

REACHING NEW SUSTAINABLE HEIGHTS WITH WOOD

By combining traditional materials with innovation, Moelven is building a sustainable future with wood.



By Nina Rundsveen, Moelven

Trees have widespread environmental benefits. They fight global warming by removing CO₂ from the atmosphere and enable us to create sustainable buildings that will continue to store CO₂. Also, green buildings have been shown to provide a relaxing environment for their inhabitants. Moelven is harvest-

ing a renewable resource, and the timber processing group has supplied socially beneficial and sustainable products and services for 120 years.

In order to continue with sustainable development and stay competitive in the years to come, Moelven

strives to manage the timber optimally. Through innovation, digitalization, and bold ambitions, the company is, quite literally, reaching new sustainable heights.

The future of the forest industry is now, and Moelven is proud to continue writing history, as illustrated in the following examples.

The world's tallest timber building

The world's tallest timber building is located in the small town of Brumundal, which is a short drive north of the Norwegian capital, Oslo. Mjøstårnet, which translates as "the tower of Lake Mjøsa," started out as a crazy idea – a wish to showcase what is possible to build using timber.

Standing 85.4 meters tall, Mjøstårnet has become a sustainable pilot project that proves multi-storey buildings can be constructed using renewable wooden materials. The 18-story-high wooden building set an official world record in March 2019 and offers a hotel, apartments, offices, a restaurant, and common areas, as well as a swimming pool in the adjacent first-floor extension.

"We want to create a sustainable future with wood," says CEO Morten Kristiansen in Moelven Industrier ASA. "Moelven is harvesting a renewable resource, and for every tree that is cut down, at least two new ones are planted. We hope the

Mjøstårnet project will inspire others to choose more sustainable and climate-friendly solutions in the years to come."

As the world's population grows and more people move into cities, the need to construct sustainable buildings in dense areas is growing. Constructing tall buildings from wood has substantial environmental benefits. Being a renewable resource, wood can be reused and recycled, and wood products continue to store carbon throughout their lifetimes.

"Using timber in the load-bearing structures provides a significant environmental effect that increases as we build higher," says environmental advisor and architect Bård S. Solem.

Moreover, studies from Harvard's Center for Health and the Global Environment show that people who work and live in wooden buildings feel and perform better.

"In the longer term, we need changes in our society. We must think completely different. Mjøstårnet shows that you can construct tall buildings in wood with sustainable materials that release low greenhouse gas emissions during production," says Solem.

The fourth industrial revolution

Moelven makes its profits from processing renewable resources, and the use of technology allows it to be even more sustainable, both environmentally and financially. Technology brings the company into Industry 4.0 – the fourth industrial revolution.

"The smart digital sawmill" is a project conducted at the group's largest production facility. The objective was to increase the level of digitalization in the sawmill in order to improve the recovery factor, raise capacity by reducing the number of pauses in production, and lower overall energy consumption. This was done by increasing the number of sensors in production and connecting

these in order to further utilize data. The first results from the project show that energy consumption has dropped and production is more efficient.

"A digitalized sawmill provides entirely new and useful information on the forests' raw materials. Unique technology now affords the opportunity of modernizing the forest industry as we know it today," says chief technology officer at Moelven, Peter Rockedahl.

Utilizing the raw material

From a given tree, approximately half of the log is turned into lumber. For Moelven it is important to manage the timber optimally, which means that the company has to utilize the residual raw material in a sustainable and profitable way. That is why Moelven has invested approximately \$31.3 million in an integrated wood pellet and bioenergy plant at the "Soknabruket" sawmill.

"We think it's exciting to pave the way for innovative and energy-efficient production methods for bioenergy in Norway," says CEO Morten Kristiansen.

The pellet project is the first of its kind in Norway and has been little tested in a cold Nordic climate. Once operational in 2020, the facility will double the current Norwegian pellet production output and produce 80,000 metric tons per annum. The factory will be unique, in that it will be the first pellet plant in Norway to be fully integrated in a sawmill in terms of energy. The bioenergy plant will supply both the sawmill and the pellet plant with energy, which means that the residual heat that would otherwise be lost from the sawmill will now be recovered and used in the production of white pellets. Estimates show that by doing this, one can reduce energy consumption in pellet production by up to 37 percent.

For the sake of the environment and those who will use and enjoy forests in the future, Moelven will continue to ex-

plore new boundary-breaking solutions in order to utilize this raw material in the best manner, thus building a sustainable future with wood. ■

ABOUT MOELVEN

- A Scandinavian industrial group with over 3,500 employees who produce building products and systems for the construction industry.
- The group has 36 production companies across 45 production locations in Norway and Sweden.
- By using natural resources from the forest to the fullest, Moelven wants to create a sustainable future with wood.

