International Forum on the “FutureCity” Initiative (Breakout Session4)
Evaluation system for participatory governance
toward self-sustaining development
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Explanation of Breakout Session 4 objectives Evaluation system and participatory governance which realize social system innovation

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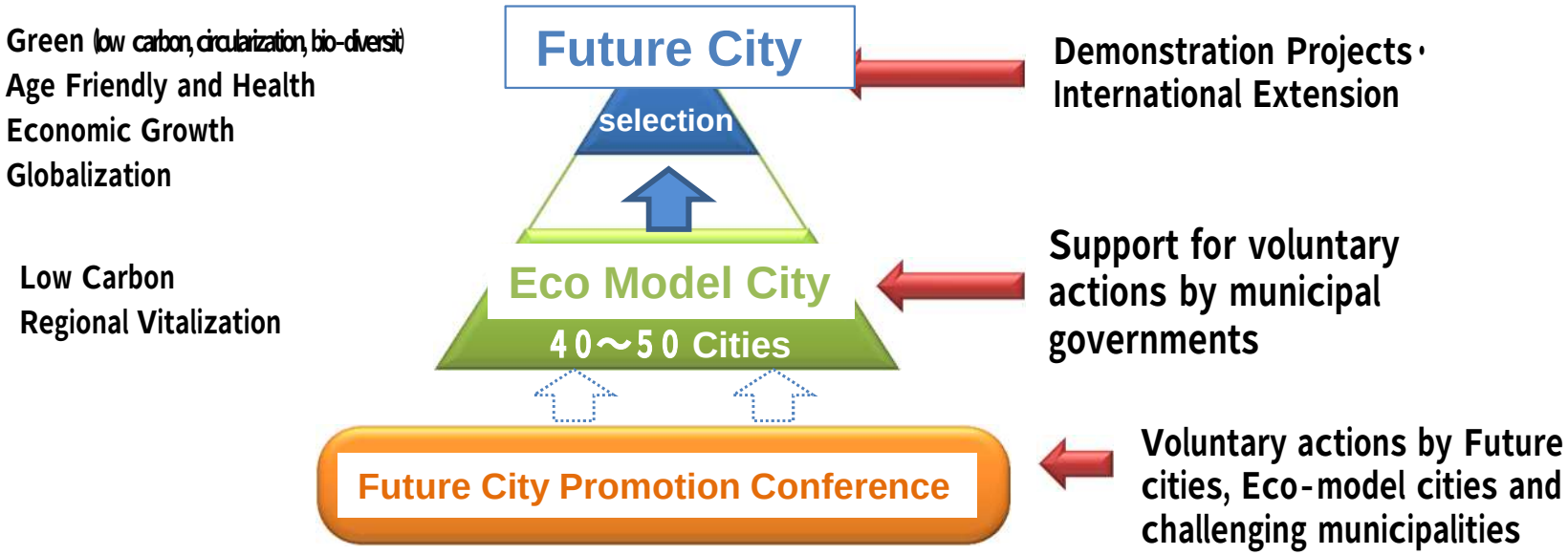
Future City and Eco-Model City

Future City

○Highest Sustainability for Green, Social and Economic value creation
○Eleven Cities and Regions were designated in 2013 as value creation centers with citizen power for green and age friendly society

Eco-Model City

○Low carbon city initiative to support Future City Initiative
○As Thirteen Cities were designated in 2008 and seven cities were designated in 2012, twenty Eco Model Cities make pioneering challenge for low carbon innovation to reduce GHGs dynamically



※Non-members of the Council can also apply to be an Eco-Model City

Key to realizing social innovation

- Frank W. Geels (2005) "System Innovation"

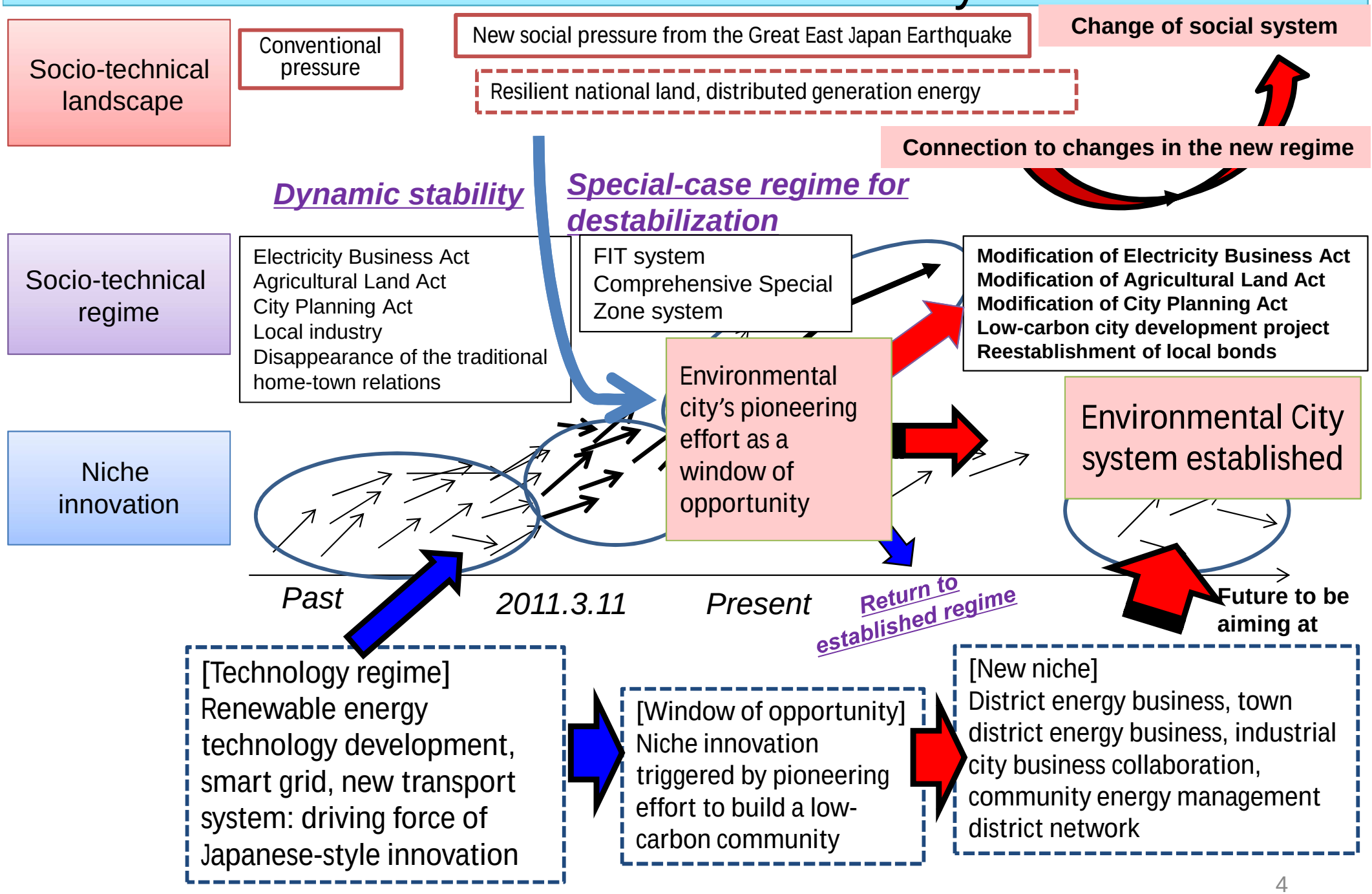
In the fields of transport, telecommunications, housing, energy and food, innovation in socio-technical systems is necessary on top of individual technological innovation

- OECD(2011) Green Growth Strategy

Market mechanisms are insufficient for building production and consumption systems with high environmental efficiency.

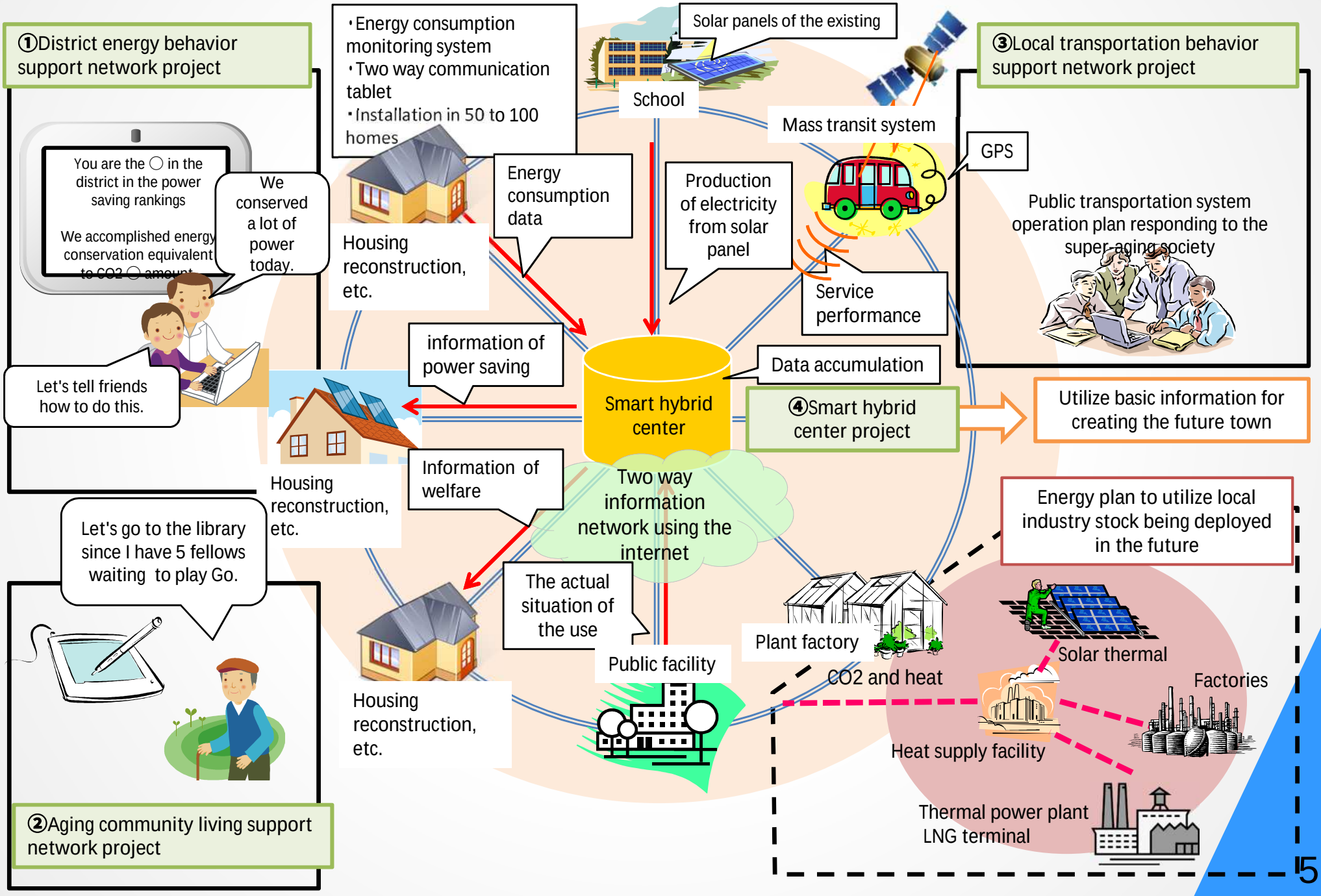
The policy to increase the awareness of consumers and producers is needed, along with the appropriate regulations and price-signal inputs

Significance of the environmental city based on social innovation theory



Restoration support database development project in Shinchi Town, Fukushima Prefecture

Future City pioneering model project of a two-way information system decided by the Cabinet in FY2013



Energy conservation support system concept (draft)

1. 1. Visualize electricity use in the residential units

1. 3. Energy conservation promotion

Evaluation of support information

Example display of electricity usage

Pre-survey

Project period

Post-survey

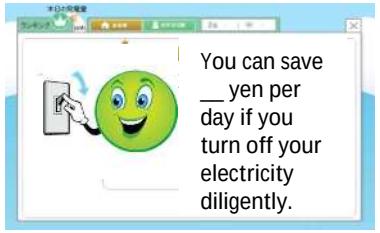
Example display of energy conservation rankings

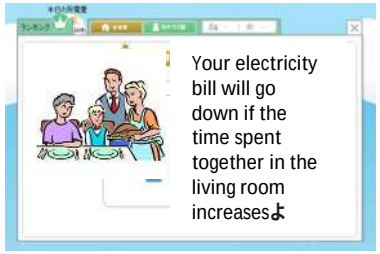
Analysis by local area after the second fiscal year

Capable of displaying use by use

Graphical representation of the electricity usage (up to 6 lines in this demonstration)

Environmental behavior support information dissemination





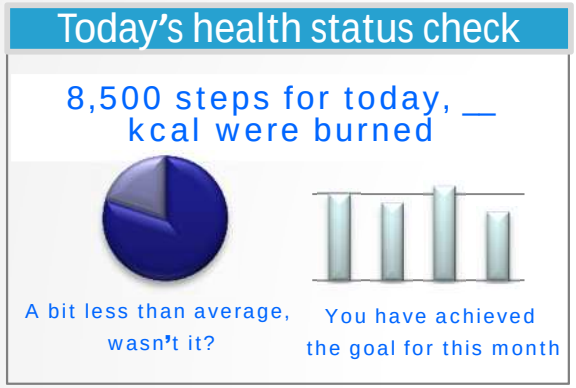
Verifying the effect of the energy conservation system

- ✓ Electricity savings verification
- ✓ Electricity savings incentive effect verification
- ✓ Environmental awareness change factor analysis

Concept of systems related to “daily life environment improvement”

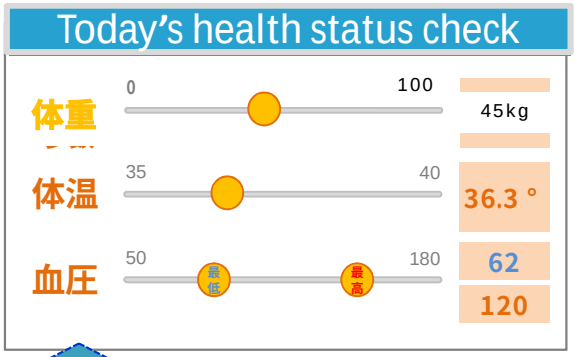
2．1. Evaluation of support information

Daily exercise amount management display example



2．2. Health management support function

Health status management display example



After the next fiscal year

Register the weight, temperature, and blood pressure for today

Start with something you can do to deal with undiagnosed diseases

You exercised enough. Let’s avoid vigorous exercise risking heat stroke today.

Announcement for the next education opportunity

Will do historical walk including visit to Mt. Karou

Examining the effect of health and exercise support system

- ✓ Correlation analysis of exercise amount and health status
- ✓ Check effectiveness of information dissemination to prevent undiagnosed disease

Aiming to promote programs for health and exercise to reduce increasing cost of health insurance and to increase the satisfaction level.

Community life behavior support network system configuration

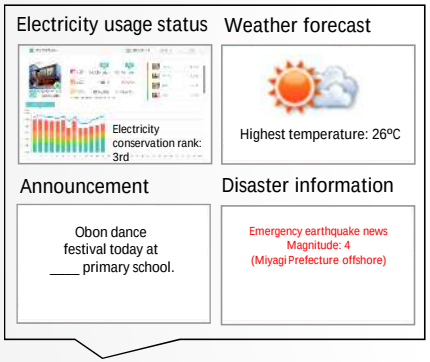
Monitoring the community energy, environment, daily life information of restoration municipalities and providing two-way information

Weather information
Community information
Disaster information
Announcement
Word-of-mouth information
Traffic information

Information dissemination using push technology

【Each residence】

Visualization of electricity usage



Smart meter installation

・It seems rather cool today; let's not start the air conditioner.
・We scored 3rd in this week's electricity saving rankings.

【Major effect】
- Promotion of eco-activities by active provision of information
- Raise awareness of electricity conservation through visualization
- Watch over the elderly by observing electricity usage

Transmit and view electricity usage

Smart hybrid center

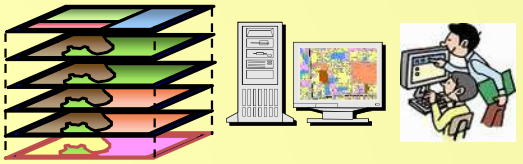
○Having the basic data of the locality (geographic data, land use, future plan, population data, etc.).
○Having information about each residence, its electricity usage, amount of power from the generation facility.
○Having functions to support the planning measures to support the project to transform Shinchi Town into an Environmental City by analyzing data and information from multiple sources.

Electricity usage database
Weather data
Traffic data
Population data
Land-use status
Fundamental map information

Analysis using data

Building the integrated environmental data and energy database for the restoration municipalities

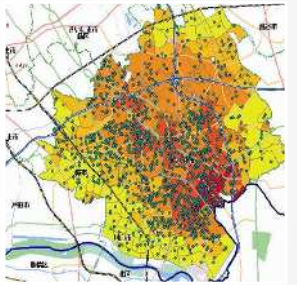
- Electricity usage status
- Land-use status
- Weather data
- Population data
- Topographical and satellite data



【Analysis using GIS】

(Example of analysis)
Real-time energy supply and demand forecast

(Example of analysis)
Information dissemination and analysis of CO2 reduction effect



- Analysis of daytime population vs. nighttime population as well as local energy usage status
- Analysis of land-use status and energy -sage status
- Analysis of differences in weather conditions in relation to electricity supply and demand conditions

【Major effect】
- Clarification of environmental impact and understanding of the progress
- Understanding of the reduction in environmental impact through information dissemination, policy formulation support
- Support consideration of dynamic pricing that adjusts the demand for electricity to the supply

Innovative Multi-stakeholder Participation System by Information Technology Innovation

【Expected Social System Innovation】

Information Communication Technologies (ICT) will provide the new phase of participation and decision making among various stakeholders

Centralization by one-way information system

-to revitalize of local community network ‘Kizuna’ through dual direction information system

-to integrate information sharing among environment, aging, health and local lives

-to share the recognition level of local circumstances, future visions and action programs

Innovative Multi-stakeholder Participation System by Information Technology Innovation （2）

【Challenges】

○Collaborative regional information system and management among citizens, business sectors and governments

-from Confronting to Collaborative communication

○Efficient local governance system by utilizing ICT function

-information sharing and management system by ICT

○Common indicators and information in addition to comments and opinions

- Shared recognition by objective, scientific and quantitative measurement and indicators

⇒Monitoring, Reporting and Verification System

Understandable Indicator System (multiple-integrative)

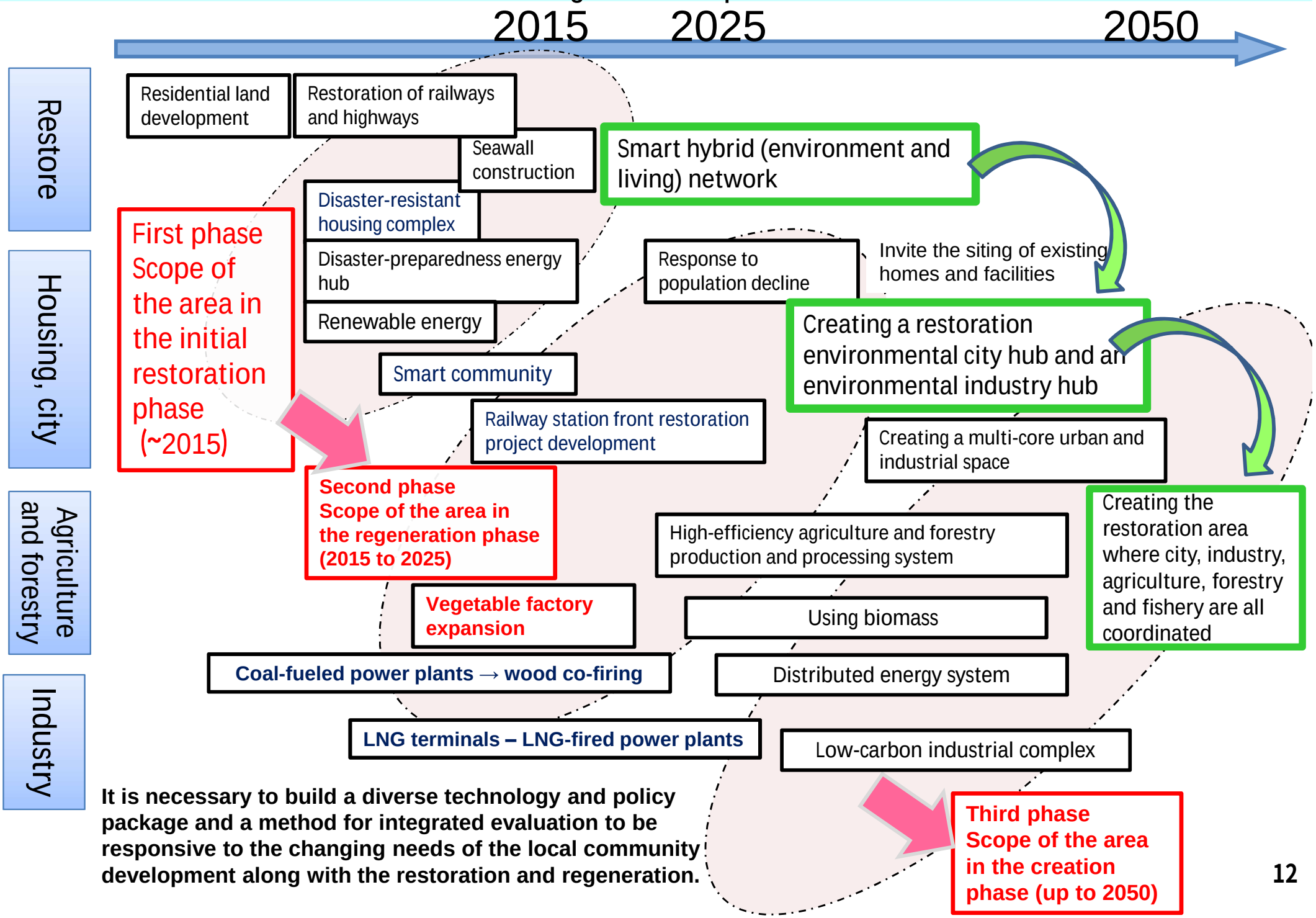
Evaluation of "Future Cities"

	Viewpoints	Target Area	Time Span
(1) Flow	Evaluation of progress of each project listed in the plan (evaluate index linked to project)	Area covered by plan	1 year 5 years
(2) Stock **(status quo)**	Comprehensive evaluation of the environmental performance of whole city (by CASBEE for Cities*)	Area of Whole city	10 to 50 years
(3) Governance	Evaluation of Implementation process of cities (organization and what to do)	Both Plan-covered area & Whole city	1 year 5 years

⇨ First step (1)&(3) : self-evaluation
(2) : evaluation based on objective data

⇨ Final Evaluation : third-party evaluation

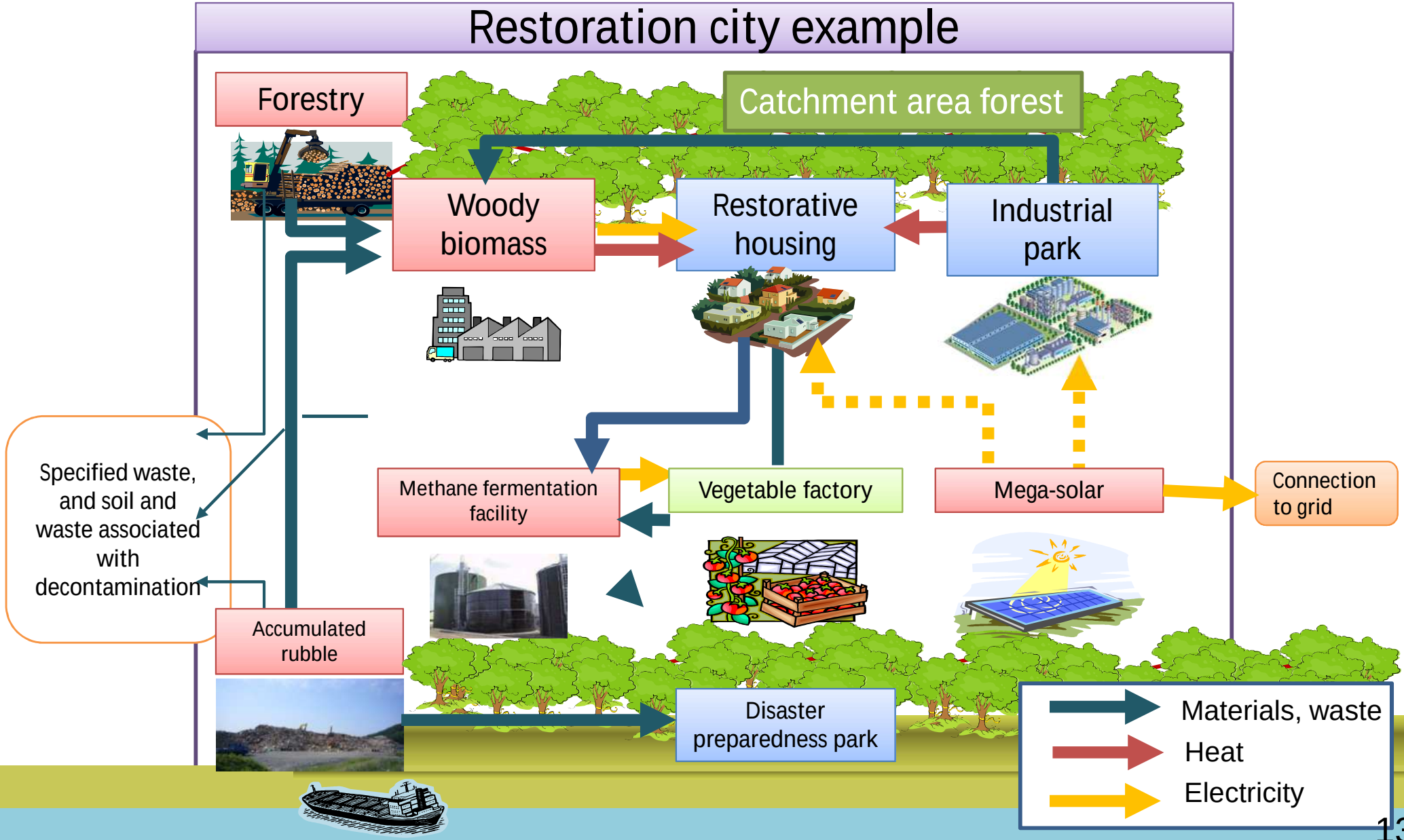
Example of short-term and mid-to-long-term technology and policy package in the restoration and regeneration process



It is necessary to build a diverse technology and policy package and a method for integrated evaluation to be responsive to the changing needs of the local community development along with the restoration and regeneration.

Toward a model of local revitalization utilizing local resources

- After decontamination, utilize rubble from surrounding areas as well as natural energy for cyclical use of resources Build a system. Design short-term to medium-term recovery operations, while targeting as a project for the medium- to long-term reconstruction, a new industrial complex where local manufacturing, agriculture, forestry and fisheries work together.



Social innovation of the environmental city disseminating the information

Values brought in by social innovation responding to environmental and aging issues

1. Vitalization effect of proactively implementing the foundation for a low-carbon, aging society (variable adaptation values)

Effect of reducing future health risks, responding to exogenous variables and disasters by improving community service autonomy

2. Effect on improvement of other types of local community vitality by responding to the environmental and aging issues (value of environmental co-benefits

Synergistic effect from environmental energy infrastructure, an economy based on daily life foundation, and disaster preparedness

3. Increase the autonomous governance of the community through diverse entities acting collaboratively (town management effect)

By developing trusting relationships and working together locally, public-private partnerships will have new effects based on the local connections between residents and corporations.

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