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

Forest

TYPE OF WOOD

Stemwood

KIND OF WOOD CONCERNED

Stemwood, energy wood

IMPACT ON ENVIRONMENT & BIODIVERSITY

Positive: less waste from production side streams

INCOME EFFECT

Positive

EXPLOITATION POTENTIAL

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HUB

Northern Hub

ECONOMIC IMPACT

Positive

SPECIFIC KNOWLEDGE NEEDED

Knowledge, research and testing of special mixtures

MOBILIZATION POTENTIAL

Not possibile to assess

SUSTAINABILITY POTENTIAL - VALUE

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EASE OF IMPLEMENTATION

Easy

EASE OF IMPLEMENTATION - EVALUATION

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KEY PREREQUISITES

Information about side streams from mines and forest industry

Information about usability of side streams in road infrastructure

TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED

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JOB EFFECT

New business from utilization of side streams and waste

COSTS OF IMPLEMENTATION (EURO - €)

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MORE DETAILS

CHALLENGE ADDRESSED

2.- Improve infrastructures and capacity of public actors

DOMAIN

Harvesting, infrastructure, logistics

Forest-based bio/circular economy

Wood energy industry

TYPE OF SOLUTION

Circular, bio-based products

KEYWORDS

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DIGITAL SOLUTION

No

INNOVATION

Yes

COUNTRY OF ORIGIN

Finland

SCALE OF APPLICATION

Local

START AND END YEAR

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REPORTER

REFERENCES AND RESOURCES

MAIN WEBSITE

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

RESOURCES

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PROJECT WEBSITE

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PROJECT REFERENCE

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