# 2017中国制氢与先进煤气化技术研讨会 China H2 Production & Advanced Coal Gasification Conference 2017.10.31 中国 济南 Jinan China

### -----低油价背景下,油制氢、煤制氢和天然气制氢何者更优?













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中国·济南 2017.10.31 Jinan·China

#### English-Chinese Simultaneous Interpretation will be provided.

#### **Background**

Hydrogen (H2) is not only an important feedstock in refining, petrochemical and coal chemical industry, but also the base of "Hydrogen Economy". The continuous low oil price stimulates consumption and boosts refining & petrochemical projects investment. In 2017, more than 800 refining projects in the world are under construction or development. According to EIA's prediction, the global oil consumption will reach 5.06 billion ton in 2022, which will greatly increase H2 demand and H2 production market.

The increasingly stringent environmental protection requirements, and to solve urban smog problem, China is vigorously promoting oil products upgrading for cleaner fuels, and deep hydrodesulfurization is a kind of important means. During the period of high oil price, coal/oil coke gasification to H2 has become the development trend of H2 production in China's refineries, due to its cost advantage. Gasification is the core process of coal to H2, and H2 production requires the efficient and stable operation of gasifiers. By 2017, hundreds of gasifiers with more than 20 gasification technologies are under operation in China, which are used for H2 production in refineries and coal chemical industry. The development of advanced coal gasification technology is going to the direction of high energy efficiency, large scale and wide adaptability of coal types.

However, with the continuous falling of oil and gas price, the cost gap between oil/gas to H2 and coal to H2 is narrowing. In addition to the traditional large scale coal to H2, gas to H2 and small scale methanol cracking to H2, water electrolysis for H2 production by using incapable grid-connected wind power and photovoltaic (PV) power, and further combined with traditional chemical units, can not only improve utilization rate of renewable energy, but also greatly reduce carbon emissions from coal chemical and petrochemical industries. Besides, the technology R&D of photocatalytic decomposition of water to hydrogen and hydrogen sulfide to hydrogen has made breakthrough.

**China H2 Production & Advanced Coal Gasification Conference 2017** will be held on Oct 31 in Jinan, Shandong, China. The conference will discuss global and China's H2 demand in oil refining industry, economical comparison of refineries' different H2 production schemes, advanced coal gasification technologies updates and application, H2 separation and purification process routes, middle and small scale H2 production solutions, integration of utility island & H2/syngas supply in chemical parks, feasibility analysis of H2 production by new energy, technology R&D progress of photocatalytic decomposition of water to hydrogen and hydrogen sulfide to hydrogen, etc.

#### <u>Topics</u>

- 1. Global oil refining & petrochemical investment prospect at low oil price
- 2. China's oil products upgrading & H2 demand outlook
- 3. Economic analysis of oil to hydrogen, gas to hydrogen and coal to hydrogen
- 4. Refineries H2 production plant operation experience & process optimization
- Progress of advanced coal gasification technologies & their matching to coal quality, downstream products
- 6. Key technologies for H2 production: shift, H2 separation & purification
- 7. Integration of Utility Island & H2/syngas supply in chemical parks
- 8. Comparison of different middle and small-scale H2 production processes
- 9. Hydrogen production by coal gasification in supercritical water coupled with power generation
- 10. Novel hydrogen production technologies: photocatalytic decomposition of water to hydrogen & H2S to hydrogen
- 11. Prospect of wind power and photovoltaic (PV) power for H2 production in China
- 12. Hydrogen production & storage technologies & their application in Energy Internet

#### **Preliminary Agenda**

Oct.30, 2017	Monday
16:00~21:00	Pre- conference Registration
Oct.31, 2017	Tuesday
08:30~12:30	Speech
12:30~14:00	Networking Lunch
14:00~18:30	Speech
18:30~20:00	Banquet

