

IEA Hydrogen Roadmap

Asia Workshop in co-operation with NEDO

June 26/27, 2014

HOTEL Mt.Fuji, Yamanashi Prefecture

Agenda

During the Asia Workshop we are expecting detailed and constructive discussions centred around the roll-out of hydrogen technologies in the Japan and other Asian countries. Stakeholders from industry, government and academia will provide their view on technology, infrastructure, market development and policy expectations in North America.

Day 1 - June 26

Time	Topic
9:00-9:15	Welcome Message <ul style="list-style-type: none"> • Dr.Cecilia Tam / Head of Energy Demand Technology Unit,IEA • Dr.Michio Hashimoto /Director General, New Energy Technology Dpt,NEDO • Mr.Toshio Hirai / Yamanashi Prefecture
9:15 – 10:15	Opening of the workshop - Context for the day: <ul style="list-style-type: none"> • IEA Roadmap Vision/Scope/Structure/Process, IEA /Cecilia Tam, IEA • Objectives/Role of H2 Roadmap/ Expected Outcomes of Workshops /Alexander Körner, Energy Analyst,Energy Technology Policy Division,IEA Introduction: Presentation (15 min.) <ul style="list-style-type: none"> • Japan's Policy on Hydrogen Energy / Chihiro Tobe /Director for Hydrogen and Fuel Cell Promotion Office ,Ministry of Economy , Trade and Industry
10:15– 10:30	Coffee break
10:30-12:00	Transportation – Fuel cell vehicle technology and market introduction Moderator: Cecilia Tam , Alexander Körner/IEA Presentations (15min) on technology development and milestones: <ul style="list-style-type: none"> • Fuel cell vehicle demonstration and hydrogen infrastructure projects – Lessons learned /Yoichi Sone, General Manager ,FCV/Infrastructure Technology Dep.HySUT • FCV development of Toyota /Seiji Sano, Project General Manager, R&D Management Div. Toyota • FCV development of Nissan /Takuya Hasegawa Senior Innovation Researcher , Nissan • FCV development of Honda /Kazunori Watanabe, Chief Engineer, HEET, Planning Division, Honda • Fuel Cell development in Korea /Jonghee Han, Principal Researcher , Fuel Cell Center ,KIST Discussion session, possible relevant topics: <ul style="list-style-type: none"> • Fuel cell development – Cost, size, durability • Fuel cell assembly and economies of scale • Fuel cell and vehicle platform • FCEV market introduction and time line • Vehicle to home as back-up power solution
12:00-13:30	Lunch (breakout opportunities)

13:30-14:30	<p>Hydrogen infrastructure – Regional roadmaps for H2 transmission and delivery Moderator: Cecilia Tam , Alexander Körner/IEA Presentations (15min) on H2 infrastructure:</p> <ul style="list-style-type: none"> Recent development for H2 Station in Japan /Toshio Waku, Deputy General Manager, Frontier Research Laboratory, Central Technical Research Laboratory, JX Nippon Oil & Energy Hydrogen Industry and Association of Korea /Junbom Kim ,Vice President, Korea Hydrogen Industry Association <p>Discussion session, possible relevant topics:</p> <ul style="list-style-type: none"> Roll-out plans and investment needs Synergies with existing H2 generation/transmission infrastructure Lessons learned from demonstration projects Refilling infrastructure – barriers and challenges
14:30-15:30	<p>Supply for hydrogen Moderator:Cecilia Tam , Alexander Körner/IEA Presentation (15min)</p> <ul style="list-style-type: none"> Possible sources in the near term /Haruki Motegi, Consultant,Science Solution Division ,Mizuho Information & Research Institute Possible sources and associated costs in the long term /Masaharu Sasakura,Senior Researcher Research and Development Division IAE Imported hydrogen /Yoshimi Okada ,Principle Researcher, Technology Development Unit, Hydrogen Supply Chain Development Unit,Chiyoda Corporation Towards greener hydrogen production in China /Tiejun Zhao,Professor,CAS Key Laboratory of Low-Carbon Conversion Science&Engineering,SARI via video or Tele conference – TBC <p>Discussion session, possible relevant topics:</p> <ul style="list-style-type: none"> Hydrogen generation and hydrogen import – Cost comparison and competitiveness Substitution of H2 from naphta Long term pathway to low carbon H2 Synergies with current infrastructure Potential of by-product hydrogen and enhanced values chains
15:30-15:45	<ul style="list-style-type: none"> Coffee break
15:45-16:45	<p>Fuel cell micro CHP in residential applications: Moderator: Cecilia Tam , Alexander Körner/IEA Presentations (20min)</p> <ul style="list-style-type: none"> Lessons learned from the micro CHP project in Japan /Yuji Nagata, Director, Chief Technology Executive, Toshiba FCP Ulsan hydrogen town /Junbom Kim ,Vice President, Korea Hydrogen Industry Association <p>Discussion session, possible relevant topics:</p> <ul style="list-style-type: none"> FC micro CHP and cost competitiveness Natural gas vs. hydrogen infrastructure The role of by-product hydrogen Distributed heat and power in case of emergencies
16:45-17:15	<p>Power generator with Hydrogen fuel Moderator: Cecilia Tam, Alexander Körner/IEA Presentations (20min)</p> <ul style="list-style-type: none"> CO2 Free Energy Supply Chain to Japan with Liquid Hydrogen -included Hydrogen power station /Nishimura Motohiko, Senior Manager, Hydrogen Project Department, Corporate Technology Planning Center, Corporate Technology Div., Kawasaki Heavy Industry <p>Discussion session, possible relevant topics:</p> <ul style="list-style-type: none"> H2 delivery volume and Cost Effect of cost reduction

17:15 – 17:45	Day one recap and discussion
18:15 – 18:45	Move from Hotel Mt.Fuji to Visitor center
18:45 – 19:15	Visiting “Fuji visitor center”
19:15 – 19:30	Move from Visitor center to Highland hotel
19:30 – 21:00	Welcome reception (Host by Yamanashi prefecture) “Teara” in Highland resort hotel
21:00 –	Move from Highland hotel to Hotel.Mt.Fuji

Day 2 - June 27

Time	Day 2
9:00-10:00	<p>Industry and policy makers – expectations and requirements: Moderator: Cecilia Tam , Alexander Körner/IEA Presentations (20min)</p> <ul style="list-style-type: none"> Lessons learned from early markets: <ul style="list-style-type: none"> 1) Battery electric vehicle introduction /Kouji Toyama, Principal, Roland-Berger 2) Hydrogen Station –related issue for market introduction/ NEDO <p>Discussion, possible relevant topics:</p> <ul style="list-style-type: none"> Need for market pull policies The role of long term emission targets The role of regulation/standards for successful H2 technology roll-out Harmonization of safety regulation for hydrogen refuelling stations
10:00– 10:15	Coffee break
10:15 – 11:45	<p>IEA Technology Roadmap on Hydrogen – Preliminary results and discussion of milestones /Alexander Körner, Energy Analyst, Energy Technology Policy Division, IEA</p> <p>Proposed Discussion Topics:</p> <ul style="list-style-type: none"> Preliminary definition of milestones for different applications Incorporation of existing regional roadmap elements into IEA Roadmap Major take-away messages in preparation of Roadmap
11:45-12:15	<p>Wrap up and next steps Cecilia Tam , Alexander Körner/IEA</p>
12:15-13:30	Lunch (breakout opportunities)
Afternoon 13:30-18:00	<p>Technical tour Yamanashi Factory of Fuji electric corp. Fuel Cell Nanomaterials Center, University of Yamanashi</p>
18:00	JR Koufu Station

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