Sustainable and resilient social system for healthy nature

R&D Project Title : Realization of Material & Energy Circulation Technology Based on Biomass Resources

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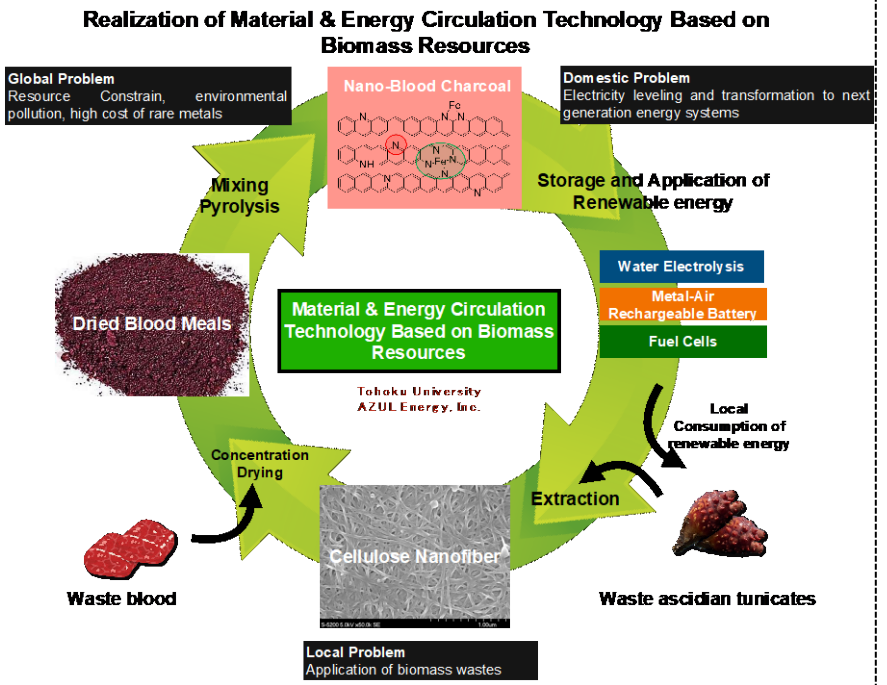
Summary :

In order to solve the problem for stable energy supply from renewable energy, this research aims the realization of low-cost and efficient fuel cells and metal-air rechargeable batteries is essential for renewable energy and surplus electricity levelling. However, these devices use large quantities of platinum group metals and resource constraints and geopolitical risks of them have been an global issue. The 'nano-blood charcoal' catalyst can be obtained by mixing and pyrolysis of ascidian-derived cellulose nanofibers and waste blood meals. It is an alternative catalyst for rare metals, which can be applicable to the catalysts for fuel cells and metal-air batteries. By development of those next generation energy devices by using nano-blood charcoal catalysts, this research aims to solve the problems of local waste biomass, domestic problems of energy equalisation and global-scale resource constraints to realize resource and energy circulating society.



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