Sustainable Town Niseko

Kenya Katayama Mayor, Niseko Town

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Introduction to Niseko Town

Population: 4,958 (includes 284 foreign residents)

Households: 2,546 * Basic resident register at end of July 2020

Area: 197.13km² (roughly three times the area within the inner ring of the Yamanote Train line)

Aging rate: 26.2%

Fiscal scale: JPY 5.3985 billion (total fiscal budget for FY 2018)

Financial capability index: 0.3

Number of assembly members: 10

Number of employees: 93 (excluding special positions)

Lifestyles Tourism & Agriculture Environment & Landscape







Population Estimates in Niseko Town

• The Niseko Town Self-governmental Innovation Comprehensive Strategy (Local Governmental Innovation Comprehensive Strategy) draws a strategic vision for the population based on the current state of housing and worker shortages and rising trends in total fertility rates.



 From Niseko Town's Selfgovernmental Innovation
 Comprehensive Strategy

Assumed conditions

- Total fertility rate: Desired birth rate rises to 1.80 through 2040 and is maintained at a level of 1.80 thereafter.
- Net migration rate: Halved by 2060.
- Housing construction plans: Assumption that housing for 500 people will be built by 2025 and all housing will be occupied. Assumption that 250 people will move into housing between 2015 and 2020 and an additional 250 between 2020 and 2025, for a total of 500 people in residence.

Estimates of Greenhouse Gas Emissions in Niseko Town



From

buildings

n 2015 by sector

Agriculture, forestry and

Construction and mining

fisheries

Residential

Our Goals

- Balance between revitalizing economic activity and controlling greenhouse gas emissions per capita
- Below that, reduce greenhouse gas emissions by 100% by 2050 from 2015 levels (Carbon Zero)



- The money used to pay for fossil fuels that have flowed out of the region will be retained within the region to revitalize the local economy.
- Niseko wants to innovate the creation of a "good quality" town with a "better quality of life for its residents".

The 3 Environmental Policies of Niseko Town



Viewpoint designated according to the Landscape Ordinance



Niseko Town recognizes the importance of a comprehensive environmental policy.

Composting center

Geothermal Heat Pump Installation



- It is common for the ground temperature throughout the year to be around 8 degrees.
- → The national average CO2 emission per person is approximately 1.4 times what they were in 2007
- The geothermal ground heat is stable at between 5 ~15 degrees.
- The CO2 emissions from Heat pump usage 1/3 less than other methods.

Example of Heat pump usage

• Niseko Chomin Center



Constructed in 1975, Extensively reformed in 2011

Floor Area2,462m²Annual Usage32,300 people

<Renovation details>

- Insulation improvements ((Walls, Glass etc))
- •Geothermal Heat pump implementation for both heating and cooling

Cooling 10kw × 6 units (Only in Large Hall)

Heating 10kw × 19 units Vertical Bore Pipe Loop method Bore Holes 80 metres x 31

Using Geothermal Energy in a Agricutural Greenhouse.

Niseko High School Green House

Floor Area 165.5 m²

Multi Layered Vinyl Construction resulting in highly efficient insulation properties (Air House)

Heating Output 10kW × 3

Bore Poles 80m × 5

Slinky Loop 13.9 metres deep x 2 lines





%2011 Grant Scheme for depopulated areas to encourage independence

Snow/Ice Heat Usage Example

- JA Yotei Rice Storage Facility ullet
- Floor Area: 2,859m2 •
- Storage Capacity : Rice 940t × 2 Rooms
- Snow Storage: 1300 tonnes ۲





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Taking on the Challenge for the Creation of a Next-generation, Super Energy-saving Facility (New government building)

- 1. Minimize demand for thermal energy by thoroughly improving thermal insulation performance (UA value $0.18 \text{w} \cdot \text{k/m}^2$) (This will minimize requirements for heat supply equipment = minimize the cost of updating equipment)
- 2. Highly-efficient supply of energy through the introduction of a 9.9-kW co-generation system using LPG as fuel (In the future, Niseko is considering replacing this with a device that uses renewable energy as fuel at stages when equipment will be updated.)
- 3. Niseko will install solar power generation systems by renting roofs for power generation projects using public funds in the future.

→ The reason Niseko is considering this order of priority is because it is the most economicallyrational. We are aiming to create a CO_2 -free government building in the long run, rather than aiming at a ZEB where equipment costs can be excessive at the construction stage.

Establishment of a Company : Niseko Machi Co.

1. Pursuing Global Sustainable Development in Niseko Town

Company Vision

Business

Out

•Management of land development, high-efficiency residential construction, and real estate to encourage long term sustainable growth

• Utilization of local energy resources to promote green initiatives that also benefit the local economy • Support of sustainable business and governance through collaboration with local entrepreneurs

2.SDGs Model City Niseko: Towards a New Global Model

Promote Niseko internationally as both a tourism destination and a city of progressive initiatives
 As the Niseko Model spreads worldwide, an endless stream of global visitors will come for education, not only in tourism but also in energy efficiency and community development

District Development Operations

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Land Purchases	Gradually purchase land within the planned development district
Creation	Divide space into 1-3 districts and gradually develop each district while
	conducting reviews and refining the process along the way
Construction	Prioritize the contruction of housing complexes (including line housing)
	with strong insulation
	 Install wide-layout buildings and promote community diversification
Sales	The above-listed housing complexes will not be built and then sold but
	instead built to order
	Offer separate options between ownership and general usage when
	constructing
Administration	Collect administrative fees from owners and tenants and maintain
	properties
Leases	Create lease estimates based on ownership and usage separation
	Retain ownership of some buildings and lease directly
Other	Manage co-owned spaces within the development districts

Regional Energy Operations

Electricity Retail	Start as a distributor of electric power to public spaces to minimize risk Consider selling electricity on a larger scale as the company expands
Public Facility Management	 Begin with the administration of and supply of electric heating to the new town hall building After gaining experience, expand to energy management of other public facilities
Consulting	 Develop a one-stop consultation service for lodging businesses that want to maintain or upgrade to energy-saving facilities when rennovating Evolve business in response to other business inquiries from the town hall, etc
Supplying Electric Heating	 All electric heating and electricity in the Niseko Lifestyle Model District (development district #1) Construction of heat center and other infrastructure starting in the 2021 fiscal year Revenue from energy sales expected from the 2022 fiscal year onward

Company Outline		
CEO	Mamoru Takahashi (Niseko Takahashi Dairy Farm Inc.)	
Established	July 2020	
Capital Stock	60,000,000 Yen (~\$570,000 USD)	
Ownership	Local Businesses 62% Niseko Town 38%	

~SDGs District Plan~



Niseko Town, Hokkaido

NISEKO Lifestyle Model District Formation Project

 Construction of eco-friendly groups of housing that will contribute to the revitalization of the local economy, elimination of housing shortages due to population growth, prevention of heat shock and reductions in energy costs, and promotion of dynamic autonomous activities by local management bodies and others to improve the value of the Niseko brand.



Example of crossover between tourism and the environment



Niseko Town is promoting efforts with tourism businesses and tourists to reduce CO2 emissions from the tourism area by about 40%

■ Energy savings facility installed by a tourism business



Review of switching to LED lights at hotels located in the town, installing heat exchangers for hot spring outflow water, and using geothermal power



■ Consumption and energy savings seminar and energy savings diagnosis for tourism businesses

Promote further tourism activity by applying cost savings from energysaving measures to new service provision and and capital investments

Edu-Vacation = Education + Vacation



Conducting eco tours with children attending Niseko High School as eco-ambassadors

■ Eco-night cafe



Second night: Wine and music



First night: Katsura Sandan's eco

Held environment and energy seminars in a café format with familiar themes that make them easy for anyone to attend aimed at get people personally engaged in CO2 savings efforts

Niseko's community building activities

Realize local government through information sharing and resident participation Compact global city (4th Comprehensive Plan) Environmental creation city – Niseko (5th Comprehensive Plan)

Underground water conservation ordinance and water resource protection ordinance

Basic Plan for the Environment

Landscape ordinance

Bolstering the economic cycle

Robust harmoniz ation

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Sustainable development goals for 2030 agreed by the world

Resources Economy

Strengthening our SDGs efforts

Striving to foster a sustainable town through application of best practices

SDGs FutureCity and Eco-Model City -- Niseko Town