

WHEC2018Paulo Emílio V. de Miranda¹

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In the beginning of this 21st Century, hydrogen and fuel cells technologies will promote a global energetic transition, which will decarbonize the world energy system. This will require to add substantial quantities of intermittent renewable energy and to make an adequate control of the seasonal storage of energy to promote the transition to an environmentally sustainable energy system. As it had already been foreseen, the petroleum era will not end because there is no more oil, but instead, because of the deleterious effects associated to the use of fossil fuels. However, it is curious to verify that the evolution experienced by our society upon utilizing fuels shows that a progressive decarbonization is occurring, since the utilization of wood, and then that of coal, oil and natural gas [1], until the present days when they are all used simultaneously. In addition to that, it is observed that the energy intensity content increases upon shifting from one fuel to the other, and, specially, the hydrogen content is continuously increased. The transition to a Hydrogen Energy Era is considered inexorable and it will take place with a significant participation of the renewable energies.

This very interesting theme will be approached upon holding the World Hydrogen Energy Conference, WHEC2018 (www.whec2018.com), which will take place in Rio de Janeiro from June 17th to 22nd, 2018. Such a conference is held since 1976, each two years, with no interruption. The WHEC2018 will emphasize the theme of converting power and biomass to hydrogen and will treat the following ample spectrum of themes:

1. Hydrogen Energy
2. Fuel Cells
3. Science and technologies of hydrogen and hydrogen-rich fuels production from biomass
4. Energy storage using hydrogen produced from excess renewable electricity: Power to Hydrogen
5. Hydrogen energy engineering application and products
6. Market, commercialization and deployment of hydrogen energy technologies
7. Regulatory framework, safety aspects, public policies and social acceptance of hydrogen energy technologies

The WHEC2018 will have several parallel events to the sessions for presentations of plenary lectures, invited articles, poster papers and, especially, a trade fair, which will present products and services of companies from the areas of fuel cells, vehicles and specific components, stationary generators, electrolyzers, with enormous variety of activities and origins. Special attention is being given to the event schedule in terms of scientific and technological content to take to Rio de Janeiro the most updated and specialized knowledge in the area. It is then a unique opportunity to showoff your own results, to learn about new developments, to get to know the most modern hydrogen energy products and processes. The energetic transition moment is also the one when an intensive creative activity arises related to the new technologies entering the market to serve our society. A selection of the articles presented at the WHEC2018 will comprise a special number to be published in the journal *Materia*. Joint it !

BIBLIOGRAPHY

[1] MIRANDA, P.E.V., "Continuous Publication", *Matéria*, v. 22, n. 1, 2017. DOI: (10.1590/S1517-707620170001.0241)