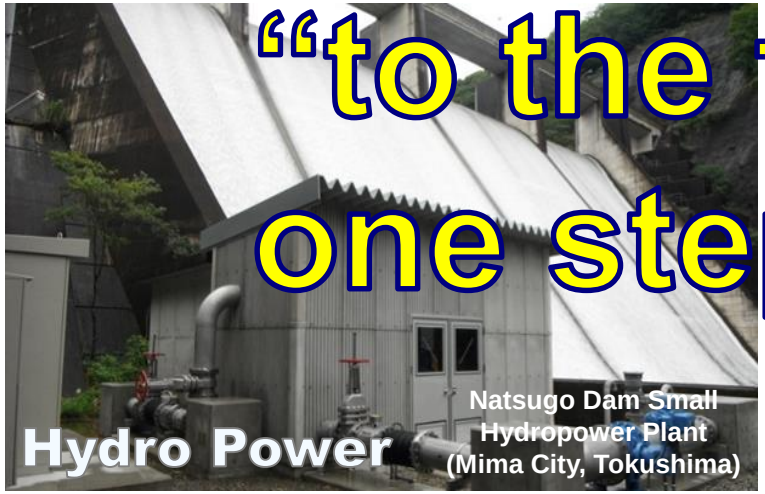
Renewable energy will take you "to the future one step ahead!"



Governor of Tokushima Prefecture
Chairman of the Renewable Energy Governors' Alliance
Kamon Iizumi

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I. Establishment of the Renewable Energy Governors' Alliance

Japan

Dependent on fossil fuels
→Increased global warming

March 11, 2011
Great East Japan Earthquake

Energy is not unlimited!

Triggered a fundamental review of "what energy should be" taking account of global warming and other aspects

[Renewable energy] will be the key!

- **"Independently distributed energy" resistant to disasters**
- **"Environmentally friendly energy" contributing to anti-global warming measures**

Renewable Energy Governors' Alliance

Established by 34 prefectures and about 200 enterprises on July 13, 2011 with the slogan of "Renewable energy."

Public and private sectors work together to take the viewpoint of citizens and to practice the bottom-up approach

II. Activities and Achievements of the Renewable Energy Governors' Alliance

Sep 2013: Tokyo won the Olympic bid

See you in clean Japan!

"Speedy" and "timely" policy recommendations (to support national policies)

Development of a new system

Strategic pricing for FIT + **Relaxation of various regulations**

- ○ Jan 2013: Licensing procedure for power generation was simplified in the River Act
- ○ Mar 2013: "Solar sharing" operations were approved
- ○ Nov 2013: "Act on the Promotion of Renewable Energy Electric Power Generation Harmonized with Sound Development of Agriculture, Forestry and Fisheries" was enacted
- ○ Jan 2015: Prolongation of the grid connection suspension issue was avoided (by amendment of the ministerial ordinance)
- ○ Apr 2015: "Fine-tuned FIT pricing" according to characteristics and scale was realized
- ○ Dec 2015: "Disclosure of energy mix" became "desirable" with full liberalization of the electricity retail market
- ○ Jun 2016: "Regulatory reform implementation plan" which specified shortening the environmental assessment period was approved by the Cabinet, etc.

Realization of policy recommendations → Acceleration of renewable energy deployment

III-1. Tokushima's Efforts <1>

First in Western Japan

Prefectural mega-solar power plant and the system to utilize it in the event of a disaster

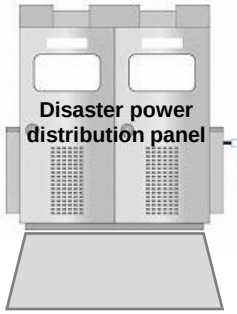
Seamless transition between normal times and a disaster

Power output: 2,000 kW
Annual power generation: 2.42 GWh

○ Normal times: Athletic field
○ Disaster times: Shelters

Seamless!

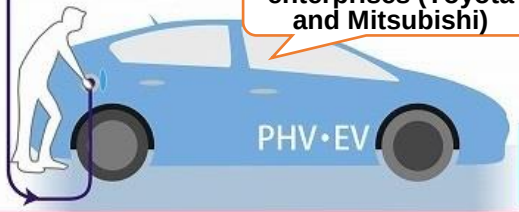
Utilization in Wadajima Green Park



In the event of a disaster, power is supplied to the "disaster power distribution panel" with a maximum output of 200 kW

Charge PHV/EV

In cooperation with enterprises (Toyota and Mitsubishi)



Installed on higher ground to prevent flood damage in a disaster

Ready to face Nankai Trough huge earthquake!

Utilization in shelters

Charge PHV/EV from the "disaster power distribution panel" and drive them to shelters, so that they can be used as a power source for lighting, TVs, radios and mobile phones in remote locations.

Shelters (schools), etc.

Charge fully and drive to shelters, etc.

III-2. Tokushima's Efforts <2>

Demonstration test of wind power generation in cooperation with fisheries

Killing not only two, but three or four birds with one stone!

September 2008: The largest onshore wind farm in Shikoku was established.

Win-win solution for everyone

- Deployment of independently distributed energy in areas with vulnerable grids
- Development of new fishing grounds
- Creation of landmarks to trigger community revitalization
- Acceleration of the Sixth-Sector Industry, and so on.

Evolution

March 2016: The first "wind-lens turbine" in Shikoku was installed at the facility of the local fisheries cooperative association.

Latest wind turbine developed by Kyushu University!

By installing a brim around the rotor, the wind speed will be about 1.4 times faster, and the power generation will be nearly tripled!

Further evolution

In the future:
Offshore wind power
+
Fish reef (with LED fishing lights, etc.)

→ In addition, it will supply power to shelters in the event of a disaster

III-3. Tokushima's Efforts <3>

"SMART Corridor and Natural Energy Museum"

Let children watch, touch and feel the advanced technology!

Small hydropower

Small wind power

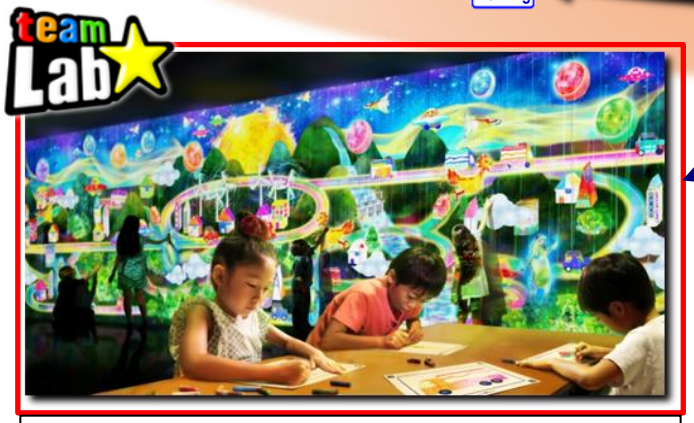
Biomass power

(planned)

Solar PV power

Kawaguchi Dam
Lake Ajisai

Hydropower



Digital Museum "Sketch Smart Town"

Hydrogen Production Experimental Device

III-4. Tokushima's Efforts <4>

Utilization of the ultimate clean energy "hydrogen"

Development of the hydrogen grid society

Increased global warming

Vulnerable grid interconnection

Store electricity with "hydrogen" and transport it to where it is demanded

- Generate "hydrogen" with renewable energy
- Transport "hydrogen" to where electricity is in demand, and convert it into electricity

CO_2 Free!

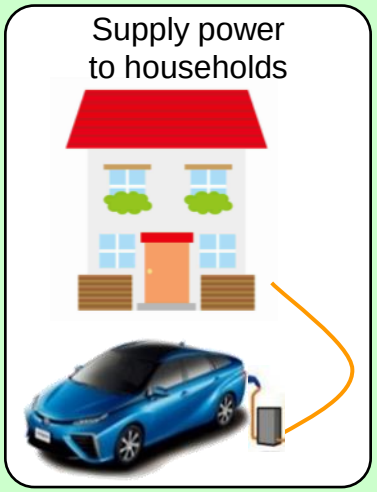
Solution for grid issues

Demonstration in the "Renewable energy-based hydrogen station"

Solar panels installed on the roof of the Prefectural Office

"Fuel cell vehicles" and "Renewable energy-based hydrogen station"

In addition, it is also expected to serve as an "emergency power source"!



Mobile "power plant"

Wisdom lies in the communities!

As the leader of community revitalization, Tokushima will realize the future one step ahead!

Thank you for your kind attention.