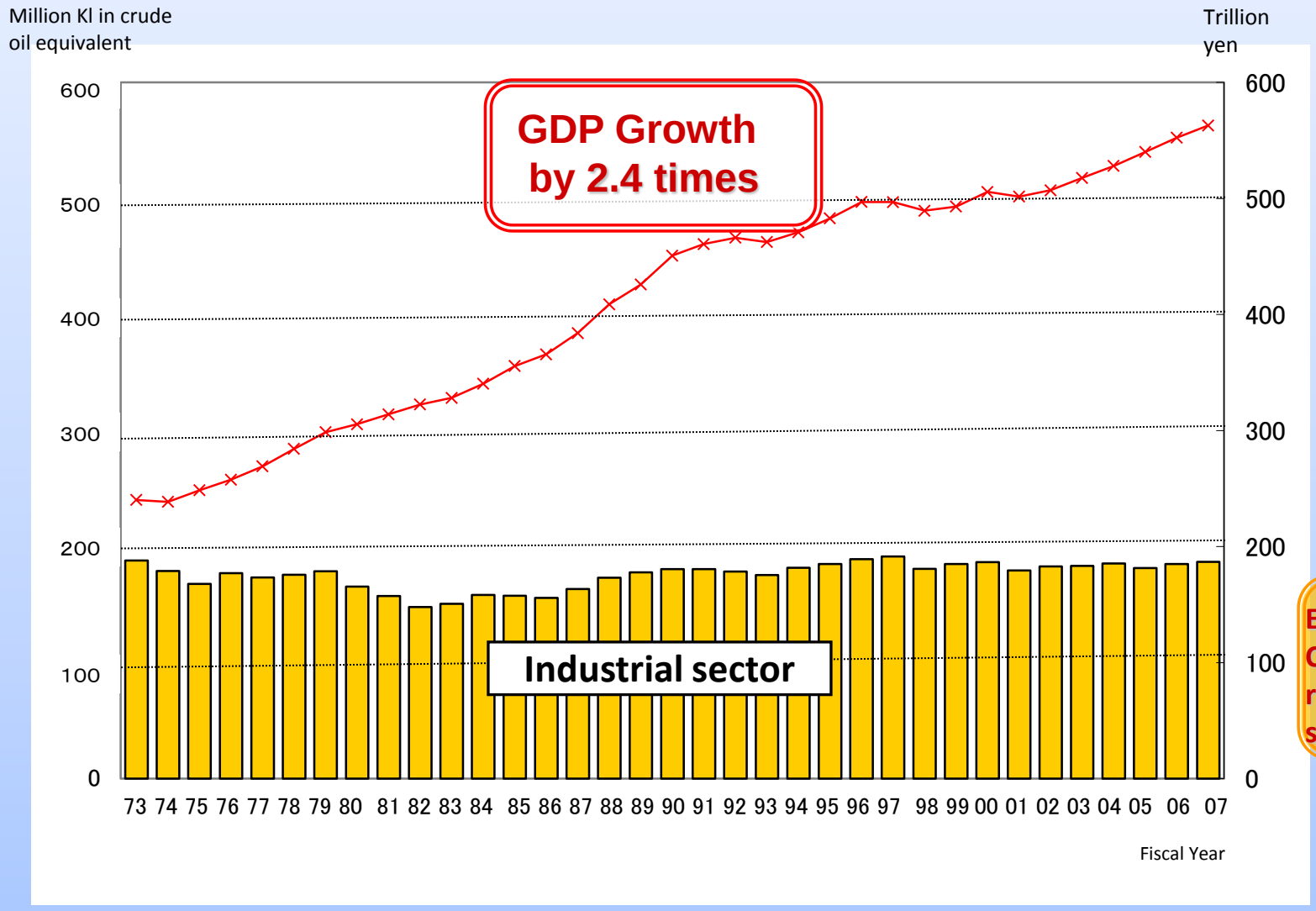
Japan to share energy efficiency experiences through SE4ALL

During the Secretary-General's Climate Summit on 23 September, Prime Minister Shinzo Abe announced that Japan intends to contribute to the reduction of global greenhouse gas (GHG) emissions by establishing a new hub for energy efficiency facilitation in Tokyo. Prime Minister Abe added that Japan will also contribute by diffusing leading technologies to the international community. (Read Prime Minister Abe's full statement)

Transition of Final Energy Consumption of Industrial sector in Japan

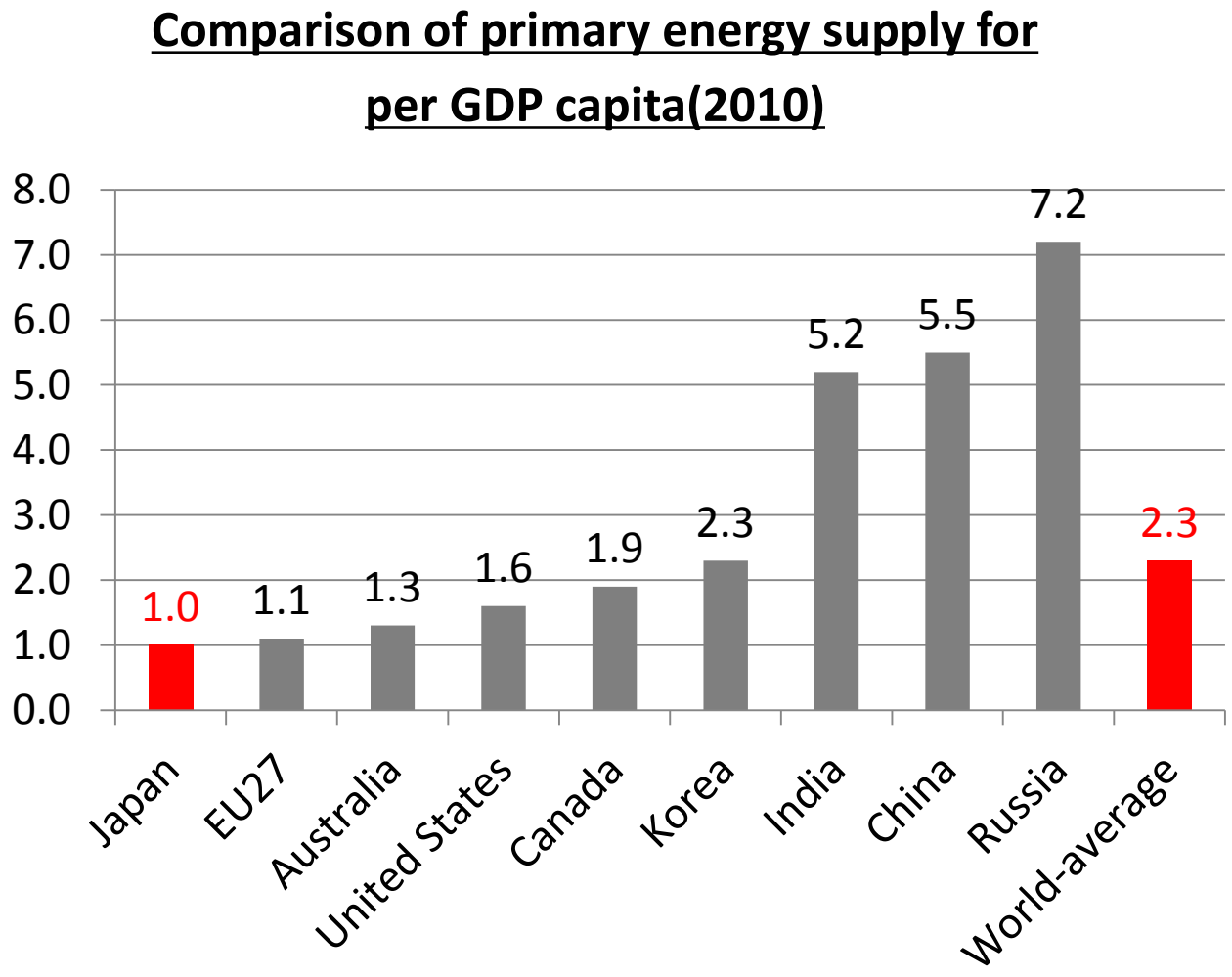
GDP



Energy Consumption remains the same level

(Source) "Total Energy Statistics" by ANRE

Energy Efficiency of Japan after the Oil Crisis



resources: IEA energy balance 2011/2012

Top Runner Program

- The "Top Runner Program" is a mandatory program for companies (manufacturers and importers), to fulfill the efficiency targets within 3 to 10 years, which encourages competition and innovation among the companies without increasing market prices.
- Companies make efforts toward those goals, so the program has contributed to improving energy efficiency of consumer electronics and automobiles in Japan.
- For instance, we had expected energy efficiency improvements of 16.0km/L for medium class gasoline passenger vehicles in fiscal year 1999, but actually, it attained 19.9km/L.

Achievement of Top Runner Program

Gasoline passenger vehicles
48.8% (FY1995→FY2010)

Air-conditioners
(Types other than direct airflow & wall-mount)
32.3% (FY1997→FY2007)

Electric refrigerators
43.0% (FY2005→FY2010)

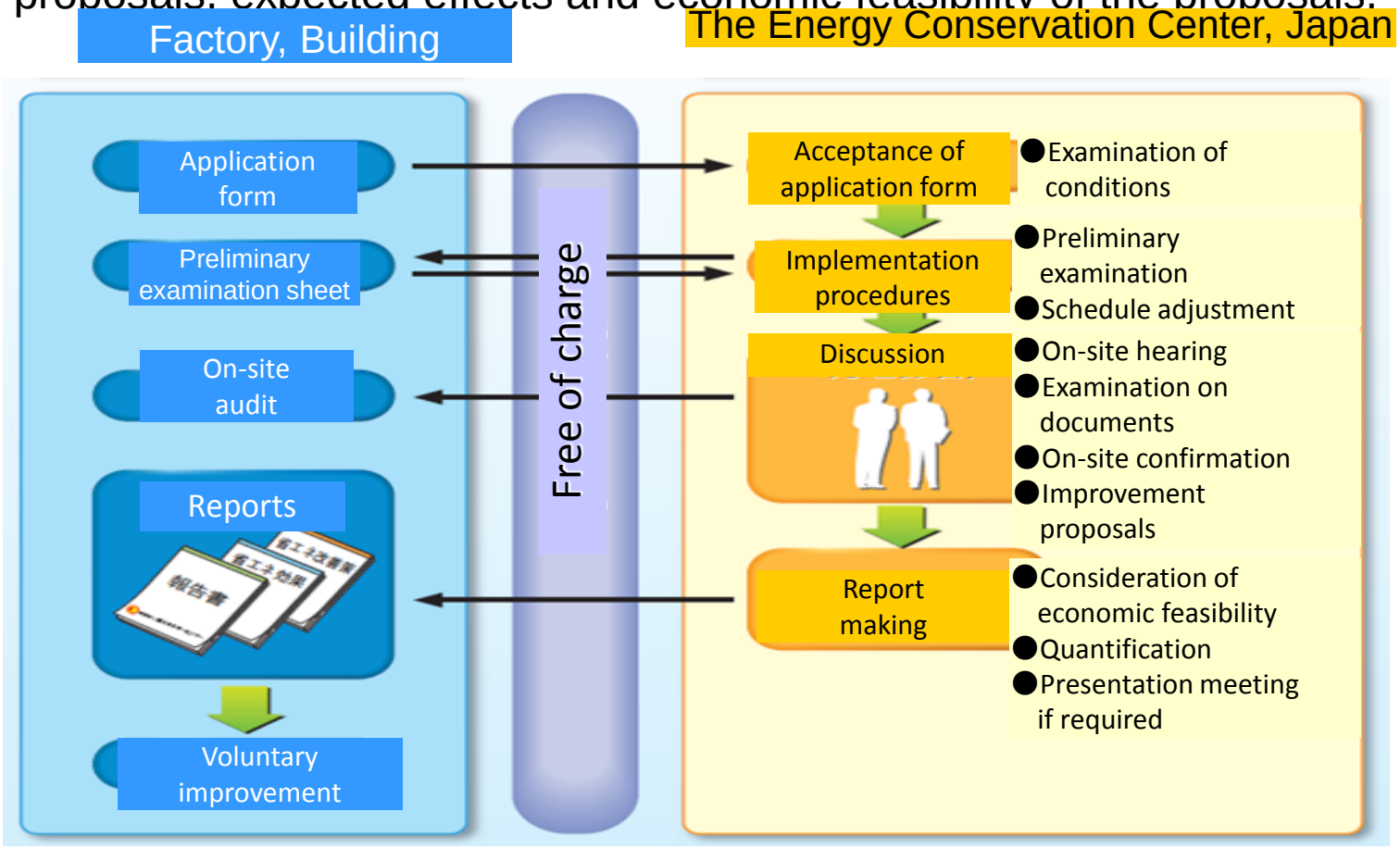
TV sets (LCD and PDP TVs)
29.6% (FY2004→FY2008)

Specified equipment (29 equipment and materials)

1. Passenger cars
2. Trucks
3. Air conditioners
4. Television receivers
5. Video tape recorders
6. Lighting apparatuses
7. Copying machines
8. Computers
9. Magnetic disk devices
10. Electrical refrigerators
11. Electrical freezers
12. Heaters
13. Gas cooking appliances
14. Gas water heating appliances
15. Oil water heaters
16. Electric toilet seats
17. Vending machines
18. Power tansformers
19. Jar rice cookers
20. Microwave ovens
21. DVD recorders
22. Routing equipment
23. Switching equipment
24. Multifunction Devices
25. Printers
26. Heat Pump Water Heater
27. AC motors
28. LED lumps
29. Heat insulating

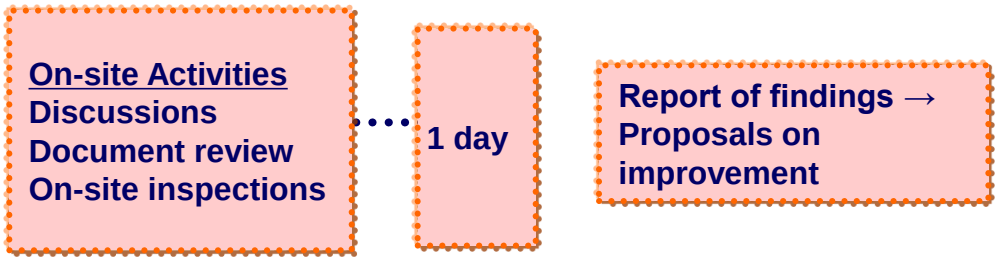
One-day Energy Management Auditing by ECCJ

- ✓ ECCJ sends two experts of energy conservation to the factory for diagnosis.
- ✓ Experts submit an audit report and presents specific improvement, proposals, expected effects and economic feasibility of the proposals.



ECCJ

One-day Energy Auditing by ECCJ

Program	Applicable factory	Overview
One-day Energy Conservation Diagnosis for Factories (Free-of-charge)	Medium and Small sized Factories and Buildings	

Actual Results : Free Energy Audit

Energy Audit

	1998-2000	2001-2005	2006-2010	2011	2012	2013	2014	Total
Factories (F)	914	910	2,191	537	303	432	560	5,847
Buildings (B)	383	1,097	2,694	559	438	386	399	5,956
Total	1,297	2,007	4,885	1,096	741	818	959	11,803
For Electric Power Saving (F + B)					653	185	234	1,072
Grand Total					1,394	1,003	1,193	12,875
(Started)								

ECCJ ECCJ

Proposals in Energy Diagnosis and Power-saving Rates

Top 10 proposals (2012)

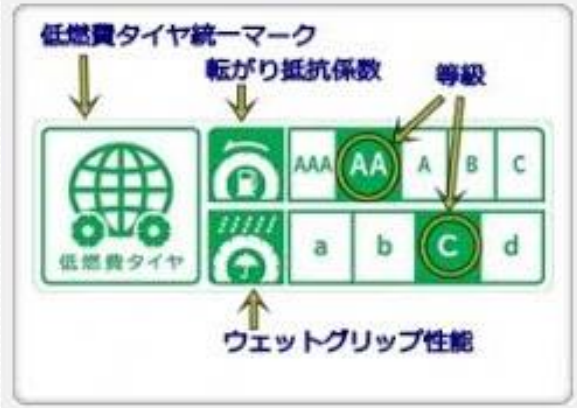
Order	Proposal	Order	
1	Visualization of demand and setting of power-saving goal	6	Lower discharge pressure of the compressor
2	Replacement of lighting apparatuses with high-efficiency ones	7	Cleaning of packaged air-conditioner and outdoor unit fans
3	Increase/decrease of cooling/heating temperature setting	8	Renewal to high-efficiency emergency exit lights
4	Removal of unnecessary lighting	9	Shielding of outdoor unit from sunlight
5	Lights-out of window-side lighting	10	Stop of unnecessary devices and reduction of operation time

Power-saving rates (Based on 2012 proposals)

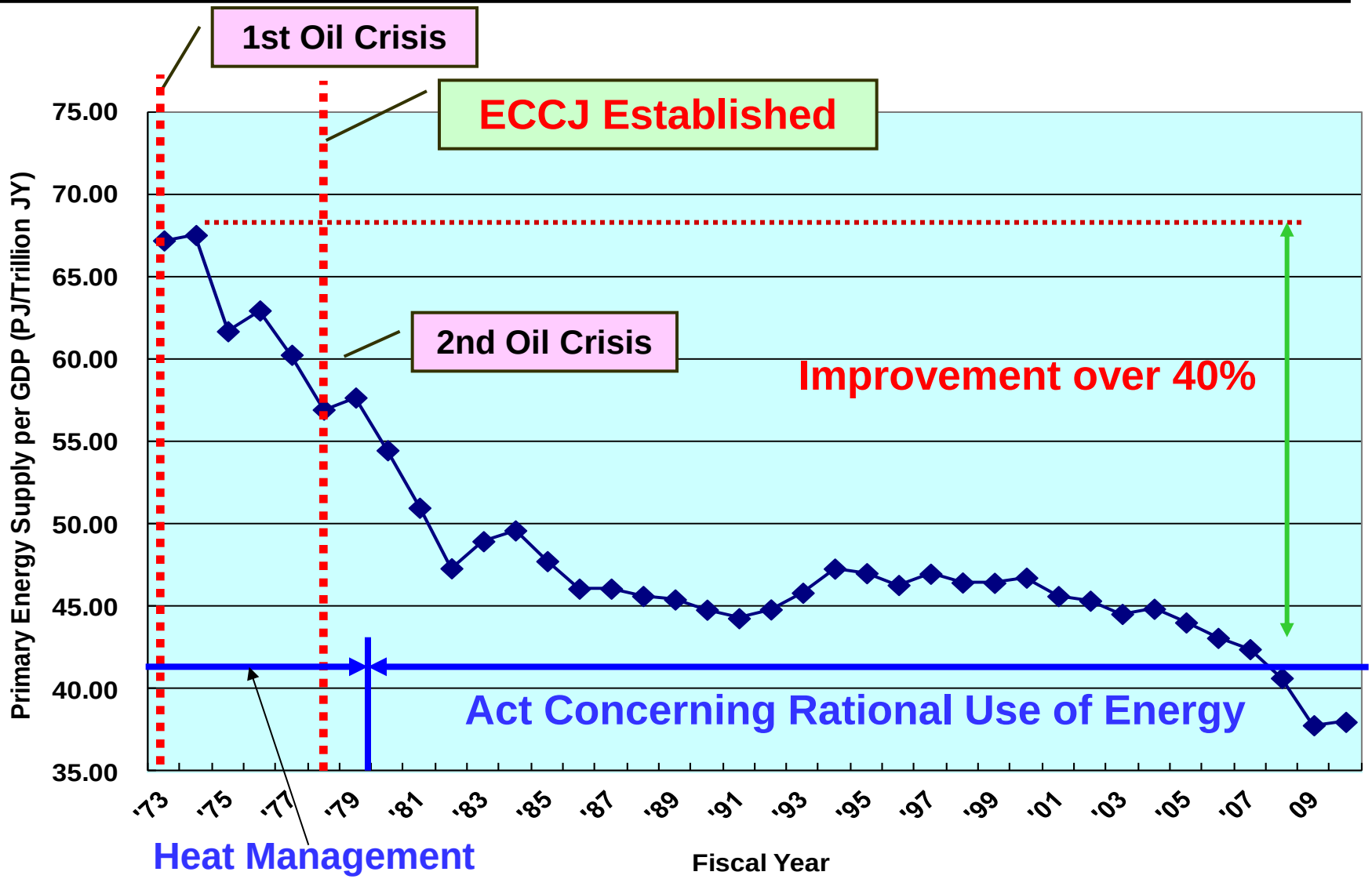
	Factory	Office building
Average power-saving rate	9.6%	13.4%
Total	11.7%	

ECCJ

EE-Labels to show Multiple Benefits



Background of ECCJ's Establishment with Trend of Primary Energy Intensity per GDP in Japan



Source: METI/General Energy Statistics and IEA Energy Balance

Introduction of ECCJ

Outline of The Energy Conservation Center, Japan

ECCJ is the core organization responsible for promotion of energy conservation in Japan.
Its activities were authorized by the Diet when the Energy Conservation Law was enacted.

Legal status :	General Incorporated Foundation
Establishment :	1978
Office location :	Tokyo Head office & 8 branches
Supporting member :	Approx. 2,500 companies (as of April 2014)
Staff :	122 persons (as of April 2014)
Business scale :	2.504 billion yen in 2013 FY (25 million U$)

Fields of Main Activities

Industrial Sector	① Energy conservation Audit services for factories & buildings ② Education & training on energy conservation ③ State examination for energy managers
Commercial / Residential Sector	① Energy conservation Audit services for buildings ② Dissemination of Top Runner Program and Labeling ③ Promotion of Eco-driving
Cross Sector	① Information & data base, Publicity and publishing ② International Cooperation including AEEC's activities ③ Registration of auditors for ISO50001 Energy Management System

ECCJ

ECCJ's International Cooperation

The Center enhances international cooperation to promote the energy conservation from the global point of view

- Dispatch of Experts for Technical Transfer at the Developing Countries
- Acceptance of People for Training in Japan
- Asia Energy Efficiency and Conservation Collaboration Center
- International Energy Conservation Business

Dispatch Expert: Energy audit

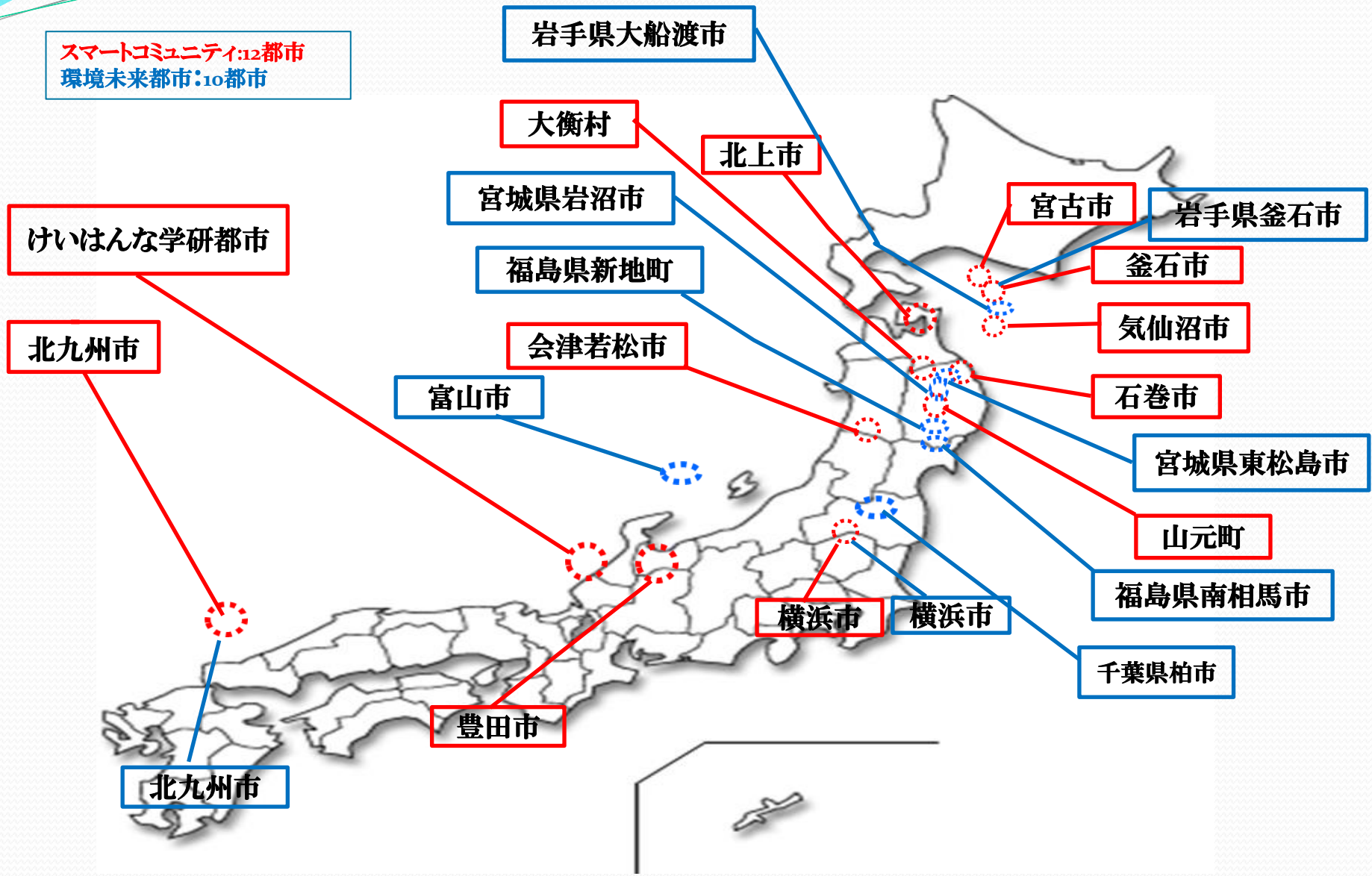
Training program in Japan

Exhibition at Malaysia （JASE-W）

ECCJ

Smart Communities and Future Cities in Japan

スマートコミュニティ:12都市
環境未来都市:10都市



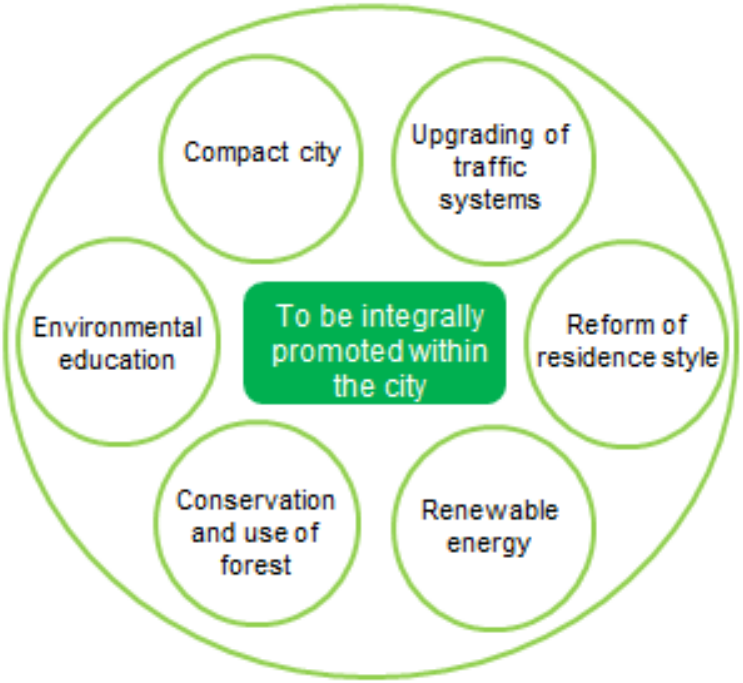
. Concept of the Eco-Model City

Diverse community models to combine carbon reduction and sustainable development making maximum use of local resources

LRT

Environmental education

Sustainable forest management



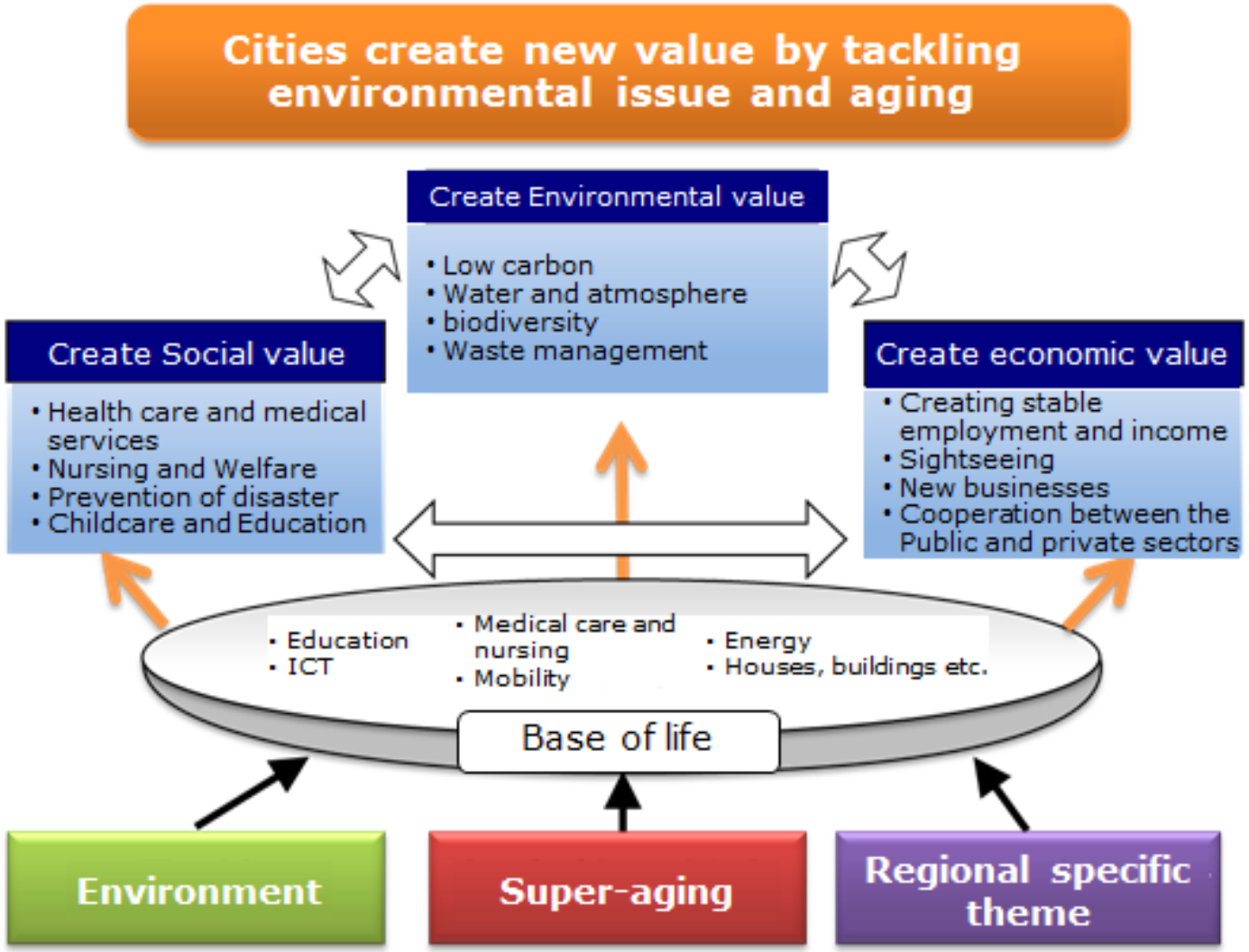
Compact electric vehicle

Energy-saving house

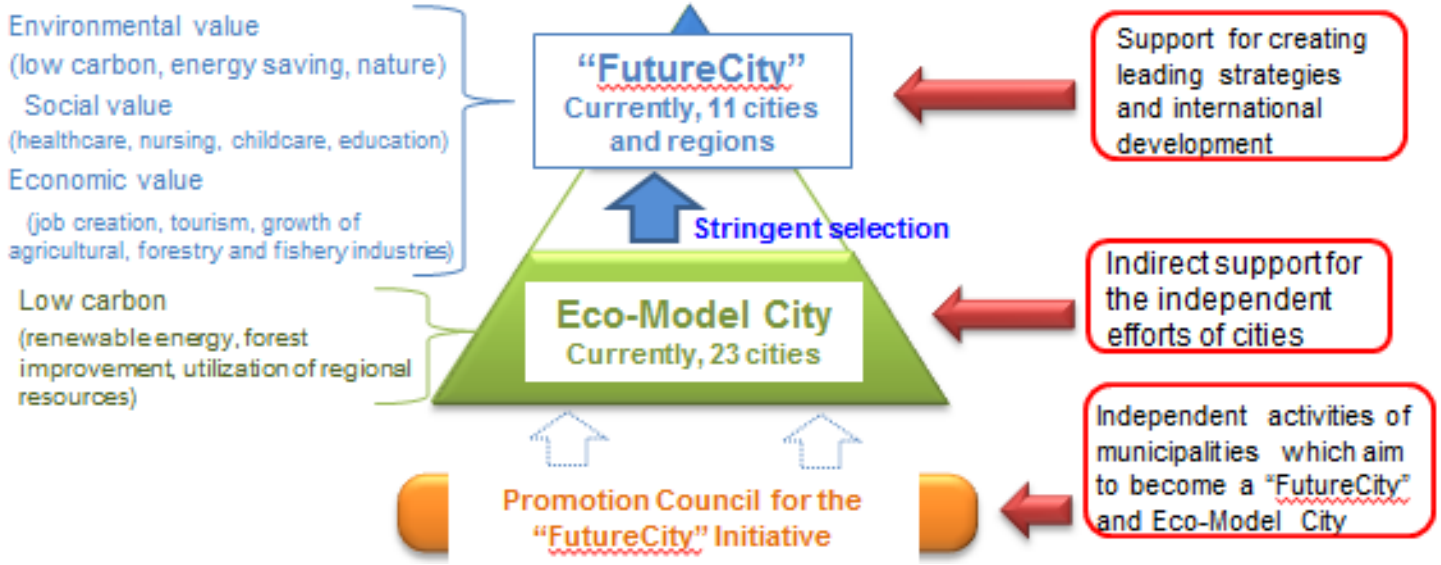
Renewable energy

Transformation of lifestyle and business style

Generation of the region's vitality


Cities create new value by tackling environmental issue and aging
Create Environmental value
• Low carbon
• Water and atmosphere
• biodiversity
• Waste management
Create Social value
• Health care and medical services
• Nursing and Welfare
• Prevention of disaster
• Childcare and Education
Create economic value
• Creating stable employment and income
• Sightseeing
• New businesses
• Cooperation between the Public and private sectors
• Education
• ICT
• Medical care and nursing
• Mobility
• Energy
• Houses, buildings etc.
Base of life
Environment
Super-aging
Regional specific theme


International network
Human resources
Goods
Concentrate
Capital
Regulatory reforms
etc…
Hands-on projects to create new value
"FutureCity"
cities where "everybody wants to live" and "everyone has vitality"
Technology
Socio-economic system
Service
Business models
City planning
etc…
Improve Quality of Life
Disseminate Successful Cases
Best Practices (domestic and overseas)
Virtuous circle of financially autonomous models


Environmental value
(low carbon, energy saving, nature)
Social value
(healthcare, nursing, childcare, education)
Economic value
(job creation, tourism, growth of agricultural, forestry and fishery industries)
Low carbon
(renewable energy, forest improvement, utilization of regional resources)
"FutureCity"
Currently, 11 cities and regions
Stringent selection
Eco-Model City
Currently, 23 cities
Promotion Council for the "FutureCity" Initiative
Support for creating leading strategies and international development
Indirect support for the independent efforts of cities
Independent activities of municipalities which aim to become a "FutureCity" and Eco-Model City

International Smart Community Cooperation(FS)(South-Eastern Asia)

Structuring a 3D geographical space information system.
Place : Bangkok, Vietnam, Indonesia etc.
Status: feasibility study

Vietnam

Development of smart community at high-tech park.
Place : Hanoi
Status: feasibility study

City development with high-quality electricity, ICT infrastructure and so on.
Place : Binh Duong province
Status: commercialization

Thailand

Development of smart community at high-tech industry complex city.
Place: Amata industrial estate
Status: commercialization

Malaysia

Development of smart community including a BEMS aggregator project in major urban area.
Place: Putrajaya, Cyberjaya etc.
Status: under study

City development with smart grid.
Place : Iskandar
Status: commercialization

Cambodia

Development of smart community around world heritage site.
Place: Angkor area
Status: feasibility study

Indonesia

Development of low-carbon environmental city to promote co-generation systems.
Place: Surabaya
Status: feasibility study

Development of Smart traffic information and control systems in a resort area.
Place : Bali
Status: feasibility study

Demonstration of smart community in an industrial park.
Place: Suryacipta
Status: pilot project

Development of smart community with photovoltaic and batteries for islands.
Place: Isolated island
Status: feasibility study

Project Flow

under study
↓
feasibility study
↓
preparing for pilot project
↓
pilot project
↓
commercialization

AIM Research Project Team Approach towards LCS in Asia

Policy makers
Central/regional government administration
Development Agencies
NGOs

Collaboration for developing LCS scenario and the roadmaps

Request of more practical, realistic roadmaps and also tractable tools for Low Carbon Development Strategies

Each country's domestic/ local research institute

Core research members

Application and development to actual LCS processes

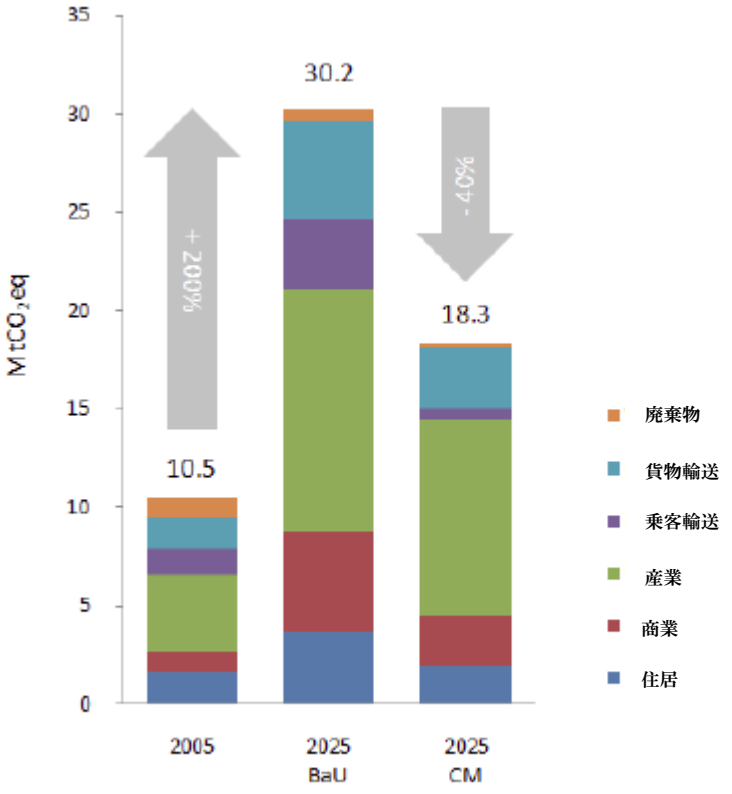
Development and maintenance of study tools/models

AIM
ASIA-PACIFIC INTEGRATED MODEL

http://2050.nies.go.jp/LCS

Geographical Coverage

低炭素都市
イスカンダー（マレーシア）
潜在的温室効果ガス削減：40%



セクター別温室効果ガス