

## Yokohama Declaration on Hydrogen Renaissance

The Hydrogen Energy System will play an important role in the near future. Considering the global dynamic flow of water, the water/hydrogen system is the only one solution for the sustainable growth of human beings, where hydrogen will be produced by renewable energies. This will be the ultimate goal of the hydrogen energy system. Fossil fuels can be used to produce hydrogen for the time being. However, the amount of fossil fuels is limited. The fossil fuels should not be used up within several hundred years, since the fossil fuels were made by solar energy for billions and billions of years. Oil and other fossil fuels should be used for materials for our life considering the sustainable growth of human beings.

The hydrogen energy system is an ideal system from the theoretical point of view. However, there are many difficult problems in order to achieve this system. We have to think of production methods of hydrogen. It is not easy to make large quantity of hydrogen efficiently with reasonable cost using non-fossil energy, such as solar, wind, biomass, nuclear, and geothermal energies, etc. Considering the nature of hydrogen we have to develop efficient storage and transportation systems. We have to use hydrogen safely. We need much higher technology to commercialize fuel cell systems such as fuel cell vehicles, stationary fuel cells and micro fuel cells. Material innovation is needed for every process. We have to develop higher technologies related to all aspects of the hydrogen energy system.

In order to achieve this goal we should pursue the “Hydrogen Renaissance”. In order to get the “Hydrogen Renaissance”, we need a neo-hydrogen energy. We should promote the fundamental researches of the hydrogen energy more deeply. The fundamental researches should contain all the aspects of hydrogen energy, where science, engineering and sociology should be merged with active involvement of academia, industries and public sectors.

The hydrogen energy is not a fashion. We really need the ultimate clean energy system as soon as possible. We need a strong base to achieve the real hydrogen system. We, the attendants of the 15th World Hydrogen Energy Conference, hope that we and people in the world will act to pursue the ultimate clean system and get the “Hydrogen Renaissance” to reach the sustainable growth of human beings.

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The 15<sup>th</sup> World Hydrogen Energy Conference

Chairperson: Ken-ichiro Ota

Representatives of major hydrogen associations  
Hydrogen Energy Systems Society of Japan  
New Energy and Indust.Tech. Develop. Org., Japan  
International Association of Hydrogen Energy,  
European Hydrogen Association,  
National Hydrogen Association, USA,  
German Hydrogen Association,  
Canadian Hydrogen Association,  
French Hydrogen Association,  
China Association of Hydrogen Energy,  
Korea Hydrogen and New Energy Association,

