

Guidelines for Public Call of the Moonshot Research and
Development Program/
Realization of sustainable resource circulation to recover
the global environment by 2050

April 27, 2022

National Research and Development Agency
New Energy and Industrial Technology Development Organization (NEDO)
Moonshot Research and Development Program Promotion Office,
Frontier and Moonshot Technology Department

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[Period of public call]

From April 27 to July 4, 2022. 12:00 JST

*Upload should be finished by 12:00 JST.

[Address and method]

- Please enter the required information and upload the documents described in "4. Submission closing date and address (4) Documents to be submitted" from the Web input form.

<Web input URL>

<https://app23.infoc.nedo.go.jp/koubo/qa/enquetes/kxeqgpzsd4oc>

- Other submission methods (hand to hand, mail, fax, e-mail, etc.) shall not be accepted.

- A reception number will be given at the time of submission. When resubmitting, please enter the first reception number. In case of resubmission, please resubmit all materials.

- You may resubmit more than once during the reception period. If multiple proposal documents are submitted by the same proposer, only the last submission will be valid.

- All files to be uploaded should be PDF format. Please follow the instructions in this guideline, such as combining them into one zip file.

[Note]

- After registering, confirming the application details, and pressing the send button, the reception number will be displayed, so please complete it by submission closing date.

- If the submission closing date comes and cannot complete operations such as input / upload, we shall not accept it.

- It may take some minutes to input or upload depending on the communication traffic status. In particular, it may be crowded just before the submission closing date, so please submit with plenty of time.

Public Call of the Moonshot Research and Development Program/Realization of sustainable resource circulation to recover the global environment by 2050

(April 27, 2022)

The New Energy and Industrial Technology Development Organization (hereinafter referred to as NEDO) has been implementing the Moonshot Research and Development Project from FY2020. It has decided to carry out an additional public call. If you are interested in this program, please apply for participation according to these guidelines.

The subject of the public call shall be "Realization of sustainable resource circulation to recover the global environment by 2050" from among the Moonshot Goals.

1. Subject

Moonshot Research and Development Program/Realization of sustainable resource circulation to recover the global environment by 2050

2. Program overview

(1) Background/purpose

In 2018, the Council for Science, Technology, and Innovation (hereinafter referred to as the "CSTI"), decided to aim for the creation of disruptive innovations developed in Japan, and to advance challenging research and development based on bolder ideas going beyond the mere extension of existing technology (Moonshot).

NEDO, as a research advancement corporation conducts work related to this research and development, establishes funding, and advance challenging research and development based on the Basic Plan in order to accomplish the Moonshot Goal (hereinafter referred to as the "MS Goal"). In the "Long-term Strategy as a Growth Strategy Based on the Paris Agreement" decided by the Cabinet in October 2021, it shows how it is important to aim at achieving the ambitious goal of carbon neutral in 2050 and to use the technology that can be used without excluding any possibilities, and to stand on the position of using everything.

(2) Program details

The MS Goal of this public call is:

Realization of sustainable resource circulation to recover the global environment by 2050.

For information regarding the field and area of the research and development that is the subject of this public call, please refer to Moonshot Goal 4's R&D Concept: "Realization of sustainable resource circulation to recover the global environment by 2050," as well as the subsequent Item (i).

(i) Supplemental explanation of the R&D Concept

The following is a supplemental explanation of "3. Direction of Research and Development" of the R&D Concept.

Regarding the carbon dioxide capture and absorption technology that artificially accelerates the natural process shown in the R & D Concept, it is necessary to confirm the reduction potential. Therefore, in order to identify this technology, it is important to develop the technology and collect data to appropriately evaluate and analyze the reduction potential. This program is research and development oriented toward solving the problem of global warming (the Cool Earth) or solving the problem of environmental pollution (the Clean Earth), in order to recover the global environment.

The target substances attempting to realize sustainable resource circulation are to be limited to substances that cause global warming or environmental pollution, and have been difficult to recover utilizing the existing technologies as described below.

In this public call, we will conduct a feasibility study (determination of technology) for research and development projects aimed at solving global warming issue (Cool Earth) in order to regenerate global environment.

In order to realize a sustainable resource circulation, the substances targeted for circulation are limited to carbon dioxide, which is released into the environment in a low concentration state due to the cause of global warming and is difficult to recover and absorb with conventional techniques. Specifically, target is a technology that efficiently recovers and absorbs carbon dioxide by artificially accelerating natural processes and it is conversion technology for artificially utilizing the recovered and absorbed carbon dioxide as a beneficial resource. We accept partial proposals for only recovery and absorption technologies, but even in that case, it is necessary to have a plan to artificially utilize the recovered and absorbed carbon dioxide as a beneficial resource.

Even if it is effective for the regeneration of the global environment, methods for reducing or controlling carbon dioxide emissions are excluded.

In addition, "artificial acceleration of natural process" means satisfying both a, b. below, and "utilizing the carbon dioxide absorption source in the natural world and artificially accelerating this absorption rate".

- a. Utilize the natural source of carbon dioxide (hydrosphere, organisms, rocks, etc.)
- b. Artificially accelerate the capacity of carbon dioxide source (carbon dioxide absorption rate)

Regarding technological level for research and development, challenging research and development that are not currently being undertaken shall be the target. Furthermore, regarding the current stage of research and development, the subject research and development level shall be technologies in between the laboratory level to the bench test level, while technologies that are already in the pilot stage or prototype level shall be excluded from the public call.

(ii) Execution system of the program

Under this public call, NEDO will, as general, select multiple Project Managers (hereinafter referred to as the “PMs”), who manage research and development projects, and multiple research and development projects including the details of research and development and involved researchers (these research and development projects being hereinafter referred to as “Projects”), and implement research and development programs (hereinafter referred to as the “Programs”) comprised of multiple Projects oriented toward accomplishing the MS Goal . Based on the MS Goal set by CSTI as well as the R&D Concepts formulated by the Ministry of Economy, Trade and Industry, NEDO shall appoint Kenji Yamaji, Senior Vice President and Director-General of Laboratories of the Research Institute of Innovative Technology for the Earth (RITE), a public interest incorporated foundation, to the position of Program Director (hereinafter referred to as the “PD”). The PD develops a portfolio for strategic fulfillment of the MS Goal (a management plan that compiles the policies of project composition (structure) and resource allocation, etc. Hereinafter referred to as the “Portfolio”) and provides unified direction and supervision for the Program.

In addition, this system actively promotes the recruitment of cutting-edge overseas researchers and international joint research. Please refer to "The R&D Concept of Moonshot" for details of the system, roles of PD, PM, etc., and R & D implementation methods.

For details on the policy, roles of PD and PMs, and the method of performance of research and development, please refer to the “Guidelines for Operation and

Evaluation of the Moonshot R&D”.

(3) Program period

The project period will be up to 3 years from FY2022, and a feasibility study (technological identification) of R & D projects will be conducted. During the project period, verify the reduction potential of carbon dioxide capture and absorption technologies that have artificially accelerated natural processes at the bench test level.

We plan to make an evaluation in the third year (FY2024). However, the timing of these reviews may be in advanced, whenever deemed necessary based on the progress of each research and development project.

(4) Budget scale/program budget

The maximum amount per project is 500 million Japanese yen from FY2022 to FY2024. In this public call, multiple PMs and projects will be adopted.

3. Application requirements

We anticipate applications by multiple companies. Corporations eligible for this application shall be companies, universities, research and development partnerships, and others, which satisfy the conditions shown in the following (1) through (7), the Basic Plan, and the Implementation Policy for FY2022.

- (1) These corporations shall have a track record in research and development of the technology or the related technologies, and they also shall have the organization and personnel needed for them to achieve their research and development targets and to implement their proposed research and development plans.
- (2) These corporations shall have the management base needed to implement contract work smoothly, and they also shall have sufficient ability to manage funds, facilities and information control.
- (3) These corporations shall have the system to appropriately implement the measures needed for NEDO to promote its projects based on entrustment contracts.
- (4) The representative organization of the proposal is a Japanese business, university, or other such entity, and is an organization which has PM candidates among its staff. Note that, even if the applying organizations do not have any PM candidates on staff at the time of their proposals, if the organization plans to hire such an individual after they are chosen for the adoption, they may submit a proposal. Further, NEDO will not inquire as to the nationality of the PM candidates.
- (5) The organization has capability sufficient to establish and realize practical application

and commercialization plans for the research and development results of the applicable Project. Note, if the proposing organizations plan, for example, to incorporate businesses, etc. into their implementation system during the project, or plan to startup businesses during the project, in anticipation of eventually implementing the research and development results into society, then applications made solely by universities and other similar organizations at the start of research and development is also permitted.

- (6) These corporations shall agree to Standard Form of Business Entrustment Contracts (draft) and Special Conditions for the Moonshot Research and Development Program that NEDO presented.
- (7) In the interest of ensuring secure controls over trade, this public call shall, as a means of preventing outflow or leakage of sensitive technologies, exclude from its business any proposals that include in its implementation system, businesses, organizations, etc. that are published on the “foreign user list” developed by the Ministry of Economy, Trade and Industry in response to the trends in development of nuclear weapons, among other concerns, regulated by Article 4, Paragraph 1, Item 3(b) of the Export Trade Control Order (hereinafter referred to as the “Businesses, etc.”), or any Businesses, etc. affiliated with nations to which weapons or weapons-related exports are prohibited via UN Security Council resolution (nations and regions under a UN arms embargo) (Schedule 3-2 of the Export Trade Control Order), (*1) as well as the 3 nations of concern under such resolution (Schedule 4 of the Export Trade Control Order)(*2).

*1, *2: Please refer to the following website for details on “Schedule 3-2 of the Export Trade Control Order” and “Schedule 4 of the Export Trade Control Order”: website of the Ministry of Economy, Trade and Industry
<https://www.meti.go.jp/policy/anpo/law02.html>

4. Submission closing date and address

Please make a "proposal" according to this guideline and complete upload by the following submission closing date together with other documents to be submitted. Please note that we do not accept submissions by hand to hand, mailing, faxing or e-mail.

However, this does not apply if NEDO gives a separate instruction.

Note: that the written proposals must be submitted in either Japanese or English (partially or in its entirety).

(1) Submission closing date/time: Not later than noon of Monday, July 4, 2022

* The period of public call may be extended depending on the status of the application and for other reasons. When the period of public call is extended, you will be informed on the NEDO website.

If you follow NEDO official Twitter, you will find the latest public offering information posted on the website on Twitter.

Please follow us and take advantage of it.

NEDO official twitter.

<https://www.nedo.go.jp/nedomail/index.html>

(2) Address of submission

URL

<https://app23.infoc.nedo.go.jp/koubo/qa/enquetes/kxeqgpzsd4oc>

(3) Method of submission

Please fill in the following items on the Web input form of the above (2) Address of submission.

"Documents to be submitted; Proposal, Attachments 1, 2, 3" and "Documents to be submitted; Attachments 4, 5, 6, 7, 11" should be created in PDF and then uploaded in separate zip files. (Total zip files are two.)

A reception number will be given at the time of submission. When resubmitting, please enter the first reception number. In case of resubmission, please resubmit all materials again.

When the submitted proposal is accepted, an email will be sent to the contact person in charge of the representative corporation to accept the proposal.

Input items

- 1) Proposal name (project name) (*)
- 2) Proposal method (whole proposal or partial proposal)
- 3) Representative party number (13 digits)
- 4) Representative party name
- 5) Name of contact person in charge of representative party
- 6) Title of contact person in charge of representative party
- 7) Department of contact person in charge of representative party

- 8) Address of contact person in charge of representative party
- 9) Telephone number of the representative party contact person
- 10) E-mail address of the representative party contact person
- 11) Outline of research and development (up to 1,000 characters)
- 12) Technical points (*)
- 13) Representative party key researchers (*)
- 14) Name of jointly proposed party and name of key researchers (listed in case of multiple) (*)
- 15) Stakeholders (*)
- 16) Research organization (Enter the R & D item number and party name in charge)
Example: R & D item 1; XX company, YY university,
R & D item 2; ZZ laboratory
- 17) Research period (state the proposed research period)
- 18) Proposed amount (Enter the total proposed amount)
- 19) Initial application reception number (only when resubmitting)
- 20) Documents to be submitted (written proposal; Attachments 1, 2, 3)
Proposal among the documents to be submitted in (4); upload the PDF of Attachments 1, 2 and 3 as a zip compressed file.
- 21) Documents to be submitted (others)
Upload the PDFs of Attachments 4, 5, 6, 7, 11 and others as a zip compressed file.

* Confirmation of interests

NEDO will hold an "Adoption Examination Committee" by external experts from universities, research institutes, companies, etc. for the selection examination. This selection review committee not only conducts fair review, but also about the proposal information that we have learned is prohibited from being used for purposes other than examination.

In addition, NEDO takes the utmost care to exclude interested parties at the selection stage of the Adoption Examination Committee members, but also ask the committee members themselves to confirm in advance to ensure a fair and impartial review. Therefore, we ask the proposers to enter the information to be provided to the selection committee in advance.

NEDO will present following items to the selection committee members and ask to determine whether they are interested parties, especially competitive relationships or not; "1) proposal name, 12) technical points, 13) representative party key researcher, 14) name of joint proposal party and name of key researcher." Please describe the technical

points at which you believe it is possible to identify conflicts, to the extent that it doesn't cause a problem.

In addition, when NEDO selects a selection committee member, if there is a person who is considered to be a stakeholder, you may voluntarily describe it in "15) the stakeholder". If the Adoption Examination Committee commented that it was not possible to determine whether or not there was an interest, we may ask you to provide additional information. If the proposer is a university or public research institution, describe the affiliation of the key researcher (the representative of the project's R&D in this proposal) up to the followings;

- For researchers affiliated with a university or graduate school, up to the department or major subject
- For researchers affiliated with public research institutions, specify the department or center.

Example: XXX Co., Ltd.

XXX University XX Faculty XX Department Professor XXXX

XX Graduate School XX Graduate School XX Major Professor XXXX

XXX Research Institute XX Department, Department Manager XXXX

(4) Document to be submitted

- Written proposal (Attachment 1, Attachment 2, Attachment 3)
 - Research CV of the PM candidate and key researchers (Attachment 4)
 - The numbers of young researchers (aged 40 or younger) and female researchers
 - The status of certification regarding work-life-balance promoting companies (Attachment 5)
 - Confirmation sheet for information management system (Attachment 6)
 - A written proposal for e-Rad application (details are in (6), below)
 - Your company profile (descriptions about your organization such as company history, business units, and research centers). (This requirement does not apply if you had a contract with a NEDO department/section to which you submitted a written proposal within the last one year.)
 - The most recent business report
 - Financial statements (Japanese yen unit in principle: balance sheet, profit and loss statement, cash flow statement) (for the last three years)
- (In addition, during the examination process, we may ask you to submit additional financial materials if necessary.)
- If there is a doubt not conforming to Standard Form of Business Entrustment Contracts

(draft), documents showing the details, because agreeing to Standard Form of Business Entrustment Contracts(draft), (if not specifically posted for this public call, this refers to the standard contract), that NEDO presented is the requirement for submitting your proposal.

- Material indicating collaboration with overseas companies, etc., or if there are plans to do so, material indicating that such overseas companies, etc., are interested in collaborating or have concern.

(5) Points of attention for submission

- You may resubmit more than once during the reception period. If multiple proposal documents are submitted by the same proposer, only the last submission will be valid.

- After registering, confirming the application details, and pressing the send button, please get the reception number within the reception period. (The display of the reception number is different from the completion of acceptance.)

- If the submission closing date is reached during input / upload and the submission cannot be completed, it will not be accepted.

- It may take some time to input or upload depending on the communication traffic status. In particular, it may be congestion just before the submission closing date, so please allow to submit with plenty of time.

- We cannot accept proposal documents submitted by those who do not meet the "3. Application requirements" or documents that are incomplete.

- If the submitted documents are incomplete and cannot be corrected by the submission closing date, the proposal shall be invalid.

- Even after acceptance, if any deficiencies in the application requirements are discovered, it may become invalid.

- Invalid submitted documents shall be destroyed by NEDO.

(6) Registration for the Cross-Ministerial Research and Development Management System (e-Rad)

When applying for this public call, you also need to submit a written proposal for an e-Rad application. When multiple corporations are involved in joint names, one representative corporation should register for the e-Rad application. If you are business, university, or other such entity in outside Japan, and newly require to obtain research institute ID, please contact to the e-mail address in 10. Contact information for inquiries. The registration method will be advised. Please refer to the e-Rad portal site for details.

e-Rad portal site <http://www.e-rad.go.jp/>

* If you cannot meet the deadline for registration on e-Rad, please be sure to consult with

NEDO's Frontier and Moonshots Technology Department in advance.

5. Protection of confidential information

NEDO stores the written proposal you submitted for a certain period under close supervision and under relevant regulations stipulated in line with the guidelines concerning the management of administrative documents based on the Act concerning the Management of Public Records and Archives. In this case, NEDO may use the personal information obtained only for the examination of your research and development implementation system, excluding those submissions required by laws and regulations. However, NEDO may use such information as part of the statistical data in which specific individuals cannot be identified. Additionally, under Article 3 of the Act on the Protection of Personal Information Held by Incorporated Administrative Agencies, NEDO shall discard the Research CV of the PM candidate and Key Researchers, which is one of the attachments to your written proposal, in an appropriate way immediately after an adopted corporation is determined. In the meanwhile, NEDO shall treat the information registered in e-Rad (project names, application names, researcher names, research institution names, budgets, and project periods) and the summary of such information as information that is scheduled to be made public, which is stipulated in Article 5-(i)(a) of the Act on Access to Information Held by Independent Administrative Agencies (Act No. 140 of 2001). Please be aware in advance that NEDO may request the PM, in addition to the information described above, to provide a variety of other forms of information in response to a request from the Cabinet Office, among other governmental entities.

6. Selection of Entrustees

(1) Methods of examination

The selection of Entrustees shall be examined in two stages: the Adoption Examination Committee by the PD, external experts and NEDO's internal Contract/Grant Examination Committee.

The Contract/Grant Examination Committee determine a final contractor based on the results of preliminary examination and under the criteria that NEDO stipulated. When the need arises, NEDO may conduct a hearing examination and require you to attend such hearing and submit additional information.

Because the selection of contractors is not made open to the public, please be forewarned that NEDO shall not be able to respond to inquiries regarding the examination process, such as the progress of the examination.

(2) Examination criteria

- a. Criteria for adoption examination
 - i. The details of your proposal are consistent with the MS Goal and R&D Concept (with no unnecessary parts included).
 - ii. The proposed approach is novel and technologically superior to others.
 - iii. In the case of a joint proposal, individual proposals are complementary to each other, or are otherwise structured in an efficient and effective way.
 - iv. The proposed details and research schemes are feasible (from the standpoints of technical feasibility, the appropriateness of schemes and interim targets, etc.)
 - v. The applicant has the proven capabilities needed to fulfill this research and development (track records in development and others in the related fields, implementation systems including re-entrustment contractors, the participation of excellent researchers, etc.).
 - vi. As a result of the applicant conducting this research and development, a positive ripple effect on people's life and economic society shall be expected. (Companies shall expect the practical application and commercialization of these technical results. When the applicant is a university or public research and development institution that is not involved in the practical application and commercialization of technical results, it envisions in what forms resulting products and services will be put into practical application and commercialized.) Sufficient consideration should be given to intellectual property and standardization, which should be conducted in parallel for practical application and commercialization.
 - vii. The status of certification regarding work-life-balance promoting companies. (On March 22, 2016, the Headquarters for Creating a Society in which All Women Shine approved the Guidelines for Utilization of Public Procurement and Subsidies towards the Promotion of Women's Advancement. To drive initiatives to realize work-life balance throughout society, which is a precondition for women's advancement, the guidelines stipulate a new scheme by which work-life-balance promoting companies are given additional points more extensively in scoring auction-based projects under Article 24 of the Act on Promotion of Women's Participation and Advancement in the Workplace. Based on these guidelines, companies certified under the Women Empowerment Act (Eruboshi-certified companies and Platinum Eruboshi-certified companies), companies certified under the Act for Measures to Support the Development of the Next Generation (Kurumin-certified and Platinum Kurumin-certified companies), and companies certified under the Youth Employment Promotion Act (Youth Yell-certified companies) are given additional points in scoring auction-based

projects.)

viii. Comprehensive evaluation

When young researchers (aged 40 or younger) and female researchers are registered as the PM candidate or key researchers, and if the proposal is based on their past performance and potential, they are given additional points. From the viewpoint of importance on fairness of research and development, ensuring transparency and fairness of research and development activity, proper treatment of research and development result will be also considered.

b. Criteria for selection by the Contract/Grant Examination Committee

The Contract/Grant Examination Committee shall select Entrustees based on the following criteria.

- i. The details of the written proposal relating to contract work shall comply with the following items.
 1. Targets of development and others are consistent with NEDO's intentions.
 2. The methods and details of development and others are excellent.
 3. The cost effectiveness of development and others is excellent.
- ii. The ability of Entrustees to accomplish this development and others complies with the following items.
 1. Having a track record in development and others in the related fields.
 2. Having an established system to implement this development and others.
(This includes Re-Entrusted Contractors and others. In the context of an international joint research framework, the merits of working with these Entrustees are clear. If they are trying to receive (or already receiving) assistance from research and development supporting institutions particularly in the partner countries, its appropriateness shall be verified.)
 3. Having the existing facilities needed for this development and others.
 4. Having an established management foundation.
 5. Having the researchers and others needed for this development and others.
 6. Having the system to appropriately implement the measures NEDO needs for the management of contract work.

In selecting Entrustees, NEDO takes the following points into consideration.

1. Incorporating excellent partial proposers into development and other systems.
2. Rationalizing the division of development and contract work fees for each of the

development items.

3. Developing competitiveness and other systems.
4. Clearly defining the division of roles when utilizing general incorporated associations/foundations, research and development partnerships, or others.

(3) Announcement and notification of Entrustees

a. Announcement of adoption results

NEDO shall release adopted projects (implementer names, program overview) on its website and others. For unadopted projects, NEDO shall notify the proposers about the result and the reasons why they were not adopted.

b. Announcement of the names of adoption examiners

NEDO shall disclose the names of adoption examiners when announcing adopted projects.

c. Incidental conditions

NEDO may impose additional conditions upon adoption (such as not accepting proposed re-entrustment, joint research with other institutions, participation as re-entrustment research, changes to performance plan (including budget), etc.)

(4) Schedule

Year 2022

April 27: Start of public call

May 13: Orientation meeting

July 4: Public call closing

The beginning of August (plan): Adoption Examination Committee (examination by external experts)

The middle of September (plan): Contract/Grant Examination Committee

The middle of September (plan): Determination of Entrustees

Around November (plan): Contract signing

7. Points of attention

(1) Contract

Upon the conclusion of a new business entrustment contract, NEDO applies the latest General Conditions of Business Entrustment Contract and Special Conditions for the Moonshot Research and Development Program. NEDO requires you to conduct paperwork for contract work based on the paperwork manual NEDO presents.

Reference

- Procedures for entrusted programs: General conditions and forms

<https://www.nedo.go.jp/itaku-gyomu/yakkan.html>

- Procedures for entrusted programs: Manuals

<https://www.nedo.go.jp/itaku-gyomu/manual.html>

(2) Re-entrustment from National Research and Development Agency to private companies

Unless otherwise specified, NEDO may not accept re-entrustment from National Research and Development Agency to private companies or joint performance between the two parties (excluding those without the flow of funds to Re-Entrusted Contractors or Joint Contractors).

(3) Revision and cancellation of research and development plans

NEDO may revise the contents of research and development or cancel the research and development halfway through.

(4) Change of plans for commercialization

If an event occurs after the conclusion of a contract, which applies for Article 27-2 of the General Conditions of Business Entrustment Contract, NEDO shall require you to promptly change and submit Plans for Commercialization of Research and Development Results (Attachment 3).

(5) Research CV of the PM candidate and key researchers

You need to describe in your research CV the information about the PM candidate, as well as key registered researchers who become the registered researchers in charge of each program item and the registered researchers and others serving as supervisory managers across multiple program items. See Attachment 4 for more information.

<Reference>

Registration of Researcher Information on researchmap

The researchmap (<https://researchmap.jp/>) is one of the largest databases of researcher information in Japan, and registered achievement information may also be made public through the Internet. It is also linked to e-Rad, so that registered information may be used in accordance with the contents required by other public solicitation. Information registered on researchmap is also effectively used for research and statistical purposes in academic and science and technology policy making by the government and other organizations, so

project implementers are encouraged to consider registering on researchmap as well.
(researchmap is not a system operated by NEDO.)

(6) The status of certification regarding work-life-balance promoting companies

Concerning Entrustees described in the implementation system of your written proposal, you need to describe the status of certification under the Women Empowerment Act (Eruboshi certification), certification under the Act for Measures to Support the Development of the Next Generation (Kurumin certification and Platinum Kurumin certification), and certification under the Youth Employment Promotion Act (Youth Yell certification). See Attachment 5 for more information.

(7) Confirmation Sheet for Information Management System, etc. for Execution of NEDO Projects

All proposers (excluding re-entrusted contractors, etc.) listed in the Implementation Structure of the Proposal shall be responsible for preventing leaks, etc., of any information that should be protected (sensitive information) obtained or acquired in the course of carrying out the project, paying attention to the maintenance of sensitive information. Therefore, the proposer is required to submit a confirmation sheet regarding the establishment of relevant rules and regulations and the establishment of a system for those who handle sensitive information, which are scheduled at the time of proposal or at the time of conclusion of the contract.

Since it is an application requirement for proposers to have an information management system, etc., all confirmation items must be addressed by the time the contract is signed after the adoption of the proposal. (If the information management system is not in place by the time the contract is signed, the proposal shall be rejected as not meeting the application requirements.) See Attachment 6 for details.

(8) Follow-up surveys and evaluations

After the completion of this research and development, NEDO may require you to cooperate with follow-up surveys and evaluations on your technical results. For more information, please refer to the "Outline of Follow-up Surveys and Evaluations" in following Web page.

<https://www.nedo.go.jp/content/100931274.pdf>

(9) Intellectual property management

The Basic Policy on intellectual property management in NEDO Moonshot Research and Development Program is applied to this program. See Attachment 8 for more information. NEDO shall require you to cooperate with the Survey on Utilization of Patents, Etc. (Bayh-Dole survey) concerning patents and others as this program's technical results.

(10) Data management

The Basic Policy for Data Management in NEDO Moonshot Research and Development Program is applied to this program. See Attachment 9 for more information.

Furthermore, as a form of advanced data management, the classifications of saving, sharing, publishing, etc. of research data will be clarified in accordance with the open/close strategy, and the information exchange between researchers as well as the saving, sharing, and publishing of research data will be supported through the use of Research Data Infrastructure System (NII Research Data Cloud), etc.

(11) Activity for Scientific and Technical Dialogue with the People

Business operators entrusted with this project are able to charge the direct expenses needed for activities to explain the contents and technical results of their research activities to society and people in an easily understandable way (hereinafter referred to as Scientific and Technical Dialogue with the People). If you are conducting activities for Scientific and Technical Dialogue with the People in this project, describe the details of such events and needed expenses in your written proposal for submission. NEDO shall judge the necessity of expenses for such activities by taking into account their impact on the research activity itself.

If you have conducted such activities, describe your accomplishments in the Performance Report and others at the end of the fiscal year.

While NEDO does not preclude your voluntary involvement in these activities outside this project, if you have conducted these activities using overhead expenses, report the fact to NEDO by describing them in the Performance Report (only matters related to these activities).

Reference

Promotion of Scientific and Technical Dialogue with the People (a basic initiative)

<http://www8.cao.go.jp/cstp/stsonota/taiwa/>

(12) Taking measures to the dishonest use and reception of public research funds

Concerning the dishonest use and reception of public research funds (hereinafter referred

to as Dishonest Use, Etc.), as a fund distribution organization, NEDO shall take necessary measures based on Guideline for Responding to Dishonest Use, etc., of Public Research Funds (which was formulated by the Ministry of Economy, Trade and Industry on December 3, 2008, hereinafter referred to as Guideline for Dishonest Use *1) as well as Organizational Directive concerning Measures for Suspension of Grants and Suspension from Designation Pertaining to Contracts (Organizational Directive No. 1 of FY2004 on April 1, 2004, which was formulated by NEDO, hereinafter referred to as Organizational Directive concerning Suspension of Grants*2).

At the same time, NEDO requests the implementers of this project to take necessary measures as research institutions.

If the dishonest use of public research funds is identified, involving research funds for this project and other funds from projects supported by government agencies, NEDO shall take the following measures.

*1. Go to the website of the Ministry of Economy, Trade and Industry for Guideline for Dishonest Use:

http://www.meti.go.jp/policy/economy/gijutsu_kakushin/innovation_policy/kenkyu-fusei-shishin.html

*2. Go to the website of NEDO for Organizational Directive concerning Suspension of Grants: https://www.nedo.go.jp/itaku-gyomu/kokuhatu_index.html

- a. If the dishonest use of public research funds is identified in this project:
 - i. Depending on the severity of the fraudulence and others, NEDO shall have you refund all or part of the research funds.
 - ii. NEDO shall suspend the conclusion of contracts and grants for the business operators and others that were involved in the dishonest use of public research funds.
(Based on Organizational Directive concerning Suspension of Grants, NEDO shall take measures to suspend the conclusion of contracts and grants for up to six years after the first day of suspension.)
 - iii. NEDO shall reject application for its projects by the researchers who conducted the dishonest use of public research funds and those who conspired with them (including those who violated the obligation of diligence; the same shall apply hereinafter).
(Based on Guideline for Dishonest Use, NEDO shall reject applications for its projects by these researchers for one to five years following the fiscal year when the research funds were refunded, depending on the severity of the fraudulence. If the use of research funds to obtain personal profits for private purposes is identified, NEDO shall

reject application by those involved for ten years.)

- iv. NEDO shall provide fund distribution organizations of government agencies and others with information about the measures against the dishonest use of research funds and those researchers subject to the measures. Because of this arrangement, those who led the fraudulence and those who conspired with them may see their applications for research funds rejected by fund distribution organizations of government agencies and others. Conversely, when fund distribution organizations of government agencies and others provide NEDO with information about the fraudulence, NEDO may take similar action. In the event of the dishonest use of research funds in other government agencies, NEDO may take the measures i through iii above against those researchers.
 - v. As a measure against the dishonest use of research funds, NEDO shall disclose the company name (researcher names) and the details of the fraudulence.
- b. The status of the progress in system development and others based on Guidelines for Responding to Dishonest Use, etc. (which was formulated by the Ministry of Economy, Trade and Industry on December 3, 2008)
- Before signing a contract for this project, each research institution should develop the management/audit system of research expenses based on the guidelines.
- NEDO may request you about the status of the progress in your system development. When NEDO requests, please report your situation immediately. If you already have submitted a similar report in the fiscal year to separately apply for other research funds, including those supported by government agencies and others, the submission of a copy of that report may substitute for the reporting requirement of NEDO.
- NEDO may conduct an on-site survey concerning the status of the progress in system development and others based on the guidelines.

(13) Response to misconduct in research activities

Concerning misconduct in research activities (fabrication, falsification, and plagiarism), NEDO as a fund distribution organization and this project's implementer as a research institution shall take necessary measures based on Guidelines for Responding to Misconduct in Research (which was formulated by the Ministry of Economy, Trade and Industry on December 26, 2007, hereinafter referred to as Guidelines for Misconduct in Research ^{*3}) as well as Organizational Directive concerning Response to Misconduct in Research Activities (Organizational Directive No. 17 of FY2007, which was formulated by NEDO on February 1, 2008, hereinafter referred to as Organizational Directive concerning Research Misconduct ^{*4}). For this reason, in addition to setting up a whistleblower helpdesk, NEDO shall take the

following measures when misconduct is identified from research papers related to research activities funded by this project and other projects supported by government agencies.

*3. Go to the website of the Ministry of Economy, Trade and Industry for Guidelines for Misconduct in Research:

http://www.meti.go.jp/policy/economy/gijutsu_kakushin/innovation_policy/kenkyu-fusei-shishin.html

*4. Go to the website of NEDO for Organizational Directive concerning Research Misconduct: https://www.nedo.go.jp/itaku-gyomu/kokuhatu_index.html

a. If misconduct is identified in this project:

- i. Depending on the severity of the misconduct, NEDO shall have you refund all or part of the research funds.
- ii. NEDO shall reject application for its projects after the following fiscal year by those involved in misconduct.

(The rejection period of application: Depending on its severity, two to ten years following the fiscal year when the misconduct was identified.)

- iii. For those who were considered responsible for the misconduct to a certain degree, though not identified as being directly involved, NEDO shall reject their application for its projects after the following fiscal year, because they neglected the obligation of diligence as responsible persons for such papers.

(The rejection period of application: Depending on the degree of responsibility, one to three years following the fiscal year when the misconduct was identified.)

- iv. NEDO shall provide fund distribution organizations of government agencies and others with information about the measures against the misconduct and those researchers subject to the measures. Because of this arrangement, those involved in the misconduct and those considered liable to a certain degree in the iii above may see their application for projects rejected by fund distribution organizations of government agencies and others. Conversely, when fund distribution organizations of government agencies and others provide NEDO with information about misconduct, NEDO may take similar action.
- v. After determining measures against the misconduct, NEDO shall disclose the names and affiliations of those who were subject to the measures, the details of the measures, the name of the research fund affected by the misconduct, the amount of the research fund involved, the details of the research and misconduct, and a report on survey results of identifying misconduct.

b. When it is found that there was misconduct involving national research funds in the past:

Those who were identified as involved in misconduct in research activities supported by national research funds (including those who were responsible for the contents of research papers affected by the misconduct), NEDO may reject their participation in its projects based on Guidelines for Misconduct in Research.

NEDO requests the implementers of this project, as research institutions, to strive for the development of regulations and the establishment of a whistleblower helpdesk based on Guidelines for Misconduct in Research.

c. Contact information about NEDO's whistleblower helpdesk concerning research misconduct and others

The following is the contact information of NEDO's whistleblower helpdesk for accusations, consultations, and reporting concerning the dishonest use of public research funds and misconduct in research activities.

Risk Management Department, National Research and Development Agency New Energy and Industrial Technology Development Organization

1310 Omiya-cho, Saiwai-ku, Kawasaki City, Kanagawa 212-8554, Japan

Phone: 044-520-5131

Fax: 044-520-5133

Email: helpdesk-2@ml.nedo.go.jp

Website: The whistleblower helpdesk concerning misconduct in research activities and the dishonest use of research funds

https://www.nedo.go.jp/itaku-gyomu/kokuhatu_index.html

Contact by phone: 09:30–12:00 and 13:00–18:00 on weekdays

(14) Voluntary research activities by young researchers at universities and the National Research and Development Agency, among other similar organizations

Following the formation of new contracts from 2020 onward, voluntary research for the advancement of the present Project by young researchers under the age of 40 (until the final day of the fiscal year in which the researcher turns 40 years old) retained by universities or the National Research and Development Agency, and other organizations may be implemented.

Note that, after being adopted, universities and the National Research and Development Agency, and other similar organizations, will include mention of such young researcher

voluntary research in their Execution Plans, and report on the accomplishments of such young researchers to this organization via daily reports or monthly reports, among other methods.

<Reference>

Implementation Policy on Voluntary Research Activities, etc. of Young Researchers Employed to Conduct Projects under Competitive Research Funding

<https://www8.cao.go.jp/cstp/compefund/jisshishishin.pdf>

(15) Hiring doctoral students as RAs (research assistants) and the like

In order to attract excellent students and adults from Japan and overseas, certain goal values were set in the 6th Science and Technology Basic Plans by the Cabinet Office: to provide better financial support for graduate students.

For this program, RAs (Research Assistants), etc. may be registered as researchers, and be paid researcher fees.

Note that any RAs who handle confidential information through their involvement in this program must enter into an employment contract that includes a confidentiality obligation with the university organization contracting with NEDO, and all individuals who directly engage in this program must register as researchers.

<Reference>

6th Science and Technology Basic Plan

<https://www8.cao.go.jp/cstp/kihonkeikaku/index6.html>

Comprehensive package for strengthening research capabilities and supporting young researchers

https://www.mext.go.jp/content/20201203-mxt_kiban03-000011852_1.pdf

Guidelines for Employment and Training of Postdoctoral Fellows

https://www.mext.go.jp/content/20201203-mxt_kiban03-000011852_1.pdf

(16) Disclosure of information about contracts of National Research and Development Agencies

In accordance with the Basic Policy on the Review of Administrative and Business Operations of Incorporated Administrative Agencies (Cabinet Decision dated December 7, 2010), please be forewarned that NEDO may disclose information about the relationship between you and NEDO on its website after making an adoption decision, as shown in Attachment 10. NEDO regards your application for this program your agreement to this arrangement.

- (17) Security trade control measures (measures to technology leakage to overseas)
- a. To ensure international peace and security including Japan, the Japanese government is implementing export control measures* under the Foreign Exchange and Foreign Trade Act (Act No. 228 of 1949) (hereinafter referred to as the Foreign Exchange Act). When exporting (providing) cargoes and technologies regulated by the Foreign Exchange Act, you need to obtain permission from the Minister of Economy, Trade and Industry under the Foreign Exchange Act.
- * Under international agreements, Japan's security export control system consists mainly of (i) a system that requires permission from the Minister of Economy, Trade and Industry when exporting (providing) cargoes (technologies) with at least a certain level of specifications/capabilities such as carbon fiber and NC machine tools (i.e., list controls) and (ii) a system that requires permission from the Minister of Economy, Trade and Industry when exporting (providing) cargoes (technologies) that do not apply to list controls and satisfy a certain level of conditions (application/demand-side conditions or informed conditions) (i.e., catch-all controls).
- b. Not only the export of cargoes but also the provision of technology is subject to control under the Foreign Exchange Act. When providing foreign persons (non-residents, but after May 1, 2021, residents who fall under the specified category* are included) with technologies under list controls, you need to obtain prior permission. The provision of technology includes not only the provision of technical information such as drawings, specifications, manuals, samples, and prototypes on recording media such as paper, e-mail, CDs, and USB memory devices but also the provision of operational knowledge through technical guidance and skill training and technical assistance in seminars. Accepting international students from overseas and conducting joint research activities may involve frequent exchanges of technologies, which could be subject to control under the Foreign Exchange Act.
- * It refers to a type of resident that is strongly influenced by a non-resident and defines to the specific types stipulated in 1. (3)(sa)(i) through (iii) in "Foreign Exchange and Foreign Trade Act, Article 25, Paragraph 1 and Article 17, Paragraph 2 of the Foreign Exchange Order with respect to transactions or acts to provide technology that require a license pursuant to the provisions."
- c. Please be reminded that exporting (providing) technologies obtained through this entrusted program could be subject to control. For a project designated by the

Ministry of Economy, Trade and Industry, NEDO shall check at the conclusion of the entrustment contract whether the trustee plans to export cargoes/technologies that apply to export control of the Foreign Exchange Act, and shall also check the presence of an export management system if the trustee has an intention to export them. Note that this confirmed status may be reported to the Ministry of Economy, Trade and Industry based on a request from the Ministry. Furthermore, if a violation of regulations under the Foreign Exchange Act is identified concerning technologies obtained through this entrusted program, NEDO may cancel all or part of the contract.

d. Please refer the following for the details of security trade control.

- Ministry of Economy, Trade and Industry: Security trade control (general):

<http://www.meti.go.jp/policy/anpo/>

(Q&A: <http://www.meti.go.jp/policy/anpo/qanda.html>)

- Center for Security Export and Investment, Model Internal Rules

<https://www.cistec.or.jp/export/jisyukanri/modelcp/modelcp.html>

- Security Trade Guidance (Introductory)

<https://www.meti.go.jp/policy/anpo/guidance.html>

- Guidance for the Control of Sensitive Technologies for Security Export for Academic and Research Institutions

http://www.meti.go.jp/policy/anpo/law_document/tutatu/t07sonota/t07sonota_jishukanri03.pdf

- Model Security Trade Control Regulations Manual for Universities and Research Institutes

<https://www.meti.go.jp/policy/anpo/daigaku/manual.pdf>

(18) Eliminating duplication

If a project proposed this time is judged as the same research and development theme (in terms of the names and contacts of allocated research and development) as a past or ongoing project by the same proposer in other schemes in which subsidy, trust money, etc. are subsidized by the government (including national research and development agencies), NEDO shall not adopt the proposed project.

(19) Ownership and disposition of research and development assets

a. **Ownership of assets**

Among the acquired assets that were purchased or manufactured to implement contract work (when companies and public interest corporations are Entrustee), NEDO has ownership of assets whose purchase prices are 500,000 Japanese yen or more (including consumption tax) and whose statutory useful life is one year or more. (Article 20 (1) of General Conditions)

* Entrustee have ownership of research and development assets when they are national research and development agencies and others (national research and development agencies, independent administrative agencies), universities and others (national universities, inter-university research institutions, private universities, technical colleges), and local incorporated administrative agencies.

b. **Disposition of Assets**

Based on the business entrustment contract, after the completion of the contract work period, Entrustees are supposed to take over assets under NEDO's ownership on a payment basis. The price of those assets shall be equal to the remaining value on the project completion date. (Article 20 (2)(i) and (iii) of General Conditions)

Note, as assets belonging to NEDO will be subject to the limitations on property disposition described in Article 22 of the Act on Reasonable Execution of Budget Related to Subsidies (Act No. 179 of 1955), there may be conditions placed on the disposition by the Minister of Economy, Trade and Industry.

(20) Language

The authentic text for the Guidelines for Public Call shall be in Japanese. The English version of the Guidelines is for reference only. Only the original Japanese version shall be considered valid, and the English translation shall have no force or effect whatsoever.

8. Opening an orientation meeting

An orientation meeting on the contents of the project, specific procedures related to the public call for proposals, and how to describe the proposal documents, etc. will be held online as follows. Prospective applicants are encouraged to attend the meeting if possible. The briefing will be conducted in Japanese. Companies, etc. wishing to attend are requested to register as a participant from the website below by 17:00, Wednesday, May 11, 2022, indicating the name of the organization to which you belong, the name of the

attendee, and the attendee's contact information (TEL number and e-mail address).

Date and Time: Friday, May 13, 2022, 13:15-14:00 (JST)

Place: Web conference (Web conference address will be sent to participants' registered e-mail addresses)

Registration Website.

https://app23.infoc.nedo.go.jp/evt/events/6qx4m0yxp5pj/event_data/new

9. Contact information for inquiries

NEDO may receive your inquiries no later than 1 week before the public call closing date, regarding the details of the project and the contract via e-mail to the following address.

Individual consultations (via web conference or teleconference) are also available. If you wish to request an individual consultation, please contact us at the e-mail address below, indicating several desired dates and times and the type of individual consultation (web conference or teleconference).

Please be reminded that NEDO would not respond to inquiries about the progress of examination and the like.

Moonshot Research and Development Program Promotion Office, Frontier and Moonshot Technology Department, New Energy and Industrial Technology Development Organization (NEDO)

E-mail: moonshot-office@nedo.go.jp (Replace "*" as "@")

10. Improvement survey concerning work related to NEDO activities

NEDO always accepts work improvement surveys concerning NEDO activities

If you would like to share your opinions with us, please submit them through item “7. Improvement survey concerning work related to NEDO activities” found at the link below.

https://www.nedo.go.jp/shortcut_jigyoku.html

Please note that the content need not be limited to the present business matters.

Relevant documents

Moonshot Goal 4 “Realization of sustainable resource circulation to recover the global environment by 2050”

R&D Concept “Realization of sustainable resource circulation to recover the global environment by 2050”

Guidelines for Operation and Evaluation of Moonshot R&D Program
 Basic plan for the “Moonshot Research and Development Program”
 Implementation Policy for FY2020

<Format of a written proposal>

- Attachment 1: Special instructions for preparing a written proposal, the front cover, and body text
- Attachment 2: Form for summary table and entrustee summary table
- Attachment 3: Plans for the commercialization of research and development results
- Attachment 4: Filling out research CV of the PM candidate, key researchers, young researchers and female researchers
- Attachment 5: The status of certification regarding work-life-balance promoting companies
- Attachment 6: Confirmation sheet for information management system
- Attachment 7: Status of application and acceptance of other research funds
- Attachment 8: Basic Policy for intellectual property management in the NEDO Moonshot Research and Development Program
- Attachment 9: Basic Policy for data management in the NEDO Moonshot Research and Development Program
- Attachment 10: Disclosure of information about research contracts
- Attachment 11: Proposal Summary
- Special Conditions for Moonshot Research & Development Program
- Special Conditions for Moonshot Research & Development Program (for Universities and National Research and Development Agencies, etc.)
- Standard Form of Business Entrustment Contracts
- Standard Form of Business Entrustment Contracts (for Universities and National Research and Development Agencies, etc.)

(Reference) Proposal Documents to be submitted by each party

Proposal Document Name	A) Representative Organization	B) Joint Proposer except for A) & C)	C) Re-Entrusted Contractor	Note
Front Page	Yes	Yes	No	
Confirming the absence of interested parties	Yes	Yes	Yes	A) may summarize this form with the other parties

Proposal: Body text	Submit by each proposer			
Attachment 2: Summary table including all of Contractors	Submit by each proposer			
Attachment 2: Summary table of Entrustee, Joint Contractor, and Brach Office	Yes	Yes	Yes (Formulate "Summary table of Re-Entrusted Contractor and Joint Contractor" by using the similar form)	
Attachment 3: Plans for the commercialization of R&D results	Yes	Yes	Yes	If you plan to advance your R&D via joint proposal, consortium, or other collaborative method, and you plan to jointly work toward practical application and commercialization of your R&D, you are free to clarify how each party plans to contribute toward practical application and commercialization in a joint submission.
Attachment 4: PM candidate and key researcher CV	Yes	Yes	Yes	
Attachment 4 Young and Female researcher CV	Yes (Submit by each proposer)		No	
Attachment 5: The status of certification regarding work-life-balance promoting companies	No for overseas parties		No	
Attachment 6: Confirmation sheet for information management system	Yes	Yes	No	
Attachment 7: Status of application and acceptance of other research funds	Yes	Yes	Yes	
Attachment 11: Proposal Summary	Submit by each proposer			
Company profile (descriptions about	Yes	Yes	Yes	

your organization such as company history, business units, and research centers)				
the most recent business report	Yes	Yes	Yes	
Financial statements (balance sheet, income statement, and cash flow statement) (for the last three years)	Yes	Yes	Yes	
Doubt not conforming to Standard Form of Business Entrustment Contracts	Yes, if you have the doubt.	Yes, if you have the doubt.	Yes, if you have the doubt.	
e-Rad application	Submit by each proposer			