

About independent and externally funded research

To progress leading research based on researchers' own proposals, from 2015 we started an independent research project that uses funds from public corporations. Also, in September 2016, we were designated as a research institute involved with subsidizing scientific research by the Minister of Education, Culture, Sports, Science and Technology, and from 2017 this subsidized research was adopted. Along with research funded for promoting general environmental research, we aim to enhance our level of research.

The Tokyo Climate Change Adaptation Center

In January 2022, the Tokyo Climate Change Adaptation Center was established (within the Tokyo Metropolitan Research Institute for Environmental Protection) as a base for collecting, organizing, analyzing, disseminating, and providing technical advice on climate change impacts and adaptation within Tokyo. Through maximally using the knowledge gained from heat countermeasures during the 2020 Tokyo Games and urban heat island research, we are working to promote climate change adaptation while closely cooperating with the relevant departments and municipalities of the Tokyo Metropolitan Government.



Information

● Usage of the Reference Room

The Reference Room allows the viewing and borrowing of environment-related reference materials.
 [Available times] Weekdays 9:30am to 12pm, 1pm to 5pm [Closed days] Wed, Sat, Sun, Holidays, End-of-year period
 Tel 03-3699-1346 (Reference Services) E-mail refer@tokyokankyo.jp

● Visits to the Research Facilities (by appointment only)

We accept requests for facility tours for Tokyo educational institutions or citizens and inspections by government officials or overseas trainees, etc. Visits will require appointments. Please inquire via phone or email.

[Visiting hours] From 10am to 4pm (but excluding 12pm to 1pm, Sat, Sun, holidays and the End-of-year period)

The standard visiting duration is between 1 and 1.5 hours, but the duration can be decided through consultation.

[No. of visitors] Between 4 and 20 persons

Tel 03-3699-1333 (Public Relations) E-mail kanken@tokyokankyo.jp

● Public Opening of the Facilities (once annually)

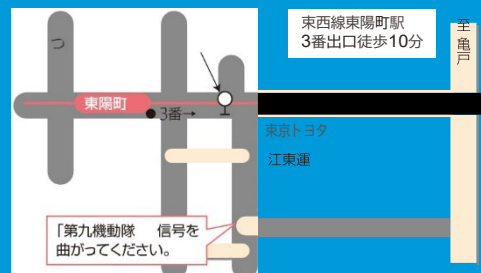
We run a science experiment class run by researchers and a workshop that visitors can participate in. (See our homepage for schedules.)

● Public Research Presentation

We present the results of our research every year around December and January. (See our homepage for details.)

History

- April 1968 Established the Tokyo Environmental Pollution Research Institute (Yurakucho, Chiyoda Ward) (research institute directly managed by the Tokyo government).
- April 1985 Renamed Tokyo Metropolitan Research Institute for Environmental Protection. Moved to newly built premises in Koto Ward (current location).
- April 2000 Became research institute for overall environment science that includes waste, through integration with the previous Cleaning Research Institute
- April 2007 Leadership transferred to Tokyo Environmental Public Service Incorporated Foundation.
- April 2012 Tokyo Environmental Public Service Incorporated Foundation transitioned to become the Tokyo Environmental Public Service Corporation.



Tokyo Environmental Public Service Corporation
Tokyo Metropolitan Research Institute for Environmental Protection

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 HP: <https://www.tokyokankyo.jp/kankyoken/>

E Tokyo Metropolitan Research Institute for Environmental Protection



Tokyo Environmental Public Service Corporation
Tokyo Metropolitan Research Institute for Environmental Protection

Investigative Research

We carry out investigative research that assists the environmental administration of the Tokyo Government. This includes research commissioned by the Tokyo government, joint research with universities and other research institutions, and research funded externally by the national government and private companies.



▲ Chassis dynamometer for large-sized vehicles

1. Research for overall work of vehicle environmental measures

Our research verifies the effectiveness of exhaust gas reduction in vehicles that conform to the latest regulations, seeks to understand the emission status of unregulated substances, and studies how hybrid and other vehicles are reducing CO₂ emissions.

2. Research related to resource circulation

Our research covers the recycling of burned ash that occurs from city garbage disposal processes, investigates the status of scrap plastic, and analyzes the environmental impact of recycling such plastic.



▲ Adsorption and reaction processing experiment device for mercury in gas form

3. Research of fine particulate matter density reduction



▲ Analyzing with a device for measuring PM_{2.5}

We measure the density and analyze the composition of fine particles in the atmosphere (PM_{2.5}). We estimate their source, decipher their formation mechanism, and furthermore seek to understand the actualities of nano particles of tiny size.

4. Research of measures to reduce highly dense photochemical oxidants

We conduct research for investigating and estimating the source of volatile organic compounds (VOC), which are thought to be a causative agent of photochemical oxidants.

5. Research for toxic chemical analysis and environment study

We study the pollutive state and the pollution source of persistent organic pollutants. These are known to be a risk to people, even in small amounts, as they don't breakdown well into the environment and have high toxicity.



▲ Analyzing toxic chemical substances

6. Research related to preserving marine environments



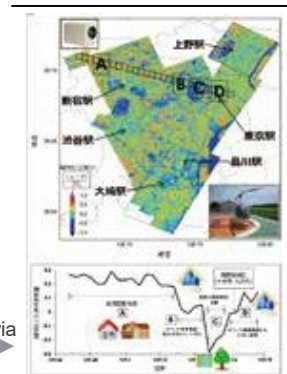
▲ Investigating seawater extractions

To help improve the environment of city waters, we are studying the growth and habitats of aquatic life in coastal zones, verifying the effects of environment restoration technologies, and estimating the distribution and source of hygiene index bacteria. As well as this, we also seek to understand city subterranean waters.

7. Research related to the conditions of hot environments

Regarding the conditions and impacts of hot environments, as well as the effects from improving hot environments in cities through urban greening and other initiatives, we are conducting research through field observation, big data analysis and numerical simulations.

Results of measuring a heat environment via aircraft at noon on a clear summer's day▶



We conduct research necessary for progressing Tokyo's environmental policies and offer scientific knowledge to the government and citizens of Tokyo.

8. Studying urban development that uses hydrogen storage cells

Hydrogen is a promising next generation energy source. We are conducting research for city use of CO₂-free hydrogen created from renewable energy and the building of an energy management system that uses hydrogen storage cells, with the goal of urban development that makes use of hydrogen.



▲ An experiment system for researching hydrogen storage cells

9. Research for promoting a shift to smart energy in facilities owned by the city

By analyzing data of energy usage in city-owned facilities, we are researching energy consumption trends and specifying the causes of progression and hindrance of energy saving in order to promote a shift to smart energy in facilities owned by the city.

We provide technical support for testing vehicle exhaust gases, managing analysis accuracy, and studying technologies for national and municipal government staff, among other initiatives.

Technical Support

1. Testing vehicle exhaust gases

We operate and maintain facilities for devices that measure the exhaust gases of vehicles (e.g. chassis dynamometers), and these are used for testing vehicle gases based on the vehicle NOx and PM method, and for testing the performance of devices that reduce vehicle gas emissions.



▲ A chassis dynamometer for small-sized vehicles



▲ Analyzing administration samples

2. Managing precision of administration samples

To ensure their trustworthiness, we carry out analysis on identical test items from observations of public waters and subterranean waters, which are delegated to private corporations by Tokyo's Bureau of Environment, and parts of analyses related to regulations of water quality in office sewerage.

3. Technical support for staff of Tokyo and municipal governments

We conduct studies to acquire and inherit knowledge and technologies related to the environment. These include in relation to energy-saving measures, renewable energy usage, dioxins analysis, VOC measurement and waste composition analysis.



▲ Technical support workshop



▲ Introducing research to overseas researchers

4. Tech support for international environment cooperation

By sharing and exchanging advanced, specialized information and technologies related to the fields of air quality improvement and climate change to overseas cities, we are progressing cooperative international environment projects.