

# Japan Water Agency (Incorporated Administrative Agency)

<https://www.water.go.jp/>

## 1. Summary of operations implemented using FILP funds

Japan Water Agency undertakes the construction and management of dams, estuary barrages, facilities for water level adjustment for lakes and marshes, multipurpose canals and other water utilization or flood control facilities at seven river systems nationwide, including the Tone River, Ara River, Toyo River, Kiso River, Yodo River, Yoshino River and Chikugo River. The Corporation is generally engaged in large-scale, emergency projects contributing to water utilization of large areas, for the national government or local public bodies.

Of the projects implemented by the Corporation, FILP is applied only to the portion categorized as construction costs for water utilization projects. The Corporation pays those costs temporarily until the construction of water utilization facilities is completed and the beneficiary starts to gain income from water supply services.

Note: Projects not eligible for FILP include those for flood control in construction of a dam for the purpose of flood control and management service for the completed facilities.

Here, "water utilization project" is defined as a project to secure a supply of domestic, industrial and agricultural water, and "flood control project" is defined as the flood control and maintenance of normal river functions of the circulatory system of basins.

## 2. Amount of lending under FILP

(Unit: billion yen)

FY2023 FILP	Estimated outstanding amount of FILP lending at the end of FY2022
0.4	170.7

## 3. Estimated policy cost analysis of the project

### (1) Policy cost (Unit: billion yen)

Category	FY2022	FY2023	Fluctuation
1. Government expenditure (subsidies, etc.)	76.8	111.0	+34.2
2. Government revenue (payments to the government, etc.)*	-	-	-
3. Opportunity cost of capital investments, etc.	-3.4	-5.6	-2.3
<b>Total (1+2+3=policy cost(A))</b>	<b>73.5</b>	<b>105.4</b>	<b>+31.9</b>
Analysis period (years)	40 years	32 years	-8 years

### (2) Breakdown of policy cost by the time of the provision of funds (Unit: billion yen)

Category	FY2022	FY2023	Fluctuation
(A) Policy cost (previously cited)	73.5	105.4	+31.9
1) Opportunity cost of capital investments, etc. provided before the beginning of the analysis period	1.2	1.9	+0.7
2) Policy cost expected to be newly accrued during the analysis period	72.2	103.5	+31.2
Government expenditure (subsidies, etc.)	76.8	111.0	+34.2
Government revenue (payments to the government, etc.)*	-	-	-
Opportunity cost of surplus, etc.	-4.6	-7.6	-2.9
Opportunity cost of capital investments, etc.	-	-	-

### (4) Sensitivity analysis (cases where assumptions change)

(Unit: billion yen)

(A) Policy cost (previously cited)	Case of assumed interest rate + 1%	Fluctuation			
			1. Government expenditure (subsidies, etc.)	2. Government revenue (payments to the government, etc.)*	3. Opportunity cost of capital investments, etc.
105.4	102.2	-3.2	-6.2	-	+3.0

(A) Policy cost (previously cited)	Case of a 1% increase in operating expenses	Fluctuation			
			1. Government expenditure (subsidies, etc.)	2. Government revenue (payments to the government, etc.)*	3. Opportunity cost of capital investments, etc.
105.4	106.4	+1.0	+1.0	-	+0.0

(Note) Components in each column may not add up to the total because of rounding.

\* Government revenue (payments to the government, etc.) is booked as a negative amount. Example: -10 b. yen for 10 b. yen in payments to government, etc.

### (3) Year-to-Year comparison analysis

(Computing any fluctuation from previous year)

(Unit: billion yen)

Policy cost		FY2022	FY2023	Simple fluctuation
		Simple comparison (before adjustment)	73.5	105.4
Past year comparison (after adjustment)	1) Adjusting initial years (Analysis results after adjusting initial year to that for FY2023 analysis)	61.3	107.6	+46.3
	2) Adjusting assumed interest rates (Analysis results of re-estimation using assumed interest rate for FY2022)			Real fluctuation (2-1)

[Real fluctuation factor analysis]

#### ○Factors behind policy cost increase

- Increase in cost due to an increase in subsidies, etc. accompanying new operations(+47.1 billion yen)

- Increase in cost due to decrease in retained earnings associated with a shortened analysis period, etc. (+2.4 billion yen)

#### ○Factors behind policy cost decrease

- Decrease in cost due to confirmation of FY2021 results and revision of FY2022 forecast, etc. (-3.2 billion yen)

#### 4. Outline of estimation and project prospect employed in the analysis

[Outline of estimation]

- 1) The estimation covers the projects to construct dams, canals, and other facilities. (excluding flood control projects from dam construction projects)
- 2) The project scale is estimated to be 205.6 billion yen for the period from FY2023 through FY2037. The project scale in FY2023 is estimated to be 20.6 billion yen. (excluding flood control projects)
- 3) The analysis period is set at 32 years (40 years for FY2022) until the construction project is completed and debts are recovered.
- 4) Based on the total project cost and construction periods of the above-mentioned projects, the amount of subsidy for each project is estimated in consideration of the cost allocation and the subsidy ratio of the project.

[Project prospect]

- 1) Subject to the analysis are 12 projects for constructing irrigation channels, etc., which will be launched in FY2023 and completed by FY2037.
- 2) New projects in FY2023: Large-scale earthquake countermeasure projects such as the former Yoshino River estuary weir, irrigation water project downstream of Yoshino River, and comprehensive countermeasure projects for the Chikugo River Lower Reaches irrigation water.

(Project costs in the past and future)

(Unit: billion yen)

FY	Result				Estimated 2022	Planned 2023	Assumptions for calculation	
	2018	2019	2020	2021			2024-2037	
Project expenses	61.8	58.1	55.5	40.8	64.6	46.1	369.7	Appropriation is based on the construction period and project expenses required for the completion of the construction projects.
Project expenses subject to the analysis	25.7	24.2	24.5	15.3	22.8	20.6	185.0	

Note: The project cost subject to the analysis excludes the flood control project which is not eligible for FILP.

- 3) The beneficiaries of the water utilization projects agreed to bear the debt individually after the completion of the projects. They plan to make all repayments as the payment of principal in installments by FY2054. The amount to be repaid includes the amount already spent for projects that have not been completed.

(Typical period for which debt\*)

Domestic and industrial water: 23 years    Agricultural water: 17 years

\* Recovery period is to be decided by the Institution after the transition through discussion with the parties who pay the fees and obtaining the approval from the minister and competent minister of Land, Infrastructure, Transport and Tourism according to the Article 31 (municipal water) and Article 34 and Article 39 (agricultural water) of the cabinet order of the Japan Water Agency Act.

- 4) Beneficiaries (local authorities, etc.) agreed to bear the debts and prepare project plans accordingly and have never made overdue installment payments. The Agency can therefore count on the punctual repayments of debts and estimate policy costs without taking into account unrecoverable contributions.

#### 5. Reasons for granting of subsidies, mechanism and underlying laws

Subsidies are granted in order to reduce the financial burden on beneficiaries of water supply service for domestic, industrial, and agricultural purposes.

(Underlying laws and regulations)

“Water Resources Development Promotion Act”

Article 13: The national government shall make efforts to take a measure to secure necessary funds and other measures to cover the costs of the implementation of the Basic Plan.

“Japan Water Agency Act”

Article 35: The national government may grant a subsidy to the Agency under a Cabinet Order within the budget. The Agency shall use the subsidy to pay a part of the expenses to carry out the operations specified in Clause 1 or Clause 3 of Paragraph 1 of Article 12.

The Agency receives the following subsidies from the general account of the national budget under the above-mentioned laws.

Domestic water: Subsidy for improvement of facilities to develop water resources for domestic water (Subsidization rate: one third or one half)

Industrial water: Subsidy for projects to secure industrial water (Subsidization rate: 40% or lower)

Agricultural water: Subsidy for projects to develop infrastructure for agricultural business (Subsidization rate: 70% or lower)

Note: The subsidization rate applied to the use of agricultural water in a developing area might exceed 70%.

Payment to the national treasury is stipulated in the Japan Water Agency Act as below:

“Japan Water Agency Act”

(Disposition of Reserve Funds)

Article 31: When the Agency has settled an account pursuant to the provisions of paragraph (1) or paragraph (2) of Article 44 of the Act on General Rules for the final business year of the mid-term target period prescribed in Article 29, paragraph (2), item (i) of the Act on General Rules (hereinafter referred to as the "midterm target period" in this paragraph), and there remains a reserve fund under Article 44, paragraph (1) of the Act, the portion of the amount equivalent to the amount of the reserve fund that was approved by the Minister of Land, Infrastructure, Transport and Tourism may be appropriated for the operations prescribed in Article 12 during the following mid-term target period in accordance with the mid-term plan permitted as set forth in Article 30, paragraph (1) of the Act on General Rules for the next mid-term target period (when the permission for a change pursuant to the provisions of the second sentence of the relevant paragraph is obtained, in accordance with the mid-term plan after the change).

2 If there is a surplus after subtracting the amount for funding the operations involving Paragraph 1-2-(c), 1-5, Paragraph 2 and Paragraph 3 of Article 12 out of the amount approved by the Minister of Land, Infrastructure, Transport and Tourism as provided in the previous paragraph from the amount provided in a Ministry of Land, Infrastructure, Transport and Tourism ordinance as profit involving the operations out of the reserve fund amount as provided in the previous paragraph, the Agency shall pay the surplus to the national treasury.

3 (Omitted)

## 6. Special remarks

- 1) In accordance with the Japan Water Agency Act (Act No. 182 of 2002), the Water Resources Development Public Corporation was dissolved and the Japan Water Agency (Incorporated Administrative Agency) was established on October 1, 2003.
- 2) It was specified in the "Reorganization and Rationalization Plan for Special Public Corporations" approved at a cabinet meeting in December 2001 that a new system to have water users pay the cost in advance should be introduced and used as much as possible. The system has been implemented for some operations and reflected in the policy cost analysis.
- 3) It should be noted that the values of dams, irrigation channels, and other facilities are not considered in the policy cost analysis.
- 4) The policy cost of the Agency contributes to ensuring a stable supply of domestic and industrial water, promoting more efficient and intensive agricultural business through a stable supply of agricultural water, and enhancing the national economy and the standard of life of Japanese people.
- 5) Facilities constructed and managed by the Agency serve for various purposes such as providing places to local people where they like to come to relax and developing the local water circulation system by letting used agricultural water return to rivers and recharge groundwater.
- 6) In addition to water utilization projects, the Agency carries out flood control projects to ensure the safety of people's lives, properties, and land. The ongoing projects for flood control such as the construction of dams is expected to save about 0.9 trillion yen (on the basis of price levels in FY2022; Calculated by the Agency based on the materials provided by the Ministry of Land, Infrastructure and Transport) by reducing the damage that would have been caused by floods.

## (Reference) Outcome and social and economic benefits of operations

### 1) Special features of FILP-funded projects

- a. Consistent implementation from construction of regional and multi-purpose facilities extending over several prefectures to management (domestic water, industrial water, agricultural water)
- b. Unified implementation from water resources development to aqueducts
- c. Implementation of regional water utilization projects in large urban areas (7 river systems) accounting for approximately 50% of the population, including the Tokyo metropolitan area. This covers approximately 80% of the new water supply goal in the target areas, so the Corporation projects function as a local lifeline.

### 2) Overview of FILP-funded projects

Total of 11 projects are under way including new construction of new water facilities such as dams and reconstruction of existing water facilities (functional recovery and enhancement).

### 3) Results of FILP-funded projects

With the completion of 11 projects subject to the analysis coupled with water supply projects implemented by water utilization establishments, water that can be supplied stably to agricultural land and households is approximately 226 m<sup>3</sup>/s (69 for domestic water, 7 for industrial water and 150 for agricultural water (including supply volume for reconstruction projects)).

- a. The supply volume of domestic water is 69m<sup>3</sup>/s. When converted to daily volume, it is approximately 5.97 million m<sup>3</sup>, when converted to water utilization volume per person, it will serve approximately 15 million persons.
- b. The supply volume of industrial water is 7m<sup>3</sup>/s. When converted to daily volume, it is equivalent to approximately 0.57 million m<sup>3</sup>, and when converted to supply volume utilized in the plants of 3 industries that consume approximately 60% of water (chemical industry, steel industry and pulp, paper and paper processed manufacturing), it contributes to product shipments equivalent to approximately 1 trillion yen annually (estimate by the Agency).

c. The supply volume of agricultural water of 150m<sup>3</sup>/s (busy farming season) is approximately 13.00 million m<sup>3</sup> in daily volume, which irrigates approximately 100,000 hectares of agricultural land (equivalent to 2% of agricultural land nationwide). This contributes to stable agricultural management and the production of approximately 190,000 farming households.

(Reference) The daily supply volume is equal to 16 times (domestic water 5, industrial water 1 and agricultural water 10) of the capacity of Tokyo Dome (about 1.2 million m<sup>3</sup>).

While it is rather difficult to grasp the quantitative benefits generated from operations, as for the 11 operations (Omoi River Development, Narita water facility reconstruction, Tone Connection Canal large-scale Earthquake Countermeasures, Kiso River System Connection Canal, Reconstruction of the Second Nobi Facility for the Kiso River Irrigation Channel, Toyogawa Canal Stage II, Emergency measure for Kagawa water supply facilities, large-scale earthquake countermeasures such as the former Yoshino River estuary weir, Koishiwaragawa Dam, Fukuoka Connection Canal Facility Earthquake Countermeasures, comprehensive countermeasures for the Chikugo River Lower Reaches irrigation water), the total following benefits with respect to them, the benefit concerning

- a) The reducing effects of low or disrupted water damage by maintaining the water resource development facilities and of disrupted water damage by reinforcing the facilities to earthquake-resistant in the field of domestic water;
- b) The reduction effect of industrial water procurement costs when forced to seek water from other sources and damage risk aversion effect for the facilities by turning them into earthquake resistant; and
- c) The production and upgrade effects of agricultural products in the field of agricultural water will be estimated as follows;

• in the case where the social discount rate is set to 4% and the longest analysis period is set to 50 years until FY2082;

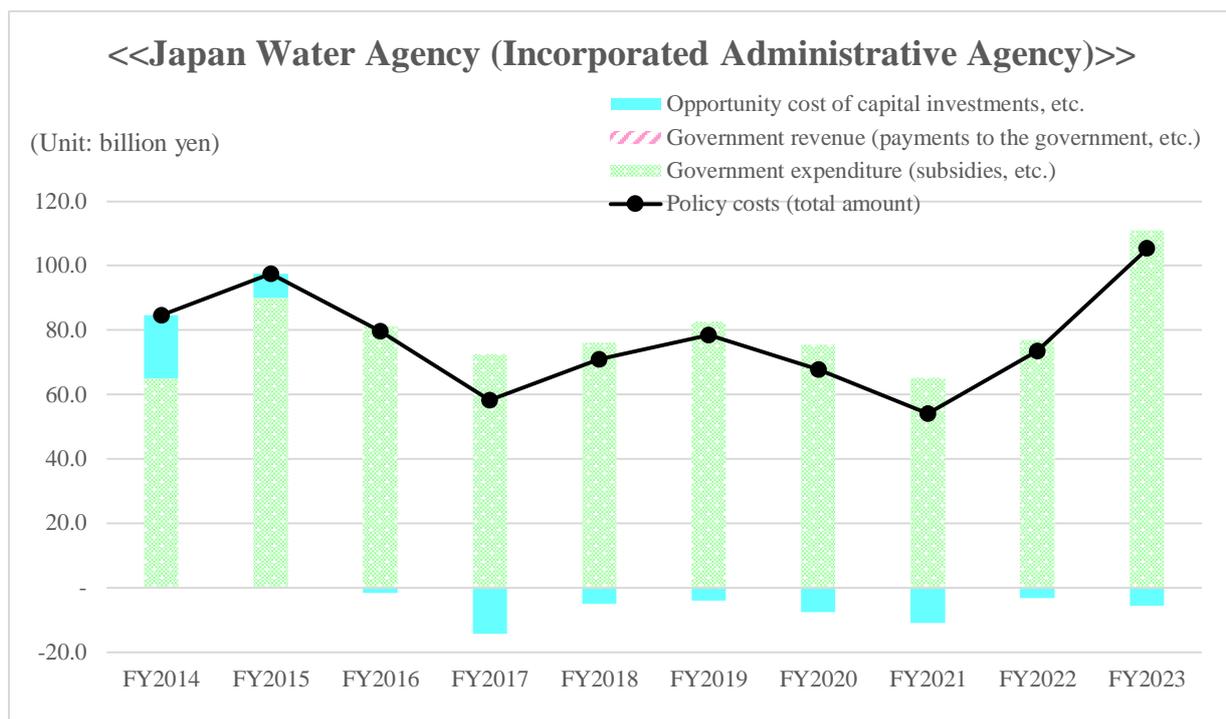
15,232.8 billion yen (estimated by the Agency)

• in the case where the social discount factor is set to that of the policy cost analysis;

20,953.1 billion yen (estimated by the Agency)

# Overview of policy cost analysis results

## [Changes in policy costs]



Note: Policy costs for each fiscal year differ in assumptions including interest rates applied to estimates.

(Unit: billion yen)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Policy costs (total amount)	84.6	97.4	79.7	58.1	70.8	78.5	67.7	54.1	73.5	105.4
Government expenditure (subsidies, etc.)	65.0	89.9	81.3	72.5	76.0	82.6	75.5	65.1	76.8	111.0
Government revenue (payments to the government, etc.)	-	-	-	-	-	-	-	-	-	-
Opportunity cost of capital investments, etc.	19.6	7.5	-1.6	-14.4	-5.1	-4.1	-7.8	-11.0	-3.4	-5.6

### 【Explanation of policy cost trends】

- The total project cost of construction projects that are subject to policy cost analysis is stipulated in the project execution plan, therefore, remaining project cost decreases as construction projects proceed. Along with this, subsidies, etc. from the government decrease, resulting in policy costs basically being on a decreasing trend. If Government subsidies, etc. increase due to changes in project execution plans or additional projects, however, the policy cost would rise.

### 【FILP agency's self-assessment of policy cost analysis results (FY2023)】

- In FY2023, policy cost increased due to an increase in government subsidies, etc. during the analysis period associated with additional new projects.

- We have confirmed the redeemability of fiscal loans through future cash flow estimation results produced during the policy cost analysis. Given that no annual loss is projected for the future, we have concluded that our financial soundness has been secured.

- The results of the sensitivity analysis conducted to calculate policy cost based on the case of assumed interest rate + 1% showed that policy cost decreased by 3.2 billion yen. This was due to changes in the discount rate, and the interest rate fluctuations in question have minimal impact on financial soundness.

- The results of the sensitivity analysis, which calculated the policy cost under the assumption of a 1% increase in operating expenses, showed an increase of 1.0 billion yen in the policy cost. The main factor behind this is an increase in subsidies, etc. from the government due to an increase in operating expenses.

## (Reference) Financial Statements

## Balance Sheet

(Unit: million yen)

Item	End of FY2021 (Result)	End of FY2022 (Estimated)	End of FY2023 (Planned)	Item	End of FY2021 (Result)	End of FY2022 (Estimated)	End of FY2023 (Planned)
<b>(Assets)</b>				<b>(Liabilities and net assets)</b>			
Current assets	70,851	44,801	44,766	Current liabilities	65,373	34,210	39,741
Cash and bank deposits	33,758	16,449	23,276	Accrued payments	22,032	16	16
Securities	8,100	2,550	100	Accrued expenses	24	23	31
Others	28,993	25,803	21,389	Others	43,316	34,172	39,694
Fixed assets	3,280,624	3,240,826	3,197,958	Fixed liabilities	3,205,926	3,173,267	3,126,197
Fixed assets for operations	2,748,672	2,789,444	2,742,375	Contra-accounts for assets	2,989,347	2,982,136	2,956,630
Tangible fixed assets	2,742,617	2,783,390	2,736,320	Long-term deposit of subsidies	657	606	555
Intangible fixed assets	6,055	6,055	6,055	Water resource bonds	10,000	12,000	17,000
Fixed assets for general management	6,501	6,584	6,614	Discount on bond	0	0	-
Tangible fixed assets	6,501	6,584	6,614	Long-term borrowings	184,838	157,992	132,181
Intangible fixed assets	1	1	1	Reserves	21,026	20,464	19,830
Construction in progress	299,027	242,296	255,608	Advances received for commissioned operations	58	69	-
Construction in progress for operations	299,027	242,296	255,608	Asset retirement obligations	-	-	-
Investment and other assets	226,424	202,501	193,361	(Total liabilities)	3,271,299	3,207,477	3,165,937
Investment securities	11,850	9,286	11,274	Capital	4,838	4,838	4,838
Installment principal	205,938	184,370	171,258	Government investment	4,838	4,838	4,838
Long-term prepayment of consumption tax, etc.	8,216	8,485	10,489	Capital surplus	-1,934	-1,813	-1,803
Security deposit and guarantee	274	274	274	Capital surplus	2,116	2,408	2,662
Other investments and other assets	146	86	66	Other administrative costs accumulated	-4,050	-4,221	-4,466
				Retained earnings	77,273	75,125	73,752
				Reserve fund carried over from the previous Mid-term Objective period	67,788	73,633	70,843
				Reserve fund	7,516	-	1,492
				Unappropriated income for the current year	1,968	1,492	1,416
				(Of this, gross profit)	(1,968)	(1,492)	(1,416)
				(Total net assets)	80,176	78,150	76,786
Total assets	3,351,475	3,285,627	3,242,723	Total liabilities and net assets	3,351,475	3,285,627	3,242,723

Notes 1. The balance sheet includes amounts for projects other than those subject to the policy cost analysis.

2. Components may not add up to the total because of rounding.

## Income Statement

(Unit: million yen)

Item	FY2021 (Result)	FY2022 (Estimated)	FY2023 (Planned)	Item	FY2021 (Result)	FY2022 (Estimated)	FY2023 (Planned)
<b>(Losses)</b>				<b>(Profits)</b>			
Ordinary expenses	126,927	129,539	126,064	Ordinary income	126,374	127,683	124,945
Cost of management activities	35,991	41,554	40,528	Revenues from commissioned work	2,380	2,365	3,427
Cost of entrusted activities	2,257	2,365	3,427	Revenues from subsidies, etc.	33,905	40,111	39,044
Cost of donation-based projects	-	-	17	Donations	-	-	17
Disaster reconstruction operation cost	842	405	-	Disaster reconstruction operation revenue	842	405	-
Operational expenses for overseas surveys, etc.	115	193	192	Operational revenues for overseas surveys, etc.	36	105	100
Construction project expenses	7,890	4,535	1,348	Revenues from management miscellaneous sources	957	653	589
General and administrative expenses	1,585	2,376	1,643	Reversal of contra-accounts for assets funded by subsidies	74,972	75,365	76,602
Depreciation cost of fixed assets for operations	74,581	75,018	76,090	Reversal of contra-construction in progress funded by subsidies	7,608	3,835	857
Cost of eliminating fixed assets for operations	425	382	546	Income regarding contra-accounts for provision for bonuses	515	515	515
Finance expenses	3,243	2,709	2,271	Financial income	5,046	4,329	3,794
Miscellaneous losses	-	2	2	Miscellaneous income	114	-	-
Temporary losses	78	25	-	Temporary profits	78	25	-
Loss on sale of fixed assets	-	-	-	Reversal of contra-accounts for assets funded by subsidies	78	25	-
Impairment loss	78	-	-				
Payments to the national treasury	-	25	-				
Gross profit	1,968	1,492	1,416	Reversal of reserve fund carried over from the previous Mid-term Objective period	2,521	3,347	2,536
Total	128,973	131,057	127,481	Total	128,973	131,057	127,481

Notes 1. The income statement includes amounts for projects other than those subject to the policy cost analysis.

2. Components may not add up to the total because of rounding.