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

Information on calls for proposals

Ministry of the Environment, Government of Japan
Office of Environmental Research and Technology
1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-8975, Japan
Tel: +81-3-3581-3351 (Main)
https://www.env.go.jp/policy/kenkyu/
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 cope with climate change, establishment 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 meet administrative needs, and 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 the necessity and effectiveness of the research, and efficient use of funds. 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 to in order to support appropriate progress in the research projects.

■ Research Fields

Starting in fiscal 2019, research will be done in the following five fields in line with the “Promotion Strategy for Environmental Research and Environmental Technology Development” (according to a decision by the Minister of the Environment on May 21, 2019).

• 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 contributes 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 creating the 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 CO₂ 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 the 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 funding operations of ERTDF was entrusted to the Environmental Restoration and Conservation Agency of Japan (ERCA), to promote effectiveness and efficiency of the Fund.

■ **Number of Research Projects Underway and Budget in Fiscal 2020**
In fiscal 2020, 1 new project in Strategic Area (I), 2 new projects in Strategic Area (II) and 55 new projects in Environmental Problem Research Area have been newly adopted. As a total in fiscal 2020 the research projects conducted comprise 11 Strategic Area projects (4 in Area (I) and 7 in Area (II)) and 148 others.

**Research Projects Conducted in Fiscal 2020**

<table>
<thead>
<tr>
<th>Budget allocated for research fields (unit: yen)</th>
<th>Numbers of research projects per budget size (unit: yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 5,070 million (except for clerical costs)</td>
<td></td>
</tr>
<tr>
<td>Safe and Secure Field 774 million</td>
<td></td>
</tr>
<tr>
<td>Strategic Research and Development Area (I) 679 million</td>
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</tr>
<tr>
<td>Harmony with Nature Field 636 million</td>
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</tr>
<tr>
<td>Sound Material-Cycle Field 461 million</td>
<td></td>
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<tr>
<td>Climate Change Field 310 million</td>
<td></td>
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<tr>
<td>Strategic Research and Development Area (II) 270 million</td>
<td></td>
</tr>
<tr>
<td>Common to All Fields / Cross-sectional through Different Fields 80 million</td>
<td></td>
</tr>
<tr>
<td>More than 100 million 7 research projects</td>
<td></td>
</tr>
<tr>
<td>80-100 million 8 research projects</td>
<td></td>
</tr>
<tr>
<td>40-60 million 5 research projects</td>
<td></td>
</tr>
<tr>
<td>20-40 million 12 research projects</td>
<td></td>
</tr>
<tr>
<td>Less than 10 million 10-20 million 15 research projects</td>
<td></td>
</tr>
</tbody>
</table>
● 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 2020

#### Strategic Research and Development Area (I)
- **S-15 / Predicting and Assessing Natural Capital and Ecosystem Services through an Integrated Social-Ecological Systems Approach (PANCES)**
- **S-16 / Policy Design and Evaluation to Ensure Sustainable Consumption and Production Patterns in Asian Region**
- **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**

#### Strategic Research and Development Area (II)
- **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-3 / Material Flow and Environmental Behavior Analysis on PCB and POPs Related Compounds**
- **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**

#### Common to All Fields / Cross-sectional through Different Fields
- **I-1801 / Comprehensive Research Design for Integrative Evaluation for Sustainable Development Goals**
- **I-1802 / Improvement of Assessment Methods for Atmospheric Behavior of Accidentally Discharged Hazardous Materials by Comprehensive Analyzing Nuclear Accident Data**
- **I-1803 / Development of Organizational Management Methodology for Smaller Public Authorities towards Appropriate Disaster Waste Management**
- **I-1804 / Development of Genetic Evaluation Method for Wild Plants in Radioactive Contamination Area**
- **I-1805 / Development of Subcritical Water Washing System for Cleanup and Reuse of Contaminated Soil and Volume-reduction of Radioactive Waste**
- **I-1901 / Study on the Global Pact for the Environment and Appropriate International and Domestic Norms to Effectively Enhance Environmental Protection**
- **I-1902 / Development of Analytical Methodology of Sustainable Development by Regional Circular and Ecological Sphere**
- **I-1903 / Installation of Participatory Database for the Sustainable Resource Management and Socioeconomic Development in the Agro-rural Area**
- **I-1904 / Chemical Spill Scenarios Construction due to the Disaster and Accident and Disaster Prevention and Mitigation Strategy**
- **I-1905 / Policy Measures to Innovate Synergic Co-actions for People’s Health and Global Environment under Climate Change with Urban Heat Wave in Vulnerable Aging Society**
- **I-1906 / Elucidation of Mechanism of Cesium Immobilization in Contaminated Soil and Development of Practical Technology for Reducing the Volume of Radioactive Waste**

#### Climate Change Field
- **2-1801 / Study on Risks due to Global Climate Change Impacts that could Affect Socio-economic Activities in Japan**
- **2-1802 / Estimation of Regional-Global Methane Emissions and Refinement of Its Estimate by GOSAT-2 and Surface Observations**
- **2-1803 / Better Quantification of Anthropogenic Emissions of Black Carbon and Methane in East Asia and Cost-benefit Analysis of Emissions Reduction**
- **2-1804 / Scenarios for Expanding Renewable Energy Use Considering Visions of Society in 2050**
- **2-1805 / Shared Socioeconomic Pathways for Climate Change Impact and Adaptation Assessment in Japan**
- **2RF-1801 / Development of Hydrogen Storage Materials for Medium-Distance Transportation and Long-Term Storage**
- **2RF-1802 / Development of an Open Global Water Risk Assessment Tool to Support Investigation of Adaptation Measures to Climate Change in the Private Sector**
- **2RF-1803 / Future Projection and Estimation of Effects of Forest Management on Carbon Budget in Forest Ecosystem Using Ultra-high Resolution Climate Projection Data**
Sound Material-Cycle Field

total 27 research projects

3-1801 / Development of GOSAT-2 PM2.5 and BC Product Validation Methodology Applicable to an International Observation Network
3-1802 / Development of an Estimation Methodology Based on Clarification of the Mechanism of Greenhouse Gas Emission from Treated/Untreated Wastewater Discharged into Water Environment
3-1803 / High-Precision Estimate of Ecosystem-Level Photosynthesis with Solar-Induced Fluorescence Detected by Satellite GOSAT-2
3-1804 / Drawing Storylines of Extraordinary Weather Phenomena around Japan for an Impact Assessment of the Climate Change
3-1805 / Climate Change Adaptation to Disasters in Urban Environments
3-1806 / Estimation and Reduction of Greenhouse Gas Emission from Adhesives for Wood Based Materials
3-1807 / Research on Information Design to Promote Climate Change Adaptation
3-1808 / Assessment of Further Reduction of GHG Emissions in Asian Countries and Benefit to Japan by Assisting their Reduction Efforts
3-1809 / Assessment of Soil Carbon Stock Changes due to Land Use Changes and its Application to National Greenhouse Gas Inventories
3-1810 / Research on Development and Social Implementation of Supporting-tools for Municipalities towards Low Carbon Society
3RF-1901 / Reuse of Recovered Fluorocarbons by Direct Chemical Transformation
3RF-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 CO₂ Selective Adsorbents using Lewis Acidic Zeolites
2RF-2002 / Practical CO₂ Fixation into Organic Molecules Using a Combined Bransted Base
2RF-2003 / Development of a Spatio-Temporal Seamless Precipitation Scheme for Global Warming Prediction
2FS-2001 / Preliminary Research on Adaptation and Mitigation to Climate Change and Environmental Impacts Caused by Short-Lived Climate Forcers (ACCES)

Harmony with Nature Field

total 26 research projects

4-1801 / Development of Measures for Expansion Prevention and Effective Reduction of Invasive Alien Species Ludwigia grandiflora subsp. Hexapetala
4-1802 / Spatial Prioritization of Biodiversity and Ecosystem Services to Environmental Changes: a Case of Adaptive Management of Land Use for Japan
4-1803 / Development of Bird Sensitivity Mapping for Protecting Main Colonies of Seabirds from Offshore Wind Farms
4-1804 / Development of Ecosystem Management Techniques for Forests on Okinawa and Amami Islands toward a Natural World Heritage Site
**Safe and Secure Field**

**total 33 research projects**

5-1801 / Model, Field, and Laboratory Studies on Source Apportionment of Anthropogenic and Biogenic Organic Aerosol
5-1802 / Assessment Study for Air Quality Improvement Obtained from the 2020 Global Sulphur Limit in Marine Fuels
5-1803 / Development of Short-term Chronic Toxicity Tests Using Marine and Estuarine Organisms
5-1851 / Validation of Effectiveness of Urinary Dialkylphosphates as Markers for Exposure Assessment of Organophosphorus Compounds
5RF-1801 / Toward Development of Methods for Assessing Ecological Risks of Exposure to Chemical Mixtures in the Field: Use of Water-Quality and Benthic Invertebrate Surveys and Effect-Based Monitoring
5RF-1802 / Development of Portable Sensing System for Toxic Chemicals Using Supramolecule-modified Graphene
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
5RF-1952 / Application of Eco-friendly Gold Refining Process for Management of Nutrient Load into the Seto Inland Sea
5RF-1954 / Application of Microbial Source Tracking Tools for Emerging and Re-emerging Infectious Risk Management in Water Environment
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
5RF-2001 / Development of Hydrodynamic-Benthic-Ecosystem Model for Monitoring of Nutrient Load into the Seto Inland Sea
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
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**Information on calls for proposals**

**Schedule**

Application Procedures

Selection of Research Projects

**Ministry of the Environment, Government of Japan**

**Office of Environmental Research and Technology**

1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-8975, Japan

Tel: +81-3-3581-3351 (Main)


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