We aim to become an excellent company that lives up to the public’s expectations by strengthening our environmental management.

**Chapter 4 Management**

**Basic policy**

In an effort to support "Business" activities for manufacturing and products and services, Toshiba Group is also promoting “Management” initiatives to enhance the basis for environmental management.

In our Management initiatives, we place the highest priority on ensuring compliance to raise the level of our environmental activities by maintaining a check system based on our original environmental audits as well as through environmental education for employees and human resource development programs. In addition, we also focus on improving information disclosure, developing networks with stakeholders, and conserving biodiversity.

**Major Results for FY2018**

| Environmental Management Structure | • Number of Toshiba Group environmental audits conducted (cumulative) : over 5,000 |
| Environmental Risks and Compliance | • Enhancement of compliance with global environmental regulations, environmental human resource development at production sites |

| Environmental Communication | • Toshiba Group Environmental Report 2018 won the award of merit in the Environmental Communication Awards held by the Ministry of the Environment of Japan |
| | • The 27th Toshiba Group Environmental Exhibition was held with 2,600 visitors |
| | • Educational programs for elementary school children was conducted approximately 30 times |
| | • Over 650 environmental actions, such as environmental events and education, were implemented at our sites worldwide |

| Conservation of Biodiversity | • Activities to achieve Aichi Targets were carried out at approximately 66 sites worldwide |

We appreciate your opinions and comments about this report. [Questionnaire for Environmental Report 2019](#)
Results of FY2018 and future initiatives

Under the Sixth Environmental Action Plan that has started in FY2017, we promote activities to achieve three goals: ensuring environmental risk compliance, promoting environmental communication, and conserving biodiversity.

To achieve the first goal of ensuring environmental risk compliance, to enhance compliance with global environmental laws and regulations regarding products and services, we collected and evaluated the impacts of legal information worldwide, shared information through meetings in a timely manner, and implemented human resource development measures such as education. In addition, we actively worked to strengthen human resources at production sites by holding study sessions on compliance and environmental management targeting persons responsible for environmental matters at our sites in China.

To achieve the second goal of promoting environmental communication, we worked to enhance appropriate information disclosure. As a result of these efforts, Toshiba Group Environmental Report 2018, Annual Report 2018, and CSR Report 2018 won the award of merit in the Environmental Communication Awards held by the Ministry of the Environment of Japan. We also promoted the development of networks with stakeholders in various ways. We conducted educational programs for elementary school children at Toshiba Science Museum and peripheral elementary schools at approximately 30 locations, and held Toshiba Group Environmental Exhibition with the theme of SDGs in February with nearly 2,600 visitors. At our sites worldwide, we conducted a wide range of activities as part of a Global Environmental Action program including environmental

To achieve the third goal of conserving biodiversity, we set 10 of the 20 Aichi Targets, which are global targets, as goals for Toshiba Group and implemented activities according to the characteristics of each region such as “Promoting environmental education inside and outside the company (Aichi Target 1),” “Invasive alien species countermeasures by weed control (Aichi Target 9),” and “Protecting endangered animals and plants (Aichi Target 11)” at our approximately 66 global sites.

Main activities with stakeholders

<table>
<thead>
<tr>
<th>Measures to take</th>
<th>Main activities</th>
</tr>
</thead>
</table>
| Improvement of information disclosure | • Issue of Environmental Report  
• Disclosure of Environment Website  
• Introduction of environmental activities at exhibitions  
• Development of environmental advertisements  
• Environmental labeling on products  
• Issue of Integrated Report and CSR Report |
| Network building | • Holding educational programs for elementary school children  
• Implementing Global Environmental Action  
• Holding investor briefing and dialog  
• Holding stakeholder dialogs  
• Employee education / enlightenment activities  
• Cooperation with other communities in environmental activities  
• Participation in external bodies / suggestion toward industry standardization  
• Holding briefing sessions for green procurement |

Toshiba Group's stakeholders

- Governments and public bodies
- Customers
- NPO-NGO
- Employees
- Local communities
- Shareholders / investors
- Suppliers
- Recognized as an environmentally advanced company
- Foster a trusting relationship
- Toshiba Group
- Ongoing dialog  
  • Collaboration in social contribution activities, etc.
- Provision of environmental information on products and services
- Environmental education  
  • Participation in social contribution activities
- Improvement of information disclosure
- Disclosure of Environment Website  
- Introduction of environmental activities at exhibitions  
- Development of environmental advertisements  
- Environmental labeling on products
- Issue of Integrated Report and CSR Report
- Network building
- Holding educational programs for elementary school children  
- Implementing Global Environmental Action  
- Holding investor briefing and dialog  
- Holding stakeholder dialogs  
- Employee education / enlightenment activities  
- Cooperation with other communities in environmental activities  
- Participation in external bodies / suggestion toward industry standardization  
- Holding briefing sessions for green procurement
- Toshiba Group Environmental Report 2019 — 52 —
Environmental Management Structure

Toshiba Group is promoting environmental management worldwide as a group. There are four pillars upholding our environmental management: (1) strengthening of the management structure, (2) provision of environmentally conscious products and services, (3) development of environmentally conscious manufacturing, sales, and processes, and (4) promotion of environmental communication. We take active measures to promote initiatives focused on these objectives.

Corporate Environment Management Office develops and implements important corporate-level policies, strategies, and measures with the approval of senior managers and makes them fully known to all personnel of the company. Specifically, Toshiba semiannually convenes the Corporate Environmental Management Committee, a group-wide decision-making organization regarding environmental management chaired by the Corporate Environmental Officer, which consists of environmental promotion managers of key group companies and corporate staff division managers. Meetings of the Committee make proposals for environmental measures related to management, technological development, production, and sales; confirm and follow up on the progress of the Environmental Action Plan to achieve Environmental Vision; discuss and decide the overall policy and plans for environmental management; and make the company-wide policy fully known to all managers and employees. Key environmental related measures and policies discussed in the Corporate Environmental Management Committee are explained to Directors in a meeting of the Audit Committee Hearing held every year and to the Chairman and President in a management meeting or a regular meeting of executive officers.

The following committees are organized as subgroups of the Corporate Environmental Management Committee: The Product Committee, which manages the development of environmentally conscious products and technologies, and the Business Process Committee, which promotes efforts to reduce the environmental impacts in business activities. These committees formulate detailed plans, identify potential problems, review measures implemented to solve problems, and promote the sharing of information among all company members. Various working groups specializing in particular themes are engaged in activities in a wide range of areas under the supervision of these committees.

Toshiba Group environmental management structure
Global environmental management structure
Toshiba Group has established a corporate regional headquarters in China, where we have an especially large number of production sites, to ensure local environmental management. In addition, in Europe, the U.S., and Asia-Oceania, we work together with the relevant regional headquarters to collect and share information on environmental policies and regulations in each region and to collaborate and provide support for group companies in these regions to develop effective environmental strategies.

We also have an auditing system through which we provide training for local auditors who conduct the environmental audits of overseas sites.

ISO 14001
In recognition of the importance of activities at our sites in promoting environmental management, we obtained ISO 14001 certification for all of Toshiba Corporation’s sites in Japan by 1997. Currently, Toshiba Group’s 65 sites have obtained the certification.

Key group companies such as Toshiba Energy Systems & Solutions Corporation, Toshiba Infrastructure Systems & Solutions Corporation, Toshiba Electronic Devices & Storage Corporation, and Toshiba Digital Solutions Corporation are striving to obtain integrated certification for their headquarters, sales offices, production sites, and their group companies in order to develop environmental management systems for entire group companies.

Number of ISO 14001-certified sites

<table>
<thead>
<tr>
<th>Business domains</th>
<th>Number of certified sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate</td>
<td>8</td>
</tr>
<tr>
<td>Energy Systems &amp; Solutions</td>
<td>9 (including integrated certification)</td>
</tr>
<tr>
<td>Infrastructure Systems &amp; Solutions</td>
<td>26 (including integrated certification)</td>
</tr>
<tr>
<td>Retail &amp; Printing Solutions</td>
<td>14</td>
</tr>
<tr>
<td>Storage &amp; Electronic Devices Solutions</td>
<td>5 (including integrated certification)</td>
</tr>
<tr>
<td>Industrial ICT Solutions</td>
<td>3 (including integrated certification)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
</tr>
</tbody>
</table>

Note: As of August 30, 2019

Environmental Management Information System
We have developed an Environmental Management Information System in order to collect and manage environmental data required to promote environmental management.

The Environmental Management Information System makes it possible to centrally manage and register not only performance data, such as energy consumption required for business activities and the amount of waste generated from these activities, but also environmental accounting information and the results of site environment audits. It covers all consolidated subsidiaries within the scope of management of Toshiba Group (350 companies in FY2018) and is accessible from countries around the world.

Global support system

Toshiba Intranet

We have developed an Environmental Management Information System in order to collect and manage environmental data required to promote environmental management.

The Environmental Management Information System makes it possible to centrally manage and register not only performance data, such as energy consumption required for business activities and the amount of waste generated from these activities, but also environmental accounting information and the results of site environment audits. It covers all consolidated subsidiaries within the scope of management of Toshiba Group (350 companies in FY2018) and is accessible from countries around the world.
Environmental Management Structure

Environmental Audits

Toshiba Group’s environmental audit system

After conducting environmental audits for the first time in 1989, Toshiba Group developed a comprehensive environmental audit system and has been using the system since FY1993 to conduct audits based on standards established by the group. The audit system initially developed was composed of four categories: (1) management system audits (environmental promotion systems, etc.), (2) on-site audits (levels of compliance with rules regarding Environmental Action Plan, etc.), (3) VPE audits (levels of achievement of goals set in the voluntary plan), and (4) technology audits (product environment management system, environmental performance, etc.). Audits were conducted over two days to check these items. The most unique of these categories was on-site audits, reflecting the shop-floor approach. This approach is incorporated into the environmental audits of sites conducted today.

Environmental technology audits of products became an independent category in FY1995. Environmental management audits were started in FY2004 to evaluate the level of environmental management in key group companies.

Since FY2006, these multiple audits have been systematized so that they can be conducted as one of three types: (1) environmental management audits covering key group companies, (2) environmental technology audits of products covering various divisions, and (3) environmental audits of sites covering production sites and non-production sites that consume large amounts of power. Group companies conduct self-audits (self-inspections) within their companies based on the same standards in order to check their sites with relatively low levels of environmental impacts that are not covered by site environmental audits.

Audit items for these three audits are reviewed annually to improve the evaluation level. During FY2012 to FY2016, we evaluated the level of environmental management based on audit items linked to the goals of the Fifth Environmental Action Plan. To further enhance environmental management, starting in FY2017, we have been evaluating the level of environmental management based on audit items linked to the goals of the Sixth Environmental Action Plan and confirm the details of specific initiatives.

Toshiba Group’s environmental audit system

Environmental management audit

Audit targets: six key group companies

<table>
<thead>
<tr>
<th>No.</th>
<th>Items to be confirmed (Number)</th>
<th>Number of non-conforming or recommendation items</th>
<th>Number of good examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Environmental policies and systems (14)</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Legal compliance and risk management (9)</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Business processes (11)</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Products and services (15)</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Information disclosure and communication (7)</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Supply chain management (2)</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Main non-conforming or recommendation item examples

- Incomplete information sharing on cases of potentially dangerous minor incidents
- Deterioration of the improvement rate for CO2 emissions per unit activity due to the management of energy-derived CO2 per unit activity with low correlation

Main good examples

- The analysis results from questionnaires answered by those who received environmental education are used for the education in the following year
- The results of site environmental audits are comprehensively analyzed to examine common issues and improvement measures

Environmental technology audit of products

Environmental technology audits of products are intended to improve environmental quality of products and increase contribution to the environment by confirming the level of conformance with ECP* standards set for each product (group) to ensure the environmental quality of products and the relevant legal requirements and also the status of activities to create Environmentally Conscious Products (ECPs), which aim to create products that contribute to reducing environmental impacts while they are introduced and used by customers.

<table>
<thead>
<tr>
<th>Product area</th>
<th>Main comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Systems &amp; Solutions</td>
<td>Product development plans that contribute to reducing environmental impacts are being clarified and the challenging of 3R initiatives for products is also being promoted. Firm compliance with environmental regulations.</td>
</tr>
<tr>
<td>Infrastructure Systems &amp; Solutions</td>
<td>Industry-specific ECP promotion activities are being clarified and business opportunities through contribution to the environment are being created.</td>
</tr>
<tr>
<td>Retail &amp; Printing Solutions</td>
<td>The performance of the Environmental Action Plan exceeded that of last year in MFPs and each business division is steadily implementing the new evaluation item “ECP creation system and policy.”</td>
</tr>
<tr>
<td>Storage &amp; Electronic Devices Solutions</td>
<td>Product development plans that contribute to environmentally conscious design are being clarified and a mechanism to secure compliance with legal regulations through to product shipment has been created.</td>
</tr>
<tr>
<td>Industrial ICT Solutions</td>
<td>The contribution of products and services is visualized (CO2 reduction at customers, etc.) by using a customer check sheet and is incorporated into ECP activities.</td>
</tr>
</tbody>
</table>

*Environmentally conscious products
Environmental audit of sites

Environmental audits of sites are intended to improve the environmental management of sites by confirming the environmental management of sites, site management, and level of compliance.

Evaluation levels of environmental audit of sites in FY2018

Level evaluation
- A: Toshiba top level
- B: High level
- C: Fulfillment of Toshiba requirements
- D: Fulfillment of legal requirements
- E: Non-fulfillment of legal requirements

Performance Evaluation System

Reflecting the level of environmental management in performance evaluation

We evaluate the environmental management of key group companies based on Toshiba Group’s comprehensive environmental audit system. Out of 58 items in the 6 areas of environmental management audits, we extract high priority items in the Sixth Environmental Action Plan as evaluation items to evaluate environmental management. In FY2018, we extracted 10 items in the following 2 areas to perform quantitative evaluation: (1) Business processes and (2) Products and services. Also, we submit evaluation results to the Evaluation Committee to reflect the results in each company’s performance evaluation.

Toshiba Group’s environmental audit records

We conduct over 300 audits, including self-audits, annually, and the total number of audits conducted since FY1993 exceeds 5,000. We also provide in-house training for auditors who conduct audits.
Environmental Education and Human Resource Development

- Environmental education and human resource development
  In order to raise the level of environmental activities, we provide environmental education programs for all employees. These education programs are composed of (1) management education courses, (2) general education courses, (3) ISO 14001 education courses, and (4) specialized education courses, offering curricula designed to meet the needs of different posts, occupational roles, and specialties. All curricula for these courses are reviewed annually in order to help employees share the latest information.

- Environmental education system

<table>
<thead>
<tr>
<th>Management education</th>
<th>Education for management</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>e-learning (for all Toshiba Group members)</td>
</tr>
<tr>
<td></td>
<td>Education for new employees</td>
</tr>
<tr>
<td></td>
<td>Education for managers</td>
</tr>
<tr>
<td>ISO 14001 education</td>
<td>Education for employees</td>
</tr>
<tr>
<td></td>
<td>Education for managers</td>
</tr>
<tr>
<td></td>
<td>Education for special employees</td>
</tr>
<tr>
<td></td>
<td>Training courses for internal auditors</td>
</tr>
<tr>
<td>Specialized education</td>
<td>Education for certification of site environmental auditors</td>
</tr>
<tr>
<td></td>
<td>Education for certification of product environmental technology auditors</td>
</tr>
<tr>
<td></td>
<td>Education on introduction to environmentally conscious design</td>
</tr>
</tbody>
</table>

- Environmental e-learning
  We provide an environmental e-learning program once a year to all employees worldwide. This program helps employees deepen their understanding of global environmental issues and Toshiba Group’s environmental initiatives.

- Education for new employees
  We provide interactive environmental education to new employees in April every year to encourage them to become business persons and members of society with high environmental awareness.

- Training for auditors
  We provide training for auditors for our in-house environmental audits, which were put into practice in 1993. In the training program for site environmental auditors, candidates are screened through group education, on-site training, and a written examination. After the screening, candidates participate in actual audits as assistants and submit reports in order to be certified as auditors. Product environmental technology auditors are certified through group education and a written examination. In FY2018, 26 employees were certified as site environmental auditors, 6 as product environmental technology auditors, and 8 as overseas local auditors. The current number of certified auditors is 324 in total.

- Process for certification of site environmental auditors

  | Education and written examination (1 day) |
  | Chosen as a candidate |
  | Practical training |
  | Assistance in audits (2 days, twice) |
  | Submission of audit reports (twice) |
  | Certified as an auditor |

- Knowledge required
  - Global environmental issues
  - Environmental laws and regulations
  - ISO environmental management system
  - Environmental science and technology
  - Toshiba’s environmental promotion rules and structural design guidelines, etc.

- Requirements for auditors
  - Employment in a position equivalent to or higher than section chief

- Requirements for assistant auditors
  - Those who are approved by the supervisor depending on their experience and skills

- Others
  - Education sessions are held once a year
Environmental Accounting

As a tool for environmental management

With a view to promoting environmental management, Toshiba Group is working to introduce an environmental accounting approach aimed at collecting accurate data on investments and costs required for its environmental conservation initiatives and analyzing the collected data in order to reflect investment effects and cost benefits in managerial decision making.

Environmental costs are calculated in accordance with the Ministry of the Environment’s Environmental Accounting Guidelines 2005. To assess benefits, we show reductions in environmental impacts in physical amounts and also calculate benefits on a monetary basis.

Environmental costs and benefits

Total environmental costs increased by 23% from FY2017 to 23 billion yen. The breakdown of environmental costs by business segment shows that the social infrastructure business incurred the largest costs, followed by the electronic device business and then by the energy business.

Total investments decreased by 7% from FY2017 to 3.5 billion yen.

The total amount of environmental benefits was 6.7 billion yen. The breakdown of the total is as follows: actual economic benefits were 2.8 billion yen and assumed economic benefits were 3.9 billion yen.

Environmental costs (FY2018)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Investments</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business area costs</td>
<td>Reduction in environmental impacts</td>
<td>2,395</td>
<td>6,306</td>
</tr>
<tr>
<td>Upstream/downstream costs</td>
<td>Green procurement, recycling, etc.</td>
<td>355</td>
<td>636</td>
</tr>
<tr>
<td>Administration costs</td>
<td>Environmental education, EMS maintenance, tree planting on factory grounds, etc.</td>
<td>133</td>
<td>2,626</td>
</tr>
<tr>
<td>R&amp;D costs</td>
<td>Development of environmentally conscious products, etc.</td>
<td>637</td>
<td>13,279</td>
</tr>
<tr>
<td>Public relations costs</td>
<td>Support for local environmental activities, donations, etc.</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>Environmental damage restoration costs</td>
<td>Restoration of polluted soil, etc.</td>
<td>20</td>
<td>151</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3,549</td>
<td>23,018</td>
</tr>
</tbody>
</table>

Environmental benefits (FY2018)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Reductions in environmental impacts</th>
<th>Benefits measured as a monetary value (million yen)</th>
<th>Calculation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Actual benefits</td>
<td>Costs that can be measured directly as a monetary value, such as electricity and water charges</td>
<td>Energy -423,568(GJ)</td>
<td>-2,502</td>
<td>Reductions in electricity charges and waste processing costs compared to the previous year, plus sales of valuables.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Waste 41,389(t)</td>
<td>4,841</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water 597,015(m³)</td>
<td>457</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total monetary benefits</td>
<td>2,796</td>
<td></td>
</tr>
<tr>
<td>(B) Assumed benefits</td>
<td>Reductions in environmental impacts measured as a monetary value</td>
<td>Reductions in the amount of chemicals discharged</td>
<td>154(t)</td>
<td>3,915</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total monetary benefits</td>
<td>6,711</td>
<td></td>
</tr>
</tbody>
</table>

Reductions in environmental impacts for actual and assumed benefits indicate differences between FY2017 and FY2018.

Negative benefits indicate that the increase in environmental impacts exceeded reductions due to increases in production and other factors.
With respect to assumed economic benefits, in light of the major impact of Sigma Power Ariake Co., Ltd., which engages in the thermal power generation business, we also present data on changes in environmental benefits for Toshiba Group after excluding Sigma Power Ariake. We will continue to appropriately analyze environmental costs and develop environmental management measures to further increase environmental benefits.

### Cost benefits of environmental management measures

The figure shows the changes in cost benefits of measures for climate change mitigation and waste disposal over the past three years. We compared the costs incurred in taking measures related to climate change and waste disposal against the total amount of reductions in payments related to energy consumption and waste disposal compared to the previous year as well as sales of valuables during the current year. In the table above, costs are expressed as business area costs and benefits as actual benefits.

In FY2018, the amount of reduction in energy costs was below the cost of climate change mitigation. Meanwhile, waste measures brought larger benefits than the costs for implementing them.

The major issue to be addressed going forward is how to overcome two conflicting problems: an increase in emissions of environmental pollutants as a result of business expansion and the need for cost reductions. Toshiba Group will also analyze the cost benefits and other financial aspects of environmental management measures in more detail.
Ensuring Environmental Risk Compliance

- Compliance with environmental laws and regulations

At Toshiba Group, we ensure compliance with environmental regulations and requirements for products and services by managing processes from the design stage through to delivery to customers, along with the cooperation of suppliers. We also set self-regulation standards that are even stricter than legal standards regarding atmospheric emissions and discharges into the hydrosphere in the process of manufacturing, and all its production sites comply with the standards.

While identifying potential risks in business activities during in-house environmental audits to prevent any environmental accidents or violations of laws and regulations, we also develop comprehensive initiatives by sharing information, such as results of internal audits of individual sites and divisions, the latest legal trends, and past examples of accidents in our group companies through company-wide environmental education and environmental auditor certification training as well as Corporate Environmental Management Committee meetings, etc.

Unfortunately, three legal violations occurred in FY2018. After dealing with the problems promptly and appropriately, we will work to prevent future recurrence and ensure compliance management to a greater extent.

<table>
<thead>
<tr>
<th>Toshiba Elevator (China) Co., Ltd. (January 2019)</th>
</tr>
</thead>
<tbody>
<tr>
<td>・Violation of the air pollution control law for outside paint spraying work</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PG Toshiba (Langfang) Arrester Co., Ltd. (December 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>・Violation of the water pollution control law for directly draining water used to clean electronic parts to outside the premises</td>
</tr>
<tr>
<td>・Violation of the water pollution control law for exceeding the Chemical Oxygen Demand (COD) and phosphorus standard value in industrial wastewater</td>
</tr>
<tr>
<td>・Violation of the environmental contamination prevention law regarding solid waste for storing waste sludge outside the designated area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toshiba Infrastructure Systems &amp; Solutions Corporation (January 2019)</th>
</tr>
</thead>
<tbody>
<tr>
<td>・Violation of the commission criteria under the waste management law with regard to industrial waste processing of switchboards</td>
</tr>
</tbody>
</table>

Under the Sixth Environmental Action Plan, we promote specific measures to prevent risks from the aspect of both products/services and manufacturing to achieve the goal of ensuring environmental risk compliance as the top priority in the “Management” category.

In the area of products and services, in order to enhance compliance with global environmental laws and regulations, we collect and assess the impacts of legal information around the world while sharing regulatory trends and response policies in a timely manner through meetings for spreading such information across the group. We also develop environmental human resources by regularly providing education on environmentally conscious products, legal compliance, etc. and certifying product environmental technology auditors, and so on.

In the area of manufacturing, in order to develop environmental human resources at production sites, we prepare materials for site management and legal compliance and hold study sessions intended for persons responsible for the environment in China where we have many production sites. Through discussions in study sessions we will improve environmental awareness and skills of local personnel and in this way ensure environmental risk compliance at production sites.

- Responses to environmental risks

The Risk Compliance Committee examines how to cope with diversified risks under the direct supervision of the Chairman and President and also takes measures to prevent environmental risks.

If any environmental risk should materialize, Corporate Environment Management Office works in collaboration with environmental promotion managers and related persons of key group companies and the sites under the direction of the Corporate Environmental Officer to implement appropriate measures, including sharing information, checking relevant business and production sites, and preventing recurrence.
Risks and Compliance

Soil and Groundwater Purification

Toshiba Group is working to purify contaminated soil and groundwater by ascertaining the present condition of soil and groundwater at its production sites. The Group is also taking safety measures for environment-related equipment to prevent contamination with chemicals and reduce environmental risks. A survey of all production sites confirmed contamination at 12 sites, where soil and groundwater contamination with volatile organic compounds (VOCs) have been purified, and the results are being monitored. VOCs in groundwater are collected and eliminated mainly using the water pumping method.

Toshiba Group uses the water pumping method to purify soil and groundwater mainly in areas with high concentrations of VOCs, but if the VOC concentration in such areas is lowered due to progress in purification, the Group takes such measures as stepping up water pumping efforts in other areas with relatively high VOC concentrations. In FY2018, the Group collected 312 kg of VOCs. The amount collected was about 6% less compared to FY2016, but this is chiefly because the amount of VOCs collected per liter of water pumped is gradually decreasing due to the progress made in purification through drastic measures that make the most of the opportunity presented by land modifications, methodological changes (from water pumping to in-situ purification), and declines in relative concentrations of VOCs as a result of purification.

While continuing to purify contaminated soil and groundwater through appropriate methods based on laws and regulations as well as progress and trends in purification technology of the times, Toshiba Group will strive to ensure full communication with local governments and residents in neighboring areas through tours of purification facilities and other public relations activities.

Purification of soil and groundwater contaminated with volatile organic compounds

<table>
<thead>
<tr>
<th>Production sites</th>
<th>Location</th>
<th>Progress in purification</th>
<th>Purification method*1</th>
<th>Amount collected*2 (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Former site of Asia Electronics Inc.'s Yokohama Operation Center</td>
<td>Yokohama, Kanagawa Prefecture</td>
<td>Being monitored**3</td>
<td>A,E,G</td>
<td>0</td>
</tr>
<tr>
<td>Toshiba Corporation Komukai Complex</td>
<td>Kawasaki, Kanagawa Prefecture</td>
<td>Purification in progress</td>
<td>A,G</td>
<td>45.2</td>
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<tr>
<td>Toshiba Electronic Devices &amp; Storage Corporation Himeji Operations-Semiconductor</td>
<td>Taishi Town, Ibo County, Hyogo Prefecture</td>
<td>Being monitored (North district)</td>
<td>D,F,G</td>
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</tr>
<tr>
<td>Japan Semiconductor Corporation Oita Operations</td>
<td>Oita, Oita Prefecture</td>
<td>Purification in progress</td>
<td>A,F</td>
<td>118.8</td>
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<tr>
<td>Toshiba Carrier Corporation Fuji Factory &amp; Engineering Center</td>
<td>Fuji, Shizuoka Prefecture</td>
<td>Purification in progress</td>
<td>A,B</td>
<td>75.2</td>
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<tr>
<td>Toshiba Carrier Corporation Tsuyama Factory</td>
<td>Tsuyama, Okayama Prefecture</td>
<td>Purification in progress</td>
<td>A,B</td>
<td>0.17</td>
</tr>
<tr>
<td>Kawamata Seiki Corporation</td>
<td>Kawamata Town, Date County, Fukushima Prefecture</td>
<td>Purification in progress</td>
<td>A</td>
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<tr>
<td>Former site of Toshiba Shomrei Precision Corporation's Kawasaki Works</td>
<td>Kawasaki, Kanagawa Prefecture</td>
<td>Being monitored</td>
<td>A,B,F</td>
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</tr>
<tr>
<td>Former site of Toshiba Lighting &amp; Technology Corporation’s Iwase Works</td>
<td>Sakuragawa, Ibaraki Prefecture</td>
<td>Purification in progress</td>
<td>A</td>
<td>0.06</td>
</tr>
<tr>
<td>Lighting Device &amp; Fixture Corporation Ibaraki Plant</td>
<td>Joso, Ibaraki Prefecture</td>
<td>Being monitored</td>
<td>A,B</td>
<td>0</td>
</tr>
<tr>
<td>Former site of former Toshiba Components Co., Ltd. Kimitsu Operation Center</td>
<td>Kimitsu, Chiba Prefecture</td>
<td>Purification in progress</td>
<td>A,B,F</td>
<td>72.3</td>
</tr>
</tbody>
</table>

*1 Purification method: (A) groundwater pumping, (B) soil gas suction, (C) reduction decomposition, (D) oxidation decomposition, (E) interception containment, (F) removal by excavating soil, and (G) bio-activation.

*2 Amount collected: Amount collected from April 2018 to March 2019

*3 Monitoring: Monitoring to confirm how things develop after work that will allow measures to be taken or purification is completed.

Management of Ozone-depleting Substances

Toshiba Group possesses specified chlorofluorocarbons (CFCs), which deplete the ozone layer, as coolant for air conditioners installed in sites; we appropriately dispose of such CFCs in compliance with the law. In FY2018, due to measures such as facility upgrades, we reduced the amount of specified CFCs to 5.24 tons, a reduction of about 17% compared to the previous year. Our CFC leaks stipulated in the Fluorocarbons Emissions Control Act were 2,297 t-CO2. We will continue to further enhance our management of chemicals through routine and periodic inspections as well as environmental audits.
Preventing Contamination and Reducing Contamination Risks

In order to prevent contamination with chemical substances and reduce contamination risks, Toshiba Group independently established the Structural Design Guidelines to prevent leaks of chemicals at its eight types of environment-related facilities (including wastewater treatment plants), and its overseas sites are also promoting continuous improvements in this area. In FY2018, Toshiba Group achieved a compliance rate of 98.7% in Japan and 89.7% overseas.

In its overseas operations, at the time of establishing a new business or relocating a business, Toshiba Group also assesses contamination risks by investigating land use and contamination histories. Assessments are made in accordance with laws and regulations in each country, and Toshiba Group’s own rigorous standards are applied in countries without relevant legislation.

■ Rate of compliance with the Structural Design Guidelines (FY2018)

![Graph showing the rate of compliance with Structural Design Guidelines for overseas group companies and Toshiba Group overseas.]

In order to ensure effective prevention of groundwater contamination, an act revising part of the Water Pollution Control Act in Japan was promulgated on June 22, 2011 and came into force on June 1, 2012. To prevent groundwater from becoming contaminated with hazardous substances*, new provisions have been added that require those who install facilities where hazardous substances are used, stored, or otherwise handled to comply with structural, equipment, and usage standards to block hazardous substances from entering the ground and to record and maintain records of periodic inspection results.

As early as FY1990, Toshiba Group established the Structural Design Guidelines, an initiative that anticipated the purpose of these revisions to the Act, and has since been working to improve compliance with these guidelines by developing measures to prevent underground infiltration and by conducting periodic facility inspections to facilitate on-site improvements.

Through such measures, we aim to further reduce environmental risks.

* As stipulated in Article 2 of the Order for Enforcement of the Water Pollution Control Act in Japan, the 28 hazardous substances subject to regulation include cadmium, lead, and trichloroethylene (as of April 2018).

Storage and Management of PCB

Since 1972, when the manufacture of products using polychlorinated biphenyl (PCB) was discontinued in Japan, Toshiba Group has kept PCB and PCB-containing products under strict surveillance, controlled them, and reported their storage to the relevant authorities in accordance with the Waste Management and Public Cleansing Act and the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes in Japan. In addition to meeting the prescribed storage standards, the Group makes doubly sure through the installation of dikes and double containers and other measures that they are stored appropriately.

To manage high-concentration PCB waste, Toshiba Group has registered some 2,500 transformers and condensers with Japan Environmental Storage & Safety Corporation (JESCO), which provides wide-area PCB treatment services, and is gradually disposing of these devices according to JESCO’s plan.

Meanwhile, we are also working to dispose of low-concentration PCB waste at government-certified detoxification facilities and prefectoral governor-authorized facilities.

Transformers and condensers for which the possibility of containing PCB cannot be ruled out are in use at a number of production sites.

When checking transformers for maintenance, we analyze the oil, and if we discover PCB contained in such oil, we suspend use of the transformers, upgrade them, or draft a disposal plan. Condensers are fully sealed and become useless if their oil is analyzed, regardless of whether or not they contain PCB. Therefore, we are drafting plans to gradually update condensers while taking care not to impair our business activities. These measures are incorporated into Toshiba Group’s disposal policies.

We will continue our efforts to dispose of devices that contain PCB properly by the legal processing deadline.

■ Disposal policies

<table>
<thead>
<tr>
<th></th>
<th>PCB waste (Pollution-confirmed materials for storage)</th>
<th>PCB devices in use</th>
</tr>
</thead>
<tbody>
<tr>
<td>High density</td>
<td>Proceed with disposal according to JESCO’s disposal plan.</td>
<td>Formulate plans to upgrade or dispose of devices.</td>
</tr>
<tr>
<td>Low density</td>
<td>Proceed with disposal at government-certified facilities.</td>
<td>Transformers: Analyze oil during maintenance. Formulate plans to upgrade or dispose of devices containing PCB. Condensers: Formulate plans to gradually upgrade fully sealed devices while taking care not to impair business activities. Formulate plans to dispose of devices containing PCB.</td>
</tr>
</tbody>
</table>

Identifying environmental liabilities

Enforcement of the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, obliges PCB waste storage business operators to dispose of PCB wastes properly by March 2027. As of March 31, 2018 and 2019, Toshiba Group recorded environmental liabilities of approximately 11.7 billion yen and 11.0 billion yen respectively as PCB detoxification outsourcing expenses. These expenses were incurred in relation to the disposal of products containing PCB that were stored and managed in business and productions sites nationwide and their facilities. We will continue to grasp and disclose such information properly.
Environmental Communication

Educational programs for elementary school children to learn about the environment

As part of our environmental communication initiative, we are working together with the Association of Corporation and Education, an NPO that specializes in developing classes together with companies, to start an educational program for elementary school children at the Toshiba Science Museum and elementary schools in the Tokyo metropolitan area for learning about the environment.

This program is designed to raise children’s awareness about global warming, resource depletion, and other environmental issues that seriously affect people’s lives. Meanwhile, we are introducing various scientific technologies that contribute to resolving such issues, thereby enabling elementary school children to think deeply about environmental issues and how to give back as members of society by taking action on their own.

These activities are aligned with “Education for Sustainable Development (ESD)”, a concept advocated by the United Nations.

- Education for fostering children who will support a sustainable society. This education is thought to require the following two perspectives: (1) Developing personality and fostering humanity, including self-discipline, judgment, and a sense of responsibility; (2) Fostering individuals who are aware of relationships with others, society, and natural environment and can respect a “relation” and “connection” (The Ministry of Education, Culture, Sports, Science and Technology’s Japanese website).

In FY2018, we held two programs titled: “What’s on the other side of the power outlet?” (theme: energy) and “The mysterious material which controls electricity!? — How to use energy learned from the discovery and use of the semiconductors—” (theme: semiconductors) at about 30 locations including Toshiba Science Museum and in elementary schools mainly in the Tokyo metropolitan area. In the semiconductor program, we use educational material as part of community communication activities by way of our production site (visiting lectures at local elementary schools) as the first attempt after the launch of the program. Toshiba Group plans to continue this series of programs to provide children who will support a sustainable society in the future with opportunities to think about what they can do at present and 10 and 20 years from now.

"What’s on the Other Side of the Power Outlet?” (Theme: Energy)

Participants in the program learned through experiments about the features of various methods for generating electricity including wind power generation, geothermal generation, photovoltaic power generation, and thermal power generation which are indispensable for our life. They also developed an interest in considering how energy should be consumed in the future including global warming-related issues and combined use of multiple energy sources.

The Mysterious Material Which Controls Electricity!?
—How to use energy learned from the discovery and use of semiconductors— (Theme: Semiconductors)

Participants looked at how semiconductors, which are indispensable for use of electricity, actually work, along with examples of advances made in familiar electrical products such as laundry machines and air conditioners. They learned that semiconductors not only contribute to energy-saving in products, but also are manufactured in consideration of decreasing adverse impacts on the environment, and got a deeper understanding of the roles of semiconductors in society. We believe this program will also contribute to smooth introduction of programming education to be made compulsory in elementary schools starting from FY2020.

Energy program

Although there are various energy education programs, there are few lessons that discuss a combination of power generation methods. The program was intended to ensure that children understand the characteristics of power generation methods and think about how they should supplement each other.

Semiconductor program

The mechanism and roles of semiconductors are closely connected with the study of subjects such as science and social studies. We tried not only to have the students actually realize how everyday study is connected to familiar products and technologies, but also to create a program that will lead to constructive study that can be applied to solutions to environmental issues.
On February 7 and 8, 2019, the 27th Toshiba Group Environmental Exhibition was held at Smart Community Center in Kawasaki City. Approximately 2,600 guests visited the exhibition.

This year’s exhibition showed how Toshiba Group is contributing to the achievement of the Sustainable Development Goals (SDGs) through environmentally conscious products and services as well as high efficiency manufacturing technologies. With the title, "Contributing to achieving the SDGs through environmental management," we exhibited a total of 40 products and services that contribute to solving various social issues including environmental issues, as well as case studies on manufacturing and basic activity, under the themes of: De-carbonized Society, Sustainable City, Circular Economy, and Manufacturing and Basic Activity. Customers from a wide range of sectors, ranging from government and municipal offices to companies through to students and media, visited the exhibition and asked questions regarding technologies, performance, and business scale and left many messages to our Group. As side events, we held a special tour of Toshiba Science Museum located on the second floor of Smart Community Center with the environment as the theme and introduced Toshiba Group’s environmental management and what you should see at the exhibition to the press.

**Environmental advertisements**

We introduced our energy-saving railway rolling stock system that combines VVVF* inverters using All-SiC (silicon carbide) devices, totally enclosed permanent magnet synchronous motors (PMSM), and power supply system for emergency run equipped with SCiB™ over a total of four pages.

* Variable Voltage Variable Frequency

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**Messages from visitors**

- The exhibition was useful because disaster prevention is an extremely important issue at our city. (Customer from a municipal office)
- The explainers were thoughtful and kind. I was able to understand the exhibition content very well. Since it has both high technical strength and many unique products, I felt future growth can be expected from this company. (Student)
- Due partly to the covered theme being close to my research theme, I was able to really sense the high level of the company's technology. (Student)
- I would like to express my respect for the company’s efforts to continually hold the environmental exhibition a total of 27 times. (University professor)
- I was again able to recognize the company's attitude that contributes to our society. (Business person)
- I found out that the company is working in various business fields. Maybe it would be better to clarify differences versus other companies. (Business person)
Toshiba Group's Global Environmental Action

Toshiba Group is promoting “Global Environmental Action,” which is an employee-supported environmental action program. In the Sixth Environmental Action Plan, which started in FY2017, we have set a theme for each fiscal year and carry out activities worldwide in accordance with that theme. The theme for FY2018 is water, and each of our sites has organized activities such as events and education to think about the importance of water resources, as well as water saving and cleanup activities. The total number of activities reached over 650* across the Group. We aim to foster a sense of togetherness within Toshiba Group by developing activities based on a common theme and to raise employees’ awareness about a wide range of environmental issues by changing the theme annually. In addition, we conduct activities in collaboration with local communities to enhance communication with local residents, NPOs, and NGOs.

In 2019 and beyond, we plan to set themes related to issues that stimulate public interest such as resources, and chemicals, thereby promoting environmental activities at our sites around the globe. By sharing information on activities of the sites inside Toshiba Group, each site can further develop its activity going forward.

* Including activities based on themes other than water

Participation in initiatives

● Support to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

The TCFD is a task force established by the Financial Stability Board in 2015 under the leadership of the private sectors with the aim of enhancing disclosure of climate-related information from companies. In support of the recommendations in the final report released by the TCFD in 2017, Toshiba Group has been working on information disclosure with regard to financial impacts of climate change. We also participate in the TCFD Consortium aimed at making joint efforts among supporting institutions in Japan for enhancing ESG information disclosure.

TCFD

● Participation in the Environmental Reporting Platform Development Pilot Project

Toshiba Group has been participating in the Environmental Reporting Platform Development Pilot Project, a demonstration project promoted by the Ministry of the Environment of Japan for full-scale operation of the ESG dialog platform for six consecutive years since its launch in 2013. This will allow understanding information that is genuinely required based on information registered in the project and through dialog with investors to enhance disclosure of our ESG information.

● Participation in other external CSR related initiatives

Participation in External CSR Organizations

Environmental education on the theme of water

Toshiba Dalian Co., Ltd. (China)

The company provided education about water at nearby elementary schools and the company premises. Here, a total of about 730 people including elementary school children, local residents, and families of employees learned the importance of water resources and how to save water. The company also distributed a card describing its environmental policy and other information on water resource protection to participants to raise their awareness of this issue.

Seashore cleaning activity

Toshiba TEC Europe Imaging Systems S. A. (France)

The company conducts cleaning activities at the neighboring seashore which also help maintain the surrounding ecosystems every year.

Reducing the amount of water by raising awareness and installing equipment

Toshiba JSW Power Systems Private Limited (India)

The company put up posters calling for water saving on the premises to raise the awareness of employees. It also installed valves to control the water flow rate and meters to find the water consumption and in this way reduced the amount of water consumed by 47% compared to the previous year.
Toshiba Infrastructure Systems & Solutions Corporation (Japan)
A total of 22 employees and their family members participated in the observation of tidal land at the Tamagawa River. They collected a variety of creatures including crabs, corbicula clam, and shrimps, and learned about their living conditions.

Toshiba Carrier Corporation (Fuji Factory & Engineering Center) (Japan)
The site invited neighboring elementary school students to have them observe how water is used and waste water is treated in the factory. Based on that experience, the students created Environmental Sugoroku (sugoroku: a traditional board game in which pieces are advanced by throwing dice).

Toshiba Electronic Devices & Storage Corporation (HIMEJI Operations-Semiconductor) (Japan)
The site invited employees to create senryu with the theme of water saving and posted excellent work chosen from among 1,286 pieces of work on the premises.

Toshiba Digital Solutions Corporation (Japan)
The company holds the Environmental Forum every year inviting neighboring residents. In FY2018, the company invited Mr. Yoshihide Ito, Curator at The Museum of Tokai University, School of Marine Science and Technology to give a lecture and consider the importance of marine nature with approximately 150 participants.

Toshiba America Business Solutions, Inc. (USA)
The company cleaned the neighboring lake and its walking path, which resulted in conserving the environment and increasing the awareness of employees.

Toshiba Lighting Components (Thailand) Ltd. (Thailand)
The company’s approximately 200 employees participated in an event held at a national park and planted 100 pieces of mangrove.

Toshiba Information Equipment (Philippines), Inc. (Philippines)
The company held a contest in which its employees competed in terms of results from energy saving and water saving activities at home. Approximately 70 employees participated in the contest and those who substantially reduced the amount of electricity and water consumed were given awards.

P. T. TEC Indonesia (Indonesia)
Taking advantage of the regional characteristic of ample rainfall, the company installed special rainwater tanks on the premises and reused the stored rainwater for cleaning and watering flowers.

Toshiba Elevator and Building Systems Corporation (Japan and China)
All employees of Toshiba Elevator and Building Systems Group sites in Japan and China (261 sites) conducted various regionally-oriented environmental activities.

Toshiba TEC Europe Imaging Systems S. A. (France)
The company conducts cleaning activities at the neighboring seashore which also help maintain the surrounding ecosystems every year.

Toshiba TEC North America, Inc. (USA)
The company conducts cleaning activities at the lake which results in conserving the environment and increasing the awareness of employees.

Toshiba JSW Power Systems Private Limited (India)
The company put up posters calling for water saving on the premises to raise the awareness of employees. It also installed valves to control the water flow rate and meters to find the water consumption and in this way reduced the amount of water consumed by 47% compared to the previous year.

Toshiba Lighting Components (Thailand) Ltd. (Thailand)
The company’s approximately 200 employees participated in an event held at a national park and planted 100 pieces of mangrove.

Toshiba Carrier Corporation (Japan)
The site invited neighboring elementary school students to have them observe how water is used and waste water is treated in the factory. Based on that experience, the students created Environmental Sugoroku (sugoroku: a traditional board game in which pieces are advanced by throwing dice).

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Toshiba America Business Solutions, Inc. (USA)
The company cleaned the neighboring lake and its walking path, which resulted in conserving the environment and increasing the awareness of employees.

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P. T. TEC Indonesia (Indonesia)
Taking advantage of the regional characteristic of ample rainfall, the company installed special rainwater tanks on the premises and reused the stored rainwater for cleaning and watering flowers.
Conservation of Biodiversity

Importance of initiatives for the conservation of biodiversity

In the contemporary world, the conservation of biodiversity and its sustainable use is becoming increasingly important and recognized worldwide. The year 2010 marked the adoption of Aichi Targets as the global goal at the tenth Conference of the Parties to the Convention on Biological Diversity (COP10) held in Japan. In 2015, the 2030 Agenda for Sustainable Development was adopted by the United Nations General Assembly and the Sustainable Development Goals (SDGs) were announced, which included goals for biodiversity. In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (IPBES) released their first global assessment which highlighted the adverse effects of human activities on the ecosystems. The assessment reported that around one million animal and plant species are now threatened with extinction and that the health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. Initiatives for the conservation of biodiversity are becoming an inseparable issue when companies try to promote sustainable management.

Toshiba Group assesses each environmental process related to manufacturing as well as products and services, such as those aimed at preventing global warming, efficiently using resources and managing chemical substances, to see their impact on the environment including that on biodiversity, and specifies activity objectives with respect to the reduction of that impact. At the same time, we are contributing to creating a society in harmony with nature through the promotion of conservation activities that directly affect nature. It takes many years to restore and improve biodiversity and ecosystems. We will promote biodiversity conservation activities from a long term view and an ongoing effort based on an analysis of possible risks and opportunities to our group.

Risks for Toshiba Group from not working on biodiversity conservation and opportunities gained from working on it

Risks:
- Unstable procurement and increased cost of resources including water and mineral
- Negative reputation and damage to brand image

Opportunities:
- Prevention of risks of unstable procurement and increased cost of resources
- Increased corporate value
- Increased employees’ motivation

* An intergovernmental platform covering biodiversity and ecosystem services. The so-called biodiversity version of the Intergovernmental Panel on Climate Change (IPCC). It has four functions, namely “assessments,” “policy tools and methodologies,” “capacity-building,” and “knowledge generation” as the core of its activities. It assesses the relationship between humans and nature with experts in diverse fields of study, generates new knowledge, requests capabilities, and reflects them in the policy. IPBES has released a Summary for Policymakers (SPM) in the Global Assessment Report on Biodiversity and Ecosystem Services in May 2019.

Contributions to the 10 Individual Aichi Targets

The Strategic Plan for Biodiversity 2011-2020 was adopted at the tenth Conference of the Parties to the Convention on Biological Diversity (COP10) held in Nagoya City in 2010. The plan sets a medium-to long-term vision for achieving “a society in harmony with nature” by 2050 and aims to achieve a mission and specific action targets, Aichi Targets, by 2020. Aichi Targets include five strategic goals and 20 individual targets.

Toshiba Group considers biodiversity conservation activities an important element of environmental management and manages them as one of the Sixth Environmental Action Plan items. We have set a goal by 2020 to contribute to 10 of the 20 individual Aichi Targets that closely relate to our business activities (targets, 1, 2, 4, 5, 8, 9, 11, 12, 14, and 19). With the aim of contributing to the achievement of these 10 targets, we now promote biodiversity conservation activities according to the characteristics of each region at 66 (42 in Japan, 24 overseas) sites worldwide.

Reference: Ministry of the Environment “Biodiversity”
The Sixth Environmental Action Plan (2017–2020) —Biodiversity conservation activities—

<table>
<thead>
<tr>
<th>Category of Aichi Targets</th>
<th>Aichi Targets</th>
<th>Toshiba Group’s Activity Targets</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Goal A</td>
<td></td>
<td><strong>Target 1</strong> Raising awareness</td>
<td>Environmental education, information disclosure, and collaboration with outside organizations</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Target 2</strong> Incorporating targets into strategies and plans</td>
<td>Incorporation of targets into environmental policies, Environmental Action Plans, and ISO 14001 goals and targets</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Target 4</strong> Sustainable production</td>
<td>Mitigation of climate change and efficient use of resources</td>
</tr>
<tr>
<td>Strategic Goal B</td>
<td></td>
<td><strong>Target 5</strong> Reducing habitat loss</td>
<td>Building ecosystem networks that connect natural habitats with Toshiba Group sites, planting trees</td>
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<td></td>
<td></td>
<td><strong>Target 8</strong> Reducing chemical pollution</td>
<td>Management of chemicals</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Target 9</strong> Eliminating alien species</td>
<td>Elimination of alien species at company sites</td>
</tr>
<tr>
<td>Strategic Goal C</td>
<td></td>
<td><strong>Target 11</strong> Conserving protected areas</td>
<td>Activities that contribute to preserving protected areas outside Toshiba Group sites</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Target 12</strong> Conserving endangered species</td>
<td>Protecting rare plant and animal species, ex-situ conservation</td>
</tr>
<tr>
<td>Strategic Goal D</td>
<td></td>
<td><strong>Target 14</strong> Maintaining and managing ecosystem services</td>
<td>Maintenance and improvement of cultural services</td>
</tr>
<tr>
<td>Strategic Goal E</td>
<td></td>
<td><strong>Target 19</strong> Improving and spreading knowledge and technology</td>
<td>Accumulating and disclosing ecosystem survey data (including habitat maps) and creating biodiversity conservation technologies</td>
</tr>
</tbody>
</table>

Implementing biodiversity conservation activities at 66 sites worldwide

In FY2018, the rate of implementation of activities corresponding to the 10 Aichi Targets at all sites (overall average) was 70%. The extent of efforts for targets 1, 2, 4, 5, 8, 11, and 12 was higher, while the extent of efforts for targets 9, 14, and 19 was lower. By target, the rate of implementation of target 2 (Incorporating targets into strategies and plans) was 100% as a result of complying with ISO 14001: 2015*. The rate of implementation of target 4 (Sustainable production) and target 8 (Reducing chemical pollution) was also 100% as a result of promoting the ongoing business activities such as reducing GHG emissions, providing energy-saving products and services, effectively using resources, and managing chemical substances in manufacturing. The rate of implementation of target 1 (Raising awareness) reached 80% as a result of promoting education, nature observation meetings, workshops for employees and conveying information for stakeholders. As for target 5 (Reducing habitat loss) and target 12 (Conserving endangered species), many business and production sites continued to conduct activities under the Fifth Environmental Action Plan for 2012 to 2016, such as building ecosystem networks and protecting rare animal and plant species, and as a result of these activities, the rates for implementing target 5 and target 12 were respectively 80% and 77%. The rate of implementation of target 11 (Conserving protected areas) reached 70%* as a result of promoting activities to not only preserve protected areas outside Toshiba Group sites but also investigate and preserve rare species in Toshiba Group sites.

For target 9 (Eliminating alien species), target 14 (Maintaining and managing ecosystem services), and target 19 (Improving and spreading knowledge and technology) that have low implementation rates, we will identify issues and consider countermeasures toward the final year of Aichi Targets.

*1 “Protection of biodiversity and ecosystems,” as well as “sustainable resource use” and “climate change mitigation and adaptation” were added to the scope of environmental conservation activities.

*2 Though activities to preserve rare species in Toshiba Group sites were not covered by target 11 in Toshiba Group Environmental Report 2018, they have been covered by the target since the report for FY2019.

Implementation results for FY2018 by target (covering All 66 sites) *4

Overall average: 70%

Data on activities at individual sites is stored in a database for disclosure on our website. The corresponding Aichi Targets are also shown.

[Toshiba Group Biodiversity Conservation Activity Database]
Conservation of Biodiversity

**Case 1**

**Promoting environmental education in and outside the company**

TOSHIBA CARRIER (THAILAND) CO., LTD.

As education outside the company, we visit neighboring elementary schools and give lectures on the environment. In terms of in-house education, employee awareness education not only through lectures but also experiences is given. This education includes encouraging tree-planting at their homes by distributing wooden seedlings and development of supply points for minerals (salt lick) for elephants and deer in Khao Yai national park.

Supply point for minerals (salt lick): Area where essential minerals for wild animals are artificially mixed in the ground.

**Case 2**

**Contributing to creating a city where Chinese windmills which are the ‘city-butterfly’ of Himeji City can be seen here and there throughout the area**

NISHISHIBA ELECTRIC CO., LTD.

Himeji City sets Chinese windmills as its city-butterfly and endeavors to increase their number. We have established a biotope in our premises to conserve birthworts, which are the feed for Chinese windmills and their larvae, contributing to the building of an ecosystem network across the city. In FY2018, we have seen adult-eclosion (or molting) of more than 250 butterflies.

**Case 3**

**Invasive alien species countermeasures by weed control**

TOSHIBA AMERICA BUSINESS SOLUTIONS, INC. TONER PRODUCTS DIVISION

We regularly investigate any noxious weed on our property, in the Pollinator Plot, and on the Lake Mitchell Walking Path. We found Canada thistle as a result of our investigative activities. It is considered a noxious plant and we constantly monitor and eliminate it.

Elimination activity (after flowering)

Elimination activity (before flowering)

Canada thistle

**Case 4**

**Conservation activities at a habitat of Linaria japonica (endangered species)**

TOSHIBA LIGHTING & TECHNOLOGY CORPORATION (IMABARI COMPLEX)

We created a vegetation map of Odagahama beach in Ehime Prefecture where Linaria japonica, which is listed as Endangered Class IA by the Ministry of the Environment, is growing naturally. We made this map in a cooperative effort with fourth grade students at a local elementary school, Ehime Prefecture, an NPO, and the residents’ association and donated the map we created to the school. We also promote protection and development activities for Linaria japonica, Marsilea quadrifolia, which is listed as Endangered Class II on the Red List of the Ministry, and frogbit, which is listed as Near Threatened (NT) by constructing a biotope on the premises of Imabari Complex.

Creating a vegetation map with local elementary school students

Donating the vegetation map to the elementary school

**Case 5**

**Protection and observation of rare animals and plants inhabiting the premises**

TOSHIBA JSW POWER SYSTEMS PRIVATE LIMITED

We conducted a survey regarding animals and plants that inhabit the premises and confirmed many plants including those of the families Combratceae and Apocynaceae which are designated as rare plants. We share information with employees by posting the appearance of these plants and also work on their protection through regular observation.

Recording the population of animals and plants

Posting photos of plants found in the premises

**Case 6**

**Forest preservation through the construction of a check dam (erosion control dam) and reforestation**

TOSHIBA SEMICONDUCTOR (THAILAND) CO., LTD.

As one of nature conservation activities of the employees, we promote activities to build a check dam (erosion control dam) in the forest and reforestation. A check dam prevents landslides and sediment disaster in forests and helps secure not only forest conservation but also agricultural water. In FY2018, we planted a total of 200 young trees. We also distributed small young trees such as Chili trees at an in-house exhibition held on our premises to improve awareness of employees on the environment.

Constructing a check dam over the stream in the forest

Distributing small trees such as Chili trees at an in-house exhibition

*Each target shown for each case study is a representative Aichi Target to which each activity corresponds, and it may also correspond to other targets.*
The year 2020 is the target year for the Aichi Targets agreed upon in 2010 whose objectives are the conservation of biodiversity and its sustainable use. In a sense, it is the year when governments and regions are given a report card on their performance and in which initiatives of business operators are naturally important elements. Unfortunately, as also seen in the IPBES report mentioned at the beginning of Toshiba’s report, situations are actually taking a turn for the worse in many aspects, rather than for the better, in a gradually accelerating speed.

In this sense, this report, though taken from the standpoint of initiatives of one business operator, is internationally important in terms of its disclosure timing indicating the progress of the mainstreaming of biodiversity within the private sectors.

This report has an easy to read format showing the progress of initiatives and case studies inside and outside Japan with respect to the ten goals of Aichi Targets. Especially, Toshiba’s joint effort with Dai Nippon Printing Group to promote biodiversity conservation activities by using the 15 sites of Toshiba Group and Dai Nippon Printing Group has been promoted biodiversity conservation activities by using the 15 sites of Toshiba Group and Dai Nippon Printing Group.

Promoting collaboration with industry associations and other companies

Through collaboration with electrical and electronic industry associations as well as other companies, Toshiba Group is working to strengthen awareness and information disclosure regarding biodiversity protection.

**Participating in biodiversity working group of the 4 Electrical and Electronic Industry Associations**

For the purpose of raising awareness and promoting biodiversity conservation activities in the industry, we have been continuing to develop measures for mainstreaming biodiversity and to conduct research and discussion regarding international issues on biodiversity, including the SDGs, plastic marine debris issue, and "post-Aichi Targets," along with other member companies.

“Let’s Try Biodiversity—The first step in biodiversity conservation for companies”—a collection of activity examples issued by the biodiversity working group of four electric and electronic industry associations in FY2017 won the award of excellence in the Biodiversity Action Award 2018 (Communication category) hosted by Japan Committee for UNDB (UNDB-J) for its expectations for ripple effects among all companies throughout Japan. As for the Guidelines for Action by the E&E Industries concerning Biodiversity Conservation issued in FY2015, the second edition with an additional description on relevance with SDGs has been issued. Moreover, in the fourteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP14) held in Egypt in November 2018, the working group members presented the outcome of the group’s activities to the world in two side events (UNDB-DAY and Business Forum 2018).

**Collaboration with Dai Nippon Printing Group**

Toshiba Group and Dai Nippon Printing Group have been promoting biodiversity conservation activities by using 15 sites of both groups in 6 regions in Japan. While building ecosystem networks that connect the sites of the two companies, protecting rare animal and plant species, conducting joint biological research, holding joint nature observation meetings, and carrying out joint voluntary cleaning activities, we are also aiming to increase employee awareness at both companies.

**Collaboration (1)** Kitakami, Iwate Prefecture


**Collaboration (2)** Kawasaki, Kanagawa Prefecture

Toshiba Corporation Komukai Complex / Kawasaki Plant, D.T.Fine Electronics Co., Ltd.

Let’s Try Biodiversity—The first step in biodiversity conservation for companies—
Third-party Verification

In order to improve the reliability of the environmental performance data presented in this report, Toshiba Group requested Japan Audit and Certification Organization for Environment and Quality to provide third-party verification. The details are as follows.

Scope of the verification

- **GHG emissions caused by business processes:**
  GHG emissions generated by Toshiba Corporation and its group companies in Japan and overseas (Scopes 1 and 2)*

  We selected and visited two production sites (Smart Community Center and Japan Semiconductor Corporation Iwate Operations).

- **GHG emissions caused by use of products sold:**
  GHG emissions caused by use of products sold by Toshiba Corporation and its group companies in Japan and overseas (Scope 3 Category 11)*

*1 Scopes 1 and 2: GHG emissions generated by Toshiba through use of fuels and electricity as well as by manufacturing process (Scope 1: direct emissions; Scope 2: indirect emissions)

*2 Scope 3 Category 11: GHG emissions caused by use of products and services produced and sold during the year covered by the report.

Result

Based on research conducted in accordance with Toshiba Group’s policies and standards as well as with ISO14064-3*3, it was concluded that there are no significant items that have not been disclosed or covered by the report.

*3 ISO14064-3: Specification with guidance for the verification and validation of greenhouse gas statements

Methods of calculation

- **CO₂ emissions caused by use of fuels:** Calculated by the method set by Toshiba Group based on the Ministry of the Environment’s Manual for Calculating and Reporting GHG Emissions (Version 4.4).

- **CO₂ emissions coefficient for electricity purchasing:** 5.31 t-CO₂/10,000 kWh is used as the CO₂ emissions coefficient in Japan. GHG Protocol data is used overseas.

- **Greenhouse gases other than CO₂:** Calculated by the method set by Toshiba Group using the Global Warming Potential (GWP) in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

- **CO₂ emissions caused by use of products sold:** Calculated by aggregating the emissions estimated to be generated during use of products in the future for the year the products were sold.
Evaluations  (FY2018)

■ Evaluation of products and services

<table>
<thead>
<tr>
<th>Award Title</th>
<th>Award-winning item(s)</th>
<th>Winner</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2018 Energy Conservation Grand Prize</td>
<td>The Energy Conservation Center, Japan Chairman’s Award Example in the Energy Conservation Category</td>
<td>Toshiba Carrier Corporation</td>
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<tr>
<td>FY2018 Minister of the Environment's Award for Activities to Mitigate Global Warming</td>
<td>New Environmentally Conscious Transformer for Power Distribution ULTraNS</td>
<td>Kitasashi Electric Co., Ltd.</td>
</tr>
<tr>
<td>FY2018 EcoMark Award</td>
<td>Hybrid MFP e-STUDIO5008LP Series</td>
<td>Toshiba Tec Corporation</td>
</tr>
<tr>
<td>15th LCA Japan Forum</td>
<td>IT equipment pilot test of EU Environmental Footprint</td>
<td>Technical Secretariat for the IT equipment pilot test of EU Environmental Footprint</td>
</tr>
<tr>
<td>Jules Verne Award</td>
<td>Hydrogen energy-related achievements</td>
<td>Toshiba Energy Systems &amp; Solutions Corporation</td>
</tr>
<tr>
<td>City of Kawasaki’s Low CO2 Kawasaki Brand 2018</td>
<td>Instrument Landing System (TW452/0)</td>
<td>Toshiba Infrastructure Systems &amp; Solutions Corporation</td>
</tr>
<tr>
<td>FY2018 Kawasaki Mechanization Certification System</td>
<td>Instrument Landing System (TW452/0)</td>
<td>Toshiba Infrastructure Systems &amp; Solutions Corporation</td>
</tr>
<tr>
<td>Registered as Essential Historical Materials for Science and Technology</td>
<td>Rotary Compressor B Series</td>
<td>Toshiba Carrier Corporation</td>
</tr>
<tr>
<td>JECA Fair 2018 57th Products Award</td>
<td>LED high-bay lighting fixture</td>
<td>Toshiba Lighting &amp; Technology Corporation</td>
</tr>
<tr>
<td>6th Electrical Manufacturers’ Technology Award</td>
<td>Development of capacity expansion of the high-voltage shaft-generating system</td>
<td>Nishinsha Electric Co., Ltd.</td>
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</tbody>
</table>

■ Evaluation of communication and human resources development programs

<table>
<thead>
<tr>
<th>Award Title</th>
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<tbody>
<tr>
<td>FY2017 Fukushima Agreement for Global Warming Prevention Business</td>
<td>Initiatives to reduce and recycle waste</td>
<td>TOSHIBA MATERIALS CO., LTD.</td>
</tr>
<tr>
<td>FY2018 Yokohama Global Warming Countermeasures Award</td>
<td>Awards for collaborative initiatives among business operators</td>
<td>Toshiba Corporation</td>
</tr>
<tr>
<td>7th Kawasaki City Smart Life Style Awards</td>
<td>Reduction of GHGs through promotion of measures to reduce contract demand at Komukai Complex</td>
<td>Toshiba Infrastructure Systems &amp; Solutions Corporation / Komukai Complex</td>
</tr>
<tr>
<td>26th Yokohama environmental activity prize</td>
<td>Environmental Conservation Activities of Toshiba Environmental Solutions Corporation</td>
<td>Toshiba Environmental Solutions Corporation</td>
</tr>
<tr>
<td>FY2018 Public Benefit Contribution Award</td>
<td>Outstanding Enterprises in Environmental Protection</td>
<td>Toshiba Semiconductor (Thailand) Co., Ltd.</td>
</tr>
<tr>
<td>CSR-DW Continuous Awards FY2018 (4th year)</td>
<td>CSR Activities including Environmental Activities in General</td>
<td>Toshiba Semiconductor (Thailand) Co., Ltd.</td>
</tr>
<tr>
<td>Green Industry Award</td>
<td>Environmentally conscious industry</td>
<td>Toshiba Carrier (Thailand) Co., Ltd.</td>
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</tbody>
</table>

■ Evaluation of biodiversity

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<th>Award Title</th>
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<tbody>
<tr>
<td>Biodiversity Action Award 2018</td>
<td>Biodiversity activities for the conservation of daylily to Linaria japonica, etc.</td>
<td>Toshiba Lighting &amp; Technology Corporation</td>
</tr>
<tr>
<td>FY2018 Ishikawa Forest Environment Outstanding Contributions Award</td>
<td>Long-term conservation activities for Kaga Toshiba Forest satoyama woodland in cooperation with local NPOs</td>
<td>Kaga Toshiba Electronics Corporation</td>
</tr>
<tr>
<td>15th Ehime Miuratsamatsu Environment Award</td>
<td>Linaria japonica transplantation activities in cooperation with Ehime Prefectural Government, NPOs, experts, neighborhood associations, and local elementary school children, creation of animal and plant map of Odagahama with elementary school children</td>
<td>Toshiba Lighting &amp; Technology Corporation</td>
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We appreciate your opinions and comments about this report.  Questionnaire for Environmental Report 2019