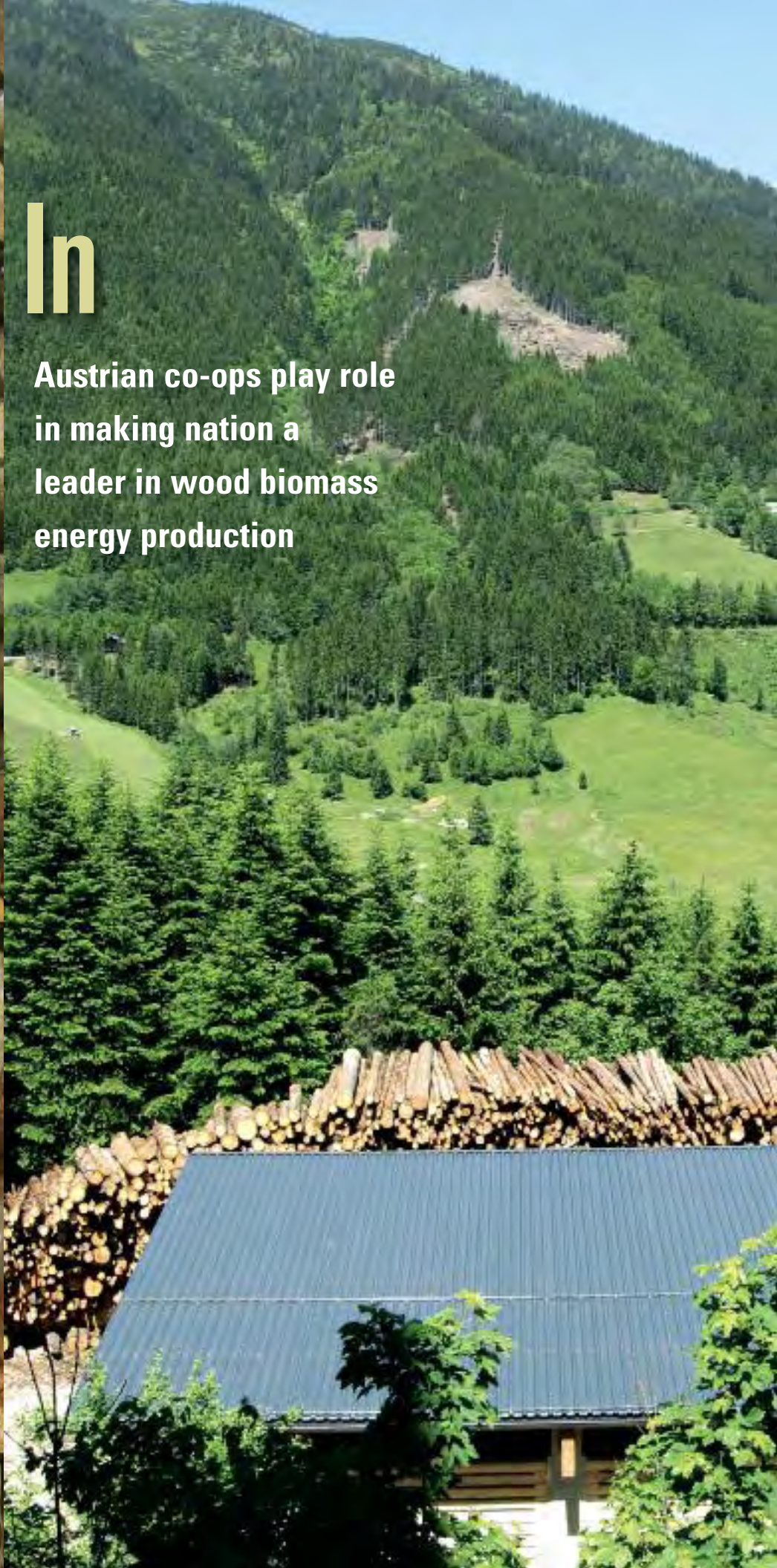




Chipping In

**Austrian co-ops play role
in making nation a
leader in wood biomass
energy production**





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Editor's note: This article is based on a report Bagley and Parker produced for the Center for Cooperative Forest Enterprises, which is part of the National Network of Forest Practitioners, based in Athens, Ohio, where Bagley is a Program Director. He can be contacted at: scott@nnfp.org, or 740-593-8733. Parker is an associate professor and Extension forester based in Baker County, Oregon, and can be reached at bob.parker@oregonstate.edu or 541-523-6418. For additional details of the trip and photos, visit: <http://nnfp.org/Resources/Biomass.php>.



Last June, we traveled to Europe to attend a symposium on small-scale forestry. Before the meeting, the National Network of Forest Practitioners organized a tour to visit some of Austria's innovative cooperative biomass-related projects, which we had been hearing much about.

We read as much as we could about these operations in advance of the trip, but the opportunity to see biomass facilities and talk to the people involved in establishing and operating them provided us with a much better feel for what was happening and of the significant progress the Austrians are making in this area of renewable energy, often through the use of producer-owned cooperatives.

First stop: Linz, Upper Austria

Our first stop was in the city of Linz, in the state of Upper Austria. The primary purpose of this visit was to meet Christiane Egger, deputy manager of the O.Ö. Energiesparverband (the Upper Austria Energy Agency). OOE was founded in 1991 by the regional government to promote energy efficiency, renewable energy sources and innovative energy technologies by targeting residential households, municipalities and businesses. She is also the manager of the Ökoenergie-Cluster, a network of 150 companies active in renewable energy and energy efficiency.

Egger was recommended as someone we should talk to by the U.S.-based Biomass Thermal Energy Council (BTEC), a nonprofit association dedicated to advancing the use of biomass for heat and other thermal applications in the United States.

In advance of the trip, we had asked our contacts at BTEC and the U.S. Forest Service for any leads and/or contacts that could help improve our understanding of the Austrian wood-biomass system. Egger had been in the United States several times to discuss the Austrian experience in diversifying their energy mix, most recently last April to address the "Heating the Northeast with Renewable Biomass" conference in New Hampshire.

During our meeting, we talked about the work of her agency in Upper Austria, focusing on some of the specifics pertaining to wood-based biomass. While Upper Austria has taken a comprehensive approach to energy

This district heating facility (left) in Austria is located just down the hill from a historic cathedral. Above: Bins of firewood dry prior to use in the high-efficiency, wood-gasification boilers that are common in Austria. This creates a good market for split logs produced by farmers and forest owners. Above (right): The Pölstal Biomass Logistics Trade Center (BLTC). Photos courtesy the authors

diversification, it has demonstrated significant advances and leadership in the field of biomass heating.

More than 40,000 wood chip and pellet heating installations can be found in Upper Austria, along with some 300 district heating networks and 12 biomass power stations. All of this is occurring in an area the size of Vermont with a population of 1.4 million. These accomplishments owe much to targets having been set early on by the regional government, and further advanced by the availability of comprehensive information, energy advice, awareness-raising activities and financial incentives. Or, as the Austrians like to note, by a combination “carrot-stick-tambourine” approach (the tambourine is a metaphor for the awareness-raising activities underwritten by the state).

The steep upward trend in biomass heating generation in Upper Austria is impressive, but there is still a long way to go before meeting the government’s target of producing 100 percent of the region’s space heat and electricity from renewable energy sources. That is the goal set for 2030, which — if met — would be quite a feat, considering that Upper Austria is a highly industrialized region with an extensive manufacturing base.

Second stop: Hartberg, Styria

From Linz, we headed southeast to the Austrian state of Styria, also known as Steiermark. Here, we met Christian Metschina of the Austria Chamber for Agriculture and Forestry. He gave us a tour of a new facility near Hartberg, known as a “biomass logistics and trade center” (BLTC).

The Hartberg BLTC was opened last fall by the Maschinerring Hartbergerland (Hartberg-area Machine Ring), a cooperative of farmers originally organized to share farm machinery, such as tractors, and to trade labor. We were also hosted by Franz Schieder, managing director of



Christian Metschina (center), of the Styrian Chamber of Forestry and Agriculture, and Franz Schieder (left), managing director of the co-op that owns the Hartberg BLTC, explain their operation to author Scott Bagley. The Styrian Chamber was instrumental in supporting the establishment of the Hartberg center, similar to the way USDA-supported Rural Cooperative Development Centers serve cooperatives in the United States.

the Machine Ring cooperative and who oversees operations of the BLTC.

The BLTC in Hartberg provides a staging and sales outlet for firewood, enabling local customers to have the peace of mind of knowing that they will have a readily available supply of suitable quality wood for their heating needs.

Later in the visit, we toured a pellet mill, but in general, a surprising amount of biomass material consumed in Austria is used as wood chips and firewood. The Austrians have developed some astoundingly sophisticated technologies that have enabled them to engage in large-scale use of these less-processed forms of wood-based biomass. As a result of their technological advances, some of the common arguments against wood heating systems — i.e., that they are inefficient, polluting and a hassle to manage and maintain — are no longer valid, at least where these technologies (and technicians to install and maintain them) are widely available. The Austrian systems are highly automated, so they do not require much attention

once they’re up and running.

Also noteworthy is that the less-processed forms of wood-based biomass require less energy during production, meaning a smaller carbon footprint and a better score on the “carbon neutrality scale.”

While at the Hartberg BLTC, Christian Metschina gave us a short presentation on the development of the facility and described how it fits within the overall cooperative. He also outlined the broader, multi-country learning network and support program from which the Hartberg project emerged. This has involved partners in Finland, Sweden, Germany and several other European countries.

At the time of our visit, the Hartberg facility was the newest BLTC, although another one was launched this past August. The network of BLTCs is expected to operate under certain guidelines to uphold standards. Each BLTC, though owned and operated by independent cooperatives, collaborates with one another for branding and marketing purposes, including

“Wood is not only a crisis-proof and cheap energy source, but also a home-grown raw material that adds local value by creating and securing jobs and income within regions.”

— T. Loibnegger (author of: *Telling the Story in Austria: Sustainable Wood Energy Supply*)

use of a common logo.

Stop 3: Hartberg-area wood energy contractor

Our third stop was at a small farm near the village of Hartberg, where we visited a farmer who is a member of a cooperative that provides energy services — in other words, he is a “wood energy contractor” who sells heat. The cooperative built a heating system and woodchip-storage facility at a member’s farm, which delivers heat (in the form of steam) to neighboring customers through a system of pipes.

The cooperative signs contracts with customers, making it responsible for all aspects of their heating. The cooperative also serves other groups of customers through arrangements that involve renting a cellar or outbuilding to hold the heating systems and for wood chip storage. It then sells heat to the user or owner of the building (and adjacent buildings if they are part of a “district” or network of facilities). Similar systems are in place for heating other groups of buildings and multi-tenant structures.

Stop 4: Weinbach Biomass Logistics and Trade Center

We then drove a couple of hours to Weinbach, also in Styria, where we met Christian Schnedl, the director of the Styrian Forest Owners Association, which has also been helpful in supporting the cooperatives in gearing up as biomass and heat sellers. Our first visit with Schnedl was at another BLTC that provides processing and is a distribution point for wood chips and firewood.

Stop 5: Weinbach-area wood energy contractor

We next visited another wood energy contractor with a set up similar to that

of the farmer we had met earlier. In this case, however, the farmer delivers services through the equivalent of a U.S. limited liability corporation-type business structure, making him a diversified farmer who has added “heat seller” to his resume.

He made it very clear, however, that handling the energy part of his operation is not even close to being a daily task. Once his system was set up, it proved to be extremely low-maintenance and a mostly “hands-off” operation. The system automatically feeds chips to the boiler and sends him updates on his mobile phone and a few times each year indicates when ash needs to be disposed of (which he does by spreading it on his garden).

Stop 6: Pölstal Biomass Logistics and Trade Center

Next we took an unguided tour of the BLTC in Pölstal, which opened in 2007, the first such operation in Styria. Like the other BLTCs, it is cooperatively owned, in this case by 13 farmers. It produces wood chips for use in small-scale heating systems and district heating plants, as well as firewood for residential customers.

Reflections

There are some good reasons why Austria has invested so heavily in support of wood-based biomass and renewable energy. Kicking its dependence on imported oil and avoiding natural gas supply disruptions are two of the major incentives for pursuing renewable energy development. A clear policy framework in Austria on greenhouse gas emissions is another incentive, which has led to an interest in reducing coal use. The opportunity of providing additional markets for Austrian farmers and forest owners is another motivating force.

We also sensed a pride and seriousness within the citizenry in trying to do their part to contribute to climate change mitigation. The alignment and comprehensive nature of their “carrot-stick-tambourine” approach has proven to be an effective way of developing renewable energy industries for the benefit of rural producers. In the United States, we have important programs, such as the USDA Value Added Producer Grants, that can help incentivize cooperative efforts along the lines of Austria’s Biomass Logistics and Trade Centers. But the scale of public and private investments in biomass energy development is overwhelmingly higher in Austria than in the United States, as are resources dedicated to spreading information and awareness of biomass energy to complement and bolster the efforts of private enterprise.

Investigating “best practices” emerging from the cooperative developments in Austria, as well as the programs and policies that are supporting them, can help fine-tune and deploy frameworks for enabling renewable energy to expand biomass energy production in the United States. We met many great people in Austria who are more than happy to share information about their progress and help others, including cooperatives in America interested in developing similar enterprises that are distributed and scaled to more readily benefit rural producers and communities, while also encouraging sustainable land use practices.

As we move forward with our wood biomass industry, we must balance our enthusiasm for expansion of biomass-to-energy developments with a determination that we don’t deplete the resilience and future productive potential of forests and woodlands. ■