

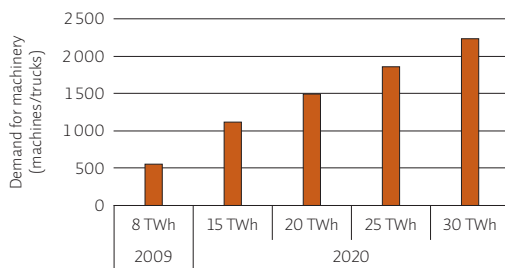
Machinery and Labour Force Requirements for Forest Chip Production in Finland in 2020

The research carried out by Metsäteho Oy and Pöyry Energy Oy estimated how much machinery and labour would be needed for large-scale forest chip production if the use of forest chips increases extensively in Finland.

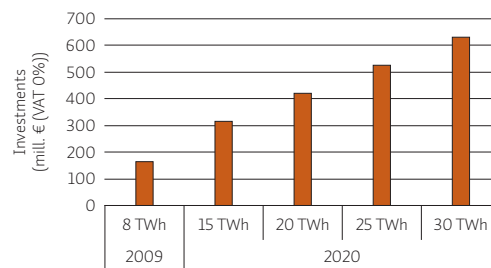
- If the production and consumption of forest chips in Finland is 25 to 30 TWh in 2020, then:
 - 1,900 to 2,200 units of machinery, i.e. machines and trucks, would be needed.
 - This would mean total investments in production machinery of 530 to 630 million €.
 - The labour demand would be 3,400 to 4,000 machine operators and drivers, and 4,200 to 5,100 labour years including indirect labour.

- Respectively, if the production and consumption of forest chips in Finland is 15 to 20 TWh in 2020, then:
 - The production machinery requirement would be 1,100 to 1,500 machines and trucks.
 - The total machinery investment cost would be 320 to 420 million €.
 - The calculated labour demand would be 2,000 to 2,700 operators and drivers (2,500 to 3,400 labour years).

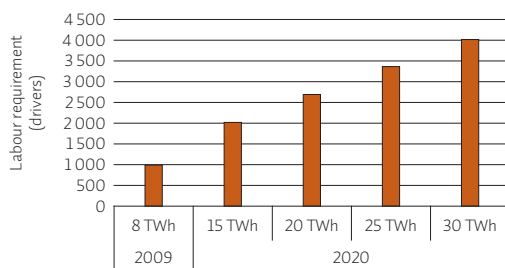
The results of the study indicated that forest chip production resources will be a major bottleneck in reaching the consumption target of 12 million m³, i.e. around 24 TWh of forest chips in Finland by 2020.



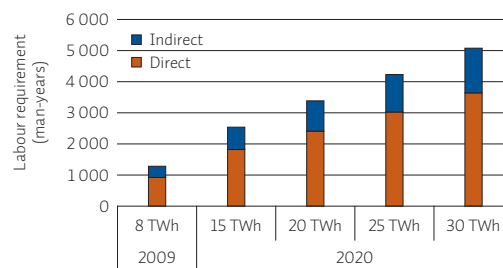
Estimated total amount of forest chip production machinery required in 2020, if the production and usage of forest chips is 15 to 30 TWh. It was assumed that the machinery is only used for the production of forest chips.



Estimated total investment requirement for forest chip production machinery in 2020.



Estimated machine and truck driver requirement for forest chip production in 2020.



Estimated total forest chip production labour requirement in man-years in 2020. The indirect labour requirement was determined by multiplying the direct labour demand by 0.4.

