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CO₂ Emission Reduction by H₂ Optimization Between Two Companies in Kawasaki Project Recognized Under Low CO₂ Kawasaki Brand 2012

The CO₂ Emission Reduction by H₂ Optimization Between Two Companies in Kawasaki project, a joint initiative of TonenGeneral Sekiyu K.K. Kawasaki Refinery (herein referred to as "Kawasaki Refinery", manager: Tomohide Miyata) and JX Nippon Oil & Energy Corp. Kawasaki Plant (herein referred to as "JX Nippon Oil & Energy Kawasaki Plant"), has been selected for recognition under the Low CO₂ Kawasaki Brand 2012 program implemented by Kawasaki City, Kanagawa.

The Kawasaki Refinery manager accepted a certificate of recognition from the Kawasaki City mayor at an award ceremony for selected projects held today at the Kawasaki International Eco-Tech Fair 2013.

In 2008, Kawasaki City studied the effectiveness of indirect CO_2 reduction through life cycle-focused assessments of products and technologies and subsequently developed the CO_2 Reduction Kawasaki Model framework for highlighting contributions to a low-carbon society. In 2012, after a trial period of three years beginning in 2009, the city rolled out Low CO_2 Kawasaki Brand, a program based on this framework, to assess contributions to CO_2 reduction through products and technologies.

At Kawasaki Refinery, CO_2 is generated by the production unit for hydrogen, which is used in the refinery's desulfurization unit; while JX Nippon Oil & Energy Kawasaki Plant uses part of the CO_2 generated by its steam cracker (ethylene production unit) as fuel. In a joint effort by the two sites, hydrogen is transported by pipeline from JX Nippon Oil & Energy Kawasaki Plant to Kawasaki Refinery, contributing to the effective use of resources and a reduction in the total CO_2 emission volumes of both sites. As the transfer of CO_2 from JX Nippon Oil & Energy Kawasaki Plant to Kawasaki Refinery contributes to overall CO_2 reduction, application for recognition was submitted jointly.

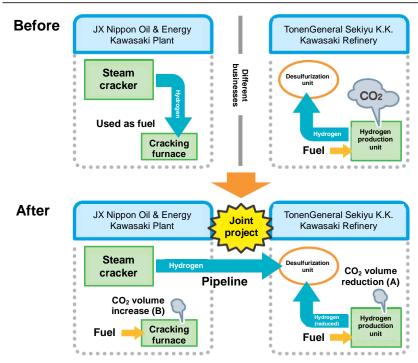
- Effective use of resources through collaboration between the two sites has resulted in an 1,800-ton annual reduction in CO₂ emissions.
- Use of hydrogen, a by-product of manufacturing processes, in the quality improvement of oil
 products has contributed to cost reduction and increased competitiveness.

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[The official language for TonenGeneral Sekiyu's filings with the Tokyo Stock Exchange and Japanese authorities, and for communications with our shareholders, is Japanese. We have posted English versions of some of this information on this website. While these English versions have been prepared in good faith, TonenGeneral Sekiyu does not accept responsibility for the accuracy of the translations, and reference should be made to the original Japanese language materials.]

The Kawasaki Refinery - JX Nippon Oil & Energy Kawasaki Plant joint project

${\rm CO_2}$ Emission Reduction by ${\rm H_2}$ Optimization Between Two Companies



Total CO₂ reduction (A>B)

At the award ceremony for selected projects



From left: Mr. Harada, JX Nippon Oil & Energy Kawasaki Plant Manager; Mr. Abe, Kawasaki City Mayor; Tomohide Miyata, Kawasaki Refinery Manager Low CO₂ Kawasaki Brand 2012 certification mark

