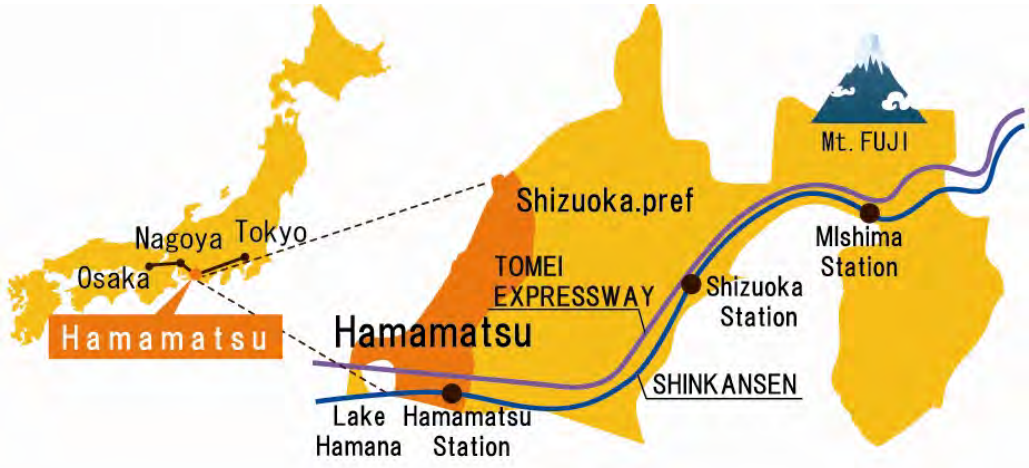
Towards the Building of a Smart City

Mayor of Hamamatsu, Yasutomo Suzuki

1. Hamamatsu's Characteristics

Access



Population & Area

810,000 people / 1,558km² (2nd largest in Japan)

Industries

SUZUKI YAMAHA HONDA The Power of Dreams KAWAI Roland

YAMAHA F.C.C. HAMAMATSU

Tourism & Music Culture

Lake Hamana

Hamamatsu Castle

Hamamatsu International Piano Competition

2. Background

March 2011: Great East Japan Earthquake and Fukushima Daiichi Nuclear Disaster

National Government	Thorough review of energy policy towards stable supply of energy, etc.
Local Governments	Promotion of policy for securing energy to support citizen and industry activities instead of relying on the national government or power companies.
Citizens & Businesses	Introduction of distributed power sources such as renewable energy and gas cogeneration, and the promotion of comprehensive energy conservation.

April 2012:
"New Energy Promotion Operational Headquarters" Organized

March 2013: "Hamamatsu City Energy Vision" Laid Out

3. Hamamatsu City Energy Vision ~Structure for the Building of a Smart City~

◆Four Pillars of Energy Policy

- Introduction of renewable energy and more
- Promotion of energy conservation
- Introduction of energy management systems ~Development of Smart Communities~
- Creation of environmental/energy industries

Future Vision for a “Smart City”

3. Hamamatsu City Energy Vision ~Structure for the Building of a Smart City~

◆Energy Policy Goals / FY2011 ⇒ FY2030

★ Energy Independence Percentage

4.3% ⇒ 20.3%

$$\text{Energy Independence Percentage} = \frac{\text{Renewable Energy, Etc.}}{\text{Total Energy Use in the City}}$$

★ Amount of energy introduced

Renewable energy

154,756,000 kWh ⇒ 795,100,000 kWh *5.1 times FY2011

Gas cogeneration

66,135,000 kWh ⇒ 188,000,000 kWh *2.8 times FY2011

★ Energy conservation (Reduction of electricity usage)

FY2010: 5,397,730,000kWh

⇒ FY2030: 10% reduction（4,858,000,000 kWh）

4. Current Progress As of March 2014

● Introduction of renewable energy, etc.

Solar Power Generation

Yearly Production
158,507,000 kWh

Wind Power Generation

Yearly Production
51,724,000 kWh

Biomass Power Generation

Yearly Production
66,472,000 kWh

Small-Scale Hydroelectric Power Generation

No Results

*Approved large-scale hydroelectric power generation output: 603,900 kW

Gas Cogeneration

Yearly Production
59,333,000 kWh

Total Amount:
336,036,000 kWh
*Equivalent to the yearly power needs of 84,000 standard homes

4. Current Progress As of March 2014

● Promotion of energy conservation / Reduction of total energy use in the city

Units: kWh	FY2010	FY2011	FY2012	FY2013
Electricity Usage	5,397,730,000	5,158,347,000	5,128,333,000	5,119,965,000
Comparison to base year (FY2010)	–	▲4.43%	▲4.99%	▲5.15%

★ Energy Independence Percentage

$$\frac{\text{Renewable energy, etc.}}{\text{Total energy use in the city}} = \underline{6.6\%}$$

4. Current Progress As of March 2014

Development of Smart Communities

Development of smart house blocks in partnership with private enterprises

5. Future Developments

- Renewable energy and more
  - Increased introduction of solar power generation ⇒ #1 in Japan
  - Construction of biomass power generation plants that use unused lumber, raw waste and sewer sludge
  - Construction of small-scale hydroelectric power plants
  - Construction of small-scale thermal power plants
- Energy conservation
  - Particularly, comprehensive energy conservation in residential sectors (houses, apartments) and business/civil sectors (shops, offices)
- Smart communities
  - Make individual buildings such as houses and factories smart
  - Network smart buildings into CEMS
  - Development of smart house blocks
- Environmental/energy industries
  - Development of energy saving technology
  - Development of energy management technology that uses ICT

6. Summary

Smart City = City Strengthening

A society free of worries about energy

that protects citizen and industry activities