



GLOBAL
BIOECONOMY
SUMMIT 2018

Bioeconomy related Activities in Japan

PARALLEL WORKSHOPS I

Industry (Room: Lounge)

- Industrial Bioeconomy -

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History of Bioeconomy related events

- Triggered by Oil Shocks in 1970's
 - Sunshine Plan (Alternative Energy) 1974-1992
 - Moonlight Plan (Energy Saving) 1978-1993
- Triggered by UN Climate Change Agreement Kyoto Protocol and Big Earthquakes
 - New Sunshine Plan (New Alternative Energy) 1993-2000
 - Biomass Nippon Strategy 2002-
 - Biotechnology Strategy 2002-
 - Dream Biotechnology Strategy 2008-
 - Biomass Commercialization Strategy 2012-
- Triggered by SDGs, COP-21 Paris Agreement
 - Bio(economy) Strategy (to be coming soon)

Biomass Utilization as Biomass Town and Biomass Industrial City/Region

- Biomass Town Plan (from 2005 to 2011)

- Rationale: “Biomass Nippon Strategy”(2002)
- 318 municipalities developed the plan
- Some of them led to regional revitalization centered on biomass utilization
- However, not a few of them hardly succeeded (due to lack of effective frameworks/efforts to realize the plan, etc.)

- Biomass Industrial City/Region

- Rationale: “Biomass Commercialization Strategy” (2012)
- Evaluated by technical/financial experts in light of 1) leading model, 2) feasibility, 3) regional spillover effect and 4) implementation scheme; then selected by the relevant Ministries
- 79 municipalities have been selected (as of 2017)

Commercialized Bioplastics Development

- Mitsubishi Chemical's DURABIO[®] is a bio-engineering plastic made from renewable plant-derived raw material isosorbide, which is superior to traditional fossil based engineering plastics in terms of impact resistance, heat resistance or weather resistance



- Kaneka Corporation acquired certification "OK Biodegradable MARINE" as biodegradable plastic (brand name: Kaneka Biodegradable Polymer PHBH) as a product to be biodegradable in ocean water



Promising Biofuel Related Development

- **Sekisui Chemical Co., Ltd.** developed a technology to convert all the **household waste** containing biomass and non biomass as a whole into gas, then convert it to **ethanol** using microorganisms of **LanzaTech**.
- **Nissan Motors** is developing a vehicle equipped with a system using a **solid oxide fuel cell (SOFC)** as a power generator. It is the world's first to install SOFC as a power source of a car in a vehicle. 30L bioethanol can run 600km of van type vehicle.



Biomass/Bioeconomy Related R&D Structure



**New Energy and Industrial Technology
Development Organization**



**National Agriculture
and Food Research
Organization**



*National Institute of
Advanced Industrial Science
and Technology*
AIST



**Japan International
Research Center for
Agricultural Science**



Japan Science and Technology Agency



**Japan Organics
Recycling Association**



Forest Research and Management Organization

Industrial Associations to Support Bioeconomy



Japan Plastics Industry Federation

