# Ash as construction material in forest road maintenance



The ashes can be used in a road building among gravel. The use of ash from neighboring heat plants reduces the use of natural aggregates. The use of ash in the construction of the road has been limited, as it is currently subject to environmental permits.

In the forest and energy industries, burning wood produces a lot of ash, which is placed in landfills. The forest industry alone generates more than 300 000 tonnes of exploeable ash every year. The increase in wood energy increases the amount of ash even further. Current measures to benefit from the use of ash do not correspond to the principles of sustainable consumption and production. It would be essential to influence the legislation in order to ease the utilization of ash. It is important to perform carrying capacity measurements and research and test different mixtures of gravel and ash. The environmental issues need to be surveyed.

In Finland there are 135 000 km of forest roads where maintenance is necessary for wood procurement. According to the National Forest Programme 2015, forest car roads should be upgraded to 4 000 km annually. In the construction of roads, cost-effectiveness is most essential. The biggest challenge in most cases is the availability of affordable gravel or crushing near the forest road project. Utilization of ash as material for road construction and maintenance has produced excellent results in terms of both the technical suitability and the environmental impact.

### DETAILS

ORIGIN OF WOOD	MOBILIZATION POTENTIAL
Forest	Not possibile to assess
TYPE OF WOOD	
Stemwood	SUSTAINABILITY POTENTIAL - VALUE
KIND OF WOOD CONCERNED	EASE OF IMPLEMENTATION
Stemwood, energy wood	Easy
IMPACT ON ENVIRONMENT & BIODIVERSITY	EASE OF IMPLEMENTATION - EVALUATION
Positive: less waste from production side streams	
INCOME EFFECT	KEY PREREQUISITES
Positive	Information about side streams from mines and forest industry
	Information about usability of side streams in road infrastructure
EXPLOITATION POTENTIAL	TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED
HUB	JOB EFFECT
Northern Hub	New business from utilization of side streams and waste
ECONOMIC IMPACT	COSTS OF IMPLEMENTATION ( EURO - € )
Positive	
SPECIFIC KNOWLEDGE NEEDED	

## Knowledge, research and testing of special mixtures

# MORE DETAILS

CHALLENGE ADDRESSED	DOMAIN	TYPE OF SOLUTION
2 Improve infrastructures and capacity of public	Harvesting, infrastructure, logistics	Circular, bio-based products
actors	Forest-based bio/circular economy	
	Wood energy industry	
KEYWORDS	DIGITAL SOLUTION	INNOVATION
	No	Yes
COUNTRY OF ORIGIN	SCALE OF APPLICATION	START AND END YEAR
Finland	Local	

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https://tapio.fi/projektit/arvo-tuhka-hanke-tuhkan-maarakentamisen-uudet-	
arvoketjut/	

#### PROJECT WEBSITE

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#### PROJECT REFERENCE

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