SHIN-KAMIMATSUZAWA HYDROPOWER PLANT

Komagome River, Tsutsumigawa River System, Aomori Prefecture

Tohoku Electric Power Co.,Inc.

From Snow to Water. From Water to Power.

Where Heavy Snowfall Gives Rise to Energy

Snow as Valuable Energy

Winter's blessing, snow is a precious source of energy for hydropower.

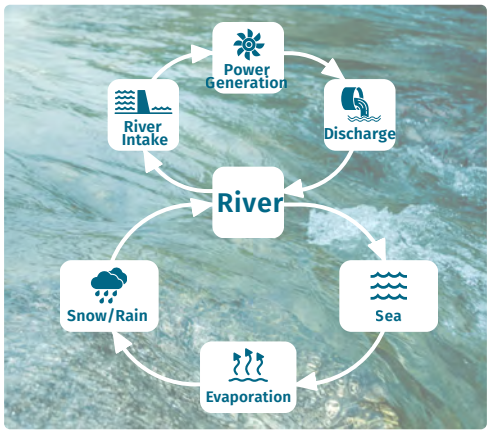
While snow in Tohoku region brings challenges to daily life, it is also an important source of renewable energy. Snow accumulated in the mountains melts gradually in spring, flows into rivers, and is used for hydropower generation. In the heavy snowfall area of Hakkoda, nature itself creates stable renewable energy.

At Tohoku Electric Power, we are transforming the blessings of winter into energy for the future.

(Watch the video)

Yakuwa Dam (Yamagata Prefecture)

The Water Cycle and Hydropower Unique to Snow Country



An energy source shaped by the land, revealed through water

From April to May, snowmelt increases river flow and supports hydropower generation.

Unlike regions relying mainly on rainfall, snowy regions benefit from stable water resources created by winter snow. Water is taken in, used for power generation, returned to the river, and continues supporting downstream hydropower, daily life, and agriculture.

Ensuring a Stable Power Supply for the Future

Plan for Shin-Kamimatsuzawa Hydropower Plant

To provide stable electricity for the future, Tohoku Electric Power is constructing Shin-Kamimatsuzawa Hydropower Plant, scheduled to begin operation in November 2031. The plant will participate in power generation using Komagome Dam, now under construction in Aomori Prefecture.

(Komagome Dam Brochure)

The Komagome River basin has long utilized abundant water resources from the Hakkoda Mountains for hydropower. The existing Kamimatsuzawa Power Plant, in operation since 1957, was decommissioned in June 2025. The new plant will renew this legacy with more efficient and sustainable facilities. Downstream, Tohoku Electric Power operates the Kaseshinai Power Plant, while Tohoku Sustainable & Renewable Energy Co., Inc. runs the Komagome Power Plant. Along this river system, water is used in stages and transformed into electricity. Within this integrated watershed, the Shin-Kamimatsuzawa Power Plant serves as a new upstream source of clean energy.

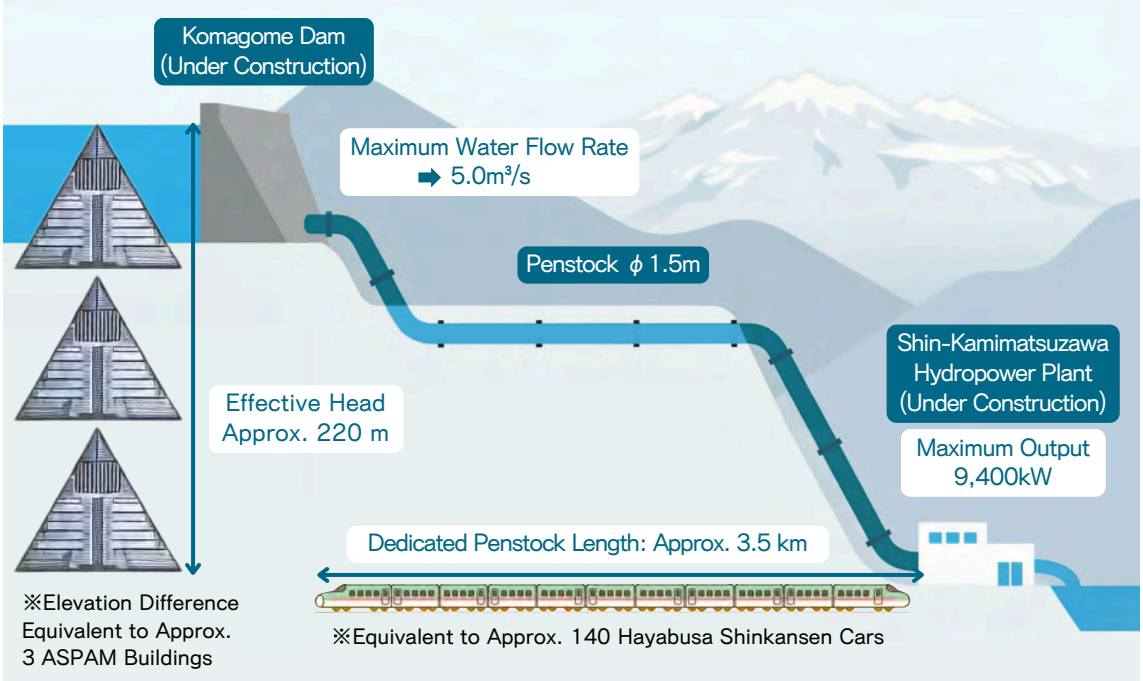
Location	Aomori City, Aomori Prefecture
River System	Tsutsumigawa / Komagome River
Hydropower Type	Dam and Waterway System
Maximum Output	9,400kW
Maximum Water Flow Rate	5.00 m^3/s
Effective Head	Approx. 220 m
Turbine Type	Vertical-axis Pelton Turbine
Start of Construction	March 2024
Start of Operation	November 2031

Powering the Future with Hakkoda's Terrain and Water

Technical Features

A 3.5 km Waterway Connecting Dam and Hydropower Plant

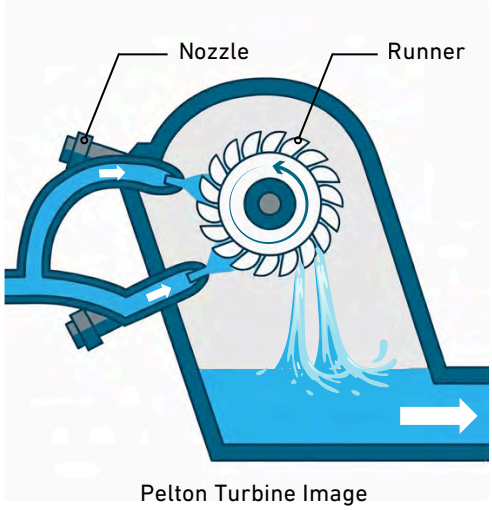
Water from Komagome Dam will be conveyed to the plant through a pressure pipeline approximately 3.5 km long. Designed in harmony with terrain and environment, the route consists of three sections: the Upstream Section, Tunnel Section, and Downstream Section, efficiently carrying water from the mountains to hydropower plant. In the upstream section, water is taken from the shared intake at Komagome Dam and conveyed along the left bank to the tunnel entrance. It then passes through a new pressurized pipe installed inside the existing tunnel, before continuing through a new downstream pipeline to the power plant.



Pelton Turbine Utilizing a 220m Head

Taking advantage of Hakkoda's steep terrain, the plant uses a vertical-axis Pelton turbine suitable for high-head hydropower.

A Pelton turbine operates by directing jets of water from nozzles onto a runner, efficiently converting the energy of falling water into power. This design also reduces stress on the penstock system, enabling stable and reliable operation. This turbine was selected to harness the natural energy of Hakkoda for reliable electricity.



Pelton Turbine Image


FRP penstock at the Daifudo Hydropower Plant in Aomori Prefecture

Durable Pipeline Materials for Long-Term Use

Because the river water in this area is highly acidic, durable materials such as FRP / FRPM pipes and stainless steel pipes will be used. Environmental considerations are also incorporated, particularly in nearby protected forest areas.

Through careful engineering and material selection, stable operation can continue under severe natural conditions.

INTERVIEW

The Future of Hydropower

“Beyond Hydropower, Moving Forward with the Community”
Director Takagi, Shin-Kamimatsuzawa Hydropower Plant Construction Office

What is most important during this long construction project?

Our priority is to build a safe and reliable power plant that respects the surrounding natural environment and can continue to operate safely and reliably into the future. Because this site has ideal conditions of snow, water flow, and terrain, each step in planning and construction has meaning and contributes to long-term stability.
Once completed, it will quietly and steadily continue to generate electricity alongside everyday life in the community. Today, we are carefully laying the groundwork for that future. We also value developing the technical skills and motivation of younger staff as construction progresses.

What makes this work rewarding?

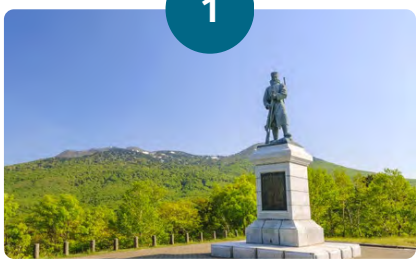
What I find rewarding is knowing that our work supports the everyday lives of people in the community. Tohoku Electric Power operates more than 200 hydropower plants across Tohoku region and Niigata. Hydropower is a reliable source of energy that requires no fuel, produces no CO_2 emissions, and delivers stable electricity over the long term. Supporting one of these facilities brings both responsibility and pride.

What kind of hydropower plant do you hope to create for the community?

We hope this hydropower plant will be a familiar and reassuring presence for the local community. While it may not always be noticed, it quietly harnesses the power of snow and water to generate electricity as a natural part of everyday life. Looking ahead, we hope the Shin-Kamimatsuzawa Hydropower Plant will continue to support the daily lives of the community and the everyday needs of our customers for many years to come.

Discover the Highlight of Aomori City

1



Hakkoda Snow March Memorial Museum

Learn about the historic 1902 Hakkoda mountain tragedy and experience the natural beauty of Hakkoda throughout the seasons. The museum features historical materials and video exhibits related to the incident.

163-4 Abeno, Kouhata,Aomori City
+81-17-728-7063
9:00–18:00(Nov–Mar: until 16:30)

2

Seikan Ferry Memorial Ship Hakkoda-Maru

Japan’s first railway ferry museum , featuring the preserved Hakkoda-Maru. Explore the bridge, engine room , and recreated station scenes while discovering the 80-year history of the Seikan ferry service.

1-112-15 Yanagawa,Aomori City
+81-17-735-8150
9:00–19:00(Nov–Mar: until 16:30)

3

Hakkoda Ropeway

A ropeway connecting the mountain base station to Mt. Tamoyachi (1,324m)in about 10 minutes.
Enjoy panoramic views of Mt. Iwaki, the Shirakami Mountains, the Tsugaru Plain, and Mutsu Bay.

1-12 Kansuizawa,Arakawa,Aomori City
+81-17-738-0343
Operating hours vary by season.

※ Operating hours and closing days may change.Please check the official website for the latest information.

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