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ABSTRACT. It is now the twentieth anniversary of the beginning of the Hydrogen Energy Movement. Over the twenty years, there have been accomplishments in every front—from the acceptance of the concept as an answer to energy and environment related global problems, to research, development and commercialization. The Hydrogen Energy System has now taken firm roots. Activities towards the implementation are growing.

1. Introduction

It is the 20th Anniversary of the beginning of the Hydrogen Movement. It was just a little over 20 years ago, during the first international conference on Hydrogen Energy, the Hydrogen Economy Miami Energy Conference or the THEME Conference for short, which was held in March of 1974 in Miami Beach, Florida, U.S.A. In the afternoon of the second day, a small group, later to be named "Hydrogen Romantics", got together: Cesare Marchetti, John Bockris, Tokio Ohta, Bill Van Vorst, Anibal Martinez, Walter Seifritz, Hussein Abdel-Aal, Bill Escher, Bob Zweig, late Kurt Weil, myself and a few other enthusiasts, whose names escape me. There was a passionate, yet deliberate, debate. It was agreed that the Hydrogen Energy System, Figure 1, was an idea, whose time had arrived. It was the permanent solution to the depletion of conventional fuels, it was the permanent solution to the global environmental problems.

Figure 1. A Schematic diagram of the hydrogen energy system.

Then the discussion turned to whether there was a need for a formal organization. It was Aníbal Martínez of Venezuela, incidentally one who took part in setting up the petroleum cartel OPEC, urged the founding of a society dedicated to crusade for the establishment of (what it seemed to the gathering and later proven to be so) the inevitable and the universal energy system. It was ironic that he was proposing the establishment of an organisation, which would make OPEC obsolete. The rest is history. IAHE was established by the end of that year and started working in earnest.

2. Accomplishments

In spite of the fact that, the competition, the conventional fuels are subsidized, since the damage they cause to the health of the people, to the well-being of this planet and to the integrity of everything living and/or standing on it, are paid for not by the conventional fuels but by the society; in spite of the fact that equivalent subsidies are not yet extended to hydrogen, for example, though a carbon tax and/or a CO₂ tax; in spite of these handicaps; in the twenty years since the Hydrogen Movement began, hydrogen has made significant inroads in several directions in the energy field—because of its unmatched superior properties and characteristics as an energy carrier.

In the twenty years, a lot of ground has been covered. There has been progress in every front. All those who took part in the Movement, all those who are taking part in this Movement, can be very proud. There is every reason why we should be satisfied, why we should celebrate this milestone, the 20th Anniversary of the Hydrogen Movement. Let us survey the happenings and achievements of the last twenty years.

2.1. CONFERENCES

One of the first activities of the International Association for Hydrogen Energy was to organize the biennial World Hydrogen Energy Conferences (WHECs) to provide a platform for the Hydrogen Energy community, for the scientists, energy engineer, environmentalists, decision makers and the thinkers of the future of the planet Earth.

WHEC Conferences have been to most of the major countries around the world. The first WHEC Conference was held in Miami in 1976, and the others followed in two year intervals in Zurich, Tokyo, Pasadena, Toronto, Vienna, Moscow, Honolulu, Paris, and in 1994 in Cocoa Beach, Figure 2.

I would like to add that in parallel with the WHEC Conferences, there have been organized several other conferences dedicated to specific applications of hydrogen, such as on transportation, on fuel cells, on hydrogen-metal interactions, etc. Also the number of national and international conferences devoted to hydrogen energy or having sessions on hydrogen energy, are increasing in number.

2.2. CONCEPT

Before the THEME Conference, little attention was paid to hydrogen as an energy carrier. The words "hydrogen energy", "hydrogen economy", "hydrogen energy system" were unknown even to most of those well-versed in energy. Today, these words are well-known and accepted, Figure 3. Not only the scientists and engineers, but also the public at large is becoming exposed to the concept. We see more and more articles and news items in popular press about the environmental benefits of hydrogen, about hydrogen as the fuel of the future and about happenings in hydrogen energy technologies. The expressions hydrogen energy, hydrogen economy, hydrogen energy system have entered the scientific literature, newspapers and into everyday vocabulary.