

## **NARUC LNG White Paper and Communications Plan: Progress Report**



**NARUC Mid Year Conference**

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## Outline

- Review of the Objectives
- Progress to Date
- LNG Economics

# Objectives of the Assignment

- ICF was engaged on two interconnected, parallel projects
  - LNG White Paper to focus on LNG terminal siting, operations, and economics as these are relevant to state regulatory commissioners and decision makers
  - LNG Communications Plan for States that shows the necessary elements for appropriate and responsible public engagement and suggests a model approach to communication
- Principal focus is to provide sound, unbiased information to help state officials evaluate LNG project proposals

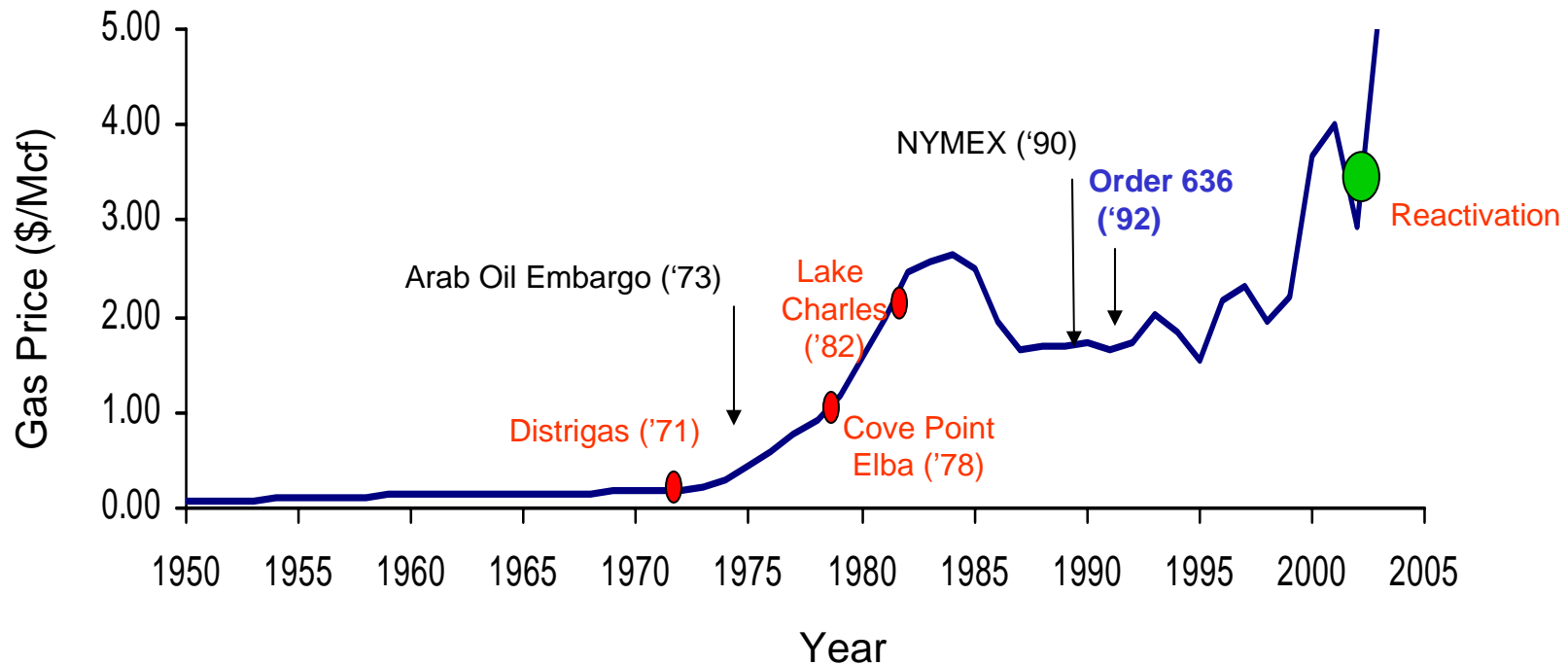
# White Paper Status

- Outline was completed and reviewed by NARUC in June
- Substantial research completed
- Drafting of sections is underway
- Key sections
  - National policy context
  - LNG economics, value chain, pricing
  - Terminal siting and operations -- safety and security issues
  - Terminal siting and operations – environmental issues
  - Regional issues

# Communications Plan Status

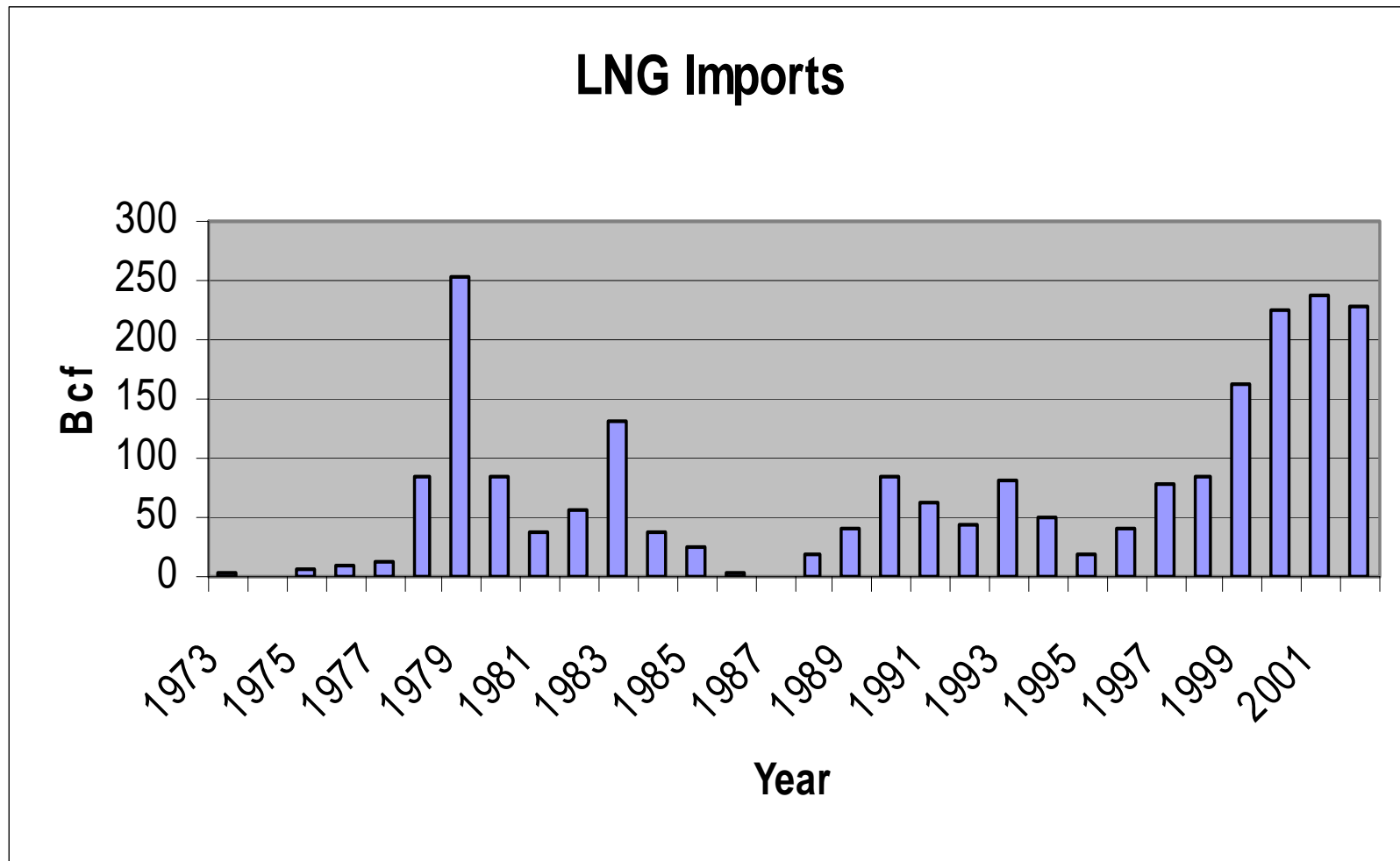
- Plan is based on 15 interviews (8 completed)
  - Developers: Cheniere LNG, Dominion Cove Point LNG, Weaver's Cove Energy
  - Public Officials: Gov. Kathleen Blanco, Rep. Ed Markey, Mayor Edward Lambert (Fall River), Mayor Peter La Valee (Eureka), Selectman Gordon Weil (Harpswell), Councilwoman Tonia Urganda (Long Beach)
  - Public Interest: Yes! For Harpswell's Future, Fair Play, Sierra Club (DE), Conservation Law Foundation, Mobile BayKeeper
- Develop case studies on communications
  - Draw on FERC's "Ideas for Better Stakeholder Involvement In the Interstate Natural Gas Pipeline Planning Pre-Filing Process"

# The Economics of LNG has Depended on Gas Prices and Regulatory Treatment



Source: EIA Historical Natural Gas Annual 1930 Through 2002.  
ICF estimate for 2003.

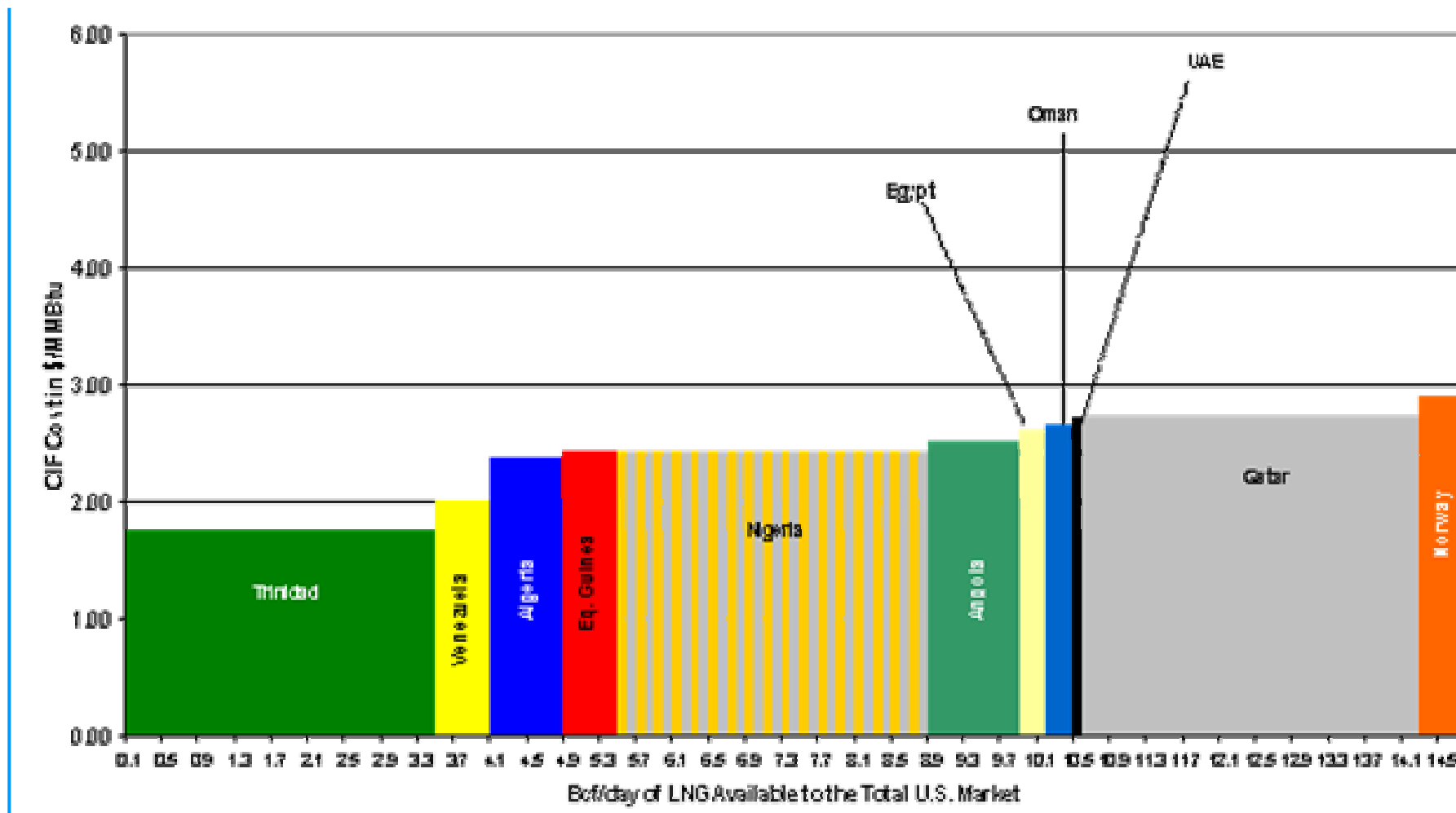
## Imports have Recovered



## LNG Today: What is Different?

- Stranded gas in large quantities around the world
  - Large gas finds have no local markets
  - Qatar, Nigeria, Trinidad-Tobago, Bolivia, Saudi Arabia
- Lower LNG costs from improved liquefaction, storage, shipping
  - Economies of scale
  - Competition among engineering firms, ship builders
  - Better processes
- Strong gas demand in U.S. and world-wide making LNG investments attractive
- Higher cost of producing gas in the U.S.
- Bottom line: LNG is a competitive supply source for North American markets

# Potential Supply of LNG by 2010



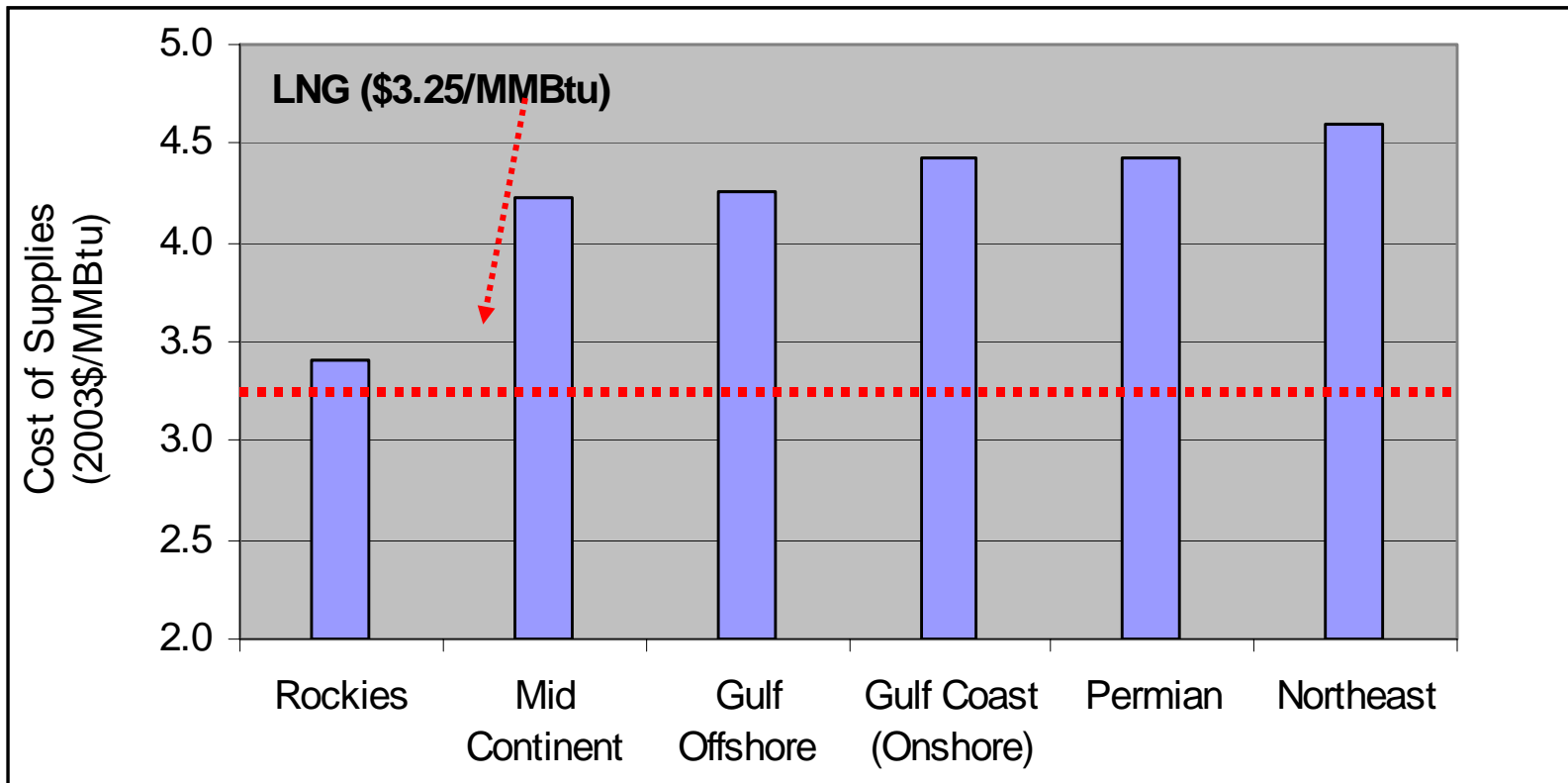
## LNG Costs are Heavily Weighted Upstream

			
EXPLORATION & PRODUCTION \$0.5-\$1.0/MMBtu	LIQUEFACTION \$0.8 - \$1.20/MMBtu	SHIPPING \$0.4 - \$1.0/MMBtu	REGASIFICATION & STORAGE \$0.3-\$0.5/MMBtu

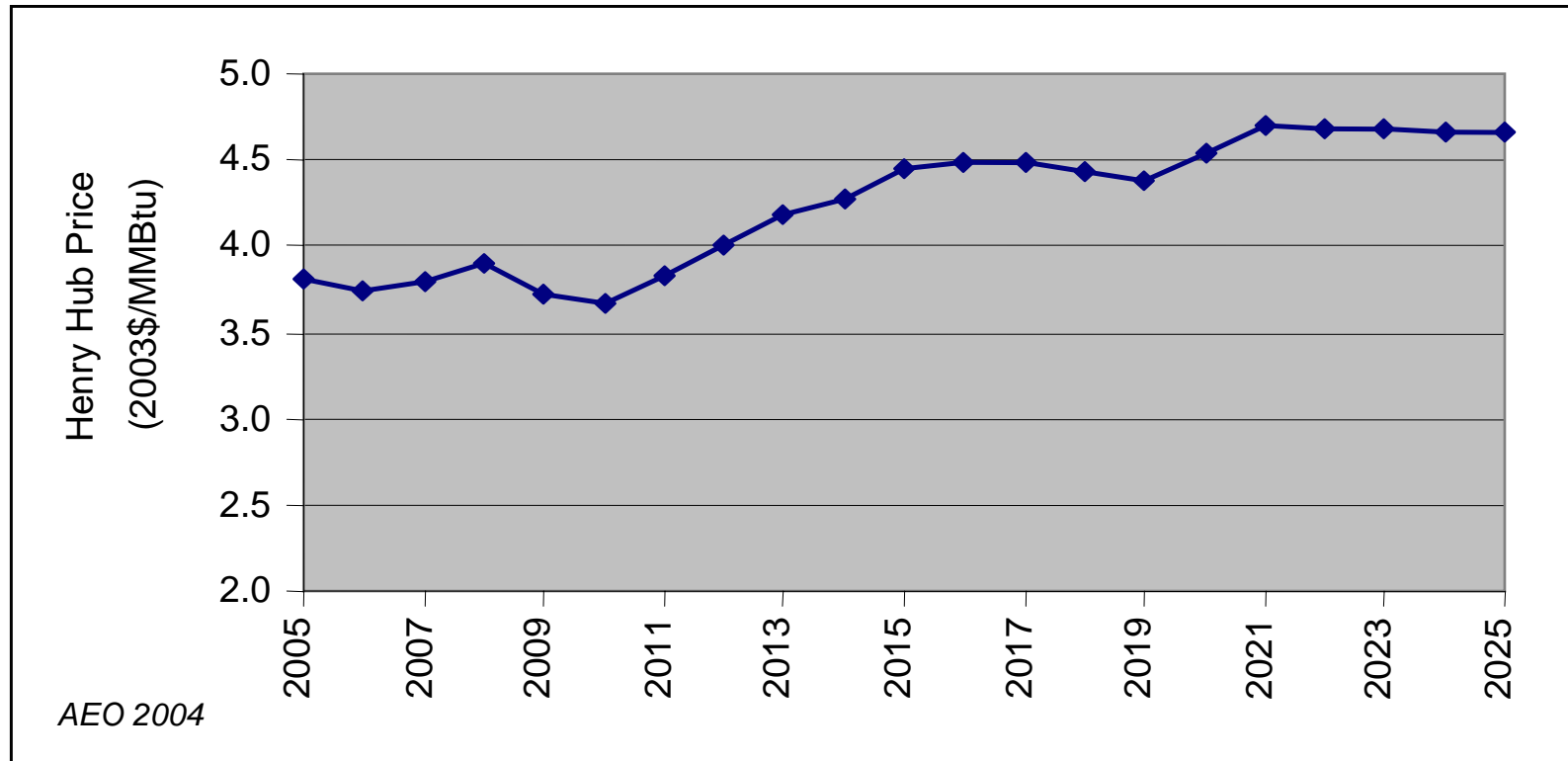
- Delivered U.S. cost is \$2.00 to \$3.70 per MMBtu
- Only 15% of the costs are in the import terminal

Source: U of Houston, Institute for Energy Law & Enterprise

# LNG has Become a Low Cost Source of Supply



## EIA's Gas Price Forecast Supports LNG



- EIA's AEO forecasts an average Henry Hub price of \$4.24/MMBtu (in 2003\$) for 2005-2025

## Effects of LNG on Gas Markets

- General
  - LNG will lower gas prices everywhere
- Locational
  - LNG can provide supply in markets where the cost of pipeline supply is high
  - LNG can de-bottleneck the pipeline system
  - LNG can reduce basis spreads
- Contractual
  - LNG suppliers or intermediaries marketing LNG are in a better position to meet market need for price certainty

## Barriers to LNG

- Siting of LNG terminals
- Political risk in the U.S.
- Contract terms
- Financing
- Upstream investments in the absence of certainty of markets



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