



Tokyo Cap-and-Trade Program

Results after 6 years of operation and the way ahead

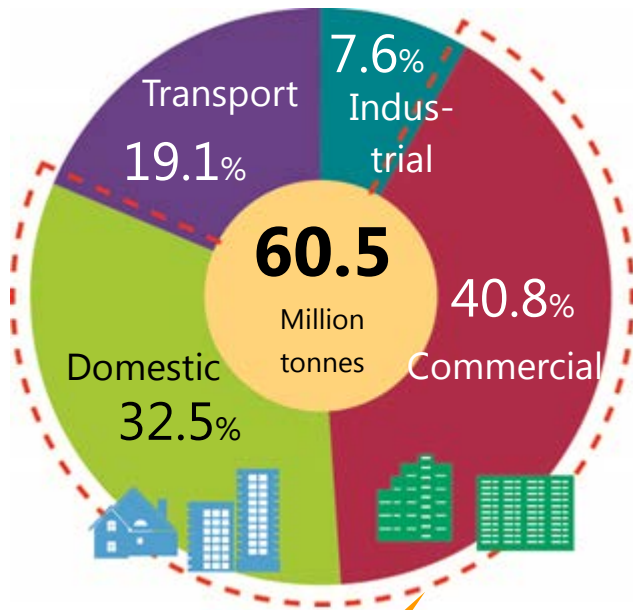


Climate Change & Energy Division
Bureau of Environment
Tokyo Metropolitan Government

Tokyo Cap-and-Trade Program

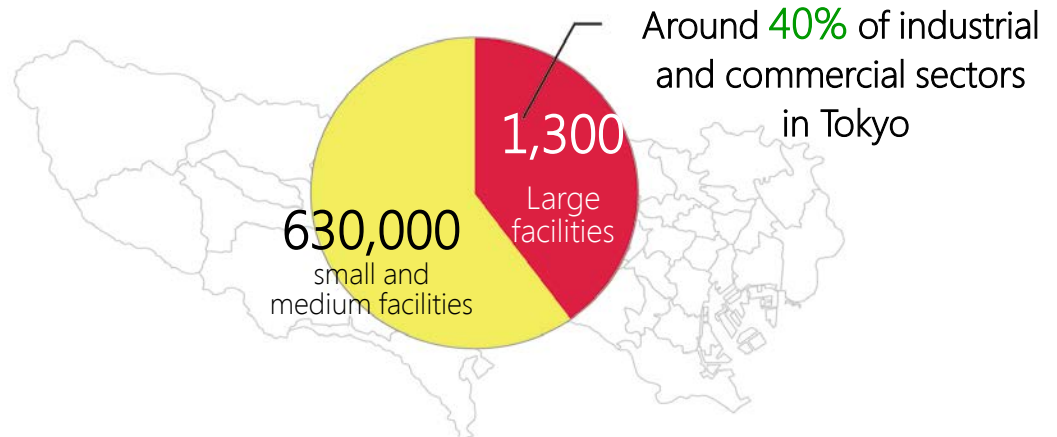
The world's first **urban cap and trade** program to cover office buildings

Sectoral Breakdown of Energy-related CO2 Emissions in Tokyo (FY2014)

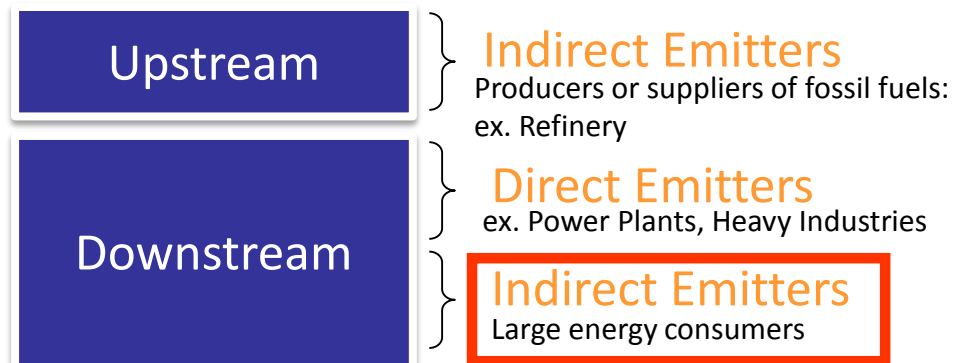


Buildings account for **more than 70%** of emissions.

Share of CO₂ emissions from industrial and commercial sectors in Tokyo



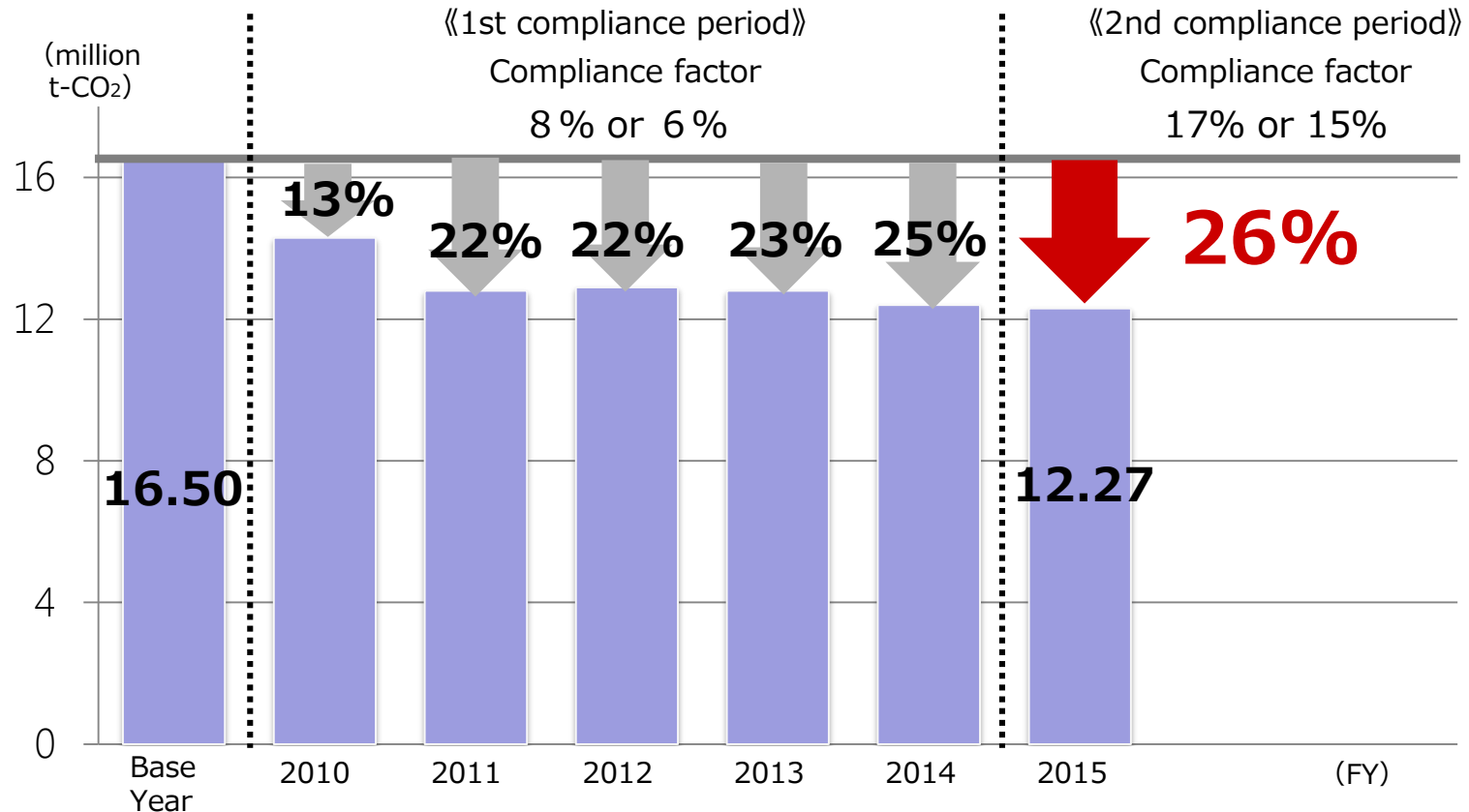
Tokyo's program imposes regulations on energy-demand side
About 1,300 large energy consumers (most of them are buildings)



Result 1 : Remarkable Reductions in 6 years

Achieved **26%** reduction (compared to base year) even amid an increase in total floor area of covered facilities.

Total CO₂ Emission Reduction through Tokyo Cap & Trade

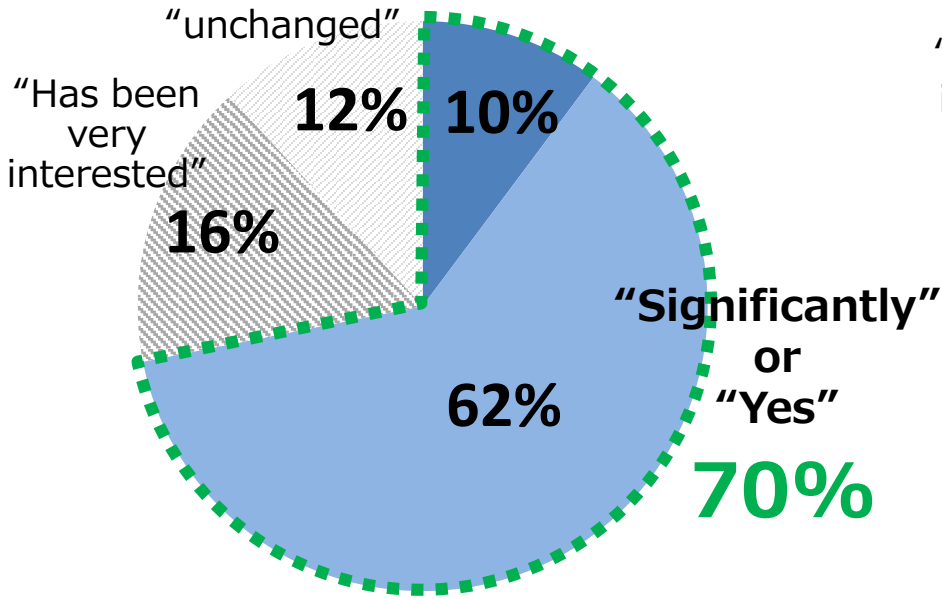


※Base-year emissions are the average emissions of 3 consecutive fiscal years selected between FY2002 and FY2007

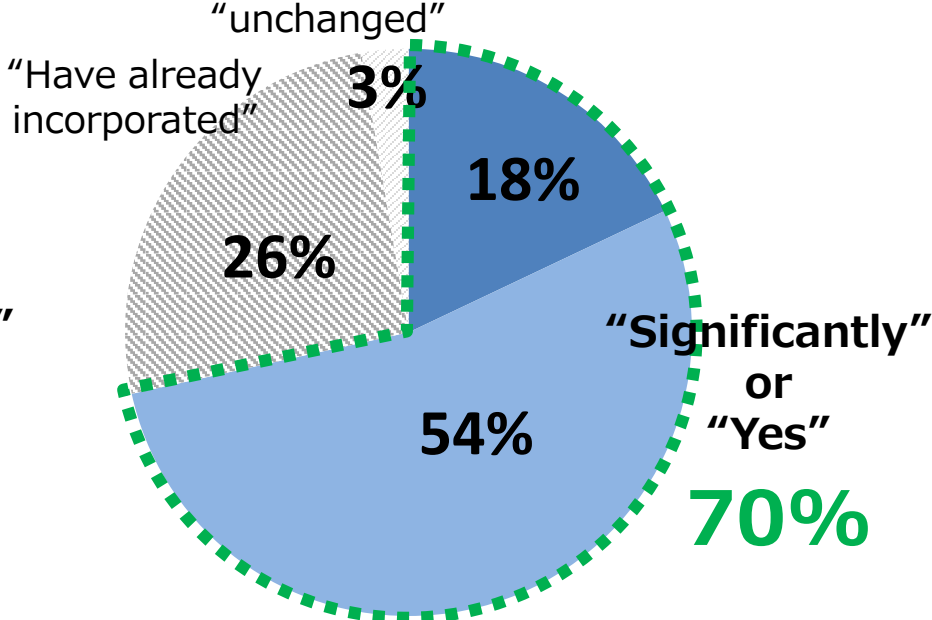
Result 2 : Change of Mind

Tokyo C&T program has changed the mindset of manager and caused them to select more energy efficient equipment upon facility renovation.

Q Has the manager taken more interest in CO₂ reduction results due to C&T?



Q Have you become more aggressive in incorporating energy efficient equipment upon facility renovation?

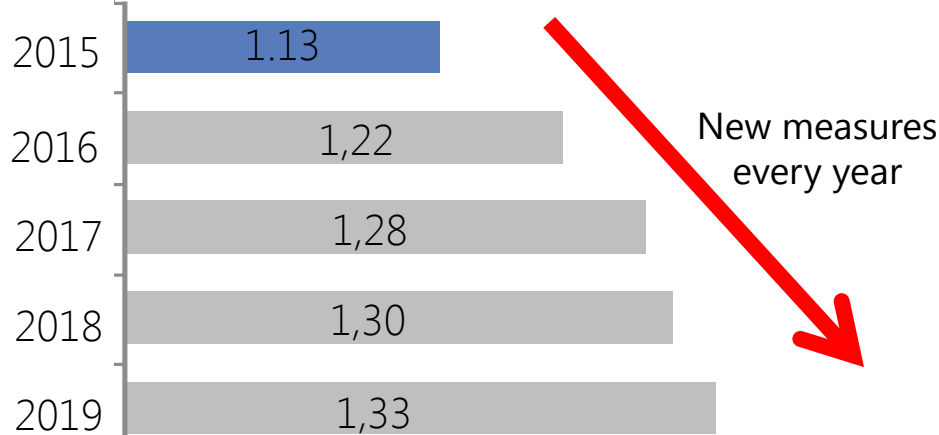


Result 3 : Invest in energy-saving equipment

Planning and implementation of energy efficiency measures at covered facilities

《Reductions resulting from measures implemented or planned》

(million t-CO₂)



New measures every year

《Reduction measures indicated in plans》

- Covered facilities are taking additional emissions reduction measures, such as a shift to **LED illumination**, introduction of **energy efficient air-conditioning equipment**.

Energy saving measures	QTY	Reductions (tonnes)
Installation of energy efficient heat source equipment	382	148,683
Installation of energy efficient pumps for air conditioners and energy-saving control	381	34,116
Installation of energy efficient air conditioning equipment	443	39,098
Installation of energy efficient outside air cooling systems	279	24,955

Energy saving measures	QTY	Reductions (tonnes)
Installation of energy efficient fans	270	16,944
"Cool Biz" and proper room temperatures during summer	101	13,195
Proper timing of starting up air-conditioning before using rooms	145	14,788
Installation of energy efficient lighting and energy saving control	1,581	119,458

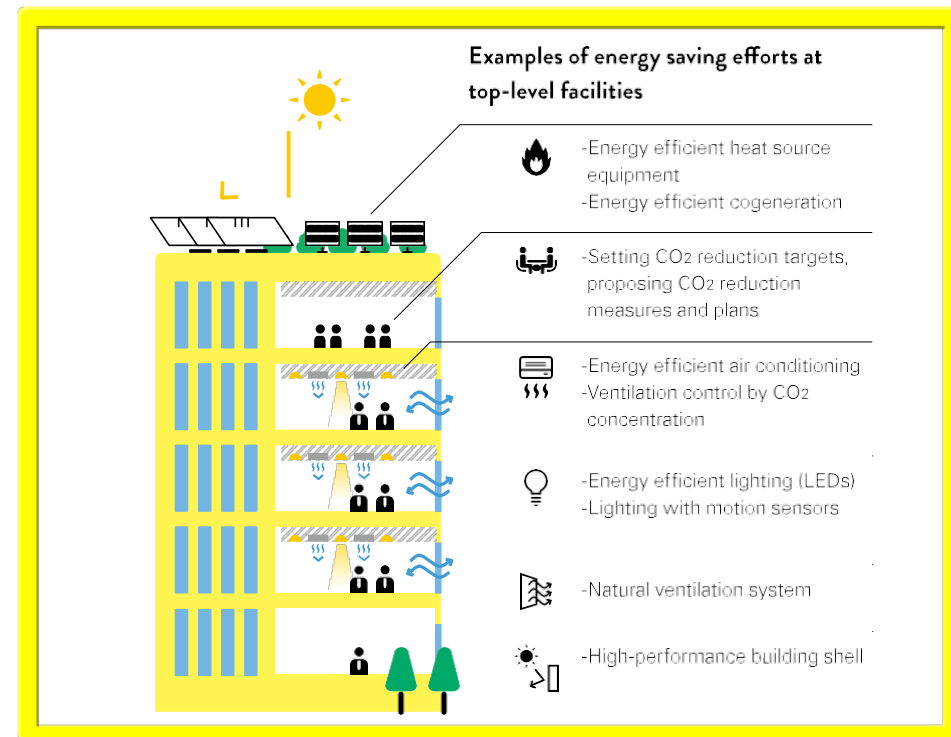
Result 4 : 100 Top-level Facilities Certified

Tokyo C&T Program certifies facilities with excellence in promotional systems as well as in equipment introduction, use and management as top-level or near-top-level facilities.

Top Level Facility : 1/2 of the compliance factor

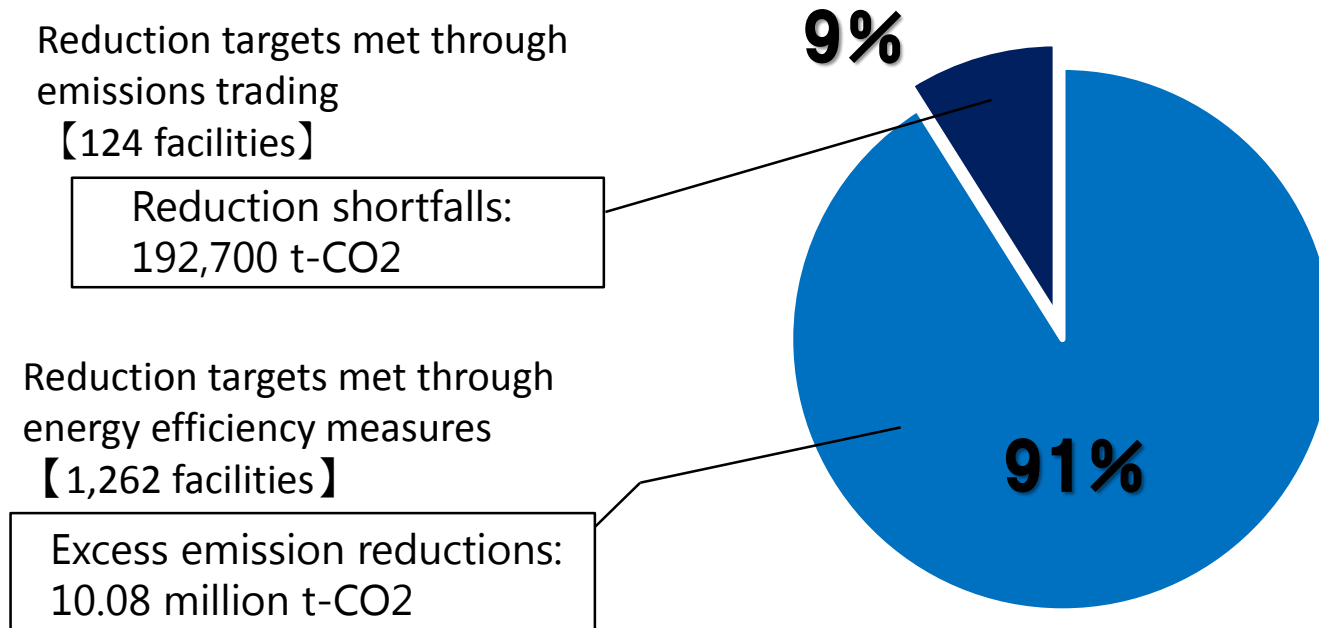
Near-top level Facility : 3/4 of the compliance factor

- Incentive for further reduction
- Long term strategy by developers
- There is a movement in the building Industry-new buildings are designed to satisfy the requirements for top-level facility certification.



Result 5 : Emissions Trading

Achievement of Emission Reduction Targets for 1st compliance period



- The standard trading price **assessed** based on surveys conducted by a 3rd party on February, 2017 (JPY / t-CO2)
Excess Emission Reductions (Excess Credits) 1,000 JPY ~ 2,000JPY

Result 6 : Carbon Market Development

(As of June. 2017)

1. Credits Issued

Total **9,527,080 t-CO₂** credits issued

t-CO₂ (# of Cases)

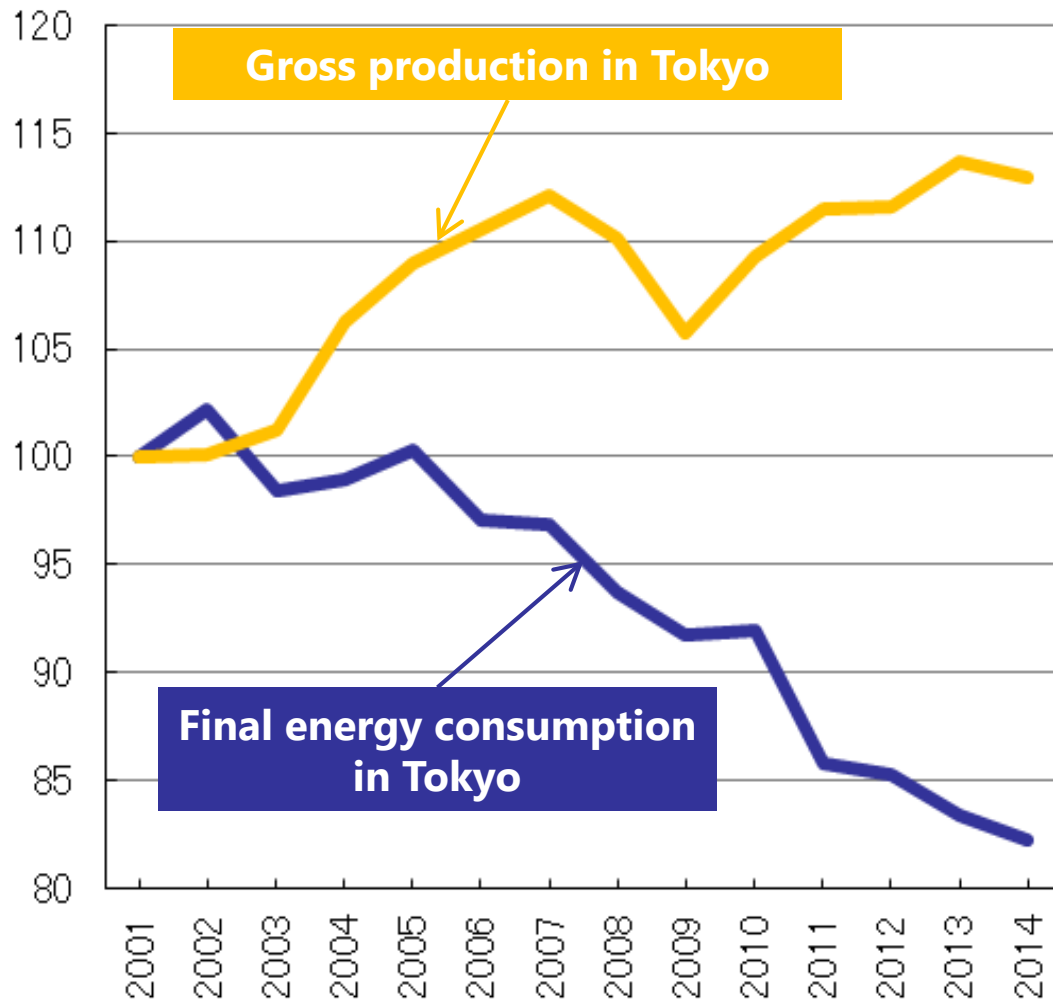
Excess Emission Reductions	S&M sized Facility Credits	Renewable Credits	Outside Tokyo Credits	Saitama Credits	Total
9,082,277 (1,283)	57,601 (1,051)	289,615 (119)	92,030 (8)	5,557 (6)	9,527,080 (2,469)

There were 6 cases where Saitama credit was used to fulfill obligations in Tokyo.

2. Transactions

Total of 222 cases totaling **418,873 t-CO₂**

Result 7 : Effectiveness of the Cap-and-Trade



Transition of energy consumption and economic index

- Achieved certain and significant emissions reductions by imposing obligations equitably.
- CO₂ emissions intensity of covered facilities was also reduced significantly.
- Realized reduction of energy consumption and city growth at the same time. (Decoupling)

Proved that the C&T program doesn't prevent the economic growth.

TOKYO's 2030 GOALS

New Tokyo Metropolitan Environmental Master Plan (set in March, 2016)

GHG Emissions : **30%** below 2000 levels

Energy Consumption: **38%** below 2000 levels

Renewable Energy Target for Electricity Use
: about **30%**

References

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