

Neue Energietechnologien – zum Nachdenken

Hydrogen Energy – its Constitutional Contributions to the Energy Mix and the Powerful Solution of Global Warming

A Centennial Memorandum

To the G20 Heads of State, Presidents, Prime Ministers,
Federal Chancellor

Your Excellencies!

After Copenhagen COP15 many further conferences of the world community will be taking place under the flag of the United Nations; other groups will join the decision-making process until a broad, common agreement on mitigating anthropogenic climate change can be found.

Regardless of the results finally achieved, novel efficient and carbon-poor energy technologies will be in urgent need to abate the so far still rising greenhouse-gas concentrations in the atmosphere.

The International Association for Hydrogen Energy (IAHE) takes pride in drawing your attention to the seven inevitable constitutional contributions of hydrogen energy to the energy mix, with the following characteristics:

- Hydrogen – like electricity – is, after its production, environmentally and climatically clean along the entire length of its energy conversion chain; renewable hydrogen carries no carbon.
- Gasification of coal plus combined cycles deliver both hydrogen and electricity, highly efficiently and simultaneously.
- Decarbonization of coal goes along with hydrogenation and dematerialization of energy; hydrogen energy helps mitigate anthropogenic climate change.

- Low temperature fuel cells in autos and central energy systems depend on hydrogen as their fuel, be it pure hydrogen or hydrogen reformat. With millions of fuel cells, clean, efficient and decentralized IT-controlled power stations can be constituted, efficiently competing with the central power stations now in place.

- Environmentally and climatically clean LH₂ tanker shipping allows for the perpetuation of global trade in fossil fuels which have been decarbonized already at the mine head: trafficking in pollutants and potential greenhouse gases around the globe will be eliminated, the chore of CO₂ removal will be transferred from the energy buying to the energy supplying nations.

- Global renewable-energy trade will only be feasible with the chemical energy carrier hydrogen (»renewable hydrogen«) as the means for energy storage and transportation.

- Thermodynamically, hydrogen exergizes energy, making more technical work available from energy.

Because of the foregoing, we urge you to direct your research capacities and industry to strongly take up the introduction of the hydrogen energy economy.

Respectfully yours,

The Presidency of the International Association for Hydrogen Energy
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