

Renewable energy policies drive production of southern wood pellets for bioenergy

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A recently released study led by U.S. Forest Service scientists and published by the Forest Service's Southern Research Station (SRS) finds that policies in the European Union (EU) and elsewhere requiring the use of renewable and low greenhouse gas-emitting energy are driving demand for wood pellets used to generate bioenergy. This demand could provide new markets for U.S. timber exports, increase wood prices, and lead to increases in forestland area.

Karen Abt, research economist with the SRS Forest Economics and Policy unit is the lead author of the report. "Southern forests and some northern forests as well, are being used to produce pellets for export to the EU," she said. "Current and proposed production levels have the potential to increase prices, but may also lead to an increase in timberland area."

Abt and her team used a computer model to simulate timber markets in the U.S. Coastal South through the year 2040. "We modeled a 'business as usual' scenario which continued the current level of wood production," she said, "and an alternative scenario which increased the production of wood [bioenergy](#)." This alternative scenario accounted for continued bioenergy demands based on the most recent projections of wood consumption by pellet mills and other bioenergy producers. These projections include all announced bioenergy wood demands, and while actual demands will likely be lower, there is considerable uncertainty in the bioenergy market.

In the "business as usual" baseline scenario, the simulation showed timber demand and prices rising in the short term, but falling in all areas across the South by 2040. However, when Abt's team added the bioenergy component to the baseline, they saw a very different outcome. "Based on our assumptions, the results indicate increased bioenergy demand could result in an increase in pine non-sawtimber prices," said Abt.

One might assume that increased demand for timber products and the associated boom in timber harvests would deplete southern forests. However, the study finds an increased demand for timber could mean just the opposite. In Abt's simulations, the baseline scenario, which does not account for additional bioenergy demand, saw forested land decrease by 2040. But in the simulations accounting for additional bioenergy needs, there was actually an increase in the forest land base over the same period, despite the increased harvests.

As Abt points out, it's all about supplying the increased demand. "We know people plant more when prices go up," she said. "We also know that they keep more natural forest as forest when prices go up."

Abt and her team based their initial research on EU policy, the Renewable Energy Directive, which requires a 20 percent contribution from bioenergy to the energy use of all EU Member States by 2020. However, it is now clear the EU requirements will extend even longer, which likely means an even greater impact.

"The EU has already extended their renewable requirement through 2030," Abt said, adding that the new requirement also increases the amount of bioenergy required to 27 percent. "There is no indication that they will renege on this additional requirement, though the newest policy lacks country-specific requirements, which adds a bit of uncertainty."

Abt points out that there is much that is still unknown about the interactions among policy, economics, and forestry. This makes projections such as these inherently uncertain.

"There are studies underway by the EU Environment Agency on the effects of the Renewable Energy Directive on the sustainability of southern forests," Abt said. "If new requirements are adopted, this could affect use of southern forests for pellet production for export to the EU." She adds, "All indications are that pellets from southern forests will meet the current EU requirements."

More information: Access the full text of the article at www.srs.fs.usda.gov/pubs/47281

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