SUMITOMO MITSUI TRUST HOLDINGS

SuMi TRUST
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Climate Change

ESG REPORT 2018/2019

SuMi TRUST Group's Eco-Trustution

The Group has coined the word "Eco-Trustution" to represent its environmental financial business based on the concept of providing solutions to ecological issues through the use of our trust function. We will continue to develop and provide solution-based financial instruments and services.

Solutions that use the unique functions of a trust bank

Editorial policy

The ESG-related reports for fiscal year 2018 consist of our full ESG report, feature booklets on the themes of *Climate Change*, *Natural Capital*, and *Environmentally Friendly Property*, a digest report for seniors (available only in Japanese), and a stewardship report. You can visit our website to learn more about our other sustainability initiatives.

https://www.smth.jp/en/csr/index.html

* This booklet introduces various initiatives and activities by our Group companies, led by SuMi TRUST Bank.

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Target SDGs for Climate Change Initiatives

* SDGs (Sustainable Development Goals)
Global-scale priority issues that should be addressed collectively worldwide toward 2030 adopted at the United Nations Sustainable Development Summit in September 2015. The Sustainable Development Goals are comprised of 17 goals and 169 targets.

Climate change is the most serious environmental issue in the world today—it is already affecting people's lives and economic activity in a number of ways as a result of abnormal weather, rising sea levels, and other phenomena. Moreover, the negative impacts of climate change are affecting developing countries and vulnerable people the most, which in turn is creating additional problems for societies, such as inequality and poverty.

At the same time, measures taken to ease or adapt to climate change are leading to improvements in ecosystem services through the enrichment of natural capital, while the migration of social systems driven by investment promotion and technological innovation is generating economic growth. Global sustainability now hinges on how quickly societies can achieve net zero CO_2 emissions.

The pursuit of societies resilient to climate change will likely lead to the construction of sustainable societies through the eradication of poverty and reduction of inequality.

Challenges for Achieving the Goals

- Constructing carbon-free societies well before 2050 by realizing net zero CO_2 emissions
- Visualizing risks and opportunities arising from the rapid migration of social systems
- Constructing business models that transcend sectors to combat climate change
- Expanding financial transactions that contribute to climate change adaption and mitigation

Initiatives for Solving the Challenges

- Provide solutions for the construction of societies with net zero carbon emissions by leveraging banking, trust, and real estate functions.
- Provide capital through investments and loans to promote renewable energy and energy conservation.
- Provide financial products that meet the investment needs of investors with a strong interest in climate change.
- Promote climate change measures in real estate markets and cities with financial and environmental performance evaluations.
- As a responsible institutional investor, promote stewardship activities related to climate change.
- Make improvements to the disclosure of information related to climate change.

KPIs for Solving the Challenges

- Project finance for coal-fired power generation in and outside of Japan: In principle, no engagement.
- Renewable energy power generation: Contribute globally with the aim of greater proliferation.
- Information disclosure: Establish a system aimed at improving the disclosure of climate change-related information under frameworks such as the TCFD.

SuMi TRUST Group's Climate Change Governance

The SuMi TRUST Group recognizes that its response to climate change issues is important for building the Group's corporate value and a sustainable society, and its solutions businesses contribute to addressing climate change issues.

High Priority Issues concerning Climate Change (Materiality)

From a management perspective, the Group recognizes it is important as a financial institution to reduce climate change impacts arising from companies and projects in its loan and investment portfolios. We also recognize the importance of reducing CO_2 emissions from the Group's business activities.

It is our belief that helping to address climate change issues by harnessing our trust function is a matter of critical importance that will direct more business opportunities to the Group.

The Group's climate change-related materiality issues

- Taking into account how borrowers and investees impact society and the environment
- Pursuit of business opportunities with environmental and social themes
- Climate changes (physical impacts, etc.)
- Reducing the Group's environment burden

Action Guidelines for Mitigating Climate Change

1. Implementation of Measures and Support to Help Mitigate Climate Change
   In addition to actively taking measures to reduce greenhouse gas emissions in our own business operations, we are making efforts, as a corporate citizen, to support activities that mitigate and adapt to climate change.
2. Provision of Products and Services
   We are working on developing and providing products and services that help mitigate climate change. Our financial functions are being leveraged to promote energy conservation and encourage the use of renewable energy.
3. Collaboration with Stakeholders
   We engage in dialogue and cooperation with our stakeholders as we work to mitigate climate change.
4. Education and Training
   We will ensure that these guidelines are fully implemented at Group companies, and will actively conduct education and training to mitigate climate change.
5. Information Disclosure
   We will actively disclose information related to our efforts to mitigate climate change.

Climate Change-related Materiality Management

Through internal engagement, the Group endeavors to improve initiatives and enhance information disclosure regarding climate change issues identified as items of materiality.

Materiality Identification and Practice

STEP1
Identifying Materiality Issues

We emphasize the views of ESG investors who pursue corporate value from a long-term perspective. Based on reporting guidelines such as GRI and SASB, we select bank materiality issues emphasized by ESG research companies (MSCI, FTSE, SAM, etc.) that provide information to investors.

STEP2
Interviewing Stakeholders

The issues identified in step 1 are evaluated from two perspectives: 1) the impact on corporate value in the medium to long term, and 2) the impact on stakeholders. The degree of impact is assessed with a score between one and five. The former is conducted by all our external directors, external auditors, and relevant internal departments, while the latter by external directors, external auditors, and external experts.

STEP3
Drawing Materiality Map

The point scores from step 2 are plotted on a scatter diagram (materiality map) with the two perspectives assigned either the horizontal or vertical axis. The issues that fall into the highest materiality zone on the map are considered to be highest priority ESG issues. In 2015, these issues were resolved by the Executive Committee and reported to the Board of Directors. Since 2017, the Risk Committee (an advisory committee of the Board of Directors) has examined the appropriateness of these issues and offered recommendations to the Board of Directors.

STEP4
Implementing Internal Engagement

Of the issues with the highest materiality, our Sustainability Management Office engages in dialogue (engagement) with relevant departments with respect to the topics investors are most interested in and for which the Group's initiatives may face challenges. Reports are submitted to the Executive Committee and the Board of Directors on the progress of initiatives.

STEP5
Initiatives for Increasing Corporate Value over Long-Term

The Board of Directors receives recommendations from the Risk Committee and reports on internal engagement and facilitates multilateral discussions on the future course of action. These actions are in line with the provisions of Article 3-4 of the Group's Basic Policy on Corporate Governance, which prescribes matters regarding environmental and social issues concerning sustainability that the Board of Directors is obligated to address.

Results of internal engagement on climate change

- Adoption of the Equator Principles in project finance
- Formulation of a financing policy for coal-fired power generation project finance
- Declaration in support of the TCFD

Climate Change Risk Management for Portfolio Investments

A Member of Climate Action 100+

Sumitomo Mitsui Trust Asset Management (SMTAM) participates in Climate Action 100+, an initiative established by the PRI and four global institutional investor organizations at the One Planet Summit in December 2017. Under this framework, institutional investors jointly engage with the world's top 100 greenhouse gas emitters. Starting with the engagement with a state-run petroleum company in Thailand, SMTAM has taken initiative and conducted collaborative engagements with more than 10 companies within and outside of Japan.

Cases of Climate Change-related Engagement

Case 1 Climate change: Responding to the Paris Agreement

Dialogue overview	Company reaction	SMTAM's Policy
US based Occidental Company Corporation is chemical manufacturer which has upstream E&P businesses. In May 2018 SMTAM confirmed management's views after informing the company that it voted in favor of the shareholder proposal that the company discloses how it addresses the aim of the Paris Agreement to keep global warming to below 2°C above pre-industrial levels, as well as information about reducing methane gas emissions and combustion generated by its production activities.	For tackling global warming, management holds regular meetings with external experts. We are currently formulating our policy on climate change and plan to disclose it by the end of the year. As for methane gas, we are investing in facilities to ensure there are no major emissions when we drill for natural gas, and there are no concerns at our existing project sites. At new mining sites a certain amount of gas needs to be released but we have standards in place to control these emissions.	Even though SMTAM confirmed the company's stance on both of these issues, it expressed the view that the fact the company's information disclosure is insufficient is a part of the reasons why a shareholder proposal was submitted and adopted with 65.7% of shareholders voting in favor. SMTAM also requested that information disclosure be enhanced in the future.

Case 2 Climate Change: Complying with palm oil production regulations

Dialogue overview	Company reaction	SMTAM's Policy
Singapore-based Wilmar is a palm oil producer. In March 2018 SMTAM confirmed management's views after participating in a joint engagement through a PRI working group and expressing our opinions that there is a risk that exports will grind to a halt due to tighter restrictions in Europe, and that the company should be more proactive in disclosing information by involving another company in the industry in order to continue production.	With the goal of improving the working environment at our production sites, we will participate in activities hosted by the Malaysian Palm Oil Certification Council and the Decent Rural Living Initiative (convened by the NGO Forum for the Future). With respect to the latter, other leading companies in the industry are also taking part. In particular, we recognize the pivotal issues of child labor and the withholding of migrant worker passports and plan to engage in activities aimed at solving these issues in consultation with the PRI Secretariat.	We confirmed the company's measures for improving working environments and by extension, business continuity. We will continue to engage with the company in order to confirm the effectiveness of those measures.

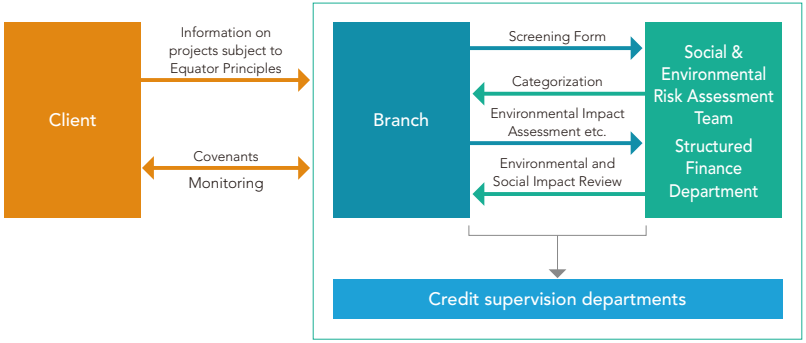
Climate Change Risk Management for Loans

Equator Principles

Based on its Sustainability Policy, the SuMi TRUST Group has drawn up environmental and human rights policies with the aim of moving toward a sustainable society, and it is working to further strengthen its ESG risk management system in line with international standards. SuMi TRUST Bank is aware that financing large-scale projects such as mine development, oil and gas development, power plants, petrochemical plants, and infrastructure development may indirectly have an adverse effect on the natural environment and regional communities. It also believes it is the responsibility of a sound financial institution to avert or mitigate risks of deterioration in loan receivables due to project suspensions as a result of environmental or social problems.

The results of the Group's identification of sustainability-related priority issues (materiality) shed light on the importance of addressing the environmental and social impacts of the companies to whom we extend investments and loans. For this reason, we thought it necessary to incorporate risk management procedures based on the Equator Principles—the global standard for private financial institutions—into our project finance decision-making process. In fiscal year 2017 (Apr 1, 2017 – Mar 31, 2018) there were 28 projects to which we applied the Equator Principles.

Systems and Processes for Evaluating Environmental and Social Considerations



Application processes: Following internal policies based on procedures for evaluating social and environmental considerations, the Equator Principles Department carries out assessments of environmental and social impacts relating to individual projects.

Implementing environmental and social impact reviews: Reviews of the environmental and social impacts of a project proposed by developers take into account its industry, the country where it is sited, and whether it meets the standards called for by the Equator Principles, and from there, a comprehensive risk is judged.

Monitoring compliance: Compliance with important items concerning environmental and social impacts have been reflected into loan agreements, and compliance with these is regularly confirmed through such methods as reports on project compliance status on these fronts.

Company training programs: Regular training sessions are provided for employees in departments and sections relating to sales, assessment, and screening to foster a thorough understanding of internal operations supporting environmental and social impact reviews and raise their awareness about related concepts.

Project Finance for Coal-fired Power Generation

With climate change being such an important issue for the international community, SuMi TRUST Bank has continued to carefully consider its own actions by setting internal standards on power generation efficiency and environmental load for coal-fired power generation projects that emit relatively large amounts of CO_2. Given that initiatives aimed at realizing low-carbon societies in developed countries are key management issues for financial institutions, SuMi TRUST Bank's basic policy going forward is not to participate in any new coal-fired power generation projects being considered for construction. That said, the Bank may make exceptions by carefully and comprehensively considering the background, attributes, and other factors of each individual project if it meets strict environmental standards, such as OECD guidelines and power generation efficiency performance.

Disclosure of Climate-related Financial Information

Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

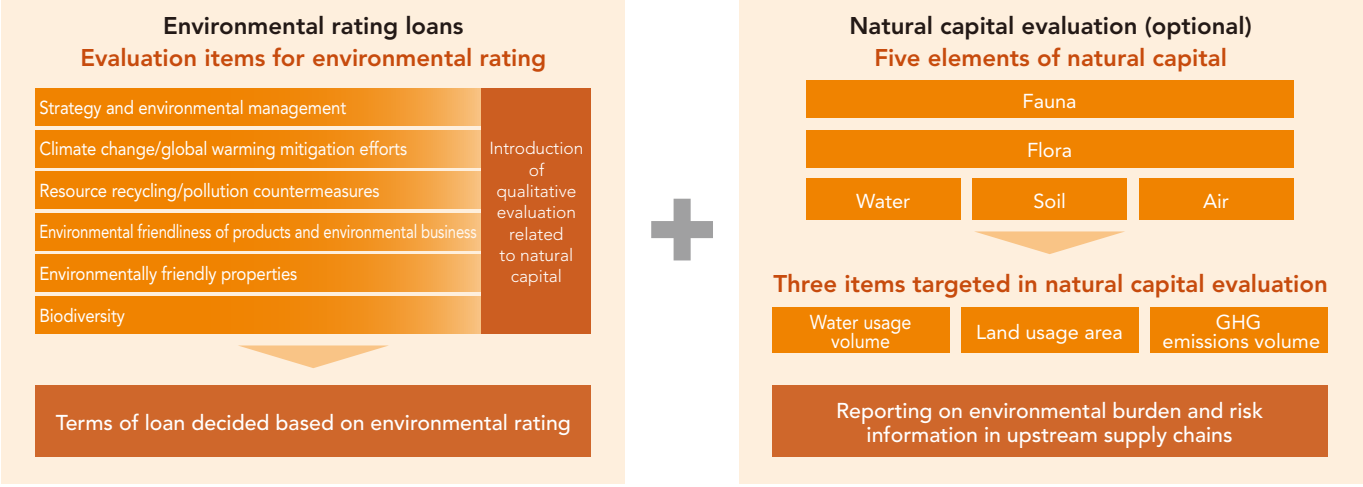
In recognizing the risks financial markets face from climate change, the Financial Stability Board released the recommendations of the TCFD in June 2017, calling on companies to disclose climate change-related information with even more transparency. In addition to the volume of greenhouse gas emissions their own business activities generate, financial institutions are required to monitor and disclose information about the climate change impacts of the companies and projects they extend investments and loans to, and ensure that proper risk management is in place. The Group supports the recommendations of the TCFD and will endeavor to enhance information disclosure in line with those recommendations going forward.

Scoring Climate Change Risks in Supply Chains

Environmental Rating Loans with Evaluation of Natural Capital Preservation

Procurement risks for inputs such as resources, raw materials and energy are a source of business continuity risk. Procurement risk management for natural capital in a global supply chain is a high priority issue (materiality) in management strategy.

Since April 2013, SuMi TRUST Bank has quantitatively scored the natural capital dependence and environmental impacts of companies, and offered environmental rating loans with an optional service for natural capital evaluation that provides a basis for identifying risk management scope. With this service, greenhouse gas emissions, as a factor relating to climate change, are calculated for each category of procured input and each region where the input is procured in a borrower's supply chain. We provide risk information such as procured inputs with significant risks and countries where the suppliers are located.



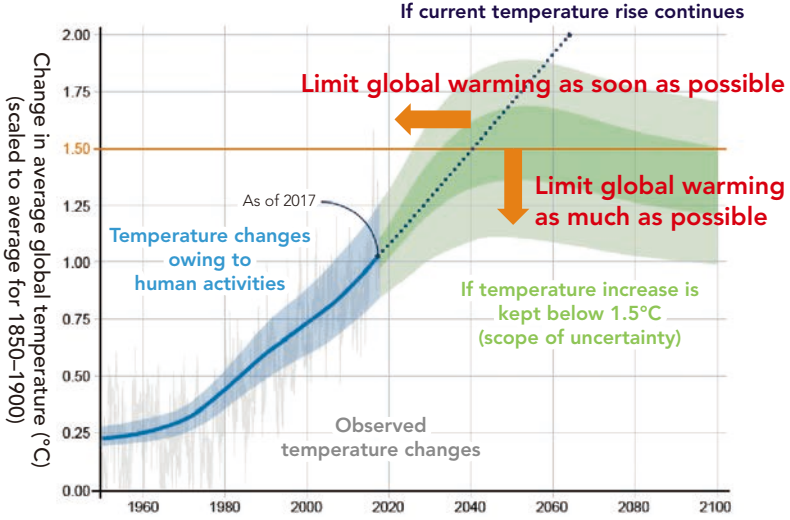
Note: "Optional" refers to ESCHER calculations provided by PwC Sustainability LLC that are not available without loan products.

Aiming to Limit Temperature Increase to 1.5°C

Paris Agreement and Special Report on Global Warming of 1.5°C

Under the Paris Agreement that came into force in November 2016, signatory nations aim to "hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels," in order to ensure sustainability. The world is now taking further steps in an attempt to transition from a low-carbon society to one with net zero carbon emissions.

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) published its Special Report on Global Warming of 1.5°C. The report highlights the need to reduce greenhouse gas emissions to net zero as soon as possible in order to secure sustainability and eradicate poverty.



Source: IPCC Special Report on Global Warming of 1.5°C; corrections to frequently asked questions

Key points in Special Report

- The global average temperature has already increased by 1°C when compared to pre-industrial levels, and at the current pace of emissions, global warming is likely to reach 1.5°C by 2040.
- The harmful effects of the current 1°C temperature increase are serious, but will increase in severity when the temperature increase reaches 1.5°C and become significantly harmful at 2°C.
- Global warming is significantly affecting ecosystems and humans owing to abnormal weather conditions, rising sea levels, and other phenomena.
- Many more countermeasures will be required if our response to global warming is slow.
- Aiming to limit the temperature increase to 1.5°C will also have a positive impact on meeting the objectives of the SDGs.

Climate Change Strategies aimed at Limiting Temperature Increase to 1.5°C

The Special Report on Global Warming of 1.5°C states that the early pursuit of initiatives aimed at limiting the global average temperature rise to 1.5°C will help meet the objectives of the SDGs; namely, the building of a sustainable society, the eradication of poverty, and the reduction of inequality.

In addition to promoting climate change solutions such as energy conversion, energy saving, and environmentally friendly property and enhancing the value of society by achieving the objectives of various SDGs, the Group has a lineup of businesses that seek to improve our corporate value.

SDGs that help solve climate change issues

SDGs related to climate change

SDGs that can be achieved by solving climate change issues

Lineup of climate change-related businesses aimed at attainment of SDGs

- Green finance (investments, loans) for projects that contribute to climate change mitigation and adaption
- Provision of financial products that meet the investment needs of investors with a strong interest in climate change
- Provision of financing schemes that contribute to increased uptake of renewable energies
- Provision of certification support and consulting to businesses that contribute to energy saving and decarbonization in buildings
- Provision of finance to help spread the use of energy-saving and decarbonization appliances in households
- Provision of ESCO businesses and energy management services that contribute to the promotion of investment in energy conservation
- Climate change-related engagements in the asset management business
- Climate change and natural capital risks computation services for entire supply chains

Risks and Opportunities Relating to Climate Change

In the area of climate change, financial institutions are responsible not only for direct impacts arising from their own business activities but also for indirect impacts arising from investee and borrower companies and projects, and the responsibility for the latter are larger. Moreover, an important element for financial institutions in their corporate growth strategies is factoring in the transition to a net-zero emission society into their business models.

Risks Relating to Climate Change

Risk categories*	Risk concepts	Attributes of risks linked to climate change
Transition risks	• Risk that stricter regulation and technological advances affect industries and companies and lead to value impairment in the Group's loan and equity portfolios • Risk that business models and corporate strategies may be affected by the regulatory response to reach the goal of staying below 2°C • Risk that carbon pricing may impact market economies and economic competitiveness across multiple nations • Risk that companies may face calls to consider climate change problems in procuring financing and services • Risk that low carbon-oriented market may lead to volatility in supply-demand relationship for products and services and corporate earnings • Reputational risk from assessments that climate change-related disclosures and initiatives are inadequate	• High social expectations that lenders and investors will seek to avert or mitigate risks from indirect impacts arising from the activities of investee and borrower companies or projects • Climate-related risk impacts on the whole supply chain, so risk management in the upstream supply chains of investee and borrower companies will be important • Establishing quantitative risk assessment measures will be important
Physical risks	• Risk that natural disasters damage the Group's assets and social infrastructure and puts business continuity at risk • Risk that natural disasters damage the assets of investee and borrower companies • Risk that climate change affects land use, resource procurement, and the productivity of primary industries • Risk that progression in global warming increases the likelihood of heat stroke and pandemics	

Business Opportunities Relating to Climate Change

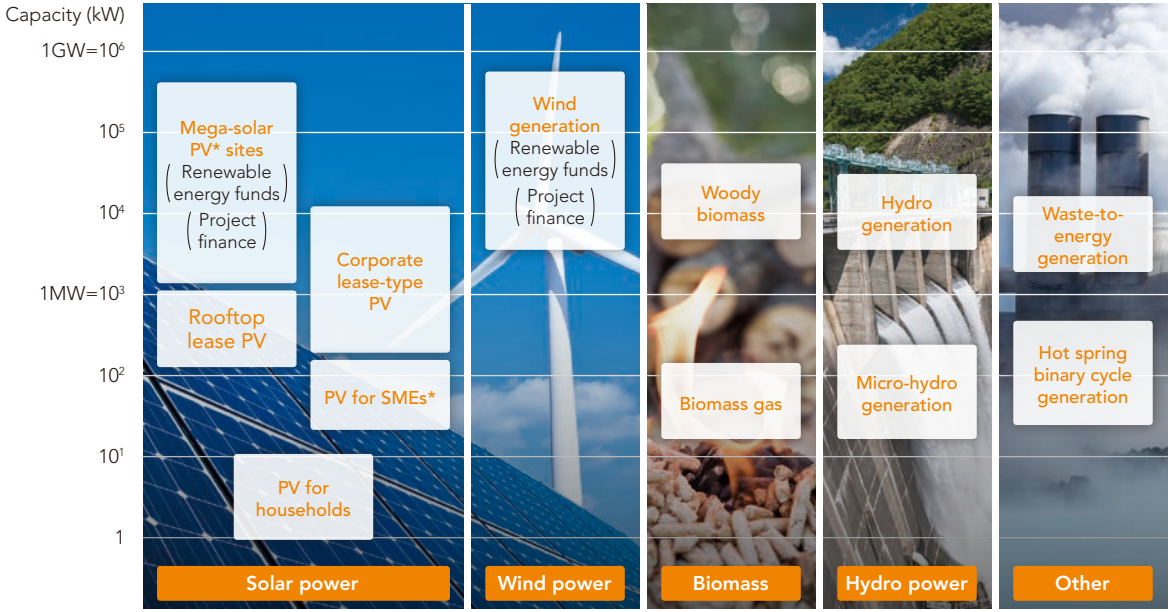
Opportunity categories*	Opportunity concepts	Attributes of opportunities linked to climate change
Opportunities in resource efficiency, energy, products and services, markets, and recovery resilience	• There may be more opportunities to offer advisory services and finance to projects and companies that are helping to slow or mitigate climate change • Switch in social infrastructure, such as spreading renewable energy, may open up profitable opportunities over the medium- to long-term • There may be more opportunities to provide finance for infrastructure and technological development that enhances capacity to adapt to climate change • Positive social evaluations as a financial institution helping to address climate change may translate into more business opportunities • Greater social awareness of climate change may support sales of the Group's finance products that factor in environmental considerations	• Climate-related businesses promoting a switch in social systems in areas such as energy and transportation may become the economic mainstream • A social infrastructure changeover in the medium- to long-term on the spread of renewable energy, etc. may translate into an increase in stable profit opportunities for the Group over the medium- to long-term

* Categories based on the recommendations of the TCFD

SuMi TRUST Group's Renewal Energy Initiatives

Social structures are changing considerably as a result of the mobility revolution driven by electric vehicles and automated driving, technological innovation harnessing AI and FinTech, and the digitalization of service industries. Keeping these energy-hungry technologies on track will require de-carbonization of electricity, and we think this can be achieved by adopting renewable sources of energy while concurrently reducing fossil fuel usage.

To support greater adoption and expansion of various forms of renewable energy, the Group offers a diverse array of financing such as project finance, funds, leases, and home renovation loans.



Graph includes projects in the planning stage and under construction

* SMEs: small and medium-sized enterprises;
PV: photovoltaic

Climate-related Green Finance

Through green finance, SuMi TRUST Bank not only supports the procurement of funds by businesses implementing projects that mitigate climate change, but also strives to provide services to meet the investment needs of ESG investors with a keen interest in climate change issues.

Launch of Domestic Renewable Energy Business Investment Fund for Institutional Investors

SuMi TRUST Bank was the first in Japan to utilize trust assets to launch a fund (SuMi TRUST Renewable Energy Trust Fund: Brown No,1) that invests in anonymous partnerships for domestic solar power generation projects already in operation. This investment product provides investors with trust beneficiary rights (non-pecuniary trust assets) and relies on stable cash flow backed by long-term, steady electricity sales revenue under the feed-in tariff system (fixed-price purchasing of renewable energy). The fund meets the needs of investors who seek stable income gains unaffected by economic conditions despite the harsh investment management climate dominated by negative interest rates and the like.

The trust was launched in April 2018 and aims for ¥15 billion in total AUM over the course of one year by incorporating between six and eight projects into its portfolio. This also includes investments in projects for the renewable energy funds SuMi TRUST Bank has set up and manages (see page 16). SuMi TRUST Bank also earmarks up to 10% of the fund's AUM for same-boat investments.

Launch of Green Jointly Operated Designated Money Trust

SuMi TRUST Bank continues to market green finance products so that environmentally friendly property initiatives lead to favorable financing conditions. In September 2018 it launched Green Trust, a jointly operated designated money trust that is used to raise funds for the newly acquisition of green buildings and the refinance of existing debts. This product contributes to the increase in environmentally friendly properties in the J-REIT market by allocating trust money from investors to green buildings with the CASBEE for Real Estate*1 certification by way of loans to J-REITs.

The Green Trust complies with the Green Bond Principles*2 and received the highest possible rating of "Green 1" in Japan Credit Rating Agency (JCR) Green Bond Evaluation. It is the first initiative of its kind in Japan for a jointly operated designated money trust. Loans from the Green Trust also comply with the Green Loan Principles*3 and received the highest possible rating of "Green 1" in JCR Green Loan Evaluation.

Issuance of Green Bonds

In September 2018, SuMi TRUST Bank issued its first euro-denominated green bond for overseas markets. The 2-year floating-rate green bond targeting mainly ESG investors and asset managers in Europe raised €500 million. The use of proceeds raised from green bonds is limited to renewable energy projects such as wind and solar power generation, and green projects such as the acquisition of environmentally friendly property. These projects contribute to climate change mitigation and adaption.

Our green bonds comply with the Green Bond Principles (2018) of the International Capital Market Association (ICMA) and the Ministry of the Environment's Green Bond Guidelines (2017). Our ESG initiatives have also been well received by ESG investors, who have markedly grown in number over the last few years, which resulted in the steady digestion of green bonds.

Issuing and Selling the Trust Beneficiary Rights backed by Project Finance Receivables of Renewable Energy Projects

In September 2018, SuMi TRUST Bank established a framework for issuing and selling the trust beneficiary rights backed by project finance receivables of renewable energy power generation projects.

As project finance for renewable energy expanded as a way to combat climate change, securing liquidity in the secondary market for project financing and providing ESG investors new investment opportunities became problematic. SuMi TRUST Bank has decided to utilize self-created trusts whereby the trustor themselves becomes the trustee and a notarial deed or other official document designates the activities (in this case, collection of receivables) the trust is required to perform in order to fulfill its purpose. By entrusting solar power generation project finance receivables and obtaining a green finance evaluation for the trust beneficiary rights, SuMi Trust Bank made it easier for those investors who were eager to ESG investments to access project finance. The trust beneficiary rights comply with the Green Bond Principles and received the highest possible rating of "Green 1" in JCR Green Bond Evaluation.

*1 CASBEE for Real Estate is an investor-oriented environmental performance evaluation system for buildings in Japan and is one requirement for buildings to be classified as green buildings
*2 The Green Bond Principles are global guidelines established by the International Capital Market Association (ICMA)
*3 The Green Loan Principles are global guidelines for loans established by the Loan Market Association (LMA) and the Asia Pacific Loan Market Association (APLMA)

Renewable Energy Finance

SuMi TRUST Bank promotes the adoption of large-scale projects such as wind and solar power generation through project finance and it has set up renewable energy funds and manages for the purpose of investing exclusively in large-scale renewable energy projects.

In project finance, both offshore and onshore wind power generation projects overseas are increasingly large-scale endeavors. In Japan, the number of mega-solar projects to which we provide project finance has further increased. The total potential generation capacity of projects where SuMi TRUST Bank has been involved in supplying project finance comes to 10,710MW. These projects, with annual power output of 28,844GWh, reduced annual CO_2 emissions by 12.64 million metric tons.

Total potential generation capacity of projects supported by renewable energy funds came to 440MW, with annual power output of 518GWh and annual CO_2 emission reductions of 280,000 metric tons.

In financing for installations, Sumitomo Mitsui Trust Panasonic Finance Co., Ltd. mainly provides support for mega-solar projects. Since the feed-in-tariff (FIT) system was introduced, it has supported 30 mega-solar installations with total potential generation capacity of 52MW.

Contributions to CO_2 Reduction via Renewable Energy Finance
Subtotals may not add up to totals due to rounding.

Category of power generation	Number of projects	Potential capacity (MW)	Annual output (GWh/year)	CO_2 reduction effect (10,000t/year)
Solar	95	3,841	6,149	320
Wind	26	2,462	6,470	252
Offshore wind	9	4,120	14,755	643
Other	7	342	1,537	53
Total	137	10,764	28,911	1,268

Eligibility inclusion: SuMi TRUST Bank's project initiatives linked to project finance and renewable energy funds.
Capacity calculations: Numerical values of potential generation capacity, gigawatt hours of output per year, and CO_2 reduction effect covers all projects in each category.

Subtotals may not add up to totals due to rounding.

Calculation Method for CO_2 Reduction Effect

Annual CO_2 reduction (CO_2 metric tons per year)
= annual power output (kWh/year) x
emission coefficient (CO_2 metric tons/kWh)

As a general rule, we use the forecast value for annual power output.

As a general rule for domestic projects, we use the most recently calculated emission coefficient of each electricity supplier in the electricity supply system of the region where each project is located.

As a general rule for overseas projects, we use the International Energy Agency (IEA) calculation tools provided at the GHG protocol website to calculate reduction equivalents.

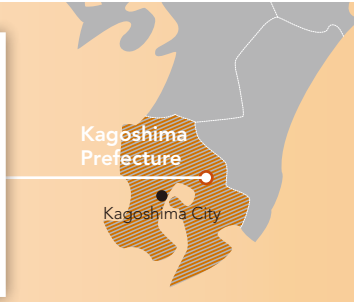
Renewable Energy Project Finance

As renewable energy has become more widely adopted, the capital costs and operating costs for such projects have declined. Overseas, power generation costs for renewable energy are nearing parity with those for other power generation sources, increasing the attractiveness of renewable energy in terms of economic rationality.

Case 1

Mega-solar in Japan

This mega-solar power generation plant—built on land in Kagoshima Prefecture originally slated for the construction of a golf course—houses enough panels capable of generating roughly 41MW. The initial amount of borrowings for this project were refinanced by SuMi TRUST Bank. The expected annual output of this mega-solar farm is around 47,200MWh, which translates to an annual CO_2 emission reduction of roughly 10,500 metric tons.



Case 2

Overseas Offshore Wind Farm

This offshore wind power generation project—located 20km from the mouth of the River Thames in the UK—is one of the world's largest with the capacity to generate 630MW. 175 turbines each with the capacity to generate 3.6MW are spread out across an area roughly 100km^2 in size. With considerable potential for offshore wind farms, the UK is driving the increase in offshore wind power generation in Europe.

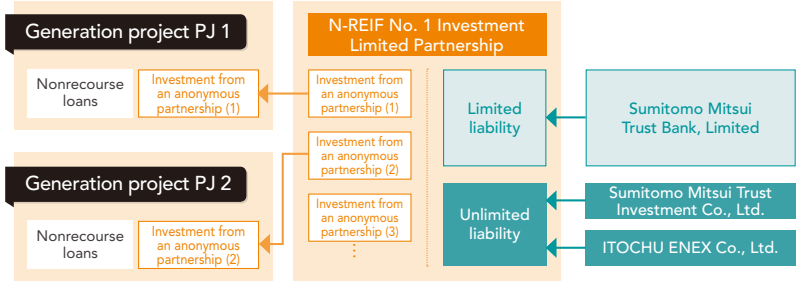
Renewable Energy Funds and Investment Products for Investors

SuMi TRUST Bank manages renewable energy funds it has set up for the purpose of investing exclusively in large-scale renewable energy projects.

As of September 2018, these funds have supplied equity funding for 24 mega-solar power generation projects and 2 wind power generation projects with total potential generation capacity of 440MW. Of the ¥180.9 billion in aggregate equity investment directed into these projects, our funds supplied total equity investment of ¥22.7 billion. These projects generate annual power output of 518GWh, commensurate to CO_2 emission reduction of over 280,000 metric tons.

* For CO_2 emission reduction calculations, we use the emission coefficient of each electricity supplier in the electricity supply system of the region where each project is located.

Renewable energy fund scheme



- We contribute by providing equity-like funding for the spread of renewable energy projects.
- We are expanding assets under management in our funds and building up an investment track record in solar and wind power, and plan to broaden the scope of our renewable energy investments to include biomass and other sources.

In April 2018 SuMi TRUST Bank launched a domestic renewable energy business investment fund for institutional investors. This investment product seeks to generate long-term, stable income gains based on the track record of solar power generation projects already in operation.

Characteristics of Trust Account Renewable Energy Brown No. 1

- Managed assets include anonymous partnership investments in already-operating domestic solar power generation projects (no development risks)
- Benefits from stable cash flow based on the feed-in tariff (FIT) system whereby renewable energy is purchased at a fixed price
- Projects that take steps to address global warming also contribute to the SDGs, ESG, and regional revitalization

Mega-Solar Projects Using Leases

Using leases to fund solar facility installations keeps the upfront investment costs for mega-solar project construction at zero, and projects can earn stable income by using the feed-in-tariff (FIT) system to wholesale at a fixed price the electricity it generates to the power supply grid. Leases are thus an effective method of financing for mega-solar projects that ensures business plan soundness.

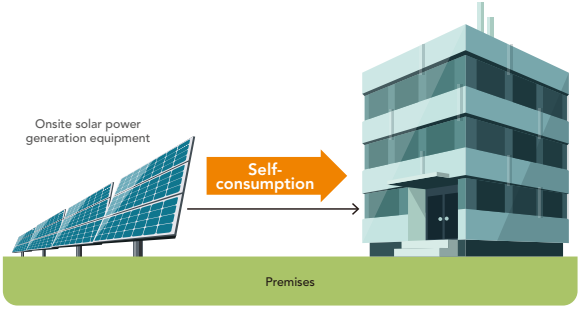
In addition to new projects, Sumitomo Mitsui Trust Panasonic Finance also provides lease-based financing options for fully operational projects that have been put up for sale to investors (secondary transactions). And in fiscal year 2018 it also started a leasing and installment plan support service for offshore floating mega-solar power plants.

The Group will continue to fuse its extensive know-how honed thus far with financial services to offer schemes that best meet the needs of increasingly sophisticated renewable energy projects.

Onsite Self-consumption Solar Power Generation

We launched a service to supply renewable energy for self-consumption by leveraging solar power equipment installed onsite.

Sumitomo Mitsui Trust Panasonic Finance formed a partnership with a reputable solar power producer to launch a business that supplies electricity to companies using solar power equipment installed on their premises or buildings. This venture helps companies reduce their own CO_2 emissions and their "scope 3" greenhouse gas emissions, and meets the needs of those participating in the SBT and RE100 initiatives. The construction of new solar power generation facilities also aims to contribute to Japan's future vision of drawing most of its power from renewable energies.



Micro-Power Generation in Water Supply Systems

Sumitomo Mitsui Trust Panasonic Finance proposes ideas for adopting micro-power generation systems in water supply systems across Japan, and promotes global warming mitigation measures and the use of natural energy in the regions.

In Japan's water supply systems, there is an enormous amount of energy that can be used from unutilized vertical drops in non-pressure flow pipes, surplus pressure in pumped supply pipes, and reduced pressure from pressure-reducing valves. The Group borrows water facilities from local governments to deliver a business financing scheme with no upfront investment costs by installing power generation systems under a leasing system.

As of October 2018, the highly efficient power generation systems used in this scheme have been installed at 12 water facilities (including those scheduled to be installed) across Japan to produce a total 326kW of power.

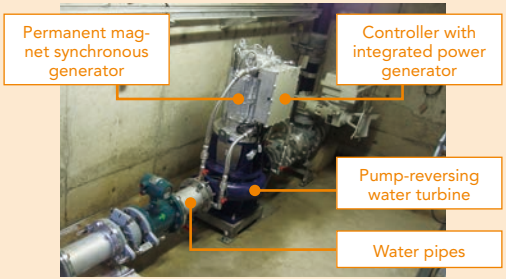
Characteristics of micro-power generation systems

High efficiency: Efficient power generation system developed with inverter controls
Low cost: System configuration uses general-purpose pumps, low-cost magnets, and standardized parts
Compactness: Power generator and control device are stacked on top of each other to minimize installation space

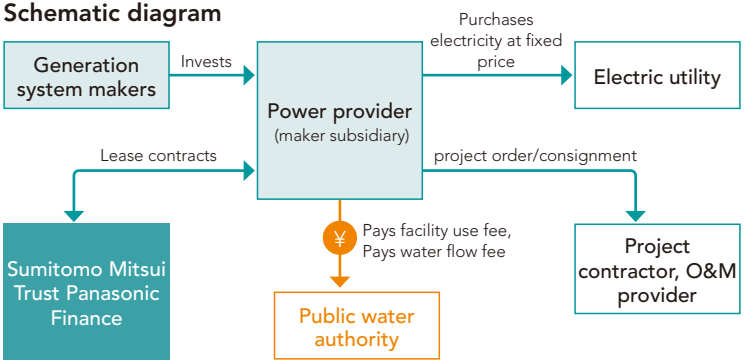
Characteristics of leasing system (advantages for local governments)

- No upfront investment costs on project launch
- Power provider manages and maintains the system
- Stable lease revenue and receipt of property tax

Newly developed micro-power generation system for water supply systems



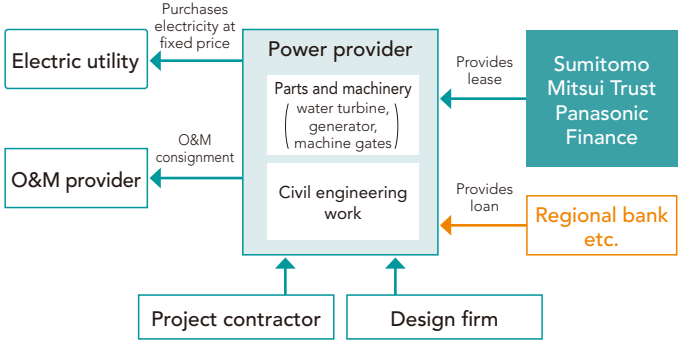
Schematic diagram



Small and Mid-sized Power Generation in Rivers

Japan's river systems have the potential to generate 14GW of electricity through the installation of small or mid-sized generators and its agricultural water supply channels 300MW, according to the results of a Ministry of the Environment survey. Sumitomo Mitsui Trust Panasonic Finance is helping to revitalize regional communities through joint initiatives with regional banks aiming to use each region's untapped hydropower potential.

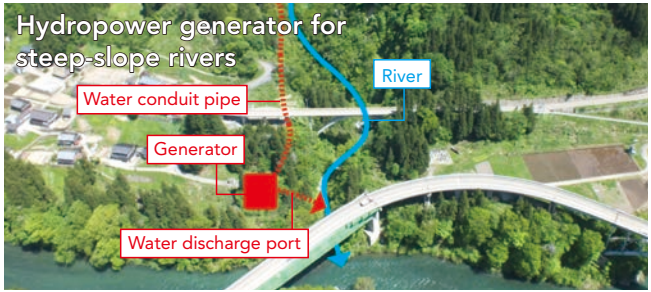
Schematic diagram of collaboration with regional banks



Small and mid-sized hydropower potential, actual adoption capacity

	Potential aggregate output	Breakdown by category	
Maximum aggregate potential in Japan*1	14.3GW	River systems Agricultural supply channels	14GW 300MW
Potential with FIT system*1	1.06～4.3GW	River systems Agricultural supply channels	900M～4.06GW 160～240MW
Approved for installation post-FIT adoption*2	1,170MW		
Installations post-FIT adoption*2	310MW		

*1 Ministry of the Environment's fiscal 2010 survey report on the adoption potential for renewable energy
*2 Agency for Natural Resources and Energy's website (accessed in March 2018)



Hydropower generation could be a source of renewable energy for Japan, which is blessed with many high-flow, steep-slope rivers. In cases where the feed-in-tariff (FIT) system is used, the maximum aggregate potential from installing small and mid-sized hydropower generators is estimated at 4.3GW.

Small and mid-sized power generators approved for installation since the FIT system's introduction have total output of 1,170MW, and of those, the ones in use have 310MW, indicating there is still scope for new installations.

It is possible to install hydropower generators that factor in the environment such as run-of-the-river small and mid-sized hydropower generators that use the shape of rivers or existing agricultural water supply channels and do not require building large dams.

Biomass Gas Generation

We support adoption of biomass gas generation facilities that convert food waste and other organic waste into biogas for electricity generation.

At a biomass gas power generator, organic waste—such as food waste, livestock urine and manure, and organic sludge from sewage and wastewater—is fermented and combustible gases, mainly methane, are extracted and used as fuel to generate electricity. Under the Food Recycling Law, the recovery of heat from food waste is recognized as a form of recycling provided certain conditions are met, and the power generated can be resold at a fixed price using the FIT scheme. The value of biomass gas systems is in improving overall energy efficiency through the effective use of both electricity and heat.

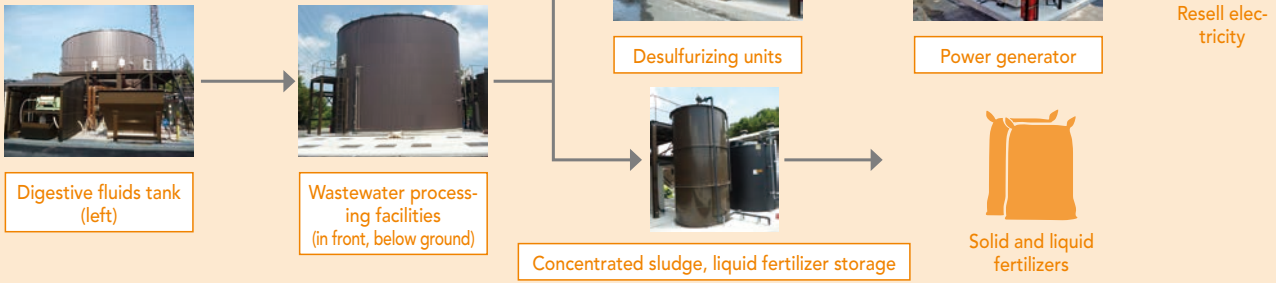
Merits

- Curtails volume of waste produced, reduces waste disposal costs
- Earns income from reselling electricity via the FIT system
- Curtails putrid odors due to fermentation, reduces release of bad smells to nearby areas
- Byproducts like post-fermentation, digested slurry can be recycled as a liquid fertilizer

Wastes eligible for usage

- Food waste, food residues
- Livestock urine and manure
- Organic sludge, etc. from sewage and wastewater

Flow diagram of a Biomass Gas Generation System



Response to Freon Regulation

We support the introduction and increased use of appliances that do not use chlorofluorocarbons (CFCs) in order to curtail the use and emission of CFCs into the atmosphere and promote a low-carbon society. CFCs cause global warming and harm the ozone layer.

CFCs used in industrial freezers and refrigerators for food retailers, food manufacturing plants, and refrigerated warehouses cause ozone layer depletion and also contribute to global warming; the greenhouse effect of CFCs is up to 20,000–30,000 times greater than CO_2 emissions. With the aim of tightening restrictions on the use of CFCs, the Act on Rational Use and Proper Management of Fluorocarbons was fully enforced on April 1, 2015. This law calls on the users of appliances to implement proper management of appliances and CFCs.

Sumitomo Mitsui Trust Panasonic Finance supports the introduction of energy-efficient refrigerators and freezers that use agents found in the natural world as refrigerants, such as ammonia, hydrocarbon, and carbon dioxide. The introduction of appliances that do not use CFCs are expected to reduce environmental burdens, lower electricity and management costs, and prevent overlapping investment in measures to address tighter regulations on refrigerants in the future.

Businesses accelerating the introduction of energy-efficient natural refrigerant equipment for the purpose of eliminating harmful CFCs and realizing a low-carbon society as soon as possible (subsidies offered by the Ministry of the Environment, etc.) * Case example in fiscal 2018

Purpose: To promote the reduction of greenhouse gases by lowering CFC emissions and cutting electricity use
Targeted businesses: Refrigerated warehouses, food manufacturing plants, food retailers

Eligible businesses: Businesses that adopt energy-efficient natural refrigerant equipment with cutting-edge technology
Subsidy rate: Half of expenditure for small and medium-size firms and one-third for large companies for refrigerated warehouses; one-third for food manufacturing plants and food retailers

A non-freon freezer unit and a non-freon freezer showcase

Kigali Amendment to Montreal Protocol to Regulate Freon Alternatives (Developed nations)

Base year	2011—2013
Baseline value (CO_2 equivalence)	Avg. HFC volume in each year + 15% of HCFC* baseline value
Launch year for regulation	2019
Target year	2036
Target reduction	85%

* HCFC: Hydrochlorofluorocarbons

Support for CO_2 Reduction of Buildings

Consulting to Support Applications for "CASBEE for Real Estate" Certification

CASBEE for Real Estate is an environmental performance evaluation system developed with the aim of increasing the stock of buildings with superior environmental performance in real estate market and promoting its use among investors for investment decision-making. There is extensive use of the system, especially among REITs and real estate companies, and SuMi TRUST Bank has consulting businesses that support property owners applying for the CASBEE for Real Estate certification.

Evaluation categories in CASBEE for Real Estate

- Energy/ Greenhouse gases
- Water
- Use of resources/ Safety
- Biodiversity/ Sustainable site
- Indoor environment

Construction-Phase Support for Environmental Considerations

Improving energy efficiency is the most important theme in the environmental performance of buildings. SuMi TRUST Bank in its construction consulting business provides advisory services on how to improve in a comprehensive manner the environmental performance of buildings in ways such as installing energy-saving systems, taking into account landscapes and ecosystems, extending building life spans, and adopting recycling systems.

There are some projects we advised that have been recognized and awarded subsidies by the "leading projects" program for sustainable buildings (formerly known as "leading projects for promoting CO_2 reduction" program for housing and buildings), sponsored by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and the "net zero energy building" experimental pilot program, sponsored by the Ministry of Economy, Trade, and Industry (METI).

An example of a building where we provide construction-phase support for environmental considerations: Shimane Bank's head office building
(Selected in 2014 for the 1st "leading projects for promoting CO_2 reduction" program for housing and buildings (currently known as "leading projects" program for sustainable buildings))

Home Renovation Loans for Smart Houses

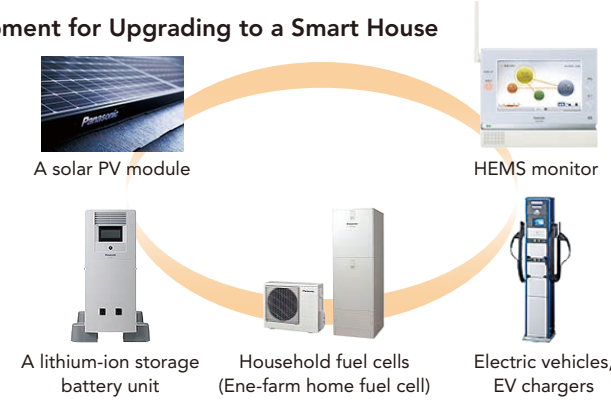
Homes have advanced so that they can wisely use electricity generated onsite; through our home renovation loans, we support remodeling homes into "smart houses."

A smart house can efficiently generate and store its own power supplies by combining solar PV panels, storage battery units, and household fuel cells. Energy-saving functions that enable dwellers to control electricity consumption to match their lifestyles and weather conditions have improved. From 2019 there will be a huge influx of household solar power generation equipment for which the surplus electricity purchasing scheme has ended, therefore the conversion of existing homes into "smart houses" will become a key topic in addressing global warming.

With the liberalization of retail sales of electricity and gas to households in Japan, energy and telecommunication sector companies are increasingly partnering to provide bundled services such as combined sales of telecom or broadcast with electricity generated from various sources. There has also been progress in developing products that have multiple functions of housing, home appliances, and vehicles.

Since the system for purchasing surplus electricity from solar panels was established, Sumitomo Mitsui Trust Panasonic Finance has contributed to the adoption and spread of household solar panels with its solar loans. The cumulative sum of solar loans it has executed as of September 2018 is ¥71.5 billion. Through our partnerships with equipment vendors and installers, we support remodeling homes into "smart houses" with our renovation loans.

Equipment for Upgrading to a Smart House



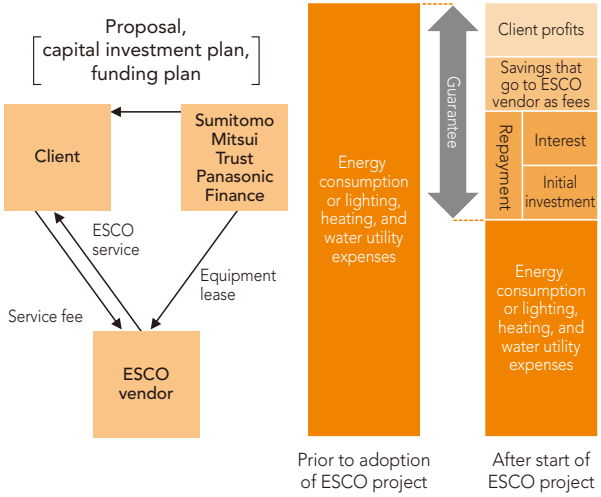
A smart house

Financing for ESCO Service Adoption

Sumitomo Mitsui Trust Panasonic Finance collaborates with energy service companies (ESCOs) to provide comprehensive energy conservation services from installation of energy-saving equipment to maintenance and management.

ESCOs provide comprehensive services for energy saving and guarantee a level of energy savings. Through the use of leases, aging facilities can be replaced at zero upfront cost and, in cases where certain conditions are met, subsidies can be utilized. ESCOs propose ideas that both help preserve the environment via energy conservation while reducing the costs of utilities such as water, lighting, and heating as well as operating and maintenance costs.

Outline of ESCO concept



* Case where a client adopts a shared model, one form of an ESCO project

Example: ESCO Proposal for a General Hospital

Energy conservation menu

Heat source: Construct hybrid heat source system, install high-efficiency steam boiler
Air conditioning: Improve air conditioning control system, install variable air volume controls, install inverters
Lighting: Install LED lighting
Monitoring: Add energy management functions

Energy conservation subsidy (initial)	¥176,591,000

Projected boost to earnings (annual)

Lower water, lighting, and heating costs	¥80,468,000
Fees paid for ESCO project	¥77,598,000
Annual boost to earnings	¥2,870,000

Reduction to environmental impacts (annual)

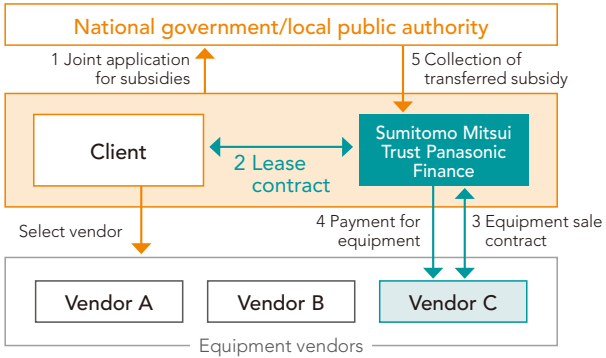
CO_2 reductions: 1,459t-CO_2 (down 19.0%)
Electricity use reductions: 172,473kWh (down 7.7%)
Gas use reductions: 598,102ℓ (down 44.7%)
Water use reductions: 9,892m^3 (down 41.9%)
(environmental impacts are estimates)

One-Stop Services for Energy-Saving Investment: Subsidy-Eligible Leases

We offer one-stop services that support all processes from planning for energy-saving investments to asset operation.

- Our one-stop service menu ranges from energy-saving assessments, examinations to identify energy-saving measures, equipment selection, subsidy applications, and securing financing to maintenance services.
- The use of leasing means energy-saving equipment can be installed with no upfront investment costs.
- Securing subsidies lowers upfront investment costs, enabling recipients to benefit even more from energy savings and cost reductions.
- We offer tailored proposals through partnerships with manufacturers and installers.

Flow Chart Mapping Out the Use of Subsidies

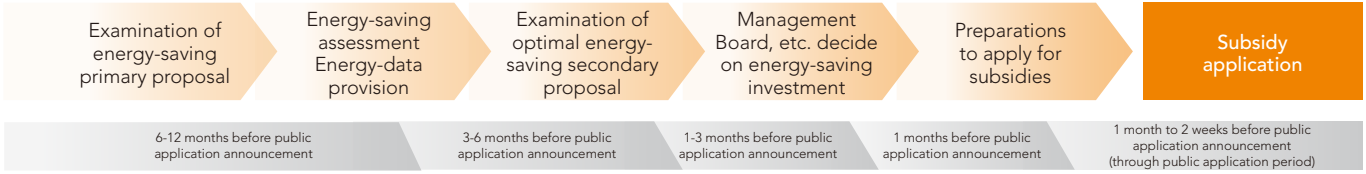


Main subsidy systems

- Subsidy support for rationalizing energy use at SMEs
- Subsidy for businesses that promote net zero energy buildings (ZEB) and decarbonization at institutional facilities
- Subsidy for businesses that support the construction of decentralized energy systems
- Subsidy for businesses that adopt energy-efficient natural refrigerant equipment with cutting-edge technology

*1 Certain conditions must be met to be eligible to apply for subsidies
*2 Subsidy systems are subject to change

Stages in the Subsidy Application Process



Energy Management Services Using Leases: Examples

We offer comprehensive support from the planning and installation stages to energy management services.

Specific investment ideas

1. Installation of high-efficiency freezers and showcases
2. Installation of non-freon equipment
3. Switch to LED lighting
4. Adoption of integrated control systems

Post installation savings

1. Electricity consumption lowered by about 2.5GWh per year (25% cut)
2. Electricity bill lowered by about 4.2 million yen per year
3. Maintenance cost lowered by about 540,000 yen per year

Key points

1. A one-stop service menu from energy-saving consulting, equipment investment planning, and financing to post-installation energy management services
2. Use of subsidies lightens investment costs
3. Reduction of management operations associated with the Act on Rational Use and Proper Management of Fluorocarbons

Example: A store that remodeled by installing high-efficiency freezers, showcases, and LED lighting

Energy-Saving Consulting: Energy Management Services

Sumitomo Mitsui Trust Panasonic Finance
(Total management includes fund raising)

- Visualize energy consumption
- ICT automatic controls
- Energy management services
- Maintenance
- Energy-saving assessments
- Energy-saving consulting services

Clients

Propose the most appropriate menu of options

Open platform of Sumitomo Mitsui Trust Panasonic Finance

Various energy-saving menu options

Remote monitoring, operational improvements, energy-saving renovations, improved heat source efficiency, lighting, air conditioning etc.

Sumitomo Mitsui Trust Panasonic Finance × Manufacturers, engineering firms, installers

Initiatives to Reduce CO_2 Emissions from Business Activities

Energy Usage and CO_2 Emissions (Domestic Bases)

Energy usage		FY2013	FY2014	FY2015	FY2016	FY2017
Total volume of energy usage (heating value)	GJ	954,891	913,437	846,829	801,370	736,011
Total volume of energy usage (converted to crude oil)	kl	24,636	23,566	21,848	20,675	18,989
Energy usage intensity	kl/m²	0.055	0.053	0.051	0.049	0.047
Electrical power	thousand kWh	79,932	76,768	71,206	66,742	60,444
City gas	thousand m³	2,502	2,398	2,153	2,107	1,996

CO_2 emissions		FY2013	FY2014	FY2015	FY2016	FY2017
Greenhouse gas emissions volume	t-CO_2	50,605	48,918	43,816	40,833	37,068
Greenhouse gas emissions after adjustment	t-CO_2	42,219	48,426	43,470	40,393	36,240
Emissions intensity	t-CO_2/m²	0.114	0.111	0.103	0.098	0.093
Emissions intensity (after adjustment)	t-CO_2/m²	0.095	0.110	0.102	0.097	0.091
Scope 1 emissions volume	t-CO_2	5,806	5,577	5,002	4,907	4,575
Scope 2 emissions volume	t-CO_2	44,798	43,340	38,813	35,925	32,493

Scope of calculations:
SuMi Trust Bank facilities in Japan subject to the Act on the Rational Use of Energy; Group companies are tenants in some facilities.

Calculation method:
Calculations conform to the method in the Act on the Rational Use of Energy.

Some subtotals may not add up to totals due to rounding.

CO_2 Emissions at Bases Subject to the Tokyo Metropolitan Ordinance on Environmental Preservation

		No. 1 plan period (cumulative)	No. 2 plan period					
		Four bases	Four bases		Two bases	Head Office		
		FY2010—FY2014	FY2015	FY2016	FY2017	FY2015	FY2016	FY2017
Standard emissions	t-CO_2	146,153	38,446	39,224	28,921	13,287	13,287	13,287
Mandatory reduction ratio	%	8	17	17	17	6	6	6
Maximum emissions limit	t-CO_2	134,467	31,912	32,558	24,005	12,490	12,490	12,490
Mandatory reduction	t-CO_2	11,686	6,534	6,666	4,916	797	797	797
CO_2 emissions	t-CO_2	95,350	21,024	14,566	14,359	10,711	10,912	10,566
Emissions reduction	t-CO_2	50,803	17,422	19,586	14,562	2,576	2,375	2,721
Excess reduction	t-CO_2	39,117	10,888	12,920	9,646	1,779	1,578	1,924
Emission permits awarded	t-CO_2	47,540						

The emission figures in the table above show the reduction status at SuMi TRUST Bank's four bases with regard to the "mandatory reductions in total greenhouse gas emissions" and the "mandatory reductions in total greenhouse gas emissions via the emissions trading system" proscribed in the Tokyo Metropolitan Ordinance on Environmental Preservation (The four bases are the Fuchu Building, Shiba Building, Chofu Building, and Meguro Building). The Chofu Building and Meguro Building have been excluded from these results starting in fiscal year 2017. The head office building is a multi-tenant building with mandatory reductions that came into effect from fiscal year 2015 but SuMi TRUST Bank's mandatory reductions have not yet been finalized and so this data is shown in two columns in a separate table. Our emission reporting has been verified by a third-party assessment organization. The coefficients used to calculate emissions for the No. 1 plan period and the No. 2 plan period differ, so the performance over time of these periods cannot be compared.

Sumitomo Mitsui Trust Bank, Limited Corporate Planning Department, Sustainability Promotion Office
1-4-1, Marunouchi, Chiyoda-ku, Tokyo 100-8233, Japan
Telephone: +81 (3) 6256-6251 Facsimile: +81 (3) 3286-8741 URL (only Japanese is available): http://smtb.jp/csr/

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