



Key research findings

Forests, fuel wood and charcoal

What policymakers should know

- **Cooking with forests:** More than two billion people depend on wood energy for cooking and heating, particularly in households in developing countries. In parts of Africa, wood fuels—often the only domestically available and affordable sources of energy—account for almost 90 percent of primary energy consumption.¹ Estimates suggest that biomass energy in sub-Saharan Africa will account for about three-quarters of total residential energy by 2030.²
- **Fuel for industry.** In some regions, such as parts of South America, industrial and commercial use of charcoal is a major driver of demand, as well as an important source of income along production chains. At the continental scale, South America is second only to Africa in total and per capita charcoal use.²
- **Hungry for energy:** Global energy demand is projected to increase rapidly in coming years, owing to many factors, including population growth, more people having access to energy supply grids, and lifestyles becoming more energy demanding. In the longer term, forest biomass has the potential to significantly lessen the strain on global energy supply when oil resources decline. Wood energy is the most important source of bioenergy in the world, providing nine percent of the global primary energy supply.³ Well-managed forests can play a vital role in responding to future bioenergy demands and can help to create a more stable energy future, improve environmental quality and increase economic opportunities.⁴
- **Substituting wood energy for fossil fuels:** Wood energy use in Europe accounts for 50 percent of energy from renewable sources, with private households being the largest users. Some European countries are expanding the use of solid biomass, in the form of pellets, briquettes and wood chips, to meet their fossil fuel substitution goals. The expansion of forest biomass-based energy to meet global demand, while enlarging the contribution of forests to global energy supply, can also lead to higher competition with more conventional markets for timber.

Although local use of wood fuel helps limit carbon emissions from transport, the global trade in wood pellets, briquettes and chips is expected to expand. Pellets and chips can be transported economically over long distances, opening up opportunities for trade in biomass between countries and creating significant opportunities for forestry to contribute. However, this may lead to more exports from timber-producing countries and can increase pressures on forests and local populations if governance, tenure security, and sustainable production schemes are not developed.

New opportunities for the efficient use of wood for multiple purposes may also arise from innovations in biotechnologies for the production of renewable and cost efficient bioproducts such as bioplastics, biofuels, biochemicals and others.

Notes

- 1 FAO 2010 Forests and energy: regional perspectives: opportunities and challenges for forests and forestry. African Forestry and Wildlife Commission. Sixteenth Session. Near East Forestry Commission, Khartoum, Sudan, 18-21 February 2008.
- 2 FAO 2010 What woodfuels can do to mitigate climate change, FAO. Available at: <http://www.fao.org/docrep/013/i1756e/i1756e00.htm>; International Energy Agency (IEA) 2002 Energy and poverty. Chapter 13. *In*: World Energy Outlook 2002. Organisation for Economic Co-operation and Development (OECD) Paris, France. 530p.
- 3 FAO 2012 Wood energy. <http://www.fao.org/forestry/energy/en/>.
- 4 Collaborative Partnership on Forests 2011. Energy grows on trees: global forest institutions highlight vital role of forests to cope with future demands for bioenergy, but call for balanced approaches.

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