

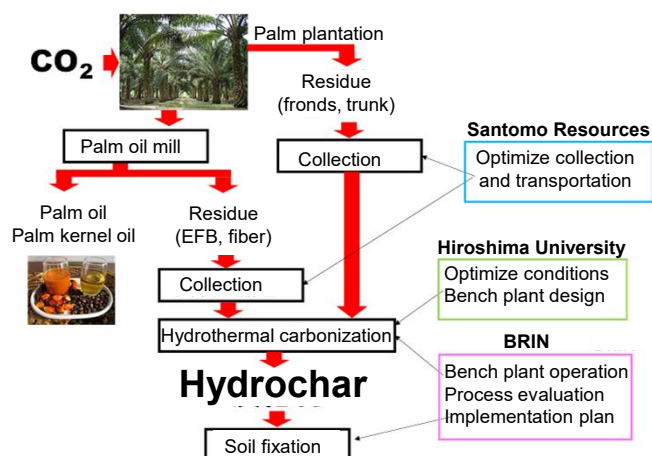
Project Title: High-Yield Carbon Recovery From Palm Residues Via Hydrothermal Carbonization (scheduled for 2024-2028)

Entrusted Parties: Hiroshima University, Santomo Resources Corporation



Outline of the Project

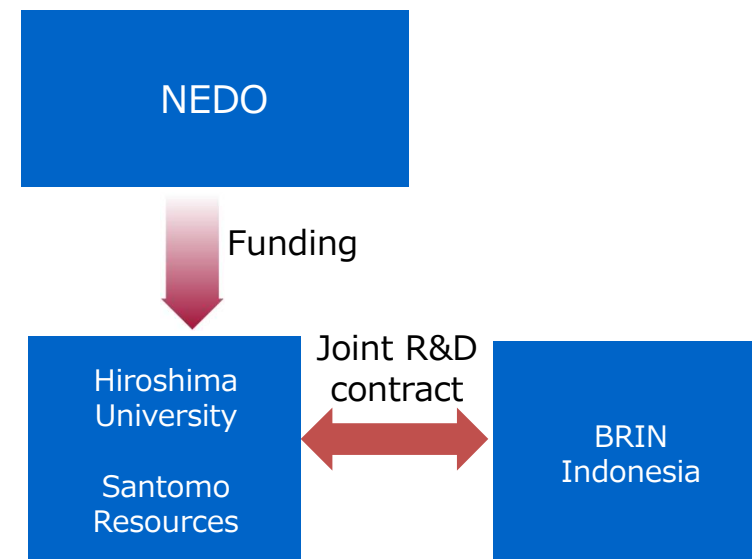
- Purpose: To dispose of waste and address global warming, palm residue is collected, carbonized, and fixed into soil.
- Research outline: Based on how palm residue is handled currently, an optimal collection method will be developed. Residue with a high moisture content will be processed using hydrothermal carbonization in demonstrations at a bench plant. The process will be evaluated so that commercialization is based on real-world conditions in Indonesia.



Significance of International R&D

- Indonesia is the top palm oil producer in the world, and therefore generates an enormous amount of residue.
- Japan has expertise in logistics, science, and technology, but tailoring to local conditions in Indonesia, where residues are generated, is necessary.
- BRIN is conducting biomass research in Indonesia, so collaboration with them should allow effective technology development and implementation.

Project Scheme



Expected Outcomes

- Palm residue collected from plantations and oil mills has the potential to fix 300 million tons of CO₂ per year. Hydrothermal carbonization and soil fixation can drastically reduce Indonesia's CO₂ emissions, mitigate the problem of waste disposal, and increase palm yields through soil amendment. The added value gained from carbon reduction can increase palm oil mills' revenues by over 30%.
- Expected CO₂ reduction from 2040 onwards is 300 Mt/year.