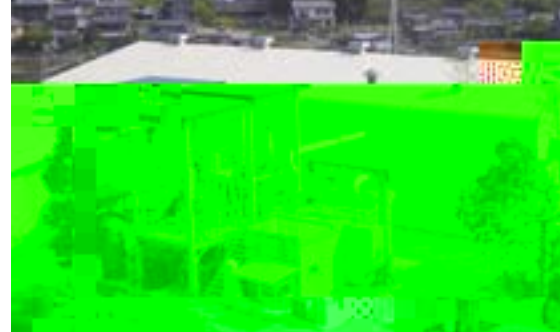


Renewable Energy Use Technologies



Test plant in Niyodogawa,
Kochi Prefecture

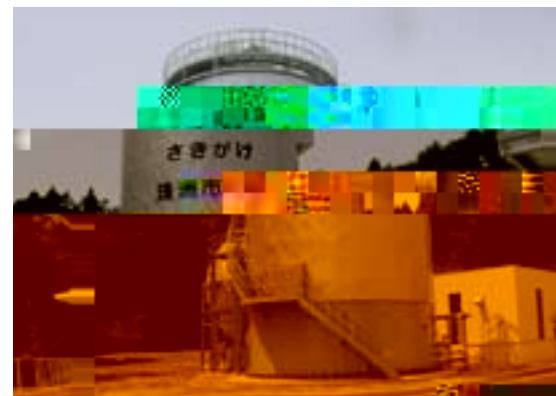
Woody Biomass Fixed-Bed Gasification, Combined Heat and Power System

Lumber scraps, wood from forest thinning and pruned branches, for example, are gasified in a fixed-bed gasifier to generate power in a gas engine. The heat generated in this process is also available. (Standard output scale: 50–200 kW)

Woody Biomass Fluidized-Bed Gasification Power Generation System

Chipped timber scraps from forested regions, for example, are gasified in a fluidized-bed gasifier to generate power in a gas turbine. The heat generated in this process is also available. (Standard output scale: 150 kW)

● Methane Fermentation System for Biomass Resources





Gas Engine Cogeneration System

Project Member | **Year** 2007 | **CO₂ emissions reduction effect** 4835 (g) | **Item** 718 | **CO₂ equivalent** 02 0 5 919

A major issue in the development of this product was controlling the abnormal combustion known as knocking. As measures to resolve this, we optimized the forms of the main- and pre-combustion chambers and developed a control system to raise anti-knocking performance. These efforts allowed us to complete this product. In addition to further improving efficiency, we will seek to promote its high environmental performance, which is exemplified by low NOx emissions, and work actively to increase sales in Japan and abroad.

CO₂ Emissions Reduction Effect of Energy-Related Products

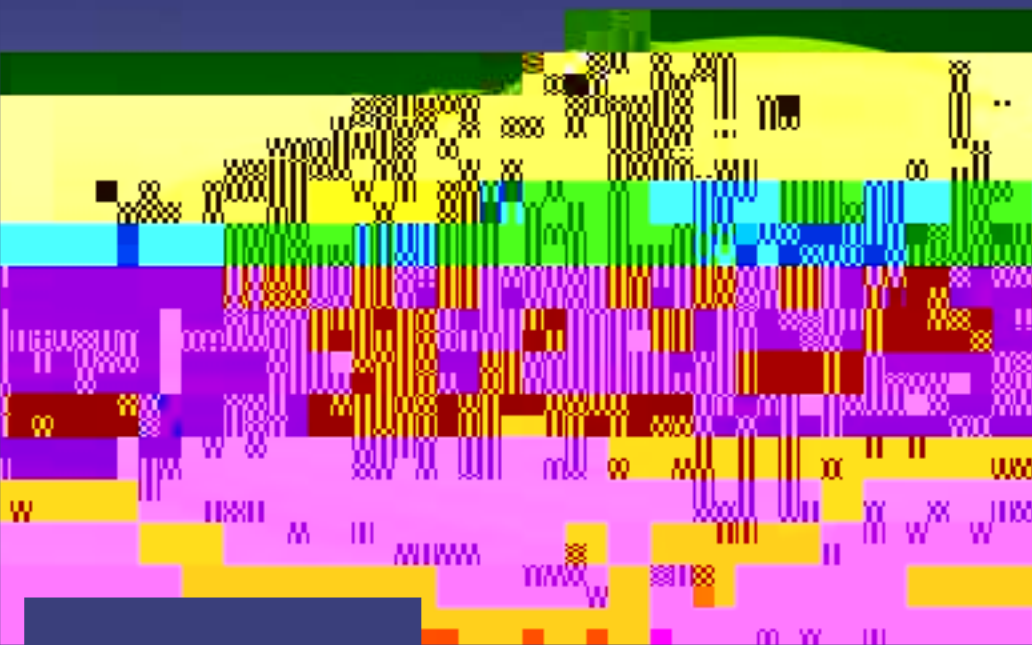
CO₂ emissions reduction effect by products delivered in FY2007
(selection of main products)

Product Name	CO ₂ Emissions Reduction Effect (g)	CO ₂ Equivalent (g)	Item No.	Year	Other





The image shows a construction site with a yellow crane and a blue crane. The crane is positioned in the center of the frame, and the construction site is visible in the background. The crane is a tower crane, and the construction site is a large building under construction. The crane is yellow and blue, and the construction site is a mix of concrete and steel. The crane is positioned in the center of the frame, and the construction site is visible in the background. The crane is a tower crane, and the construction site is a large building under construction. The crane is yellow and blue, and the construction site is a mix of concrete and steel.



Urban transportation, currently centered in automobiles usage, now faces various issues, including increased exhaust gas and greenhouse gas emissions. SWIMO offers transportation methods friendly to both people and the global environment and can solve these issues.

