

Energy Policy of Fukuoka City

Realization of smart living from renewable energy


-“produce energy”, “use energy efficiently”, “live comfortably” -

Dec. 11, 2014



Fukuoka City

Agenda

- (1) Energy Policy of Fukuoka City
(summary)**
 - (2) Promoting the Introduction
of Renewable Energy**
 - (3) Initiatives of Hydrogen·Fuel
cells**
 - (4) Promotion of Smart
Community**
- 
- A background image of the Fukuoka skyline, featuring several modern skyscrapers and a large stadium-like structure on the left, viewed from across a body of water.

Energy Policy of Fukuoka City (summary)

Vision

“Produce”, “Use efficiently” and “Live comfortably”
Create comfortable life in Fukuoka !

● Early realization of “Fukuoka Model”, self distributed energy supply society

To understand the characteristics of Fukuoka, by cooperating with wide-area energy infrastructure, introduce and efficiently utilize the distributed energy supply by maximum use of various types of energy.

● Be the model city for environment and energy

Being friendly to earth, take steps to deal with disaster and blackout, and improve people’s living quality

《Goal for 2030》

Global Eco

Living environment

Business innovation

● Introducing energy saving/renewable energy in housings, buildings and next the generation’s vehicles

● Energy will be used more efficiently as the citizens and companies will understand it better

● Systems to interchange the energy will be created in the community. By strengthen the network with ICT, living related service will be improved more.

● Energy distribution will be promoted more as the measurement for future disasters

● Creating new energy industries from Fukuoka

● Industry-academic-government cooperation of Fukuoka will be watched by other parts of Japan and abroad



FUKUOKA CITY

Promoting the Introduction of Renewable Energy

Fukuoka City is a Power Generation Provider !

Mega Solar Power Plant



Rent rooftops of buildings own by the city

1st

Ohara Mega Solar power Plant (Imazu, Nishi-ku, Fukuoka)

[Power generation started] Feb 2013
[Power outlet capacity] 1,000kW
[Annual power generation] 1.16 million kWh (eq. to power consumption of 220 hh)
[Investment] approx. 520 million yen (20years) ※lease contract
[Total power sales for 20 yrs] 850 m yen

The 1st one among designated cities !

2nd

Kamata Mega Solar power Plant (Kamata, Higashi-ku, Fukuoka)

[Power generation started] March 2014
[Power outlet capacity] 1,000kW
[Annual power generation] 1.08 million kWh (eq. to power consumption of 200 hh)
[Investment] approx. 50 million yen (20years) ※lease contract
[Total power sales for 20 yrs] 770 m yen

-Using a completed landfill
- Having auto operation function

Fukuoka City rents rooftop space of buildings owned by the city to private business operators, and the operators have installed solar power generation facilities on the rooftops.

Merit

Initial investment is not needed

→ Able to installed the facilities in many places simultaneously
→ Able to install it in large-scale

Merit

City is able to receive stable rent

Merit

Able to install automatic operation functions and fuel cells

Installment record of renewable energy for facilities of Fukuoka City **power outlet capacity 73,333kW (end 2013 : 169 facilities)**

FUKUOKA CITY



Initiatives of Hydrogen·Fuel cells

Challenge for greater diversification

● take the lead of the installation of renewable energy to public facilities

Expand the usage of rooftop space of public facilities, or encourage to use other space such as water surface

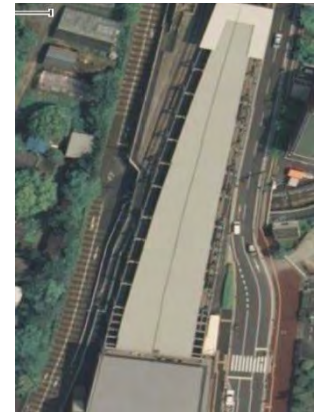
A ward office



● support commercial facilities to install renewable energy

City development program with citizen's participation. (Power generation initiatives by city-citizens' cooperation)

Subway
Kaizuka
station



● Development · dissemination of various types of renewable energy

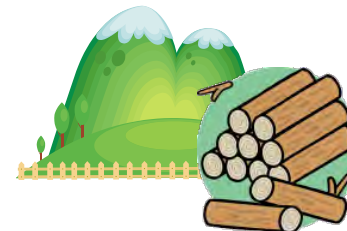
Micro wind power, micro hydro power generation, wooden biomass, etc.



Wind-lens turbines



Micro hydro power
in a building



Wooden biomass



水素・燃料電池の取組み Hydrogen & Fuel Cell Projects

Prezent

Stage of practical applicaion

Future

現在

実用化段階

将来

Industrial Use
工業プロセス利用

Transportation
輸送

Power Generation
発電

Consumer Use
民生用

Special Use
特殊用途

auxiliary power supply
各種補助電源



提供: JX日鉱
石エネルギー

石油精製

Petroleum refining



Optical fiber production
光ファイバー製造

宇宙 Space



ロケット燃料
Rocket fuel



Fuel cell vehicle
燃料電池自動車
(FCV)

民生用

Consumer Use



家庭用燃料電池
(エネファーム)

Fuel cell for household



水素発電
業務・産業用燃料電池
Hydrogen generation
& Fuel cell for industry



Vehicle for business use
業務用車両
(燃料電池バス、フォークリフト)



燃料電池鉄道車両
Fuel cell train

燃料電池スクーター
Fuel cell bike



Hydrogen or Fuel cell ship
水素燃料船
燃料電池船



水素ジェット飛行機
燃料電池飛行機
Hydrogen or Fuel cell airplane



Research submarine
調査用潜水艇
潜水艦 等



冷凍トラック
特殊車両 等

工業プロセス利用
Industrial Use



水素還元製鉄
Hydrogen reduction
ironmaking

出典: 経済産業省「水素・燃料電池戦略ロードマップ」(2014年6月)
"Roadmap for Hydrogen & Fuel Cell Strategy"

by Ministry of Economy, Trade & Industry of Japan

FUKUOKA CITY



Promotion of Smart Community

1st in the world

Commence Dream Project from Fukuoka Hydrogen Leader City Project

Household



drainage

Chubu waste
water treatment
center



Hydrogen

Fuel cell vehicle

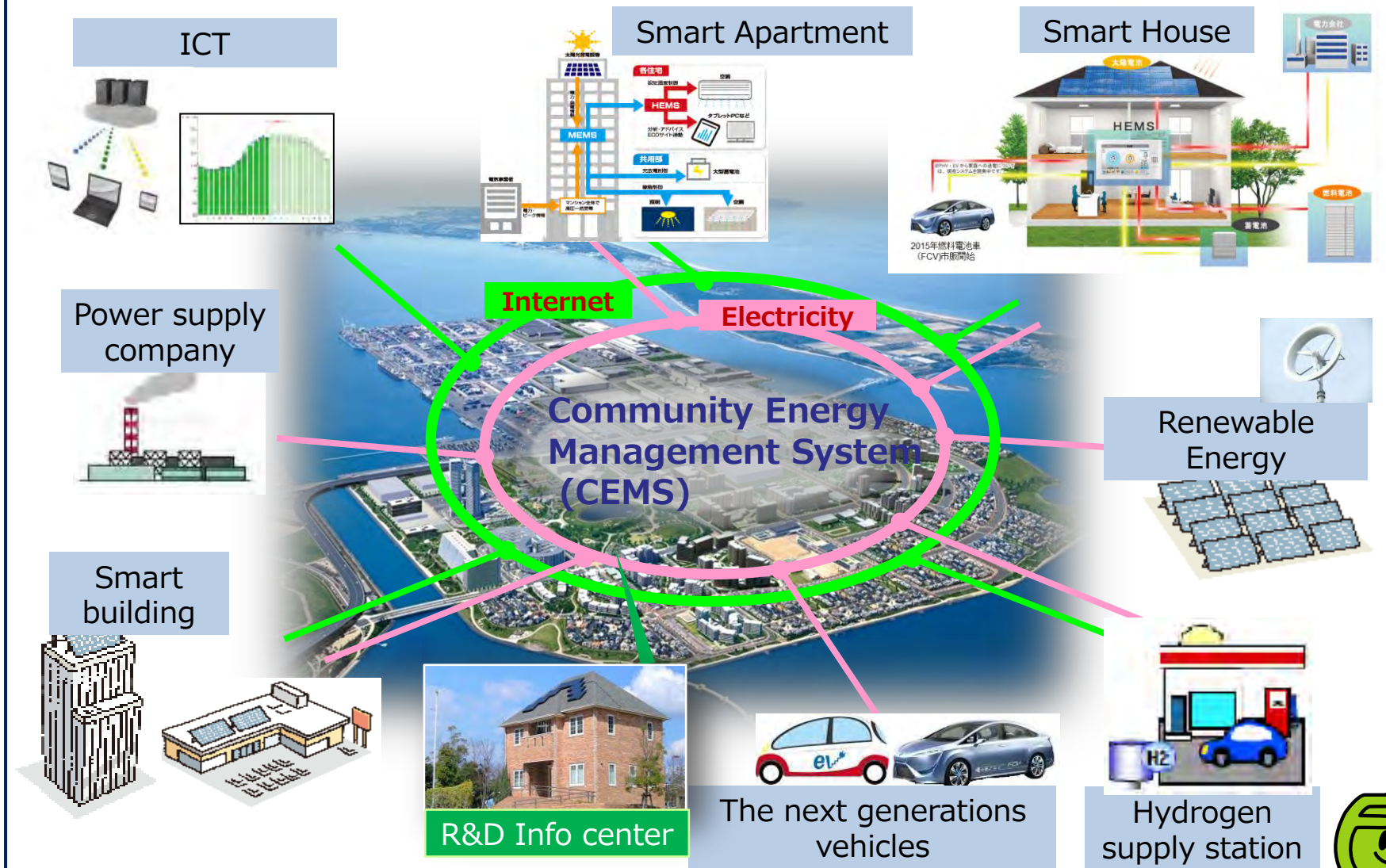


Near Yafuoku dome



Promotion of Smart Community

Island city Smart Community Project



Promotion of Smart Community

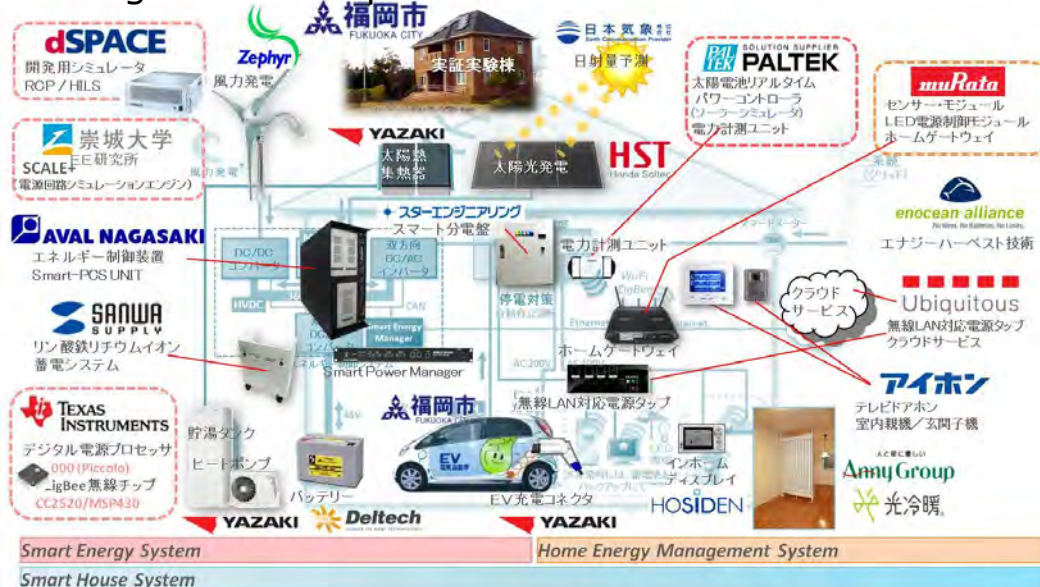
● Fukuoka Smart Community Project Council

Industry-academic-government coop. organisation that promote smart community in Fukuoka City. Efficient use of renewable energy, living assistance service using IT, more practical use of fuel cells technology, creation of smart community related business and improvement of life quality by promoting capacity building of people.



● Fukuoka Smart House Consortium

In order to establish sustainable low carbon society, inaugurate Fukuoka Smart House Consortium by enterprises / universities that study energy related equipment and system development. Undertake demonstration test with the key words of "produce, store, efficiently use energy at the housing exhibition space.

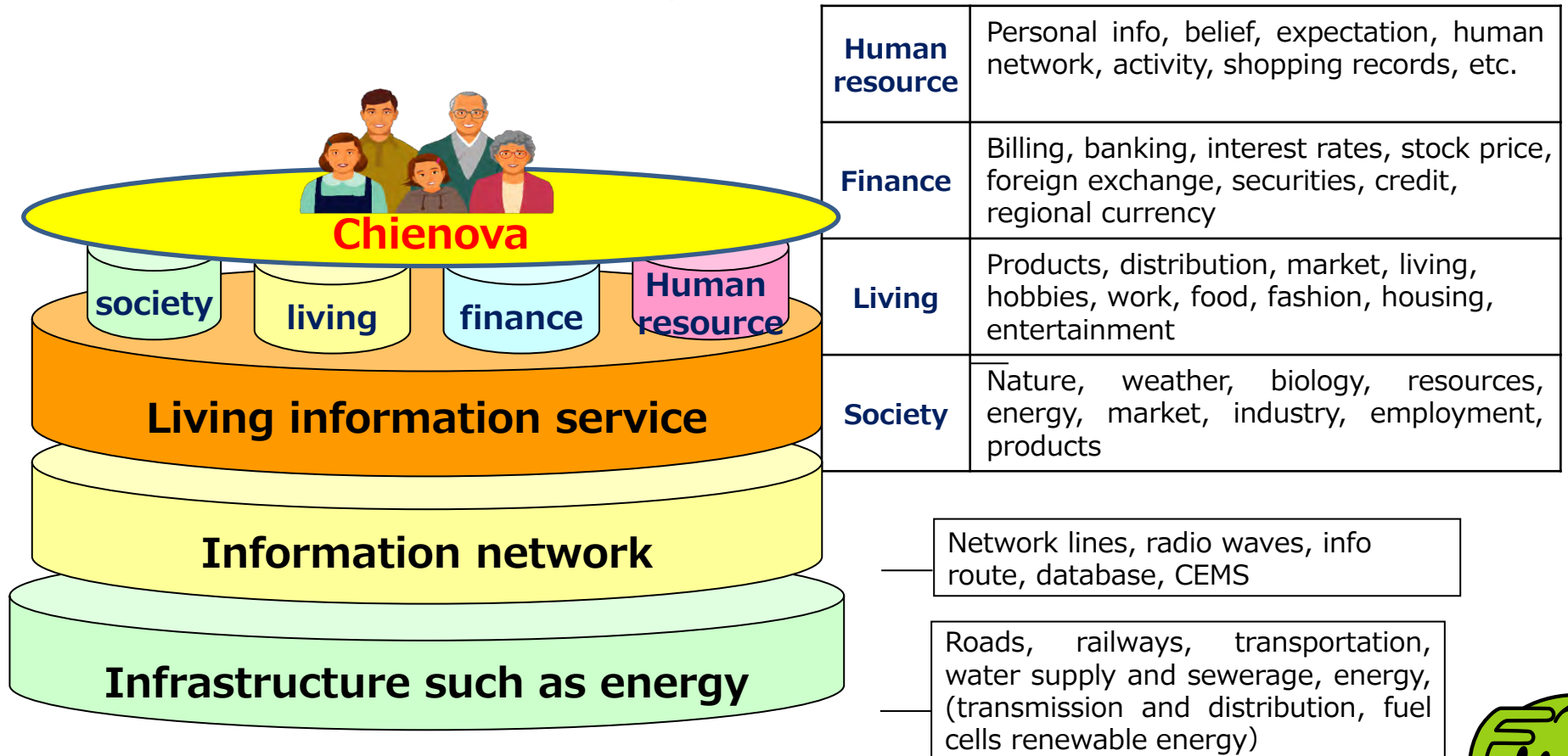


Fukuoka Smart Housing Exhibition space



Promotion of Smart Community

- To achieve smart community where people can recognize better quality of life, making good designs and system of living info service is needed.
- To make residents to notice the importance of Smart Community Project, showing the vision of how the life would be improved, how communities be richer in quality is important.
- Fukuoka Smart Community uses communication platform method that can bring out the potential needs of residents for the realization of comport of residents and betterment of communities.



An aerial photograph of a coastal city, likely Fukuoka, Japan. The city is built on a peninsula and is surrounded by a large body of water. In the background, there are several islands and a range of mountains. The city features a mix of modern buildings, residential areas, and green spaces. A large bridge or highway is visible on the left side of the image.

Thank you,

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