

# Maximizing the potential of wood ash

Wood ash is a valuable and versatile material. It can be used as a fertilizer to boost wood growth on tree stands, and it is suitable for soil improvement and soil stabilization. It is also even exploited for road building and landscaping, and as a partial substitute for cement in the building industry. However, the utilization of wood ash is often challenging. While residual ash from bioenergy and heating plants contains valuable nutrients, it also includes harmful metals from the soil. Also, the type and conditions of each energy plant have an effect on the composition of the wood ash. The energy provider rarely has the resources or expertise to analyse the options for the use of ash, let alone start regulatory approval processes for its use. The Apila Group provides expertise and solutions to unleash the full potential of wood ash.

## Our solution

Apila Group chemists have a thorough understanding of wood ash. We analyse the composition of wood ash – its chemical elements and compounds – and we determine how it can be optimally used. For example, primary nutrients such as potassium and phosphorus as well as secondary nutrients like calcium significantly improve the growth of trees, and it is important to utilize these nutrients in the growth cycle of forests.

## Country case: Finland

Current energy and climate strategies call for the production of low carbon energy and the use of renewables in energy consumption. One way forward, as implemented in Finland, is to increase the use of residual wood chips and other bio-based fuels as a source of energy. However, bioenergy production takes place in local and small combined heating and power plants, and it is costly to recycle small amounts of ash from different locations. On the other hand, wood ash from the incineration process is used, for example, as a natural fertilizer to restore the nutrient balance of forest soil after forest operations.

By examining the whole picture of wood ash including its production and composition, and how it can be optimally used, we help to create an economically viable industrial symbiosis that supports a circular economy.



## APILA GROUP LTD

Hietalantie 7D, FIN-80710 Lehmo  
Laserkatu 6, FIN-53850 Lappeenranta  
Business ID: 2047697-0  
[www.apilagroup.fi](http://www.apilagroup.fi)  
[info@apilagroup.fi](mailto:info@apilagroup.fi)