

# Forested “FutureCity” Shimokawa

– Good Cycle of Economy, Environment and Society for  
Sustainable Community –

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**Future City Initiative Division, Shimokawa Town Office, Leader Takeshi Minoshima**

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Population: 3,383 (1 April 2016)  
 Elderly: 1,440 (39.6%)  
 Area: 644.2 km<sup>2</sup> (equivalent to Tokyo metro area)  
**Forests: 569.8 km<sup>2</sup> (88% of total area)**  
 Climate: summer over +30°C, winter under -30°C

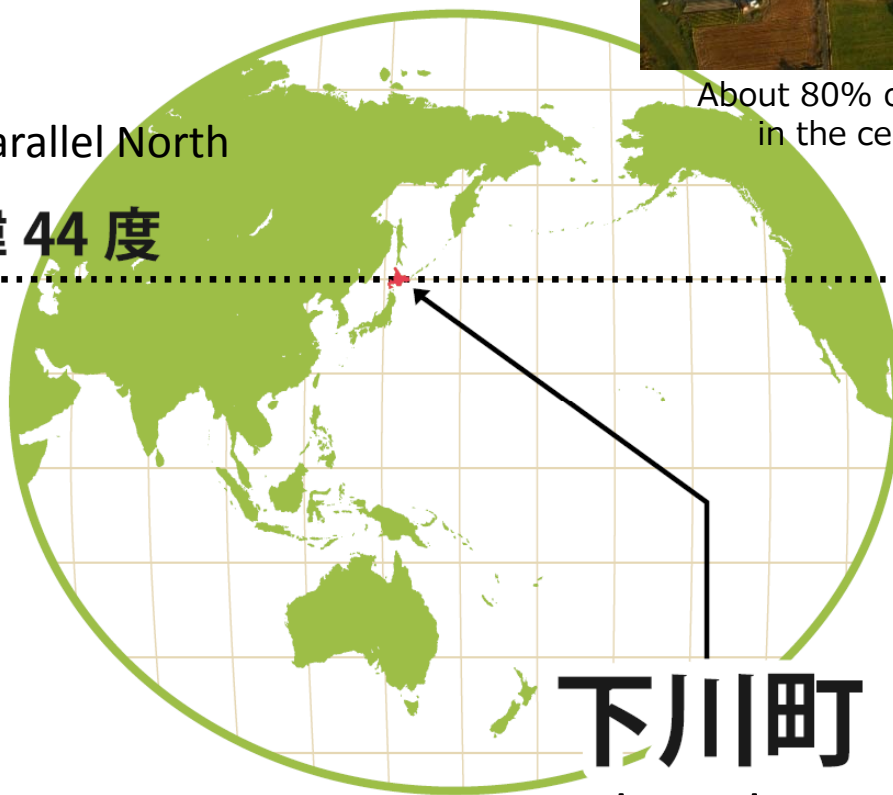


About 80% of the population lives  
in the central part of town



44th Parallel North

» 北緯 44 度



下川町

Shimokawa Town



Noriaki Kasai,  
Sochi Olympics Ski Jump  
Silver medalist



# 2

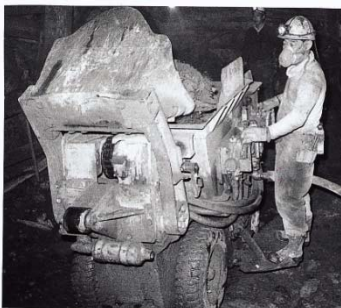
## Changing community extinction crisis into opportunity



1901 Settlers from Gifu Prefecture



A great base for timber production



Production of mineral resources (gold, copper)



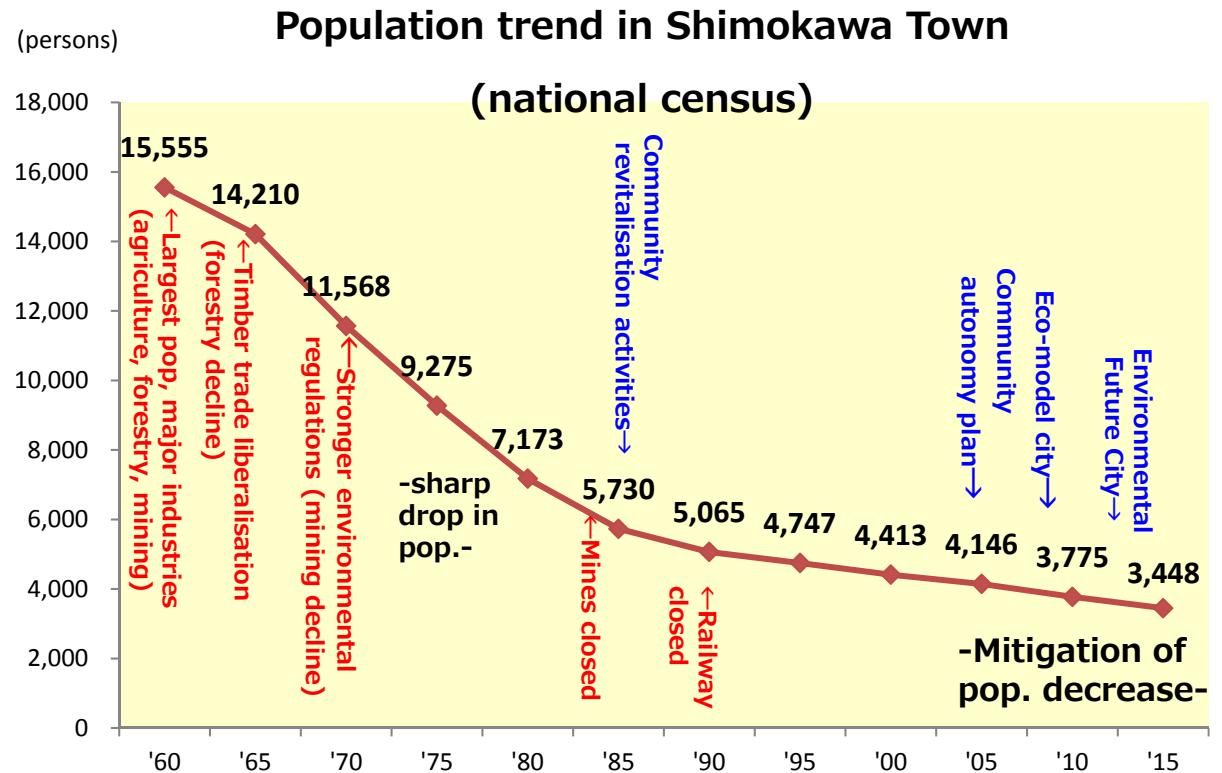
Transportation and distribution centre  
Railways



Great Wall (year 2000, 2,000 m)



Ice candles



# 3 Creating a sustainable society (Forest Future City)

☆ **Maximised utilisation of community forest resources (Community co-existing with forests)**

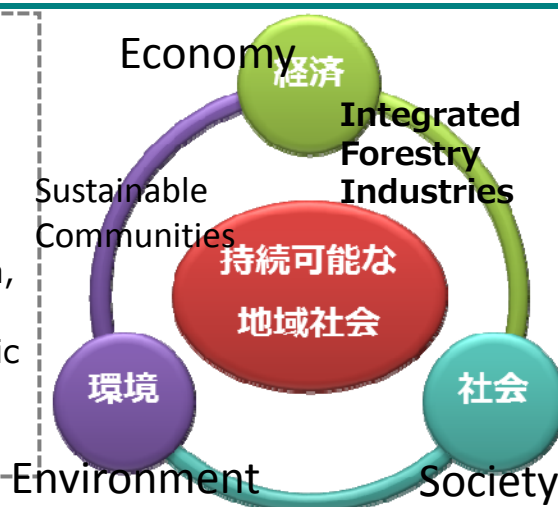
☆2008 **Eco-model City (economy/environment)**

**\*Utilising multi-faceted functions of forests**

☆2011 **Environmental Future City (economy/environment/society)**

\*Future City Initiative (Cabinet Office) ~ Yokohama, Kitakyushu, Toyama, Kashiwa, Shimokawa

To create worldwide unprecedented successful examples within social and economic systems to respond to environmental issues and rapidly aging societies, common challenges for humanity in the 21<sup>st</sup> century, aiming to realise sustainable socioeconomic development throughout Japan.



## [Forest Future City concept]

■ A town surrounded by forests, where people gain abundant income from forests, study, play and maintain health in forests, and lead spiritually rich lives.

### ① Economy → Integrated forest industries



#### **Making the most of forest resources**

■ Forestry (production) x forestry (processing) x forestry biomass industry, etc. (demand) = Integrated forestry industries

■ Creation of forest culture  
✓15 years consistent forest environmental education, etc.

### ② Environment → Energy self-sufficiency

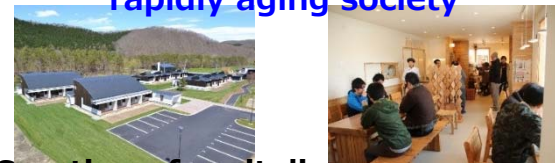
Community heat supply facility  
General welfare centre  
Public hall  
Town office  
Fire station



#### **Forest biomass thermal-electric supply**

■ Present  
✓Heat self-sufficiency rate: 39%  
✓Public facility self-sufficiency rate: 60%  
■ Future  
✓Thermal-electric self-sufficiency rate: 100%

### ③ Society → Responding to rapidly aging society



#### **Creation of revitalisation model for depopulated villages**

■ Revitalisation of Ichinohashi village  
✓pop. About 100, 52.6% aging rate  
■ Revitalisation with economy/environment/society virtuous circle  
✓New industries utilising community resources  
✓Energy self-sufficiency, eco-friendly housing  
✓Shift to communal living, autonomous community



# Integrated Forestry Industries

## Energy Self-sufficiency

~Economy and Environment~

☆ Japan is a world-leader in forests (ranked 3<sup>rd</sup> worldwide among developed nations in forests). Two-thirds of national land area is forest.

☆ Timber self-sufficiency rate 33.3% (2/3 is imported, resource base is there but not utilised)

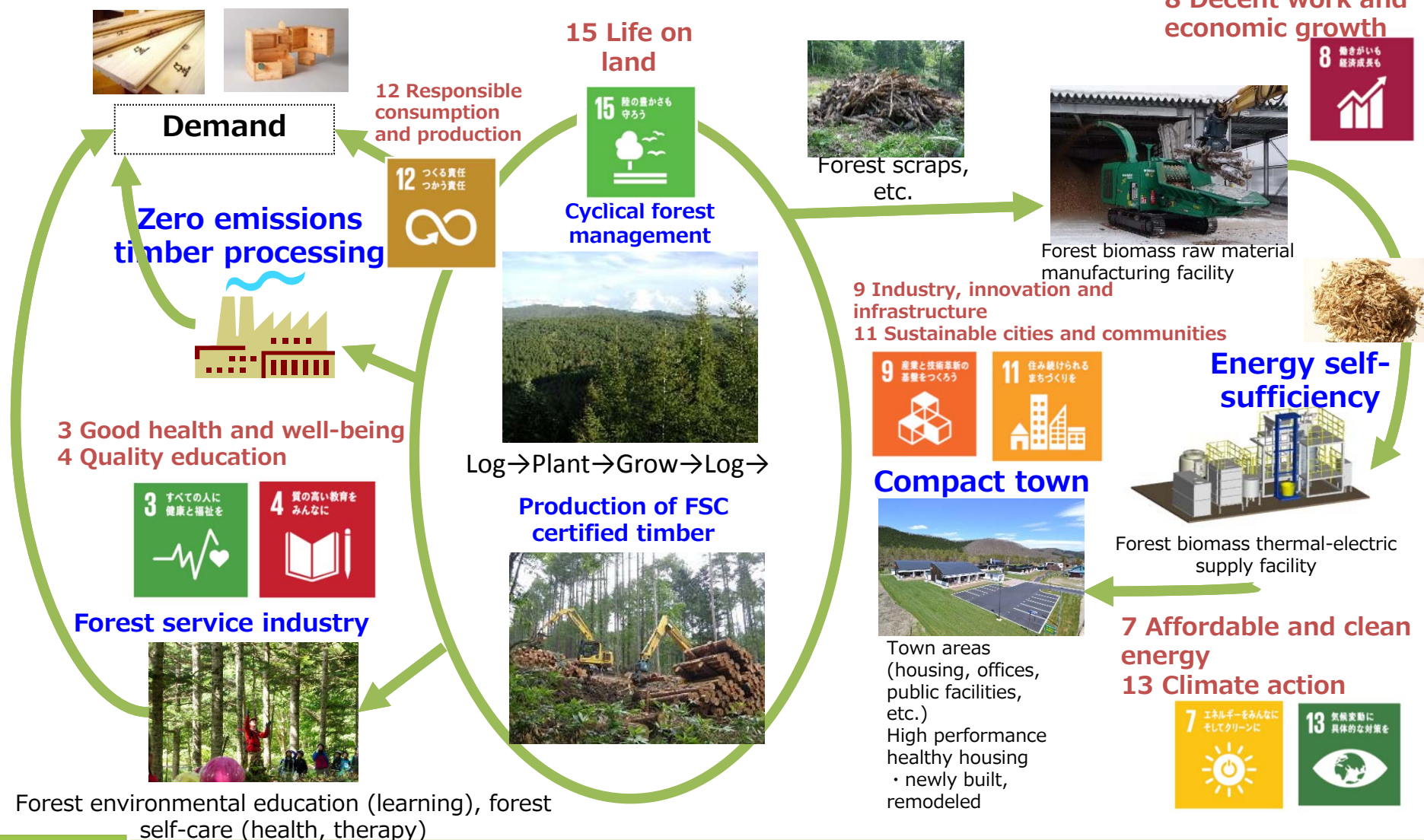
☆ No cycle of forestation → silviculture → lumbering → forestation, with risk of landslides and lowered CO<sub>2</sub> absorption capacity

☆ Japan's energy self-sufficiency rate is 6%, the second lowest level among 34 OECD member nations.

☆ Dependent on import of fossil fuels from overseas as an energy source for electric power generation. This proportion rapidly increased following the Great East Japan Earthquake, creating a situation more dire than following the first oil shock.



### 3 Formation of integrated forest industries



#### Integrity

**Economy** → Industry revitalisation (**Gross regional production (GRP) 21.5 billion JPY+2.8 billion JPY**), job creation (**+100 persons**)

**Society** → Sustainable town infrastructure, resilience, extended healthy life expectancy, community education

**Environment** → Reduced CO2 emissions, increased absorption, natural capital (forest preservation, biodiversity)

# Response to rapidly aging society

~Society~

☆ Aging rate in Japan 26.0%→39.9% (in 2060)

☆ Depopulated villages (over 50% of population is over 65 years of age)  
total 10,091 nationwide, 15.5% of all villages.





# Ichinohashi Bio Village (revitalisation of depopulated village)

■ Ichinohashi village: **Pop. 2,058 in 1960→Pop. 95 in 2010 (-95.4%)**, aging rate 52.6%

■ Ichinohashi Bio Village concept: **Simultaneous response to rapidly aging society and transition to low-carbon**

- ① Improved energy self-sufficiency rate
- ② Introduction of environmentally sound buildings
- ③ Creation of new industries utilising community resources
- ④ Creation of autonomous community model based on communal living

■ Village revitalisation: **Pop. 95 in 2010→Pop. 95 in 2014 (±0)** \*-5.7% in Shimokawa overall

**Aging rate 52.6% in 2010→30.0% in 2014 (-22.6%)** \*Approx. 39% in Shimokawa overall

## Timber production and supply base



1. Support facility for the disabled (existing)

①障がい者支援施設 (既存)



2. EV charging station

②EV充電器



3. Communal housing (22 units)

③集住化住宅(22戸)



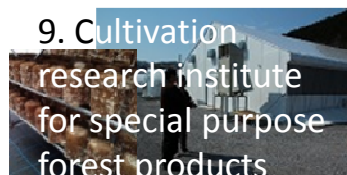
⑩誘致企業貸付試験研究施設

10. Research and testing facility loaned to investing companies



⑨特用林産物栽培研究所

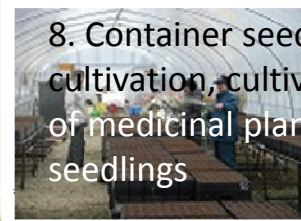
9. Cultivation research institute for special purpose forest products



⑧・コンテナ苗栽培

・薬用植物育苗

8. Container seedling cultivation, cultivation of medicinal plant seedlings



8 働きがいも経済成長も



地域熱供給施設

Community heat supply facility

Solar panels (15 kW), Wood (wood chips) boiler 550kW x 2  
太陽光パネル(15kW) 木質(木くず)ボイラー 550kW x 2



4. Community centre / Smart meters

④住民センター

スマートメーター



郵便局、警察官立寄所、住民の共有スペース



Post Office, police patrol locations, communal spaces

⑤駅カフェイチノハシ (地域食堂)



Station Café Ichinohashi (community cafeteria)

⑥コミュニティセンター (既存)



6. Community Centre (existing)

7. Communal housing (4 units), lodging facility (2 units)

⑦集住化住宅(4戸) 宿泊施設(2戸)







☆“Environment Future City” development model becomes “SDGs Future City” (integrated responses to economy, society, environment)

Int'l Trends  
2015  
SDGs

**Sustainable Communities**

- Everyone wants to live
- Everyone lives with vitality



**2019  
SDGs Future City**

2008 Eco-model City  
2011 Future City concept  
2013 Biomass industry city  
2014 Community revitalisation model case

Domestic trends  
2014  
Comprehensive Strategy for Regional Revitalisation

2. SDGs Future City plan (from 2019)  
(Incorporated in Shin-Shimokawa town comprehensive plan)

① Principle ⇒ Future City concept

■ At present at the midway point

② Domestic trends ⇒ Community revitalisation

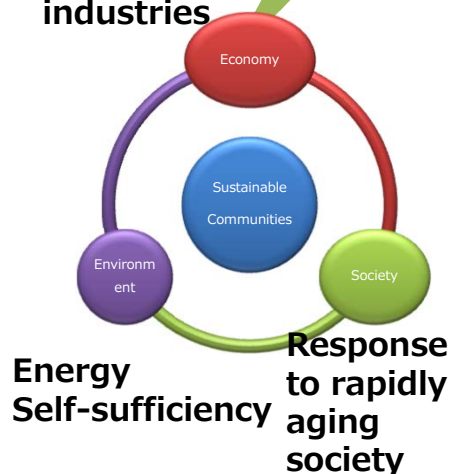
■ The Environmental Future City initiative, as a leading program for community revitalisation, becomes the **Community Revitalisation model**

③ International trends ⇒ SDGs

■ Contributing to SDGs by realising “sustainable communities” in pursuit of “Environmental Future Cities” (SDGs as a community revitalisation tool)

Step up incorporation of SDGs

Integrated forestry industries



1. Environmental Future City plan (2012-2018)

■ **Mitigation of population decrease.** Influenced by economic climate **Mitigation of decreasing social movement (moving in and moving out) (years with increase over recent 5 years)**

■ **Community heat self-sufficiency to 45%** based on renewable energies  
64.1% heat self-sufficiency for public facilities

■ **2016 +16.1% in personal resident tax compared to 2010**

⇒ **The seedling of a sustainable society in the sprouting stage**