

第二届氢资源与氢能产业链技术论坛

2nd Hydrogen Resources and Hydrogen Industry Technology Forum

2019.7.10-11

广州

Guangzhou



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会议背景

氢能产业是从氢气生产、储运到应用的庞大产业链。氢能系统不仅是氢燃料电池车交通运输的能源,而且在大规模储能、绿色化工原料等方面起到重要作用。氢能在全球范围内正在迎来快速发展,包括中国、美国、日本、欧盟、加拿大和韩国等国家和地区均制定了氢能发展规划。2019年3月,氢能首次被写入《政府工作报告》,提出“推进充电、加氢等设施建设”。

氢气生产技术包括煤制氢、天然气制氢等化石能源制氢,以及电解水制氢等。为了支持氢能产业规模化发展,不额外产生碳排放的工业副产氢资源——丙烷脱氢、乙烷裂解和焦炉煤气等也值得重视。2018年12月,国家发改委与能源局印发《清洁能源消纳行动计划》,探索可再生能源富余电力转化为氢能。以弃风与弃光电量制氢,兼具经济效益与社会价值。

氢气的储运方式主要有高压气态、低温液态、金属氢化物储氢和有机化合物储氢等。中国正在积极发展氢气储运技术。2018年10月,中科富海液氢设备制造基地项目广东中山开工;2019年3月,武汉氢阳有机液态储氢项目一期竣工。

在应用领域,氢燃料电池汽车(FCV)正在崛起,将与锂离子电池电动汽车(EV)一起成为新能源汽车的主流路线。中国已经在加氢站建设和运营方面积累了丰富的经验,在氢燃料电池新能源汽车发展提速的背景下,预计2030年中国氢燃料电池车(FCV)将达到100万辆,加氢站达到1000座。

在交通运输应用之外,氢气在储能和帮助工业生产减排方面也可以发挥重要贡献。由于能够实现电力和燃料灵活地互相转化,氢能系统可以很好地完成可再生能源大规模储能的任务。以可再生能源电解水零碳排放生产氢气,不仅可以应用于钢铁厂和炼油厂降低碳排放,也可以与CO₂合成甲醇、汽油和烯烃等高价值化学品。

第二届氢资源与氢能产业链技术论坛将于2019年7月10-11日在广州召开。会议将探讨全球与中国氢能产业发展前景与投资机遇,中国工业副产氢资源潜力,制氢技术与成本分析,氢气提纯技术与车用氢气标准,氢气储存与运输模式,加氢站关键技术与装备国产化,中国加氢站建设、运营经验和盈利能力展望,可再生能源电解水制氢与大规模氢储能系统,氢气和CO₂生产高价值化学品——甲醇、汽油和烯烃等。

日程安排

2019年7月09日 周二

16:00~21:00 会前注册

2019年7月10日 周三

09:00~12:30 演讲报告

12:30~14:00 自助午餐与交流

14:00~18:30 演讲报告

18:30~20:00 招待晚宴

2019年7月11日 周四

09:00~18:00 工业参观

会议主题

- 全球与中国氢能产业链发展前景与投资机遇
- 中国工业副产氢资源潜力——煤化工、PDH、乙烷裂解与焦炉煤气等
- 制氢技术与成本分析——天然气 SMR、甲醇裂解、煤气化、电解水
- 碱性电解水与质子交换膜电解水制氢应用前景与关键设备
- 氢气提纯技术与燃料电池车用氢气标准
- 高压氢气储氢技术与车用储氢瓶国产化
- 液氢技术与优势分析:从液氢储运到液氢加氢站
- 液态有机储氢和金属氢化物储氢技术挑战与示范进展
- 天然气管道掺氢运输技术可行性分析
- 氢燃料电池车关键技术与规模化发展路径
- 加氢站关键技术与装备
- 中国加氢站建设、运营经验和盈利能力展望
- 氢气和CO₂生产高价值化学品——甲醇、汽油和烯烃等
- 可再生能源电解水制氢与大规模氢储能系统
- 氢能帮助炼油、钢铁行业降低碳排放的技术实现路径



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Background

Hydrogen energy industry is a huge industrial chain from hydrogen production, to storage and transportation to application. Hydrogen energy system not only is energy of fuel cell vehicle transportation, also plays important roles in large-scale energy storage and green chemical raw materials. Hydrogen energy is ushering fast development in global range, China, US, Japan, EU, Canada and South Korea etc. countries and areas all formulate hydrogen energy development plans. Mar 2019, hydrogen energy first written in <Report on the Work of the Government>, proposed 'Promote construction of charging, hydrogen refueling etc. facilities.'

Hydrogen production technologies include coal to hydrogen, natural gas to hydrogen and water electrolysis to hydrogen etc. In order to support hydrogen energy industry scaled development, industrial byproduct hydrogen resources – propane dehydrogenation, ethane cracking and coke oven gas, which do not generate additional carbon emissions, worth attentions. Dec 2018, NDRC and NEA released <Clean Energy Consumption Action Plans>, exploring surplus renewable energies converting to hydrogen. Using abandoned wind and discarded light to hydrogen have economic benefits and social values.

Hydrogen storage & transportation methods mainly are high-pressure gaseous, cryogenic liquefied, metal hydride hydrogen storage and organic chemicals hydrogen storage etc. China is actively launching hydrogen storage and transportation technologies. In Oct 2018, Fullcryo liquefied hydrogen device manufacturing base started construction in Guangdong Zhongshan; and in Mar 2019, Wuhan Hynertech organic liquid hydrogen storage Phase-1 completion.

In application field, fuel cell vehicles (FCV) is rising and will be mainstream routes of new energy vehicles together with LIB electric vehicles (EV). China has accumulated abundant experiences on construction and operation of hydrogen refueling stations (HRS). Under background of FCV development acceleration, it is estimated that China FCV will reach 1M, while HRS will reach 1000 in 2030.

Other than transportation, hydrogen also can contribute to

energy storage and helping industry production reduce carbon emissions. As hydrogen energy system can realize electricity and fuel flexible transformation, it can perfectly complete renewable energies large-scale energy storage. Using renewable energies electrolyze water to hydrogen with zero carbon emission, not only can be applied to steel factories and oil refining factories to reduce carbon emission, but also can be synthesized to methanol, gasoline and olefin etc. high value chemicals together with CO₂.

2nd Hydrogen Resources and Hydrogen Industry Technology Forum will be held in Guangzhou on Jul 10-11, 2019. The conference will discuss global and China hydrogen energy industry development prospects and investment opportunities, China industrial byproduct hydrogen resources potential, hydrogen production technology and cost analysis, hydrogen purification technologies and vehicle used hydrogen standards, hydrogen storage and transportation modes, hydrogen refueling station key technologies and devices localization, China hydrogen refueling stations construction, operation experiences and profitability prospects, renewable energies electrolyze water to hydrogen and large-scale hydrogen storage system, and hydrogen and CO₂ producing high value chemicals – methanol, gasoline and olefin etc.

Preliminary Agenda

July.09.2019	Tuesday
16:00~21:00	Pre-conference Registration
July.10.2019	Wednesday
09:00~12:30	Speech
12:30~14:00	Networking Lunch
14:00~18:30	Speech
18:30~20:00	Banquet
July.11.2019	Thursday
09:00~12:00	Speech
12:00~13:00	Networking Lunch
13:00~15:30	Onsite visit: Tongwei, Hanergy

Topics

- Global and China hydrogen energy industrial chains development prospects and investment opportunities
- China industrial byproduct hydrogen resources potential – coal chemical, PDH, ethane cracking and coke oven gas etc.
- Hydrogen production technologies and cost analysis – natural gas SMR, methanol cracking, coal gasification and electrolysis water
- Alkaline electrolysis water and proton exchange membrane (PEM) electrolysis water to hydrogen application prospects and key devices
- Hydrogen purification technologies and fuel cell vehicles used hydrogen standards
- High-pressure hydrogen storage technologies and vehicle used hydrogen storage cylinders localization
- Liquefied hydrogen technologies and advantages analysis: From liquefied hydrogen storage and transportation to liquefied hydrogen refueling stations
- Liquefied organic hydrogen storage and metal hydride hydrogen storage technology challenges and demonstration progresses
- Natural gas pipelines doped with hydrogen transportation technology feasibility analysis
- Hydrogen fuel cell vehicle key technologies and scaled development paths
- Hydrogen refueling station key technologies and devices
- China hydrogen refueling station construction, operation experience and profitability prospects
- Hydrogen and CO₂ producing high value chemicals – methanol, gasoline and olefin etc.
- Renewable energies electrolyze water to hydrogen and large-scale hydrogen storage system
- Technology realizing paths of hydrogen energy assisting oil refining and steel industry reducing carbon emission

English-Chinese Translation will be Provided