

JAPANESE INDUSTRY AND POLICY NEWS

December 2019

LEGISLATION AND POLICY NEWS

METI Published Guidelines on Charging Plastic Bags

The Ministry of Economy, Trade and Industry (METI) published on December 27 guidelines for retailers on the charging of plastic bags. In Japan, free distribution of disposable plastic bags will be restricted from July 1, 2020 based on the Resource Circulation Strategy for Plastics (Plastic Strategy) which was adopted on May 31, 2019.

The Plastic Strategy aims at a cumulative 25% reduction in single-use plastics by 2030 and requires to reduce usage of single-use plastics by “adding value”, i.e. charging.

METI’s guidelines clarify, among others, that the new rule is addressed at retailers, that the product concerned is a single-use plastic bag with holder which consumers use for carrying purchased merchandise. Those plastic bags of thick film which can be used repeatedly, using 100% biodegradable plastic in the marine environment or using more than 25% biomass-based plastics are exempted from the new rule.

<https://www.meti.go.jp/press/2019/12/20191227003/20191227003.html>

(in Japanese)

<https://www.env.go.jp/en/focus/jeq/issue/pdf/Volume20January2018.pdf>

(reference material)

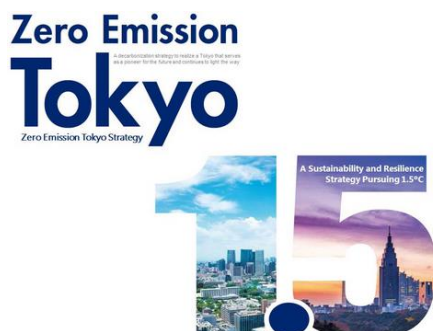
Tokyo Metropolitan Government Announced the “Zero Emission Tokyo Strategy”

Tokyo Metropolitan Government (TMG) announced on December 27 the “Zero Emission Tokyo Strategy” for contributing to the world’s net-zero CO2 emissions by 2050. As a global megacity, Tokyo declared it will seek to become a “Zero Emission Tokyo” at the U20 Tokyo Mayors Summit in May 2019. Tokyo aims to limit the rise in average global temperature to 1.5°C and sets a goal of net zero CO2 emissions by 2050.

TMG has now formulated the “Zero Emission Tokyo Strategy” which summarizes their vision for realizing this goal, as well as specific initiatives and roadmaps.

In conjunction, TMG has established the “Tokyo Climate Change Adaptation

Policy,” the “Plastic Strategy” and the “ZEV Promotion Strategy” which describe the details of the efforts in three high priority areas.



The Strategy consists of the following three perspectives.

- (1) Comprehensively develop mitigation measures to halt climate change and adaptation measures to prepare for the impacts of climate change that have already begun to occur.
- (2) Fully incorporate the sustainable resource management into climate change policy to contribute to CO2 reductions imported from other regions.
- (3) Strengthen efforts in all fields, such as sustainable management of materials including plastics and measures for the automotive environment, in addition to measures to expand energy efficiency and renewable energy.

http://www.kankyo.metro.tokyo.jp/en/about_us/zero_emission_tokyo/strategy.html

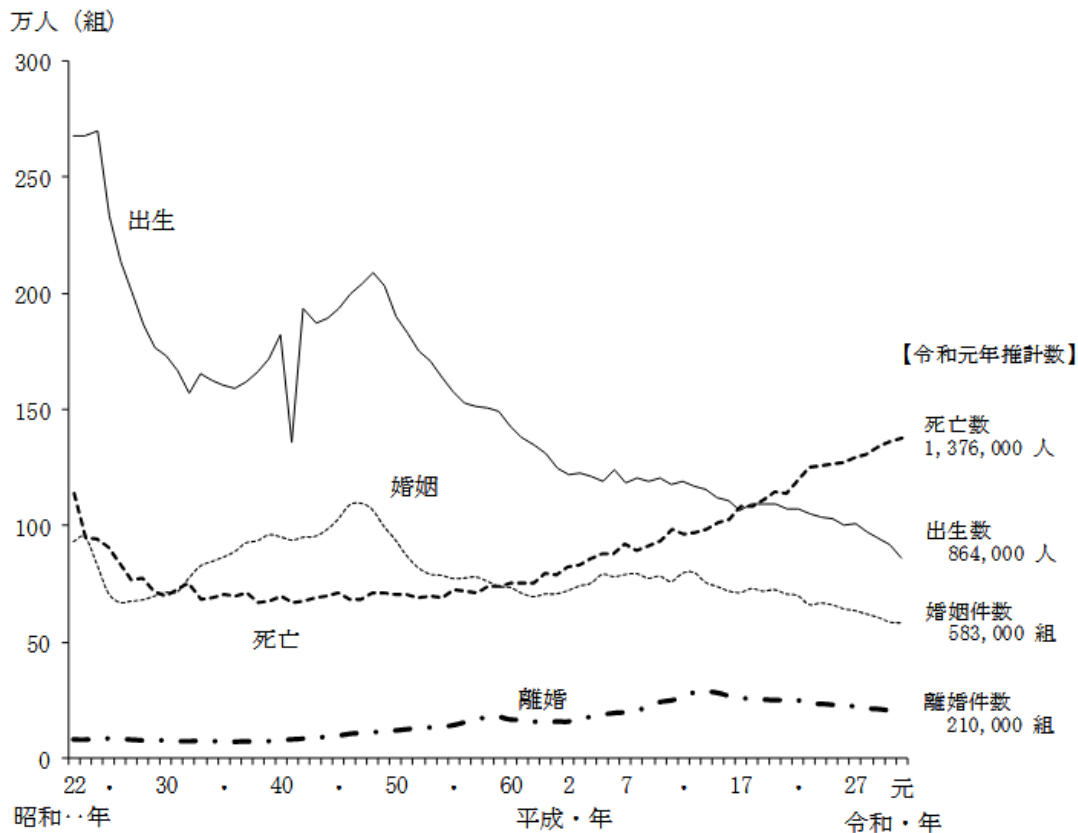
http://www.kankyo.metro.tokyo.jp/en/about_us/zero_emission_tokyo/strategy.files/Zero_Emission_Tokyo_Strategy.pdf

SURVEY AND BUSINESS DATA

Japanese Population Diminished More Than 500,000 in One Year

According to the Vital Statistics that the Ministry of Health, Labour and Welfare published on December 24, number of birth of Japanese babies was estimated at 864,000 (A) in 2019. It corresponds to a reduction of 54,000 as compared to the previous year. Number of death in 2019 is estimated at 1,376,000 (B), resulting in the reduction by more than 500,000 (A-B) of Japanese people living in Japan. Numbers of marriages and divorces at the same period were estimated at 583,000 and 210,000 respectively.

Transition of Death, Birth, Marriage and Divorce (1947-2019)



<https://www.mhlw.go.jp/toukei/saikin/hw/jinkou/suikai19/dl/2019suikai.pdf>

(in Japanese)

New Indices to Measure Consumer Sentiment and Product Prices Developed

The Ministry of Economy, Trade and Industry (METI) jointly developed new indices, as an effort under industry-academia-government collaboration, to ascertain purchase sentiment of consumers and empirical commodity prices, derived from sales trends by type of product that are identified using point of sales (POS) data owned by private companies. METI publicized the pilot version of the indices on December 27.

These indices help users ascertain the level of consumers' tendency in demanding products with premium value as well as commodity prices that consumers experience in their daily lives. Such information may not be easy to find in existing governmental statistics alone. Accordingly, the indices are

expected to become referential information for manufacturers in setting prices of products or for retail stores in determining products to be sold.

In this project, in cooperation with the Financial Engineering & Technology Research Center of Nomura Securities Co., Ltd. and Dr. Konishi [外部リンク](#) Yoko, Senior Research Fellow, Research Institute of Economy, Trade and Industry (RIETI), METI developed new indices to ascertain the level of consumers' tendency in demanding products with premium value and the commodity prices that consumers experience in their daily lives. These are derived from trends in sales by type of product that are identified by data by type of business in the retail industry, such as supermarkets, convenience stores, DIY stores and drug stores. It started publicizing the indices through the "BigData-STATS Dashboard (β version)," a new tool installed on the METI website.

The following indices have been publicized.

METI POS - Indices for retail sales amount (micro indices)

METI × NOMURA: Consumer sentiment indices ("indices for consumer sentiment")

POS - Trends in demanding products with premium value ("indices for petite luxury")

POS - Convenience stores tendency indices ("indices for user-friendliness")

POS - Empirical, daily-life commodity prices indices

CPI nowcast ("indices for forecasting consumer price")

SNS × AI Indices for forecasting production in the mining and industrial sector

https://www.meti.go.jp/english/press/2019/1227_001.html

Performance of Companies in Solar Power Sector Shows Improvement

According to a survey of Teikoku Databank, Ltd. published on December 17, performance of solar power-related companies shows improving trend. It is a result of analyzing performance of 17,841 companies of the industry.

As for sales, those registered increase were 39.1% and decrease were 39.4% in 2016. It turned out to be 39.7% and 29.5% respectively in 2018. For profit and loss, profitable companies increased from 82.1% to 85.6% in the same period while loss registering companies decreased from 17.6% to 14.4%.

<http://www.tdb.co.jp/report/watching/press/pdf/p191205.pdf> (in Japanese)

Majority of Consumers Support Change Over to Paper from Plastics

According to a consumer survey that the Japan Paper Association published on

December 12, majority of respondents supported a change over of materials from plastics to paper for such products as shopping bags and drinking straw. The survey was conducted in November 2019, covering 1,450 people. The survey shows that 66.6% of respondents were favorable for the transition of material from plastics to paper for shopping bags and 71.8% of people supported paper straw instead of plastic ones.

<https://www.jpa.gr.jp/file/release/20191212095444-1.pdf> (in Japanese)

COMPANY NEWS

Converting a Coal-fired Power Plant into a Biomass Power Plant

Suzukawa Energy Center, Ltd., which was jointly established by Chubu Electric Power, Mitsubishi Corporation Power Ltd., and Nippon Paper Industries Co., Ltd. will convert the coal-fired power plant that it owns and operates in Fuji City, Shizuoka Prefecture, into a biomass power plant.

The project will convert the fuel for its current generation facilities (rated output 112,000kW; operation commenced in September 2016) from coal to wood pellets, and will operate the facilities as a biomass power plant with a generation output of 85,400kW, with an expected annual reduction in CO2 emissions of approximately 670,000 tons. The target operation commencement date is April 2022.



Suzukawa Energy Center

https://www.chuden.co.jp/english/corporate/ecor_releases/erel_pressreleases/3272274_18939.html

<http://www.mc-power.co.jp/topics/files/pdf/57308e16mn46361.pdf> (in Japanese)

Daiwa Energy & Infrastructure Enters into Strategic Partnership with German Aquila Capital

Daiwa Energy & Infrastructure Co. Ltd. (DEI) announced on December 5 that it has decided to enter into a strategic partnership with Aquila Capital Holding GmbH and acquire a 40% of stake in the company. Aquila Group is an experienced investment manager mainly in renewable energy assets. Founded in 2001, the Group currently manages approx. EUR 9.5billion for its clients worldwide.

Through collaboration with Aquila Group, DEI will aim at accelerating its business in Euro areas with a huge market opportunity in renewable energy field, learning from the sophisticated Power Purchase Agreement (PPA) markets not depending on grants and public support from governments.

<http://www.daiwa-ei.jp/en/news/pdf/20191205e.pdf>

Toyota Tsusho and Eurus Energy Hold Ceremony to Mark Completion of Egypt's First Wind Power IPP Project

Toyota Tsusho Corporation and its group company Eurus Energy Holdings Corporation announced a ceremony on December 5 in Cairo, Egypt to mark the completion of a newly constructed 262.5 MW wind power plant in the Arab Republic of Egypt which began operation on October 31.

This is Egypt's first-ever wind power independent power producer ("IPP") project. Toyota Tsusho and Eurus Energy partnered with French electric utility company Engie S.A. and Egyptian construction company Orascom Construction S.A.E. to establish Ras Ghareb Wind Energy S.A.E. which will own and operate the power plant for the next 20 years and sell electricity to the Egyptian Electricity Transmission Company.



https://www.toyota-tsusho.com/english/press/detail/191206_004522.html

World's First Liquefied Hydrogen Carrier, SUIISO FRONTIER Launches

Kawasaki Heavy Industries, Ltd. announced on December 11 its official naming and launch at Kobe Works of the SUIISO (means hydrogen) FRONTIER, the world's first liquefied hydrogen carrier.

This vessel was developed to provide a means of transporting liquefied hydrogen at 1/800 of its original gas-state volume, cooled to -253°C , safely and in large quantities over long distances by sea. Kawasaki plans to install a 1,250 m³ vacuum-insulated, double-shell-structure liquefied hydrogen storage tank, currently being manufactured at Harima Works, on the ship and complete the vessel's construction by late 2020. Once complete, the SUIISO FRONTIER will be used for technology demonstration testing in Japanese FY 2020 aimed at the establishment of an international hydrogen energy supply chain* in which liquefied hydrogen produced in Australia will be shipped to Japan.



https://global.kawasaki.com/en/corp/newsroom/news/detail/?f=20191211_3487

Tokyo Gas Acquires Equity Interests in Renewables Joint Venture Company in Mexico

Tokyo Gas Co., Ltd. announced on December 12 that its wholly owned subsidiary, Tokyo Gas America Ltd. has acquired through its affiliate 50% equity interests in Heolios EnTG S.A.P.I. de C.V., a joint venture company established between French ENGIE and Tokyo Gas to collaboratively construct, own, and operate renewable assets in Mexico. Tokyo Gas has also dispatched secondees to Heolios in order to take part in the development and the oversight of the projects. For Tokyo Gas, this is the first business of forming a renewables platform with a global partner and to invest in renewable projects in markets outside of Japan.

Heolios EnTG will initially operate and maintain six renewable energy projects in Mexico. Two of the plants are onshore wind while the remaining four are solar photovoltaic. At this time, Tokyo Gas has made investments into two out of the six initial projects, Tres Mesas 3 and Trompezon. The remaining projects are planned to follow. Tokyo Gas and ENGIE will continue to engage actively to expand the platform over the long-term. Both companies will also put effort in developing new renewable power generation projects to supply commercial and industrial customers including Japanese industrial customers located in Mexico.

Project Location



	Name	Type	Location	Generation Capacity (MWp)	Generation Capacity (MWe)	Expected COD
1	Tres Mesas 3	Wind	Tamaulipas	52	50	In operation
2	Trompezon	Solar	Aguascalientes	159	126	Under Commissioning
3	Villa Ahumada	Solar	Chihuahua	200	150	Under Commissioning
4	Tres Mesas 4	Wind	Tamaulipas	101	96	March 2020
5	Abril	Solar	Sonora	134	99	September 2020
6	Calpulalpan	Solar	Tlaxcala	254	200	November 2020
Total capacity				900	721	—

https://www.tokyo-gas.co.jp/Press_e/20191212-03e.pdf

Establishment of an Investment Corporation to Invest in Photovoltaic Power Generation Facilities in Japan

Marubeni Corporation, Mizuho Bank, Ltd. and Mizuho Trust & Banking Co., Ltd. announced on December 13 establishment of the Japan Infrastructure Fund Investment Corporation (JIF) through Japan Infrastructure Fund Advisors Ltd. (JIA), an asset management company jointly established by the three

companies, for the primary purpose of investing in solar power generation facilities in Japan.

JIF plans to focus its investment on solar power generation facilities, which have experienced more accumulated investment than other infrastructure assets and have seen an increase in transactions in existing projects.

https://www.mizuhobank.com/company/release/20191213release_eng.html

ITOCHU Announces the Establishment of a Joint Venture for the Operation of Mutsu Ogawara Onshore Wind Farm Project in Aomori Prefecture

ITOCHU Corporation announced on December 16 that it and Hitachi Zosen Corporation incorporated the limited liability company Mutsu Ogawara Wind Power LLC. The joint venture company will be responsible for the establishment and operation of an onshore wind farm in an area facing the Pacific Ocean in Rokkasho Village, Aomori Prefecture and for the wholesale supply of the electricity it produces, and will conduct activities aiming for the start of operation from 2023 onwards.

Outline of the onshore wind farm project is as follows.

Start of operation	From 2023 onwards
Power output	57MW
Number of installations	15 units
Project area	Mutsu-Ogawara Port, Rokkasho Village, Kamikita, District, Aomori Prefecture

<https://www.itochu.co.jp/en/news/press/2019/191216.html>

US Invenergy Partners with Tohoku Electric for Inaniwa Wind Project in Iwate Prefecture

Invenergy Wind Development Japan GK announced on December 18 that Tohoku Electric Power Company will make a minority investment in the 102-megawatt Inaniwa Wind Project currently in development.

The Inaniwa Wind Project, an onshore wind facility, will be located in Ninohe City and Hachimantai City in Iwate Prefecture and is expected to start construction in 2023 and begin operations in 2025.

According to Invenergy's press release, Invenergy has advanced its development pipeline of approximately 350 megawatts of solar and wind projects in Japan since opening its first office in Tokyo in 2013. It is currently expanding to provide offshore wind and advanced energy storage solutions.

Location of Inaniwa Wind Project, in south of Towada Lake



<https://invenergy.com/news/invenergy-partners-with-tohoku-electric-power-company-for-inaniwa-wind-project-in-japan>

https://www.tohoku-epco.co.jp/news/normal/_icsFiles/afieldfile/2019/12/17/b_1204854.pdf (in Japanese)

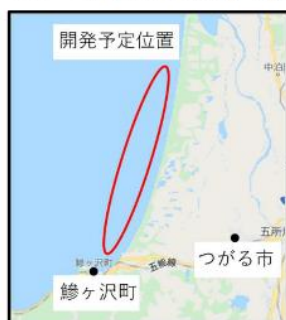
Tohoku Electric to Participate in Three More Wind Power Projects

Tohoku Electric Power Company announced on December 18 that it decided to participate in three wind power generation projects – two in Aomori Prefecture and one in Iwate Prefecture. All of the three projects have been promoted by the consortiums lead by the Green Power Investment Corporation. Biggest of the three projects, Tsugaru Offshore Wind Power Generation in Aomori is expected to start operation in 2028 with an output of 480,000kW.

Green Power Investment has a business tie-up with U.S. Pattern Energy Group L.P. Tohoku Electric aims at developing 2 million kW renewable energy centering around wind power.

Locations of Three Wind Power Projects that Tohoku Electric will Participate

(1) つがる洋上風力発電事業



(3) 稲庭田子風力発電事業



(2) 深浦風力発電事業



https://www.tohoku-epco.co.jp/news/normal/_icsFiles/afieldfile/2019/12/17/b_1204853.pdf (in Japanese)

Nippon Koei Makes Investment in Belgian YUSO

Nippon Koei Co., Ltd. announced on December 18 that it has made a strategic investment in Belgian YUSO BV by participating in a fundraising round by YUSO. The Company's investment will be held through its 100% owned subsidiary, NIPPON KOEI ENERGY EUROPE B.V. Nippon Koei is aiming to strengthen its position within the European energy market and to prepare for the future energy transition in Japan following the unbundling of electric power generation, transmission and distribution.

YUSO was established in 2012 and is active in the energy aggregation business, bringing together all players of modern electricity market: consumers, prosumers, producers, grid operators and power wholesale market exchanges.

YUSO provides services to renewable energy generators at 810 sites (total 180MW), primarily in Belgium, using its own platform (“My YUSO”).

YUSO and Nippon Koei started their collaboration in 2018 with the joint development of a battery energy storage project in Belgium.

<https://pdf.irpocket.com/C1954/yUG5/XSgA/j8ia.pdf>

Osaka Gas to Participate in Household Energy Supply Business in UK

Osaka Gas Co, Ltd. announced on December 11 its participation in the UK household energy supply business by underwriting a capital increase of Lightbulb ES Ltd., which owns a 100% share of Igloo Energy Supply Ltd. Igloo started energy supply business in the UK residential market in 2017 and now provides gas and electricity to over 80,000 customers throughout the country.

Through this household energy supply business in the UK, a first for Osaka Gas’ overseas investment, the company intends to acquire expertise of business operation and new services development in an advanced energy market.

https://www.osakagas.co.jp/en/whatsnew/_icsFiles/afieldfile/2019/12/11/191211_1_1.pdf

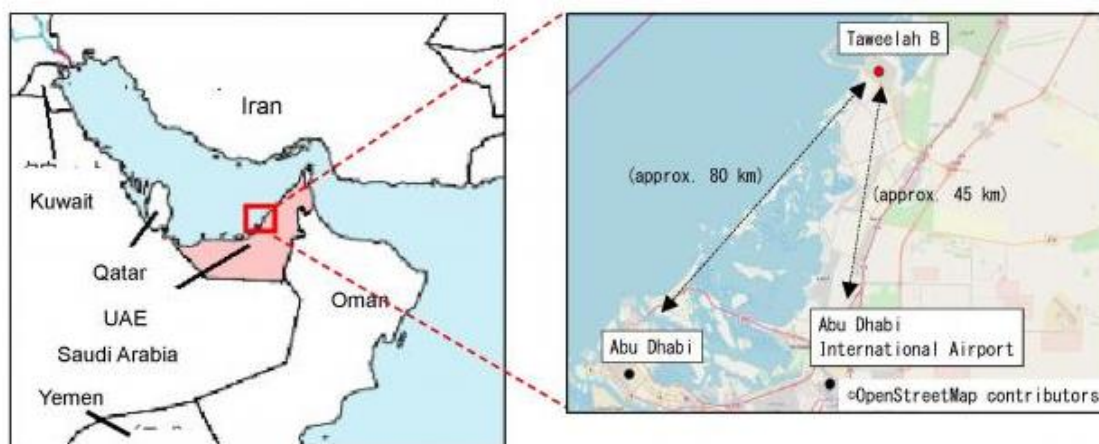
Kyushu Electric Group Agreed to Purchase Share of Taweelah B Independent Water & Power Producer Project

Kyuden International Corporation and Kyushu Electric Power Co., Ltd. announced on December 19 that their group has signed a share purchase agreement with JGC Holdings Corporation to acquire a 6% interest in Taweelah Asia Power Company P.J.S.C. and separately a 15% interest in Asia Gulf Service Holding Company Limited for Taweelah B Independent Water & Power Producer Project (“Taweelah B”) in the United Arab Emirates (UAE).

Located in the Emirate of Abu Dhabi, UAE, the project Taweelah B supplies both electricity and water to the Emirates Water and Electricity Company, under the Power and Water Purchase Agreement, by operating its natural gas thermal power generation facility, which has a total output of 2,000 MW and a seawater desalination facility of 730,000 tons per day.

By this acquisition, Kyuden Group has acquired an equity ownership of over 2,400 MW in overseas electricity generation projects, meaning it has already met its equity ownership target of 2021.

Location of Taweelah B



<https://www.kyuden-intl.co.jp/en/news/detail/27>

Marubeni Awarded Japanese Strawberry Greenhouse Project in Russia

Marubeni Corporation announced on December 17 the conclusion of the Japanese Strawberry Greenhouse Project contract with “Sovkhoz Elektrostalsky”, a group company of “Victoria Estate” (hereinafter, both Sovkhoz Elektrostalsky and Victoria Estate will be referred to together as, “VE Group”). The design and supply for the greenhouse will be conducted by JFE Engineering Corporation. In accordance with recent increasing demand for high quality strawberries in the Russian market, VE Group has a plan to build a greenhouse for the production of Japanese strawberries in Victoria Industrial Park, a property owned by VE Group in Elektrostal City, which is a suburban area of Moscow. The Project is scheduled to be scaled-up from 10ha initially to 30ha upon completion. The first phase of the Project will involve the supply of equipment for the initial 10ha by Marubeni and JFE Engineering.

Image of Japanese strawberry greenhouse after completion



<https://www.marubeni.com/en/news/2019/release/20191217E.pdf>

Power Generating Wall/Window Developed

KANEKA CORPORATION and Taisei Corporation announced on December 19 that they have jointly developed generating systems which use solar battery module incorporated into the wall panel and window, called T-Green Multi Solar. According to their press release, T-Green Multi Solar systems have, in addition to high generating efficiency, good day lighting, panoramic view and good thermal insulation function as benefit. It can serve as emergency electric power source.

Image for Installation



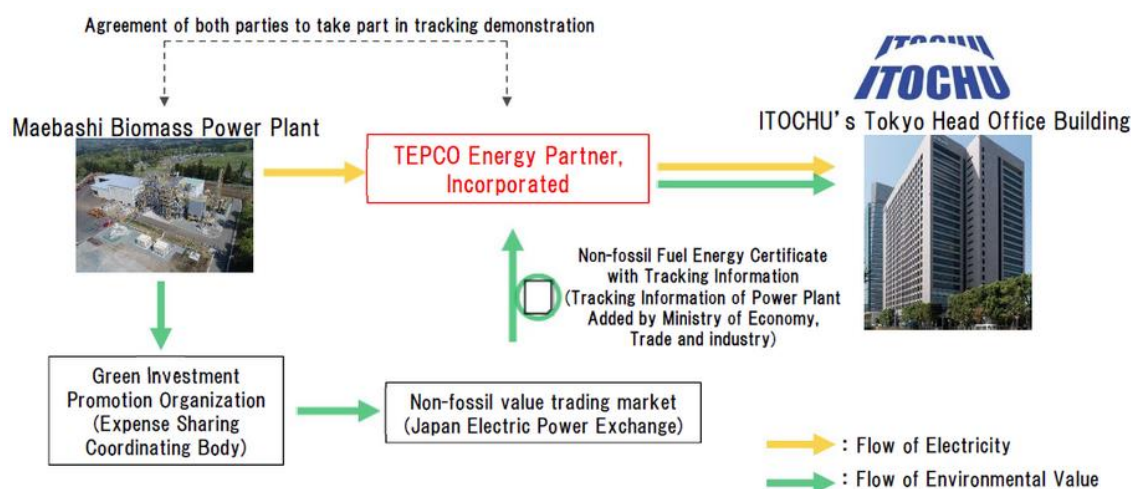
Solid type for outer wall and “see-through” type for window

<https://www.kaneka.co.jp/service/news/nr20191219-2/> (in Japanese)

ITOCHU Announces Full Switchover to CO2-free Electricity at Tokyo Head Office

ITOCHU Corporation announced on December 17 that it will switch the electricity used at its Tokyo Head Office building to real CO2-free electricity as part of its “RE100 commitment,” starting from electricity for January 2020. ITOCHU will source its real CO2-free electricity, together with a Non-Fossil Fuel Energy Certificate showing the environmental value of not emitting CO2, from TEPCO Energy Partner, Incorporated which supplies electricity to the Tokyo Head Office.

Trading scheme



<https://www.itochu.co.jp/en/csr/news/2019/191217.html>

ADDITIONAL TOPICS

Toyota “Yaris” Accorded the World First Type Approval under IWVTA

Ministry of Land, Infrastructure, Transport and Tourism (MLIT) announced on December 20 that it has given a type approval under the International Whole Vehicle Type Approval (IWVTA) to Toyota “Yaris” model. It is the first time that the IWVTA which was agreed upon in July 2018 was accorded.

With the IWVTA, Toyota Yaris will be exempted from a basic examination on safety and performance in 56 countries and one region, covering most European countries, which are contracted parties to the UNECE World Forum for Harmonization of Vehicle Regulations (WP.29).



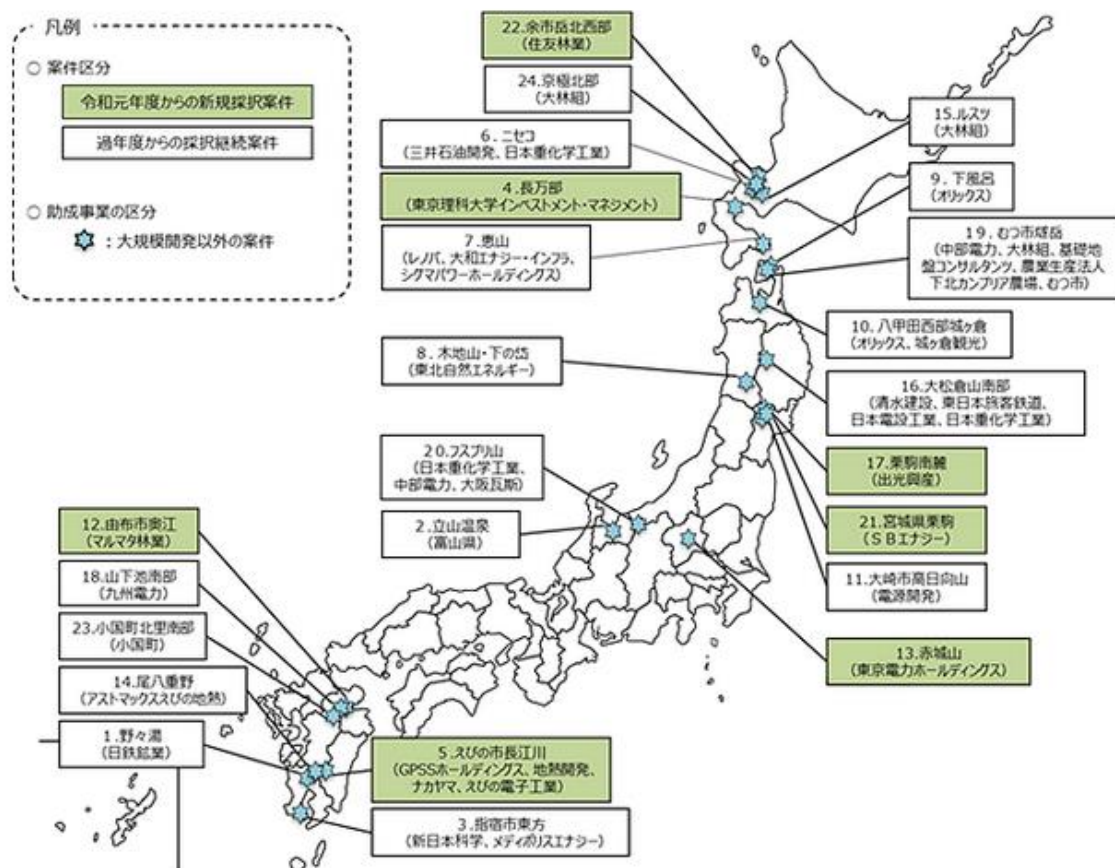
Toyota Yaris (photo: Toyota Motor)

http://www.mlit.go.jp/report/press/jidosha08_hh_003588.html (in Japanese)

24 Projects Selected for Subsidized F/S Survey of Geothermal Power Generation

The Ministry of Economy, Trade and Industry (METI) announced on December 25 that a total of 24 projects were selected for subsidized survey on the feasibility study (F/S) of geothermal power generation. Of the 24 projects, seven are new and the remaining 17 are continuous ones.

Survey of Geothermal Power Generation to be Subsidized
(Pale green color indicates new project)



<https://www.meti.go.jp/press/2019/12/20191225002/20191225002.html> (in Japanese)

Yamaha Motor Assists in Marine Plastic Survey

Yamaha Motor Co., Ltd. announced on December 11 that it would participate as a survey support partner in the "Scientific Survey of Marine Plastic Pollution"

being run by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC).

Held in conjunction with the 2019-2020 Japan–Palau Goodwill Yacht Race (hosted by the Kanagawa Prefecture Sailing Federation etc.), which starts on December 29, 2019 at the Yokohama Bay Bridge, this survey involves scientific study of marine plastic pollution by the yachts competing in the race as well as support vessel, the tall ship “Miraie” . In support of the survey's aims, Yamaha Motor is sponsoring the survey costs and sending one of its staff to participate.



The support vessel Miraie, whose crew a Yamaha Motor employee will be part of

<https://global.yamaha-motor.com/news/2019/1211/plastic-survey.html>

Hyperspectral Imager Suite (HISUI) Successfully Launched for Space Demonstration Tests

The Ministry of Economy, Trade and Industry (METI) announced on December 6 that a hyperspectral imager suite, called “HISUI,” was successfully launched from Cape Canaveral Air Force Station, the United States, for the purpose of space demonstration tests. HISUI is an outcome of development conducted by the METI. This sensor will be installed on the Japanese experiment module, called “Kibo,” of the International Space Station (ISS) and will start observation. HISUI is a hyperspectral imager suite for space demonstration tests. METI and the Japan Space Systems (J-spacesystems) developed the sensor mainly for remote exploration of oil and other resources. Compared to ASTER, the existing multispectral sensor, HISUI is capable of identifying terrestrial substances and other objects with higher accuracy.

https://www.meti.go.jp/english/press/2019/1206_001.html

New Platform for Expert Human Resources in the Space Industry Called “S-Expert” to Start Operations

The Ministry of Economy, Trade and Industry (METI) launched on December 11 a Platform of Expert Human Resources in the Space Industry, called “S-Expert.” This platform aims to promote matching between space venture businesses and other startups and expert human resources that have retired from JAXA or large companies, in an attempt to vitalize the space industry.

On the platform, expert human resources are able to register their own information (e.g., field of expertise and career details), while space venture businesses and other entities are able to register information on their employment offers, and the former and the latter can browse the information and begin to communicate with each other so as to form partnerships.

Moreover, employment agencies will serve an intermediary role to promote matching. The S-Expert platform will also coordinate closely with the “S-Matching” platform for space venture businesses and investors, which was constructed by METI and the Cabinet Office in June 2018, to support space venture businesses in financing as well as securing human resources.

https://www.meti.go.jp/english/press/2019/1211_001.html

Takasago Thermal Engineering & HAKUTO-R Aim to Perform Water-Splitting Experiment on the Moon

Takasago Thermal Engineering Co. Ltd. specializing in heating, ventilation and air conditioning (HVAC), and lunar exploration company, ispace, inc., announced on December 18 that Takasago has agreed to participate as a Corporate Partner of the world's first commercial lunar exploration program, HAKUTO-R, a two-mission program which will put ispace's lunar lander on the surface of the Moon in 2021 and, again, in 2023. Takasago also aims to utilize ispace's lunar lander to send an experimental payload to the Moon in 2023 –on HAKUTO-R's second mission—targeting to conduct the first-ever water-splitting experiment on the Moon.

Based on a proprietary water-splitting technology the company already possesses, Takasago will develop a small trial design for the experimental lunar payload, which ispace will transport to the Moon. Water-splitting, also known as water electrolysis, is a technique in which the water molecule can be broken

down into oxygen and hydrogen gas using an electric current. Hydrogen gas is a key component of hydrogen fuel, which is widely expected to be used as propellant for satellites and spacecraft operating between the Earth and the Moon, as well as those traveling to deeper space, such as to Mars. It is estimated that several billions of tons of water is frozen on the Moon. A valuable, life-enabling resource, water will also be used—in addition to producing fuel—for nourishment, agriculture, and breathable oxygen.



Lunar lander and rover for the world's first private lunar exploration program HAKUTO-R

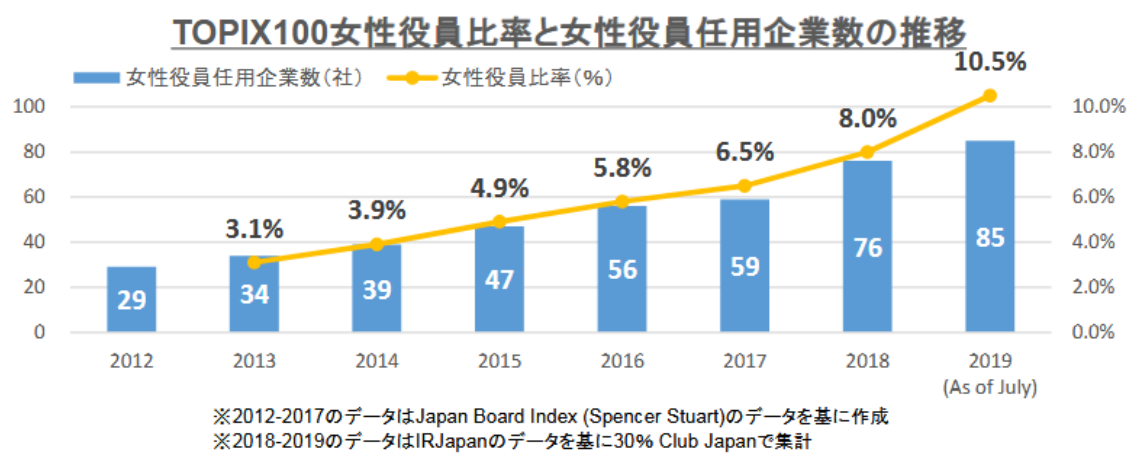
https://ispace-inc.com/wp-content/uploads/2019/12/Takasago_HAKUTOR_Partnership_Release_20191218_EN.pdf

KEIDANREN and 30% Club Japan Agreed to Cooperate in Promoting Diversity

KEIDANREN (Japan Business Federation) and 30%Club Japan, sharing an understanding of the importance of promoting women's active participation in the workplace and greater diversity in Japanese companies as a means of contributing to companies' sustainable growth and improving corporate value in the medium to long term, agreed a memorandum of understanding (MoU) on December 18. The MoU puts forward a framework for cooperation between the two parties with regard to promoting women's active participation and diversity in the workplace.

According to a survey of the 30%Club Japan, the ratio of female executive directors among biggest Japanese companies listed on the Tokyo Stock Exchange First Section (TOPIX 100) was 10.5% as of July 2019, showing an increasing trend. At the same time, a total of 85 companies out of 100 have at least one female executive (See chart).

Transition of female executive ratio in TOPIX 100 companies



(Note) Line chart in yellow shows ratio of female executives, bar chart in blue shows number of companies with female executives

https://www.keidanren.or.jp/announce/2019/1218_MoU_en.pdf

https://30percentclub.org/assets/uploads/japan_30%EF%BC%85_Club_Japan_TOPIX100_Data_Release_20191008_v1.1.pdf (in Japanese)

AEON Joins New International Initiative against Food Loss

AEON Co., Ltd. announced on December 11 that it would join new international initiative against food loss with major Japanese food processors. The initiative that American think tank World Resources Institute proposed is called “10x20x30” which bring together 10 of the world’s biggest food retailers and providers to each engage with 20 of their priority suppliers to aim to halve rates of food loss and waste by 2030. A total of 21 Japanese food suppliers including Ajinomoto, Kikkoman, Kirin and Suntory work with AEON in reducing food loss.

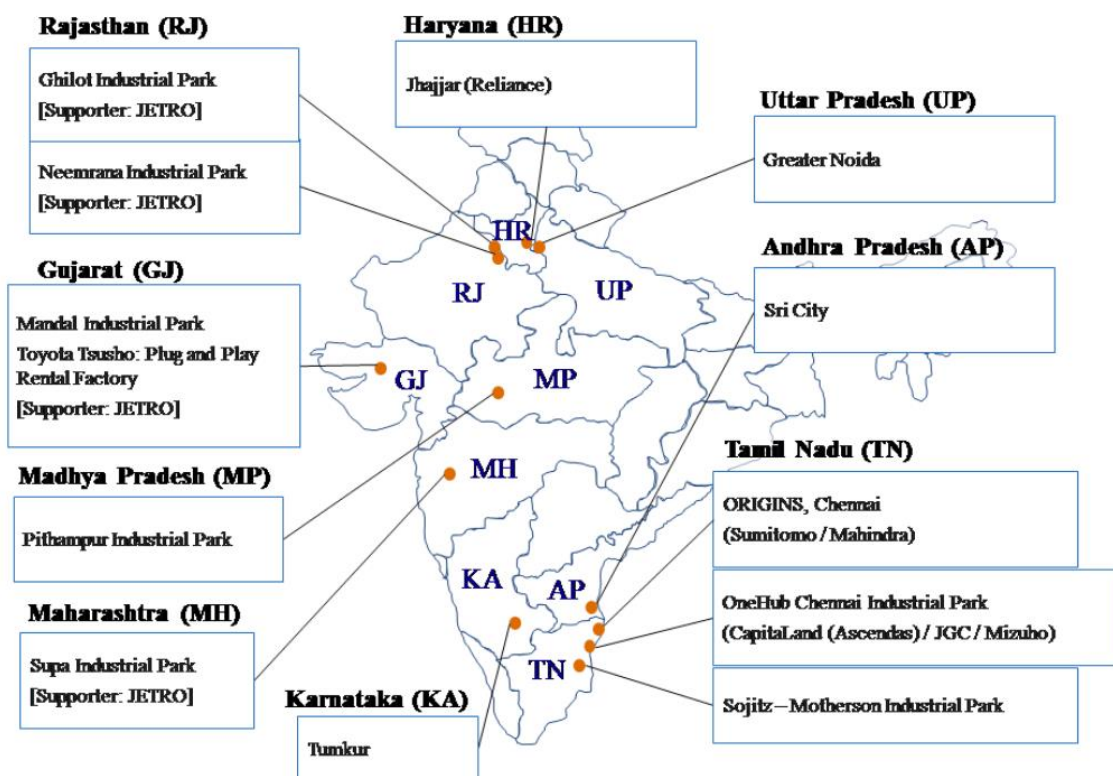
https://www.aeon.info/wp-content/uploads/news/pdf/2019/12/191211R_1.pdf (in Japanese)

<https://www.wri.org/news/2019/09/release-major-food-retailers-providers-join-new-10x20x30-food-loss-and-waste-initiative>

Japan and India Exchange Progress Reports on Japan Industrial Townships in India

The Ministry of Economy, Trade and Industry (METI) announced on December 23 that the METI and the Indian Ministry of Commerce and Industry (MCI), exchanged respective progress reports on the Japan Industrial Townships (JITs) in India and achievements thereof. This was the third time the progress report has been exchanged. The development and advancement of the JITs are expected to help further accelerate Japanese companies' investment in India.

Locations of JITs



https://www.meti.go.jp/english/press/2019/1223_001.html