

Summary

Entrusted Work Concerning the Potential for the Introduction of Renewable Energies (FY 2020)

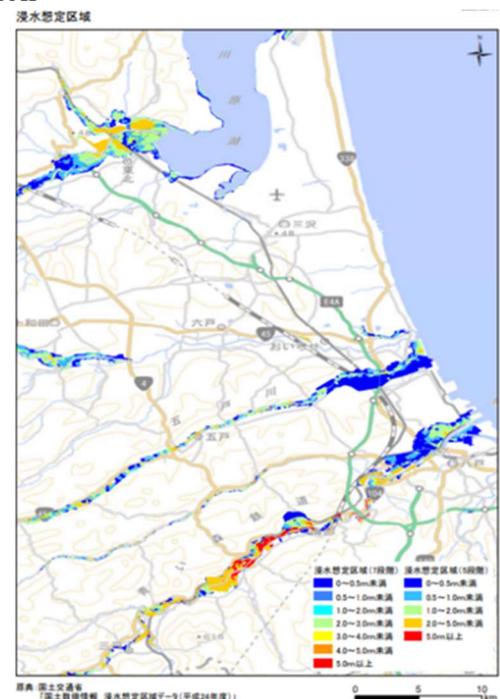
The introduction of renewable energies is important not only as a countermeasure for global warming but also from such viewpoints as establishing energy security, developing autonomous and scattered energy systems and creating new industries and jobs. For this reason, in an effort to develop basic data to examine measures to introduce and spread the use of renewable energies in the coming years, the Ministry of the Environment (MoE) conducted the “Study on the Potential for the Introduction of Renewable Energies” in FY 2009 and FY 2010, the “Development of Basic Zoning Information Concerning Renewable Energies” in FY 2011 through FY 2016 and the “Development and Disclosure of Basic Zoning Data Concerning Renewable Energies” in FY 2017 through FY 2019, thereby estimating the abundance as well as introduction potential of renewable energies (PV power, wind power, small and medium-scale hydropower, geothermal heat, solar heat and underground heat) in Japan and their possible introduction amounts by different scenarios and, at the same time, developing basic zoning information.

The work conducted in FY 2020 included enhancement of the functions of the WebGIS system and revision of the summary document featuring the work in previous years concerning information and tools developed so far by the MoE pertaining to renewable energies from the viewpoint of improving the convenience of such information, etc. for users. Moreover, a database containing information on the introduction potential of renewable energies and information on disaster prevention and other matters related to local needs was created to provide vital information which is easily accessible and understood by the public.

1. Arrangement of Information Related to Disaster Prevention

In view of the increased frequency of several natural disasters in recent years, certain information, including ① disaster prevention-related data which is being developed for the EADAS (Environment Impact Assessment Database System) and ② information on disaster prevention facilities, etc. promoted by the Ministry of Land, Infrastructure, Transport and Tourism, was superimposed on the Renewable Energy Potential System (REPOS) for the purpose of promoting the establishment of renewable energy facilities.

Fig. 1 Results of superimposition of disaster prevention-related information on the REPOS



2. Re-Estimation of Underground Heat

In view of the fact that the progress of innovation of open loop-type technologies was reducing the once concerned ground settlement and environmental pollution by groundwater drainage, a study on existing literature on open loop-type technologies and an interview survey were conducted to understand the latest technological trends and their acceptability to society. A further study was conducted on the actual introduction of cases of open loop-type technologies and the advantages and disadvantages of such technologies were clarified. An estimation method was then examined and its suitability was verified while listening to the opinions of experts.

3. Examination to Incorporate Check Dam Survey Data Relating to Small and Medium-Scale Hydropower Generation in the REPOS

A suitable mechanism was examined to display data relating to check dams which was collected in the “Entrusted Work to Study Various Factors for the Study on the Potential for Hydropower Generation at Check Dams” conducted by the MoE in FY 2018 and FY 2019 on the REPOS.

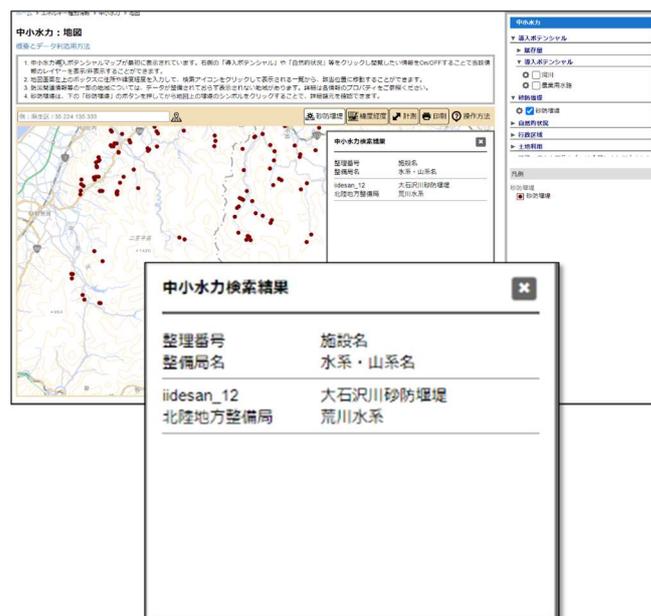


Fig. 2 Results of the superimposition of check dam study data on the REPOS

4. Study on and Sorting of Domestic and Overseas Trends Concerning the Introduction Potential of Renewable Energies

Efforts were constantly made to obtain information on the environment for the introduction of renewable energies and relevant business environment and also on work undertaken by various organizations which could affect such environment. The results were sorted to summarize the trends and to establish the relationship with the Entrusted Work and any room for the Entrusted

Work to reflect such trends. Moreover, major overseas activities relating to information on the potential of renewable energies were studied and arranged.

5. Examination of an Efficient Renewal Method for Information on the Introduction Potential of Renewable Energies

In regard to information on the introduction potential of various renewable energy sources, continuous efforts were made to obtain information enabling the renewal of such information at a low cost and as autonomously as possible and also to examine a desirable way to construct a related system. To be more precise, a calculation method (flow of estimation of the introduction potential) using external information sources was examined regarding data, etc. handled by the REPOS. The necessity for catch-up to respond to the frequency of the renewal of external data was examined along with the technical feasibility of the “automatization of the calculation flow” using the REPOS. Further examination was conducted regarding the feasibility of the efficient renewal of information in the case where the viewpoint of cost effectiveness is taken into consideration.

Table 1 Examination results of the feasibility of the efficient renewal of primary data by category

Category 1	Category 2	Category 3	Type	Feasibility for Efficient Renewal
Disclosed to the public	Open-data	API disclosed	A	○
		Downloading required	B	△~ ×
	Not open-data	-	C	×
Not disclosed to the public	-	-	D	×

6. Revision of Summary Document Prepared in the Previous Year Featuring the Introduction Potential, etc. of Renewable Energies

The summary document prepared in the previous year featuring the introduction potential, etc. of renewable energies was revised by making the necessary modifications.

7. Publicity of the REPOS

To improve the level of recognition of the REPOS, the basic policy (draft) for the formulation of a PR strategy was prepared, the target groups for publicity were determined and a PR strategy was examined along with publicity of the REPOS in environment-related magazines and websites.

8. Coordination for the REPOS

As it was necessary for the REPOS to develop and operate itself through cooperation between the “work to prepare and consolidate data (main work)” and the “work for system installation,

maintenance and operation” and also to establish a smooth link with systems, such as the EADAS, developed by other projects, the contents of the necessary coordination were designed with reference to the “Basic Design Document” and “Detailed Design Document” prepared for the Entrusted Work Concerning the Design and Development of a Transmission Site for Information on Renewable Energy Potential in FY 2019”. This coordination was implemented following the “Protocol for Coding” and “Rules to Ensure Information Security” as stipulated as part of the development work based on the design contents.

9. Establishment and operation of inquiry window / Holding of work progress meeting

For inquiries regarding REPOS made to the MoE, e-mail address was assigned to receive and respond the answers.

Work progress meeting was held once to share relevant information with MoE, to review work principles, and to receive advice and suggestion from external advisory experts.