Global Relevance: Visit to Germany reveals partnerships

**A Note From Rolf Webeg:**

NRRI was created to look to the future, find key partnerships, develop knowledge and deliver solutions to create new opportunities. Minnesota needs the right tools to participate in emerging global economies and national leadership challenges, especially as all face a changing climate.

In June, I had the opportunity to join a Minnesota delegation to the German state of North Rhine-Westphalia. Earlier visits to Germany have focused on technology and policy issues associated with their energy transition to renewable energy. This trip was part of the Climate Smart Municipalities Program, a joint effort between Minnesota and the state of North-Rhine Westphalia to drive climate change adaptation and implementation of renewable energy and energy efficiency via paired partnerships between five cities.

It was a very full week with visits to each of the German cities to learn about projects that included public engagement, sustainable urban planning, environmental remediation, and a range of energy topics. The focus was on making sound, long-term decisions regarding the economy and environment to benefit future generations. Perhaps the most satisfying aspect was observing the inter-city partnerships develop exciting concepts and plans to address climate change while growing economic benefits. NRRI and the University of Minnesota system stand ready to assist in these efforts.

I was also able to spend a day working with our collaborators at Metabolon, a partnership between a German waste management company and the Technical University of Koln. This group has taken a former landfill and transformed it into a public research center to study leach water treatment, biomass digestion and biogas generation, process control architecture and hydrothermal co-oxidation of wet biomass into solid fuels.

Much of this work overlaps nicely with efforts at NRRI’s Unique Renewable Energy Laboratory, particularly water treatment and hydrothermal carbonization. We identified several potential collaboration projects that we believe will accelerate progress for both organizations.

Our German colleagues will be visiting Minnesota in early October. We look forward to welcoming them with progress on numerous projects as we work together to create opportunities with global relevance.

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**Minnesota Value: NRRI publishes guide to manage red pine**

...With some 630,000 acres of red pine in Minnesota supporting a robust wood products industry, managing our forest resources right will help sustain them for future generations.

To do that, NRRI forest experts asked the state’s silviculture managers what they need to make the most of this wood resource. The answer: A handbook that addresses the critical early growth years of this versatile tree species. That lays out all the options for managing the landscape for biodiversity and economic value. That pulls together past research with current findings in an easy-to-follow format.

And that is exactly what NRRI published in June, released for distribution by the Minnesota Department of Natural Resources.

“One of the big concerns with red pine management is waiting too long to thin it,” explained Dan Buchman, co-author on the project with NRRI colleague Bill Bergson. “Then you have a tree stand that’s susceptible to wind blow-downs, snow damage and insects. This handbook gets managers around that situation with early thinning techniques.”

Proper thinning can increase the red pine’s yields.

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Earlier studies on this technique by Robert Buckman, a researcher with the U.S. Forest Service from 1953 to 1986, found that there’s no difference in growth and that it increases the value of the harvest. Buckman’s research lays the groundwork for red pine knowledge in the Upper Midwest lake states.

Red pine is a very versatile tree species that can be grown for a variety of products. It also grows without much encouragement.

**Whatever happened to…. Grand Log Homes?**

“We’re a 26-year overnight success!” boasted Charlie Mizia, co-founder of the business he and his brother, Richard, have been nurturing for decades. And like many entrepreneurial efforts, it started with an idea that they just couldn’t shake. They wanted to develop the look of big log siding using small dimensional lumber.

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“The brothers received a U.S. patent for their “modular log assembly system” and a Canadian patent in 2015. Their current project – an old farmhouse renovation on the Mississippi – demonstrates the product’s value as a home “recycler” by improving an existing structure.

“With some proven successes under their belt, the Mizias are now focused on finding investors in this market-ready business.”

“Whatever happened to…. Grand Log Homes?”

Whose idea was it?... with the help of NRRI Executive Director Rolf Webeg. (far left) joins a tour of the town of Sarrebeck in Germany which generates its own energy with a huge solar farm (above) and wind energy. Within five years of moving completely to renewables, the town was generating 3.5 times more electricity than it needed.

NRRI research shows that proper thinning of red pine stands increases productivity and harvesting efficiency. A newly published guide explains the technique to landowners to improve their yields.

“I could do nothing to a red pine stand and 100 years from now it would give us the same volume if it had been thinned,” said Buchman. “But an unthinned stand would look very different. The trees would be very tall and thin; not very high value. Our techniques will help deliver a steady flow of products out of young red pine stands.”

The goal is to have properly managed working forests that are healthier and less of a fire risk than unmanaged, overgrown forests. By opening the canopy and allowing for native understorey plants, red pine regrowth is already on its way when the stands are harvested.

NRRI Executive Director Rolf Webeg (front left) joins a tour of the town of Sarrebeck in Germany which generates its own energy with a huge solar farm (above) and wind energy. Within five years of moving completely to renewables, the town was generating 3.5 times more electricity than it needed.