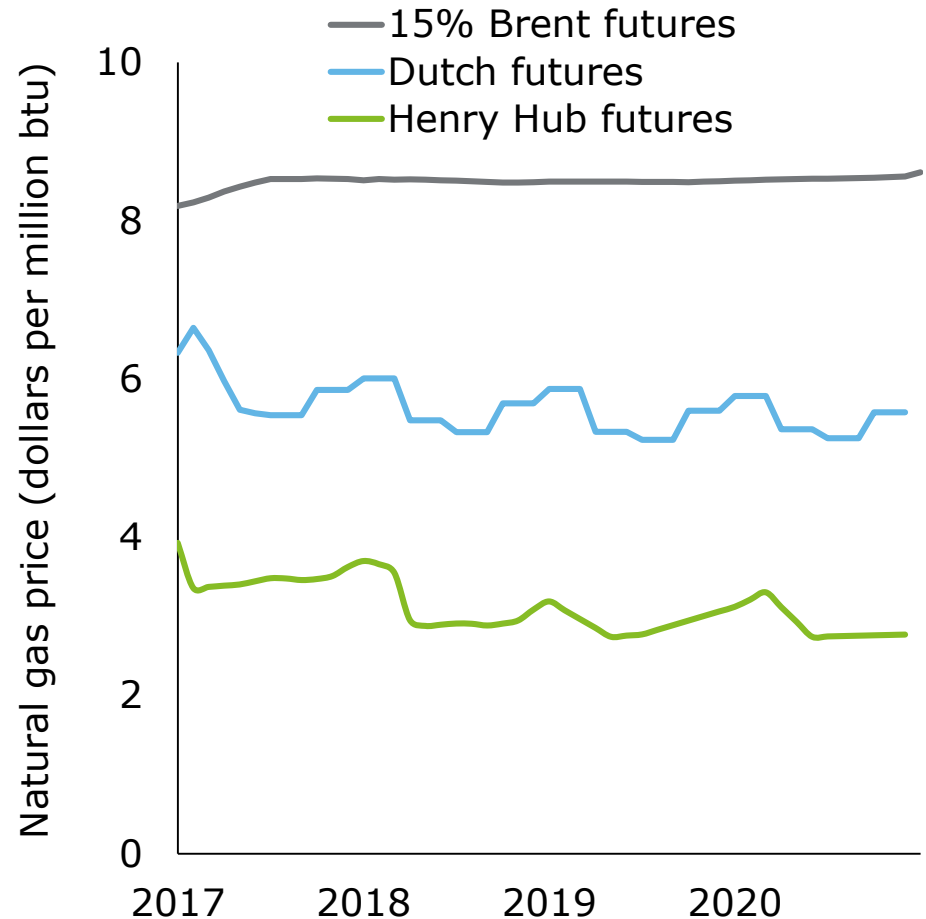
# EIA projects LNG exports grow 35% p.a. between 2016 & 2025



Source: Deloitte analysis, US Energy Information Administration<sup>8, 9</sup>

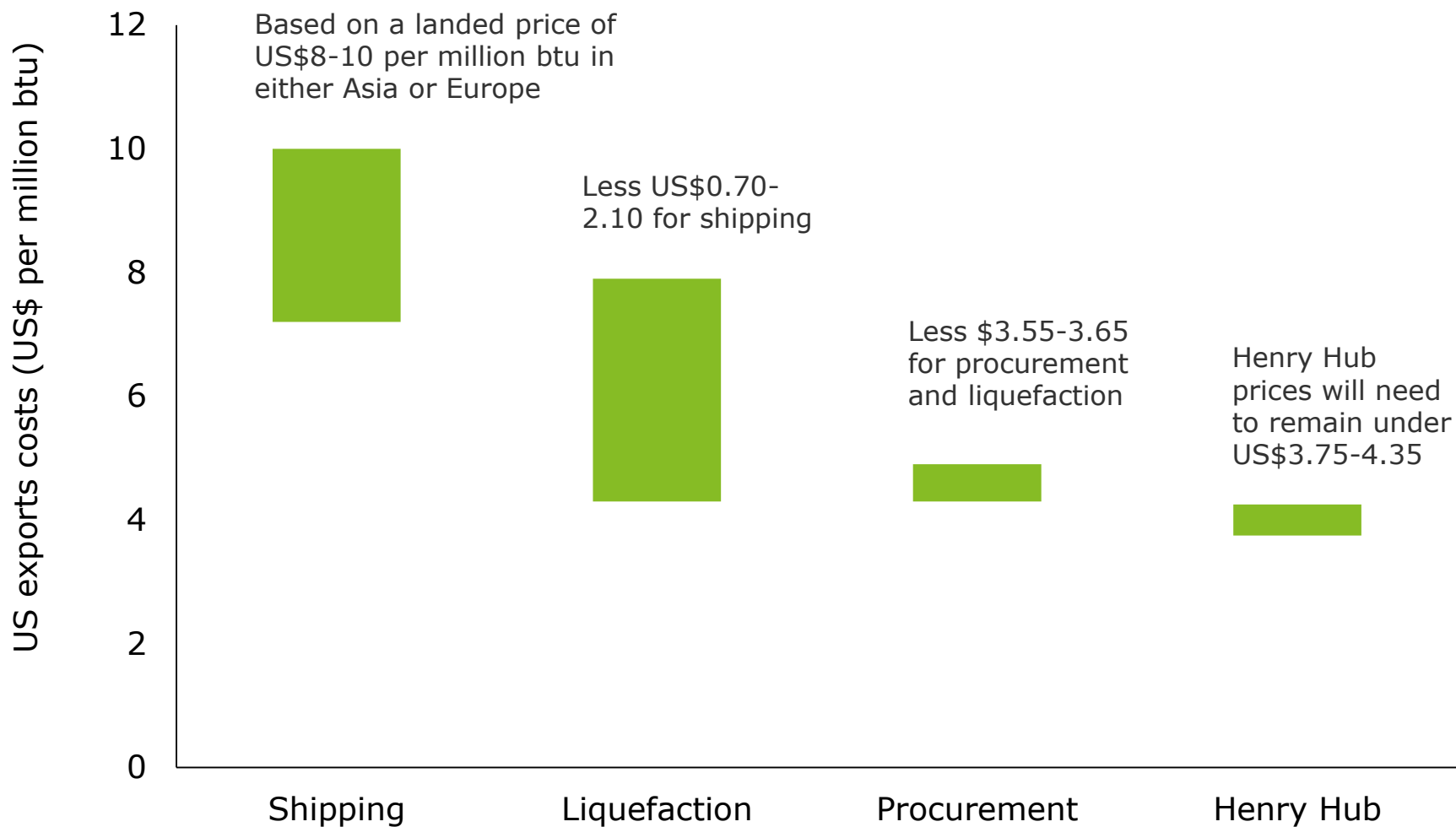
# Futures market pricing for global gas prices is not converging

- Viability of long-term natural gas exports will depend on domestic supply costs and global gas prices
- Majority of global LNG contracts still indexed to oil prices (e.g. Brent or JCC) with varying percent linkages
- Futures market indicates US LNG is competitive price-wise but ongoing low spot prices in Europe and Asia challenge profitability
- Sanctioning new plants will likely require higher global demand, higher oil prices – or better yet, both



Source: Deloitte analysis, CME Group <sup>10</sup>

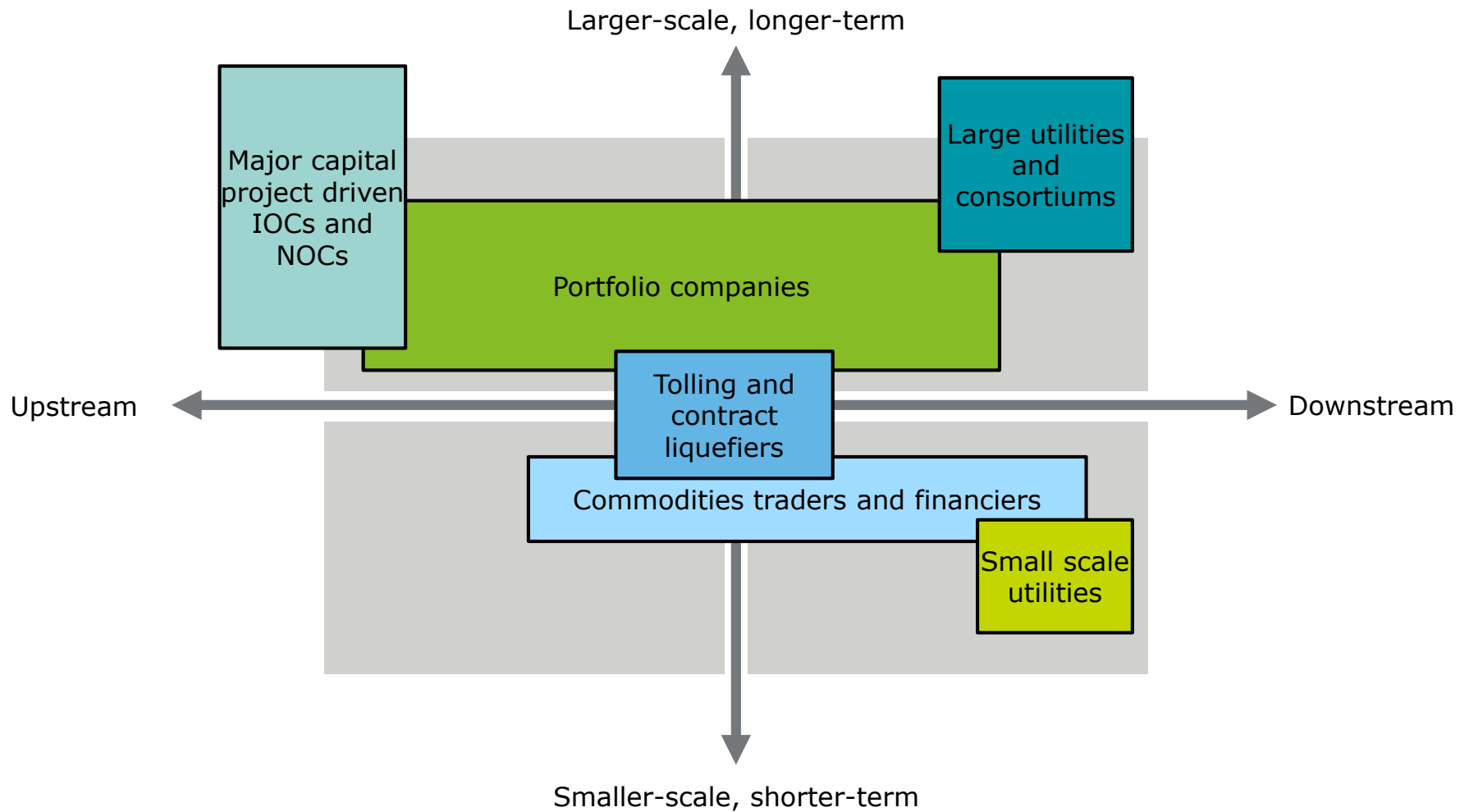
# US gas prices will likely be competitive with indexed contracts



Source: Deloitte analysis<sup>11</sup>



# US exports will play key role in driving future market flexibility



Source: Deloitte analysis<sup>12</sup>

# Questions?

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- <sup>5</sup> Historical Japanese spot LNG prices, Japanese Ministry of Economy, Trade and Industry, <http://www.meti.go.jp/english/statistics/sho/slmg/>, accessed January 25 2017.
- <sup>6</sup> Global liquefaction capacity projections, Deloitte MarketPoint, 2016 reference case.
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- <sup>8</sup> 2017 Annual Energy Outlook, US Energy Information Administration, January 5 2017, <http://www.eia.gov/outlooks/aeo/>, accessed January 24 2017.
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