



CORE-S5 LCA

Summary note



GOAL OF THE STUDY

A Life Cycle Assessment (LCA) was carried out, in accordance with ISO 14040 and ISO 14044, to evaluate the environmental impact of the CORE S5 model. This study was critically reviewed by an independent third-party company.

TECHNICAL SPECIFICATIONS	
Model	CORE S5
Dimension	140 x 62 x 14,4mm
Screen	2,4" (4/3)
Weight	Featurephone : 146g Packaging : 68g

METHODOLOGY

The functional unit of the life-cycle assessment defines the level of service provided by the product on which the study is based. The functional unit for the CORE-S5 study is as follows: To provide services to an end-user on a mobile used according to a usage scenario in France for 3 years.

The entire CORE S5 life cycle is covered by the study:

- Production and Assembly (from raw material extraction to component assembly)
- Distribution
- Usage
- End-of-life (including recycling and/or reconditioning)

The scope of the study includes the CORE-S5 and the contents of its box: USB-C/USB-C CABLE, PACKAGING, NOTICE, and SIM card ejector.

BASIS OF CALCULATION	
Standards	ISO 14040: 2006 114044 :2006
Database	Ecoinvent 3.9.1
Impact analysis methods	Attributional LCA, using the "cut-off" inventory method
LCA Software	Gabi « LCA for Experts » version 10

— Production and Assembly

To verify the order of magnitude of the modeled data (component and material masses making up the smartphone), we carried out a double verification of the data for this phase, the most impactful in the phone's life cycle:

- Weighing of the different components, carried out at X-LAB, Crosscall's internal R&D laboratory
- Validation of the content of critical materials by an external laboratory, by grinding a phone and analyzing its content of precious metals (such as gold, silver, platinum, palladium, etc.) as well as rare earth elements (praseodymium, neodymium, gallium, yttrium, etc.)

For this model, if a customer returns the phone due to a malfunction or defect, it is not repaired but replaced with a new device. The number of phones affected by this «SWAP» has been estimated based on statistics provided by our After-Sales Service for previous models.

To simplify, the impact of manufacturing the new phones has been included in the production and assembly phase.

— Distribution

Distribution phase covers the routing of components to the assembly plant, the transport stage from final assembly to China, then to packaging centers in China, and finally to end customers in France.

— Use phase

Use phase considers the energy consumption required to recharge the smartphone over the 3 years defined for the chosen functional unit. This energy consumption has been estimated by calculating the consumption based on the known professional and private use of our smartphones, reduced to the capacity of the CORE-S5 battery

— End-of-life

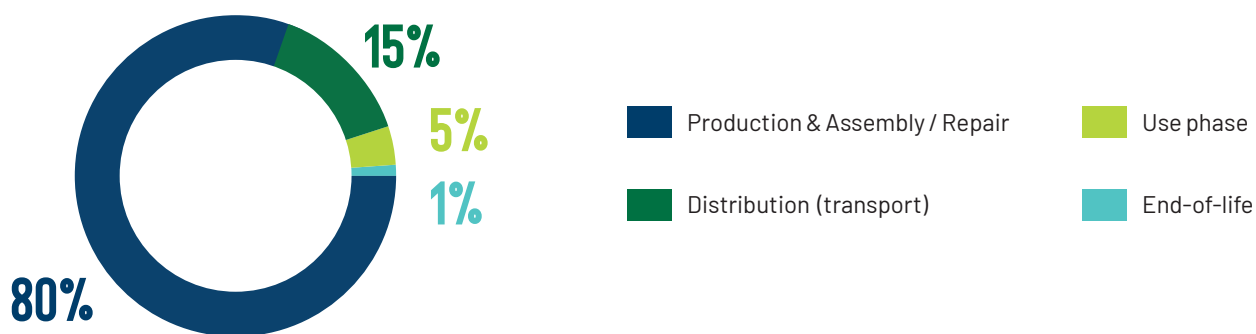
End-of-life and recycling data are based on average data from the Ecoinvent database, as it was difficult to collect data for this phase, which has less impact than the rest of the life cycle.

| LIMITS OF STUDY

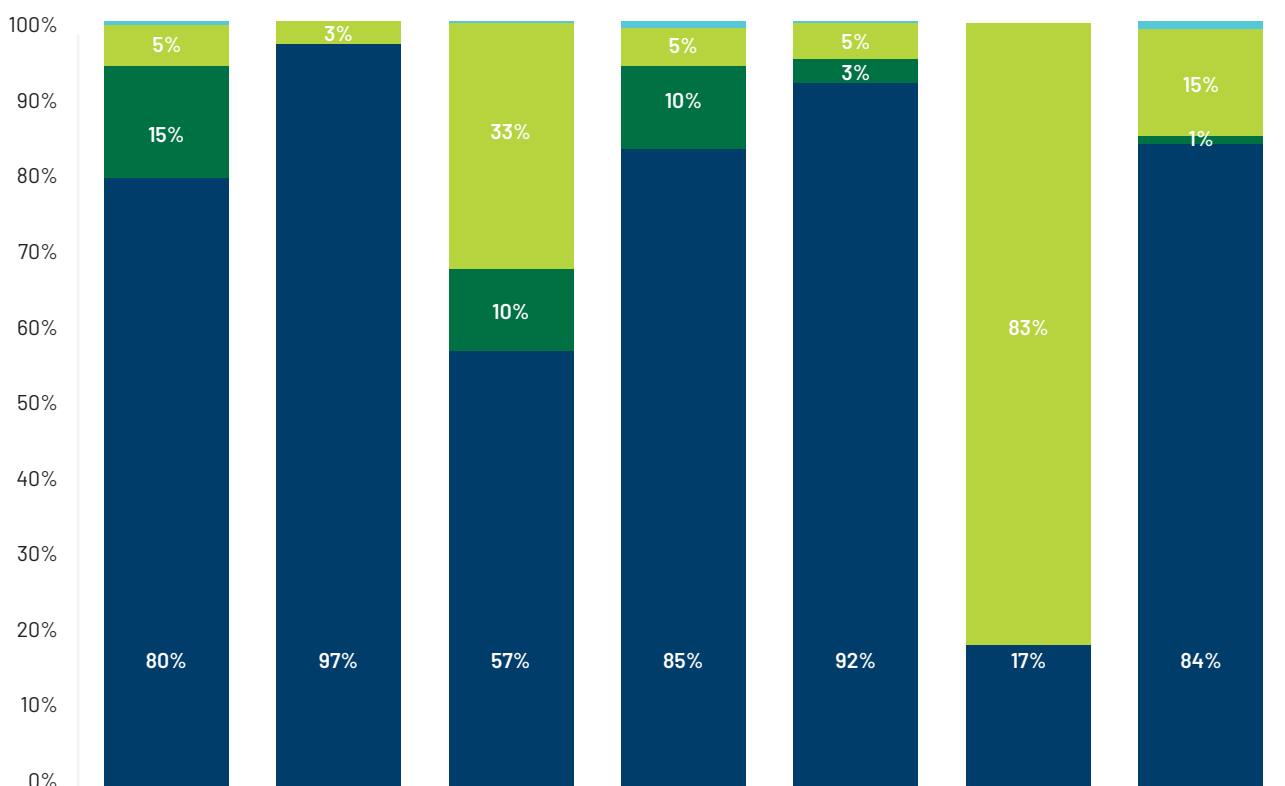
For the environmental impact modeling, uncertainties arise from the collected data, the assumptions made, and the databases used. To minimize these uncertainties, particular attention was paid to verifying the data from the manufacturing phase—which accounts for most impacts—and an independent critical review was conducted to validate the consistency of the study.

LCA MAIN RESULTS

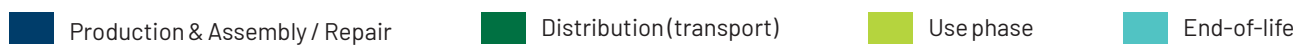
Climate change impact by life cycle phase



Environnemental impact of a CORE S5 by life cycle phase



Climat change	Resource use (mineral and metals)	Resource use (fossils)	Acidification	Particulate matter	Ionising radiation (human health)	Water use
kgCO2eq	kgSbeq	MJ	molH+	Disease incidences	kBq U235 eq.	m ³ world equiv.
14,6	0,001	283,8	0,09	8,6E-07	5,1	7,9



*We have followed [ADEME's recommendations](#) for selecting the environmental impacts to be assessed.