

E-Gas™ Technology 2014 Outlook

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Washington D.C.



- CB&I (NYSE: CBI) is the most complete energy infrastructure focused company in the world and a major provider of government services.
- 125 years of experience and expertise in reliable solutions
- About 55,000 employees worldwide
- Market Cap \$8.8 Billion (June 2014)
- \$31.5 Billion Backlog (July 2014)
- Focus on safety: 0.03 LTIR in 1Q2014



This presentation contains forward-looking statements regarding CB&I and represents our expectations and beliefs concerning future events. These forward-looking statements are intended to be covered by the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Forward-looking statements involve known and unknown risks and uncertainties. When considering any statements that are predictive in nature, depend upon or refer to future events or conditions, or use or contain words, terms, phrases, or expressions such as “achieve”, “forecast”, “plan”, “propose”, “strategy”, “envision”, “hope”, “will”, “continue”, “potential”, “expect”, “believe”, “anticipate”, “project”, “estimate”, “predict”, “intend”, “should”, “could”, “may”, “might”, or similar forward-looking statements, we refer you to the cautionary statements concerning risk factors and “Forward-Looking Statements” described under “Risk Factors” in Item 1A of our Annual Report filed on Form 10-K filed with the SEC for the year ended December 31, 2013, and any updates to those risk factors or “Forward-Looking Statements” included in our subsequent Quarterly Reports on Form 10-Q filed with the SEC, which cautionary statements are incorporated herein by reference.



Refining

- Alkylation
- Ethers
- Fluid catalytic cracking
- Gasoline desulfurization
- Delayed coking
- **Gasification**
- Hydrocracking
- Hydrotreating
- Lube dewaxing/finishing
- Resid upgrading
- Visbreaking



Gas Processing

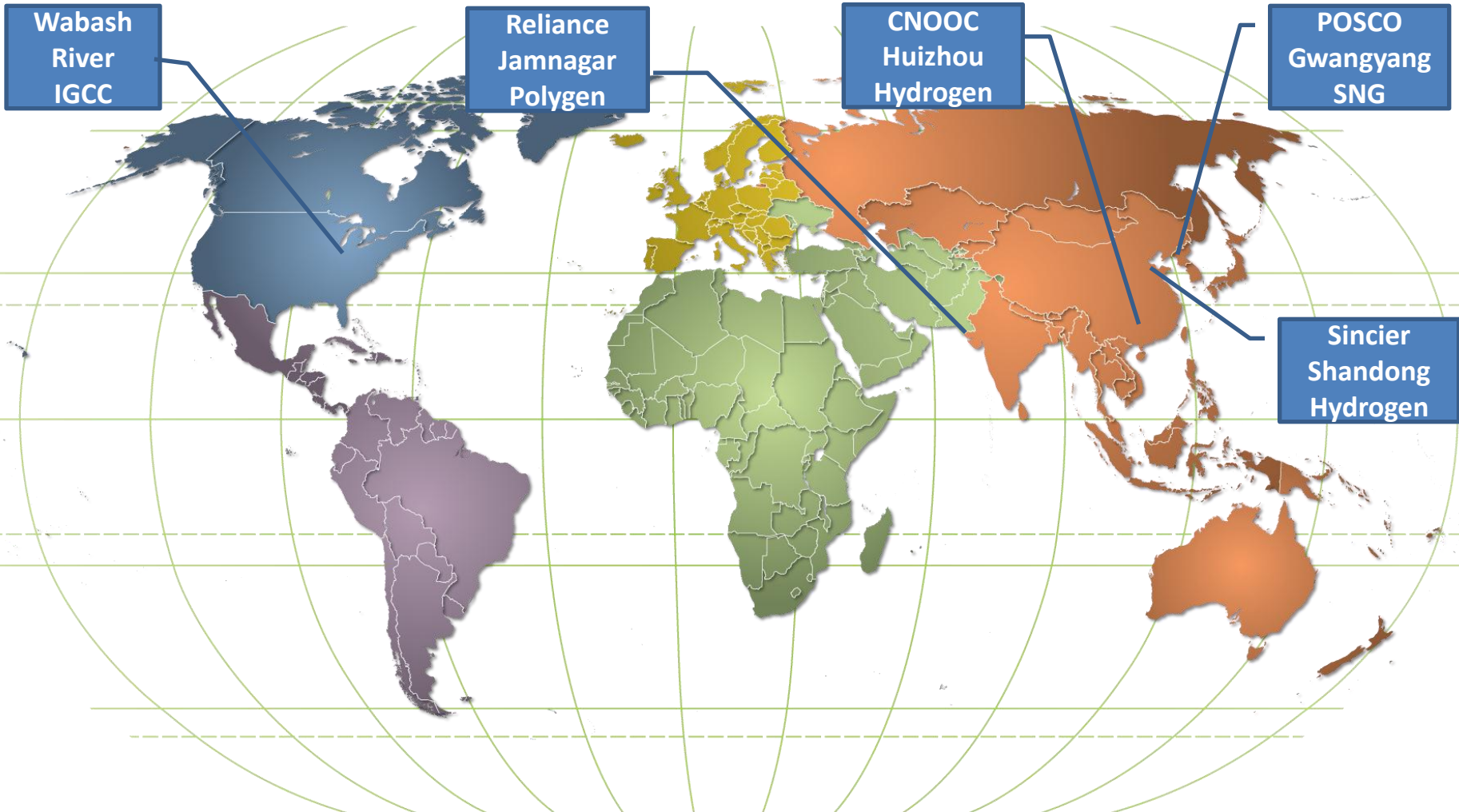
- Cryogenic gas processing
- NGL fractionation
- CO₂/N₂ recovery
- LNG
- H₂ recovery
- Sulfur recovery



Petrochemical

- Ethylene
- Propylene
- Methanol to olefins
- Ethylbenzene
- Styrene
- Butadiene extraction
- C₄ processing
- p-Xylene
- Cumene
- Phenol
- Dimethyl carbonate
- Diphenyl carbonate
- Maleic anhydride
- Polypropylene

- Four projects with a total of 19 gasification trains under license since 2010. Collective new capacity is over 3.5 million NM³/hr (H₂ + CO + CH₄)
- Two projects in construction for 2015 start-up, with procurement through the E-Gas network complete and in fabrication
- One project in design with procurement progressing, a second midway through the process design package
- Expanded business development team, new offices in The Woodlands, Texas



Project	Owner	Start-Up	Feedstock	Trains	Syngas Use
Wabash	SG Solutions	1995	Bit Coal, Petcoke	1	Power
Gwangyang	POSCO	2015	Sub-Bit Coal	2+1	SNG
Jamnagar	Reliance Industries	2015	Petcoke, Petcoke & Sub-Bit coal blend	10+0	Power, Hydrogen, SNG
Huizhou	CNOOC	2016	Bit Coal	2+1	Hydrogen, Acetic Acid
Shandong	Sincier	2017	Coal and Liquid Pitch	2+1	Hydrogen, Power

- **Integrated Gasification Combined Cycle Project, 262 MWe**
- **135,000 NM³/hr H₂ + CO + CH₄ from a single gasification train**
- **Bituminous Coal 1995-2000; Petcoke 2000-2014**
- **Operations Management services by CB&I**



- **500,000 MTPY Substitute Natural Gas Production**
- **Sub-Bituminous Coal**
- **288,000 NM³/hr H₂ + CO + CH₄ from a 2+1 configuration**
- **Training complete and Commissioning Team Scheduled**
- **2015 Start-Up**

The POSCO logo is displayed in a white rectangular box. It consists of the word "posco" in a lowercase, blue, sans-serif font.

- **Syngas for Power Generation, Chemicals and Hydrogen**
- **Petcoke**
- **2,720,000 NM³/hr H₂ + CO + CH₄ from 10 gasifiers**
- **Training completed, Commissioning Team in Preparation**
- **2015 Start-Up**
- **One of four CB&I technologies licensed to this project**



- **Hydrogen for Refinery Expansion and Chemicals Production**
- **Bituminous Coal**
- **288,000 NM³/hr H₂ + CO from a 2+1 configuration**
- **Process Design Package complete and procurement started**
- **2016 Start-Up**
- **One of four CB&I technologies licensed to this project**



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Hydrogen for Refinery Expansion

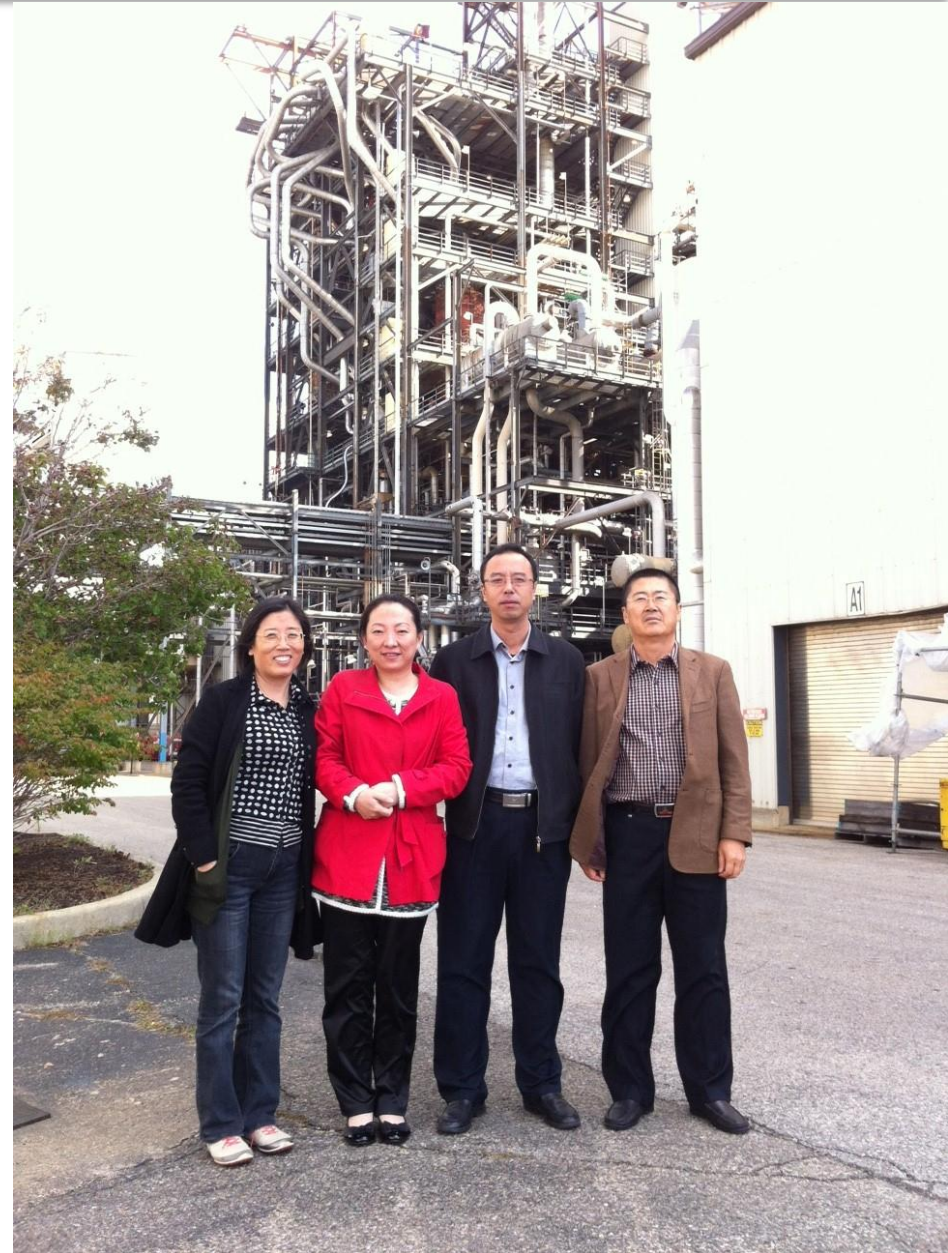
- 230,000 NM³/hr H₂ + CO
- 2+1 Configuration

Awarded September 2014

- Start-Up 2017
- One of seven CB&I licenses to Sincier

E-GasPlus™ Configuration

- Bituminous Coal or
- Liquid/Solid Pitch blended with coal

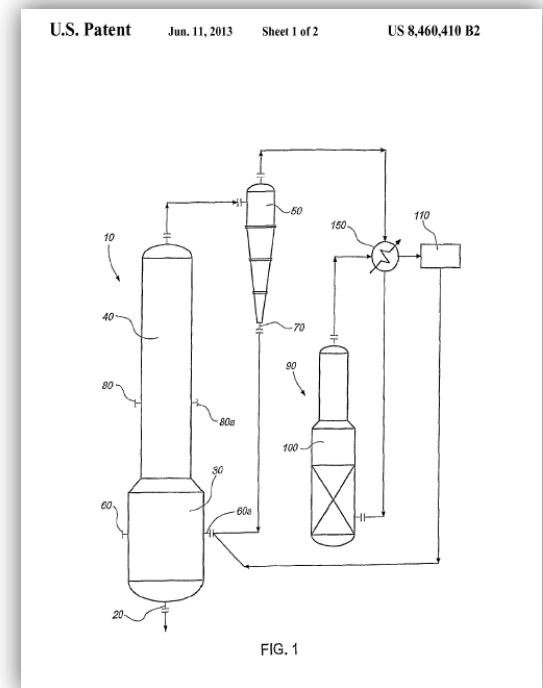


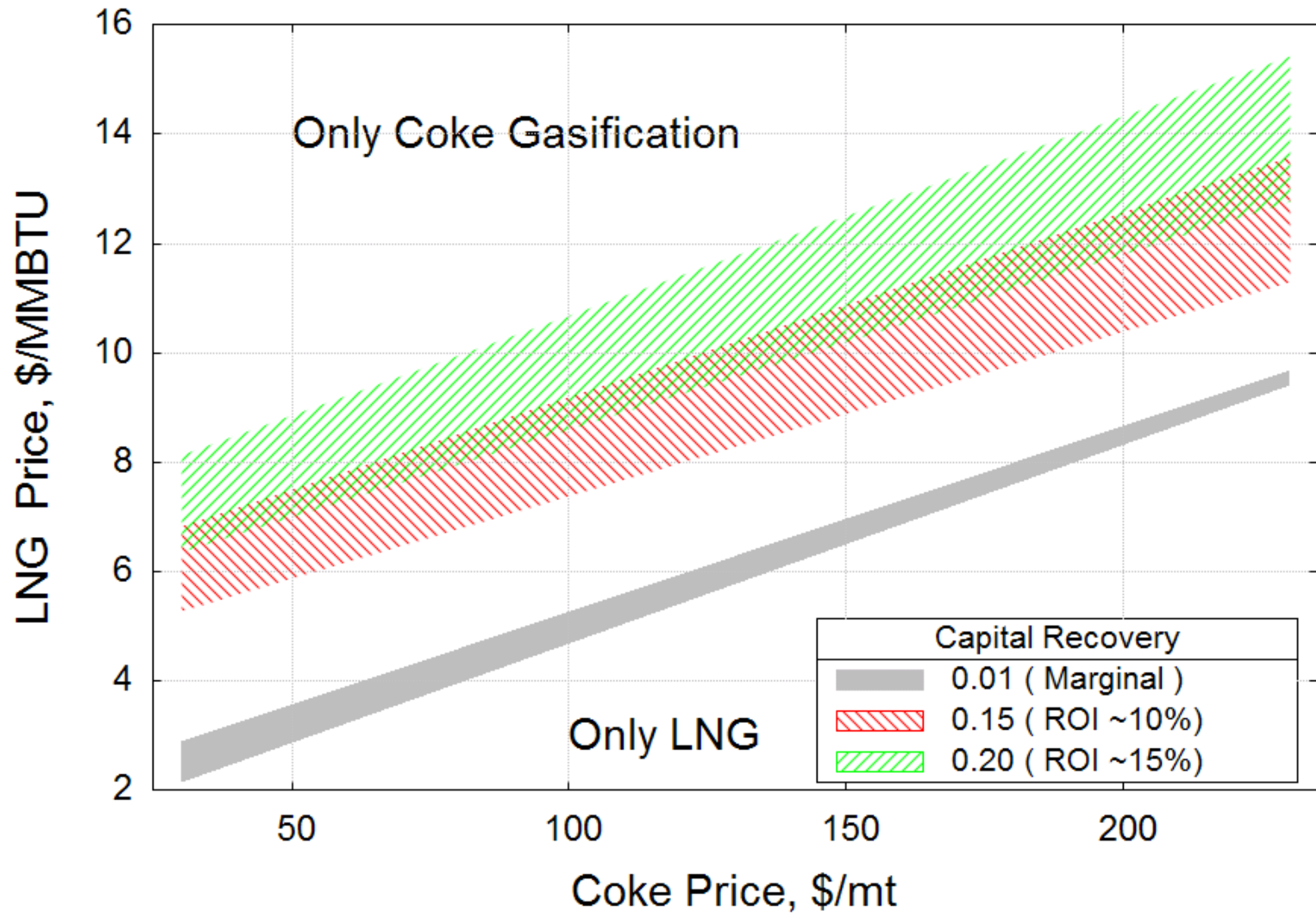
- The E-Gas equipment network provides licensees access to a network of proven international suppliers for certain unique pieces of equipment
- Multiple supply chains supports a competitive market for all included components
- In China, CB&I has committed to in-country fabrication for all key components by the end of 2015, where available



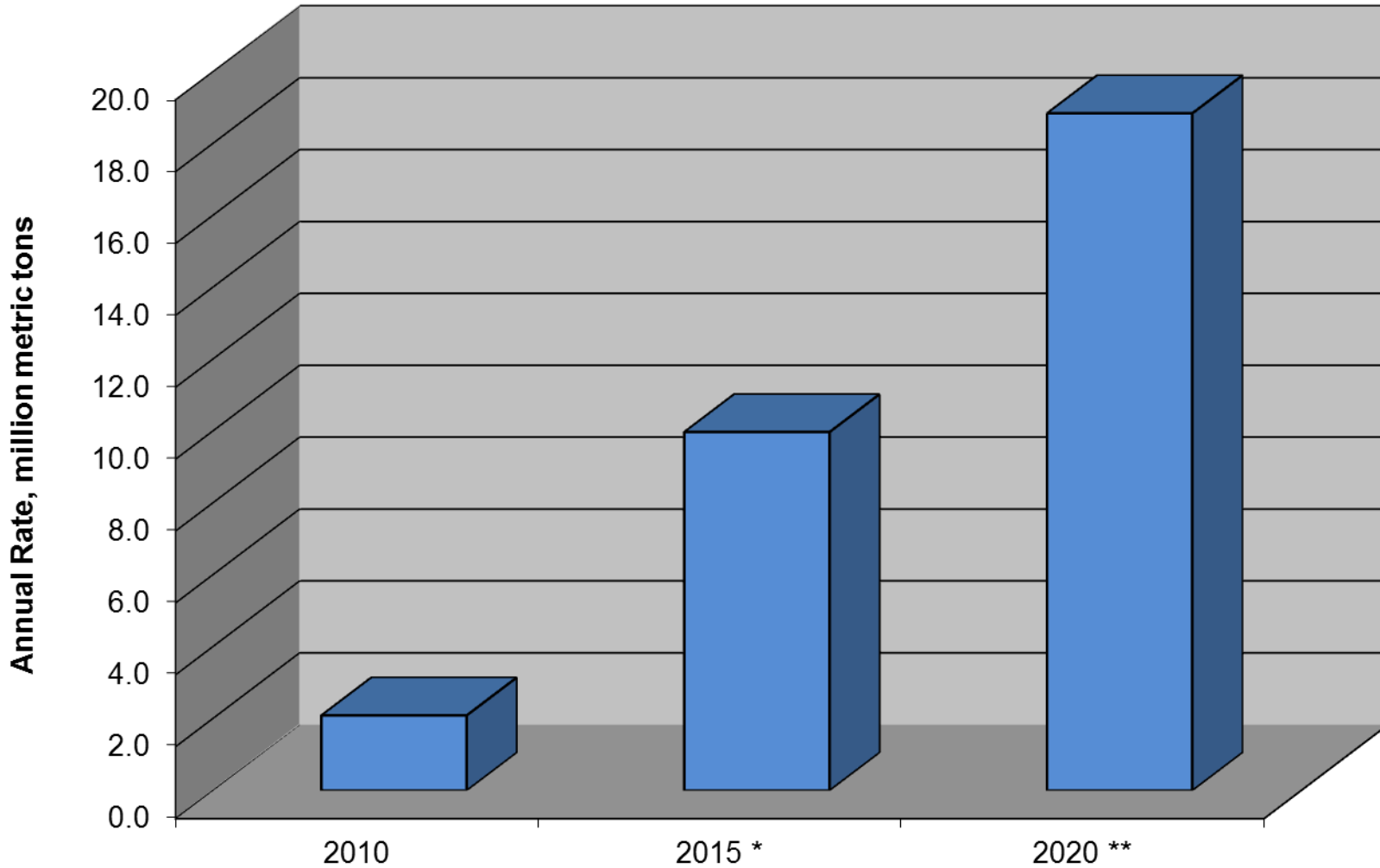
- E-GasPlus – a gasifier that simultaneously operates on coal or petcoke and resid or pitch streams from refineries
- Pitch can be fed as a liquid through separate nozzles on the gasifier or ground and blended with coal slurry
- Benefits for refineries enhancing processes to increase output:
 - Additional Feed helps meet increased hydrogen demand.
 - Internal utilization of resid avoiding transportation and local market irregularities.
 - Reduces overall oxygen consumption
- Gasifier feed can be nominally 40% pitch (by weight) while preserving the ability to operate with 100% coal

- E-STR is CB&I's new gasification technology, targeting high moisture fuels such as lignite and high value markets such as SNG production. Coupled with a proprietary low temperature tar destruction catalyst, the E-STR gasifier will produce pipeline pressure syngas to feed methanation systems
- The E-STR Process Design Package and mechanical equipment design is under way in 2014.
- CB&I is actively seeking and evaluating sites for a 200-400 TPD demonstration of the E-STR Technology.





Basis: Expanding an existing refinery from 20 MMTPY to 38 MMTPY, 25% taxes, 15 year depreciation



* Includes projects in construction

** Includes projects in planning

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E-Gas **Evolution** **Efficient** **Everything**
Economic **Eureka** **Experience**
Electric **Empirical** **Ecology** **Effective**
Technology **Environmental** **Eminent** **Endurance**
Enough **Elegant** **Eventful**
Exuberant **Edge** **Evergreen**
Extensive **Enigma** **Epic**
Easy **Exothermic** **Eurytropic**
Extreme **Early** **Epitome**
Execution **Engineering** **Erudite**
Eclectic **Entire** **Eminent**



