

# Climate change and wood protection



- Increasing demand of long life wood products -  
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A large, hand-drawn blue scribble that starts with a spiral on the left and extends horizontally to the right, ending in a pointed tip. The text 'Case in Japan' is written in blue within the spiral part of the scribble.

Case in Japan

**I) Policy**

**II) Action**

**III) Stage of Treated wood**

# I) Policy related to wood

① CO<sub>2</sub>  
Absorption  
by Forest

②  
Wood Use  
Promotion  
Fix CO<sub>2</sub>

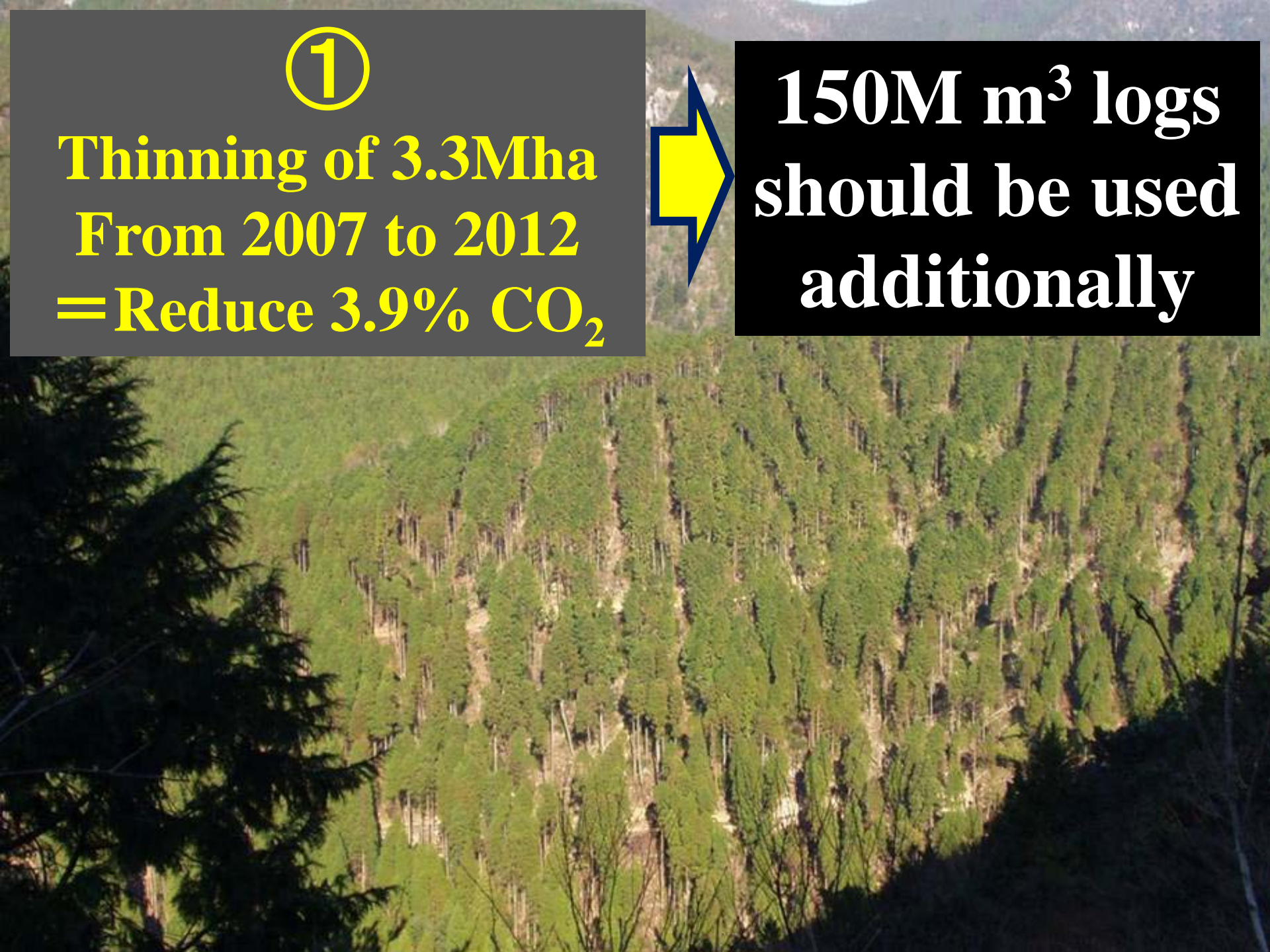
③ Revival Plan of Forestry

①

**Thinning of 3.3Mha  
From 2007 to 2012  
= Reduce 3.9% CO<sub>2</sub>**

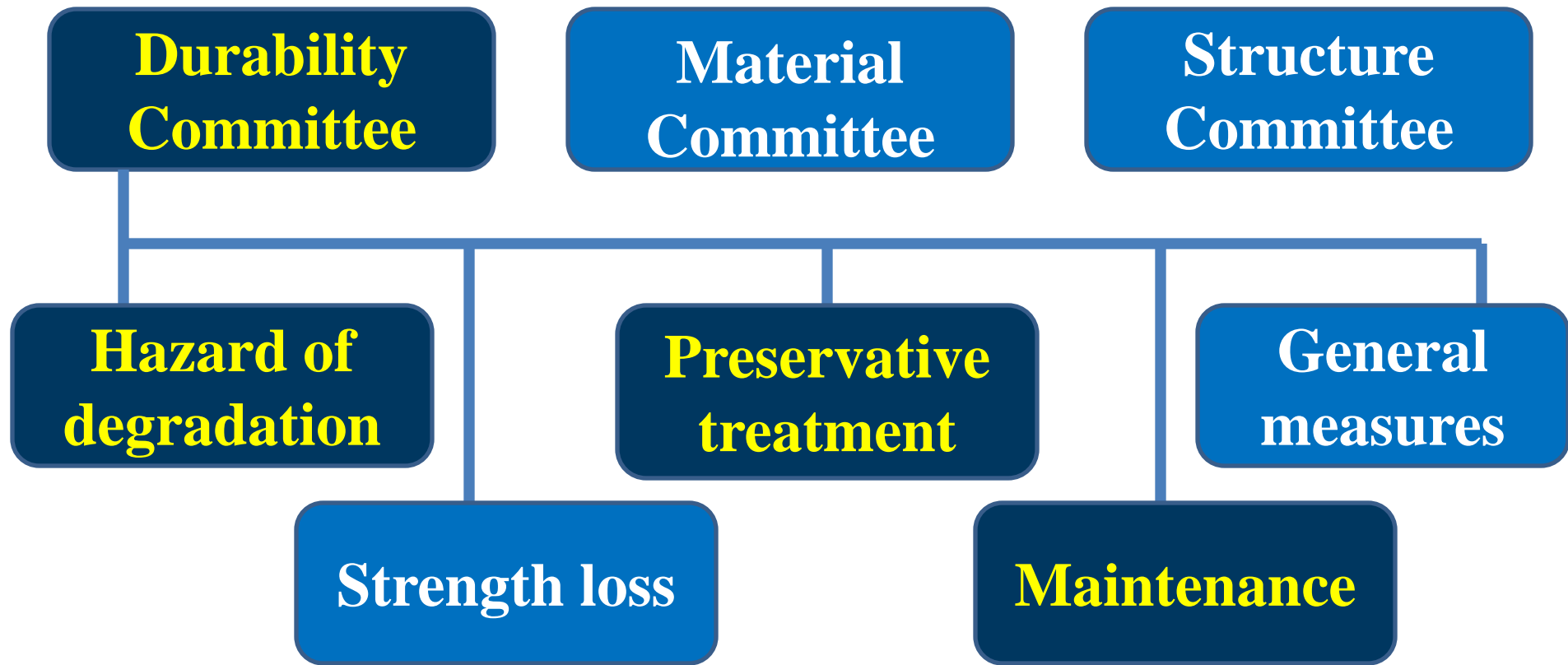


**150M m<sup>3</sup> logs  
should be used  
additionally**



# ②-1 Long-Life Housing Promotion Act (2009)

## Technology & System Development

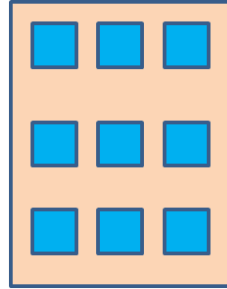


**5 Technical groups**

# ②-2 Public Building Wood Use Promotion Act (2010)

**Object:**

**100% Wood in Low (3~4) stories building**



**Action:**

- Wooden public building code
- Symbolic building

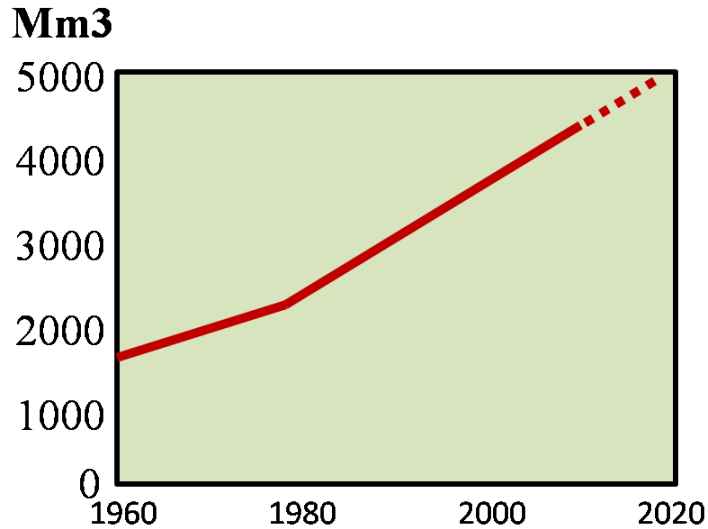


**Effect: ▪ Activate forestry**

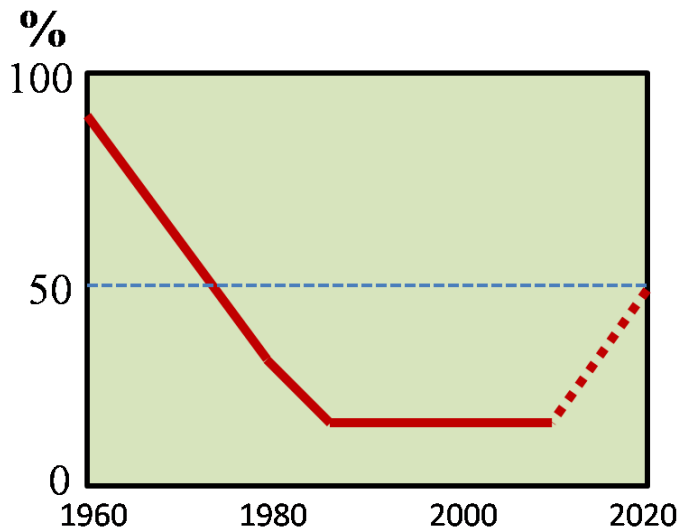


# ③ Revival Plan of Forestry

(Min of Agri. 2009)



**Increasing forest stock**  
**Reach to 4,500Mm<sup>3</sup> in 2010**



**Decreasing of self-sufficiency**  
**· Increase to 50% in 10 years**

# II) Examples of promising wood use and required technology

① Public building



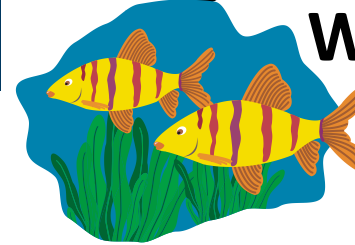
Fire proof

② Civil engineering



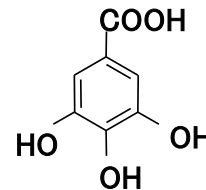
Soft-rot

Weathering, Sprit



Toxicity

③ Industrial chemicals



Functional

# ① Public building

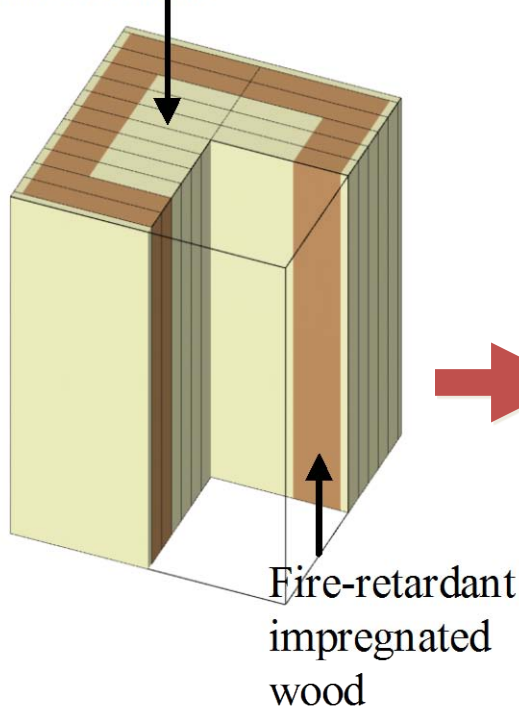


## **Timber treated with fire retardant**

- **Fire proof timber is not common**
- **Revise “building code” to wood friendly**

# Fire Proof Heavy Timber

Untreated glued-laminated timber

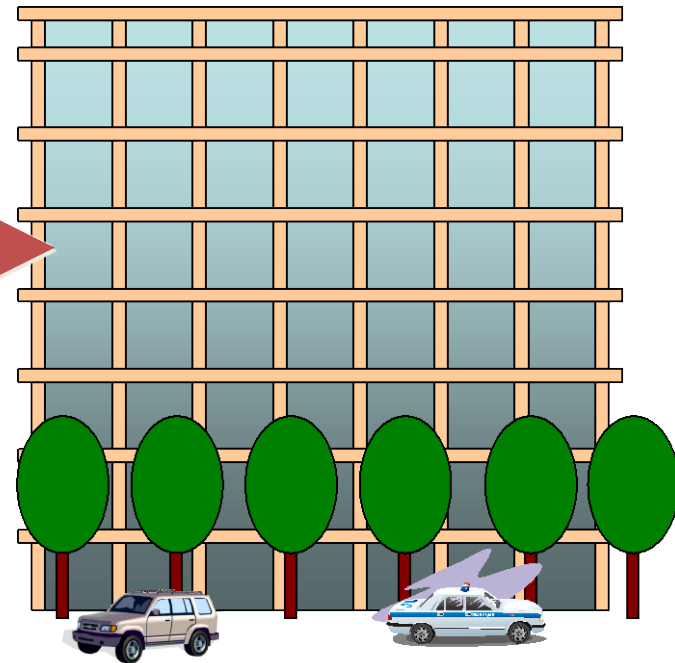


**Fire test (ISO834)**



1 Hour = 4 Stories  
2 Hours = 14 Stories

**Medium-rise wooden building**



**Arrangement of  
Chemical treated timber**

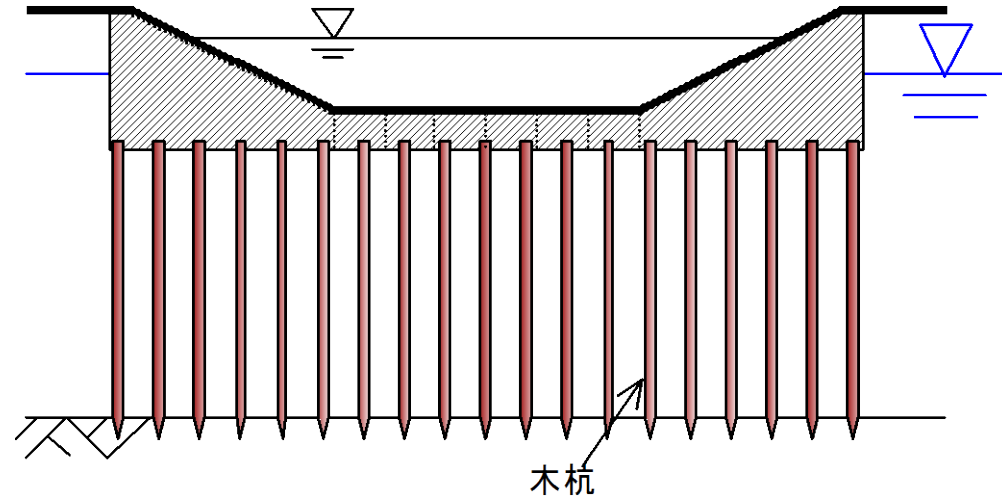
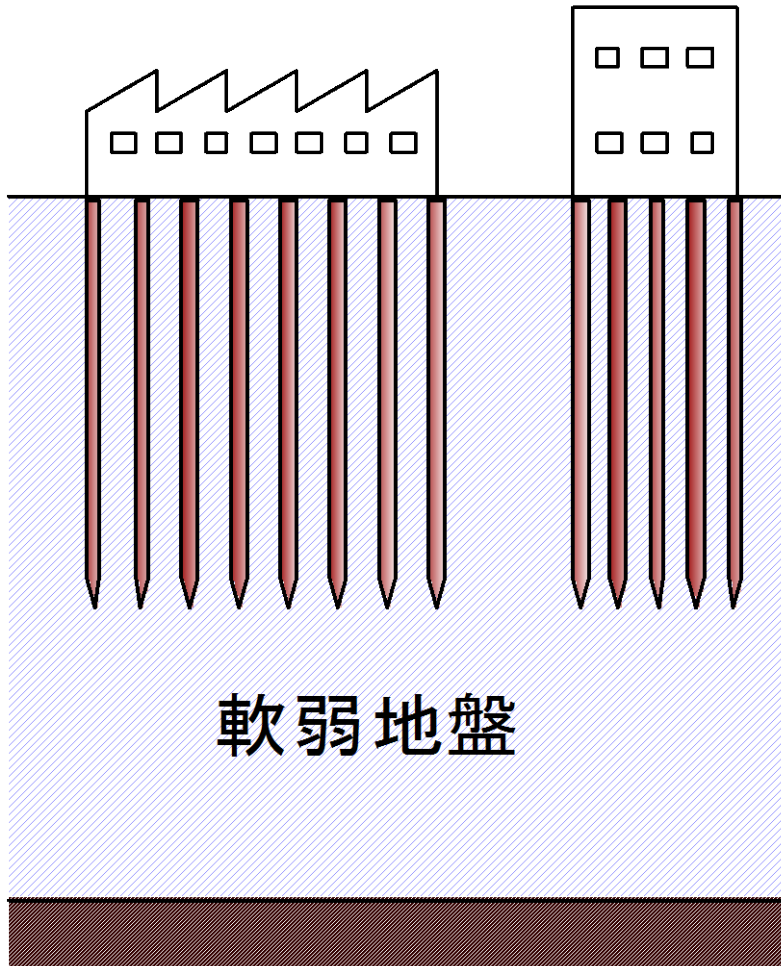
# ②-1 Underground use (small scale) by the Kanematsu Nissan

**Piling (6m length, 14cm $\phi$ )  
treated with Copper based preservative**



# New market will be 400M US\$

工場・低層ビル基礎



## Technology Development

- Prevent decay in shallow area
- Make design book & manual
- Wipe out the misunderstanding of wood decay

# ② -2 Landscape use: Guard rail by the Wako Concrete

**Increase from 120km in Japan  
To 2,000km in France**



# ②-3 Forest engineering use: Dam



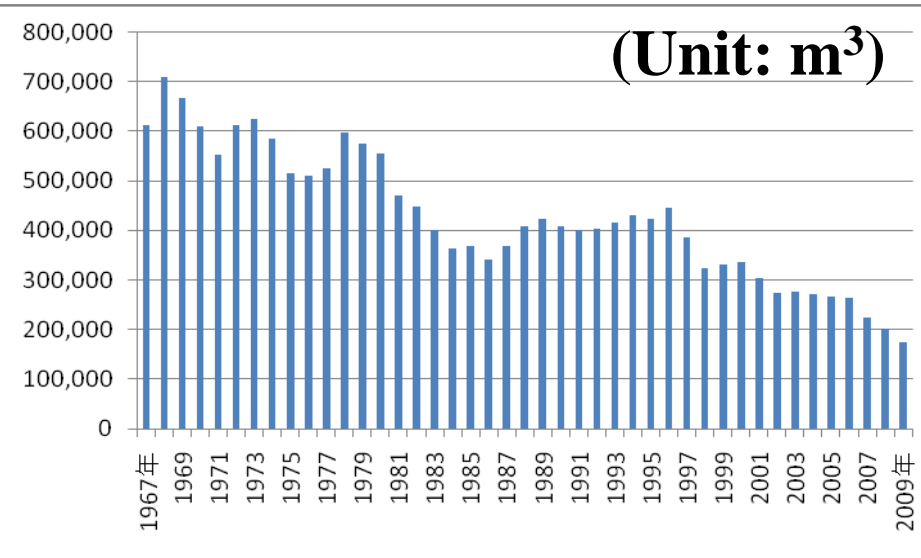
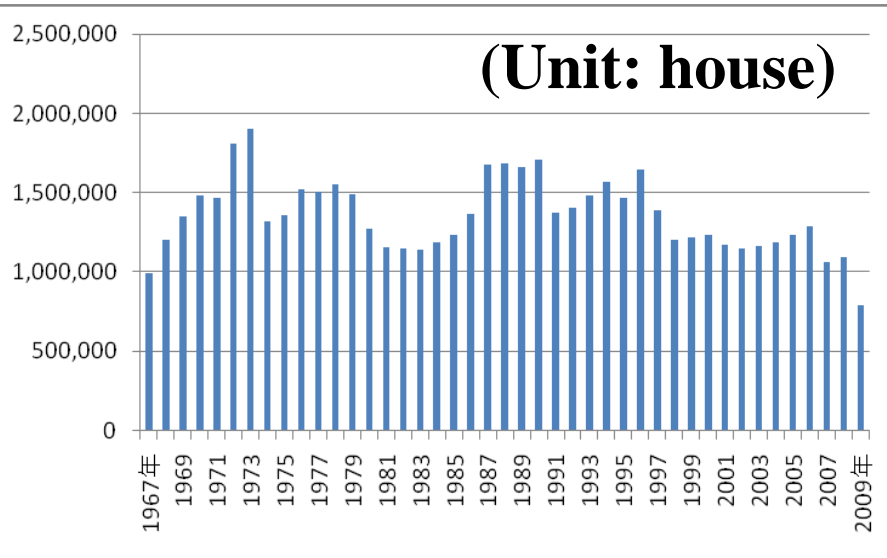
**Oldest one is  
more than 60 years**



**Modern type:**

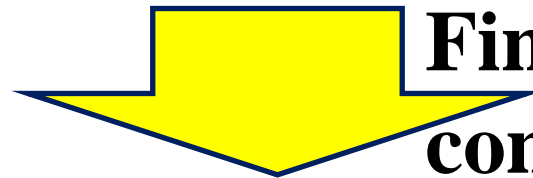
- **Use local materials without treatment**
- **Environment friendly**  
(More living things)

# III) Stage of treated wood



**Housing construction**  
**Less than 1M houses**

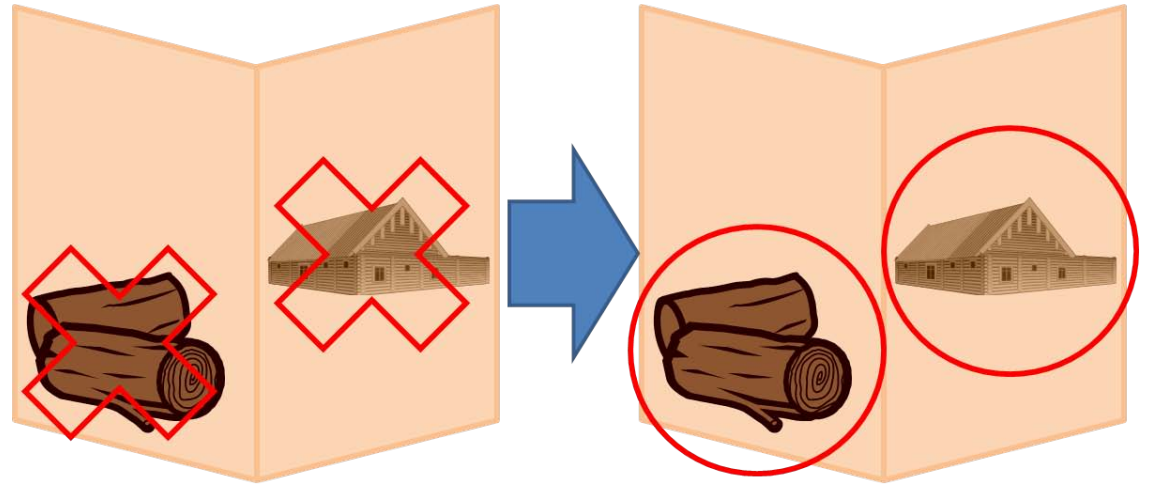
**Treated wood production**  
**Only 200,000 m<sup>3</sup>**



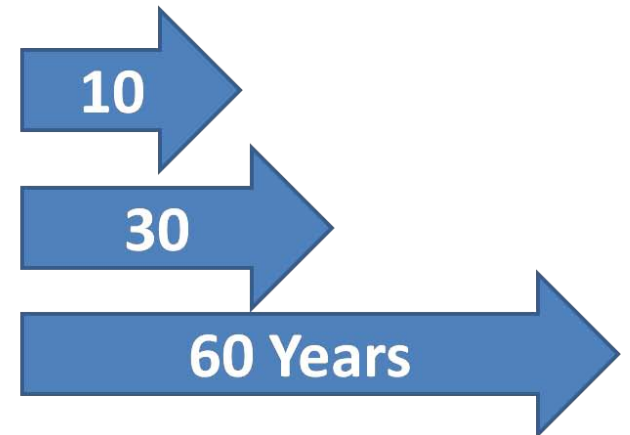
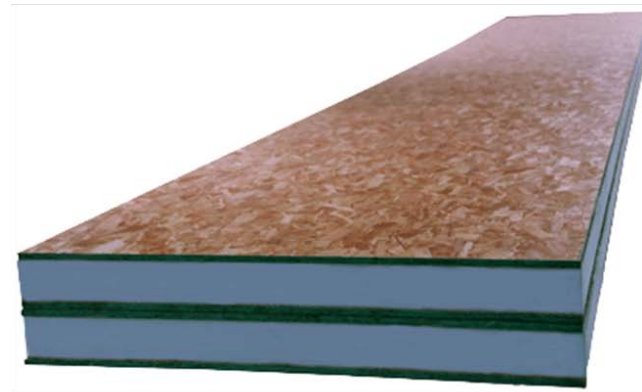
**Find other than**  
**conventional housing use**

**= Expand wood/treated wood use**

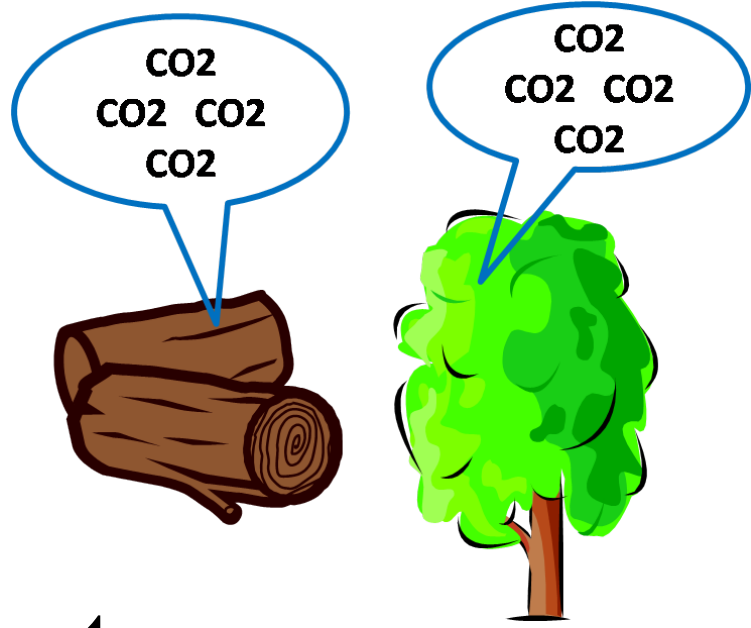
# ① Improvement of existing regulations and code



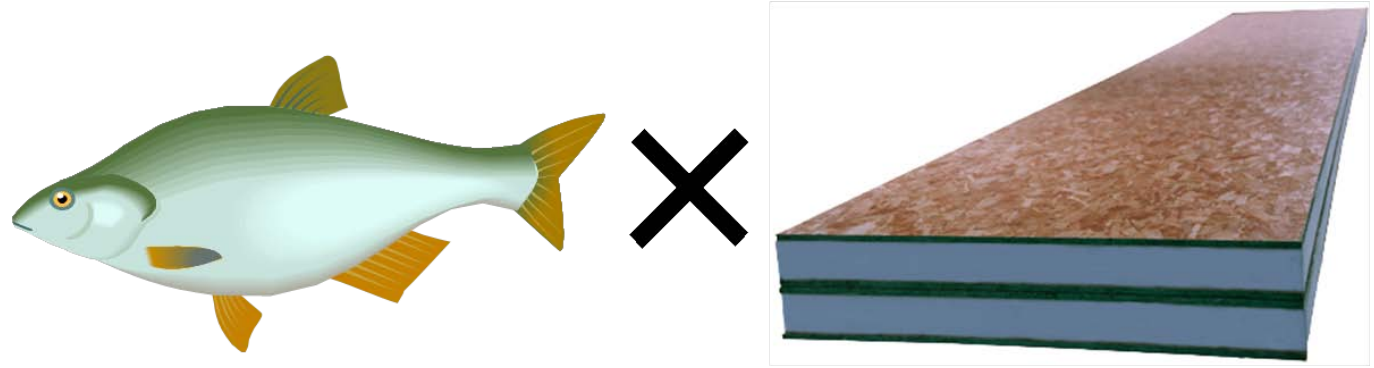
# ② Answer to user's expectation of service life of wood/treated wood



### ③ Enlightenment of environmental performance of wood



### ④ Answer to user's concern about environmental impacts of treated wood



## ⑤ Collaboration of different sectors

Japan Wood  
Research  
Society

Japanese Forest  
Society

Japan Society  
of Civil  
Engineers

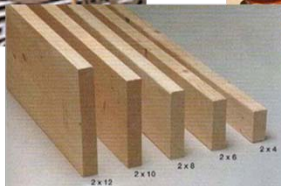
Cross-sectional committee of intensive  
wood use in civil engineering

Target =

Expanding wood use in C.E.

From 1Mm<sup>3</sup> to 3Mm<sup>3</sup>/Years

## ⑥ Accumulation of successful cases and enhancement of publicity



# Conclusion

## Keywords on Climate change & Wood

### Upstream



**Sustainable  
Forestry**



**Size of landownership  
Spirit of forest owner**



**Constant log supply**



### Downstream



**Expand demands**



**Technology  
for  
demands**