



# international association for hydrogen energy

5783 SW 40 ST. # 303 . Miami . FLORIDA 33155 . USA

[www.iahe.org](http://www.iahe.org)

## Officers

T. Nejat Veziroğlu

President

Tokio Ohta

Vice President

Southeast Asia & Pacific

David S. Scott

Vice President

Americas

Carl-Jochen Winter

Vice President

Europe, Middle East & Africa

Melvin C. Morgenstern

Legal Counselor

William J.D. Escher

Secretary

Ayfer Veziroğlu

Internet Editor

Ann Gerard

Coordinator

## Board of Directors

Hussein I. Abdel-Aal

Saudi Arabia

Franco Barbir

Croatia & U.S.A.

Juan Carlos Bolcich

Argentina

Tapan Bose

Canada

Gibril S. Eljrushi

Libya

Inci Eroğlu

Turkey

Victor A. Goltsov

Ukraine

Stanislav B. Malyschenko

Russia

Zong Qiang Mao

China

Cesare Marchetti

Austria

Nazim Muradov

Azerbaijan & U.S.A.

Byeong Soo Oh

South Korea

Tokio Ohta

Japan

Jacques Saint-Just

France

Yasukazu Saito

Japan

John W. Sheffield

U.S.A.

Thorsteinn I. Sigfusson

Iceland

Giuseppe Spazzafumo

Italy

Onkar N. Srivastava

India

William D. Van Vorst

U.S.A.

Carl-Jochen Winter

Germany

## ON HYDROGEN ENERGY — THE FOREVER FUEL<sup>\*)</sup>

### A CENTENNIAL MEMORANDUM

To: The Heads of G8 Countries:  
Canada: Prime Minister Stephen Harper  
France: President Nicolas Sarkozy  
Germany: Chancellor Angela Merkel  
Italy: Prime Minister Silvio Berlusconi  
Japan: Prime Minister 麻生太郎  
Russian Federation: President Дмитрий Анатольевич Медведев  
U.K.: Prime Minister Gordon Brown  
U.S.A.: President Barack H. Obama  
EU: President of the Commission José Manuel Barroso

Copy: U.N. Secretary General: 반기문  
UNIDO Director-General: Kandeh K. Yumkella  
UNDP Administrator: Ad Melkert  
UNEP Executive Director: Achim Steiner

Subject: The Upcoming Energy/Climate Catastrophe and the According Permanent Solution of a Hydrogen Energy Economy.

Your Excellencies!

We, the undersigned herewith ask the heads-of-state of G8 countries to put Hydrogen Energy on top of the agenda of their respective states, individually or in common, and to commit to hydrogen energy technologies as a permanent solution to the upcoming energy/climate catastrophe. The following are the three major problems facing humankind at the dawn of the twenty-first century:

- Anthropogenic climate change is real. The United Nations' Intergovernmental Panel on Climate Change (UN-IPCC) expects a considerable temperature rise in the course of forthcoming decades. Catastrophic consequences for humans, fauna and flora, and the cultural heritage of humankind are expected,
- the oligopolization of traditional fossil or nuclear primary fuel is exacerbated by being possessed by only a few—not a comfortable situation for the majority of energy utilising nations, and
- painfully low energy efficiencies have evolved worldwide and maximising of available technical work is urgently needed.

<sup>\*)</sup> *Hydrogen Energy - Abundant, Efficient, Clean; A Debate over the Energy-System of-Change* by Carl-Jochen Winter, Ueberlingen, Germany, available under [www.itsHytime.de](http://www.itsHytime.de)

**... abundant clean energy for humankind**

Emeriti Board Directors: Bragi Arnason (Iceland), John O'M. Bockris (U.S.A.), James E. Funk (U.S.A.), Shoichi Furuhashi\* (Japan), Valeriy A. Legasov\* (U.S.S.R.), Anibal R. Martinez (Venezuela), Jean Pottier (France), Alexander N. Protsenko (U.S.S.R.), Richard E. Rocheleau (U.S.A.), Vladimir D. Rusanov (Russia), Mylopore V.C. Sastri\* (India), Walter Seifritz (Switzerland), Alexander K. Stuart (Canada), Patrick Takahashi (U.S.A.), Kurt H. Weil\* (U.S.A.), Ya-jie Zhu\* (China) \* deceased

“Energy policy is technology politics” is exemplified by huge energy efficiency gains, by the cleaning-up of fossil fuels, by safe and secured non-proliferating nuclear energy, and by renewable energies. Hydrogen Energy Technologies are the key to progress in all these areas for the following reasons:

- Hydrogen energy is an environmentally and climatically clean fuel, in particular a clean transport fuel, produceable from the entire range of primary energies,
- hydrogen energy is the storage and transportation agent of the so far dormant renewable sources, which will thereby become a powerful contributor to the global energy trade, and
- hydrogen energy from renewable energies is the ultimate solution; it is, however, not the precondition for entering the hydrogen energy economy; environmentally and climatically compatible hydrogen could also be produced using nuclear energy, and even fossil fuels with carbon capture and storage (CCS).

We, as members of the International Association for Hydrogen Energy and of the World Hydrogen Energy Community are willing without hesitation to devote our further professional life to the furtherance of hydrogen energy and its technologies through advising policy makers, serving on advisory boards, and collaborating with industry in implementing the necessary hydrogen energy infrastructure, because we share the conviction that

- Hydrogen energy, like electricity, once generated, is environmentally and climatically clean over the entire length of the energy conversion chain, “from cradle-to-grave”,
- hydrogen fuel cells activate dormant distributed virtual power; hydrogen-supported combined cycles facilitate the maximising of available technical work,
- hydrogen energy eliminates land, sea, air and space transportation pollution,
- hydrogen energy facilitates the contribution of huge renewable sources to the global energy trade,
- in one word: hydrogen energy technologies provide abundant clean energy for humankind.

Respectfully yours,

(Signed by)

Canada		Ibrahim Dincer		Ghazi Karim
France		Claude Etievant		Jacques Saint-Just
Germany		Jürgen Garche		Detlef Stolten
				Carl-Jochen Winter
Italy		Cesare Marchetti		Giuseppe Spazzafumo
Japan		Tokio Ohta		Yasukazu Saito
				Kunio Yoshida
Russia		Alexander L. Gusev		Stanislav Malyshenko
U.K.		Peter Edwards		David Hart
USA		John O'M. Bockris		Patrick Takahashi
				T. Nejat Veziroglu

CENTENNIAL MEMORANDUM	
Coordinates of Signatories	
<p>Prof. Dr. John O'M. Bockris Haile Plantation 10515 S. W. 55th Place Gainesville, FL 32608, U.S.A. Tel: +1 352 335 3843 Fax: +1 352 335 6925 E-mail: jbockris@cox.net</p>	<p>Dr. Ibrahim Dincer Professor of Mechanical Engineering Faculty of Engineering and Applied Science University of Ontario Institute of Technology(UOIT) 2000 Simcoe Street North Oshawa, Ontario L1H 7K4, Canada Tel: +1 905 721 86 68 ext. 2573 Cell: +1 905 441 2229; Fax: +1 905 721 3370 E-mail: Ibrahim.Dincer@uoit.ca</p>
<p>Prof. P. P. Edwards, FRS Inorganic Chemistry Laboratory Department of Chemistry University of Oxford Wellington Square Oxford, OX1 2JD U.K. Tel: +44 1865 272680 Fax: +44 1865 272656 E-mail: peter.edwards@chem.ox.ac.uk</p>	<p>Dr. Claude Etievant Managing Director, CETH Compagnie Europeenne des Technologies de l'Hydrogene Innov'Valley Entreprises Bat. D0 Route de Nozay 91460 Marcoussis, France Tel: +33 1 69 63 68 64 E-mail: claude.etievant@ceth.fr</p>
<p>Prof. Dr. habil. Jürgen Garche Badbergstr. 18 D-89075 Ulm, Germany Tel: +49 731 263563 E-mail: jugarche@aol.com</p>	<p>Dr. Alexander L. Gusev Scientific Technical Centre "TATA" Post Box Office 787, Sarov Nizhny Novgorod Region 607183 Russia Tel: +7 (83130) 63107; Fax: +7 (83130) 63107 E-mail: gusev@hydrogen.ru</p>
<p>Dr. David Hart Royal School of Mines Dept. of Environmental Science &amp; Technology Imperial College South Kensington, London, U.K. Tel: +44 020 7594 6781; Fax: +44 020 7594 9334 E-mail: david.hart@imperial.ac.uk</p>	<p>Prof. Dr. Ghazi Karim *) Department of Mechanical &amp; Mfg. Engng. University of Calgary 2500 University Dr., NW Calgary, Alberta T2N 1N4, Canada Tel: +1 403 220 5775; Fax: +1 403 282 8406 E-mail: karim@ucalgary.ca</p>
<p>Prof. Dr. Stanislav Malysenko Institute for High Temperatures RAS, Krasnokazarmenkaya 17a 111116 Moscow, Russia Tel: +7 495 362 53 11; Fax: +7 495 362 07 84 E-mails: litp@iht.mpei.ac.ru</p>	<p>Prof. Dr. Cesare Marchetti Via di Monteloro 42 I-500 64 Sieci (FI), Italy Tel: +39 055 8367 292 Fax: +39 055 8367 308 E-mail: marchetti.cesare@gmail.com</p>
<p>Prof. Dr. Tokio Ohta *) 4-8-15 Inamuragasaki Kamakura, 2480024 Japan Tel: +81 467 24 6120; Fax: +81 467 24 6192 E-mail: filota88@ka2.so-net.ne.jp</p>	<p>Dr. Jacques Saint-Just H2 Plus Ltd. 43 Avenue Pierre Curie F-78230 Le Pecq, France Tel: +33 6 74 93 01 16 E-mail: jacques.saint-just@h2plus.net</p>

CENTENNIAL MEMORANDUM	
Coordinates of Signatories	
<p>Prof. Dr. Yasukazu Saito *)            3-9-15, Miyamae, Suginami-ku,            Tokyo, 168-0081, Japan            Tel: +81-3-3260-4271            Fax: +81-3-5261-4631            E-mail: yassaito@ci.kagu.tus</p>	<p>Prof. Dr. Giuseppe Spazzafumo            Via Vico Fiaschi, 67            54031 Avenza (MS), Italy            Tel: +39 0585 51917            Fax: +39 0775 881021            E-mail: spazzafumo@unicas.it</p>
<p>Prof. Dr.-Ing. Detlef Stolten            Forschungszentrum Jülich GmbH            Direktor Institut für Energieverfahrenstechnik            52425 Jülich, Germany            Tel: +49 02461-613076            Fax: +49 02461-613385            E-mail: d.stolten@fz-juelich.de</p>	<p>Prof. Dr. Patrick K. Takahashi            Hawaii Natural Energy Institute            University of Hawaii            Manoa, Hawaii, U.S.A.            Tel: +1 808 956-8346            E-mail: patkentak@hotmail.com</p>
<p>Prof. Dr. T. Nejat Veziroglu            President, Int. Assoc. for Hydrogen Energy (IAHE)            Clean Energy Research Institute            University of Miami            Coral Gables, FL 33124, U.S.A.            Tel: +1 305 284 4666            Fax: +1 305 442 4540            E-mails: veziroglu@iahe.org                      veziroglu@miami.edu</p>	<p>Prof. Dr.-Ing. Carl-Jochen Winter            ENERGON Carl-Jochen Winter e.K.            Obere St. Leonhardstr. 9            D-88662 Ueberlingen, Germany            Tel: +49 7551 944 5940            Fax: +49 7551 944 5941            E-mail: cjwinter.ENERGON@t-online.de            www.itsHYtime.de</p>
<p>Prof. Dr. Kunio Yoshida *)            Niigata Sangyo University            4730 Karuigawa            Kashiwazaki-si 945-1393 Japan            Tel: +81-257-24-6655            Fax: +81-257-24-1300            E-mail: kunioyos@data-art.jp</p>	

\*) endorsed in the Centennial Memorandum 2007