Toshiba Group's Risks and Opportunities by Business

Risks

Energy Systems & Solutions Business

Transition Risks

- Increase in response costs and missing out on sales opportunities due to regulations on the sale of equipment that uses sulfur hexafluoride (SF_6) such as gas insulated switchgears, for which regulations are increasingly restrictive
- Missing out on sales opportunities for products due to delayed development of new technologies related to renewable energy
- Missing out on sales opportunities due to the shortage or difficulty in procuring renewable energy-related components
- Increase in product development and production costs as a result of changing the materials of energy related products for low carbonization or decarbonization
- Costs for design changes in wind power generation facilities in anticipation of stronger winds blowing due to unusual weather

Infrastructure Systems & Solutions Business

Transition Risks

- Increase in response costs and missing out on sales opportunities due to regulations on the sale of equipment that uses sulfur hexafluoride (SF_6) such as cubicle gas insulated switchgears (C-GIS) for which regulations are increasingly restrictive
- Increase in development costs as a result of introducing low carbon technologies or next-generation technologies to social infrastructure products, industrial equipment, etc.
- Increase in procurement costs due to price hikes in steel, copper, aluminum, etc.
- Increase in product development and production costs as a result of changing the materials for low carbonization and decarbonization in social infrastructure facilities, etc.

Electronic Devices & Storage Solutions Business

Transition Risks

- Increase in costs as a result of installing detoxifying equipment or changing to alternative gases due to tightened regulations on wafer-etching process gas
- Increase in amount of capital investment for reducing greenhouse gas emissions
- Missing out on sales opportunities due to being unable to develop products for low carbonization or decarbonization including power semiconductors at an appropriate time
- Increase in procurement costs due to price hikes in main components

Physical Risks

- Impact on manufacturing processes and increase in costs attributable to water shortage due to temperature rise

Digital Solutions Business

Transition Risks

- Missing out on sales opportunities due to a shortage of digital human resources who facilitate the advancement of technologies that develop the digital economy (DE*1 → DX*2 → QX*3), and increase in development costs in this area
- Increase in costs for securing and developing digital human resources for facilitating the expansion of the digital service market

*1: Digital Evolution *2: Digital Transformation
*3: Quantum Transformation

Physical Risks

- Temporary suspension of product and service provision due to natural disasters caused by unusual weather, resulting in customers to whom products are delivered (factories, etc.) being affected by them and distribution being cut off

Battery Business

Transition Risks

- Increase in costs for automotive battery products due to tightening of automobile fuel consumption regulations (CAFE*4 regulations, etc.)
- Increase in procurement costs due to export controls in rare earth producing countries
- Increase in response costs and price pass-through to procured items due to the EU battery regulation
- Increase in energy costs due to delayed investment in technologies that reduce greenhouse gas in manufacturing processes
- Missing out on sales opportunities due to delayed development of materials that emit less greenhouse gas for reducing carbon footprint
- Increase in procurement costs as a result of changing materials due to more advanced energy saving technologies for battery products
- Missing out on overseas sales opportunities due to delayed investment decisions in response to increasing demand for automotive battery products, etc.

*4: Corporate Average Fuel Efficiency

Opportunities

Energy Systems & Solutions Business

- Increase in demand for renewable energy-related technologies
- Increase in demand for hydrogen solutions
- Increase in demand for virtual power plants (VPP)
- Increase in demand for SF_6 gas-free equipment
- Spread and expansion of CCUS (carbon capture, use, storage)

Response

Renewable Energy

Hydrogen Energy

VPP (Virtual Power Plant)

Toshiba and Meidensha to develop GIS jointly using natural origin gases (News Release)

Efforts for CO_2 emission reduction – CO_2 capture technology

Development Project of Integrated Demonstration Facility and Supply Chain for Sustainable CCUS Adopted by Ministry of the Environment (News Release)

Infrastructure Systems & Solutions Business

- Increase in demand for railway systems using batteries that contribute to reducing environmental impacts
- Increase in demand for automotive products due to increased sales of electric vehicles
- Increase in demand for disaster management solutions
- Increase in demand for products with low CO_2 emissions and systems linked to such products

Response

Railway Systems

Automotive Systems

Disaster Management Solutions

Stormwater Drainage

Renewable Energy Power Generation Systems

Weather Radar

Robotics, Logistics System Solutions

Electronic Devices & Storage Solutions Business

- Increase in demand for energy efficiency products, including power semiconductors and high-efficiency semiconductors
- Increase in demand for semiconductor products that are adapted to demand for energy saving products.
- Increase in demand for products related to electric vehicles due to the expansion of their market
- Increase in demand for low power-consumption helium-filled HDDs

Response

Power Semiconductors

Toshiba to Expand Power Semiconductor Production Capacity with 300-millimeter Wafer Fabrication Facility (News Release)

Automotive Devices

Storage Products

Digital Solutions Business

- Increase in demand for ICT solutions (manufacturing IoT solution “Meister Factory series,” manufacturing IoT cloud service “Meister ManufactX™,” etc.) that contribute to reducing greenhouse gas through improved productivity and streamlining of operations
- Increase in demand for co-creation and collaboration with partners who are developing decarbonization businesses (strategic procurement solution “Meister SRM™,” etc.)
- Increase in demand for maintenance, operation, and recurring businesses for reducing environmental impacts
- Increase in demand for co-creation and data utilization businesses (human resource management solution “Generalist®”, etc.) that involve customers and the industry

Response

Factory IoT Platform

Manufacturing IoT Cloud Service “Meister ManufactX™”

Strategic Procurement Solution “Meister SRM™”

Collaboration with Zeroboard Inc. on GHG Emissions Calculation and Visualization Services

Human Resource Management Solution “Generalist®”

Battery Business

- Increase in demand for automotive batteries as a result of the shift to hybrid and electric vehicles
- Increase in demand for stationary and industrial batteries with high energy saving performance intended for railways, vessels, industrial equipment, etc.
- Increase in demand for storage battery systems due to accelerated introduction of renewable energy
- Increase in demand for products that meet needs for adaptation measures such as emergency storage battery systems

Response

SCiB™ Rechargeable battery

Toshiba's SCiB™ rechargeable battery used in various fields

SCiB™ Topics

Sustainability of SCiB™

Construction of Yokohama Battery Operations for Increasing Production of Lithium-ion Batteries (Completed in 2021)