

Impact Clean Power Technology S.A.
Toshiba Energy Systems & Solutions Corporation
ITOCHU Plantech Inc.

# Starting activities for development of hydrogen fuel cell system with Polish battery system manufacturer

## Aiming double longer lifetime than ever existing fuel cell system with Toshiba ESS's hydrogen fuel cell stack -

Impact Clean Power Technology S.A. (headquartered in Warsaw, Poland; Bartlomiej Kras, President of the Management Board; hereinafter "Impact"), a Polish battery system manufacturer, ITOCHU Plantech Inc. (headquartered in Minato-ku, Tokyo; Ichiro Shimizu, President & CEO; hereinafter "ITOCHU Plantech"), a wholly owned subsidiary of ITOCHU Corporation (headquartered in Minato-ku, Tokyo; Keita Ishii, President & CEO; hereinafter "ITOCHU"), and Toshiba Energy Systems and Solutions Corporation (headquartered in Kawasaki-shi, Kanagawa; Tadasu Yotsuyanagi, President & CEO; hereinafter "Toshiba ESS") has started activities for development of hydrogen fuel cell system for heavy-duty application.

Based on a Memorandum of Understanding among the three parties which was concluded last year, the parties have studied development of hydrogen fuel cell system for bus by adopting Toshiba ESS's polymer electrolyte hydrogen fuel cell stack which has outstanding durability and stability. Now Toshiba ESS's polymer electrolyte hydrogen fuel cell stacks have been shipped to Impact, and Impact will start testing and verification of hydrogen fuel cell system for bus as the first application.

Impact is a leading manufacturer of innovative battery systems for transportation, heavy duty and stationary energy storage in Europe. Combining Toshiba ESS's high durability hydrogen fuel cell stack and Impact's capability of system design and production, Impact aims for early commercialization of hydrogen fuel cell system for mobility which has double longer lifetime than ever existing, and will study possibility of applying to truck, train, ship etc. too in the future.

ITOCHU Plantech is in charge of coordination and logistics for this development, and will develop new application for hydrogen fuel cell system and hydrogen fuel cell power generation with market-oriented approach by utilizing ITOCHU's network.

Through this collaboration, Impact, ITOCHU Plantech and Toshiba ESS aim to expand business in hydrogen value chain in Europe and over the world, and to contribute to development of decarbonization society.

### Pure Hydrogen Fuel Cell Stack (Image)



# Pure Hydrogen Solaris Urbino Fuel Cell Bus (Image)





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