

Overview of the Initiative for Renewable Energy Industry in Fukushima



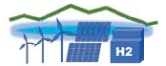
February 12, 2020

HATTORI, Yasuhiro

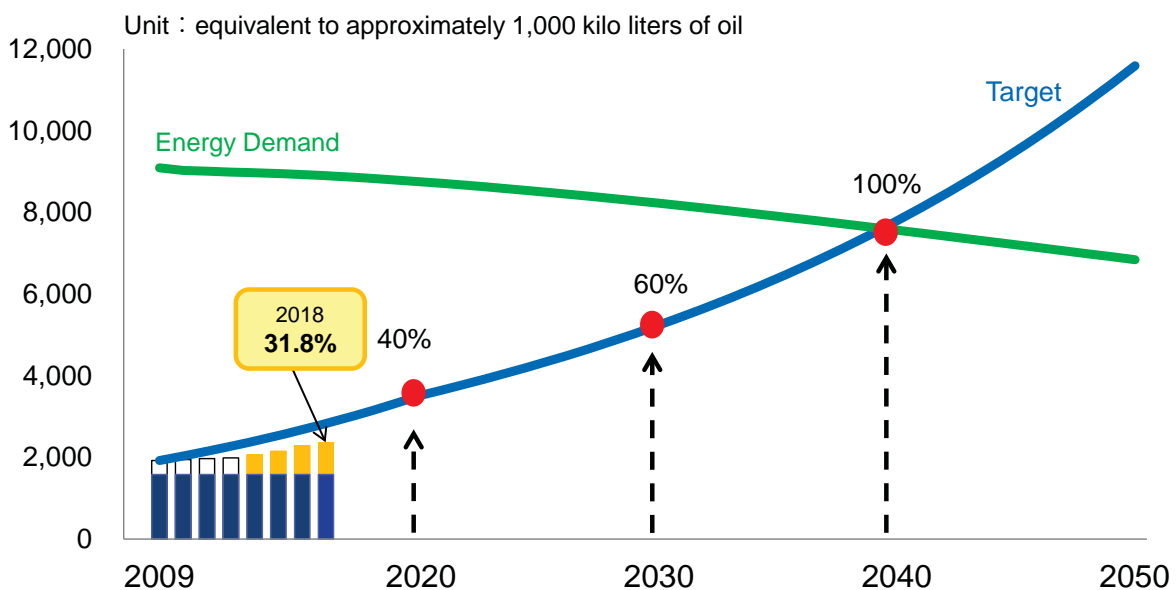
Managing Director
Energy Agency. FUKUSHIMA

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Target for introduction of Renewable Energy

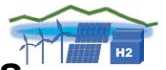


- In March 2012 Fukushima set forth a target of covering 100% equivalent of the prefecture's energy demand by around 2040.

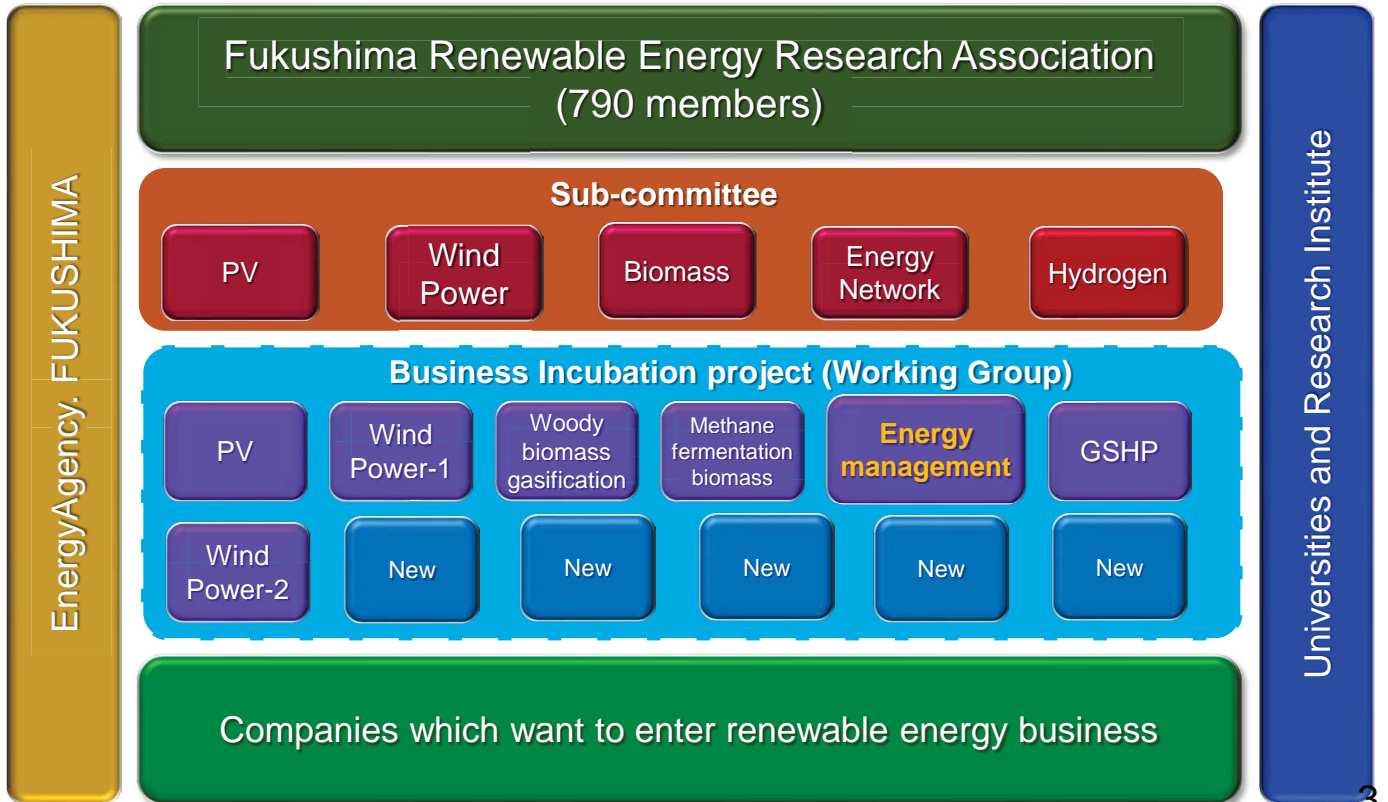


- At the same time, Fukushima had launched initiatives to create renewable energy industry.

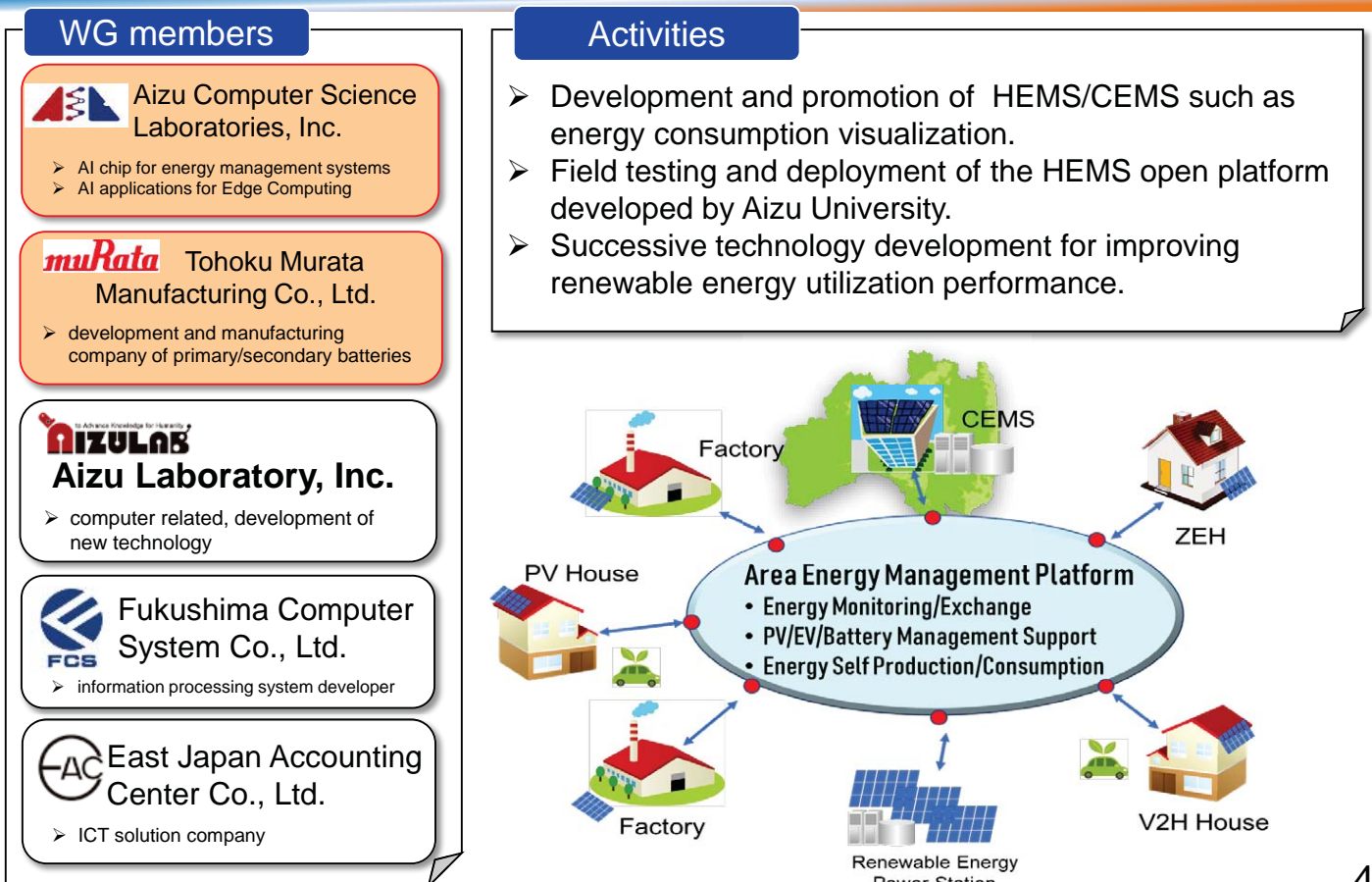
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- The Network of “Fukushima Renewable Energy Research Association” was established in 2012. And we have 790 member organizations at present.



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"AI Chip for IoT in Energy Management"

Masayuki Hisada

Director & CEO,
Aizu Computer Science Laboratories, Inc.



"Newly Developed HighPerformance /Safe Battery"



Noritoshi Imamura

Senior Manager
Energy System Group
Tohoku Murata Manufacturing Co., Ltd



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Topic 2: Fukushima New Energy Society Initiative

Background and Summary

• Fukushima Prefecture has been preparing the action plan for next 3 years to pursue expansion of renewable energy, constructing smart communities and making the

In 2016 the Japanese government launched the initiative to make Fukushima "a Leading Region for a New Energy Future".

• Fukushima was once damaged from the nuclear accident. This is the reason why Fukushima must spread out the idea of "New Energy Society" model to the world, reinforce the prefecture to become the "Fronrunner of Renewable Energy" and cluster renewable energy industry in Fukushima.

Creating Smart Communities

~ Utilize renewable energy and hydrogen for community reconstruction ~

- Demonstrations in **Shinchi Town** and **Naraha Town**
- Expanding throughout Fukushima (Feasibility studies)
- Developing hydrogen towns without CO₂

Promoting Installation of Renewable Energy

~ Offering our full support to fulfill "Fukushima spirit" ~

- < Fukushima Renewable Energy Institute, AIST (FREIA) >
 - The only research institution in Japan which is specialized against renewable energy.
- < Demo project in Fukushima: floating offshore wind turbine >
 - One of the largest wind turbines installed in Fukushima offshore (7000kW).
- < Supports no other regions offer >

Subjects to be continuously engaged
- Improving power transmission facilities and reinforcing transformer substations.
- < Support to reinforce transmission lines >
 - Support a new system which power companies can participate in for installation of transmission lines in suitable areas for wind turbines such as Abukuma and Futaba regions.

Developing the model for a Hydrogen Society

~ Starting from Fukushima: Produce, reserve and use hydrogen power ~

- < Hydrogen Production >
 - A large-scale hydrogen production facility from PV power, etc. (the world largest demonstration facility, produces up to 10,000kW)
- < Reserve and Transport >
 - Transportation of next-generation hydrogen, field demonstration of storage technologies.
 - Convert renewable energy generated in foreign countries to hydrogen, then import hydrogen to Fukushima. (Feasibility studies may be performed)
- < Use >
 - Hydrogen mixed combustion generator (Utilize Integrated coal Gasification Combined Cycle, IGCC)
 - Install hydrogen stations.

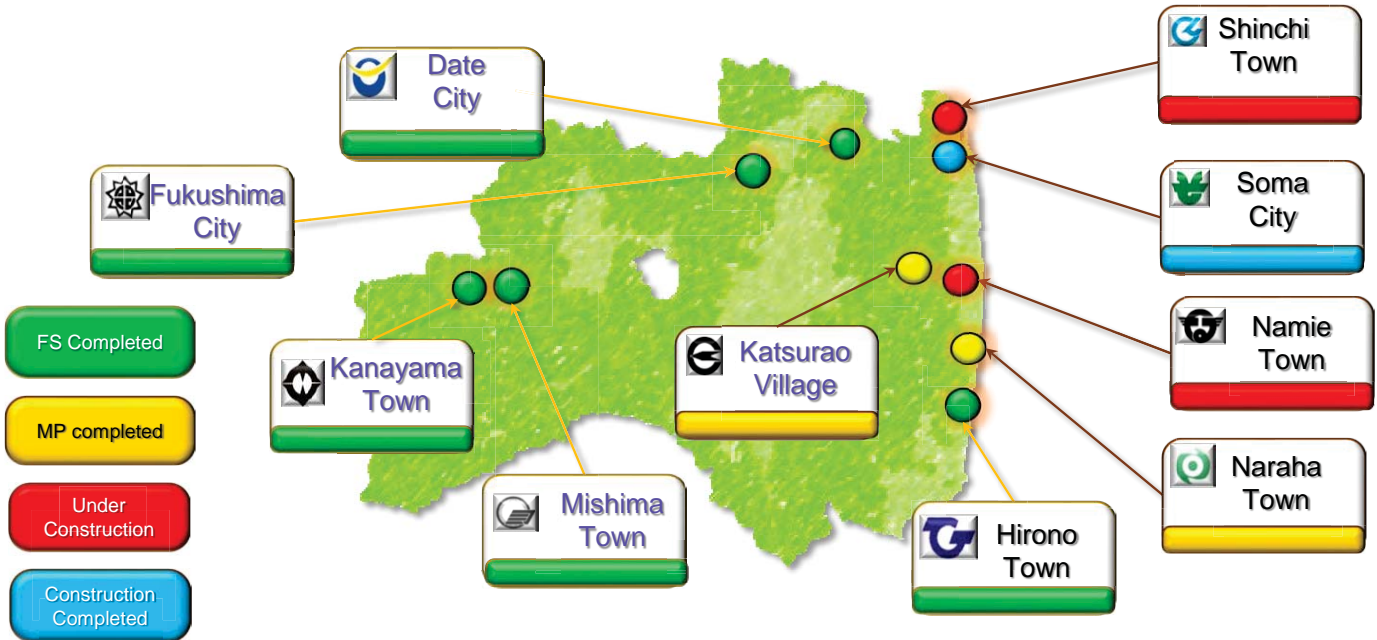
"Front Runner in Renewable Energy"

Cluster new energy industry
※ Develop the scheme to support R&D, focused on Fukushima companies

Spread the new idea, "Fukushima New Energy Initiative" to the world

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- One of the targets of the Initiative is **Creating Smart Communities**.
- Five smart community projects have been completed and/or are under construction in the costal area. And other five projects are under review in the prefecture.



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The current concept



The world's largest green H2 production facility of 10MW has been built in Namie Town



Future challenges

Towards the H2 Society that opens up the "Fukushima Plan for a New Energy Society"

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Electric Power Business Trend

Power transportation and distribution business is monopolized by large electric power companies in Japan.



◆ Electricity Power network reform

⇒ New electricity market is opened from April 2021

◆ Utilization of decentralized renewable assets

⇒ New business such as VPP business is launched in Japan.



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Please Join us at the Fukushima Booth

- 5 Fukushima-based companies and ICSN are exhibiting.
- We are looking forward to seeing you at our Fukushima Booth.

	<h3>Aizu Computer Science Laboratory, Inc.</h3>		<ul style="list-style-type: none"> ■ Artificial Intelligence (AI) ■ Blockchain technology
	<h3>ANEST IWATA Corporation</h3>		<ul style="list-style-type: none"> ■ Scroll compressor / expander ■ Binary generator ■ Steam, Boiler
	<h3>FUJIKURA COMPOSITES Inc.</h3>		<ul style="list-style-type: none"> ■ Rubber-coated fabric ■ High durability ■ 4 designs for various blades
	<h3>Tohoku Murata Manufacturing Co., Ltd.</h3>		<ul style="list-style-type: none"> ■ Safety ■ Long life ■ Fully usable capacity
	<h3>Yamato Sanko MFG.Co.,Ltd</h3>		<ul style="list-style-type: none"> ■ Reuse of waste heat(waste gas, steam, hot water) ■ Increases efficiency ■ Space-saving
	<h3>Iwaki Cooperative Support Networks Association, ICSN</h3>	<ul style="list-style-type: none"> ■ Collaboration project ■ Renewable energy networks, companies, products ■ LIB(Lithium ion battery) industry cluster 	

Please talk to them directly after this seminar or Contact Fukushima international business advisor, Ms. Kiyomatsu kiyomatsu@f-open.or.jp

