

NOKIA

Digitalisaation ilmastovaikutukset

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At Nokia, ESG is a core part of our purpose - we create technology that helps the world act together



Productivity is stalling

Bringing digitalization to the physical industries it has not yet reached



Inclusive access to opportunity remains stubbornly unequal

Providing more inclusive access to work, healthcare and education



Pressure on the planet is increasing

Reducing carbon emissions and the use of scarce natural resources

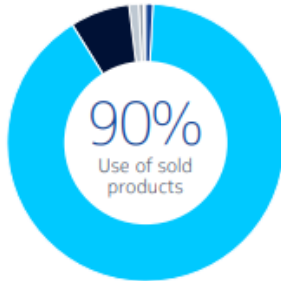
Our ESG approach: minimize footprint, maximize handprint



Science based climate targets – 1.5 degrees

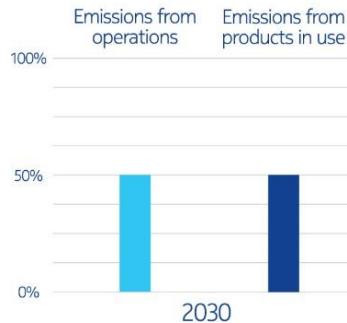
Nokia carbon footprint

Our carbon footprint (Scope 1, 2 and 3)



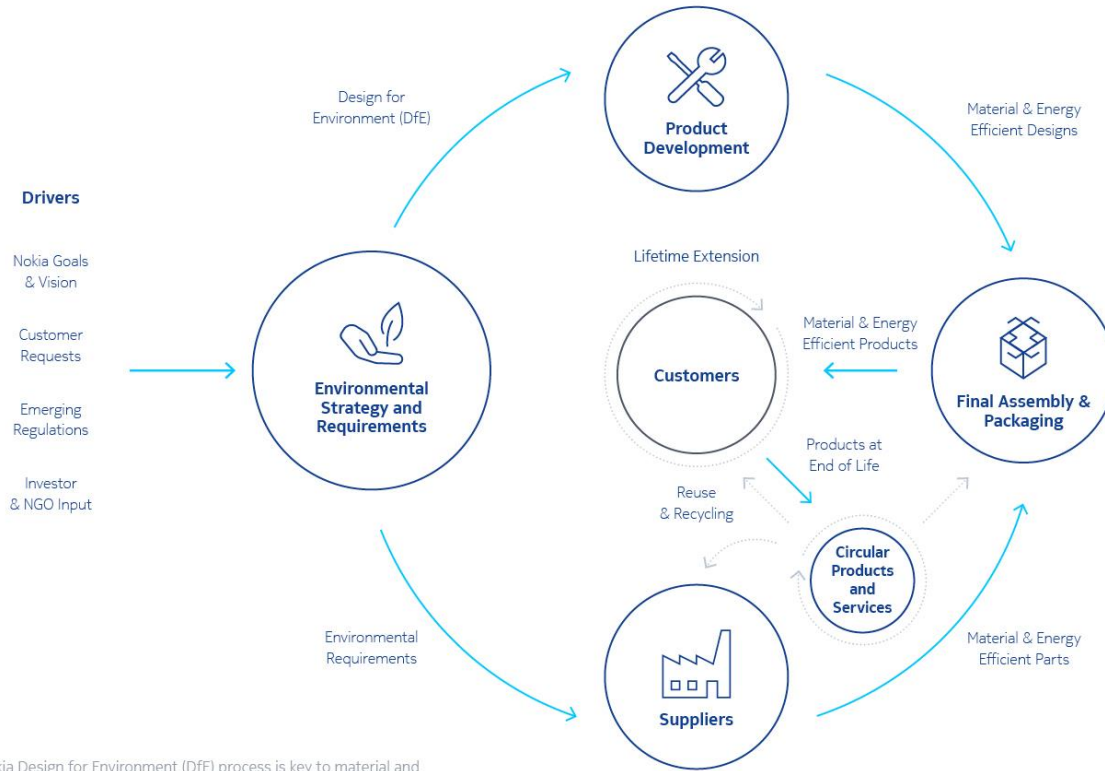
Emission source	Metric tons CO ₂ e	% of total	
Energy use in facilities and by fleet	379 900	1%	Our Scope 1 and 2 emissions
Use of sold products	32 420 000	90%	
Purchased goods and services	2 487 400	7%	Our Scope 3 emissions
Capital goods	380 200	1%	
Upstream transportation and distribution	255 200	0.7%	
Employee commuting	39 000	0.1%	
Business air travel	13 300	0.0%	

Percentages calculated out of reported, relevant GHG emissions.



Design for Environment

Product design for environment



Nokia Design for Environment (DfE) process is key to material and energy efficient product development and the circular economy.

Our achievements – energy efficiency

- The new FP5 network processor drives down power consumption per bit by 75% in IP networks compared to previous generations
- In November 2021, we announced our aim to purchase 100% electricity from renewable sources by 2025. In 2020, 39 percent of total purchased electricity was from renewable sources.
- Our Quillion chipset for fixed broadband can provide 50+% higher energy efficiency than previous generations
- 5G liquid-cooled base station with Elisa, Finland and KDDI Japan
- We began our inaugural CO2 neutral airfreight shipments in November 2021
- Study with Telefónica showed 5G networks were up to 90% more energy efficient per traffic unit than legacy 4G networks.
- Launched Nokia AVA Energy Efficiency service, applying AI to the energy consumption challenge
- In 2020, we reduced emissions from our facilities by over 19%

50%

Reduction in 5G Base Station power consumption on average by 2023

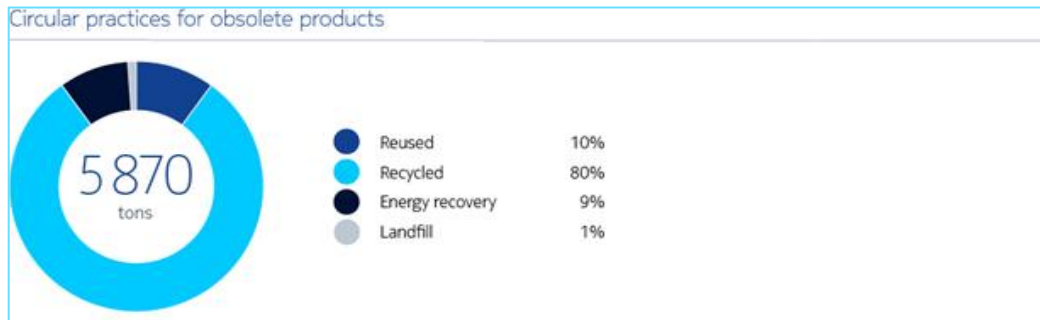
54%

Less energy was used on average by the networks we modernized in 2020 compared to those not modernized.

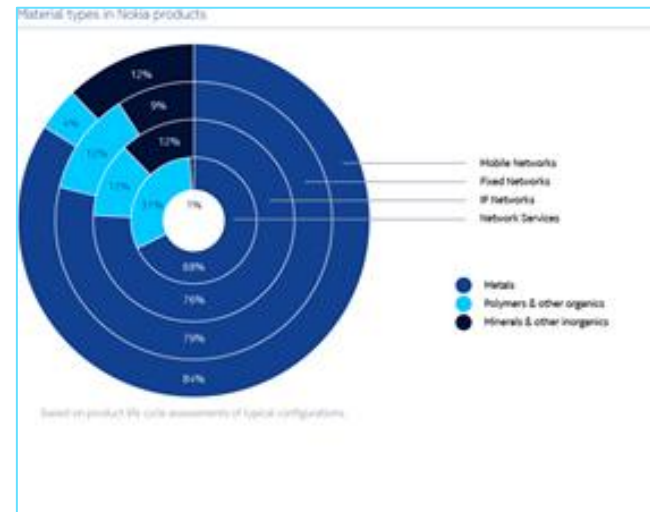
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listed by CDP in the climate change category December 2021

Our achievements – circularity



- 25 years of well-established circular practices using full value of products.
- Steps to improve use of recycled material content in our products.
- In 2021 first circular products frame agreement with Orange
- Contributed to creating telecommunications-specific circular economy standards in the ITU-T and ETSI.



1600

metric tons reduced use
new packaging materials
by reusing transportation
packaging.

85%

of our packaging is
already renewable

54%

of the 23 200 metric tons
of cast aluminium parts
used in Nokia products in
2020 have recycled
content in them.

Our latest recognitions



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FTSE4Good



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We create the technology to connect the world

<https://www.nokia.com/about-us/sustainability/>