Kyoto City's Global Warming Countermeasures

-Fiscal year 2023

About the Annual Report

Kyoto City publishes an **annual report in** accordance with Article 9 of the "Kyoto City Ordinance on Global Warming Countermeasures.

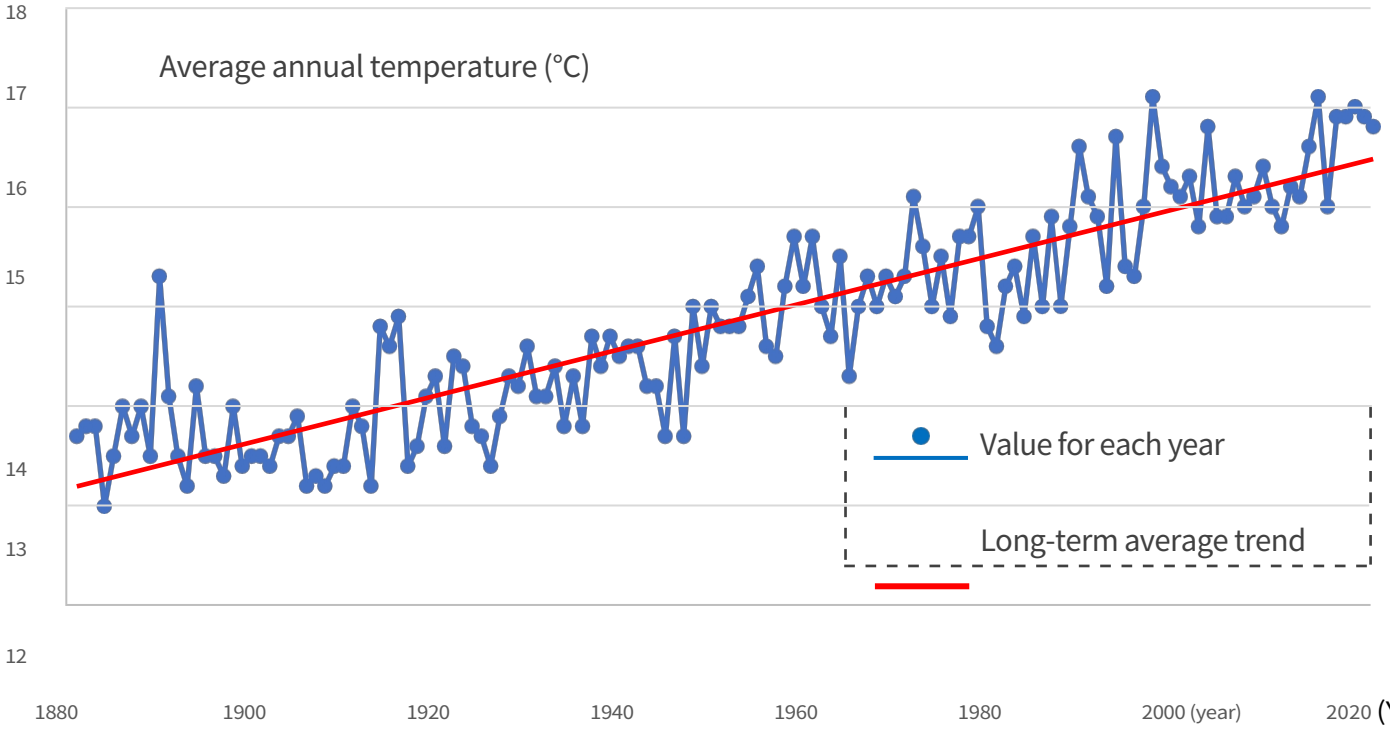
＜Kyoto City Ordinance on Global Warming Countermeasures

Article 9. The Mayor shall annually prepare and publish a report containing the following items

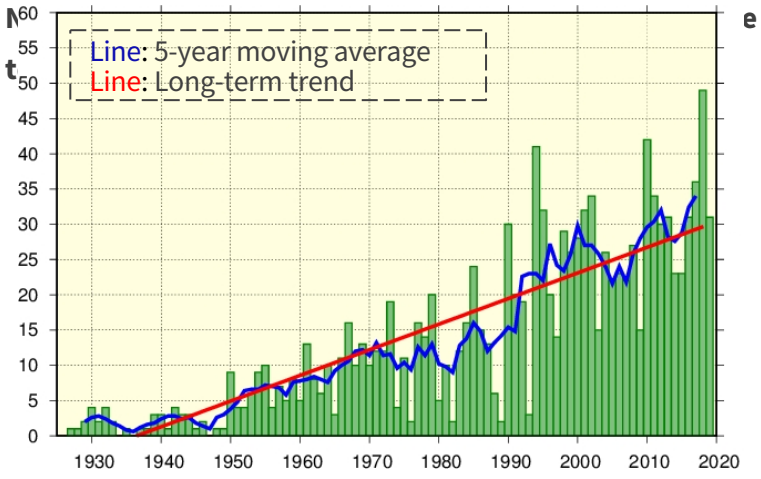
(1) Total greenhouse gas emissions within the area of the City

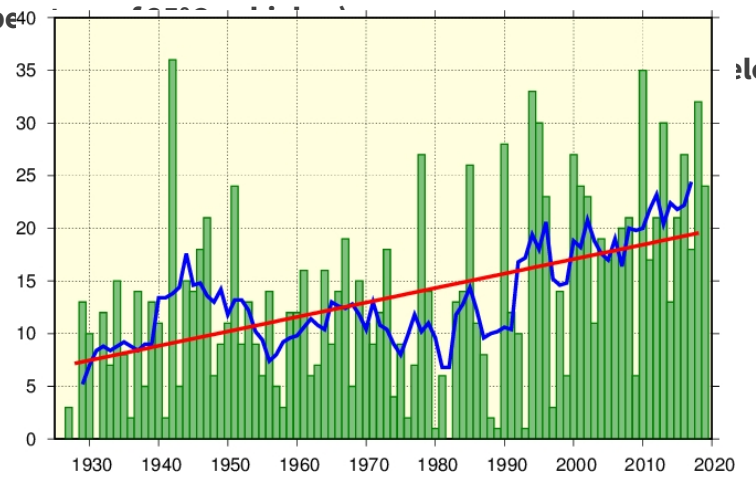
(2) Status of implementation and evaluation of measures taken to prevent global warming, etc.

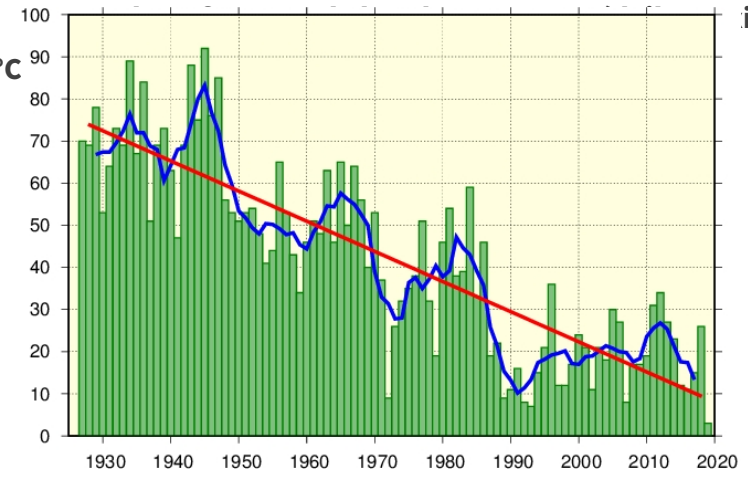
Impacts of climate change in Kyoto (temperature change in the city)



In Kyoto, urbanization has also added to the impact, Temperatures are on an upward trend (about 2.1°C per 100 years)







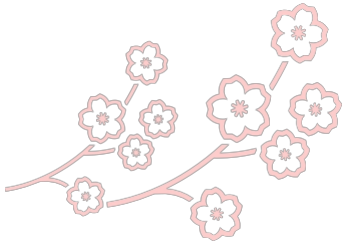
Impacts of Climate Change in Kyoto City

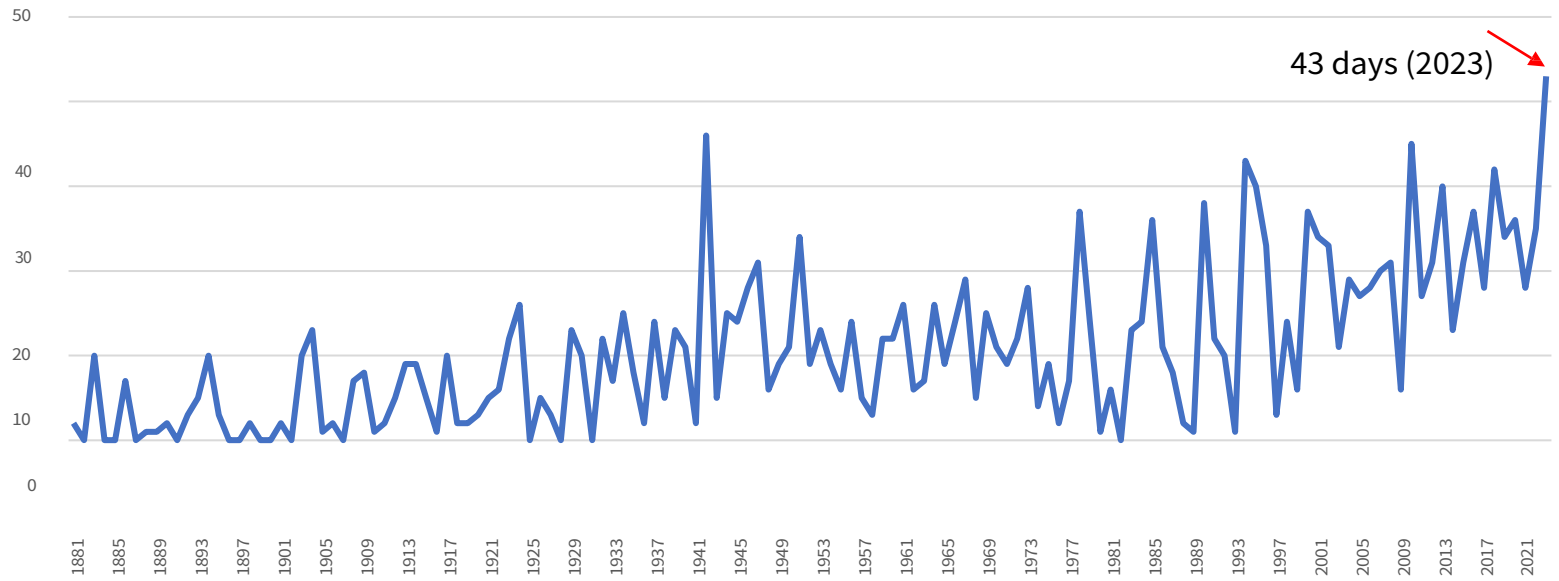
Kyoto City in 2023

The number of **hot** days was the **hottest** on record, 43 days.

Cherry blossoms bloom madly in summer.

It was seen.





Landslides caused by heavy rain

Rivers rising (July, 2008)

Increase in Japanese deer → forest floor vegetation

(Chimaki bamboo, etc.)

Rice blight caused by insect pests

Domestic and International Trends in Global Warming Countermeasures

1997	COP3, birth of Kyoto Protocol, and formulation of the city's global warming countermeasures plan.
2004	**City ordinance on global warming countermeasures enacted (first of its kind in Ja**
2009	Revision of all ordinances for selection of Environmental Model Cities
2010	
2011	COP21 and the Paris Agreement, the 20th anniversary of the birth of the Kyoto Protocol, **from low-carbon to decarbonization.**
2015	
2017	The Kyoto Declaration for Building a Sustainable Urban Civilization.
2019	IPCC Kyoto Guidelines" for the IPCC General Assembly held in Kyoto, Japan, Kyoto Appeal for 1.5°C
Year 2020	**Ahead of the rest of the country, announced "net-zero CO_2 emissions by 2050** National "Virtually zero greenhouse gas emissions by 2050" statement ordinance amendment **"Zero emissions by 2050" target clearly stated.**
Year 2021	Joined the Coal Free Coalition (first in Japan!)
Year 2022	**Global Warming Action Plan <2021-2030>** **Development of Decarbonization Leading Areas Selection**

脱炭素先行地域

Zero CO2 Ordinance from 2050 Kyo.

Global warming countermeasures ordinance revised in December 2020 (nicknamed the "2050 Kyoto Zero CO_2Ordinance").

Reduction

- **Net zero CO_2 emissions in 2050**
- **Reduction of 40% or more by FY2030**

Mayor announces "goal of 46%" in September 2021.

Definition of Global Warming

- Measures to reduce greenhouse gas emissions and to conserve and enhance greenhouse gas absorption [Mitigation Measures].

Measures to prevent and mitigate damage from climate change impacts [Adaptation measures

Basic Philosophy

- Transform socio-economic systems to achieve net zero $CO_{(2)}$
- Voluntary and proactive efforts by all entities
- Promote global warming countermeasures that contribute to social and economic solutions

Zero CO2 Ordinance from 2050 Kyo.

Responsibilities of each entity

Kyoto (city)

Formulation and implementation of comprehensive global warming countermeasures

The project will promote the participation of all entities, reflect their opinions, collaborate with educational and research institutions, the national government, and local governments in Japan and abroad.

Promote voluntary and proactive efforts by all entities

Foster momentum and implement necessary measures to

Businesses and Citizens

Implement voluntary and proactive global warming countermeasures

Contribute to the promotion of global warming countermeasures by others

Tourists and other visitors

Implementation of global warming countermeasures

Cooperation with efforts by the city, businesses, citizens, etc.

Energy Suppliers Provide information to the City

Promotion of global warming countermeasures in the city's business operations

Initiatives contributing to the expansion of the use of renewable energy

mandatory stipulation

Specific Emission Equipment Seller	Indication and explanation of energy efficiency, etc. of specific emission equipment		
Automobile dealers	Explanation of automobile environmental information to new car buyers Report on eco-car sales results		
Specified and semi-specified businesses	Emission Reduction Plan	Energy consumption費 report, etc.	
(authorized)	Explanation of environmental and other benefits of renewable energy		
Specified and semi-specified buildings	Emission Reduction Plan facilities	Use of local timber	Installation of facilities using renewable energy, etc.
Specified green architectural building	Greening of buildings and sites, preparation of greening plans		

Kyoto City Global Warming Prevention Ordinance and Plan <2021-2030>

Net CO_2 emissions

Zero in 2050

Year 2030

GHG ▲46% (-46%)

Ratio of renewable energy

❹35% or more

conv

ert

energy

みんなのおうちに太陽光

- **Obligation to install renewable energy in** buildings of **300m2** or more
- **Subsidies to promote installation of solar power add-ons**

(Acceleration of priority measures)

- **Joint purchase of solar panels, PPA promotion**
- Promote **renewable energy** demand
- **Project to Promote Local Production for Local Consumption of Renewable Energy and Local Circulation in Houses**

京都○円ソーラープラットフォーム KYOTO ○○ PHOTOVOLTAICS PLATFORM

lifestyle

- **Environmental Learning Program**
- **Community Activities in 222 Eco School District**

business

- Large emitters:
  Approximately double the target reduction ❹ of the Emission Reduction Plan (2023~)
- Medium-sized businesses:
  Energy Consumption Reporting System Creation of (2022-)

mobility

Next Generation Vehicles, etc.

- Large emitters:
  Strengthening the obligation to introduce (from 2023)
  (at least 2/3 of new car purchases)

KYOTO CITY OPEN LABO

- **Promote decarbonized lifestyles**

Collection and circulation project of used clothes, etc.

Transformation of four areas

+

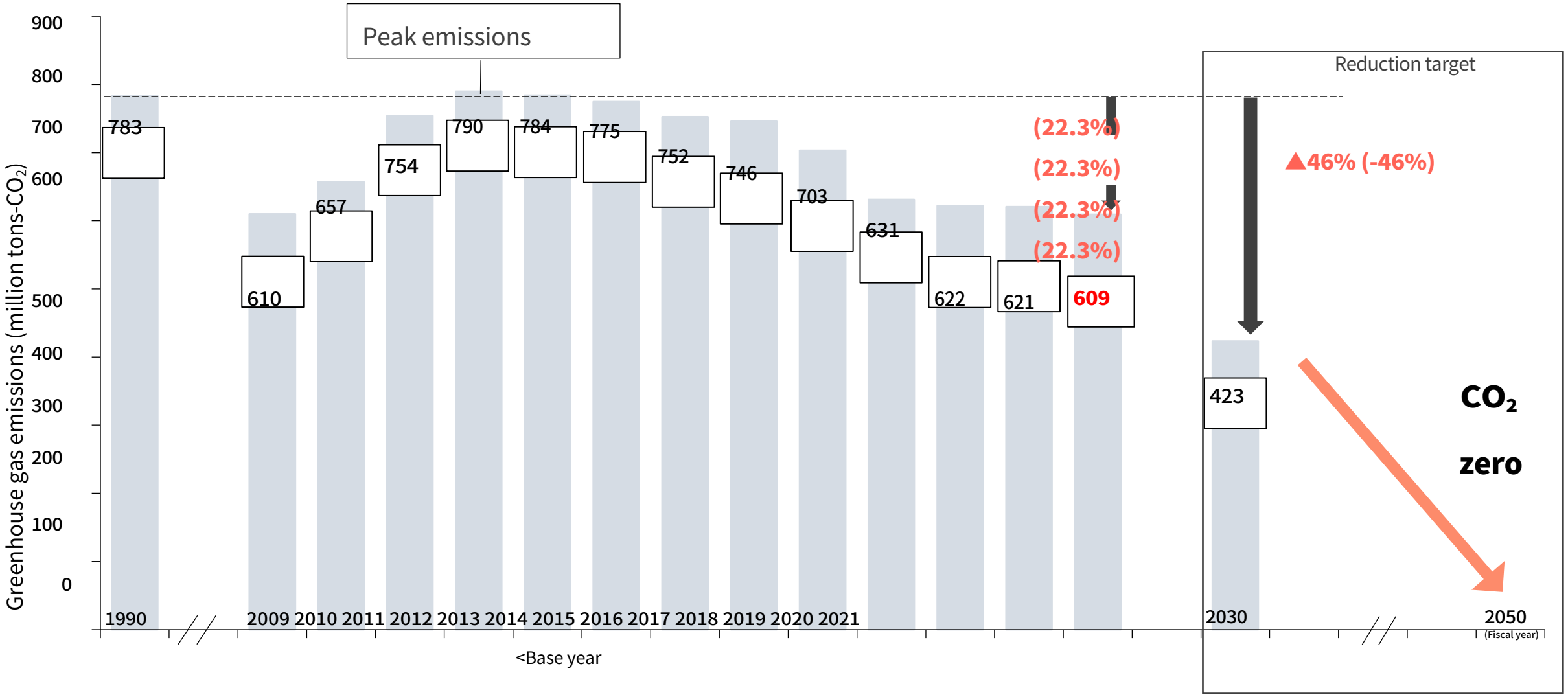
Forest and agricultural land sink measures

adaptation (e.g. of a poem or novel)

- Automobile dealers:
  Obligation to report sales performance (from 2022)
- **Improvement of EV use environment through public-private partnership**

Greenhouse Gas Emissions

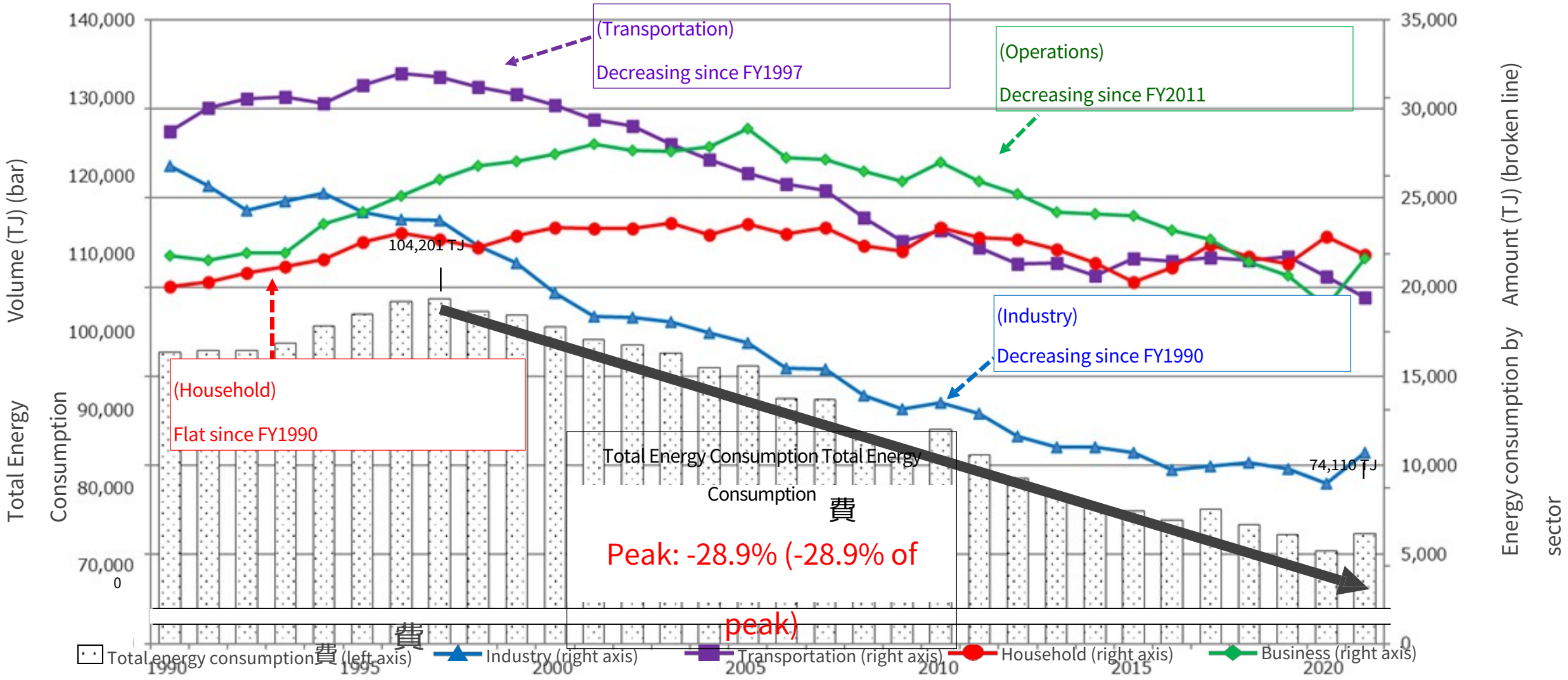
6,093,000 tons-CO_2 (FY2021): **22.3% reduction from** FY13



Breakdown of greenhouse gas emissions

	Base year (FY2013)	preceding fiscal year (FY2020)	Fiscal Year 2021	Increase/Decrease ❹	
				Change from base year (FY2013)	Compared to the previous fiscal year (FY2020)
Actually discharged. Greenhouse Gas Emissions ①	807.1	643.7	633.4	▲ 21.5	▲ 1.6% (1.6%)
Carbon dioxide (CO_2) note 1	753.9	571.3	558.0	▲ 26.0% (%)	▲ 2.3% (2.3%)
energy origin	732.6	549.3	535.6	▲ 26.9% (in %)	▲ 2.5% (2.5%)
Industrial Sector	103.6	69.3	81.0	▲ 21.7	+16.9%.
Transportation	155.5	143.7	133.3	▲ 14.3% (in %)	▲ 7.3% (1)
household sector	212.5	177.3	159.6	▲ 24.9% (in %)	▲ 10.0% (1.0)
business department	261.0	159.0	161.7	▲ 38.0% (%)	+1.7
non-energy origin (Waste Division)	21.4	22.1	22.4	+4.7	+1.4
Methane (CH_4)	3.7	2.4	2.4	▲ 35.9% (in %)	▲ 1.6% (1.6%)
Dinitrogen monoxide etc. note 2 (N_2O)	7.8	7.1	7.7	▲ 0.7% (0.7%)	+9.0
alternative CFCs	41.6	62.9	65.3	+57.0	+4.0
Absorption ② (forests, farmlands, green spaces)	22.9	23.1	24.1	+5.1	+4.1%, +4.1%.
Greenhouse Gas Emissions ①-②	**784.1**	**620.6**	**609.3**	**(22.3%) (22.3%)**	**▲ 1.8% (1.8%)**

Energy consumption



Major Factors of Increase/Decrease in Energy Consumption

department　department	FY2021 energy consumption 費 Amount (TJ) (Figures in parentheses are compared to FY2013	Major Factors of Increase/Decrease from FY2013 (↗ : Increasing factors, ↘ : Decreasing factors, ___ indicates the latest value) Actual figures without year are for FY2013-FY2021.
Industrial Sector Manufacturing, mining, construction, agriculture and forestry	10,717 (-2.7%)	↘ Decrease in energy consumption per unit of manufactured goods shipped 費 ☒ 54.7 ⇒ 41.9 MJ/¥10,000 (FY2020) [-23.5%]. ↗ Increase in manufactured goods shipments 201.4 ⇒ 214.3 billion yen (FY2020) [+6.4%].
Transportation Automobiles & Railroads	19,439 (-8.9%)	↘ Improvement of the average fuel consumption of new cars (gasoline cars) sold 費 21.3 ⇒ 22.5 km/L (FY2019) [+5.6%]. ↘ Gasoline consumption 費 Decrease in quantity of gasoline consumption 33.6 ⇒ 325,000 kL [-3.4%]. ↘ Diesel oil consumption 費 Decrease in quantity 16.3 ⇒ 161,000 kL [-0.8%]. ↘ LPG (Liquefied Petroleum Gas) Extinguished 費 Decrease in volume 3.7 ⇒ 15,000 tons [-60.0%].
household sector However, automobile Excluding the use of	21,805 (-1.4%)	↘ Energy use per household 費 Decrease in energy use per household 31,896 ⇒ 29,805MJ/household [-6.6%]. ↗ Increase in the number of households 69.3 ⇒ 732,000 households [+5.5%].
business department Commercial and office, Universities, hotels　etc.	21,628 (-10.7%)	↘ Energy dissipation per taxable floor area 費 Decrease in 1,546 ⇒ 1,279MJ/m² [-17.3%]. ↗ Increase in taxable floor space of stores, offices, etc. 1,565 ⇒ 16.9 million m² [+8.0%].

Lifestyle Transformation

lifestyle

Promotion Policy

1 Solving local problems and improving quality of life and awareness

Dissemination and establishment of the "Kyoto version of decarbonized lifestyles

2 goods and services in consideration of environmental and social issues.

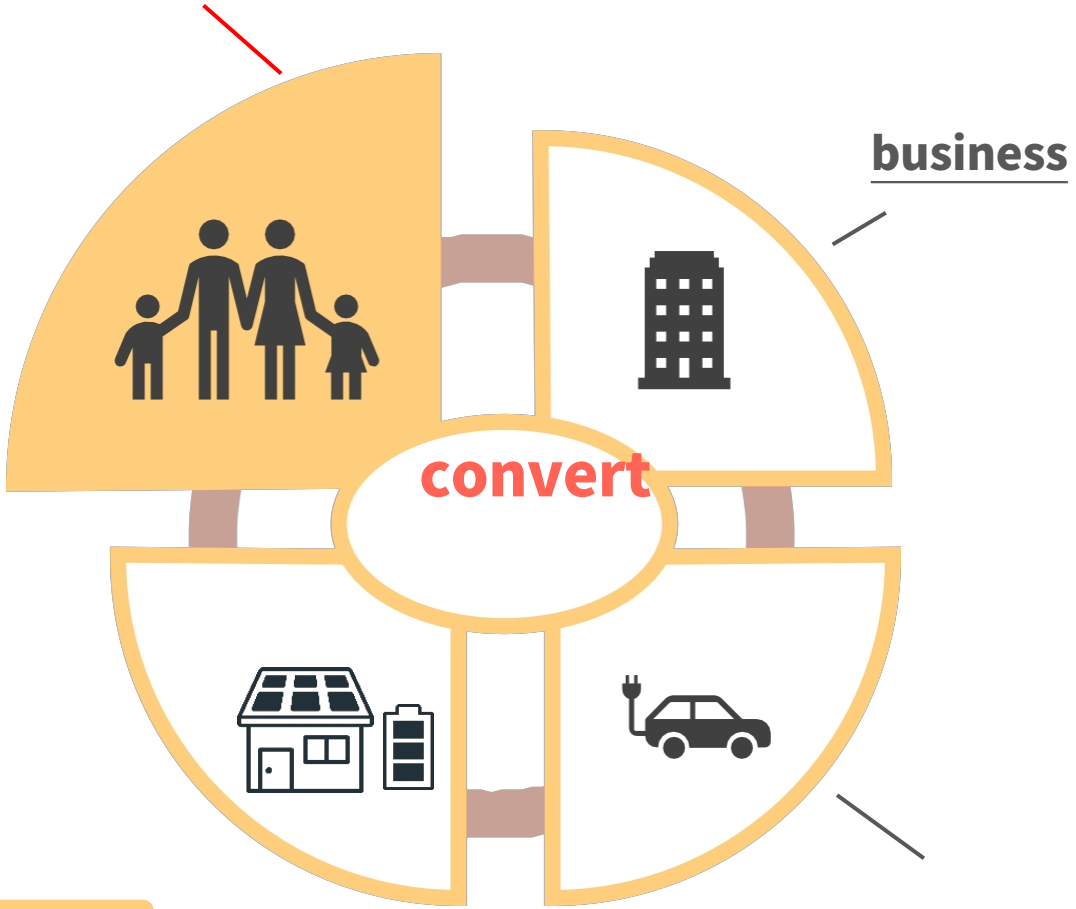
Promoting Ethical Extinguishing費 to change society through choice.

3 Energy saving in housing and home appliances, etc. and introduction of renewable energy

Improving the quality of life to be promoted

4 Fostering the bearers who will support the shift to a decarbonized lifestyle

5 Innovations for 2050 - Lifestyle～



Reduction target by initiatives

		amount of discharge	
Household sector	Energy consumption費 amount -23	* Reduction target in	Household sector -
Waste Division	Reduction in waste incineration: -30%, etc.	Waste sector -40,000t-CO_2	330,000 t-CO_2

mobility

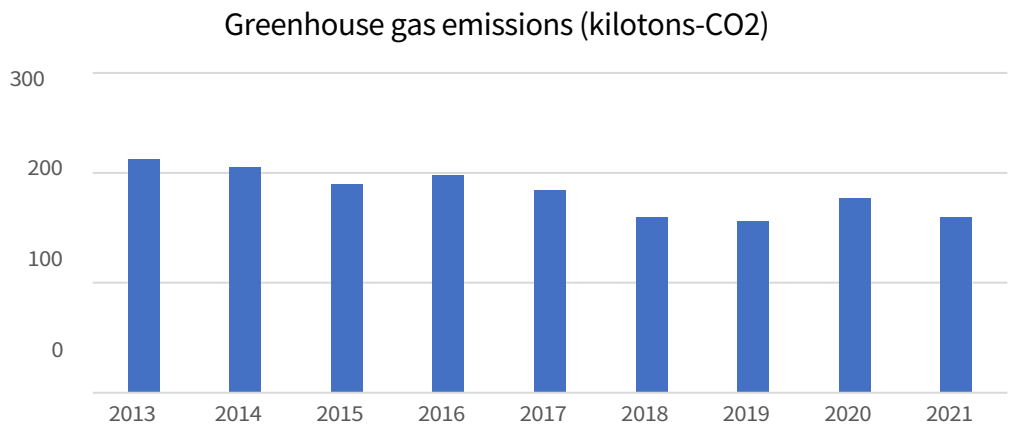
Target achievement status in the lifestyle sector

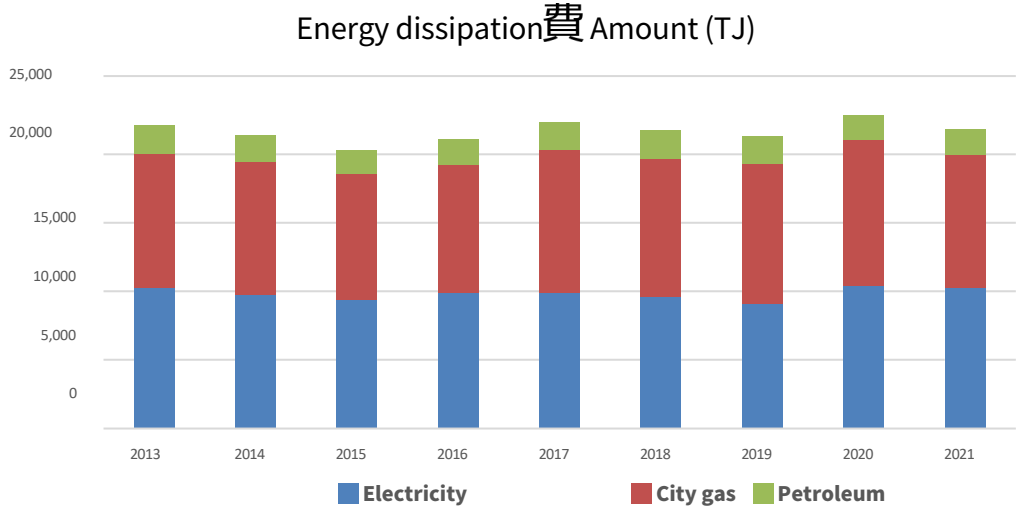
Household sector <Estimated reduction: -520,000 t-CO_2 *1> ⇒ **-0.4 million t-CO_2 *2**

*1 Estimated amount in FY2030 (compared to FY18)

*2 Reduction in FY2021 (compared to FY18)

Energy conservation <Estimated reduction:**▲ 330,000 t-CO_2**> ⇒ **＋ 26,000 t-CO_2**





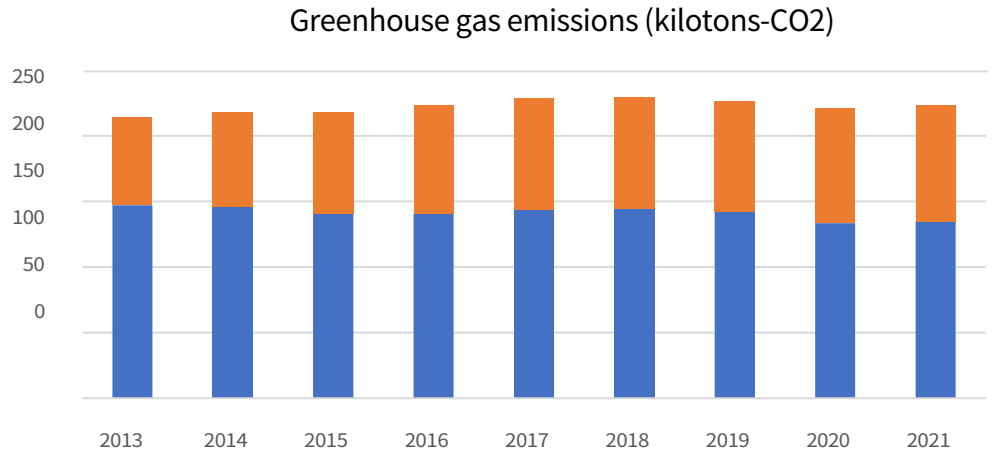
Waste <Estimated reduction:**▲ 40,000t-CO_2**> ⇒ **-0.6mt-CO_2**

- general waste

  Incineration volume of waste plastic 44,335t (2018) → 41,782t (2021)

- industrial waste

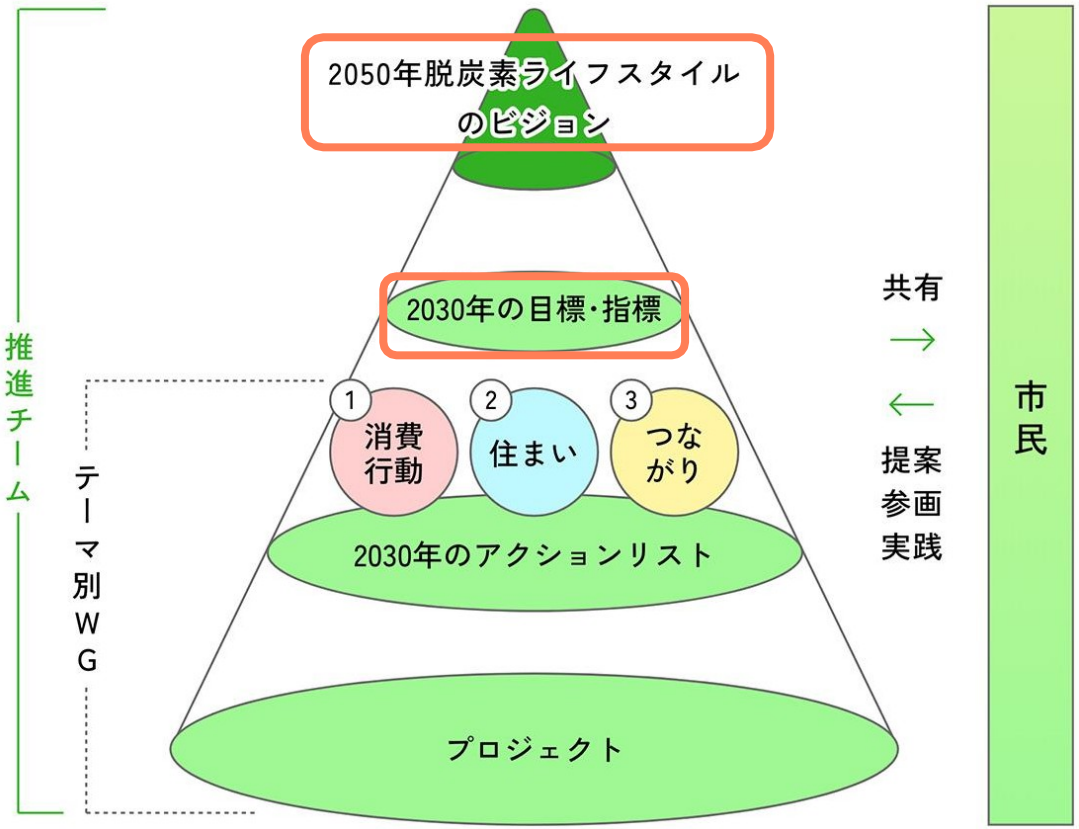
  Incineration of waste plastic 43,483t (2018) → 49,964t (2021)

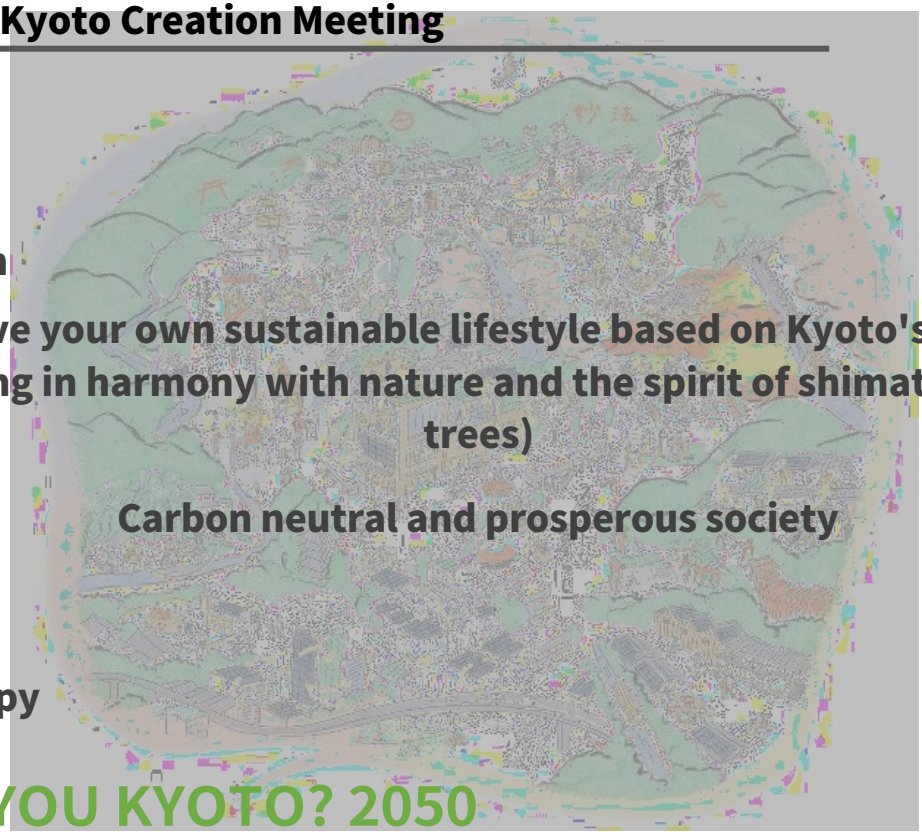



General waste
Industrial waste

Building Kyoto's Version of a Decarbonized Lifestyle - Kyoto Creation Meeting

- Comprised of citizens, businesses, academics, etc.
- **Building a** shared **vision of a decarbonized lifestyle**
- **Creating actions and projects that are easy for citizens to implement and practice.** ⇒ Aim to **spread in a citizen's movement way.**





▶ Vision

Achieve your own sustainable lifestyle based on Kyoto's culture of living in harmony with nature and the spirit of shimatsu (pine trees)

Carbon neutral and prosperous society

▶Catch copy

DO YOU KYOTO? 2050

Let's change, now. Let's change the future.

▶2030 Targets and Indicators

CO_2 emissions per household: -39.1% (compared to FY2020)

費Energy consumption per household: -25.8% (compared to FY2020)

Building Kyoto's Version of a Decarbonized Lifestyle - Kyoto Creation Meeting

Erase費Action		house		connection	
1	Used Clothes Collection & Recycling Project	1	home where people can feel connected (Kyoto winters are not cold) (ROJECT)	1	Creation of HUB for decarbonized tourism in Kyoto
2	Shijo St. as a sustainable To Symbols	2	Re-energizing rental apartments Electricity Switchover Promotion	2	Practicing Environmentally Conscious Agriculture
3	About satoyama and regional circulation Creating Opportunities to Know	3	Data from Demonstration Experiment Collection, analysis and dissemination	3	Promoting the use of food waste compost in the community
4	Rescue vegetables sold in the community	4	Use of nudges to promote the purchase of energy-efficient appliances	4	Circular Economy Project Using Parks
5	Utilizing art and design Implementation of upcycling	5	Energy savings and renewable energy portion of housing How you can trade		
6	Provide a vegetarian menu. Store Visualization	6	Energy savings when introducing rental housing Visualization of performance		
7	Visualization of environmental impact	7	of the experience of a well insulated house. creating a (usually favorable) environment		
		8	Used appliances and furniture 2R platform		

Project Demonstration
FY2023: 13 cases

Re-energy Lighting of Yamahoko Lanterns at the Gion Festival

Practicing environmentally friendly agriculture

Visualization of restaurants offering vegetarian menus

Practice of circular economy using parks

Kyo Sou Meeting Project (Consumption Action) Collection & Circulation of Used Clothes Project

RELEASE⇔CATCH

Fostering the habits of reduce, reuse, and recycle in the youth culture.

A regional business collaboration project aimed at (sponsored by Human Forum and Kyoto Shinkin Bank).

- Set up a platform to collect boxes for clothes no longer needed at home and sell or donate reusable clothes to be recycled in the city.
- Collection boxes installed at 84 locations in the city

<Results of this initiative

Collection: 97,000 pieces

Reuse: 18,000 pieces

Collection box installed:

209 locations

(84 locations in the city)

(Sept. R4 - Feb. R6)

<Circulation Festivals

Held 4 times

Participants: 40,500 in total

by efforts

CO_2 emission reductions

492.5t-CO_2

Circulation Festivals

To raise awareness of "RELEASE⇔CATCH," initiatives were implemented to advocate a new lifestyle by offering free clothes collected in the city and collecting clothes, so that people can feel that they themselves are part of the circle of circulation (May, November).

Kyoso Meeting Project (Housing) "Insulation Workshop

- Started to prevent isolation in the community and society, and to practice and educate the whole community about a community-wide, areal decarbonized lifestyle.
- In the field of Kino Dormitory, a student dormitory affiliated with Kyoto Seika University, students who live in the dormitory discussed ideas for a dormitory-wide project and held an insulation workshop in which students installed internal windows (double-paned windows) using kits in their rooms and in the common area hallways.

Workshop Held to Help Decarbonize

Insulated Window Workshop Held

Installed interior window kits in vacant rooms and common area hallway windows

Visualization of Environmental Impact Project (Decavo Score)

Visualization of Environmental Impact Project

Purpose	Promote the spread of environmentally friendly products and services by visualizing their environmental impact
method	• Conducting workshops and other activities for companies interested in displaying the carbon footprint of their products and their environmental impact. • Educate費 consumers to be aware of their "environmental impact" when purchasing products.
member	Earth hacks

Decavo Score

Earth hacks Inc. offers products using conventional materials and methods, etc. and Carbon dioxide emissions when comparing products with environmentally friendly innovations, etc.

Score the reduction rate of

Decavo Score Calculation Products

(1) unbleached featherbed

Regular/Iwata Corporation

Environmental Considerations

• Unbleached and undyed fa and feathers.
• Use of electricity derived from renewable energy sources
• Longer product life through regular maintenance

この製品1つあたりの製造工程における CO2 削減量 **28.0** kgCO2e

15年に1度通常の新品の布団を購入し計45年間使用した場合の排出量（外側の布は染色あり）
65.2 kgCO2e

新品の布団を購入し15年ごとに計2回わたを再生し詰め替えることで計45年間使用した場合の排出量（外側の布は染色せず）
37.2 kgCO2e

デカボスコア CO2e 42% off by Earth hacks 2023.9

(2) Nishijin brocade fabric panel

Environmental Considerations

• Upcycling of Nishijin brocade pattern sample fabrics scheduled for disposal
• Upcycled utilization of furniture scraps that were to be discarded

この製品1つあたりの製造工程における CO2 削減量 **0.67** kgCO2e

新たに素材を調達して製造したファブリックパネル
1.02 kgCO2e

産廃予定である西陣織の柄見本生地と家具をアップサイクルして製造したファブリックパネル
0.35 kgCO2e

デカボスコア CO2e 65% off by Earth hacks 2023.10

(3) Japanese candles / Nakamura Candle Co.

Environmental Considerations

• Manufacturing method utilizing only plant-derived raw materials
• Recovery and reuse of unused company products

この製品1つあたりの製造工程における CO2 削減量 **7.88** gCO2e

新たに素材を調達し製造した洋ろうそく
9.41 gCO2e

使い切れなかった自社製品を回収し原料に加え手作りでUpcycle した和ろうそく
1.53 gCO2e

デカボスコア CO2e 83% off by Earth hacks 2023.10

↑Exhibition of products and posting of figures in the underground passageway of Kyoto City Hall

Efforts to promote citizen participation (1) Citizen workshops (6 in FY2023)

<Fire Volunteer Targets
Strategy Meeting on Transition to a Decarbonized Lifestyle

<For Gion Festival Operation Zero Garbage Volunteer Leaders>
"2050 Carbon Neutral" card game experience session

<For university students of Ryukoku University>.
DO YOU KYOTO? 2050 Idea-thon

<For university students of Kyoto University>.
Workshop on Transition to a Decarbonized Lifestyle

<Citizens>.
Fushimi Lecture Series "Coffee and Climate Change

<For high school students of Rakusai High School and the general public>.
Card game "College for Decarbonized City Planning" experience

Efforts to promote citizen participation (2) Information dissemination by citizen writers

・Collaborating with D&DEPARTMENT　PROJECT,which publishes the tourism guidebook "d design travel," a citizens' writer training course was held three times from September to October.

Ten participants will cover initiatives that will lead to a decarbonized lifestyle transition and publish articles in 2050magazine.

地域

京都らしい使い手の見える商い

京都には、昔から石加工職人、ほうきを挿（こしら）える職人、障子の職人、そして鍋底に空いた穴を修理する職人などが多くいた。物を買い、使い、直すことまで全てが一つの地域で循環されていたのだ。そんな職人の町で1905年から「帆布」と向き合い、職人たちの道具入れから現代の暮らしにあったものなど、商品のデザイン、製作、販売までの全てを行なっているのが「一澤信三郎帆布」だ。一つ一つが職人の手づくりであること、使用する国産素材へのこだわり。効率重視ではなく、長く愛用できるようにと一つ一つの行程での丁寧な作業。ものづくりの現場が海外へと移転していく中、京都でものづくりを続けるこだわり。これら全てを「時代に遅れ続けるものづくり」と信三郎社長は話す。「昔、ある商社が背広の製作をモンゴルに依頼したら、背広の襟の部分にボタンが付いて納品されたことがあるんや。モンゴルは寒いから、反対側の襟についているボタンホールを使って止められるよう気を利かしてボタンをつけた」と、信三郎社長は話してくれた。ものづくりの地域が変われば、ものに対する常識も変わる。すぐ近くで作っていれば、起こり得ない誤解も、場所が変われば起こりうるということだ。
この場所でものづくりを続ける理由のもうひとつは、京都の店に直接足を運び、実際に鞄を手に取って、帆布の手触りなどを五感で感じて商品を選んでほしいという思いだ。実店舗があることで、お客様の様々な要望を身近で聞き、その要望を工房と共有し、ものづくりに活かすことができる「使い手の見える商い」。それが京都らしい、地域と関係性を保つ商いなのだ。（スワロー茉柚クレア／学生）

Articles about TSUNOKICHI tsukudani food boiled down in soy sauce

産業

軸＋柔軟＝「津乃吉」らしい物づくり

約20畳程の加工場に、家庭用の小さな鍋と形の異なるさまざまな道具達、何度も鍋を移し替えながら行なわれる出汁づくり。一見、非効率に映る作業の中に「津乃吉」らしさがある。それは、“いい物をつくる”という絶対的な目的を軸に据え、その手段は自由に決めていいという選択の柔軟さである。物をつくる際は、素材を仕入れ、加工し、完成品として世に出す。安定して高品質な商品を提供するためには、仕入れ・加工段階で規格を決め、作業も規格化し効率化していくというのが一般的だ。しかし「津乃吉」では、一定の品質基準を設けつつも、素材の違いや、季節による自然なばらつきを許容している。「津乃吉さんに持っていったら何か美味しいものをつくってくれそう」と、知り合いの農家から材料が届くこともあるという。仕入れ段階で素材の違いを楽しみながらも、加工段階でばらつきを吸収する。出汁をひく際の温度は50度に保つために測定器で管理し、煮出しの時間は秒単位で決められている。また、味見をしながら調整を加えたり、ちりめんじゃこに混入している小さなエビやカニなどを目視確認しながら一つ一つピンセットで取り除くなど、手のかかる作業をしっかりと行なっているのだ。その理由は、「そうした方が美味しくなると分かっているから」というシンプルなもの。“いい物をつくる”という確固たる軸と、そこに辿りつくための柔軟さを持ち合わせた「津乃吉」の商品は、美味しさに繋がっている。（森 友紀／コンサルタント）

Article on Shinzaburo Ichisawa Hanpu

Kyoto City Energy Conservation Action Promotion Program

Business Overview

Kyoto citizens (approximately 400 households) will be offered the opportunity to receive a free energy efficiency and conservation audit (uchi-eko audit) through the Home Eco-Assessment System established by the Ministry of the Environment.

The examinees are requested to implement the suggestions made in the diagnosis report according to their own ba and energy-saving study sessions are held as follow-up activities.

(1) Flow :

Receive energy conservation diagnosis → in-person → Diagnostic report (hand delivered or sent)

If it is difficult to conduct in-person, a brochure will be sent

Tally carbon dioxide reductions

→ Energy conservation study sessions (sending energy conservation handbooks) → ex-post-facto questionnaire

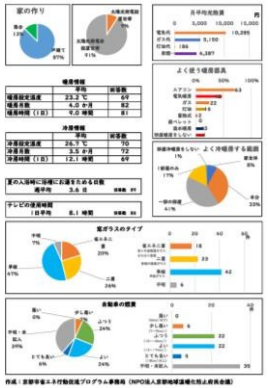
(2) Implementation period: 1991～

(3) Number of examinees: Cumulative 2,431 (FY31～ R5)

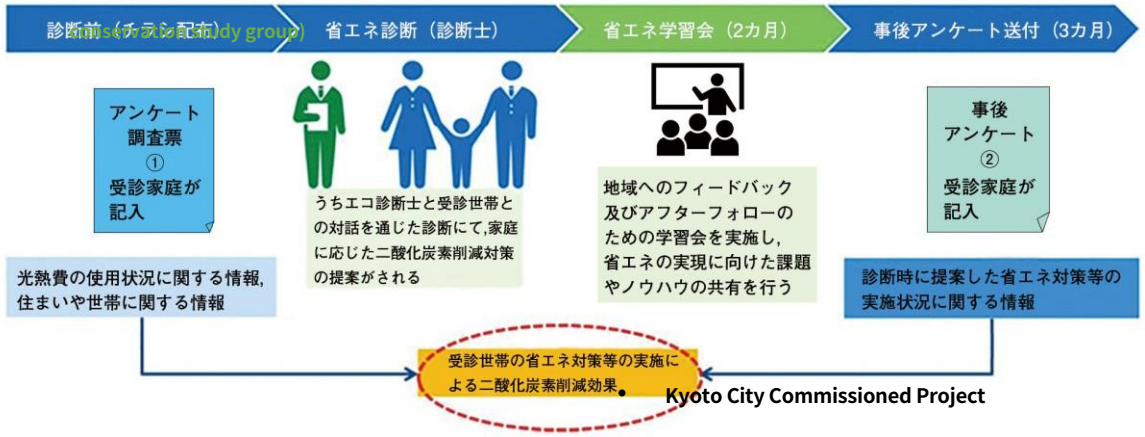
(Including previous Kyoto City projects, a cumulative total of 5,014 cases have been diagnosed since 2011.)

Energy Conservation Handbook

Analysis Sheet



Ministry of the Environment　Home Eco-Diagnosis System (Kyoto City's own energy

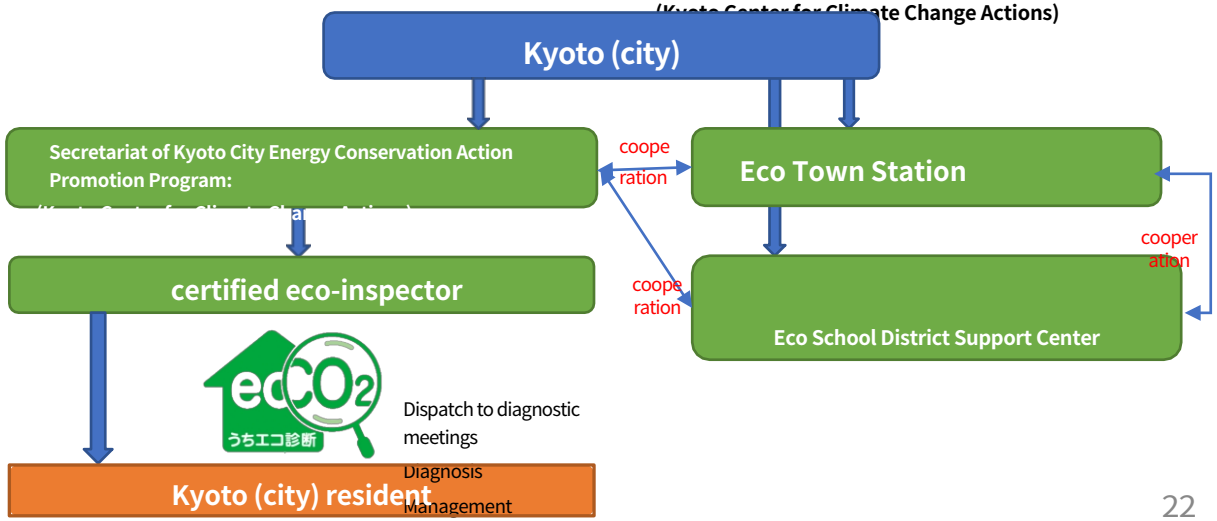


Kyoto City Commissioned Project

Kyoto City Energy Conservation Action Promotion Program Office

(Kyoto Center for Climate Change Actions)

Structure of Initiatives



Children's Eco Life Challenge

ucted study sessions in elementary school classes

time (Approximate)	Details of implementation	Number of class hours	At Home practice
Before summer vacation	Preliminary study Learn about global warming through a video (about 15 minutes) Check the status of your eco-life efforts in the workbook (Before the initiative)	45 min.	.
during summer vacation	[Practicing an Eco-Lifestyle at Home Check the results in the workbook (after the initiative).	.	2 to 3 weeks degree
After summer vacation	Reflective learning Review of efforts with video (about 10 minutes) An eco-life diagnostic report prepared based on the results of each individual's efforts. Utilize the program to deepen understanding of eco-life and to continue to practice it. Motivate the	1 frame (45 minutes) or band time (20 min)	.

in all elementary schools in Kyoto City.

Start of implementation!

Cumulative total up to fiscal 2022

144,766 participants

The Children's Ecolife Challenge is

Across the country, Malaysia has also been implementing

the program since 2012!

Malaysian children visited Mayor Kadokawa!

CO2 emissions that can be reduced if children continue with the initiatives in the Eco Life Check (booklet p.6-7).

(Unit: kg-CO2)

	eco-life	1 month	1 year
1	Reduce TV and game time. Turn off when not watching.	3,851	46,214
2	Turn off the lights in an empty room.	5,125	61,501
3	When using air conditioning or heating, be careful of the temperature setting.	11,175	134,096
4	Do not leave hot water running.	10,052	120,627
5	When shopping, try to avoid choosing plastic containers and packaging Choose the one with the least amount of	3,800	45,605
6	When choosing food, choose what is in season and what is from nearby.	2,601	31,210
7	For stationery, choose and buy recycled paper notebooks and eco-marked items.	441	5,289
8	Carry a water bottle with you when you go out.	4,050	48,599
9	When they go out, they walk or use bicycles, buses, or trains.	15,968	191,612
10	Talk about environmental issues and eco-life with people at home. *	15,255	183,061

Information dissemination through 2050 MAGAZINE

Established the official website "2050 MAGAZINE" (October 2022-)

The site provides information on the vision, actions, and projects of the Kyoto-based decarbonized lifestyle, as well as information on events, interviews, and other initiatives related to decarbonization from a variety of perspectives.

Number of visits to our website and SNS*: approx. 270,000 (as of March 31, 2024)

*Facebook, Instagram, X (formerly Twitter), Spotify

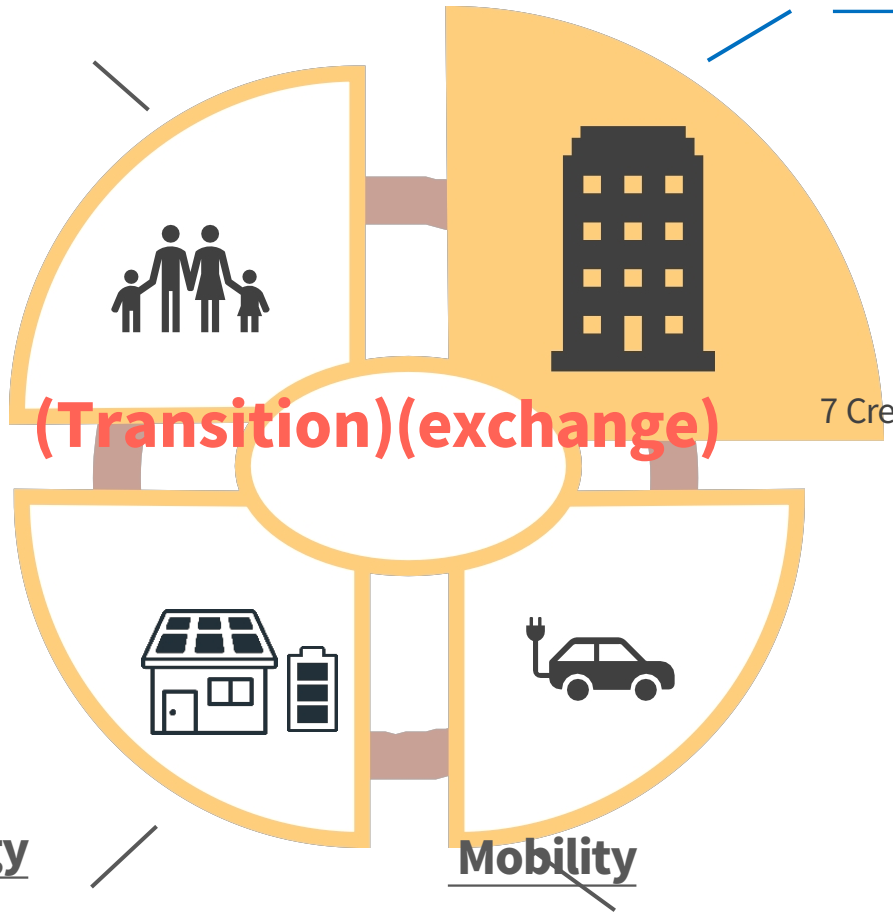
New features added

Added the ability to visualize the effect of CO_2 reduction!

Started in December 2023

Approx. 260 diagnosed (as of the end of March, R6)

Business Transformation



Promotion Policy

6 Promotion of further measures in business activities

7 Creating a mechanism to create a virtuous circle between the environment and the economy

8 Innovation for 2050 - Business～

Reduction target by initiatives

Industrial Sector Energy consumption費 Volume -10.1% Business Sector Energy consumption費 Volume -11.4

(1) Reduction target in FY2030 (compared to FY18)

amount of discharge

- Industrial sector -100,000 t-CO_2
- Business sector -260,000 t-CO_2

Achievement of Business Sector Goals

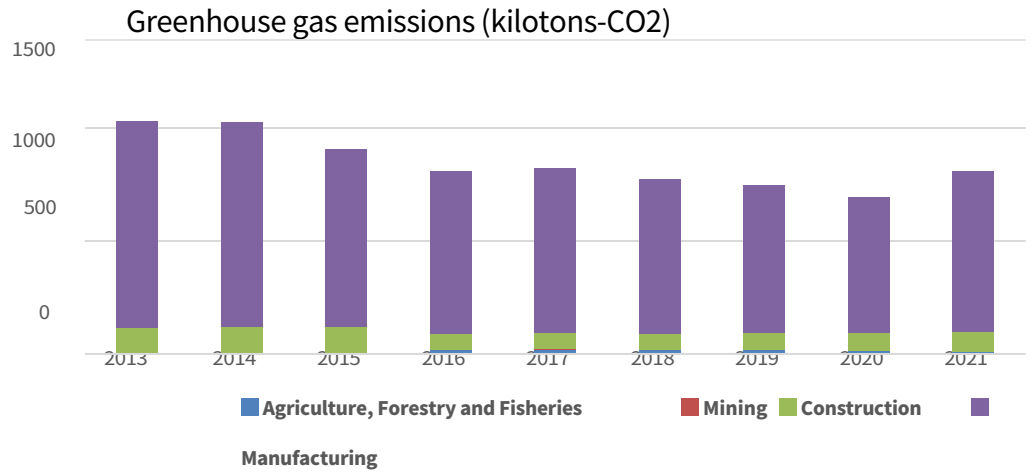
Industrial Sector <Estimated reduction: -170,000 t-CO_2 *1> ⇒ +36,000 t-CO_2 *2

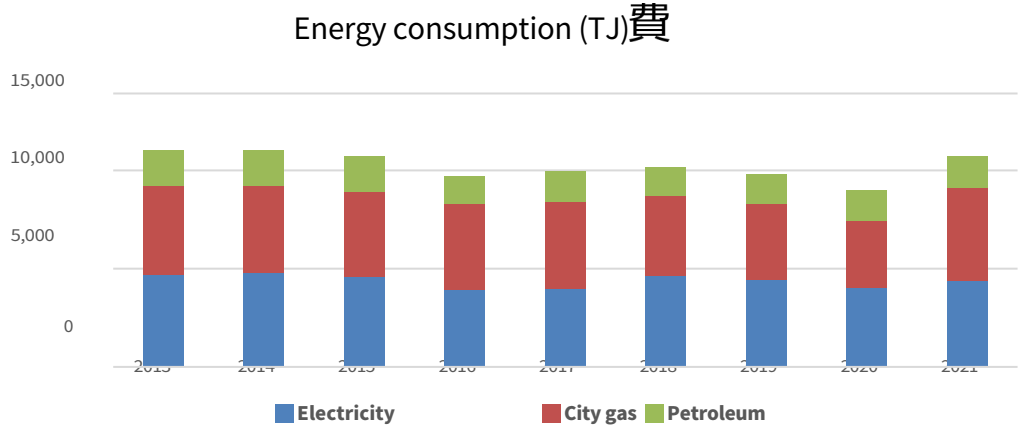
Energy conservation <Estimated reduction:**▲ 100,000 t-CO_2**> ⇒ ±

0,000 t-CO_2

*1 (Estimated amount in FY2030 (compared to FY18)())

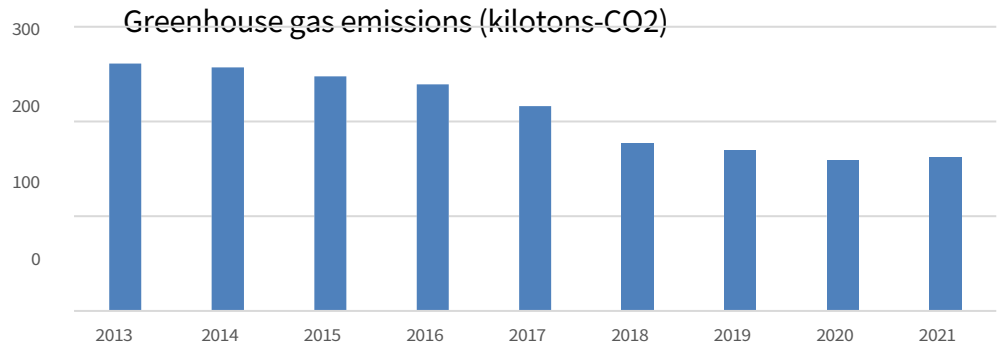
2 Reduction in FY2021 (compared to FY18)

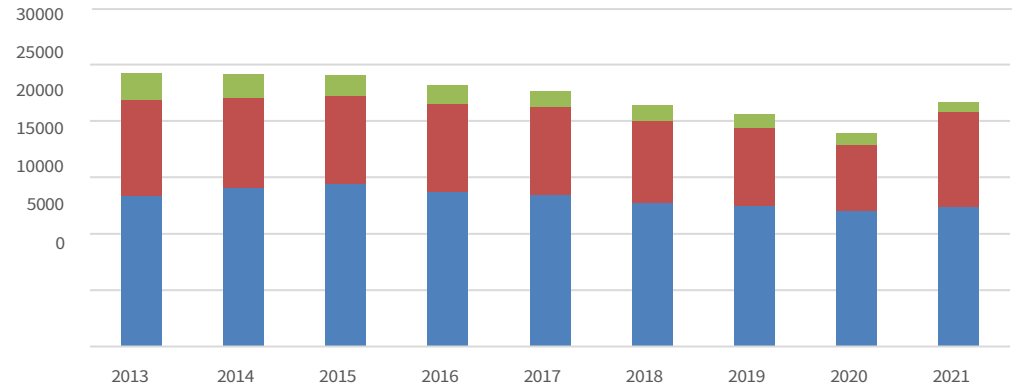




Business Sector <Estimated reduction: -490,000 t-CO_2> ⇒ -150,000 t-CO_2

Energy saving <Estimated reduction:**▲ 260,000 t-CO_2**> ⇒ **+13,000 t-CO_2**





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Business Emission Reduction Plan System

Outline of ▶ System (2005-)

Large-scale emitters (approx. 140)

Prepare and submit a three-year plan and annual reports

The City evaluates the plans and reports and publishes the results

Strengthening of ▶ efforts (from 2023)

<Raise target reduction ❹.

3-year average reduction rate

Transportation (railroads, carriers, etc.): 1% to 2% Industry (factories, etc.): 2% to 4

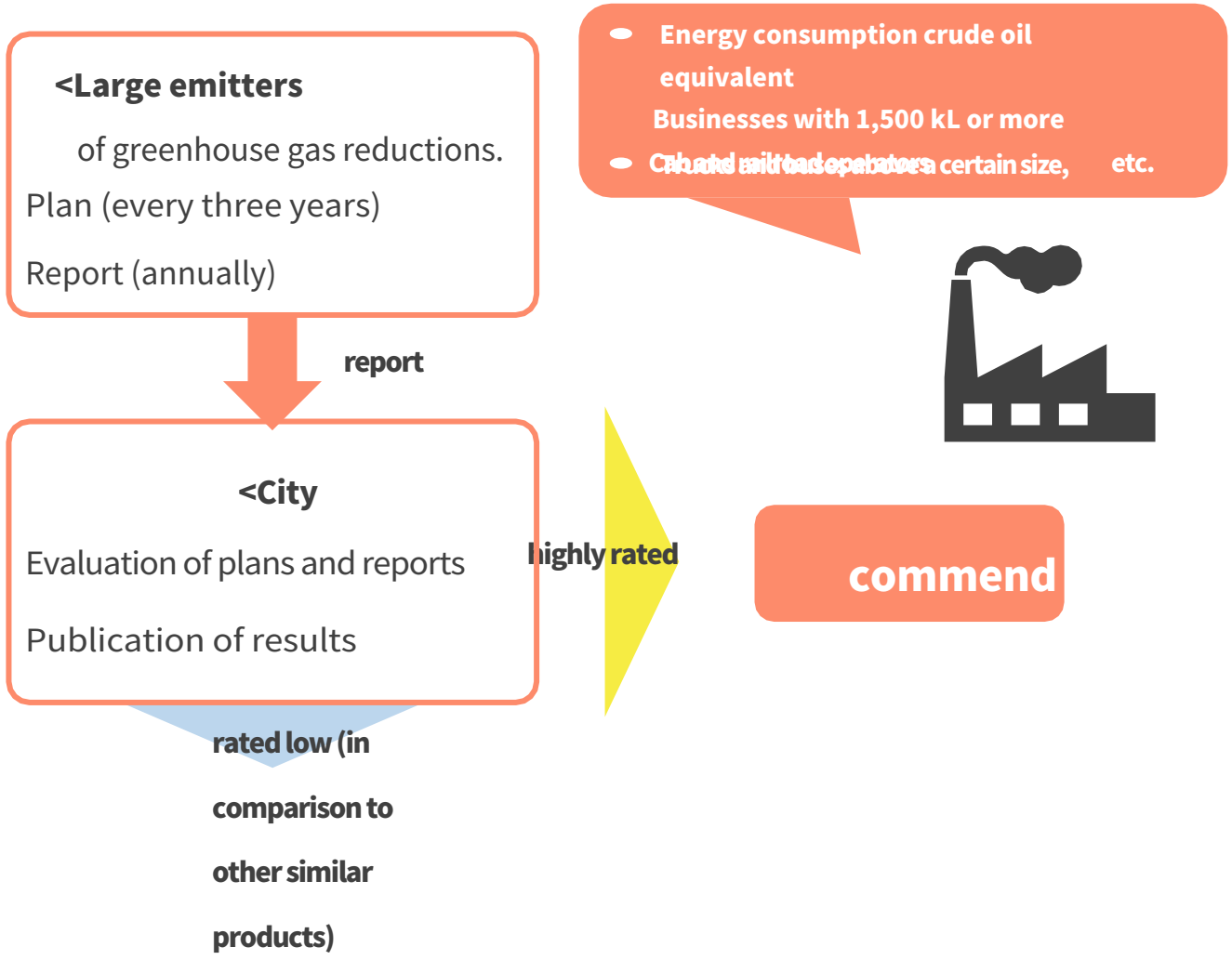
Business (offices, supermarkets, etc.): 3% to 6%.

<Adding evaluation items such as the introduction of renewable energy

<Introduction of eco-cars

- A certain percentage of new car purchases will be converted to next-generation vehicles and other vehicles with high environmental performance.
- **Purchase ratio (obligation) 1/2 → 2/3**

Image of ▶ System



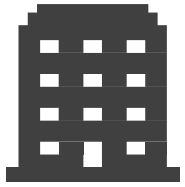
visit

(Guidance and advice)

Energy Consumption Reporting System

▶Image of the System

Total floor area of 1,000 m2 or more



< Medium-sized businesses: Report on energy consumption and initiatives **(visualization of own situation)**

report

<City

emissions of the company.

Presentation of CO_2 emissions of similar establishments

Simple for energy conservation

and support information to the public

feedback

<Medium-sized businesses

Confirm standing position

Supporting the Efforts

Subsidies for the introduction of high-efficiency equipment (R5-)

suppo rt

energy-saving retrofit

Utilize government grants for renewable energy

▶Outline of the System (2022-)

Targets mid-size businesses (approx. 1,900 businesses)

Each fiscal year, we ask our customers to submit their annual energy consumption data.

Annual Energy Consumption

▶Image of feedback

Provide feedback on information that leads to energy savings, etc.

Status of Efforts by Businesses

Large Scale Emitters

▶Greenhouse gas emissions (4th plan period* actual)

R2 to R4　R2 - R4 fiscal year

Greenhouse gas emissions by specific businesses (136 companies): 1,522,000 tons

9.3% down from the base year total of 1,678,000 tons

Greenhouse Gas Emissions by Specified Businesses (FY2020-FY2022)

department	Number of businesses (Person)	Greenhouse Gas Emissions (million tons-CO_2)		Percentage change from base year emissions (%)
		Base year (average of H29-R1)	track record (average of R2 to R4)	
plan	136	167.8	152.2	▲9.3
Operations Division	83	103.7	96.7	▲6.7
Industrial Sector	32	44.5	38.3	▲13.9
Transportation	21	19.6	17.2	▲12.3

vement by Sector

ent ▲6.7% (Target: -3%) 6.7%

Targets achieved in all

CO_2 emission reductions

156,000 t-CO_2

("Base year - Actual" value)

(Target: -3%)

Industrial sector: -13.9% (Target: -2%)

Transportation: -12.3% (Target: -1%)

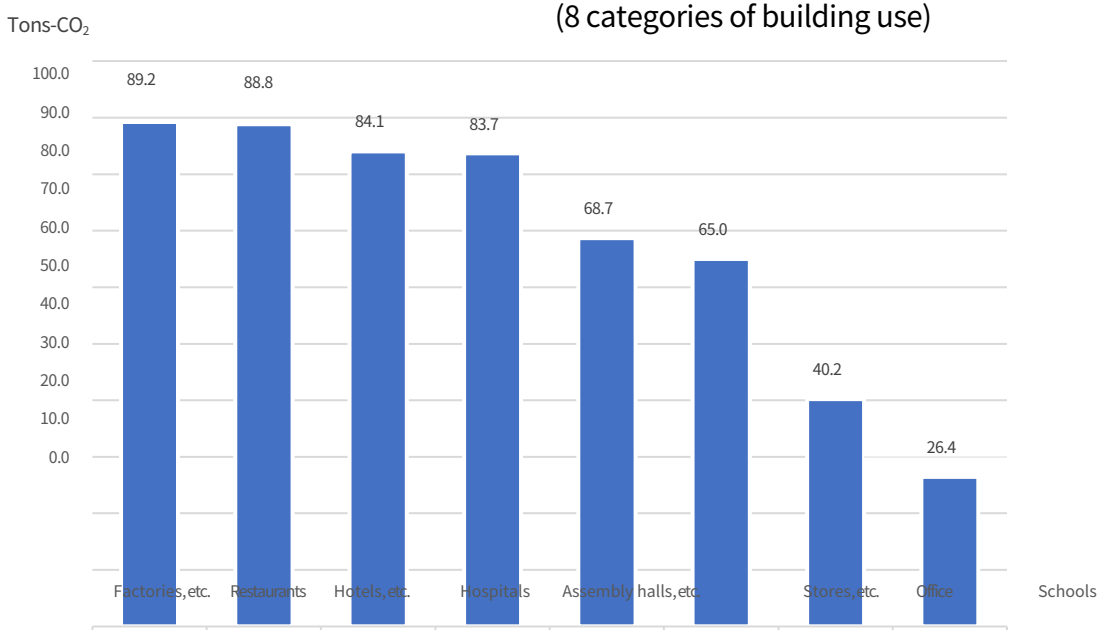
Mid-Size Business

▶ Provided individual feedback to 1,686 businesses that submitted reports to to promote energy conservation efforts.

▶Based on reported data, per floor area by building use CO_2 emissions were calculated. (see table below)

Table: Comparison of CO_2 emissions per 1,000 m2 of floor space

(8 categories of building use)



(R4 fiscal year results)

Commendation for Special Excellent Business Operators, etc. in the Fourth Plan Period

▶ Comprehensive evaluation results

The City conducted a comprehensive evaluation of the reductions achieved based on the reduction reports submitted, and the breakdown by sector is as follows

Performance Evaluation for the Fourth Plan Period (by Sector) (Unit: persons)

department	S Rating	A Rating	B Rating	C Rating	D Rating	total amount
business	21	37	18	7	0	83
industry	2	20	2	8	0	32
transportation	4	14	0	3	0	21
plan	27	71	20	18	0	136

From among the operators that received an S evaluation in the overall evaluation, special excellent operators (7 operators) and excellent operators (17 operators) were selected based on the selection criteria.

List of ▶Excellent Businesses

department	Business Name	
business	Aeon Retail Co.	Medical Corporation Iryinkai
	Ohsho Food Service Co.	Optage Corporation
	Kyoto Institute of Technology National University Corporation	Kyoto Tokyu Hotel Co.
	The Hotelier Group Kyoto Takaragaike LLC	Takashimaya Co.
	Doshisha Educational Corporation	Nippon Telegraph and Telephone West Corporation
	Bukkyo Kyoiku Gakuen	Brighton Corporation
	Ryukoku University Educational Corporation	Kyoto (city)
transportation	West Japan Railway Company	Rakuyo Kounyu Co.
	Kyoto City Transportation Bureau	

▶List of Special Excellent Businesses

department	Business Name	
business	Kyoto Chuo Shinkin Bank	Koseikai Medical Foundation
	Nippon Life Insurance Company	Kyoto City Water and Sewerage Bureau
industry	Gekkeikan Co.	Takara Shuzo Co.
transportation	Kyoto Bus Co.	

Special Excellent Business Awards Ceremony
March 2024

Kyoto City Project to Promote the Introduction of Highly Efficient Equipment for Small and Medium-

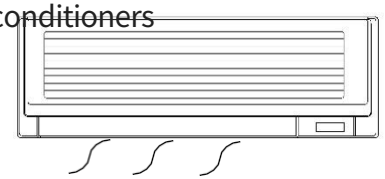
A system to subsidize 1/2 of the eligible expenses for small and medium-sized businesses that upgrade to high-efficiency ❹ equipment, if the equipment meets the requirements, began operation in FY2023.

Sized Businesse

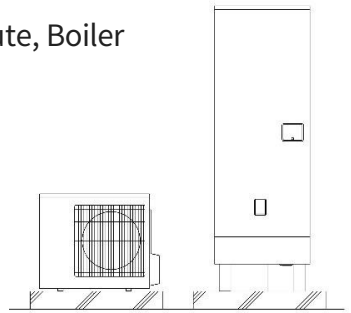
Air conditioning and hot water supply equipment

Requirement] **CO2 emission reduction of 30% or more** before and after renewal

Commercial and room air conditioners

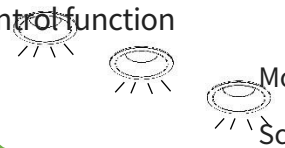


Eco-Cute, Boiler



Lighting equipment (LED lighting)

Requirement] LED with **automatic dimming control function**



Motion sensors and Schedule control, etc.

Subsidy rate and maximum amount

Subsidies 費 Within 1/2 of

Upper limit: 5 million yen, lower limit: 500,000 yen

subject (of taxation, etc.)

Small and medium-sized business persons and medical corporations, School Corporation etc.

Application period

Initially: May 11, 2023 - July 14, 2023

Secondary: October 3 - 17, 2023

lighting projects (duplicated))

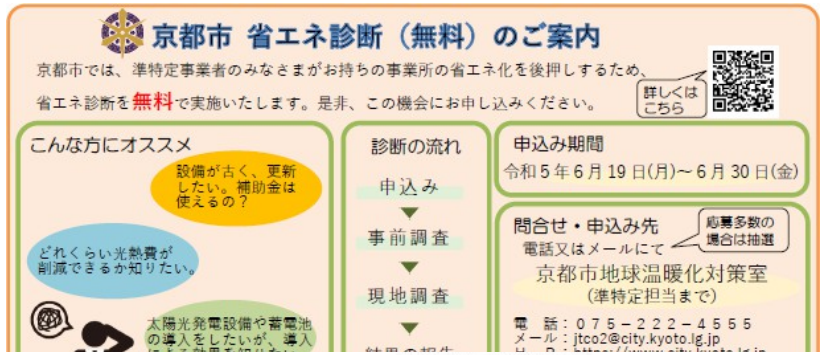
CO2 emissions reduction Approx. 5,400 tons (cumulative total for legal lifetime)

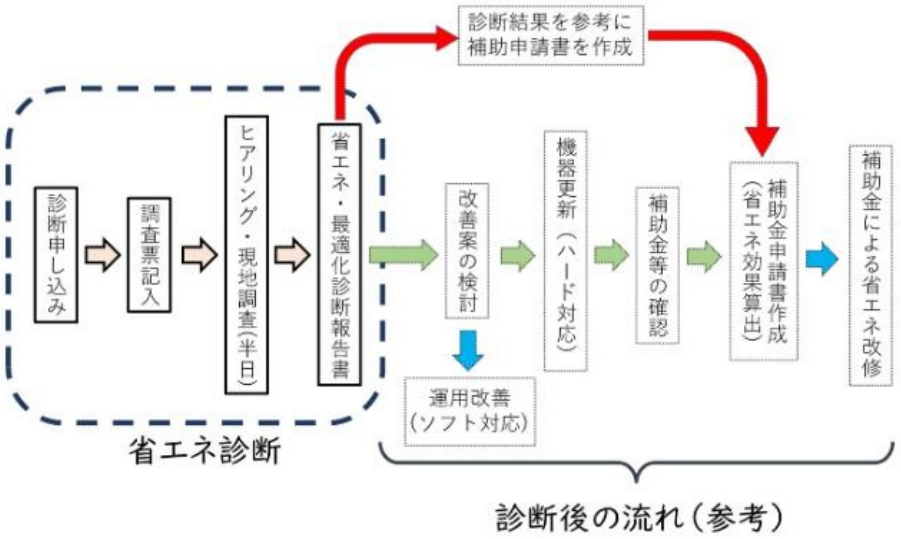
Free Energy Conservation Diagnosis

What is an energy

Energy efficiency and conservation audits are conducted by energy management experts to assess the potential for energy and conservation measures at a business site and propose energy efficiency and conservation measures.

Kyoto City also offers free energy efficiency and conservation audits as a m





2023 Energy Conservation Assessment

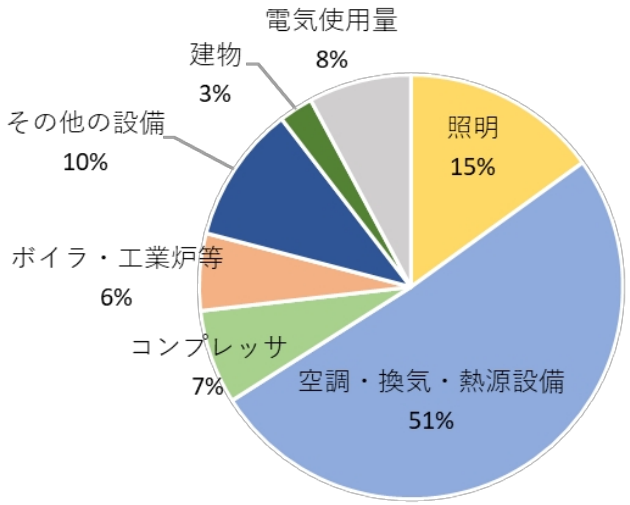
FY2022: 14 cases

FY2023: 24 cases

Type of business that conducted energy efficiency and conservation audits

2023	
24 cases Implemented	
Factories, etc.	7 cases
Offices and stores	9 cases
Schools and nurseries	4 cases
Hotels etc.	4 cases

Percentage of facilities that proposed energy conservation measures



There are three types of proposals for energy conservation measures

operational improvement
費
Energy-saving measures that do not require the use of

Small Scale Measures
Energy conservation measures that require some construction 費 purchase of equipment, etc.

Large-scale measures
Energy conservation measures requiring renovation work or equipment renewal

Expanding the Use of ZEB in Existing Buildings" using the Public-Private Partnership Lab.

2050 Target (The state of the building)	Country: Energy-saving performance at the level of the ZEB standard is ensured in the stock average. CITY: Offices and buildings that are healthy, comfortable, and energy self-sufficient to a large extent.

Decarbonization of existing buildings is a key issue considering building stock and service life

Current Status and Issues

The new building was built in...

ZEB is possible if the latest energy-saving equipment, etc. is installed from the beginning.

The project is a part of the existing building renovation....

Fewer examples of ZEB retrofits due to lower insulation performance and higher technical and economic hurdles compared to new construction

➢ On the other hand, examples of popular ZEB retrofits that improve the energy performance of buildings at minimal cost by combining existing general-purpose technologies are beginning to appear in the city. (Panasonic Kyoto Building)

Example of ZEB conversion achieved by retrofitting an existing building

※ZEB : Abbreviation for Net Zero Energy Building.

Buildings with net-zero energy loss due to energy conservation and energy creation.

Kurume City Environmental Department Building

Panasonic Kyoto Bldg.

Toward the realization of a decarbonized society in 2050,

Conversion of existing buildings to ZEB through public-private partnership

✓ Within the framework of the Public-Private Collaboration Lab, the issue of "expanding the use of ZEB in existing buildings" was presented and proposals for solving the issue were solicited from the private sector.

✓ Proposals will be reviewed and adopted, and will be implemented in collaboration with Panasonic Electric Works, Daikin Industries, Enetec Kyoto, and Showa Denki Kogyo,

Conducted "ZEB feasibility study of existing buildings" etc.

✓ In addition, training sessions were held to raise awareness of "ZEB" itself (2023).

(Energy conservation seminars for small and medium businesses on November 14 and 17)

費

(1) Call for proposals and adoption

Kyoto City

KYOTO CITY OPEN LABO

(2) Proposals for ZEB conversion

private-sector business

Adopted example: Initiatives for ZEB feasibility study

(1) Provide demonstration field

selected companies

Private buildings and municipal public buildings

(2) Conduct ZEB feasibility study

Issuance of Kyoto City Green Bonds

In January 2024, Kyoto issued "**Green Bonds (municipal bonds specialized in the environmental field:)**" to achieve "Zero in 2050," promote investment in Kyoto from Japan and abroad, utilize ESG investments and by companies and financial institutions in Kyoto, and expand issuance of Green Bonds.

→Of the ¥7 billion issued, 29 organizations have expressed an interest in purchasing approximately ¥8.5 billion (29 organizations have purchased, and 27 organizations have announced their investment*).

In addition to the individual bonds, about 11 billion yen was raised through the Green Joint Bonds by utilizing the scheme of joint issuance by the government.

→Kyoto City received the first installment of 5 billion yen (November 30, 2023) and the second installment of approximately 6 billion yen (March 29, 2024).

* To publicly announce that the investor will contribute to solving environmental problems and realizing "Zero 2050" through the purchase of Green Bonds, and will fulfill its social mission and role.

issue stocks	Kyoto City 2023 Green Bond 5-year Bonds
amount of issue	7 billion yen
date of issue	January 26, 2024 (Friday)
interest rate	0.314% (0.314%)
Redemption date and method	5 years (lump-sum redemption at maturity)
how funds are used	Energy conservation renovation projects (LEDs in facilities), projects to improve city-owned facilities with superior environmental performance, river improvement projects, and greening promotion projects
external evaluation	Rated "Green 1 (F)" by Japan Credit Rating Agency, Ltd.
Leading Securities Firms	Nomura Securities Co.

FY2022 Kyoto City Green Bonds received the "Bond Award 2023" (Municipality Category).

First Japanese municipality to win the "Bond Award 2023" in the municipal category from Environmental Finance, the UK's leading global environmental finance magazine.

Impact Report Issued on FY2022 Kyoto City Green Bonds 5-Year Public Offering

Environmental Finance Bond Awards 2023 Winner Green bond of the year – local authority/ municipality

Energy Conversion

Promotion Policy

9 Maximize the use of renewable energy in the city

10 Promote the use of renewable energy electricity

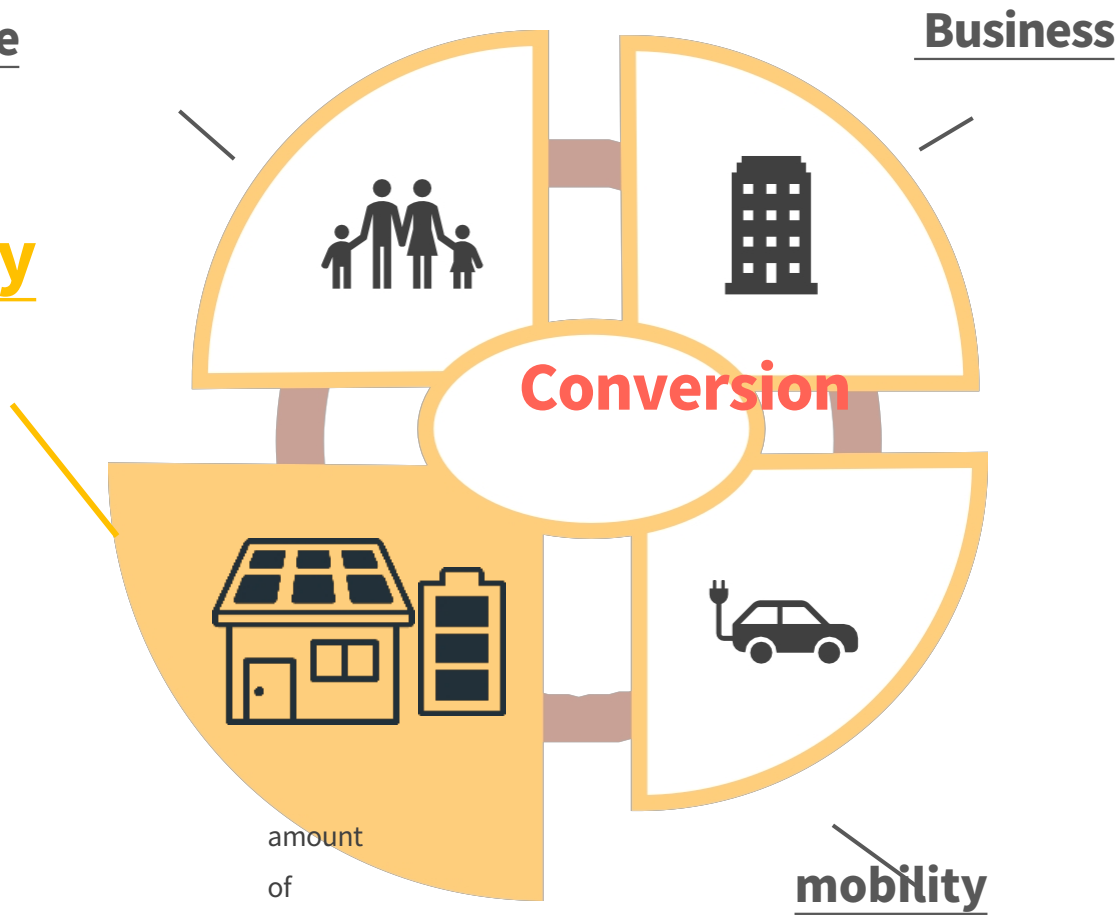
11 Promotion of renewable energy supply by electric utilities

12 Innovation for 2050 - Energy～

Reduction target by initiatives

Extinguished費 Percentage of renewable energy in electricity

About 15 → 35% or more



Household sector -190,000t-CO_2 Industrial sector -70,000t-CO_2

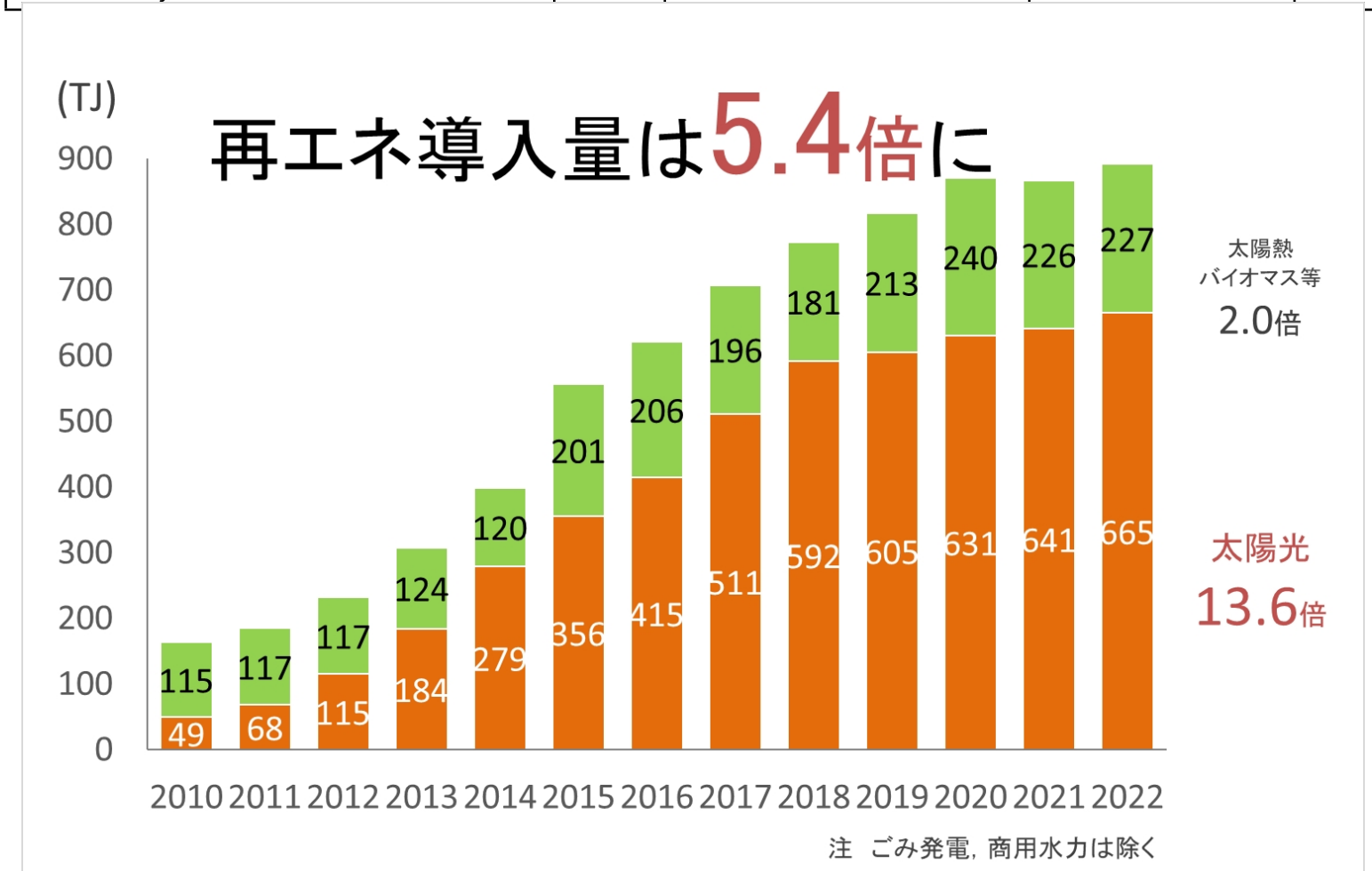
Business -230,000t-CO_2 Transportation -40,000t-CO_2

not Reduction target in FY2030 (compared to FY18)

Target achievement status in the energy sector

Ratio of Renewable Energy to Electricity Consumption ❹ Target: 35% or more **＜Target: 35% or more＞ ⇒ 26.3**

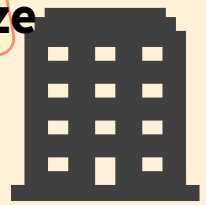
		2018 (base year)	2019 (R1)	2020 (R2)	2021 (R3)
Extinguished費 Ratio of renewable energy to electricity	%	approximately 15	20.1	26.5	26.3



Total amount of renewable energies introduced in FY2022 Overall amount of renewable energy introduced in FY2022 (excluding waste power generation and commercial hydropower generation) is approximately 5.4 times that of FY2010.

Re-energy diffusion f new and expanded buildings by

大規模 size

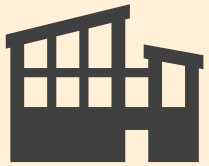


(Total floor space 2,000 m2 and up)

Obligation to install renewable energy

60,000 - 450,000 MJ depending on total floor area

中規模



Support through the project to promote the installation of additional

(Total floor space 300-2,000 m2)

Obligation to install renewable energy

Flat rate of 30,000 MJ

小規模

Obligation to explain the introduction of renewable energy

(authorized) architec

↓ ow

ner of a building

<Description

Reduction of CO_2 by renewable energy

Maximum amount that can be introduced

Types of renewable energy that can be introduced **etc.**

*Solar power generation equipment and solar heat utilization equipment,

Biomass utilization facilities, wind power generation facilities, etc.

(Total floor space ~300 m2)

<Specified buildings

	2018	2019	2020	2021	2022
Notification (cases)	87	111	65	75	68
Obligation amount (10,000 MJ)	261	333	195	225	1030
Amount introduced (10,000 MJ)	845	635	278	637	2674

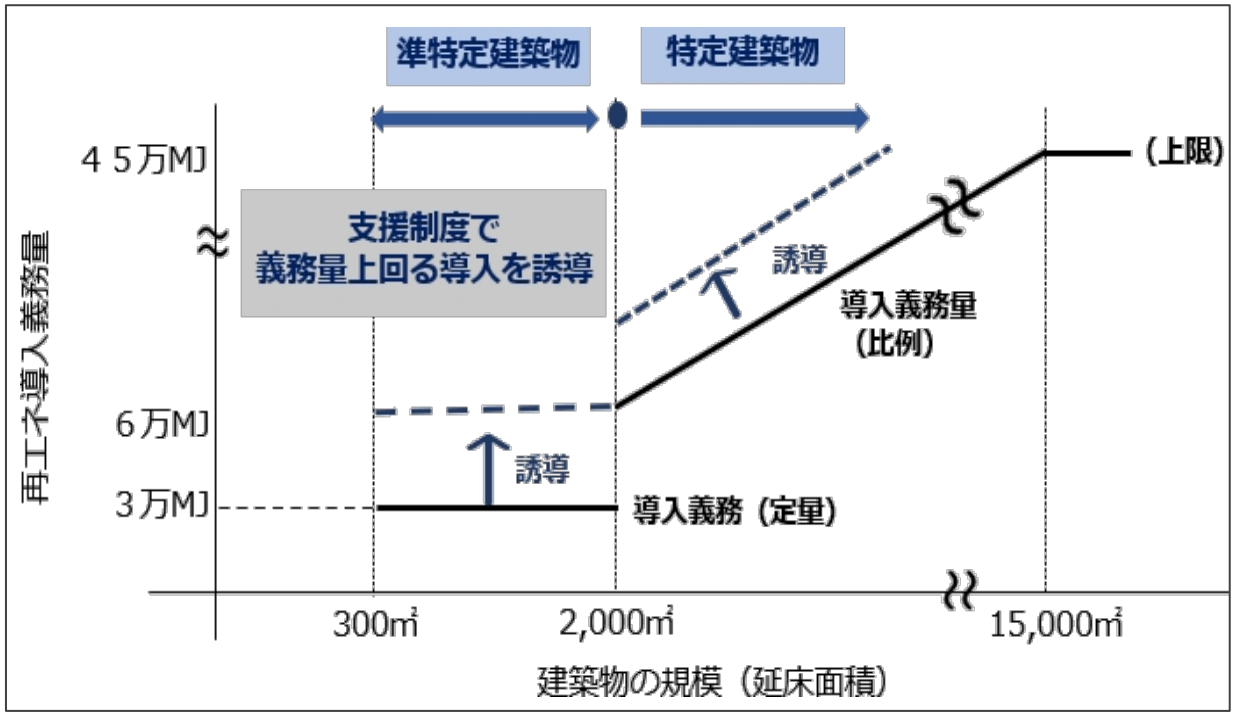
<Quasi-Specified Buildings>　Notification in FY2022: 46 cases (1.38 million MJ obligatory, 3.67 million MJ introduced)

<Housing

	2018	2019	2020	2021	2022
Residential PV installations (MW) (cumulative total)	58	60	64	68	72
Number of units installed (cumulative)	15,006	15,757	16,477	17,277	18,204

Project to promote the installation of additional photovoltaic power generation equipment, etc. in buildings

Establishment of a subsidy program to support the **installation costs** of **photovoltaic power generation equipment in excess of the standard amount specified in the ordinance**, as well as the **installation** costs of **storage batteries** attached to the photovoltaic power generation equipment.



＜Subsidized equipment

Solar power generation equipment】 【Solar power generation equipment ([Storage batteries])

(only simultaneous applications)

＜Subsidies ❹ etc.

50,000 yen per kW

per kWh

1/3 of introduction cost

<Additional subsidy results> FY2023 results: 13 solar power generation facilities (334kW), 1 storage battery (7kWh)

▶Promote Local Production for Local Consumption of Renewable Energy and Local Circulation in Houses

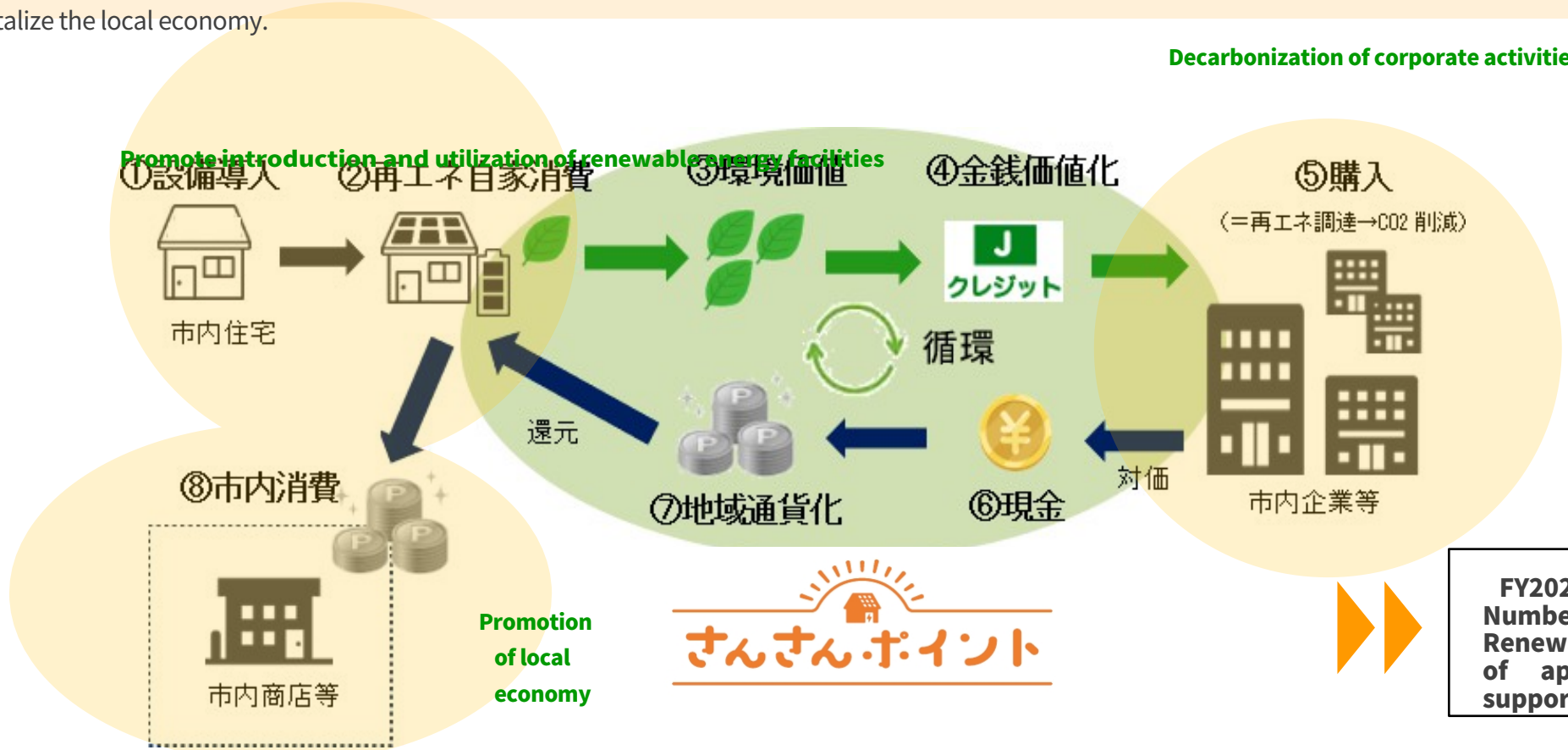
Summarize the "environmental value" of on-site consumption of renewable energy in homes,

Establish a system to **sell the points to companies in the city and give them back as community points that can be used at stores in the city.**

- In addition, in order to maximize private energy consumption, we will support the integrated development of solar power generation equipment and storage batteries. In addition, to maximize the use of electricity, the project supports the integrated development of photovoltaic power generation equipment and storage batteries.

Promote the introduction and use of renewable energy facilities", "Promote decarbonization of business activities", "points for local areas" (equivalent to 200,000 yen per case)

Establish a three-way system for **"economic promotion" to promote** local production for local consumption of renewable energy and to revitalize the local economy.



FY2023 (end of February, 2023) Number of members of the Renewable Energy Club: 468 Number of applications for introduction support: 127

0 Yen Solar Platform

To increase awareness and promote the use of "0 yen solar," a solar power generation system that can be installed for an initial 費 To increase awareness and promote the use of "0 yen solar," a solar power generation facility that can be installed for an initial cost of 0 yen,

Ass

▶Outline of 0 yen solar

- 0 yen Solar Business installs and owns solar power generation equipment, and pays monthly electricity and equipment lease fees from the building owner.

  and surplus electricity sales. 費 and surplus electricity sales. As a result, the company will be able to

  Building owners can install photovoltaic equipment for zero yen.
- Factories, commercial facilities, and other users can install solar power generation equipment without incurring initial investment and maintenance costs, and they can also use the electricity they generate for their own consumption. 費

  The company can do this.

Fiscal year 2023 (end of February, 2024)

Number of contracts 35

(Number of estimates: 103)

▶Features of 0 yen solar panels

- Zero i… equipment installation …or
- T… charge in principle after the contract period …e of
- Ma… during contract period

  No work required
- …on your electricity bill. …y
- Zero CO2 electricity use
- As an emergency power source available for use

Solar power generation equipment group purchase business

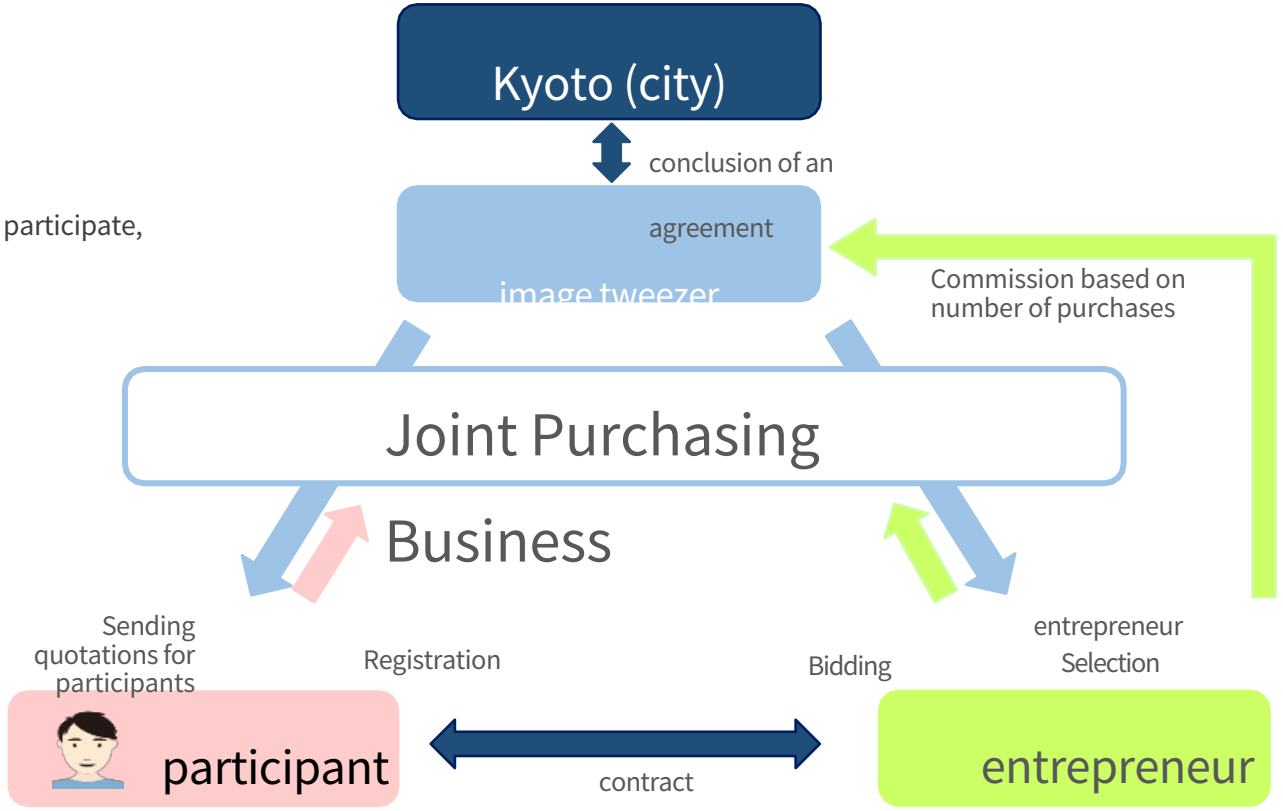
In order to promote the expansion of solar panel installations, the company solicited a wide range of potential purchasers,

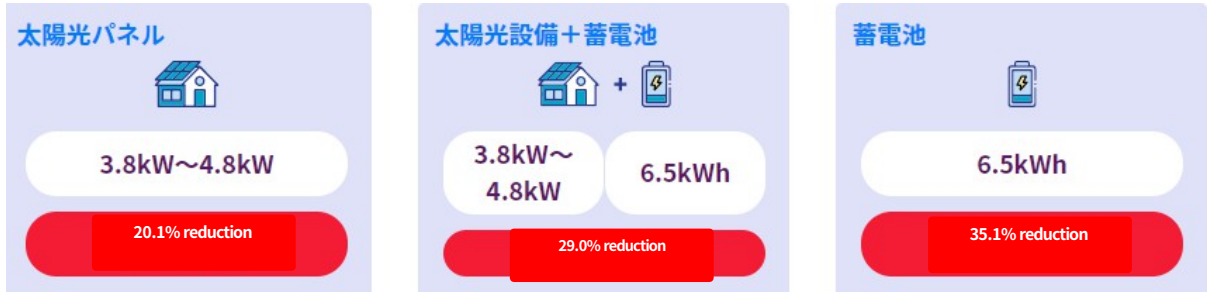
Price reductions achieved through economies of scale by consolidating a certain volume of demand

The more people who register to participate,

the more

A great price will be offered.

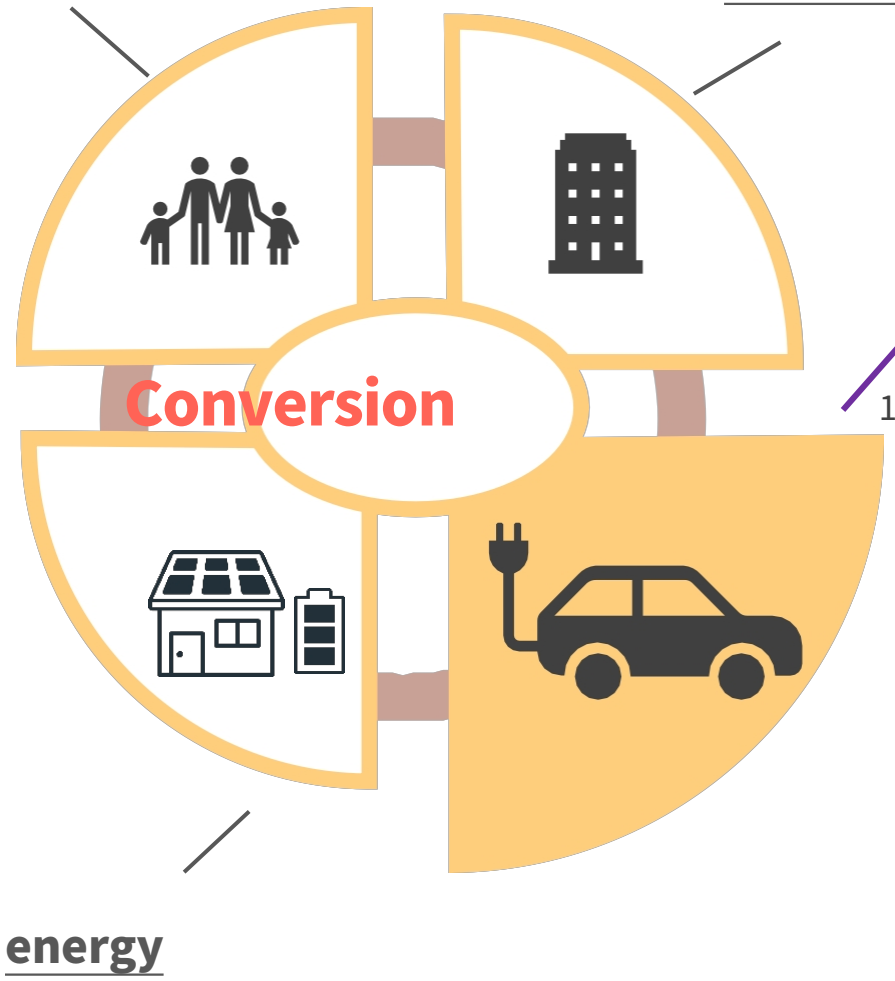




Fiscal year 2023 Price Reduction Rate

2023
Number of participating registered households: 415 households
Number of contracted households: 25 households

Mobility Transformation



mobility

Promotion Policy

13 Promoting a community development that prioritizes public transportation

14 Diffusion of EVs and other next-generation vehicles

15 Changing attitudes toward automobile use

16 Innovations for 2050 - Mobility～

Reduction target by initiatives

Transportation　Energy consumption費 amount - 22

amount of discharge

Transportation -310,000 t-CO_2

not　Reduction target in FY2030 (compared to FY18)

Progress in Achieving Mobility Sector Goals

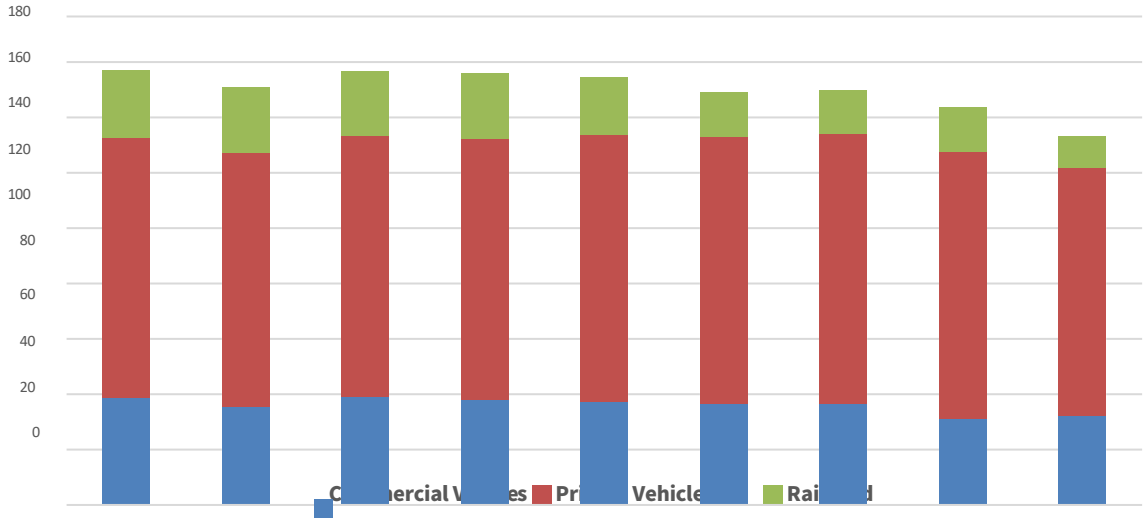
Transportation <Estimated reduction: -350,000 t-CO_2 *1> ⇒ -158,000 t-CO_2 *2

Energy conservation <Estimated reduction:**▲ 310,000 t-CO_2**> ⇒ **-137,000 t-CO_2**

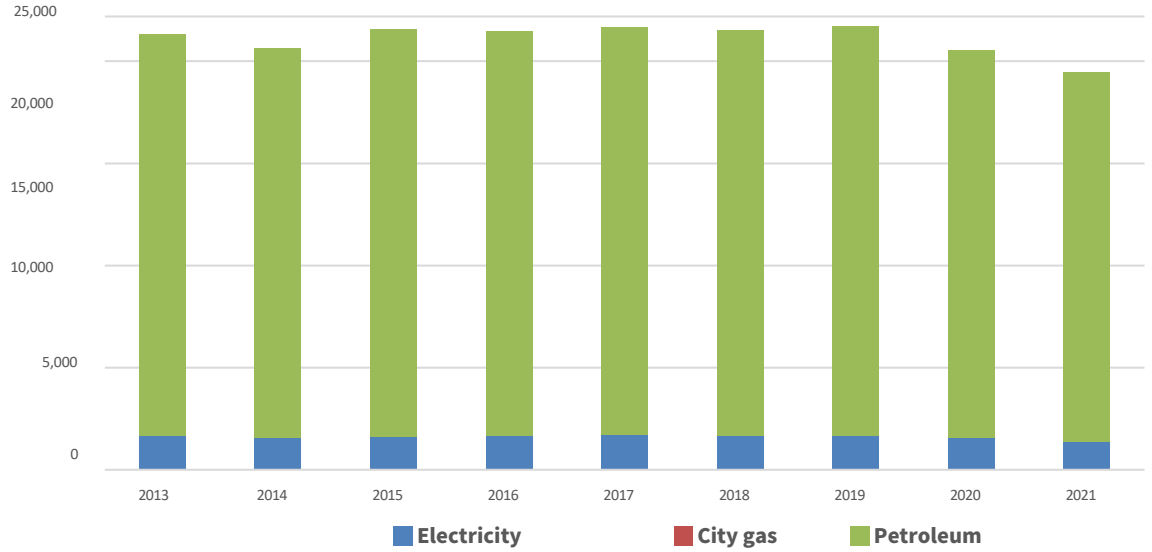
1 Estimated volume in FY2030 (compared to FY18)

2 Reduction in FY2021 (compared to FY18)

Greenhouse gas emissions (kilotons-CO2)



Energy consumption (TJ)費



Measures to promote the spread of next-generation vehicles; status of EVs/PHEVs and charging infrastructure

Energy consumption in the transportation sector — **By 2030: -22% by 2030**

Next-generation vehicles ❹ (stock basis) — **50% by 2030**

Next-generation vehicles: EVs, FCVs, PHEVs, HVs, natural gas vehicles, clean diesel vehicles

Large Scale Emitters

More than two-thirds of new car purchases **are next-generation vehicles**, etc.

For vehicles with high environmental performance (mandatory)

Automobile dealers

Explanation of fuel efficiency at the time of sale of new vehicles (mandatory)

Sales of vehicles with high environmental performance, such as next-generation vehicles (mandatory effort)

・**Report on sales results of** next-generation vehicles and other vehicles with high environmental performance (mandatory)

Parking lot owner/installer

Installation of charging facilities for electric vehicles, etc. (mandatory effort) (from 2021.4)

◆ EVs, PHEVs, and next-generation in the city

Dissemination ❹ (R3)

		EV/ PHEV	next-generation automobile	Total number of units
number of vehicl	Kyoto (city)	2,998 units (0.5% penetration rate)	129,287 units (Penetration rate: 24.3%)	530,000 units
	whole	335,594 units	long vowel mark (usually only	82.17 million units

◆ Public charging facilities in the city

◯Although there was a downward trend in R1-3 years,

Increasing since R4

Installation in city-owned facilities

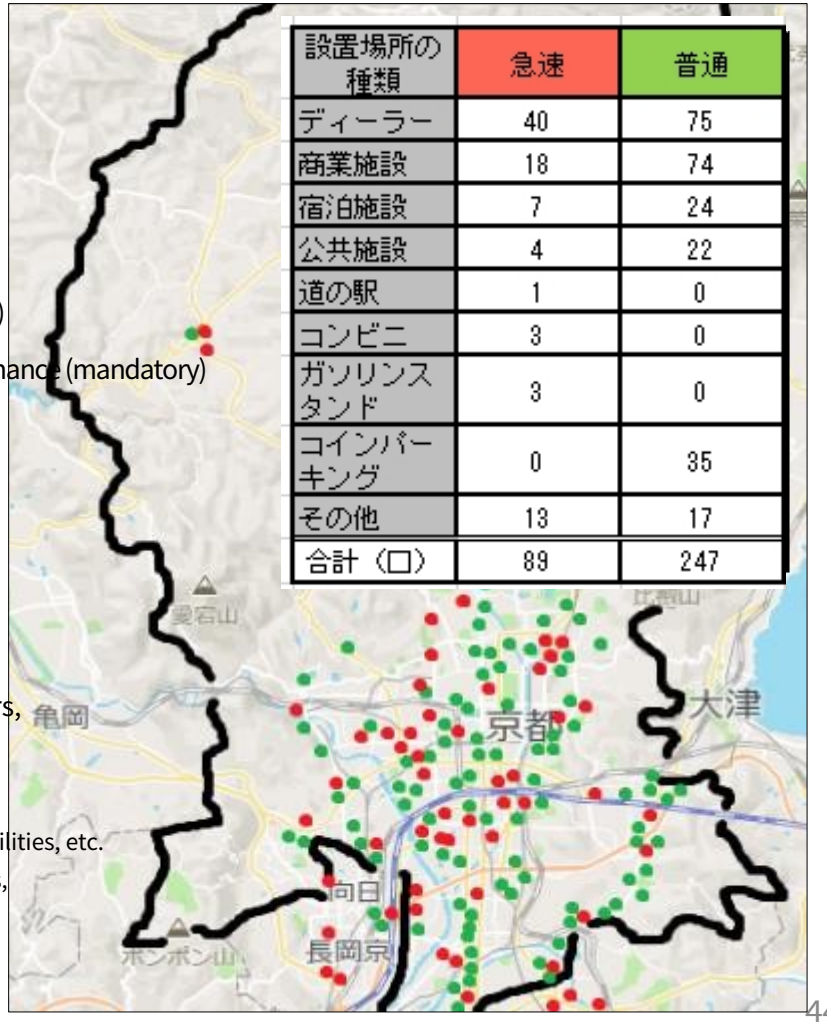
- For city-owned facilities such as ward offices, sports facilities, etc.

Charging facilities are installed to prevent power outages,

Open free of charge for up to 60 minutes at a time

◆Installation of public chargers (as of R6.1)

設置場所の種類	急速	普通
ディーラー	40	75
商業施設	18	74
宿泊施設	7	24
公共施設	4	22
道の駅	1	0
コンビニ	3	0
ガソリンスタンド	3	0
コインパーキング	0	35
その他	13	17
合計（口）	89	247



3 quick chargers, 39 regular chargers

Creation of a model for introducing EV charging facilities to existing condominiums, etc.

The installation of EV charging facilities in existing condominiums has not been widely adopted due to the issue of building consensus among residents regarding the installation and operation of the facilities.

The installation of EV recharging facilities in existing condominiums has not been widely used due to the issue of consensus building among residents on the installation and operation of the facilities, but the government is expanding subsidies and private companies are installing and operating EV recharging facilities to address this issue.

Service has begun.

◆R5.5.24, a model case study was conducted with condominium management associations in Kyoto City that are interested in installing EV charging facilities in order to create a model case study in the city.

Free consultation sessions were held for partnerships, management companies, etc.

- Information provided by Kyoto City
- Business introductions from four charging service providers
- Free consultation by each company (business matching)

Participation (including online)
Management companies: 28
Management associations: 23 Total participants: 74

Based on the information we received at the consultation, we can begin to consider the installation of charging facilities."

More than 80% of respondents said

Efforts to Expand Electric Vehicle Charging Infrastructure

Public-private partnerships and problem-solving promotion projects in which the private sector and others work together to solve administrative problems through demonstration experiments, etc.

(KYOTO CITY OPEN LABO), in anticipation of the rapid spread of electric vehicles, in collaboration with private businesses.

The purpose of the project is to **"establish an EV usage environment in which anyone can receive necessary charging services anytime, anywhere,**

Promote efforts to understand the needs of EV users

nichicon

Analyze the operational status of existing quick chargers installed throughout Japan to determine charging needs by installation location.

■ Large renewal demand in the next few years is manifested

■ High utilization and profitable

KYOTO CITY OPEN LABO / Power X

Based on a survey of EV users' needs, the company considered potential locations for the demonstration charger, and as a result, installed a demonstration unit of the EV super-quick charger at Miyakomesse, the Kyoto Municipal Industrial Promotion Hall.

(Demonstration period: Nov[illegible]2023 to end of March 2024)

■ Establish a model for sustainable installation and operation of public facilities by private operators

PLUGO

Commercial and tourist features.

The use of the type of vehicles and chargers in the Okazaki Park Parking Lot, Hachijo-guchi Parking Lot, and Yamashina Station Parking Lot were analyzed by camera.

■ Identifying both the charging needs of citizen use and the charging needs of tourists

Efforts to Expand Electric Vehicle Charging Infrastructure

Conducting a demonstration experiment at a super-quick charging station for electric vehicles

Installed one of the fastest "Super-quick EV charging stations equipped with storage batteries" in Japan at "Miyakomesse", Kyoto Municipal Industrial Exhibition Hall

The company conducted a demonstration experiment to understand the needs of users and to verify the usefulness of the system.

Based on the results of the demonstration, a model will be developed for charging service providers to operate EV charging facilities in public facilities, etc.

京都市 CITY OF KYOTO × Power X

Demonstration period: November 2023 to March 2024

Super-quick charger (2 charging ports)

Maximum output: 150kw

Storage battery capacity (nominal): 358 kWh

■ Location: Kyoto Municipal Industrial Promotion Agency

"Miyakomesse

→April 2024

Installation and operation of quick chargers at Kyoto Kangyo-kan by a private company selected through a public solicitation for a charging service business

begins.

Kyoto City Policy on Charging Infrastructure Development for the Popularization of Electric Vehicles (EVs)

future

To promote the spread of EVs powered by clean energy while further promoting [illegible]king Kyoto," a town development initiative that prioritizes people and public transportation, we **will create a charging infrastructure environment that allows citizens, businesses, and tourists to receive necessary charging services anytime, anywhere.**

Basic Concept

- EV charging should be based on charging at home and at work, and "multi-layered charging infrastructure development" combining regular public charging facilities as a foundation for charging services along travel routes and at destinations.
  - quick charging is important for
- Charging infrastructure should be appropriate for the purpose and type of use (location, charging time spent by users, operating distance, etc.), and the number of charging facilities
  (number of installations).
  (or output).
- The number of public charging facilities to be installed in the city area in 2030 is set as 2,000, including 300 quick charging facilities, as a guideline to guide citizens and businesses so that they can choose EVs with peace of mind, and the city aims to develop efficient charging infrastructure in cooperation with private businesses and facilities.

policy for dealing with

Policy1 Charging facilities at home, office, etc. (Expansion of (basic charging)	(Policy)(2) Charging facilities for public use (route charging.) Expansion of (destination charging)	Policy3 New Utilization of services
EV charging will be based on charging at home or at work i.e., charging in houses, apartments, offices, etc.	Public charging infrastructure in a way that complements basic charging. Expansion of public charging infrastructure is necessary to meet the needs of people on the move and at their destinations.	New technologies, new concepts, new services, etc.
facilities, we will promote the installation of charging facilities that take advantage of the private sector's vitality. the installation of various recharging facilities.	Promote installation of a variety of recharging facilities based on the Promote layered infrastructure development	In order to install electric power charging In order to promote EVs, we need to promote Promotion of

Major Initiatives

- "Guide to Installing EV Charging Facilities at Home, etc."in Japanese
- Public EV charging" for commercial facilities, lodging facilities, etc.
  (Creation and dissemination of the "Equipment Installation Guide")(issued)
  "Equipment Installation Guide
- Charging based on new technologies and concepts(
  Creation and public awareness of the
  (Promote research on infrastructure development)
- Free consultation for condominium management associations
  operators, holding of meetings and dispatch of advisors
- Installation of public charging facilities by private
  for use
- For commercial vehicles (trucks, buses, cabs)
  Create a collection of case studies of EV charging facility installations and raise public awareness
- Inspection of EV charging facility maintenance standards, installation guidance, etc.Discussion
- Study of EV charging facility development standards, installation guidance, etc.

Promoting and educating the public about next-generation vehicles

Re-energy light-up using next-generation vehicles in Chion-in Autumn Light-up 2023

The National Treasure Sanmon Gate will be lit up with renewable energy-derived hydrogen using the city's FCVs in the "Chion-in Autumn Light-up 2023" event held by Chion-in, the head temple of the Jodo sect of Buddhism.
The beauty of the National Treasure Sanmon Gate, one of the largest wooden double gates in Japan, and the colorful lights that utilize environmentally friendly energy are combined in this effort to understand and promote next-generation automobiles.

Sustainable Tourism" in Harmony with the Environment 100% Re-energy Illumination

The Faculty of International Tourism at Heian Jogakuin College and the City of Kyoto are collaborating to illuminate Agnes Illumination,a winter tourism resource planned and operated by the students of Heian Jogakuin College, using 100% renewable electricity (implemented since 2020; limited to three days).
The lights were powered and lit from 100% renewable electricity directly from plug-in hybrid and fuel cell vehicles.

<1> Electricity supply by fuel cell vehicles

<2>Power supply by plug-in hybrid vehicles

再エネ100宣言 RE Action

京都市 CITY OF KYOTO

平安女学院大学 St. AGNES UNIVERSITY

Promoting Climate Change Adaptation

Adaptation measures: Measures to deal with impacts that have already appeared or that cannot be avoided in the medium to long term.

In parallel with "**mitigation measures" to** reduce greenhouse gas emissions, "**adaptation measures" to** cope with the effects of climate change are being promoted as the two wheels of the car

1 Natural disasters

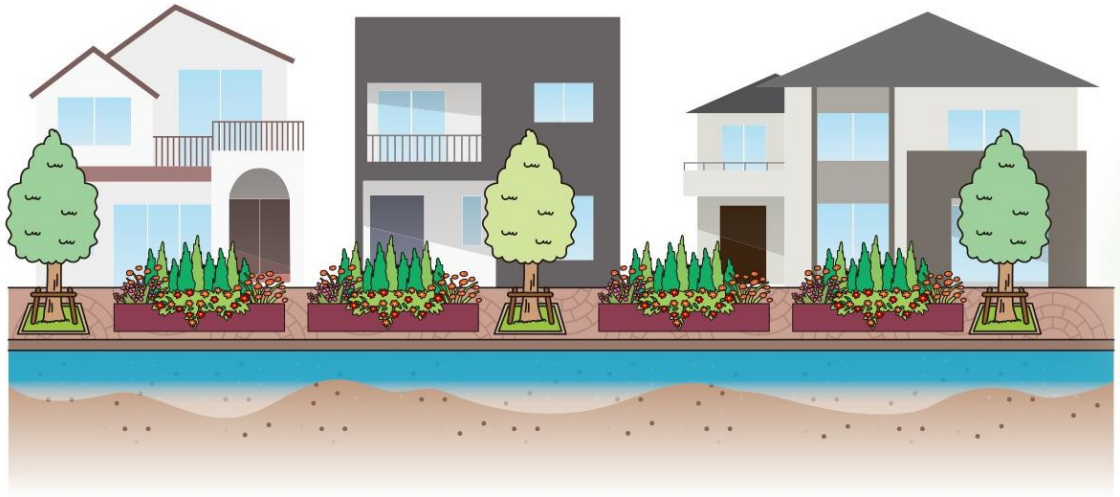
2 Health and Urban Life

3 Water Environment and Water Resources

4 Agriculture and forestry

5 Natural Ecosystems

6Culture, Tourism and Local Industry



Kyoto Climate Change Adaptation Center

Established as a center for collecting, analyzing, and disseminating information on climate change impacts and adaptation in Kyoto, in collaboration with the three parties.

(July 14, 2021)

京都府 KYOTO

京都市 CITY OF KYOTO

Research Institute for Humanity and Nature
大学共同利用機関法人 人間文化研究機構 総合地球環境学研究所

京都気候変動適応センター
Kyoto Climate Change Adaptation Center

Functional Image

Information infrastructure

research and

Coordination Functions

2021

Kyoto's **ecosystems**, **agriculture, forestry, and fisheries**, **culture, traditions, and tourism**, etc.

The project will collect and information on climate change impacts through interviews, surveys, etc.

Identification of priority areas to be addressed

2022

Crops (paddy rice and tea), landscapes and gardens, heat, animal damage

areas for more detailed information gathering and analysis of climate change impacts.

The main themes were "paddy rice" and "heat,
Seeking "Kyoto's Unique Transformative Adaptation

2023

Study and make policy recommendations for comprehensive adaptation measures in the agricultural sector, with a focus on **paddy rice,** utilizing the Future Design methodology.
Analyzed the relationship between the number of **heat stroke victims** and weather factors, etc.,

Results obtained.
Disseminate through **website, center newsletters, symposiums**, etc.

Home Page

kccac.com

symposium

and made future projections to the year 2100.


2024年 2月15日(木)
13:30~16:00
開場13:00
参加無料・要申込・先着順
京都府立京都学・歴彩館
小ホール
定員 80名
オンラインでも同時配信を行います
定員 300名
申込方法
https://kccac.jp/symposium/
締め切り 2/12(月)
お問い合わせ
TEL 075-707-2261

International Cooperation

International Communication" - Speaking at International Conferences～

Taking the stage at various international conferences, including COP28, to share Kyoto's best practices and call for the need for further countermeasures and the importance of inter-city cooperation.

Mult

~ Pa de

Joined the JCI Leaders' Circle to play a major role in realizing a decarbonized society in Japan. From the front lines of basic local governments closest to residents, we will further accelerate the transformation toward the 1.5℃ target.

International Cooperation"

~Participation in JICA Grassroots Technical Cooperation Projects (Johor Bahru, Malaysia) ~ (Johor Bahru, Malaysia)

Conducted the first training program inviting ASEAN local government officials since the establishment of the Malaysia Environmental Learning Center, and provided the know-how accumulated through this project to other regions in Malaysia and local governments in ASEAN countries. (November 2023)

International Symposium"

~Kyoto Academic Forum on Environment and Culture～

The "KYOTO Global Environment Hall of Fame" award ceremony was held to honor those who have made significant contributions to the preservation of the global environment, and an international symposium was held with the inductees and others.

(November 2023)

Selected as a leading decarbonization region

Selected as a decarbonization leading region in November 2022

Overview of Decarbonization

2020 → 2025 → 2030 → 2050年を待たずに → 2050

5年間の集中期間に政策総動員

① 少なくとも100か所の脱炭素先行地域

② 重点対策を全国津々浦々で実施

全国で多くの脱炭素ドミノ

脱炭素で強靭な活力ある地域社会を全国で実現

Source: Ministry of the Environment's website for supporting the creation of decarbonized regions

ion (12/20)

- One of the government's initiatives to become carbon neutral by 2050
- **Electricity consumption in the residential and commercial sectors by FY2030**
  Creating a region that achieves **virtually zero CO_2 emissions**
- To create at least 100 locations nationwide by FY2025, and
  associated with
  The company has been

脱炭素先行地域

Initiatives for Decarbonization Leading Areas in Kyoto City

Zero Carbon Ancient Capital Model to improve regional strength by decarbonizing Kyoto's culture and lifestyle

Focusing on the Fushimi area, but with the entire city in mind

Fushimi Area

- One of the oldest urban areas in the city, local community based on temples, shrines and shopping streets
- Concentration of environment-related facilities

Cultural heritage sites, shopping area, etc.

15 locations ⇒ 2030 100 locations

Cultural heritage sites that have endorsed the initiative at the time of plan selection

<Fushimi area

Fushimi Inari-taisha Shrine, Fujimori Shrine

Shinshu Otani sect (Higashi Honganji) Fushimi area temple

(Higashi Honganji Temple, Fushimi Annex, Jotokuji Temple)

(Koukei Temple, Kenshuji Temple, Zentsuji Temple, Reisenji Temple)

Daigoji Temple, Myofukuji Temple, Daikokuji Temple

<Citywide Ripple

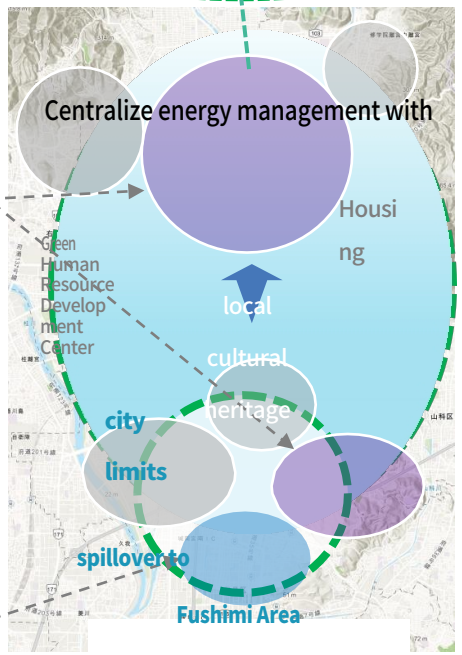
Mibu-ji Temple

Kitano Tenmangu Shrine

Honenin

Kyoto Gyoen

Kyoto Wide Area Re-energy Grid Council



Residential Groups/Areas

◆**Existing housing** units 100 units in various locations in the city

◆**Municipal Land Utilization Decarbonized Urban Area**

400 units in the area of the former site of Fushimi Technical High School, etc.

Former Miyake Municipal Housing Area 14 units

Green Human Resource Development Centers

3 shopping malls, all 187 memb er stores

Creating a sustainable bustling environment that is good for visiting, doing business, and

Fushimi Otesuji Shopping Street

Nayamachi Shopping Street

Ryoma-dori Shopping Street

Total arcade length 560m

Housing

green

Human Resource Development

Locations

Off-site renewable energy Mega Solar

65 facilities

Ryukoku University Fukakusa Campus 28 facilities

Ritsumeikan University Kinugasa/Shujaku Campus

36 facilities

Kyo-Kyo Ecology Center 1 facility

Local community base

Through the decarbonization transformation of old historic cultural heritage, shopping districts, etc,

Creating a sustainable bustling environment that is good for visiting, doing business, and

Initiatives for Decarbonization Leading Areas in

Kyoto City

1. decarbonization of cultural heritage

- Aim to decarbonize 100 cultural heritage sites by installing solar and other renewable energy generation equipment and storage batteries, renovating equipment to conserve energy, and switching to 100% renewable energy power, by devising where it is possible to install equipment, such as related facilities on the site, on the assumption that it will not interfere with the landscape.
- Visiting temples and shrines to explain the purpose of the initiative and increase the number of supporters, as well as providing support for the introduction of solar power generation equipment and other facilities.

2. decarbonization

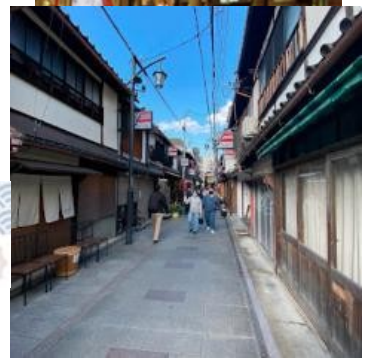
transformation of shopping districts

- Aiming to decarbonize all 187 stores through the installation of solar arcades, photovoltaic power generation equipment and storage batteries in stores, energy-saving renovations, and procurement of renewable energy.
- In cooperation with the respective commercial district promotion associations, etc., visit the member stores of the associations to explain the purpose of the initiatives and provide support for the introduction of energy-saving equipment and facilities.

Mibu-ji Temple

納屋町商店街
(41 member stores)

OTESUJI 伏見大手筋商店街
(118 member stores)



竜馬通り商店街 RYOMADORI SHOPPING STREET
(28 member stores)

Ryoma-dori Shopping Street Conversion of streetlights to LED

Initiatives for Decarbonization Leading Areas in Kyoto City, Japan

3. decarbonization of housing

(1) New housing

- Creation of new decarbonized city blocks through private sector activity on city-owned land

◆ Former site of Fushimi Technical High School, Land for Water and Sewerage Bureau (Area: 40,000 m^2)

Conduct public call for proposals and select preferred negotiator (R5.10), conclude basic agreement (R5.11)

A. business planner

Hankyu Hanshin Real Estate Corporation (representative operator), Keihan Dentetsu Real Estate Co.

(a) Outline of the plan

- 549 households with a total of approximately 1,600 residents, ranging from students and singles to families
- Energy saving of houses in the entire district through introduction of ZEH specifications, etc., maximum introduction of solar power generation facilities, introduction of storage batteries including use of EVs, and self-consumption through energy management, etc. ・Next generation decarbonized district based on local for local consumption
- The development park and community contribution facilities will be combined to create a place where local residents, NPOs, activity groups, and businesses can co-create, and various community spaces will be located indoors and outdoors to create liveliness and interaction.
- Establish a mechanism to support social good activities of local organizations, etc., and realize sustainable town management that supports the community and generates vitality.

◆ Site of Miyake No.1 Municipal Housing

- Yamanaka Shoji Co., Ltd. won the general competitive bidding for city-owned land on the condition of constructing a ZEH house (R4.2).
- Started sales in September this year (14 units) Construction of 2 model houses started (to be completed around R6.3-4)

(2) Existing housing

◆ Retrofit of existing houses to ZEH level

- Establish a framework to promote renovation to ZEH level in collaboration with local construction companies (Kyoto-like energy-saving housing project registered operators, etc.) and the Council for the Promotion of Quality Stock Housing to stimulate demand for renovation of existing houses (subsidy system to be launched in R6).

Initiatives for Decarbonization Leading Areas in Kyoto City

4. green human resource development and decarbonization of the center

- In collaboration with Ritsumeikan University and Ryukoku University, aim to develop green human resources by decarbonizing the university campuses that serve as activity bases and using the decarbonized regions as fields.
- Photovoltaic power generation at Kinugasa Campus of Ritsumeikan University and Fukakusa Campus of Ryukoku University.

  Provided support for installation of electrical equipment

Ritsumeikan University
Kinugasa/Shujaku Campus

(about 35 facilities)

Ryukoku University
Fukakusa campus

(about 30 facilities)

5. Kyoto City Consortium for Promotion of Decarbonization Advancement Region

- The goal is to achieve net zero CO2 emissions from electricity consumption in the consumer sector by FY2030 by steadily implementing initiatives in the Kyoto City decarbonization initiative areas selected by the national government, with cooperation from the private sector at the core of these initiatives.
- In addition, the project will also work to revitalize local communities, present a model of local decarbonization that is unique to Kyoto, and spread these efforts throughout the city and beyond, leading to the achievement of carbon neutrality by 2050.
- Number of consortium members

	2023	2024
regular member	22 members	25 members
General Member	11 members	16 members

R5 installation example

R5 installation example

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