

# ENVIRONMENT RESEARCH AND TECHNOLOGY DEVELOPMENT FUND FY2022



# 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.

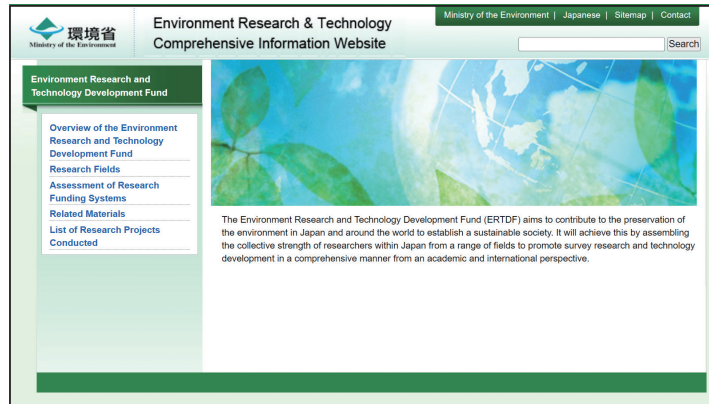
The ERTDF system is explained on the following Ministry of the Environment (MOE) websites:

<https://www.env.go.jp/policy/kenkyu/suishin/english/index.html>

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

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.

In 2022, we have established a new “medium funding framework,” for which the annual amounts of fees for supporting research project development have been revised, is aimed at providing opportunities for many researchers to make research proposals, including young researchers in a variety of fields such as natural sciences and humanities & social sciences.

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 2022

In fiscal 2022, 1 new project in Strategic Area (II) and 53 new projects in Environmental Problem Research Area have been newly adopted. As a total in fiscal 2022, the research projects conducted comprise 8 Strategic Area projects (4 in Area (I) and 4 in Area (II)) and 152 others (excluding one project that has been allowed an extended research term due to life events).

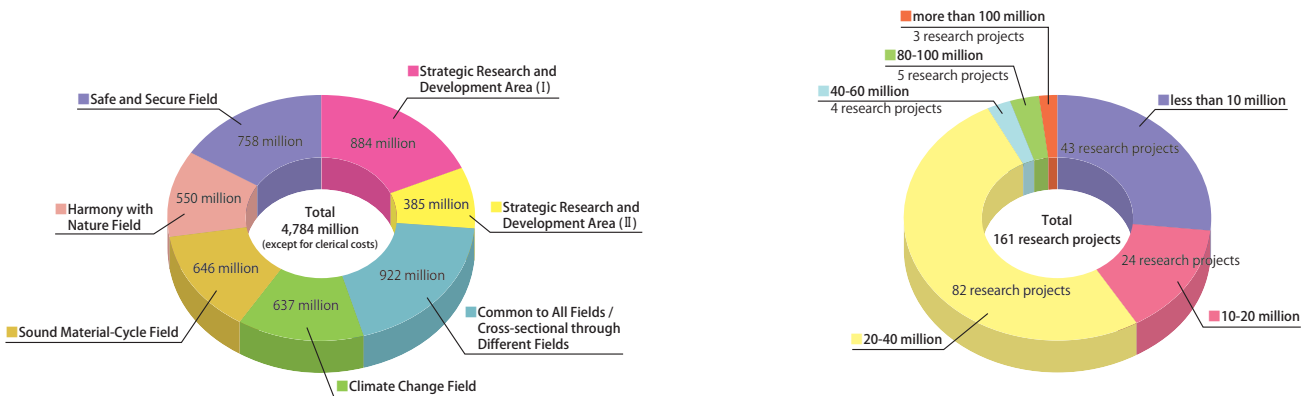
### Strategic Research Project (I)

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.

## Research Projects Conducted in Fiscal 2022



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 –

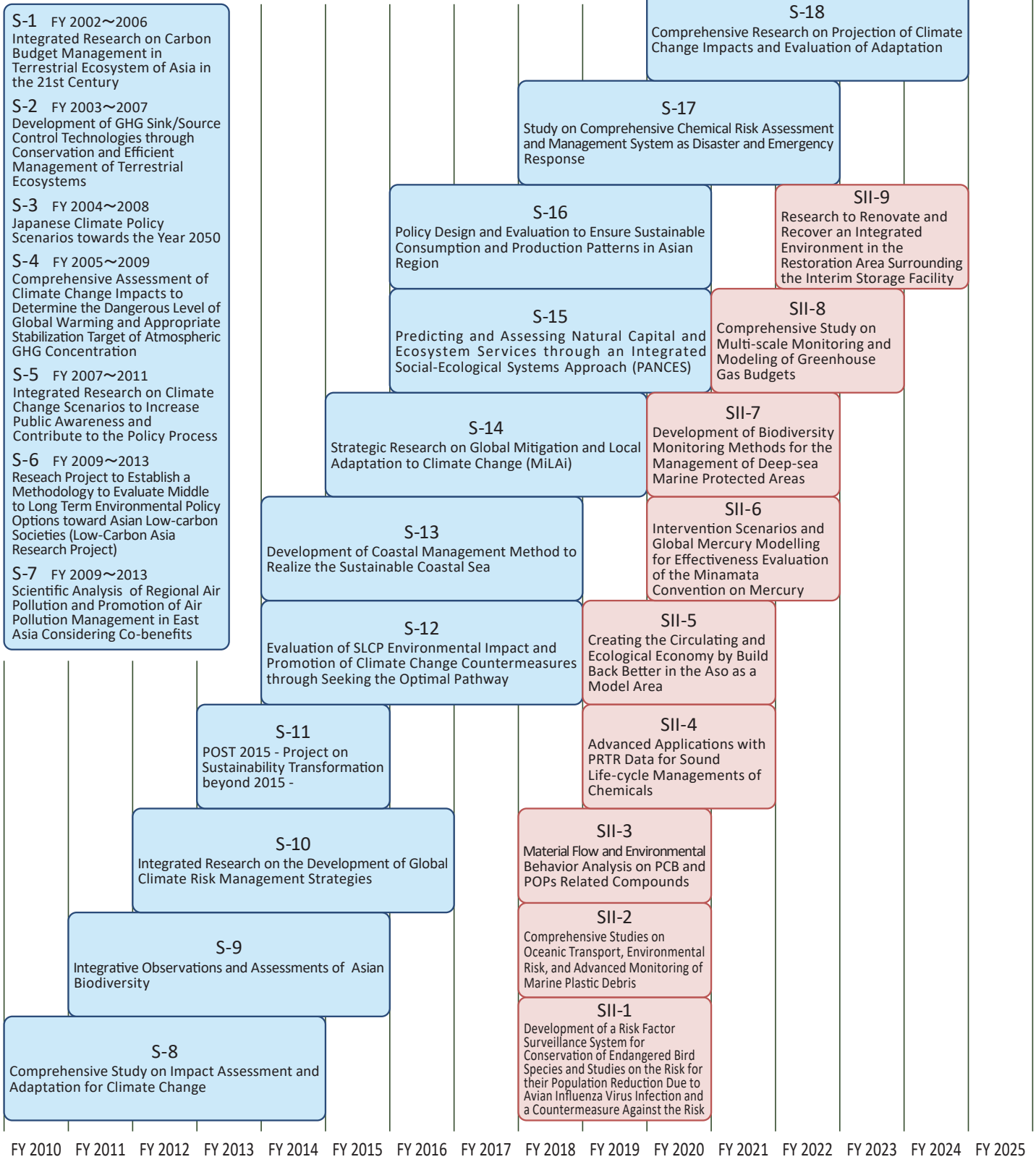
■ Area (I)    ■ Area (II)

**● 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.



FY 2010   FY 2011   FY 2012   FY 2013   FY 2014   FY 2015   FY 2016   FY 2017   FY 2018   FY 2019   FY 2020   FY 2021   FY 2022   FY 2023   FY 2024   FY 2025

## List of Research Projects Conducted in FY 2022

Project Code / Research Title

\* The research period is extended due to life events

### 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 4 research projects

- 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
- SII-9 / Research to Renovate and Recover an Integrated Environment in the Restoration Area Surrounding the Interim Storage Facility

### Common to All Fields / Cross-sectional through Different Fields Total 40 research projects

- 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
- 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
- 1-2201 / Elucidation of the Process of Marine Microplastic Fragmentation and Removal from Surface Waters Based on Long-term Time-series Sample Analysis
- 1-2202 / Research on Quantification of Roadmap Toward Climate Neutral Society in Asian Developing Countries
- 1-2203 / Proposal for a New Management Technique Using Top-down Controls of Tidal Flat Ecosystem: Balancing Fisheries and Biodiversity Conservation
- 1-2204 / Study on Microplastic Pollution and Ecotoxicological Impact in Aquatic Environments Based on Physico-Chemical Characterization
- 1-2205 / Development of Bio-recycling Technology for Waste Plastics
- 1G-2201 / Development of Next-generation Marine-coating Film and Process Realizing Energy Saving and Low Environmental Load
- 1G-2202 / Development of Rapid Boron Removal Method with a Spring Filter
- 1MF-2201 / Study on Detection and Image Analysis of Asbestos on the Surface of Waste Building Materials and its Application to Disaster Sites
- 1MF-2202 / Development of Near-Infrared Electrochromic Materials for Heat-Shield Control
- 1MF-2203 / A Comparative Study on the Governance of Follow-up and Review for the Achievement of the SDGs
- 1MF-2204 / Effects of Micro/Nanoplastics on Marine Life: Environmental Impact Assessment with an Ecological Perspective
- 1RF-2201 / Realization of a Digital Twin of Water Environment in Closed Water: Establishment of Data Assimilation Method for Ecosystem Model and Development of Long-term Water Quality Reanalysis Database
- 1RF-2202 / Analysis of Biological Effect of Polymer Molecules and Their Degradation Products for Designing Biosafety Materials
- 1RF-2203 / Development of Fabrication Route of Environment-Friendly Polysaccharide Particles
- 1RF-2204 / Evaluation of Lung Toxicity of Micro/Nano Plastics by Inhalation Exposure and Investigation of Lung Toxicity Caused by Different Surface Functional Groups
- 1CN-2201 / Research and Development of the Carbon Fixation Technology by Synthesis of Calcium Carbonates from Seawater Mimicking the Biomineralization.
- 1CN-2203 / Establishment of Biomass Powder Extrusion Molding and Insolubilization System Using Cellulose Derivative as an Auxiliary Agent
- 1CN-2206 / Research on Developing a Roadmap and Supporting Implementation of Transition Strategies for Mitigation and Adaptation Towards Realizing Climate-neutral and Resilient Societies in Developing Countries and Sub-regions in Asia
- 1CN-2207 / Reduction of CO<sub>2</sub> Emission and Boost of Ecosystem Services by Applying Biochar to Forest Ecosystems
- 1FS-2201 / Development of an Integrated Assessment Model linking Biodiversity and Socio-Economic Drivers, and Its Social Application

## Climate Change Field

Total 25 research projects

- 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
- 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
- 2-2201 / Prompt Quantification of National SLCFs Emissions from Combustion Sources in East Asia, and Its Methodological Development
- 2-2202 / Communications on Future Changes of Extreme Weather with Reduced Uncertainty Based on Physical Understandings
- 2G-2201 / Development of a Support System for Designing Regional Climate Change Adaptation Options in Consideration of the Effects and Limitations
- 2MF-2201 / Synergies of Mitigation and Adaptation of School Buildings to the Heat Risks of Climate Change
- 2MF-2202 / Development of the Novel Hybrid Energy Assisted Quick Lime Production Process to Achieve a Great Decarbonization
- 2RF-2201 / Mapping to Reduce Abandoned Cultivated Land Using Suitable Growth Area in Pear for Global Warming
- 2RF-2202 / Practical Research for the Site Selection of CCS in Green Tuff Region

## Sound Material-Cycle Field

Total 31 research projects

- 3-2001 / Regional Circular Livestock System Based on Large Improvement of Power Generation Efficiency Using Ammonia Derived from the Livestock Waste
- 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

3-2201 / Material Flow Structures in Japan in Harmony with a Carbon Neutrality Target

3-2202 / Development of Processes for Chemical Upcycling of Polyolefinic Waste Plastics

3G-2201 / Studies on Infection Prevention Measures During Collection and Transportation of Municipal Solid Waste

3G-2202 / Model and Scenario Formation of Plastic Recycling System based on Regional Characteristics

3MF-2201 / Physical and Monetary Evaluation of Circular Economy / Decarbonized Society Scenarios Using SEDA / SDGs

3MF-2202 / Design of Pilot-Scale Wet Milling Separation Process for Polyvinyl Chloride Coverings and Copper Recovery from Waste Wire Harness Cables Toward Practical Implementation

3MF-2203 / Effectiveness of Measures Using ICT and Other Tools for Preventing Household Food Waste

3MF-2204 / Study on Stabilization of Sea Area Landfill Sites and Decomposition of Residual Chelate

3RF-2201 / Development of Catalyst Synthesis Technology for Highly Efficient Conversion of Cellulosic Waste by Using Low-temperature and Environment-friendly Plasma

3RF-2202 / Energy Conversion System Using Wood-derived Carbons that Contribute to Organic Waste Resource Recycling

3RF-2203 / Innovative Molecular Catalytic Technology for Precise Molecular Transformation that Enables Carbon Resource Recycling

3RF-2204 / Research on Assessing Environmental Impact Reduction Potential for Service-oriented Circular Economy Businesses

3CN-2202 / Maximizing Environmental and Economic Effects Through Wide-area Carbon Neutral Circular Economy of Combustible Waste Including Plastics and Regional Circulation of Food Waste

3CN-2204 / Proposal for the Local Circulation System for LMO-based Lithium Ion Batteries Managed by the Conglomerate Among the Local Companies

3CN-2205 / Elucidating the Effects of Polymer-Based Flocculants on Lipid Extraction from Microalgae.

## Harmony with Nature Field

Total 26 research projects

4RF-1901 / Identification of Attractive and Aversive Sound Targeting Invasive Alien Species, Green Anole (*Anolis carolinensis*) \*

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
- 4-2201 / Database Establishment and Development of Data Acquisition Technique for Conservation of Plant-Insect Interaction Network in Ogasawara Islands
- 4-2202 / Ecophysiological Studies and Real-Time Monitoring Technology for Enabling Growth of Endangered Plant Seedlings in *in situ* Habitats
- 4-2203 / Development of Evaluation Methods for Environmental Values and User Fee Policies in National Parks
- 4MF-2201 / Evaluation of Ecosystem Functions of Vegetated Coastal Habitats and Their Use for Environmental Restoration of Coastal Ecosystem and Reconstruction of Coral Reefs
- 4MF-2202 / Assessment of Viability Based on Conservation Genomics for Species Subject to Protection and Propagation Under the Law for the Conservation of Species
- 4RF-2201 / Ecological Research of Finless Porpoise as Top Predator in Coastal Ecosystem
- 4RF-2202 / Development of the System for Early Detection and Elimination in Newly Invaded Sites of the Invasive Alien Species *Aromia bungii*
- 4RF-2203 / Investigation of Zooplankton Diversity in the Global Oceans to Understand Future Impacts of Climate Change on Marine Ecosystems
- 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 PM2.5 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-2003 / Mercury Pollution and Its Comprehensive Risk Analysis in ASGM Site
- 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
- 5-2201 / Development of an Avian in Ovo Method for Evaluating Abnormalities in Sexual Differentiation Induced by Chemicals and Proposal to Establish a Test Guideline.
- 5-2202 / Development of Assessment Method for Nutrient Management in Specific Sea Areas
- 5-2203 / Studies on Non-Exhaust Particle Emissions Including Tyre, Brake and Road Surface Wear
- 5-2204 / Research on the Development of Methods for Evaluating the Effects of Environmental Pharmaceuticals on Fish: Establishment of Integrated Evaluation Platform Based on Environmental Analysis, Molecular Biological Analysis, and Behavioral/Reproductive Analysis
- 5-2205 / Development of Ecological Risk Assessment Methods for Multiple Chemicals Based on the Similarity of Activity/Structure and Exposure Profile
- 5MF-2201 / Development and Test Experiment of a New Air Pollution Prediction System Integrated with Observational Data by Machine Learning
- 5MF-2202 / Nationwide Environmental Epidemiological Study to Quantify Health Effects of Short-term Exposure to PM2.5 Components
- 5MF-2203 / Improvement of Prediction Accuracy of VOCs and Related Pollutants by Identifying Background Concentrations and Advancement of Health Risk Assessment
- 5RF-2201 / Development of Atmosphere Emission Asbestos On-Site Detection Technology at Demolition of Buildings
- 5RF-2202 / Model Development for Predicting Concentrations of Cationic Surfactants in Japanese Rivers

## Safe and Secure Field

### Total 31 research projects

- 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



## 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

## Ministry of the Environment, Government of Japan

### Office of Environmental Research and Technology

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

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