

# ENVIRONMENT RESEARCH AND TECHNOLOGY DEVELOPMENT FUND FY2021



# What is the Environment Research and Technology Development Fund?

## ■ Objective

### **To contribute to the promotion of environmental policy through research and technical development**

The aim of the Environment Research and Technology Development Fund (ERTDF) is to collect scientific knowledge and accelerate technological development as necessary to promote policies such as measures for coping with climate change, creation of a sound material-cycle society and establishment of a society in harmony with nature, while ensuring security and safety through environmental risk management. The fund promotes research and development in the area of environmental issues overall.

## ■ Features

### **Adopting and executing research proposals which meet administrative needs in accordance with environmental policies**

The ERTDF is a policy-oriented, competitive fund. It calls for proposals from industry, academia and government institutes. Proposals are expected to address major issues shown under “Promotion Strategy for Environmental Research and Environmental Technology Development” (in accordance with a decision by the Minister of the Environment on May 21, 2019) and administrative needs. They are competitively examined and selected by the committee and appropriate subcommittees.

The ERTDF strongly promotes research and development in accordance with strategic administrative needs. For example, the “Strategic Research and Development Area (I and II)” consists of competition among research teams based on an outline for selecting research themes and project leaders established by the Ministry of the Environment.

### **Ensuring a transparent and fair evaluation process by using committees composed of outside specialists**

The ERTDF comprises a committee and several subcommittees consisting of outside specialists. The committee is responsible for selection of proposals, intermediate evaluation and ex-post evaluation. Proposals are examined and selected by the committee and appropriate subcommittees in terms of necessity, efficiency and effectiveness of the research.

To ensure transparent, fair and efficient fund management, the Ministry of the Environment refers to evaluation results to decide which research projects to adopt and allocate a research budget in order to support appropriate progress in the research projects.

## ■ Research Fields

Starting in fiscal 2019, research has been done in the following five fields in line with the “Promotion Strategy for Environmental Research and Environmental Technology Development.”

### • **Common to All Fields / Cross-sectional through Different Fields**

- Presentation of visions and principles toward the realization of a sustainable society
- Research and technical development toward the realization of visions and philosophies
- Values and lifestyle changes toward the realization of a sustainable society
- Discovery and utilization of new technology “seeds” that contribute to solving environmental issues
- Research and technical development that contribute to responses to environmental issues caused by disasters
- Research and technical development that contribute to the solution of global issues (corresponding to the marine plastic waste problem)
- Other related measures

### • **Climate Change Field**

- Research and technical development of mitigation measures for climate change
- Research and technical development toward adaptation to climate change
- Clarification, forecasting and assessment of measures in response to global warming phenomena
- Other related measures

### • **Sound Material-Cycle Field**

- Research and technical development on construction of waste treatment systems contributing to creation of a Circulating and Ecological Economy
- Research and technical development on thorough resource circulation throughout its life cycle
- Research and technical development on securing appropriate sustainable waste disposal in response to changes in social structure
- Other related measures

### • **Harmony with Nature Field**

- Research for the enhancement of scientific knowledge that contributes to conservation of biodiversity and technological development of countermeasures
- Research and technical development for sustainable use of ecosystem services and elucidation of systems
- Other related measures

• **Safe & Secure Field**

Research for promoting inclusive risk evaluation and management of chemical substances

Research to advance, assess and clarify countermeasure techniques for managing and improving air, water and soil environments

Other related measures

\*Research and technological development for CO<sub>2</sub> emission reduction at energy origin is funded by the Special Account for Energy Policy.

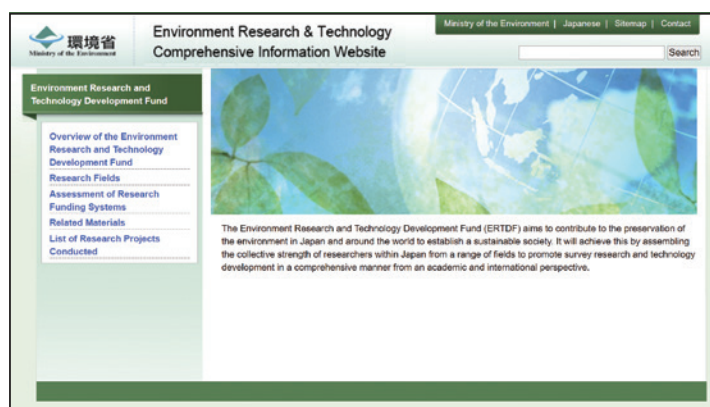
The ERTDF system is explained on the following Ministry of the Environment (MOE) websites:

<https://www.env.go.jp/policy/kenkyu/>

<https://www.env.go.jp/policy/kenkyu/suishin/gaiyou/>

Information on calls for proposals is provided at the Environmental Restoration and Conservation Agency’s (ERCA’s) ERTDF website:

<https://www.erca.go.jp/suishinhi/>



■ **History of the ERTDF**

The ERTDF originated through the integration of three competitive research funds, the Global Environmental Research Fund (GERF), the Environment Technology Development Fund (ETDF) and the Grant-in-Aid for Scientific Research about Establishing a Sound Material-Cycle Society.

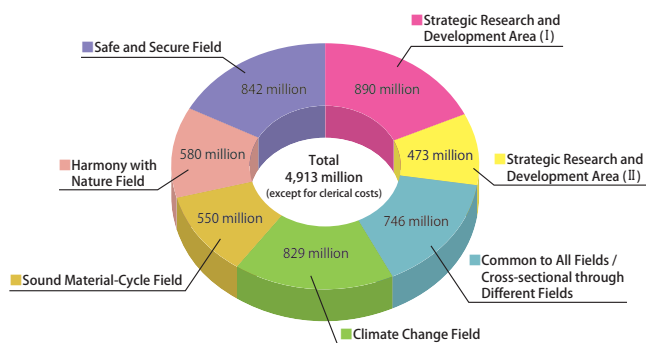
In 2012, we established a reconstruction framework funded by the Great East Japan Earthquake Reconstruction Special Account, through which we promoted accumulation of scientific knowledge and technological development essential for expedited reconstruction of the affected areas. Research on subjects within the reconstruction framework was concluded in 2014.

Since October 2016, a part of the ERTDF’s funding operations was entrusted to the Environmental Restoration and Conservation Agency of Japan (ERCA), to promote the Fund’s effectiveness and efficiency.

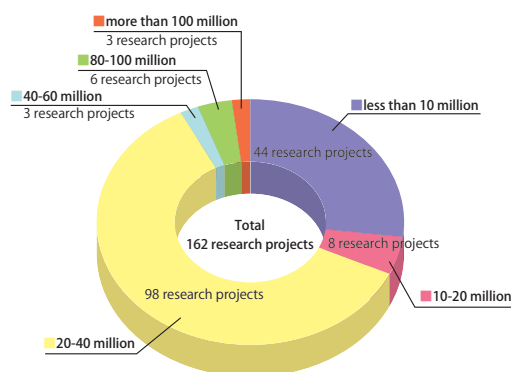
■ **Number of Research Projects Underway and Budget in Fiscal 2021**

In fiscal 2021, 2 new projects in Strategic Area (I), 1 new project in Strategic Area (II) and 45 new projects in Environmental Problem Research Area have been newly adopted. As a total in fiscal 2021, the research projects conducted comprise 9 Strategic Area projects (4 in Area (I) and 5 in Area (II)) and 153 others (excluding 2 Strategic Area projects and 6 others that have been allowed an extended research term due to COVID-19).

**Research Projects Conducted in Fiscal 2021**



Budget allocated for research fields (unit: yen)



Numbers of research projects per budget size (unit: yen)

# Strategic Research and Development Area (I & II) – Projects and Research terms –

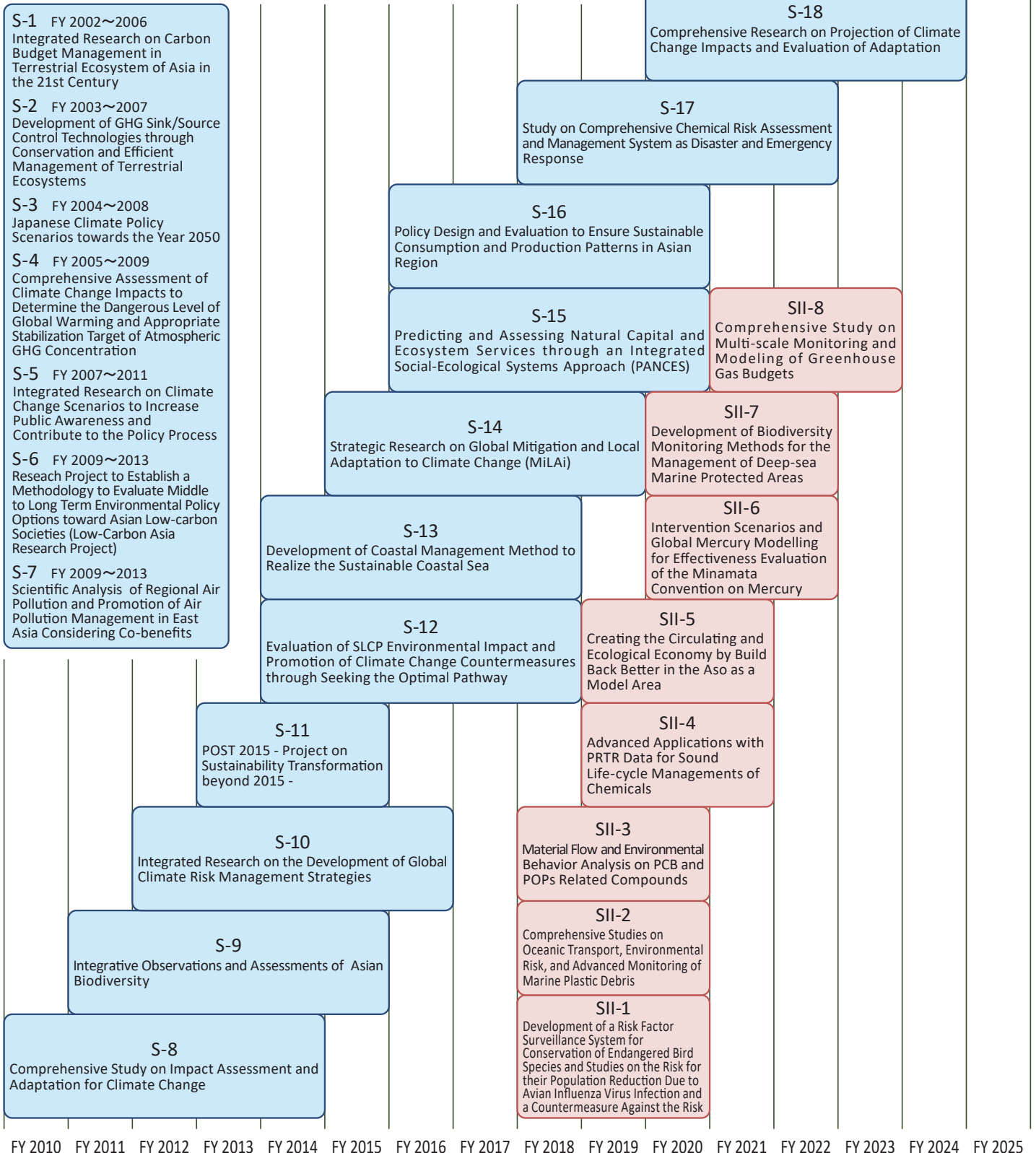
■ Area (I) ■ Area (II)

## ● Strategic Research Project (I):

A large-scale research and development project that should receive particular focus or is expected to produce pioneering results. Call for research topics that constitute the strategic research theme will be made by the Ministry of the Environment. The research period is within 5 years.

## ● Strategic Research Project (II):

A medium-scale research project that should focus on efforts in a short period of time. Call for research topics that constitute the strategic research theme will be made by the Ministry of the Environment. The research period is within 3 years.



# List Research Projects Conducted in FY 2021

Project Code / Research Title

\* The research period is extended due to COVID-19

## Strategic Research and Development Area ( I ) Total 4 research projects

- S-17 / Study on Comprehensive Chemical Risk Assessment and Management System as Disaster and Emergency Response
- S-18 / Comprehensive Research on Projection of Climate Change Impacts and Evaluation of Adaptation
- S-19 / Comprehensive Study on the System Development of Plastics for Sustainable Resource Circulation and Control of Leakage into the Ocean
- S-20 / Research on Mitigation to Climate Change and Environmental Impacts Caused by Short-Lived Climate Forcers

## Strategic Research and Development Area ( II ) Total 7 research projects

- SII-1 / Development of a Risk Factor Surveillance System for Conservation of Endangered Bird Species and Studies on the Risk for their Population Reduction Due to Avian Influenza Virus Infection and a Countermeasure Against the Risk \*
- SII-2 / Comprehensive Studies on Oceanic Transport, Environmental Risk, and Advanced Monitoring of Marine Plastic Debris \*
- SII-4 / Advanced Applications with PRTR Data for Sound Life-cycle Managements of Chemicals
- SII-5 / Creating the Circulating and Ecological Economy by Build Back Better in the Aso as a Model Area
- SII-6 / Intervention Scenarios and Global Mercury Modelling for Effectiveness Evaluation of the Minamata Convention on Mercury
- SII-7 / Development of Biodiversity Monitoring Methods for the Management of Deep-sea Marine Protected Areas
- SII-8 / Comprehensive Study on Multi-scale Monitoring and Modeling of Greenhouse Gas Budgets

## Common to All Fields / Cross-sectional through Different Fields Total 34 research projects

- 1-1901 / Study on the Global Pact for the Environment and Appropriate International and Domestic Norms to Effectively Enhance Environmental Protection
- 1-1902 / Development of Analytical Methodology of Sustainable Development by Regional Circular and Ecological Sphere
- 1-1903 / Installation of Participatory Database for the Sustainable Resource Management and Socioeconomic Development in the Agro-rural Area
- 1-1904 / Chemical Spill Scenarios Construction due to the Disaster and Accident and Disaster Prevention and Mitigation Strategy
- 1-1905 / Policy Measures to Innovate Synergistic Co-actions for People's Health and Global Environment under Climate Change with Urban Heat Wave in Vulnerable Aging Society
- 1-1906 / Elucidation of Mechanism of Cesium Immobilization in Contaminated Soil and Development of Practical Technology for Reducing the Volume of Radioactive Waste
- 1-1907 / Development of Highly Efficient Continuous Regeneration Type PM2.5 Removal Device Operated at Waste Heat
- 1-1908 / Assessing the Influence of Microplastics on the Immune System with Bio-MENS Technologies
- 1-1909 / Development of High Accuracy Estimation Method for Carbon and Anthropogenic Heat Emissions with a Building Energy Model and Monitoring Data
- 1RF-1901 / Development of a Monitoring System Utilizing Artificial Intelligence Technology for Removed Contaminated Soil
- 1RF-1903 / Development of on-site System for Ammonia as Green Refrigerant
- 1RF-1904 / Restructure of the Wastewater Treatment and Sludge Recycling Systems to Achieve Both the Improvement in Business and Environment Performances
- 1-2001 / Regional Circular and Ecological Sphere: Theory and Practice
- 1-2002 / Impact of Changes in Socio-economic Activity and Consumption Behavior on Realization of Decarbonized Society in Japan

- 1-2003 / Development of Integrated Assessment Approach for Designing and Assessing the Socio-economic Impact on Regional Circular and Ecological Sphere utilizing Regional Resources
- 1-2004 / Optimization of Disaster Waste Treatment Process by Utilizing AI and Construction of Support System for Preparation of Treatment Plan / Treatment Execution Plan
- 1-2005 / Research and Development of a Simulation Support System for Evaluating Air Pollution Measures
- 1G-2001 / Requirements for the Mobility Revolution toward a Decarbonized Society
- 1G-2002 / Development of Novel Environmentally-Friendly Waste Incinerator System Using Steam Recovery Membranes
- 1RF-2001 / Study on Generation of Microplastics in Agricultural Land and Transfer to Marine Environment
- 1RF-2002 / Development of Real-time AI Technologies and Ecological Driving Assistance System
- 1J-2001 / Development of Cellulose Nanofiber Composite for Commercial Use
- 1-2101 / A Study on Global Decarbonization Pathways Considering Technological, Economic and Social Feasibility
- 1-2102 / Development of Advanced Energy Conversion Technology Systems for Utilization of Radioactively-contaminated Biomass and Implementation Scenarios towards Decarbonized Society
- 1-2103 / Development of a Continuous Measurement System for Characterization of Marine Microplastics Using Raman Microscope
- 1-2104 / SDGs Localization Research: Pursuing Solutions to Sustainability Challenges
- 1-2105 / Exhaustive Analysis of Reduction Effect of Environmental Burdens in Collection, Transportation and Treatment of Johkasou Sludge by Using Sludge Thickening Vehicles and Proposal of the Optimal Method for Utilization
- 1G-2101 / Promotion of Expanded Use of Biomass-based Plastics through Cellulose Nanofiber Reinforcement
- 1G-2102 / Development of High-throughput Analysis and Remediation Technology of Per- and Polyfluoroalkyl Substances
- 1RF-2101 / Development of Main-Group-Catalyzed Systems for Hydrogen Purification from Crude Hydrogen Gases/Biogases via Sequential Hydrogenation/Dehydrogenation Reactions of Organic Compounds
- 1RF-2102 / Development of Accelerated Weathering Tests to Explore Fragmentation of Marine Plastic Debris, and Assessment of Actual Behavior in the Environment Considering Influence of Additive Chemicals
- 1RF-2103 / Prediction System for Radionuclides Redistribution due to Wild Fire in Contaminated Regions
- 1RF-2104 / Development of Porous Oxide Materials for Promoting Recycling of Lithium from Spent Batteries
- 1RF-2105 / Development of Microbial Cultivation and Crystallization Strategies for the Production of Valuable Materials Using Methane as a Carbon Source

## Climate Change Field

Total 32 research projects

- 2-1802 / Estimation of Regional-Global Methane Emissions and Refinement of Its Estimate by GOSAT-2 and Surface Observations \*
- 2-1901 / Development of GOSAT-2 PM2.5 and BC Product Validation Methodology Applicable to an International Observation Network
- 2-1902 / Development of an Estimation Methodology Based on Clarification of the Mechanism of Greenhouse Gas Emission from Treated/Untreated Wastewater Discharged into Water Environment
- 2-1903 / High-Precision Estimate of Ecosystem-Level Photosynthesis with Solar-Induced Fluorescence Detected by Satellite GOSAT-2
- 2-1904 / Drawing Storylines of Extraordinary Weather Phenomena around Japan for an Impact Assessment of the Climate Change
- 2-1905 / Climate Change Adaptation to Disasters in Urban Environments
- 2-1906 / Estimation and Reduction of Greenhouse Gas Emission from Adhesives for Wood Based Materials

- 2-1907 / Research on Information Design to Promote Climate Change Adaptation
- 2-1908 / Assessment of Further Reduction of GHG Emissions in Asian Countries and Benefit to Japan by Assisting their Reduction Efforts
- 2-1909 / Assessment of Soil Carbon Stock Changes due to Land Use Changes and Its Application to National Greenhouse Gas Inventories
- 2-1910 / Research on Development and Social Implementation of Supporting-tools for Municipalities towards Low Carbon Society
- 2RF-1901 / Reuse of Recovered Fluorocarbons by Direct Chemical Transformation
- 2RF-1902 / Sustainable Production Scheme of Water-Electricity-Ammonia in the Dead Sea Basin
- 2-2001 / Study on Sustainable Ecosystem Management of River Watersheds toward Climate-Change Adaptation
- 2-2002 / Global Analyses of Climate Mitigation for Achieving Net-zero Emissions and Sustainable Development
- 2-2003 / Arctic Aerosols: Behavior, Radiative Forcing, and Linkage with Global Warming
- 2-2004 / Development of Comprehensive Assessment Methods and Adaptation Measures for Climate Change Impacts on Water-related Disaster, Agriculture, Freshwater Ecosystem and Local Economy
- 2-2005 / Synergies and Trade-offs among Climate Policies and Sustainable Development Goals in Terms of Water Sector
- 2-2006 / Evaluation and Future Prediction of the Effect of Climate Change on Asian Forest Soil Carbon Dynamics Based on a Comprehensive Field Study
- 2-2007 / Biological Effect of Ocean Acidification and Hypoxia
- 2-2008 / Designing Carbon Pricing Instruments with Consideration of the Effective Carbon Rate: Reconciliation of Efficiency and Regional Equity
- 2-2009 / Assessment of Climate Change Impacts and Adaptation Measures in Cold, Snowy Regions
- 2RF-2001 / Development of CO<sub>2</sub> Selective Adsorbents Using Lewis Acidic Zeolites
- 2RF-2002 / Practical CO<sub>2</sub> Fixation into Organic Molecules Using a Combined Brønsted Base
- 2RF-2003 / Development of a Spatio-Temporal Seamless Precipitation Scheme for Global Warming Prediction
- 2-2101 / Impact Assessment of Climate Change on Water and Nutrient Transport with Adaptation Options for Toyama
- 2-2102 / Study on Responses to Compound Risks of Climate Change
- 2-2103 / Roadmap toward the Substantially Zero-Carbon and Self-Supportive Local Energy System in the Year 2050
- 2-2104 / Decarbonization Transition: Multi-model Assessment of Innovation and Lifestyle Change
- 2-2105 / Development of National and Local Governments' Carbon Management System for Building Sector
- 2-2106 / Research on the Heat Risk Related to Urban Heat Islands Using Population Flow Data and a Thermal Simulator
- 2RF-2101 / Development of Highly Effective CO<sub>2</sub> Conversion by the Electromagnetic-Wave Assisted Chemical Process Using Spinel Catalysts with Ultra-High Specific Surface Area
- 3RF-1901 / Development of Wet Ball Milling Process for Simultaneous Recovery of High Purity Copper and Polyvinyl Chloride from Wire Harness
- 3RF-1903 / Development of Heterogeneous Fenton Catalyst System Capable of Regenerating for Advanced Degradation Treatment of Persistent Pollutants
- 3-2001 / Regional Circular Livestock System Based on Large Improvement of Power Generation Efficiency Using Ammonia Derived from the Livestock Waste
- 3-2002 / Recycling Treatment of Amorphous Silicon Photovoltaic Panels by High-voltage Pulse Liberation
- 3-2003 / Development of Solid Oxide Fuel Cells (SOFCs) for the Realization of Biogas-Fueled Autonomous Decentralized Power Supply with High Efficiency
- 3-2004 / Development of Environmentally Benign Extractants and Construction of Highly Efficient Recycling Processes for Critical Metals
- 3G-2001 / Construction of a Highly Business-Profitable Sewage Sludge Circulation System through Composting in Collaboration with Local Industries
- 3G-2002 / Development of Recycled Carbon Spun Yarn for Continuous Fiber Reinforced Thermoplastic Composite Materials
- 3RF-2001 / Development of Zwitterionic Poly (ethylene terephthalate)-Derivatives That Have Antifouling and Facile Recycling Properties
- 3RF-2002 / Odor Removal Technology Using Aluminum Dros
- 3J-2001 / Practical Implementation of Cement-solidification-style Landfill Technology for Resilient Solid Waste Management
- 3-2101 / Appropriate Management Measures of Lithium-iron Batteries at Recycling and Disposal Processes Based on Investigation of Fire Accidents
- 3-2102 / Toward the Environmentally Sound Management of Waste Containing New Fluorinated POPs: Elucidating their Occurrence and Decomposition Behavior
- 3-2103 / Establishment of Landfill Emission Model for Determining the Post-closure Care Period by Physics- and Statistics-combined Approach
- 3G-2101 / Development of Contactless Garbage Collection Systems and Scenarios Construction for Social Implementation
- 3G-2102 / Development and Application of Cost-effective High-strength Titanium Alloys Using In-process Wastes
- 3G-2103 / Demonstration Development of Recycling Technology for Woody Biomass Combustion Ash for Geopolymer Concrete
- 3RF-2101 / Demonstration of Heat Discharging Process of Thermal Energy Storage and Transport System for Recovering Unused Heat from Waste Incineration Plant in Vicinal Industries
- 3RF-2102 / Development of Kolbe Electrolysis System for Complete Utilization of Soapstock Discharged from Vegetable Oil Refining

## Harmony with Nature Field

**Total 31 research projects**

- 4-1802 / Spatial Prioritization of Biodiversity and Ecosystem Services to Environmental Changes: a Case of Adaptive Management of Land Use for Japan \*
- 4-1804 / Development of Ecosystem Management Techniques for Forests on Okinawa and Amami Islands toward a Natural World Heritage Site \*
- 4-1805 / Complementary Role of Green and Gray Infrastructures : Evaluation from Disaster Prevention, Environment, and Social and Economical Benefit \*
- 4-1806 / Investigating Coral Bleaching Mechanisms and Potential Biochemical Prevention/Rescue Measures \*
- 4RF-1802 / Elucidation of the Influence of the Rodenticide Spraying on Wildlife in the Ogasawara Islands \*
- 4-1901 / Research and Technical Development toward Fulfilling Scientific Knowledge on Conservation of the Endangered Aquatic Insects and Restoration of their Habitats in Satochi (Rural Settlements) in the Ryukyu Archipelago
- 4-1902 / Construction and Verification of Tailor-made Biological Conservation Strategy Based on Genome Information
- 4-1903 / Improvement of Intestinal Environments toward Re-introduction of Japanese Rock Ptarmigans
- 4-1904 / Development of Technologies for Invasive Species Countermeasures, Using Ants as a Model
- 4-1905 / Development of Conservation and Management Technique for Large Mammals in Shiretoko World Natural Heritage Site

## Sound Material-Cycle Field

**Total 26 research projects**

- 3-1901 / Promotion of International Harmonization of Analytical Methods for Environmentally Sound Management of Plastic Wastes Containing Newly Listed POPs
- 3-1902 / Indicator Development and Integrated Assessment of Environmental, Economic, and Social Aspects for Establishing a Sound Material-Cycle Society
- 3-1903 / Environmental, Economic and Social Impact Assessment of Reducing Japanese Food Loss and Waste
- 3-1904 / Fate of Persistent Organic Pollutants and Candidate POPs Leaching from Landfills
- 3-1905 / Feasibility and Effectiveness Analysis of ICT for Reverse Supply Chain Management
- 3-1906 / Performance Inspection and Climate Change Adaptation Measures for Final Waste Disposal Sites with Life Prolongation
- 3-1907 / Sustainable Systems of Municipal Solid Waste Management in Depopulated and Aging Areas of Japan

- 4-1906 / Developing a Model of Conservation and Management of National Parks as Regional Resources in an Era of Co-production
- 4-1907 / Technical Development for Establishing Criteria of Local Environmental Stressors Contributing to Coral Reef Conservation and Related Proposal for Adapting the Era of High CO<sub>2</sub>
- 4RF-1901 / Identification of Attractive and Aversive Sound Targeting Invasive Alien Species, Green Anole (*Anolis carolinensis*)
- 4RF-1902 / Evaluating Land River and Sea Connectivity through the Ecology of Small Diadromous Fishes
- 4-2001 / Taxonomic Revisions of Threatened Plants Based on Species Identification Technology Developed Using Next-generation DNA Barcodes
- 4-2002 / Construction of Cost-effective Workflows Enabling Development of Simplified Identification Tools and Designation of Endangered Species of Amphibians and Reptiles
- 4-2003 / Development of Fundamental Management Information for Iriomote Island by a Quantitative Floristic Study toward Its Nomination to World Heritage
- 4-2004 / Development and Application of Environmental DNA Techniques for Evaluating Distribution and Population Status of Rare/Invasive Species
- 4-2005 / An Ecological Approach to Zoonotic Disease Control Represented by SFTS
- 4-2006 / Improvements of Countermeasures for the Decision-making Process of Invasive Alien Mammals
- 4G-2001 / Development of Simple Monitoring Methods for Population Density and CSF Infection Status of Wild Boar
- 4RF-2001 / Comprehensive DNA Barcoding for Identifying Threatened Marine Annelids: Facilitating Detection, Description, Taxonomic Revision, and Distribution Data Collection of Rare Species
- 4RF-2002 / Evaluating Cultural Services in National Parks: Application of Machine Learning Methods on Social Media Data
- 4-2101 / Ex Situ Conservation of Endangered Wildlife Using Germ Cells
- 4-2102 / Prediction of Sea Ice and Ocean Variations and Climate Change Risk Assessment on Marine Ecosystems in the Southern Sea of Okhotsk including Shiretoko, a World Natural Heritage
- 4-2103 / Development of a High-Resolution Image Analysis System for Monitoring and Forecasting Plankton Dynamics in Lake Ecosystems
- 4G-2101 / Developing Application Methods for Preventing Fire Ants (*Solenopsis spp.*) Nesting in Container Yards by Filling Silicone Resin and Its Infestation in Marine Containers by Placing Microencapsulated AITC
- 4G-2102 / Development of the Radar Image Analysis System for Distinguishing a Flight of Birds and Bats Aiming at an Application to Environmental Impact Assessment
- 4RF-2101 / Study on the Cryopreservation of Butterfly Ovary for Future Utilization of the Cryopreserved Tissues of *Celastrina Ogasawaraensis*.
- 4RF-2102 / Establishment of New Basic Technology for Risk Assessment of Environmental Pollutant in Wildlife by Using Culture Cells
- 4RF-2103 / Genetic and Epigenetic Changes Against Urbanization and Gene Flow Swamping Local Adaptation

## Safe and Secure Field

**Total 36 research projects**

- 5-1901 / Development of Automated Asbestos-Monitoring System Using Fluorescent Microscopy and Its Application to Analysis of Asbestos Dispersion at Demolition Sites
- 5-1902 / Developing Risk Assessment Methods for Chemicals in Sediment That Consider Exposure Routes and Bioavailability to Benthic Organisms
- 5-1903 / Research and Development of a Simulation Support System for Evaluating Air Pollution Measures
- 5-1904 / Development of Methods for Durability Evaluation and Performance Recovery of After Treatment Devices for Diesel Vehicle Exhaust Gas
- 5-1905 / Estimation Model Development for Evaporation Potential from Contaminated Soil and Inhalation Risk Assessment
- 5-1951 / Environmental Epidemiologic Study Regarding the New Chronic Cough Produced by Particulate Matters Including Polycyclic Aromatic Hydrocarbons
- 5-1952 / Evaluation of Effects of Environmental Pharmaceuticals on Fish Reproduction
- 5-1953 / Screening and Exploration of New Biomarkers for Thyroid-Hormone-Receptor Binding Chemicals
- 5-1954 / Contamination of the Aquatic Environment by Pharmaceutical and Personal Care Products: Environmental Risk Assessment and Removal from Wastewater
- 5-1955 / Association between Chemical Components of Airborne Particulate Matter and Incidence of Allergy and Lifestyle-related Disease in Childhood
- 5RF-1901 / Development of the Indicator to Assess Ecosystem Health for Eutrophic Lakes by Using Wakasagi Smelt (*Hypomesus nipponensis*)
- 5RF-1902 / Development of Highly Selective Inorganic Anion-Exchange Materials for Efficient Removal of Nitrate Ions
- 5RF-1951 / Development of a Screening Assay to Predict and Detect for the Effect of Endocrine Disrupting Chemicals
- 5-2001 / Prediction and Detection of Variability in Asian Dust Emission and Transport Affected by Climate Change
- 5-2002 / Exposure Sources of Environmental Chemicals and Their Effect on Adolescent Health
- 5-2003 / Systematic Development of Pharmacokinetic and Exposure Reconstruction Models for Chemicals of Personal Use
- 5-2004 / Assessment of Risks to Human Health from Particulate Emissions from Aircraft and Strategies for Risk Mitigation in Relation to the International Civil Aviation Organization Standard
- 5-2005 / Development of Hydrodynamic-Benthic-Ecosystem Model for Management of Nutrient Load into the Seto Inland Sea
- 5-2006 / Development and Application of Microbial Source Tracking Tools for Emerging and Re-emerging Infectious Risk Management in Water Environment
- 5-2007 / Effects of PM<sub>2.5</sub> Exposure on Cerebral Circulation and Prognosis of Ischemic Stroke
- 5RF-2001 / Development of Low-cost High-spectral-resolution Lidar for Air Quality Monitoring Network
- 5RF-2002 / Development of Post-processing for Chemical Weather Forecasting Using Machine Learning Method
- 5RF-2003 / Mercury Pollution and Its Comprehensive Risk Analysis in ASGM Site
- 5RF-2004 / Experimental and Modeling Study on the Formation of Oxygenated Polycyclic Aromatic Hydrocarbons (PAHs) and Nitrogen-containing PAHs in the Oxidation of Hydrocarbons
- 5RF-2005 / Antibiotic Resistance in Water Environments: Gene Transfer Potential and Mechanisms
- 5RF-2006 / Occurrence of Microplastics from Tire Wear Particles and Effects of Road Traffic Flow on Spatiotemporal Distribution
- 5-2101 / Development of Behavior Prediction Methods and Effective Removal Technologies for Perfluorinated Compounds in Soil and Water Systems
- 5-2102 / Re-Consideration of Ozone Formation Mechanism and Proposal of Scientific Basis for Oxidant Control Based on Regional Characteristics
- 5-2103 / Airborne Microplastics and Health Impacts
- 5-2104 / Proposition of a Comprehensive Human Biomonitoring Method to Assess Co-exposure to Chemicals
- 5-2105 / Development and Application of a Standard Method to Predict Ozone Reduction Caused by Strategies
- 5-2106 / Diagnosis of Dynamics and Chemistry of Reactive Nitrogen Oxides in the Formation of Photochemical Oxidants
- 5G-2101 / Implementation of Target Screening Analysis for "Items to Be Surveyed" in Water Environment
- 5RF-2101 / Monitoring of Coastal Environments and Assessment of Benthos Response to Global Warming and Hypoxia Based on Bivalve Sclerochronology
- 5RF-2102 / Development of Measurement System for Individual Components of Ambient Nitrogen Oxides by Thermal Dissociation Method and Clarification of Their Behaviors by Year-round Continuous Observation at Multiple Locations in Kanto Region
- 5RF-2103 / Development of a New Method for Determining Phosphorus Flux from Lake Sediments Using a Passive Sampler

## Information on calls for proposals

### Schedule

The schedule and arrangements are announced on ERCA's and MOE's ERTDF webpages. The call for applications is announced and assignment proposals are accepted from September to October.

### Application Procedures

The necessary application forms for proposals can be downloaded from ERCA's ERTDF webpage. Proposals are accepted through the Cross-ministerial R&D Management System (e-Rad).

### Selection of Research Projects

After the application forms have been checked, the Planning Committee for Environment Research and its subcommittees composed of outside specialists will evaluate the proposed research projects. First, the proposals will be narrowed down in an initial screening of the written descriptions. The remaining proposals will then be evaluated for final selection on the basis of interviews. Notification of approved proposals will be made every March. The results of the evaluation will be sent to the applicants after the selections have been made.



Inquiry



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