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Reinforcing Relevant Laws for a Comprehensive Approach to Energy Efficiency and Conservation, Renewable Energy, Electric Vehicle, and Sustainability in Japan

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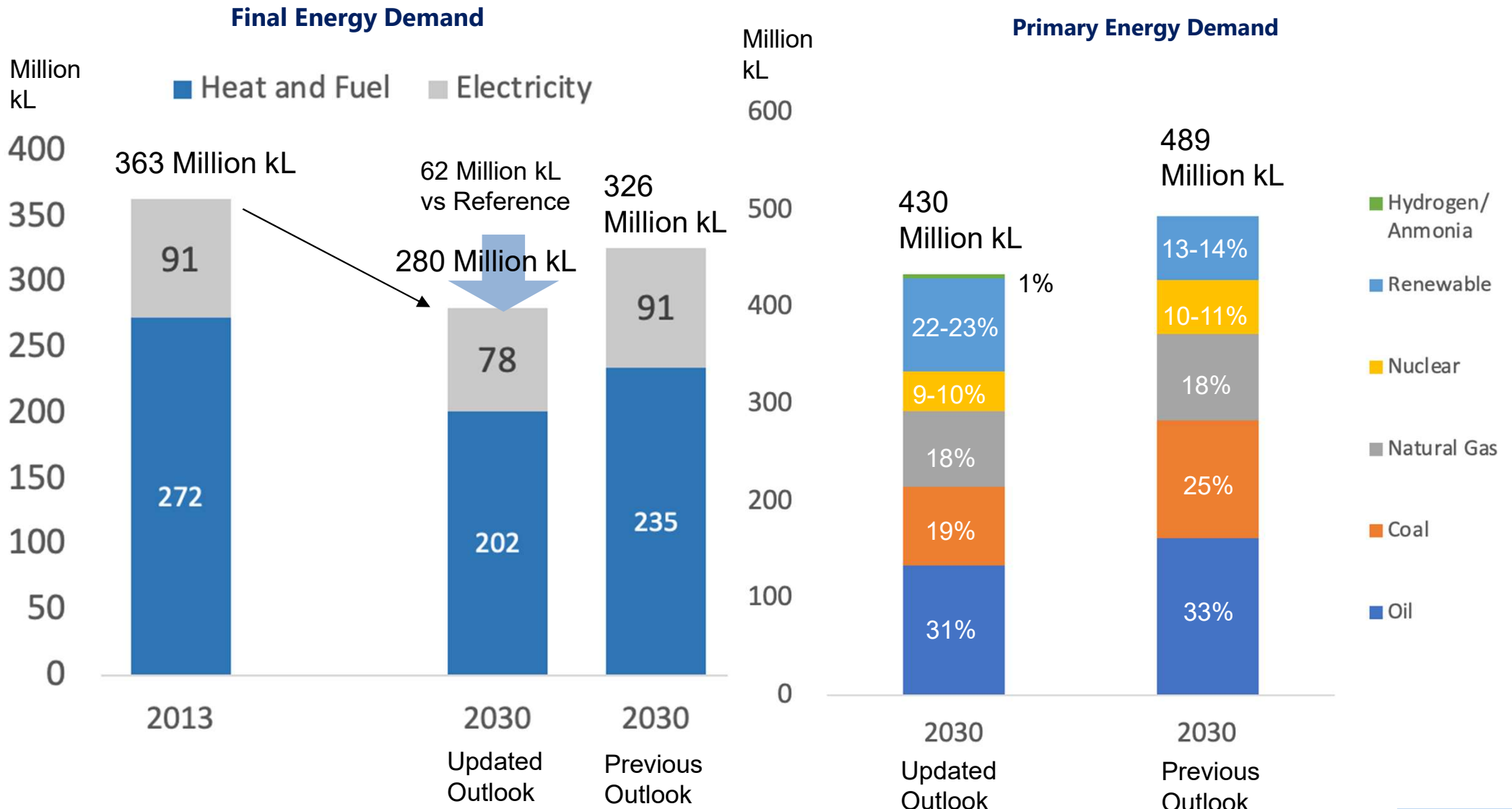
- In October 2020, Prime Minister Suga declared that **Japan aim to reduce greenhouse gas emissions to net-zero by 2050**, that is, to realise a carbon-neutral, decarbonised society.
- At the Leaders Summit on Climate in April 2021, Prime Minister Kishida announced that **Japan aims to reduce its GHG emissions by 46 percent in FY 2030 from its FY 2013 levels**.

Remarks at Leaders Summit on COP26 (Nov. 2021)

Japan aims to reduce its greenhouse gas emissions by **46 percent** in the fiscal year 2030 from its fiscal year 2013 levels, and that Japan will continue strenuous efforts in its challenge to meet the lofty goal of cutting its emissions by **50 percent** in the fiscal year 2030.



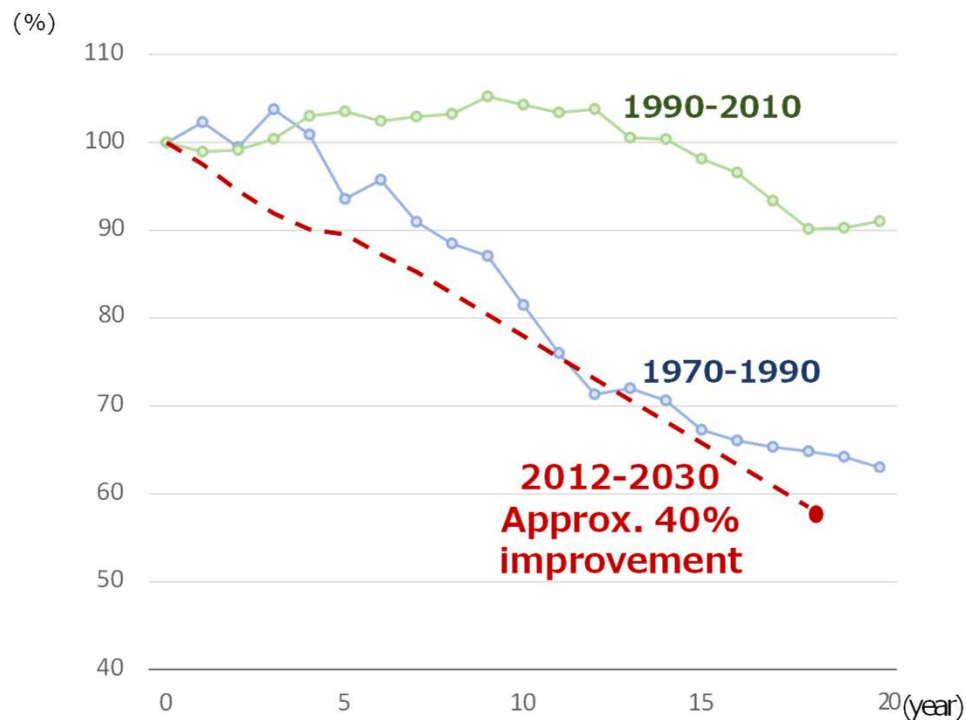
- Thorough energy conservation measures would reduce final energy consumption by 18% to 280 million kl compared with reference case.



(Source) Agency for Natural Resources and Energy, Outlook for energy supply and demand in 2030

- 40% energy efficiency improvement would have to be made by 2030.

Energy efficiency improvement



※Energy efficiency = Final energy consumption/real GDP

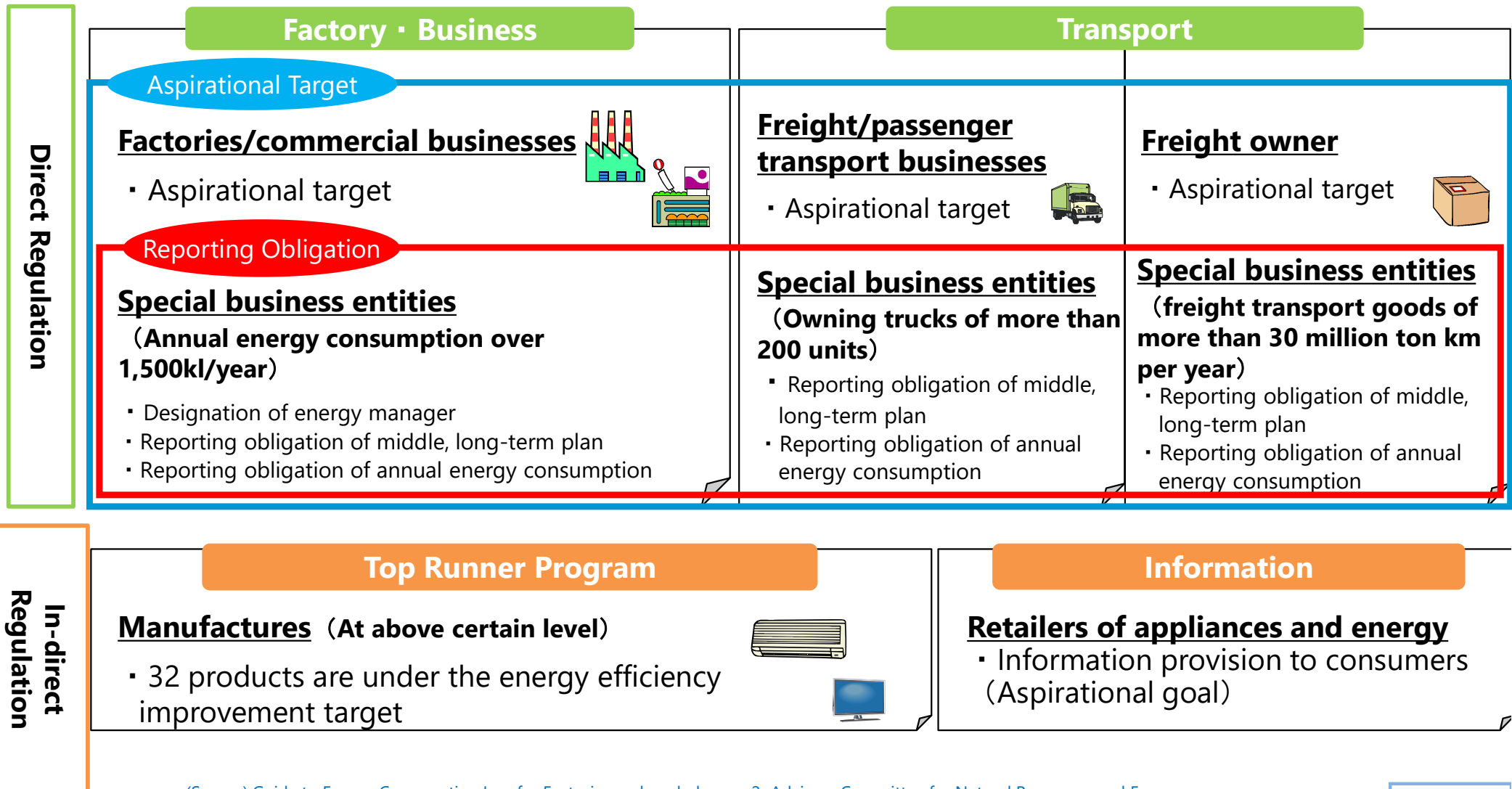
Energy savings target in FY2030

[10 thousands kL]	①FY2019 (Actual)	②FY2030 (Old target)	③FY2030 (New target)	Increment (③-②)
Industry	322	1,042	approx. 1,350	approx. 300
Commerce	414	1,227	approx. 1,350	approx. 150
Residential	357	1,160	approx. 1,200	approx. 50
Transport	562	1,607	approx. 2,300	approx. 700
Total	1,655	5,036	approx. 6,200	approx. 1,200

(Source) Agency for Natural Resources and Energy, Outlook for energy supply and demand in 2030 (related materials) P.15, P.69 and P.72

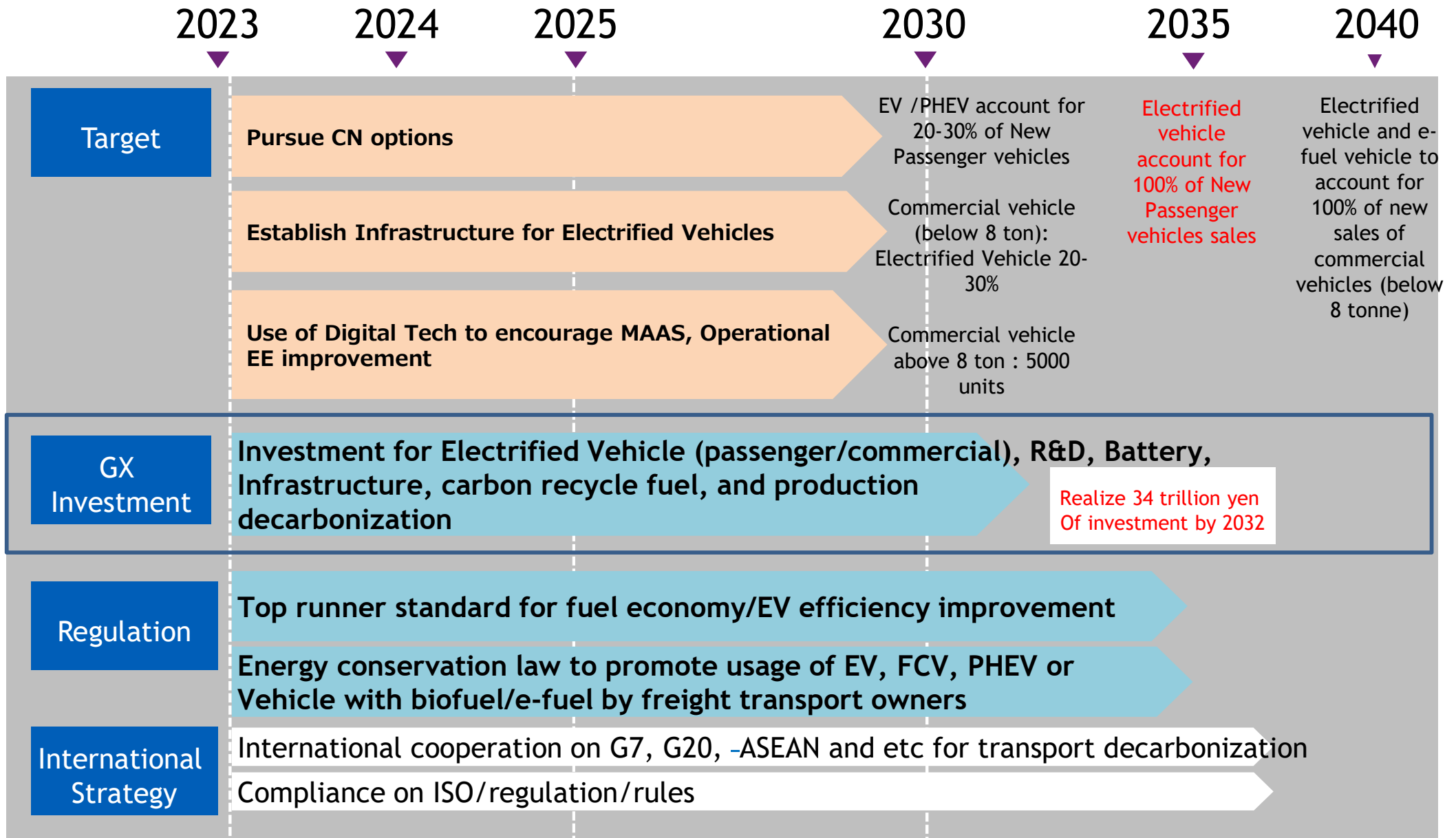
Overview of Energy Conservation Law

- Energy Conservation Law was established to designate energy management factories guidance for buildings and appliances in 1979.
- Energy Conservation Law has been amended to cope with the changing market situation.
- Building efficiency is regulated under the building energy conservation law since 2015.



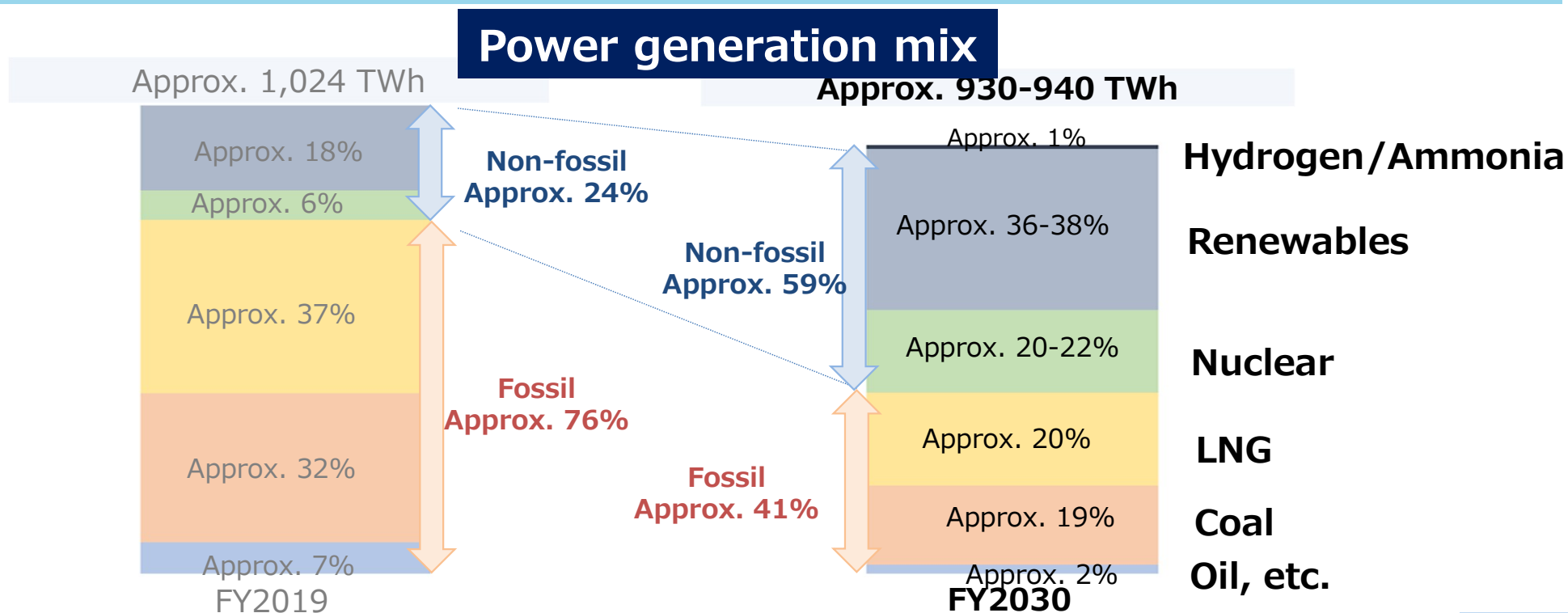
- Amendment on the definition of energy
 - Prior to the amendment, energy conservation law has regulated rational use of “fossil fuels”. The amendment was made to include both non-fossil fuels, and fossil fuels.
- Requirements for reporting/planning to expand the use of non-fossil fuels
 - Energy conservation law requires designated entities to report the usage of non-fossil fuels, and plan for the shift toward non-fossil fuels.
- Optimal use of electricity
 - Under the energy conservation law, a mechanism has been introduced to promote demand response by setting hourly/monthly different the electricity conversion factor.
- Voluntary Disclosure System of Energy Efficiency

Roadmap for Japan's Green Transformation: Automobile Industry



(Source) Document 1 "Promotion of GX implementation based on the interim Clean Energy Strategy" p.30 at 9th meeting (Nov. 14, 2022) of Green Transformation Promotion Subcommittee, Advisory Committee for Natural Resources and Energy

- **Maximum introduction of renewable energy as a major power source on the top priority on the major premise of S+3E**
- **Further pursuit of greater energy efficiency**
- **Restart nuclear power plants with safety as a top priority.**
- Recognizing that securing a **stable supply of energy is a major principle**, Japan will seek to lower the **thermal power ratio** of its power generation mix **to the extent possible.**
- **Japan plans to pursue innovation** in the thermal power mix, etc. by exploring and using **hydrogen / ammonia - fired power generation and CCUS/Carbon Recycling.**

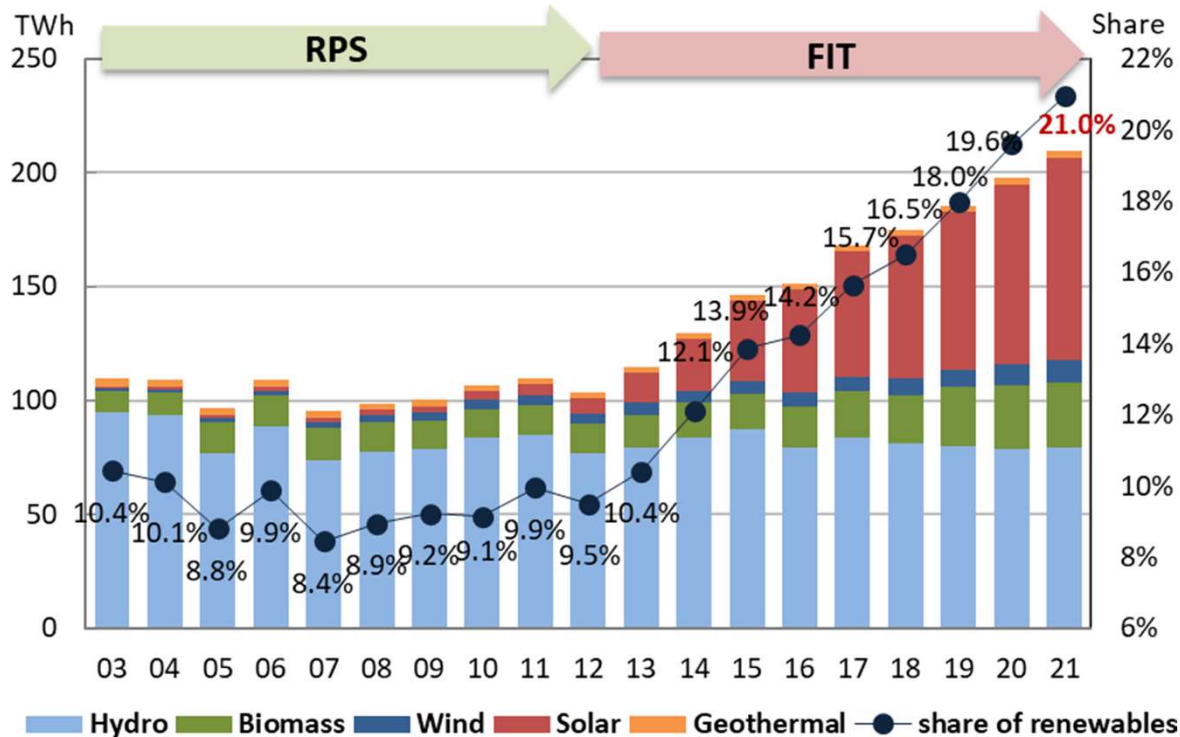


Source: METI(Strategic Energy Plan, ANRE)

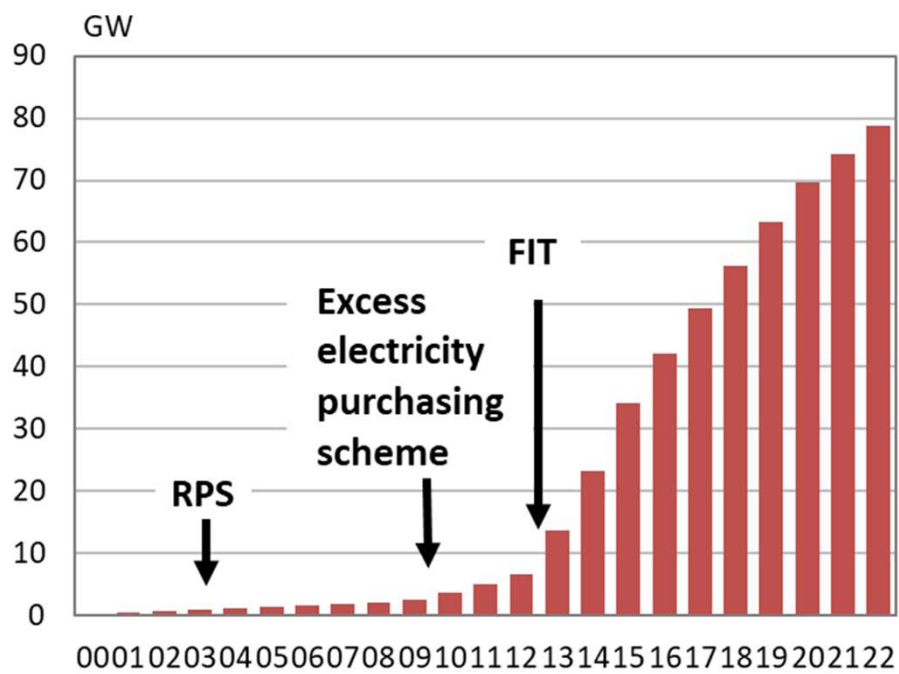
RE Promotion scheme in Japan

- Renewable Energy increased rapidly after FIT introduction in 2012
- The feed-in premium (FIP) scheme started in April 2022. Renewable power generators receive a premium on top of the wholesale price.
- Scope of FIP
commercial solar (0.5MW≤), geothermal (1MW≤), biomass (2MW≤), liquid biomass (50kW ≤), and hydro (1MW≤)

Renewable power generation and its share in the total power generation



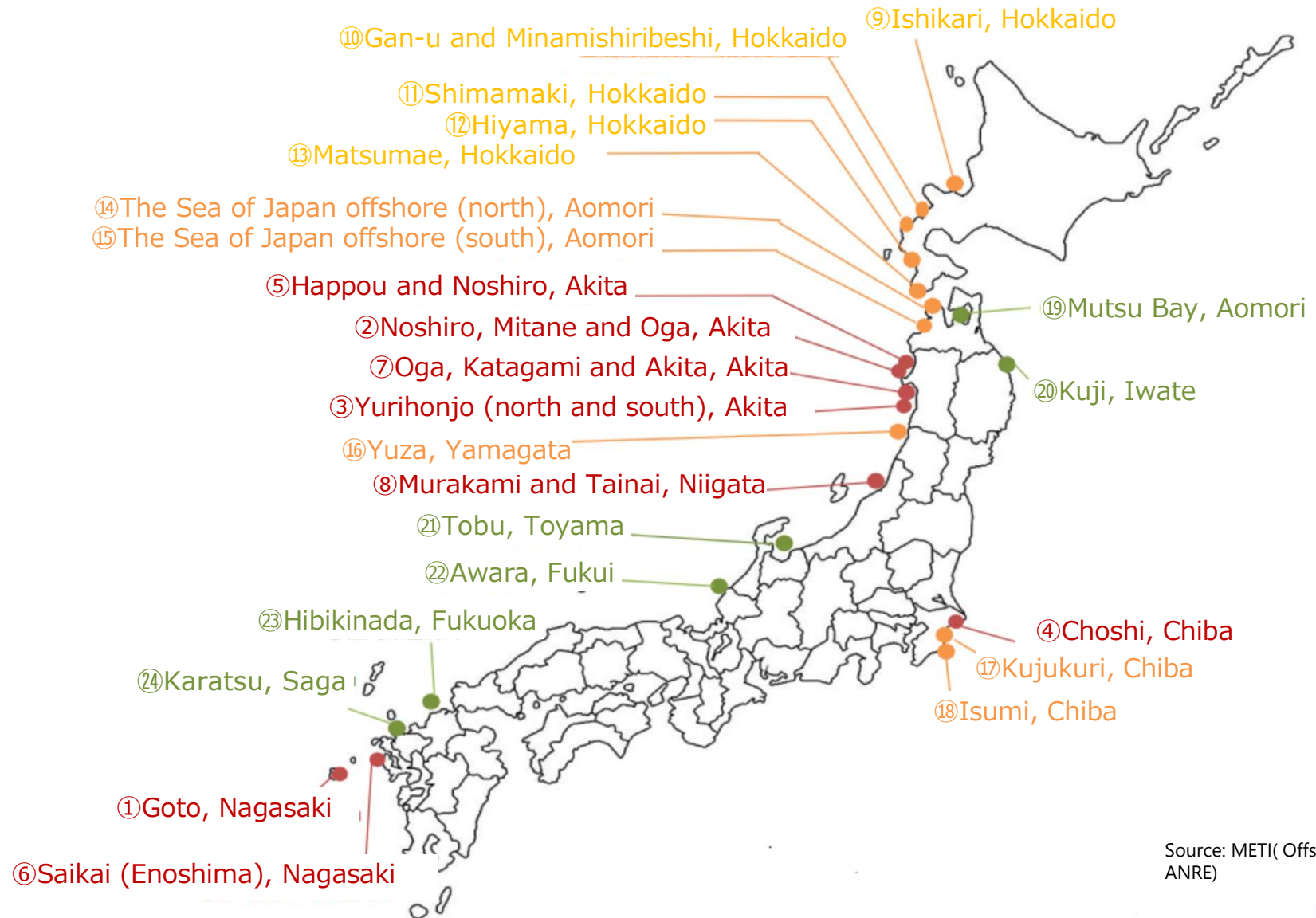
Solar power generation capacity



Source: adapted from IRENA (2023)

Marine Renewable Energy Act

- April 2019: Marine Renewable Energy Act
- Designation of promotion areas (30 years lease)



Source: METI(Offshore Wind, ANRE)

Basic Policy for Realization of GX (Green Transformation)

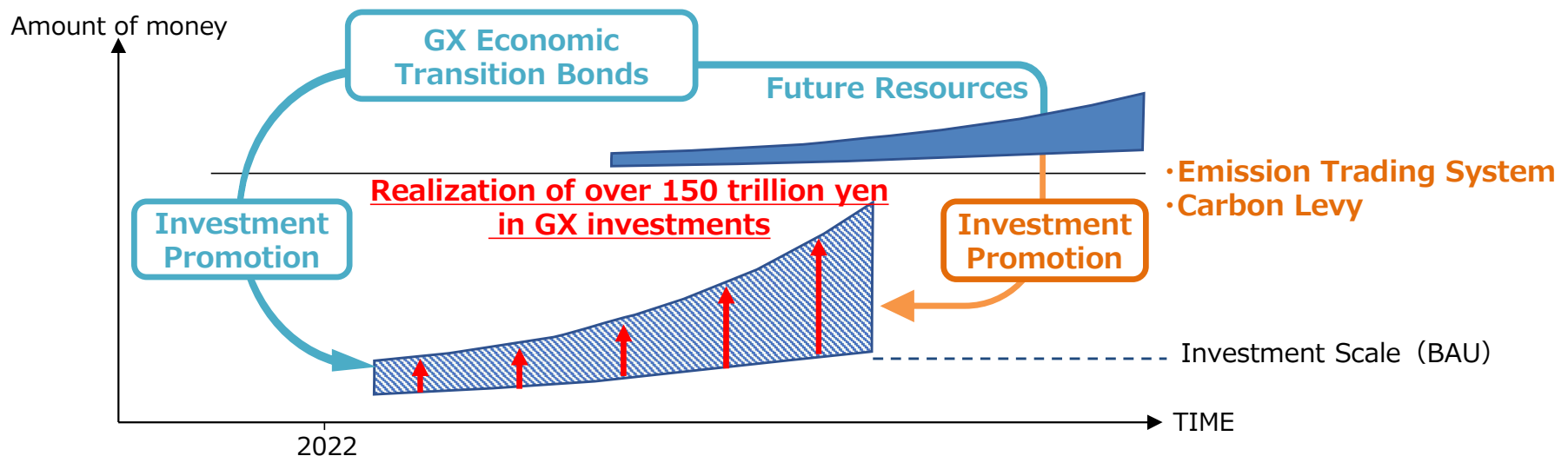
To rebuild a stable supply of energy, measures including promoting drastic shift to decarbonized power sources will be taken.

- **Renewable Energy**: To expand the introduction of renewable energy, a **grid development plan** has been established.
Investment in the next 10 years will be 8 times as much as that in the past 10 years.
- **Nuclear power** : **Replacement** of reactors decided to be decommissioned with next generation innovative reactors.
Review of operating period (40 years + 20-year extension + shutdown period such as inspection)

Government support will be provided for **upfront investment of 20 trillion yen** to achieve carbon neutrality by 2050 while strengthening industrial competitiveness and realizing economic growth, **aiming for more than 150 trillion yen of public and private investment over the next 10 years.**

To promote the GX investment as described above, a "**Growth Oriented Carbon Pricing Concept**" will be embodied and implemented as soon as possible.

- ① **Government support for bold upfront investment** by issuing "**GX Economic Transition Bonds**" (20 trillion yen over the next 10 years)
- ② **Introduction of carbon pricing to give incentives for GX investment**
 - (1) Full-scale operation of **emissions trading system** in high emission industries [**from FY2026**].
+ Allowance auctioning is phased in gradually to **power generation companies** [**from FY2033**]
 - (2) Introduction of a **carbon levy** on fossil fuel importers [**from FY2028**]
- ③ Strengthen financial support through public-private partnership

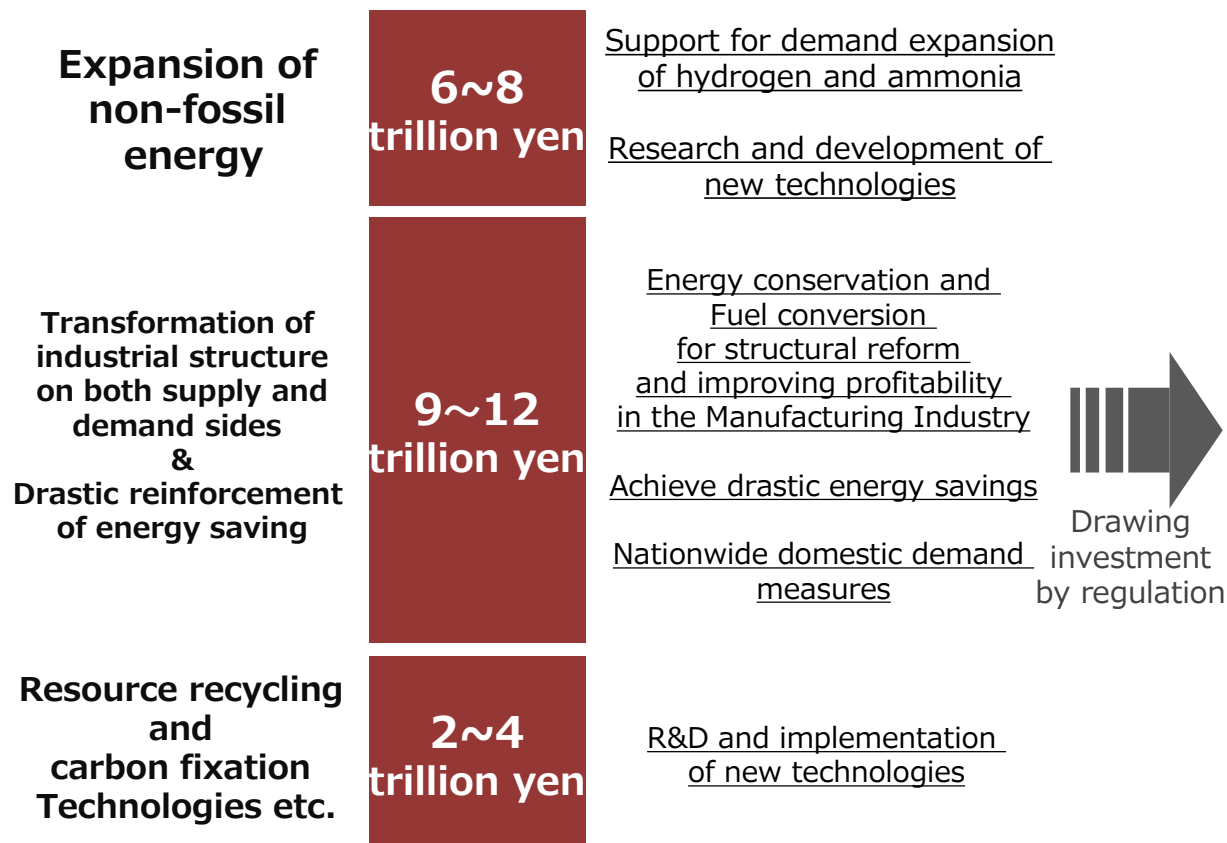


Government support integrated with regulation for GX investment

- By integrating appropriate regulatory and support measures in accordance with the business risks and environment of each sector, Japan aims to attract private-sector investment and achieve public-private investment of over 150 trillion yen.
- In the midst of the global competition for GX investment, Japan will provide government support of sufficient scale and duration, taking into account trends in investment support in other countries and the results of past government support. 20 trillion yen of support will be reviewed as necessary, based on the progress and effects of projects and so on.

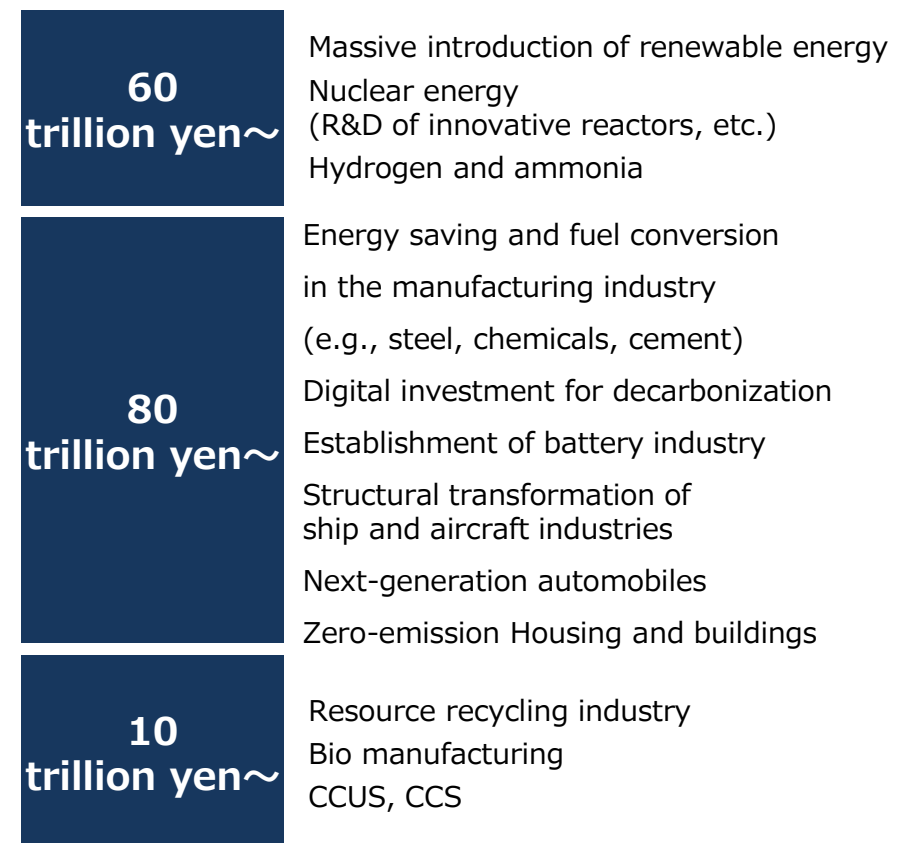
Breakdown of 10-year government support (provisional)

20 trillion yen



Overall public and private investment over 10 years

150 trillion yen



Source: METI(Basic Policy Realization of GX)

- "Asia Zero Emission Community (AZEC)" concept aims for **energy transitions tailored to each country's circumstances**, together with Asian countries that are actively trying toward carbon neutrality while having similar challenges to Japan in decarbonization.
- AZEC is a **platform consisting of Asian countries that are promoting decarbonization**. By making maximum use of Japan's resources and experience, by **providing "support" in terms of technology, finance, and human resources** through AETI, JCM, etc., and by **policy coordination** with partner countries, AZEC aims to expand new technologies and reduce costs through market.

Examples of support

- **Financial support by JBIC, NEXI, JICA**, etc.
- **Assistance in formulating roadmap** and long-term strategy for CN
- Establishment and dissemination of **Asia Transition Finance**
- **Development, demonstration, and deployment of decarbonization technologies** such as renewable energy, energy saving, hydrogen, ammonia, biomass, and CCUS

Examples of policy coordination

- Sharing the policy of **maximum renewable energy introduction**
- **Establish standards** for energy conservation, energy management, and other decarbonization technologies
- **Share the direction** of utilization of bio-energy, hydrogen, ammonia, etc. in the field of thermal power generation.
- Consideration of **effective utilization of power grids**

AZEC Ministerial Meeting

- On 4 March 2023, METI hosted Asia Zero Emissions Community (AZEC) Ministerial Meeting.
- Minister Nishimura, Minister of Economy, Trade and Industry of Japan, who chaired the meeting, made remarks on the importance of decarbonization in Asia, AZEC concept, and Japan's specific efforts.



Participating countries (in alphabetical order)

Australia, Brunei, Cambodia, Indonesia, Japan, Laos, Malaysia, Philippines, Singapore, Thailand, Viet Nam

Participating international organizations (in alphabetical order)

Economic Research Institute for ASEAN and East Asia (ERIA)

International Energy Agency (IEA)

Thank you for your attention!