Material for the IUHF World Congress

Contributing to Disaster Preparedness, Mitigation and Promoting Disaster-Resilient Housing through Housing Loan

Japan Housing Finance Agency (JHF)

International Affairs and Research Department, International Affairs Group

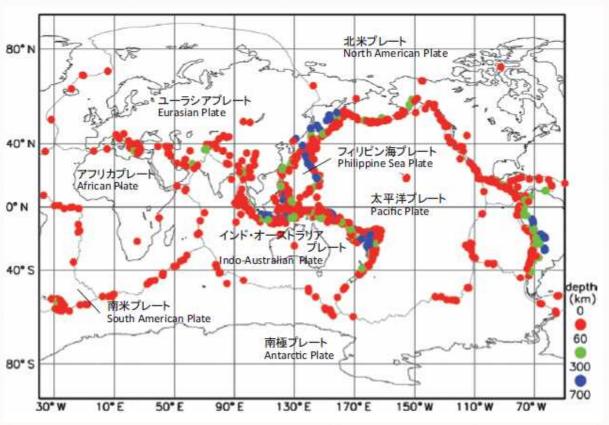


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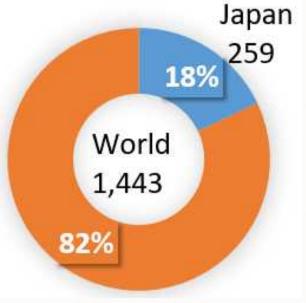
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1 Overview of Earthquakes in Japan

World Geographical Distribution of Hypocenters and Plates

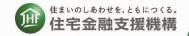


The number of earthquakes with magnitude of 6.0 or greater (2021-2020)

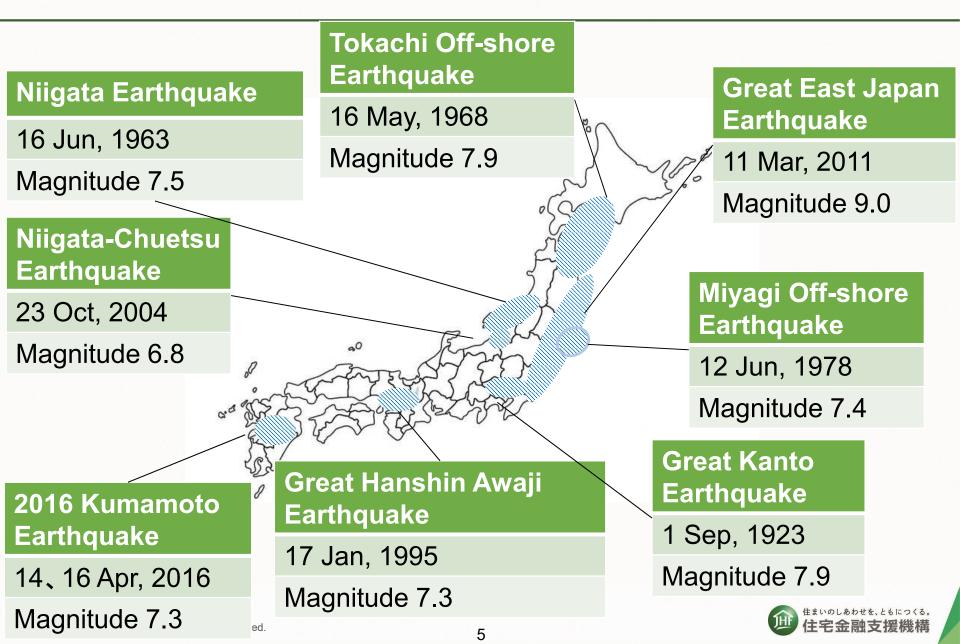


Note: Analysis of magnitude 6.0 and greater earthquakes' epicenters from 2012 to 2021 (Source) Cabinet Office, Government Japan

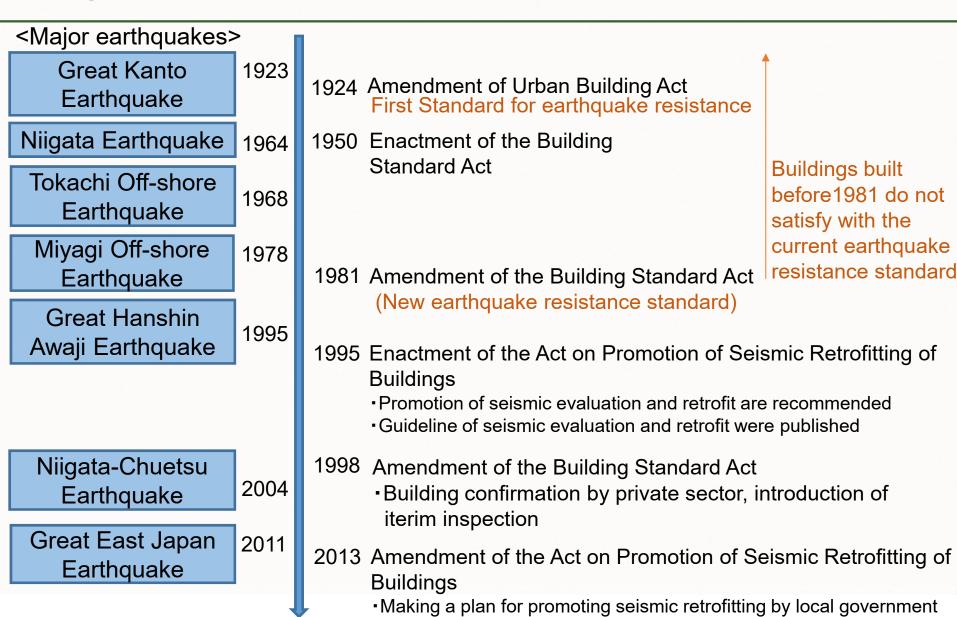
(Source) Ministry of Land, Infrastructure, Transport and Tourism, Government Japan



Disaster Situations of Major Large-Scale Earthquakes Occurred in Japan



Progress in Development of Earthquake Resistance Measures

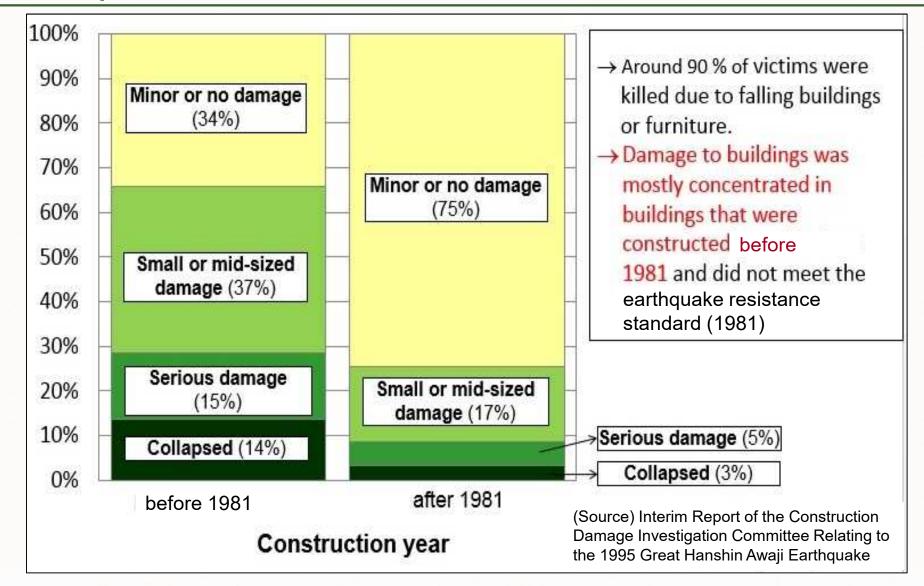


•Owner of the buildings with certain size should conduct seismic

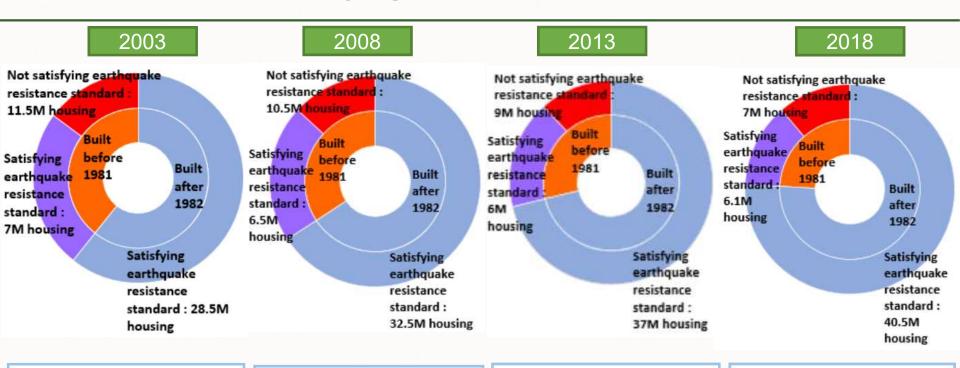
evaluation and report to local government

6

Comparison of the Damages of Buildings in Great Hanshin-Awaji Earthquake



Ratio of Housing Satisfying the Earthquake Resistance Standard



Total Housing 47M

- Satisfying earthquake resistance standard 35.5M
- Not satisfying earthquake resistance standard 11.5M
 Ratio of housing satisfying earthquake

resistance standard

<u>appx 75%</u>

Total Housing 49.5M

- Satisfying earthquake resistance standard 39M
- ➤ Not satisfying earthquake resistance standard 10.5M Ratio of housing satisfying earthquake

resistance standard

Total Housing 52M

- Satisfying earthquake resistance standard 43M
- Not satisfying earthquake resistance standard 9M
 Ratio of housing satisfying earthquake

Ratio of housing satisfying earthquake resistance standard appx 82%

Total Housing 53.6M

- Satisfying earthquake resistance standard 46.6M
- Not satisfying earthquake resistance standard 7M

Ratio of housing satisfying earthquake resistance standard appx 87%

appx 79%

Earthquake Resistance Grades

- ➤ Earthquake resistance grades were stipulated in the housing performance system based on Housing Assurance Quality Act.
- The housing performance system is a system which evaluates housing performance by independent inspection institutions. The system shows common rules (standards for indication and evaluation methods) to ensure that housing performance factors such as structural performance, sound insulating performance and energy efficiency, etc., are expressed in grades. It makes objective comparison of earthquake resistance performance for consumers.

The level of earthquake resistance performance

high

Grade 3

 Resist to earthquake force 1.5 times as much as that of the standards stipulated in the Building Standards Act (Grade 1).

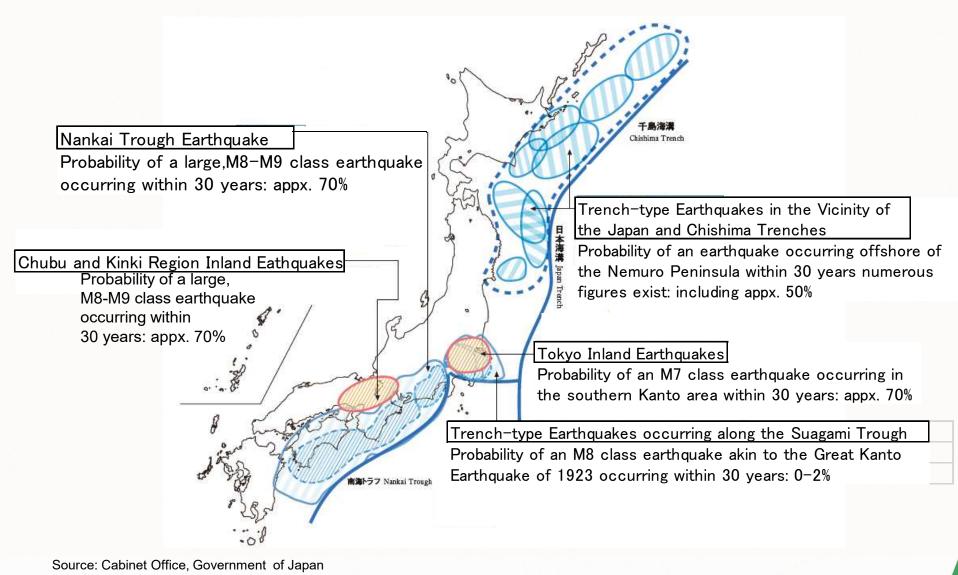
Grade 2

 Resist to earthquake force 1.25 times as much as that of the standards stipulated in the Building Standards Act (Grade 1).

Grade 1

- Earthquake resistance standard stipulated in the Building Standards Act applicable to all houses. (Amended in 1981)
 - To ensure that there is little to no damage from medium scale earthquakes and that there is no damage such as collapse that poses a threat to human life from very rare large scale earthquakes which would occur once in hundreds of years.

Anticipated Large-Scale Earthquakes





2 Overview of Japan Housing Finance Agency's Business

JHF (Japan Housing Finance Agency)



- 1 As of 31 March, 2024
- 2 As of 1 April, 2024

Established:	April 2007 (Former Government		
	Housing Loan Corporation (GHLC)		
	was established in 1950)		

Capitalization¹: 692 billion JPY

(app. 4.6 billion USD)

All paid in by the Government of

Japan

1 USD = 150 JPY

- Supervising Ministry of Land, Infrastructure,
 Authorities: Transport and Tourism (MLIT)
 - Ministry of Finance (MOF)

Number of directors and employees²:

941

Head Office: Regional Office:

Main line of business:

Tokyo, Japan 8 offices in major cities

- Securitization Support Business (Secondary market operation)
- Loan Origination Business
- Housing Loan Insurance Business
- Promotion of Quality Housing



JHF's Business Summary

1 Securitization Support Business (Provision of Flat 35)

Support origination of fully fixed-rate housing loans of private financial institutions by the following programs:

- · Flat35 (Purchase Program): JHF purchases fully fixed-rate housing loans from private financial institutions and securitizes them.
- · Flat35 (Guarantee Program): Private financial institutions securitize fully fixed-rate housing loans insured by JHF, and JHF guarantees interest and principal payment to investors.

2 Housing Loan Insurance Business

Support smooth origination of housing loans of private financial institutions by establishing a framework to pay insurance monies to private financial institutions pursuant to previously concluded insurance policy that covers housing loan losses due to unexpected events.

3 Loan Origination Business (Policy-related Loans including Disaster Recovery Loans and Urban Development Loans)

Support housing-reconstruction in areas affected by the Great East Japan Earthquake and other natural disasters, the business that facilitates the renewal of urban functions and improves disaster- resilience including urban redevelopment projects and rebuilding of condominiums and implementing work for earthquake-resistant improvement, and promotion of rental housing supply to contribute to stable living for child-rearing households and the elderlies by providing direct loans from JHF.

4 Promotion of Quality Housing

Promote installment of quality housing by requiring the house eligible for Flat 35 and JHF loans to fulfil the technical standards.

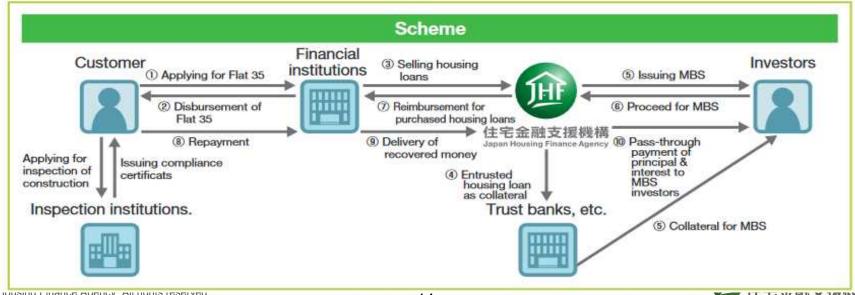
5 Group Credit Life Insurance Business

Provide security for borrowers of Flat 35 (Purchase Program) and JHF originated loans by applying insurance money payable from the life insurance company in case of borrower's death or disability and repay the remaining amount of housing loan of the borrower.



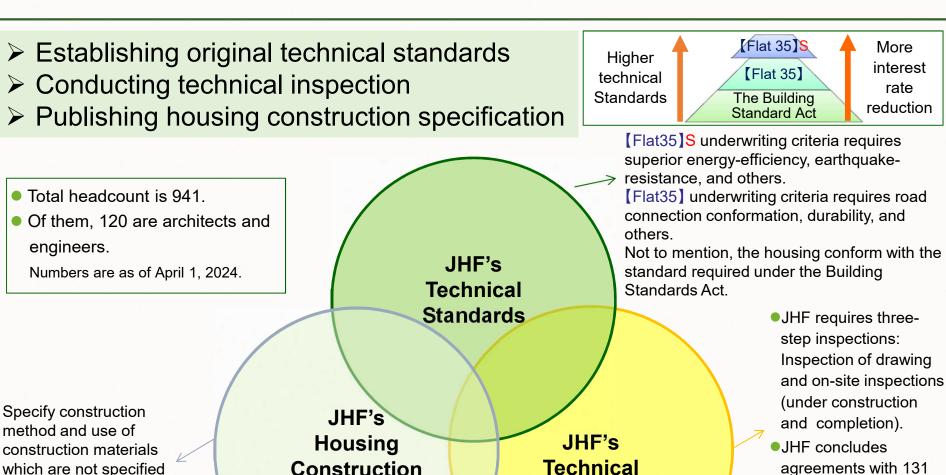
Overview of Flat35 (Securitization Support Business)

- > JHF purchases housing loans from private financial institutions and entrusts them to trust banks, etc. JHF issues MBS backed by this collateral and raises funds for housing loans from the bond market (i.e., from investors). (See the figure below).
- Using this system, private financial institutions can provide long-term fixed-rate housing loans. Such housing loans must meet certain underwriting criteria set by JHF, and are transferred to JHF from private institutions when they are disbursed.
- > The interest rate on these loans is decided by individual private institutions based on the coupon on MBS, etc.



Initiatives to Enhance Constructing Quality Houses

Specification Book



agreements with 131 private inspection institutions nationwide,

rate

Inspection collaborates with conformation of **Building Standards Act** and the Housing Performance Indication System, etc.

15

in the technical

drawings to meet

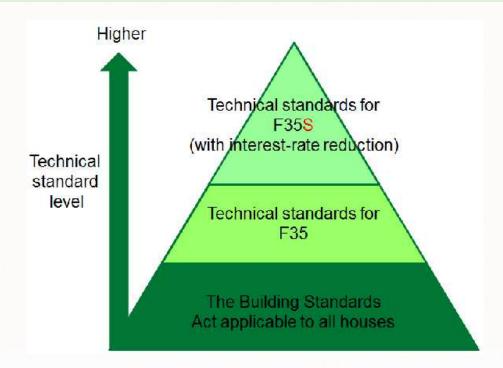
standards and design

required housing quality

Inspection

Promoting to Improve Quality Housing ~Technical Standards~

- > JHF has established the technical standards for Flat35.
- ➤ The standards are largely divided into essential standards and additional standards for Flat35S.
- ➤ Specifically, JHF reduces interest rates for a certain period for housing that is highly energy efficient, earthquake-resilient, barrier- free, durability and flexibility performance to attract consumers to the high quality housing.



JHF's Technical Inspection

➤ JHF's technical inspection is required to ensure that the housing satisfies JHF's technical standards. i.e. inspection of drawings, on-site inspection (under construction) and on-site inspection (on completion).

General flow of technical inspection for Flat 35 (In the case of a detached house to be newly built.)

Applying for a loan

Inspection of drawings

Design documents for construction (floor drawings, vertical drawings, specifications, etc.) representing the planned house submitted for the application are checked to ensure that the house satisfies JHF technical standards.



Start of construction

On-site inspection (under construction) [Interim inspection]

In principle, when the roofing is completed, the planned house is checked on site to ensure that the house satisfies JHF technical standards.



On-site inspection (on completion)

When the planned house is completed, it is checked on-site to ensure that it satisfies JHF technical standards.

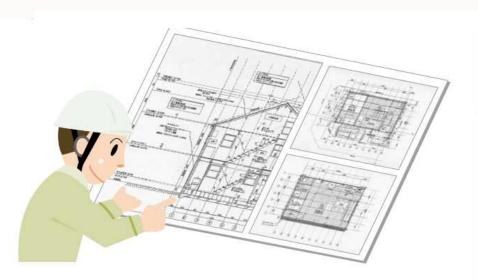


Issuance of inspection notification (conformity certificate)

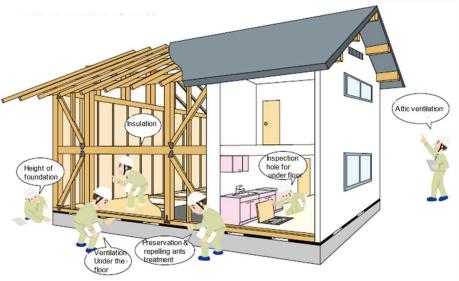
JHF's Technical Inspection Method

- ➤ Private inspection institutions conduct Inspection of drawing, on-site inspection (Interim inspection and completion inspection).
- ➤ Private inspection institutions issue conformity certificate for housing which satisfies JHF's technical standards.

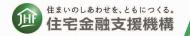
[Inspection of Drawing]



[On Site Inspection]



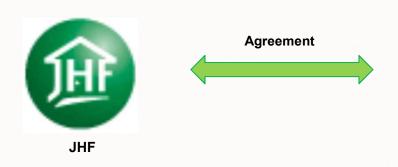
(※ In the case of a detached house to be newly built.)



JHF's Technical Inspection System

- > Inspections are conducted by private inspection institutions which have contractual agreements with JHF.
- The number of private inspection institutions : 131 institutions

(As of, March 2024)



- JHF provides inspection manuals to private inspection institutions.
- JHF monitors private inspection institutions works



JHF's Housing Construction Specification Book

- ➤ The JHF's housing construction specification book indicates how to construct the housing following not only the JHF's original technical standards but also the "Building Standards Act" applicable to all housing.
- ➤ The JHF's housing construction specification book was first drawn up in 1950 when the housing construction was deeply relied on each carpenter's individual techniques. Post-World War II, Japan faced a severe housing shortage, making it crucial to supply a substantial number of quality-assured homes. Consequently, the JHF's housing construction specification book has been highly useful and remains a valuable reference, especially for small and medium-scale homebuilders.

[Housing construction specification]





[Seminar on the specification book]



JHF's Housing Construction Specification Book

The JHF's housing construction specification book shows contents of structural features, execution methods, building materials, equipment and finishing, etc. which can not be fully expressed in the design drawings. Therefore, the specification complement design drawings by presenting items which can not be confirmed with the design drawings.

Using as

a construction manual

Since the JHF's housing construction specification book explains construction examples and details of the technical level which are considered to be desirable, it can be used as a manual.

Contributing to improvement of construction quality (Standardizing the construction methods in details)

a document of building contract

The JHF's housing construction specification book can be used as a document of building contract which can be an agreement of details such as construction method, materials ,etc.

Preventing disputes
between construction
companies and clients

a document for inspection

The specification book is one of the documents needed to apply for inspection. The JHF's housing construction specification book can be used as a document for inspection. Minimizing time and cost in the preparation of design documents, etc.

3 JHF's Programs: Promoting Disaster-Resilient Housing < Securitization Support Business>

JHF's Programs: Promoting Disaster-Resilient Housing < Securitization Support Business>

Main products < Securitization Support Business>

- > Flat 35 S (earthquake resistance)
- ➤ Flat 35 Renovation

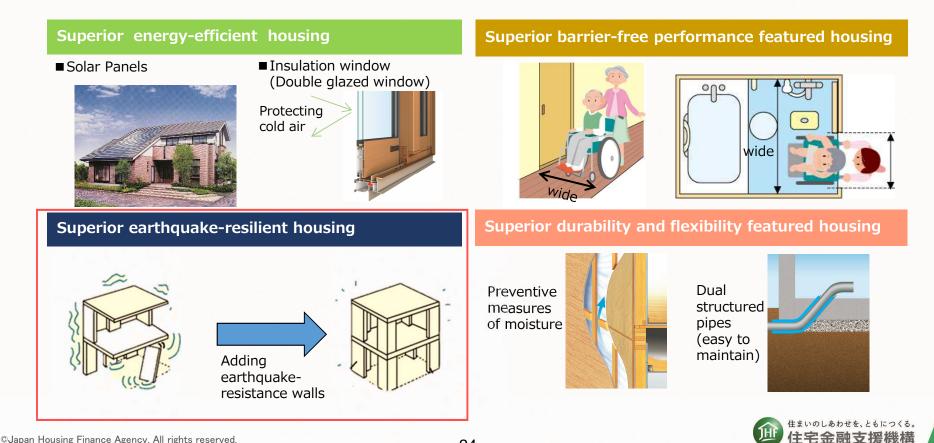
In order to promote disaster-resilient housing, JHF offers Flat 35 S, a program through which borrowers can obtain a lower interest rate than a Flat 35 loan for a portion of their loan term when they acquire high-quality housing which meets or exceeds certain standards for earthquake resistance.

Further, JHF contributes to the improvement of existing housing by offering Flat 35 Renovation. Through this program, borrowers can obtain a lower interest rate for a portion of their loan term when acquiring an existing home and making renovations that satisfy certain earthquake resistance criteria.

Flat35S

➤ Flat 35S is a system in which reduced interest rates are applied for a certain period for homebuyers applying for Flat 35 to acquire high-quality housing such as of energy efficiency, earthquake-resistance and others.

4 performance features applicable for Flat35S



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Interest Rate Reduction for Flat35S

Eligible for application from April 1, 2024 to March 31, 2025

Interest-rate reduction plan	Duration of interest- rate reduction	Range of interest- rate reduction	Criteria
Flat35S (Plan A)	First 5 years	Reduction of 0.5%/year from Flat35	Earthquake resistance grade 3: Resist to earthquake force 1.5 times as much as that of the earthquake resistance standard applicable to Building Standard Act (Grade 1), etc.
Flat35 <mark>S</mark>	First 5 years	Reduction of	Earthquake resistance grade 2: Resist to earthquake force 1.25 times as

<In the case of earthquake resistance>

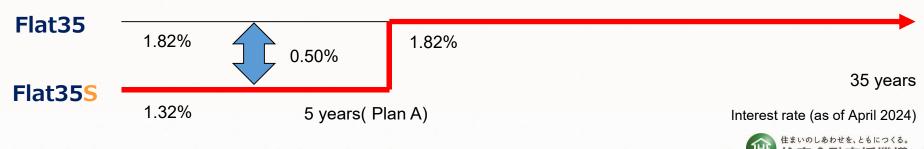
much as that of the earthquake resistance

standard applicable to Building Standard

Act (Grade 1), etc..

0.25%/year from

Flat35



(Plan B)

^{*1} There is a budgetary ceiling for Flat 35S. Applications will be accepted until the total amount reaches the ceiling. The end date will be notified on the Flat 35 website (www.flat35.com) by three weeks prior to ending.

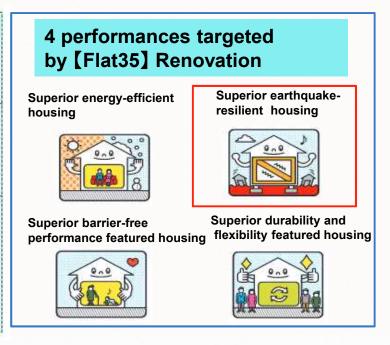
^{*2} Flat 35S is available when constructing and purchasing new housings as well as purchasing existing housings (except "Flat 35" refinancing).

^{*3} In addition to energy efficient housing and earthquake-resilient housing, Flat 35S is also applicable to barrier-free featured housing, high durability and flexibility featured housing such as long-term high quality housing.

Flat35 Renovation

Flat35 Renovation is a system in which reduced interest rates are applied for a certain period for customers applying for Flat35 to acquire existing housing to improve it or improved by real estate companies in terms of energy efficiency, earthquake-resistance and others.

Higher After renovation Before renovation [Flat35]renovation (Interest rate A plan) **Technical** Improvement of quality Standard [Flat35] renovation level RE RE (Interest rate B plan) [Flat35] 35 Building Standard Act



Interest Rate Reduction for Flat35 Renovation

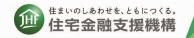
There are two interest-rate reduction plans for Flat35 renovation;

- Flat35 Renovation (Interest rate Plan A)
- Flat35 Renovation (Interest rate Plan B)

Eligible for application from April 1, 2024 to March 31, 2025

Interest-rate reduction plan	Duration of interest- rate reduction	Range of interest- rate reduction	Criteria
Flat35 Renovation (Plan A)	First 5 years	Reduction of 1.0%/year from Flat35	Earthquake resistance grade 2 : Resist to earthquake force 1.25 times as much as that of the earthquake resistance standard applicable to Building Standard Act (Grade 1), etc.
Flat35 Renovation (Plan B)	First 5 years	Reduction of 0.5%/year from Flat35	Strengthen the structural part, etc. > Strengthen the structural part or set new wall or set the brace, etc.

^{*1} There is a budget ceiling for Flat35 renovation. Applications will be accepted until the total amount reaches the ceiling. The end date will be notified on the Flat35 website (www.flat35.com) by three weeks prior to ending.



^{*2} Flat35 renovation is not available when constructing and purchasing new housing.

^{*3} Flat35 renovation is not available for Flat35 refinancing.

^{*4} Flat35 renovation is not available with Flat35S.

4 JHF's Programs:
Contributing to Disaster Preparedness, Mitigation and Supporting Disaster Victims in Rebuilding Their Homes < Loan Origination Business>

JHF's Programs: Contributing to Disaster Preparedness, Mitigation and Supporting Disaster Victims in Rebuilding Their homes < Loan Origination Business>

Main products < Loan Origination business>

- ➤ Loans for Renovating Common Elements of Condominiums
- ➤ Renovation Loans for Seismic Retrofitting Work
- Housing Loans for Disaster Recovery

JHF provides Loans for Renovating Common Elements of Condominiums to provide funding to condominium management associations for the costs involved in large-scale repairs for the purpose of seismic improvement.

JHF also provides renovation loans to individual borrowers so that seismic retrofitting can be carried out smoothly.

Furthermore, JHF provides low-interest funding for repairing, rebuilding, or purchasing housing to people whose homes were damaged by earthquakes, typhoons, flooding, windstorms, and other natural disasters, supporting the victims of natural disasters in getting back to normal life.

Loan Origination : Housing Loans for Disaster Preparedness and Mitigation

➤ JHF provides housing loans for disaster preparedness and mitigation, which are loans for seismic retrofitting work, landslide prevention, and residential land disaster prevention.

Outline of housing loans for disaster prevention

		Loans for renovation (Seismic retrofitting work loan)			
iı		For individual housing	For condominium management associations applicable to common elements	For business entities applicable to rental houses	
Eligible con	struction	Seismic retrofitting work approved by the local government pursuant to Act on Promotion of Seismic Retrofitting of Buildings, etc.			
Loan conditions	Amount	15M JPY	Up to construction fee	Up to 80% of construction fee	
	Tenor	Up to 20yrs	Up to 20yrs	Up to 20yrs	

Outline of housing loans for disaster prevention

Types of loans		Landslide prevention loan	Residential land disaster prevention loans	
Eligible construction		Relocation of houses pursuant to Related Business Plan under the Landslide Prevention Act, etc.	Construction or modification of protective wall or sewerage according to advise or improvement order pursuant to Act on Regulation of Residential Land Development	
Loan conditions	Amount	House construction only: 45M JPY House construction with land purchase / house purchase : 55M JPY	11.9 M JPY	
Tenor		Up to 35yrs	Up to 20yrs	

Loans for Renovation

Loans for Renovating Common Elements of Condominiums

- > JHF provides loans for condominium management associations and unit owners to retrofit exterior walls, roof and other common areas to upgrade the condominiums and enhance anti-seismic strength.
- ➤ A great amount of expense is required for seismic retrofitting works, such as seismic isolation construction, etc. In the case of seismic retrofitting works, limit amount of loans for renovating common elements of condominiums is more than that of general large-scale renovation and also reduction of Interest rate is applied.

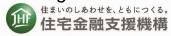
[example of seismic retrofitting work]



Before seismic retrofitting work



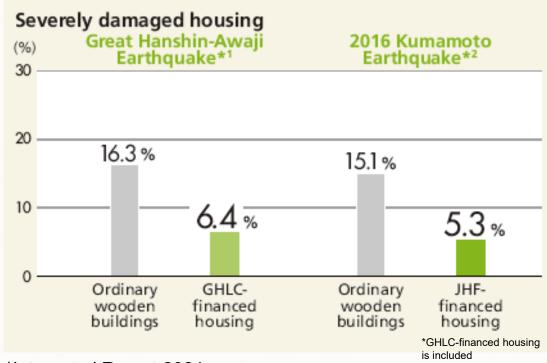
After seismic retrofitting work



Achievements by GHLC and JHF

Promotion of widespread construction of earthquake-resistant housing

Surveys conducted following the Great Hanshin-Awaji Earthquake and 2016 Kumamoto Earthquake, both of which damaged many homes, found that housing financed by the GHLC or by JHF is safer than other housing.



- Ordinary wooden buildings: based on analysis of 3,953 buildings in Chuo-ku, Kobe (1995 Great Hanshin-Awaji Earthquake Building Damage Survey Committee Report)
- *1. GHLC-financed housing: based on analysis of 1,068 houses in cities (e.g., Takarazuka, Nishinomiya, Kobe) where tremors measured 7 on the seismic intensity scale (GHLC-financed survey of damage to housing in the 1995 Hyogo-ken-Nanbu Earthquake)
- Survey sample: houses built since 1981
- *2. Ordinary wooden buildings: based on analysis of 1,196 buildings in central Mashiki-machi, Kumamoto Prefecture (September 2016 report of committee to analyze causes of building damage from 2016 Kumamoto Earthquake)
- *2. JHF-financed housing: based on analysis of 208 houses in the Miyazono, Mamizu and Soryo Districts of Mashiki-machi (January 2017 JHF survey)

Response to Natural Disasters Outline of JHF's Housing Loans for Disaster Recovery

➤ In order to support the prompt reconstruction of housing damaged by disasters, JHF provides housing loans for disaster recovery with low interest rate and long repayment period.

1. Main requirement

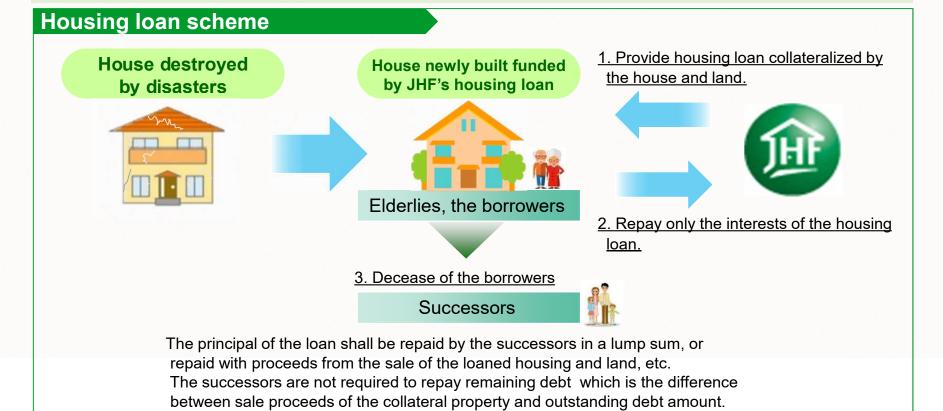
- OPeople who received Public Certificate of Destruction
- OHouses eligible for the loan
- Equipped with residential rooms, kitchen and toilet.
- •The residential space shall occupy at least 1/2 of the total floor area of the house.
- **The housing loan will be applied to non-residential space as well.

2. Loan terms and conditions

	Other than Special Repayment Method for the elderly			Special Repayment Method for the elderly
Amount of the loan	Housing construction only	JPY 45M	Public Certificate of Destruction describing whether the house is	The left applies but limited to JHF's collateral value.
	Housing construction with land purchase / housing purchase	JPY 55M	(i)totally destroyed or (ii) nearly-half or massively destroyed or (iii) half destroyed.	
	Repair	JPY 25M		
Repayment period	35 years or less (The maxi years old) **House construction or pur years can be applied. (Ex **Repair: Principal deferme (Excluded from repayment	Until borrower (including joint borrower) dies.		
Application period	Within 2 years from the day of damage by disaster			The left applies.

Special Repayment Method for the elderly

- ➤ In order to assist disaster recovery of elderlies, preferential payment arrangement is available for elderlies under the housing loans for disaster recovery.
- ➤ This housing loan requires elderlies aged 60 years or over to repay only the interest rate while living, but repay the whole principal when the borrower deceases.

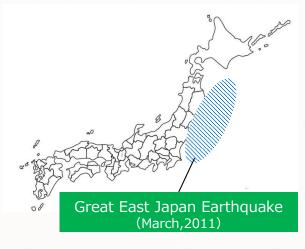


The Great East Japan Earthquake Case

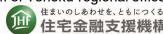
- > Natural disasters such as earthquakes occur every year in Japan.
- ➤ On March 11, 2011, a massive earthquake with a magnitude of 9.0 struck Northeast of Japan (Tohoku region), which became the largest earthquake ever recorded in Japanese history. Nearly 20,000 people are dead or missing.
- ➤ In order to assist the victims of such natural disasters, Government of Japan and government agencies including JHF took immediate actions.



Great East Japan Earthquake

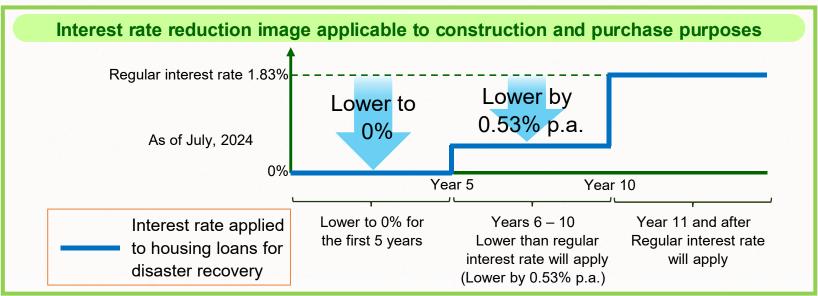


Picture taken by JHF staff of Tohoku-regional office



The Great East Japan Earthquake Case

- ➤ In the case of the Great East Japan Earthquake, which caused enormous damage, JHF supports reconstruction with loans at even lower interest rates than ordinary loans for disaster recovery.
- ➤ For construction and purchase purposes, JHF lowers the interest rate to 0% for the first five years and grants principal payment grace period and loan maturity extension for up to 5 years.
 - . ※ In the case of repair, interest rate is 1.2% for the first five years (1.6% from the 6th year, as of July, 2024), principal payment grace period (interest only payment period)) and loan maturity extension is up to 1 year.





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