

International Symposium on “Realizing Low Carbon Cities in North-East Asia:
Bridging science, policy and promoting cooperation”
5-6 December 2013, Chinese Academy of Social Sciences, Beijing

views of the partnership

*How the Japanese experience of eco-city can support
other Asian cities in developing Asian countries?*

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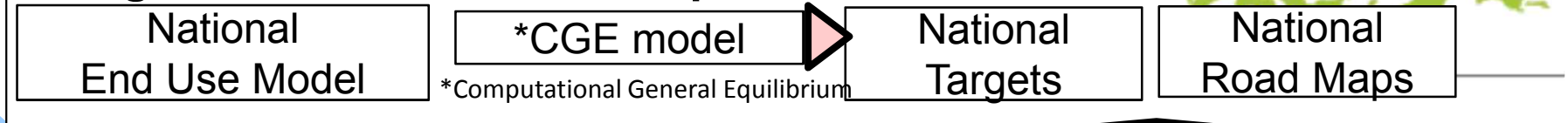
How the Japanese experience of eco-city can support other Asian cities in developing Asian countries?

1. Japanese knowledge could be shared with other Asian cities, such as the legislation framework, the management system.
2. People exchange between Japan and other countries, human resource training with some organization like JICA, would be beneficial.
3. Japanese academic institute could share with methodology to planning and manage eco-cities. For example, some integration model including GIS, endues model and macro models. NIES have advantage in these fields.
4. Japanese company could provide real technology support, such as smart energy management system, energy efficiency technology.

Development of Regional Integrated Models (Regional AIM) and Spatial Planning Model to design sustainable regions and cities

Integrated Model (AIM)

Design of Vision and Road Map for National Scale

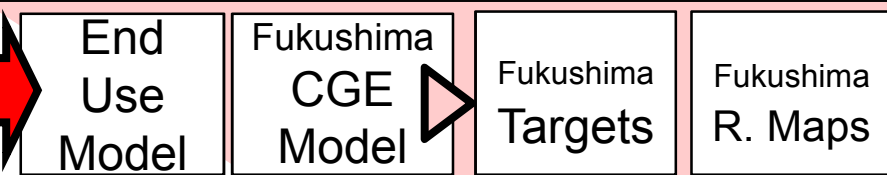


Regional Rebuilding Parameter

- 【Population】 Policies for aging
- 【Industries】 Policies for low carbon
- 【Bio-Sys】 Natural habitat restoration
- 【Land Use】 Compact city Policies

Regional Parameters

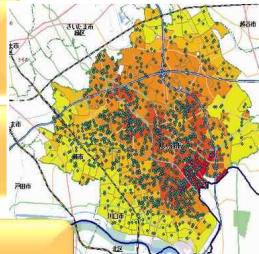
Analysis for Fukushima Pref. Scale



Spatial Planning Model

Eco Growth Modules

- Local Heat/Energy Management
- Low Carbon Industrial System
- Strategic Spatial Zoning System
- Forestry Eco System Service Model



Spatial Policy/ Tech. Process Packages

Planning for Local Scale



Local Statistics and Project Data

- Buildings
- Industries
- Agriculture/ Forestry
- Life Style

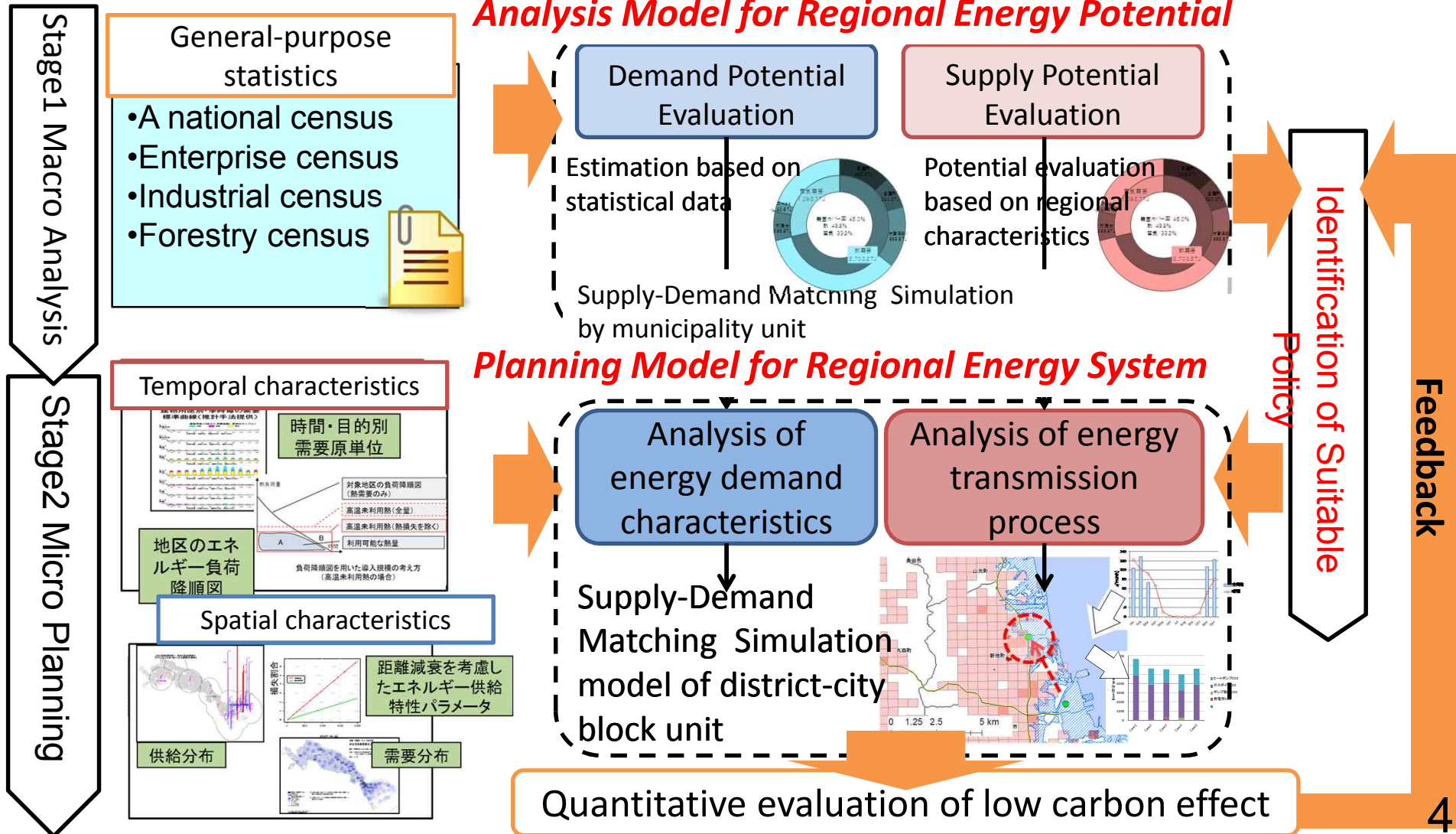
Development of Process Model for Regional Energy Planning

Stage 1: Construction of a methodology for local governments to analyze the energy potential.

Stage 2: Support the urban planning according to the spatial characteristics.

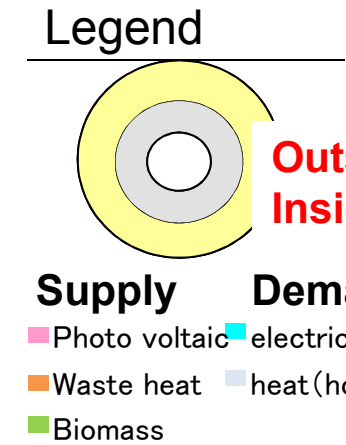
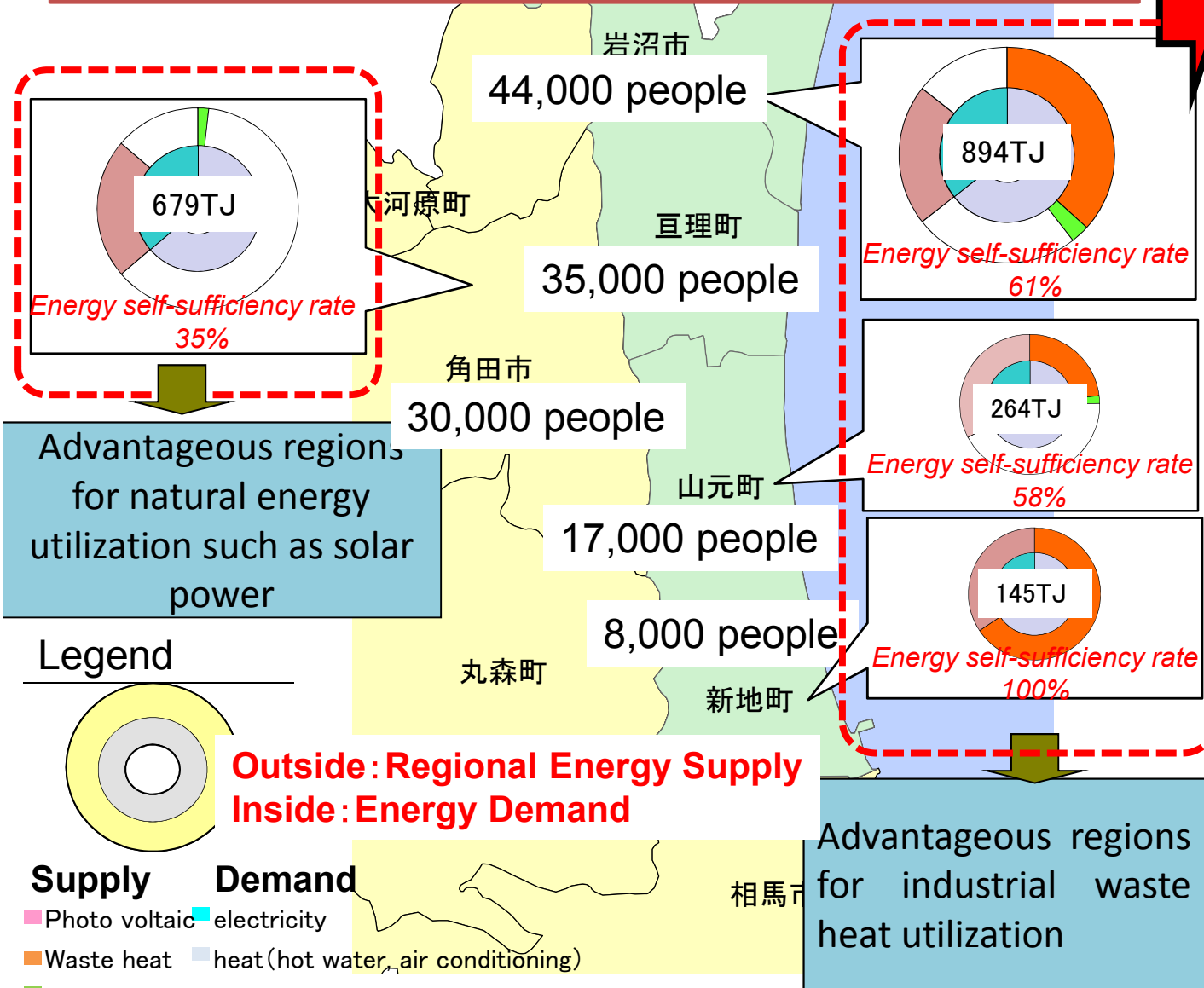
MOE manual of low carbon action plan for municipalities

Support stricken cities to plan for reconstruction



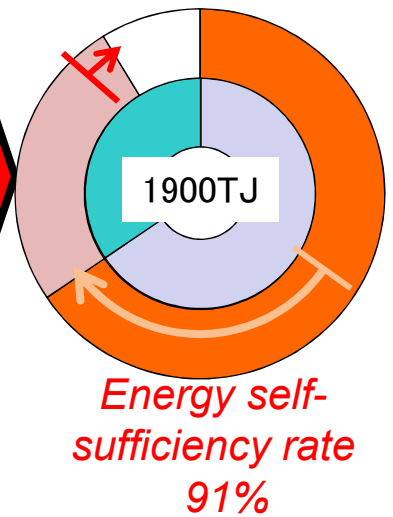
Evaluation Example of Regional Energy Potential

Difference of regional energy characteristics by each municipality



Improving efficiency by coordination among municipalities

Shinchi ~ Iwanuma



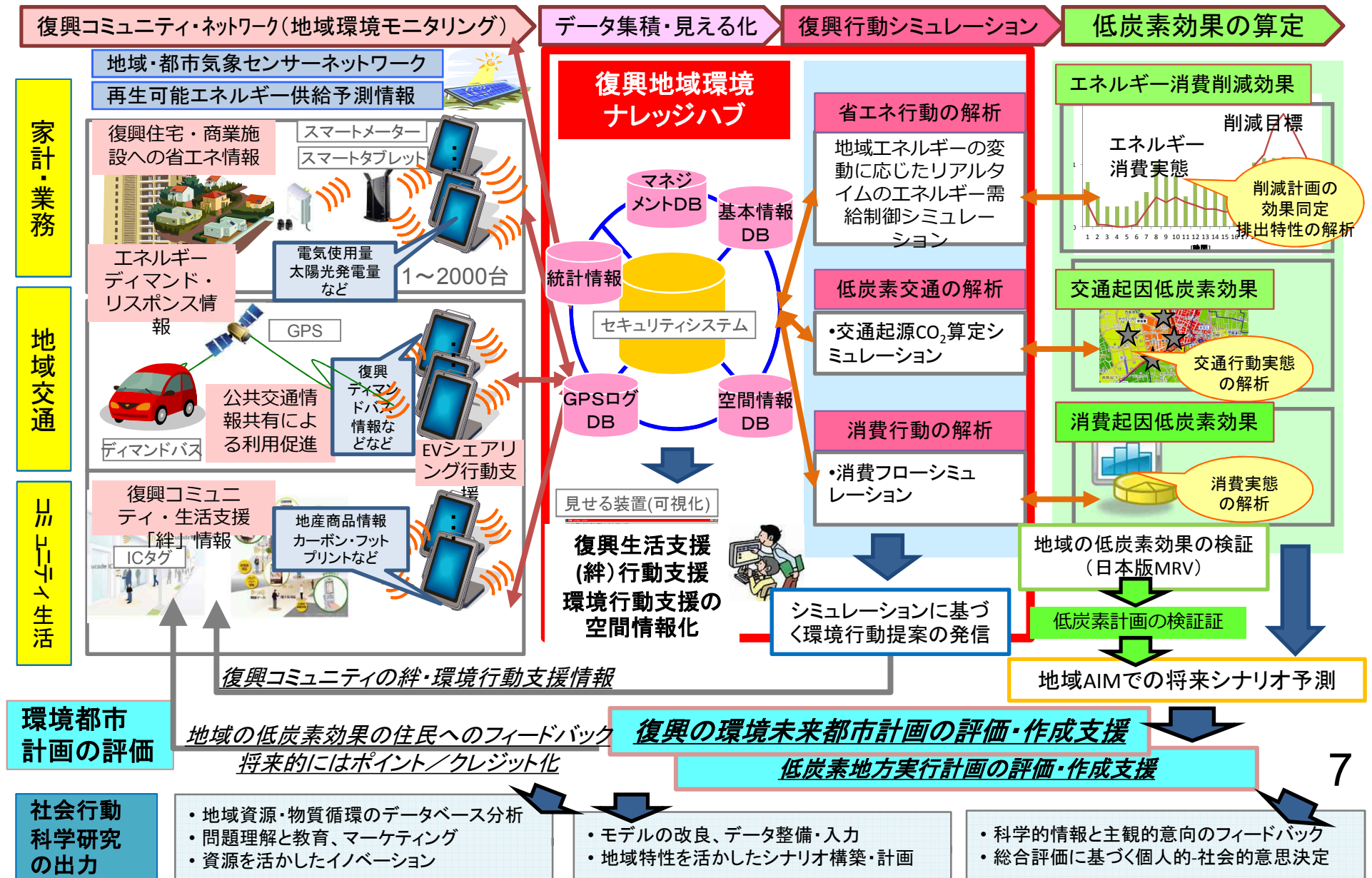
Possibility of more efficient regional energy utilization by the coordination

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Development of ICT based MRV system with Japanese company

復興地域の住民、企業の行動ニーズを集めて、効果的な復興事業、支援サービスの提供を可能にする、環境エネルギーデータの総合的なモニタリングシステムを開発する。実態データに基づいた都市/地域の削減効果の検証を行い、シミュレーションシステムと連携して行動支援情報を提供する



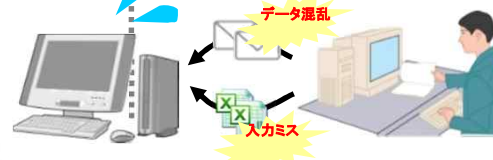
On line Carbon Emission Reporting System

Provision and customization of low carbon reporting system in Japan. Into Indonesian cities and eco-industrial parks. Default system was developed for Yokohama City as a pioneering on-line reporting system and their management experiences will be shared with Indonesian experts.

期待できる効果

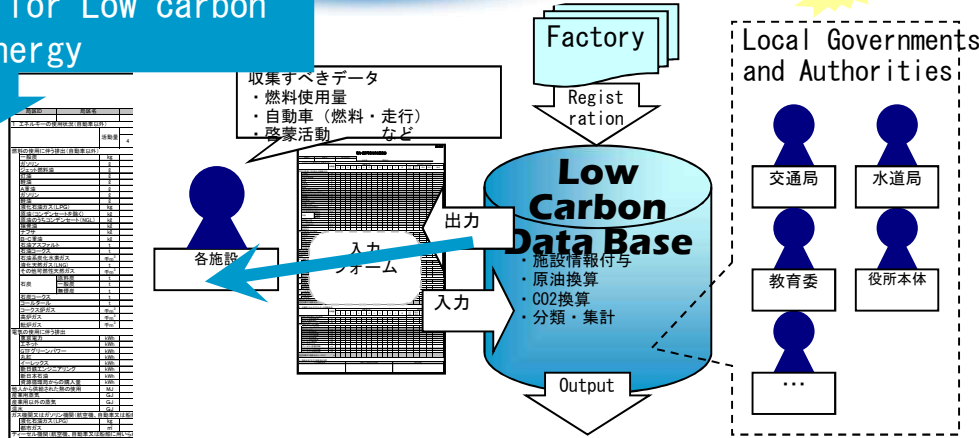
- オンラインによる正確かつ効率的な情報収集・管理
- データの混乱・ミス防止
- 省力化（自動集計・提出フォームで出力）

各施設個別に収集するよりスムーズ！



Reporting items for Low carbon and energy

システム構築例



省エネ法、温対法 様式

第1表 温室効果ガス算定排出量（その1）

温室効果ガスである物質の区分	温室効果ガス算定排出量
1. 二酸化炭素の燃焼による発生する二酸化炭素	1+00
2. 二酸化炭素の燃焼以外に発生する二酸化炭素以外の二酸化炭素	1+00
3. メタン	1+00
4. 一酸化二酸化	1+00
5. ハイドロフルオロカーボン	1+00
6. パーフルオロカーボン	1+00
7. 六フッ化硫黄	1+00

実行計画様式での出力も可

On line Carbon Emission Reporting System (2)

Energy consumption for each factory is monitored both for electricity and gas and they will be analyzed monthly to provide smart energy saving methods

< Monitoring Function >

- Sensing and of the consumption of electricity and gas
- Information sharing among EIP companies and eco-city stakeholders
- Comparison and analysis among different companies and business sectors
- Management of carbon intensity
- Demand management method recommendation

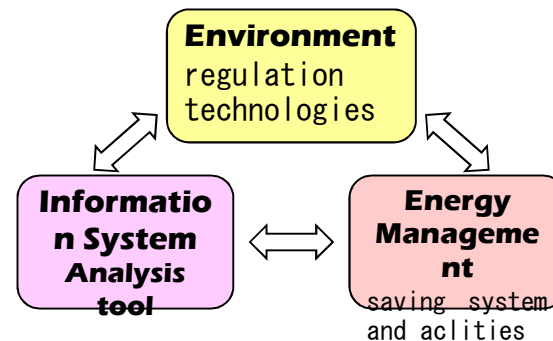


< Example >
Energy consumption for factories and buildings can be visually compared by excel based visualization. Easy data filing and printing.

Energy consumption can be illustratively compared and cost information can be managed

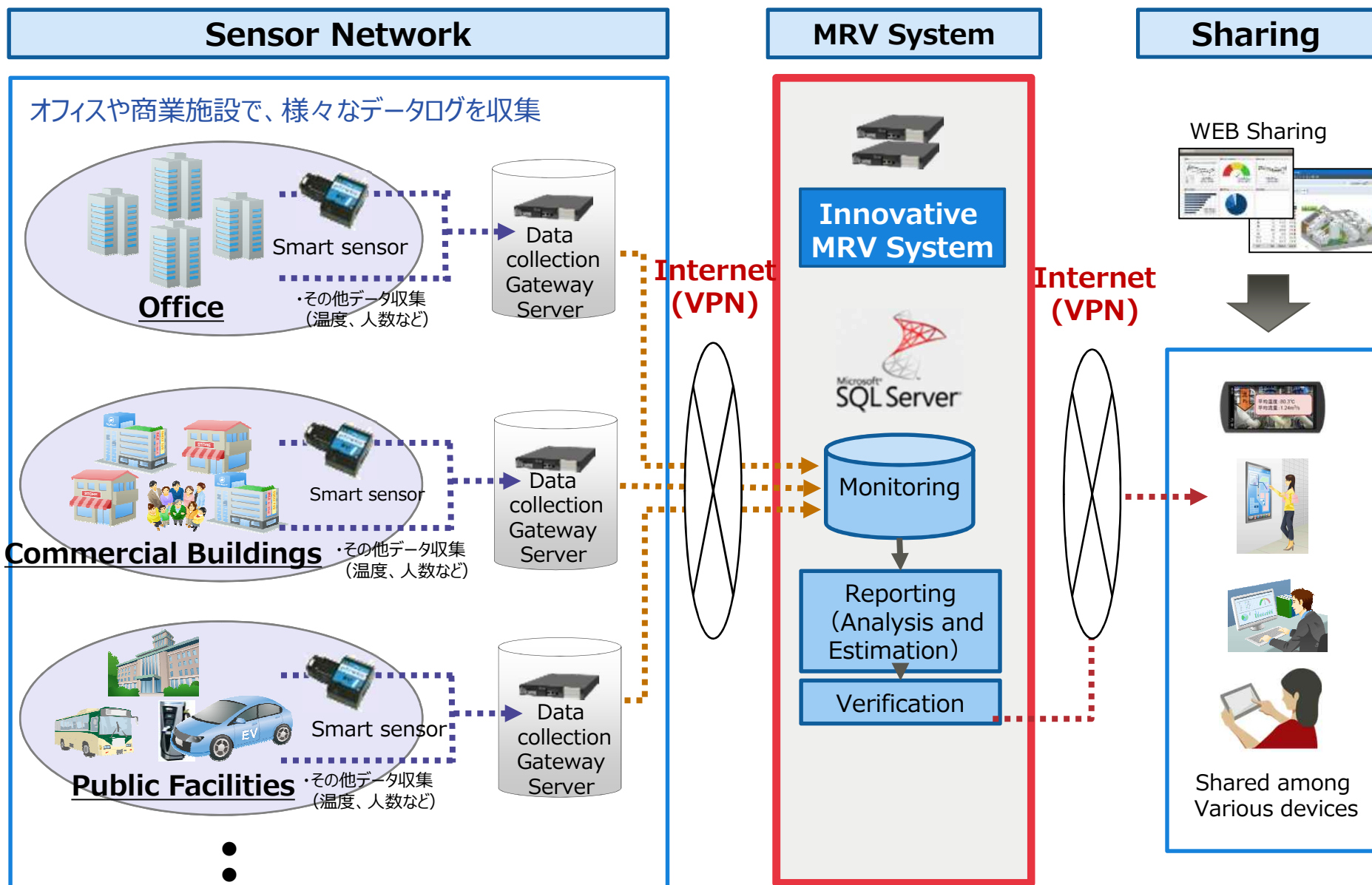
- Time series comparison of the consumption of electricity and gas, monthly, season, annually
- Monthly comparison of energy and impacts of temperature differences
- Visualization of carbon emission

Integrative management of low carbon companies



NIPPON KOEI
Challenging mind, Changing dynamics

Integrative energy Sensing System shared with Fujitsu



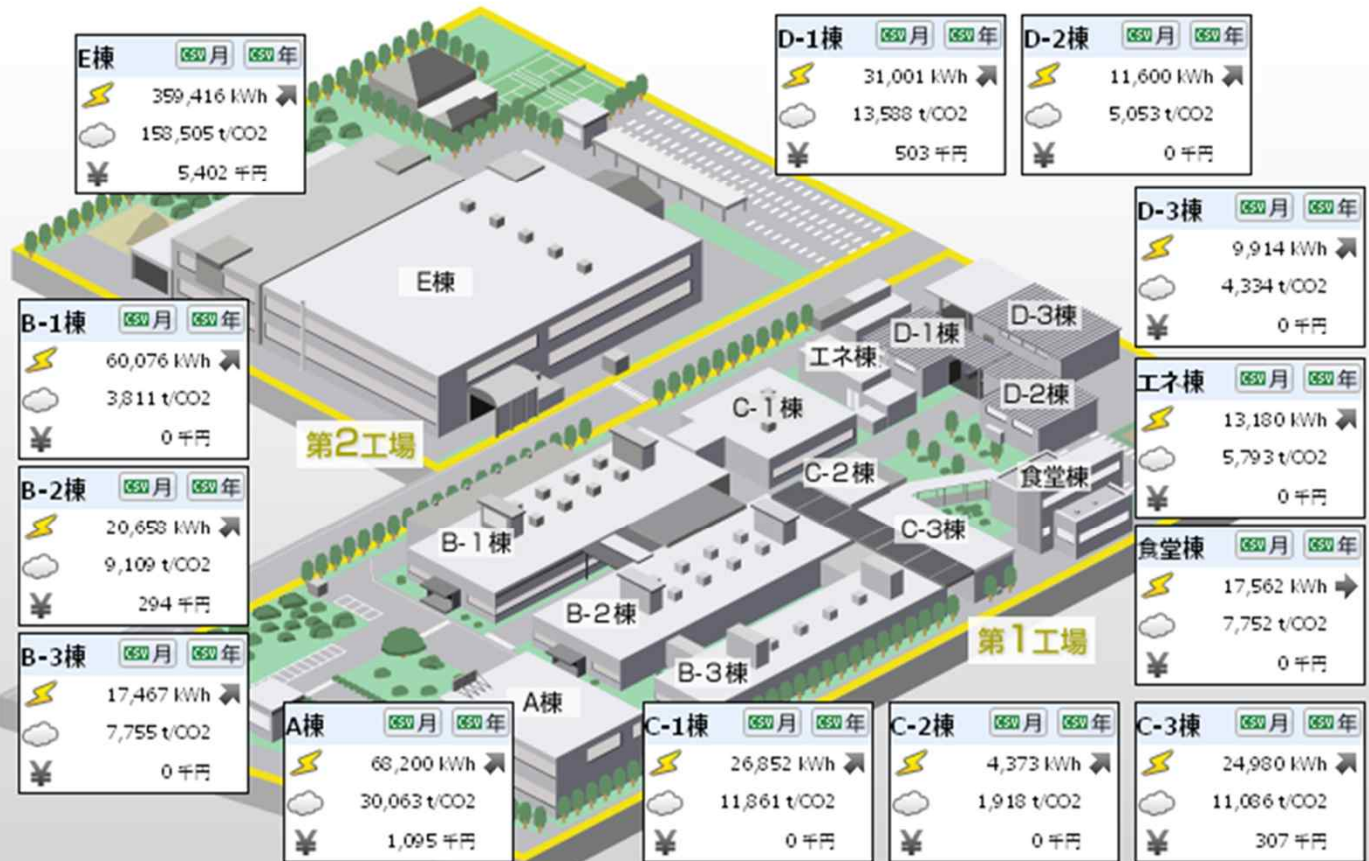
Visualization of Energy and Carbon Information of Eco-Industrial Parks and Cities

Energy Monitoring System

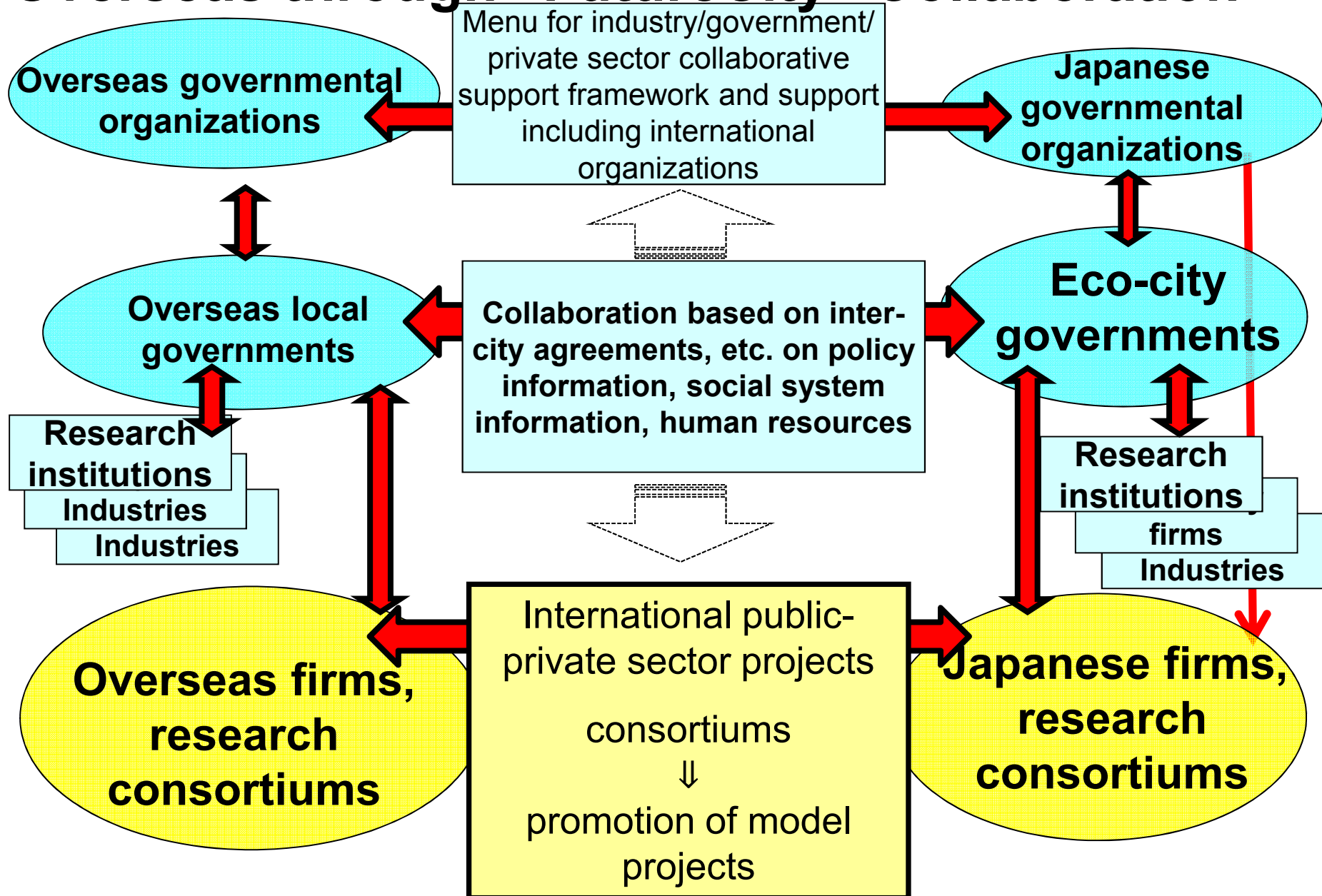
ユーザーID: パスワード: ログイン FUJITSU

ホーム フロアマップ 5分モニタリング 集計トレンド ポイント検索 データ更新 作業記録

2012年8月度 計測データ	
工場全体 05/0月 05/0年	
⚡ 電力量	662,301 kWh ↗
☁ CO2換算値	292,077 t/CO2
¥ 金額換算値	--- 千円
💧 水量	--- kl
🛢 油温	--- kl
🔥 ガス量	--- kl
第1工場 05/0月 05/0年	
⚡ 電力量	301,535 kWh ↗
☁ CO2換算値	132,957 t/CO2
¥ 金額換算値	--- 千円
第2工場 05/0月 05/0年	
⚡ 電力量	360,766 kWh ↗
☁ CO2換算値	159,105 t/CO2
¥ 金額換算値	--- 千円
計測月: 2012年8月度	
電力量比較月: 2011年8月度	



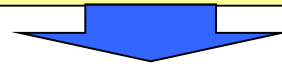
Promoting Projects between Japan and Overseas through “FutureCity” Collaboration



Projection by Environmental Businesses from Urban Areas in Japan

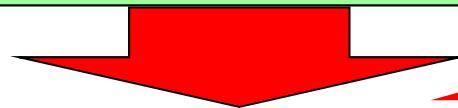
Knowledge and wisdom in low-carbon cities in Europe

- Carbon reduction in the context of de-industrialization and de-materialization
- High environmental awareness among citizens and businesses and multi-actor collaborations and urban management



Environmental innovations and businesses projecting from Japanese cities

- Low-carbon package that utilizes target-oriented development capacity for technology and products (combination of equipment, network, and social technologies)
- Social governance system that encompasses environmental awareness at the civic and business levels
- Local communities that have environmental activist capabilities based on pollution experiences



Efforts toward low-carbon cities in Asia

- Promotion of carbon reduction linked to industrialization and economic growth
- Top-down project promotion and policy execution capabilities