

ENVIRONMENTAL PRODUCT DECLARATION



CERTIFIED ENVIRONMENTAL PRODUCT DECLARATION

S-P-00153

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Programme: The International EPD® System

Programme Operator: EPD International AB

Validated Environmental Product Declaration in compliance with ISO 14025

UN CPC code: 4993 Group 499 Other transport equipment and parts thereof

Geographic area: Europe

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1 CLEANING TROLLEY



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2**PRESENTATION OF THE COMPANY AND THE SERVICE***Description of the company***COMPANY**

Name: FALPI SRL

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Number of employees: 15

**CERTIFICATIONS**

- Certified Quality System according to **UNI EN ISO 9001**, certification n° 10033/03/S issued by RINA SPA;
- Environmental Management System certified according to **UNI EN ISO 14001**, certification n° EMS-1318 issued by RINA SPA;
- Company ethical and social management system, certified according to SA 8000 standard, certification n° SA-54 issued by RINA SPA.

Established in 1987 and located in Ponzzone, in the Municipality of Valdilana, FALPI SRL asserted itself as one of the most dynamic and innovative companies in the field of the production of items for industrial cleaning. The company is located in an industrial district mainly composed of textile businesses with special reference to the production of clothing textiles. Wide product range, production flexibility, quality of the service and quick delivery times are the principal features that characterise the company.

With its two textile and mechanical production lines FALPI SRL offers Companies, hospitals and Public areas more than 1000 items that cover all the areas and meet all the requirements of industrial cleaning: from completely equipped cleaning trolleys to spare parts.

FALPI products are usually designed and realised in-house using automated production lines combined with manual activities in the finishing and quality control. FALPI products can be customised according to the customer needs and are mainly manufactured with recyclable materials; since the initial phases the design has taken the environmental requirements into account both in the selection of the materials as well as in the organisation of the production process.

The environmental policy and appropriate company's rules imply the introduction and use of new processes and/or changes thereof only after having carefully assessed the type of substances and energy sources necessary either to eliminate (whenever possible) or to reduce the emission level to a minimum.

FALPI SRL management has chosen to improve the characteristics of its products in terms of performance and reliability applying a transparent management of the ethics, safety and environment related aspect, in order to increase the confidence of its customers, suppliers and all those concerned.

In 2002 the company started the implementation of a Quality System in compliance with UNI EN ISO 9001. In 2004 FALPI SRL decided to extend its quality system even to the social accountability principles provided for by SA 8000 technical standard and then since 2005 it has decided to integrate the company policy with consideration of the principles for a safe and environment friendly workplace through an integrated management system conforming to ISO 14001 and OHSAS 18001 standard. Since 2008 Falpi invested in technical and economic resources to obtain a continuous improvement of the environmental efficiency, through three main projects of environmental sustainability: photovoltaic installation, EPD and Ecolabel.

2**PRESENTATION OF THE COMPANY AND THE SERVICE**

Description of the product

This EPD refers to the trolleys of the Microrapid, Smart and KUBI families listed below for a total of **73 types**.

In addition to cleaning trolley, the company manufactures other types of trolley (Mop, service, chromium-plated, Rilsan, inox, hotel, Monorapid, Rapid) and a whole range of textiles (brooms).

The trolleys, even if they have same frame and structure, can differ within the same family because they can have extra modules, such as micropensile, plastic cap, steel wheels with different diameter on the axis, etc...

All the trolleys and the different types were assessed in order to evaluate what models can be defined "similar products" according to the definition provided by GPI ver. 3.0, namely products whose impact indicators not differ more than +/-10%. This analysis let include the trolleys in 21 similar group.

This EPD shows the environmental results of 12 specific LCA studies that include **36 Microrapid trolleys, 14 Smart trolleys and 23 KUBI trolleys**.

The codes of the trolleys included in this EPD are reported in **table 1**.

Code	Model
7165110	MICROTECH MAX 1
---	MS PRO
7161041	MICRORAPID 1 BIG FOOT plastic cap
7161141	MICRORAPID 1 BIG-FOOT micropensile plastic cap
7162011	MICRORAPID 2 plastic cap
7163040	MICRORAPID COMPAT BIG-FOOT
7165210	MICROTECH MAX 2
7162040	MICRORAPID 2 BIG-FOOT
7157240	IPER BIG-FOOT
7161040	MICRORAPID 1 BIG-FOOT
7161140	MICRORAPID 1 BIG-FOOT micropensile
---	MICRORAPID COMPACT BIG-FOOT MS
7162140	MICRORAPID 2 BIG-FOOT micropensile
7162141	MICRORAPID 2 BIG-FOOT micropensile plastic cap
7164040	MICRORAPID 2012 BIG-FOOT
7164041	MICRORAPID 2012 BIG-FOOT plastic cap
7164140	MICRORAPID 2012 BIG-FOOT microlift
7162010	MICRORAPID 2
7157230	IPER
7161010	MICRORAPID 1
7161110	MICRORAPID 1 micropensile
7162110	MICRORAPID 2 micropensile
7162111	MICRORAPID 2 micropensile plastic cap
7163011	MICRORAPID COMPACT PLUS
---	RK1
---	EVO
7164010	MICRORAPID 2012
7164011	MICRORAPID 2012 plastic cap
7164110	MICRORAPID 2012 micropensile
7164111	MICRORAPID 2012 micropensile plastic cap
7163010	MICRORAPID COMPACT
7161011	MICRORAPID 1 plastic cap
7161111	MICRORAPID 1 micropensile plastic cap
7162011	MICRORAPID 2 plastic cap
7148441	SMART 4 TOP BIG-FOOT
7148341	SMART 3 TOP BIG-FOOT
7148541	SMART 5 TOP BIG-FOOT

Code	Model
7148610	SMART 6
7148511	SMART 5 TOP
7148641	SMART 6 TOP BIG-FOOT
---	SMART 7
---	SMART 8
7421040	KUBI 1 PRO BIG-FOOT
7422040	KUBI 2 PRO BIG-FOOT
7422140	KUBI 2.1 PRO BIG-FOOT
7423140	KUBI 3.1 PRO BIG-FOOT
7424040	KUBI 4 PRO BIG-FOOT
7425040	KUBI 5 PRO BIG-FOOT
---	KUBI 7
---	KUBI 8
7422100	KUBI 2.1
7421000	KUBI 1
7421020	KUBI 1 PRO
7422000	KUBI 2
7422010	KUBI 2 PRO
7422110	KUBI 2.1 PRO
7424000	KUBI 4
7423010	KUBI 3 PRO
7425000	KUBI 5
7425010	KUBI 5 PRO
7424010	KUBI 4 PRO
7423110	KUBI 3.1 PRO
7423040	KUBI 3 PRO BIG-FOOT
7148111	SMART 1 TOP
7148141	SMART 1 TOP BIG-FOOT
7157110	DONATELLO
7157310	RAFFAELLO
7165010	MICROTECH NANO
7423000	KUBI 3
7423100	KUBI 3.1
---	ECOSYSTEM
---	HSIP
---	I-SYSTEM

Table 1 - Trolleys included in the EPD. In green the type of trolleys to which refer the following results

The trolleys are used for industrial cleaning and has been designed for the micro fibres use with low water and detergent consumption.

They are specifically suitable for medical sector and used as "worktable" for professional cleaning operators.

Thanks to its shape and accessories, it contains and transport all the necessary for any cleaning operation.

The trolley is delivered already assembled and unpacked, according to the means of transport used for delivery. The component materials of the trolley are shown in the following tables.

7165110 MICROTECH MAX 1	Kg
Steel	20,06
Iron	0,23
Nylon	1,83
Polyethylene	0,01
Polypropylene	8,14
PVC	0,08
POM	0,03
TPE	0,53

7162040 MICRORAPID 2 BIG-FOOT	Kg
Steel	25,4
Iron	0,23
Nylon	1,14
Polyester	0,12
Polyethylene	0,05
Polypropylene	6,86
Polyurethane	0,92
PVC	0,09
POM	0,03
TPE	0,27

7162010 MICRORAPID 2	Kg
Steel	25,12
Iron	0,22
Nylon	0,63
Polyester	0,12
Polyethylene	0,05
Polypropylene	7,14
PVC	0,09
POM	0,03
TPE	0,47

7163010 MICRORAPID COMPACT	Kg
Steel	19,92
Nylon	0,63
Polyester	0,12
Polyethylene	0,02
Polypropylene	6,55
PVC	0,08
POM	0,03
TPE	0,41

7148441 SMART 4 TOP BIG-FOOT	Kg
Steel	10,20
Iron	0,08
Nylon	1,54
Polyester	0,60
Polypropylene	5,94
Polyurethane	0,92
PVC	0,08
TPE	0,20

7148610 SMART 6	Kg
Steel	10,33
Aluminium	0,35
Iron	0,10
Nylon	0,06
Polypropylene	6,54
PVC	0,12
POM	0,53

7148641 SMART 6 TOP BIG-FOOT	Kg
Steel	9,68
Alluminium	0,35
Iron	0,05
Nylon	1,61
Polypropylene	8,08
Polyurethane	0,92
PVC	0,12
POM	0,53
TPE	0,20

7421040 KUBI 1 PRO BIG-FOOT	Kg
Steel	5,35
Alluminium	3,62
Iron	0,05
Brass	0,05
ABS	3,09
Nylon	1,03
Polyester	9,16
Polyethylene	0,01
Polypropylene	10,85
Polyurethane	0,92
PVC	0,09
POM	0,48
TPE	0,20

7422100 KUBI 2.1	Kg
Steel	6,37
Alluminium	3,62
Iron	0,10
Brass	0,08
ABS	2,97
Nylon	0,03
Polyester	9,13
Polyethylene	0,01
Polypropylene	10,84
PVC	0,09
POM	0,50
TPE	0,00

7424000 KUBI 4	Kg
Steel	6,71
Alluminium	2,76
Iron	0,12
Brass	0,03
ABS	2,14
Nylon	0,01
Polyester	5,22
Polyethylene	0,01
Polypropylene	8,73
PVC	0,13
POM	0,71
TPE	0,01

7425010 KUBI 5 PRO	Kg
Steel	5,55
Alluminium	2,76
Iron	0,10
Brass	0,05
ABS	2,03
Nylon	1,20
Polyester	5,22
Polyethylene	0,01
Polypropylene	11,13
PVC	0,13
POM	0,78
TPE	0,51

7148111 SMART 1 TOP	Kg
Steel	8,22
Alluminium	0,35
Iron	0,10
Nylon	0,65
Polypropylene	5,80
PVC	0,13
POM	0,53

7148141 SMART 1 TOP BIG-FOOT	Kg
Steel	7,57
Alluminium	0,35
Iron	0,05
Nylon	1,61
Polypropylene	6,02
Polyurethane	0,92
PVC	0,13
POM	0,53
TPE	0,20

7157110 DONATELLO	Kg
Steel	16,00
Nylon	0,63
Polyester	0,12
Polyethylene	0,02
Polypropylene	5,66
PVC	0,09
POM	0,03
TPE	0,46

7157310 RAFFAELLO	Kg
Steel	14,12
Alluminium	0,35
Nylon	0,63
Polyester	0,12
Polyethylene	0,01
Polypropylene	5,65
PVC	0,12
POM	0,56
TPE	0,40

7165010 MICROTECH NANO	Kg
Steel	15,06
Iron	0,19
Nylon	1,42
Polypropylene	6,34
POM	0,03
TPE	0,43

7423000 KUBI 3	Kg
Steel	5,79
Alluminium	2,41
Iron	0,10
Brass	0,05
ABS	2,03
Nylon	0,02
Polyester	5,22
Polyethylene	0,02
Polypropylene	10,18
POM	0,33
PVC	0,09

7423100 KUBI 3.1	Kg
Steel	9,55
Alluminium	2,41
Iron	0,12
Brass	0,05
ABS	2,03
Nylon	0,02
Polyester	5,22
Polyethylene	0,02
Polypropylene	10,21
POM	0,33
PVC	0,09
TPE	0,04

--- ECOSYSTEM	Kg
Steel	24,17
Iron	0,01
Nylon	2,15
Polyethylene	0,05
Polypropylene	5,81
Polyurethane	0,92
POM	0,03
PVC	0,11
TPE	0,20

--- HSIP	Kg
Steel	21,27
Alluminium	1,37
Brass	0,03
Nylon	0,66
Polyethylene	0,02
Polypropylene	6,43
POM	0,03
PVC	0,08
TPE	0,40

--- I-SYSTEM	Kg
Steel	17,47
Alluminium	1,37
Iron	0,01
Brass	0,03
Nylon	1,17
Polyethylene	0,03
Polypropylene	5,15
Polyurethane	0,92
POM	0,03
PVC	0,11
TPE	0,20

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ENVIRONMENTAL PERFORMANCE DECLARATION

Methodology

This EPD has been prepared in compliance with the requirements provided for by the General Programme instructions for Environmental Product Declarations, by PCR 2008:7 ver. 3.0, by ISO 14025 and ISO 14040 standards.

The environmental performance has been identified and quantified using the Life Cycle Analysis method (LCA).

Aim of this EPD is the assessment of the environmental impact related to the production of Microrapid and Smart trolleys. This EPD is destined to customers, employees, service and material suppliers, contractors and community.

THE FUNCTIONAL UNIT OF THE STUDY IS 1 TROLLEY

The data used in this study have been divided into specific data, selected generic data and proxy generic data. Specific data have been collected at FALPI SRL factory and refer to 2015 for Microrapid and Smart trolleys and to 2019 for the KUBI trolleys.

The environmental impact caused by other generic data was less than 2% of the total environmental impact in all the categories taken into consideration in this EPD.

The calculation method used to produce this study is Simapro ver. 9.

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ENVIRONMENTAL PERFORMANCE DECLARATION

System boundaries

The boundaries of the analysed system, in compliance with PCR 2008:7 ver. 3.0, included the following life cycle phases:

— **UP-STREAM PROCESSES:**

corresponding to the production of the component raw materials of the trolley (such as steel, plastic...). It's included the transport of the materials to the manufacturing plants, where the components are produced.

— **CORE MODULE:**

corresponding to the manufacture of Microrapid trolley at the factory, including the component transport to the assembling factory (Falpi) and the packaging.

— **DOWN-STREAM PROCESSES:**

corresponding to the vehicle transport of the finished product to the end customer, the maintenance of the trolley under use, the end of life of the product and of the packaging waste.

Every single trolley is realised using the mechanical process shown in **figure 1**.

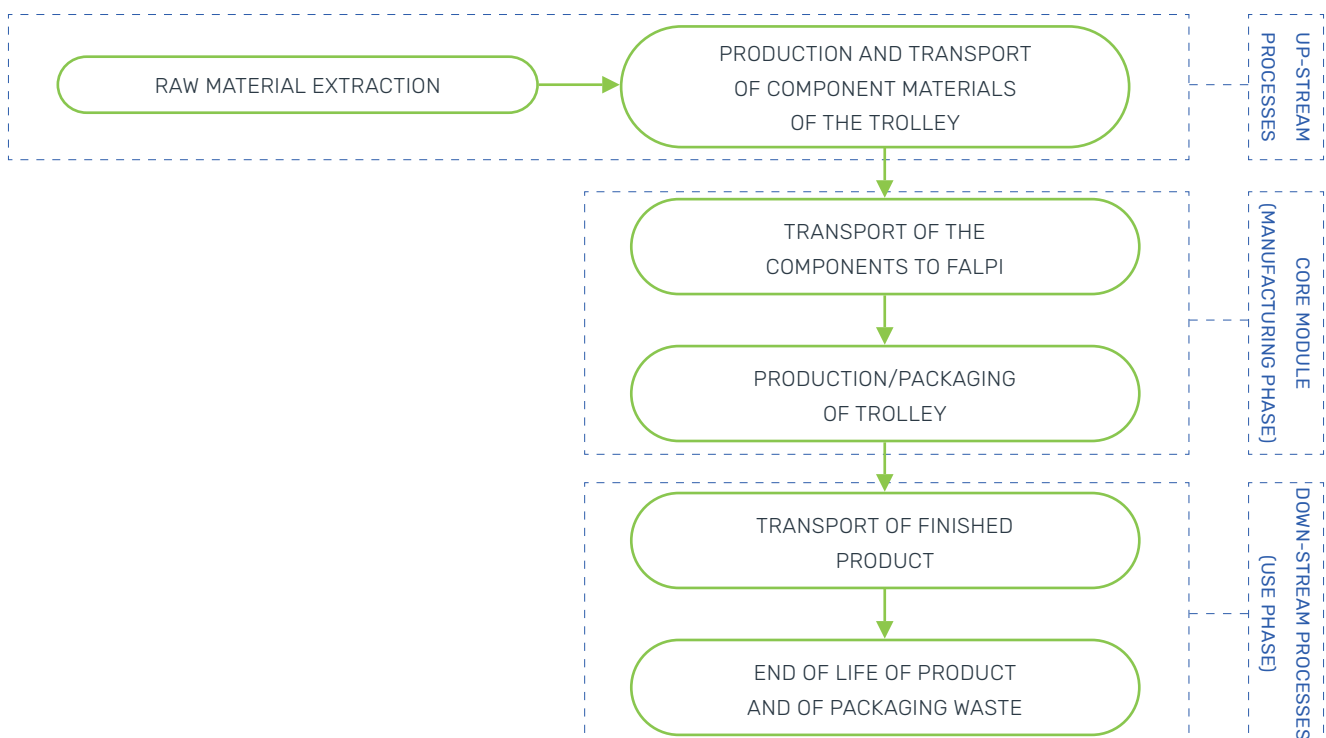


Figure 1 - Flow chart of the Life Cycle of the trolley

The environmental results related to the functional unit (1 trolley) are reported below.

7165110 - MICROTECH MAX 1

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	120,99	17,46	3,88	142,33
	Biogenic	kg CO ₂ eq	3,82	1,22	0,01	5,05
	Land use and land transformation	kg CO ₂ eq	0,06	0,01	< 0,01	0,07
	TOTALE	kg CO₂ eq	124,87	18,70	3,89	147,45
Acidification Potential (AP)		kg SO ₂ eq	0,57	0,03	0,01	0,61
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,06	< 0,01	< 0,01	0,07
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,42	0,03	0,02	0,47
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.621,07	268,91	55,78	1.945,76
Water Scarcity (WSI)		m ³ eq	32,91	0,68	0,11	33,71

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	247,84	23,71	0,15	271,70
	Use as raw material	MJ, net calorific value	24,28	13,48	0,05	37,81
	TOTALE	MJ, net calorific value	272,11	37,19	0,21	309,51
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.074,42	307,35	59,53	1.441,30
	Use as raw material	MJ, net calorific value	803,34	0,70	< 0,01	804,04
	TOTALE	MJ, net calorific value	1.877,76	308,05	59,53	2.245,34
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,96	0,03	0,01	1,00

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	21,68	21,68

7162040 - MICRORAPID 2 BIG-FOOT

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	140,88	17,63	3,88	162,39
	Biogenic	kg CO ₂ eq	4,89	1,22	0,01	6,12
	Land use and land transformation	kg CO ₂ eq	0,07	0,01	< 0,01	0,09
	TOTALE	kg CO ₂ eq	145,84	18,87	3,89	168,59
Acidification Potential (AP)		kg SO ₂ eq	0,69	0,03	0,01	0,73
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,07	< 0,01	< 0,01	0,08
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,51	0,03	0,02	0,55
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.764,27	271,34	55,78	2.091,39
Water Scarcity (WSI)		m ³ eq	33,35	0,69	0,11	34,15

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	314,51	23,71	0,15	338,37
	Use as raw material	MJ, net calorific value	31,01	13,48	0,05	44,55
	TOTALE	MJ, net calorific value	345,52	37,20	0,21	382,92
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.415,56	309,94	59,53	1.785,04
	Use as raw material	MJ, net calorific value	630,87	0,70	< 0,01	631,56
	TOTALE	MJ, net calorific value	2.046,43	310,63	59,53	2.416,60
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,99	0,03	0,01	1,03

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	33,32	33,32

7162010 - MICRORAPID 2

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	131,47	17,58	3,88	152,93
	Biogenic	kg CO ₂ eq	4,89	1,22	0,01	5,92
	Land use and land transformation	kg CO ₂ eq	0,07	0,01	< 0,01	0,08
	TOTALE	kg CO ₂ eq	136,23	18,82	3,89	158,93
Acidification Potential (AP)		kg SO ₂ eq	0,65	0,03	0,01	0,69
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,06	< 0,01	< 0,01	0,07
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,47	0,03	0,02	0,52
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.639,21	270,62	55,78	1.965,61
Water Scarcity (WSI)		m ³ eq	25,47	0,69	0,11	26,27

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	306,23	23,71	0,15	330,10
	Use as raw material	MJ, net calorific value	30,22	13,48	0,05	43,76
	TOTALE	MJ, net calorific value	336,46	37,20	0,21	373,86
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.301,58	309,17	59,53	1.670,29
	Use as raw material	MJ, net calorific value	590,11	0,70	< 0,01	590,80
	TOTALE	MJ, net calorific value	1.891,69	309,87	59,53	2.261,09
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,77	0,03	0,01	0,81

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	0,00	0,00	0,00	0,00
Components for reuse	kg	< 0,01	< 0,01	< 0,01	< 0,01
Material for recycling	kg	< 0,01	< 0,01	32,07	32,07

7163010 - MICRORAPID COMPACT

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	106,99	17,34	3,88	128,20
	Biogenic	kg CO ₂ eq	3,73	1,22	0,01	4,96
	Land use and land transformation	kg CO ₂ eq	0,06	0,01	< 0,01	0,07
	TOTALE	kg CO ₂ eq	110,77	18,57	3,89	133,23
Acidification Potential (AP)		kg SO ₂ eq	0,52	0,03	0,01	0,56
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,05	< 0,01	< 0,01	0,06
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,38	0,03	0,02	0,43
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.373,78	267,11	55,78	1.696,68
Water Scarcity (WSI)		m ³ eq	21,94	0,68	0,11	22,73

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	243,45	23,70	0,15	267,30
	Use as raw material	MJ, net calorific value	23,99	13,48	0,05	37,53
	TOTALE	MJ, net calorific value	267,44	37,18	0,21	304,83
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.039,82	305,43	59,53	1.404,78
	Use as raw material	MJ, net calorific value	545,53	0,70	< 0,01	546,23
	TOTALE	MJ, net calorific value	1.585,35	306,12	59,53	1.951,01
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,66	0,03	0,01	0,70

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	25,96	25,96

7148441 - SMART 4 TOP BIG-FOOT

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	76,64	16,51	3,88	97,03
	Biogenic	kg CO ₂ eq	2,17	0,95	0,01	3,13
	Land use and land transformation	kg CO ₂ eq	0,03	0,01	< 0,01	0,04
	TOTALE	kg CO ₂ eq	78,84	17,47	3,89	100,19
Acidification Potential (AP)		kg SO ₂ eq	0,35	0,02	0,01	0,39
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,04	< 0,01	< 0,01	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,27	0,02	0,02	0,31
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.132,19	255,87	55,78	1.443,85
Water Scarcity (WSI)		m ³ eq	27,56	0,56	0,11	28,23

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	133,51	18,92	0,15	152,58
	Use as raw material	MJ, net calorific value	13,21	10,35	0,05	23,62
	TOTALE	MJ, net calorific value	146,72	29,27	0,21	176,20
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	709,25	292,31	59,53	1.061,09
	Use as raw material	MJ, net calorific value	610,11	0,53	< 0,01	610,64
	TOTALE	MJ, net calorific value	1.319,36	292,84	59,53	1.671,73
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,79	0,02	0,01	0,82

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	17,77	17,77

7421040 - KUBI 1 PRO BIG-FOOT

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	114,21	18,77	7,19	140,16
	Biogenic	kg CO ₂ eq	2,31	2,49	0,01	4,81
	Land use and land transformation	kg CO ₂ eq	0,11	0,03	< 0,01	0,13
	TOTALE	kg CO ₂ eq	116,62	21,29	7,20	145,11
Acidification Potential (AP)		kg SO ₂ eq	0,48	0,04	0,03	0,55
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,06	0,01	< 0,01	0,07
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,39	0,03	0,03	0,46
Abiotic depletion potential - Elements		kg Sb eq	0,01	< 0,01	< 0,01	0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	2.182,37	284,33	103,35	2.570,05
Water Scarcity (WSI)		m ³ eq	50,92	1,04	0,21	52,16

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	113,11	44,07	0,28	157,46
	Use as raw material	MJ, net calorific value	14,69	27,79	0,10	42,58
	TOTALE	MJ, net calorific value	127,80	71,86	0,38	200,05
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.336,07	327,17	110,29	1.773,54
	Use as raw material	MJ, net calorific value	1.178,23	0,52	< 0,01	1.178,74
	TOTALE	MJ, net calorific value	2.514,30	327,69	110,29	2.952,28
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	1,42	0,05	0,01	1,48

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	0,01	< 0,01	< 0,01	0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	33,31	33,31

7422100 - KUBI 2.1

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	104,83	18,72	7,19	130,73
	Biogenic	kg CO ₂ eq	2,30	2,49	0,01	4,80
	Land use and land transformation	kg CO ₂ eq	0,11	0,03	< 0,01	0,13
	TOTALE	kg CO ₂ eq	107,23	21,24	7,20	135,67
Acidification Potential (AP)		kg SO ₂ eq	0,46	0,04	0,03	0,52
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,05	0,01	< 0,01	0,07
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,36	0,03	0,03	0,43
Abiotic depletion potential - Elements		kg Sb eq	0,01	< 0,01	< 0,01	0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	2.005,44	283,68	103,35	2.392,47
Water Scarcity (WSI)		m ³ eq	39,09	1,04	0,21	40,33

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	118,84	44,07	0,28	163,19
	Use as raw material	MJ, net calorific value	15,21	27,79	0,10	43,10
	TOTALE	MJ, net calorific value	134,06	71,86	0,38	206,30
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.253,41	326,47	110,29	1.690,18
	Use as raw material	MJ, net calorific value	1.043,78	0,52	< 0,01	1.044,30
	TOTALE	MJ, net calorific value	2.297,19	326,99	110,29	2.734,48
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	1,10	0,05	0,01	1,15

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	0,01	< 0,01	< 0,01	0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	31,96	31,96

7423000 - KUBI 3

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	80,46	18,42	7,19	106,07
	Biogenic	kg CO ₂ eq	1,79	2,49	0,01	4,29
	Land use and land transformation	kg CO ₂ eq	0,07	0,03	< 0,01	0,10
	TOTALE	kg CO ₂ eq	82,32	20,94	7,20	110,46
Acidification Potential (AP)		kg SO ₂ eq	0,35	0,03	0,03	0,41
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,04	0,01	0,00	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,28	0,03	0,03	0,35
Abiotic depletion potential - Elements		kg Sb eq	0,01	< 0,01	< 0,01	0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.543,74	279,35	103,35	1.926,43
Water Scarcity (WSI)		m ³ eq	27,75	1,03	0,21	28,98

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	97,53	44,06	0,28	141,86
	Use as raw material	MJ, net calorific value	11,52	27,78	0,10	39,41
	TOTALE	MJ, net calorific value	109,05	71,84	0,38	181,27
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	857,81	321,86	110,29	1.289,96
	Use as raw material	MJ, net calorific value	910,37	0,52	< 0,01	910,89
	TOTALE	MJ, net calorific value	1.768,18	322,38	110,29	2.200,85
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,78	0,05	0,01	0,84

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	0,01	< 0,01	< 0,01	0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	24,43	24,43

7423100 - KUBI 3.1

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	97,05	18,58	7,19	122,81
	Biogenic	kg CO ₂ eq	2,47	2,49	0,01	4,97
	Land use and land transformation	kg CO ₂ eq	0,08	0,03	< 0,01	0,11
	TOTALE	kg CO ₂ eq	99,60	21,09	7,20	127,90
Acidification Potential (AP)		kg SO ₂ eq	0,44	0,03	0,03	0,50
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,05	0,01	< 0,01	0,06
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,34	0,03	0,03	0,41
Abiotic depletion potential - Elements		kg Sb eq	0,01	< 0,01	< 0,01	0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.705,70	281,57	103,35	2.090,61
Water Scarcity (WSI)		m ³ eq	29,96	1,03	0,21	31,20

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	142,57	44,06	0,28	186,92
	Use as raw material	MJ, net calorific value	16,00	27,79	0,10	43,89
	TOTALE	MJ, net calorific value	158,58	71,85	0,38	230,81
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.042,46	324,22	110,29	1.476,98
	Use as raw material	MJ, net calorific value	912,80	0,52	< 0,01	913,31
	TOTALE	MJ, net calorific value	1.955,26	324,74	110,29	2.390,29
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,85	0,05	0,01	0,91

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	0,01	< 0,01	< 0,01	0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	28,29	28,29

7424000 - KUBI 4

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	84,85	18,44	7,19	110,48
	Biogenic	kg CO ₂ eq	1,96	2,49	0,01	4,46
	Land use and land transformation	kg CO ₂ eq	0,08	0,03	< 0,01	0,11
	TOTALE	kg CO ₂ eq	86,90	20,95	7,20	115,05
Acidification Potential (AP)		kg SO ₂ eq	0,38	0,03	0,03	0,44
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,04	0,01	< 0,01	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,30	0,03	0,03	0,36
Abiotic depletion potential - Elements		kg Sb eq	0,01	< 0,01	< 0,01	0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.537,28	279,56	103,35	1.920,18
Water Scarcity (WSI)		m ³ eq	32,39	1,03	0,21	33,63

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	109,86	44,06	0,28	154,20
	Use as raw material	MJ, net calorific value	12,84	27,78	0,10	40,72
	TOTALE	MJ, net calorific value	122,69	71,84	0,38	194,92
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	942,95	322,08	110,29	1.375,32
	Use as raw material	MJ, net calorific value	818,42	0,52	< 0,01	818,94
	TOTALE	MJ, net calorific value	1.761,37	322,60	110,29	2.194,25
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,90	0,05	0,01	0,96

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	0,01	< 0,01	< 0,01	0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	24,79	24,79

7425010 - KUBI 5 PRO

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	95,45	18,55	7,19	121,19
	Biogenic	kg CO ₂ eq	1,87	2,49	0,01	4,38
	Land use and land transformation	kg CO ₂ eq	0,08	0,03	< 0,01	0,11
	TOTALE	kg CO ₂ eq	97,40	21,07	7,20	125,67
Acidification Potential (AP)		kg SO ₂ eq	0,41	0,03	0,03	0,47
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,05	0,01	< 0,01	0,06
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,33	0,03	0,03	0,39
Abiotic depletion potential - Elements		kg Sb eq	0,01	< 0,01	< 0,01	0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.810,33	281,21	103,35	2.194,89
Water Scarcity (WSI)		m ³ eq	44,26	1,03	0,21	45,49

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	100,64	44,06	0,28	144,98
	Use as raw material	MJ, net calorific value	12,12	27,79	0,10	40,01
	TOTALE	MJ, net calorific value	112,76	71,85	0,38	184,99
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	958,14	323,84	110,29	1.392,27
	Use as raw material	MJ, net calorific value	1.125,48	0,52	< 0,01	1.125,99
	TOTALE	MJ, net calorific value	2.083,62	324,36	110,29	2.518,27
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	1,22	0,05	0,01	1,28

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	0,01	< 0,01	< 0,01	0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	27,67	27,67

ECO SYSTEM

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	140,86	17,56	3,88	162,30
	Biogenic	kg CO ₂ eq	4,67	1,22	0,01	5,90
	Land use and land transformation	kg CO ₂ eq	0,07	0,01	< 0,01	0,08
	TOTALE	kg CO ₂ eq	145,59	18,80	3,89	168,28
Acidification Potential (AP)		kg SO ₂ eq	0,68	0,03	0,01	0,72
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,08	< 0,01	< 0,01	0,08
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,50	0,03	0,02	0,54
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.742,47	270,38	55,78	2.068,63
Water Scarcity (WSI)		m ³ eq	40,23	0,68	0,11	41,03

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	300,05	23,71	0,15	323,92
	Use as raw material	MJ, net calorific value	29,40	13,48	0,05	42,94
	TOTALE	MJ, net calorific value	329,46	37,19	0,21	366,86
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.348,72	308,92	59,53	1.717,17
	Use as raw material	MJ, net calorific value	680,06	0,70	< 0,01	680,76
	TOTALE	MJ, net calorific value	2.028,78	309,61	59,53	2.397,93
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	1,18	0,03	0,01	1,21

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	31,65	31,65

HSIP

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	117,39	17,44	3,88	138,71
	Biogenic	kg CO ₂ eq	4,07	1,22	0,01	5,30
	Land use and land transformation	kg CO ₂ eq	0,09	0,01	< 0,01	0,10
	TOTALE	kg CO ₂ eq	121,55	18,67	3,89	144,11
Acidification Potential (AP)		kg SO ₂ eq	0,59	0,03	0,01	0,63
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,06	< 0,01	< 0,01	0,07
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,43	0,03	0,02	0,47
Abiotic depletion potential - Elements		kg Sb eq	0,01	< 0,01	< 0,01	0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.467,03	268,56	55,78	1.791,38
Water Scarcity (WSI)		m ³ eq	24,45	0,68	0,11	25,24

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	266,61	23,71	0,15	290,46
	Use as raw material	MJ, net calorific value	26,71	13,48	0,05	40,24
	TOTALE	MJ, net calorific value	293,31	37,19	0,21	330,71
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.155,16	306,98	59,53	1.521,67
	Use as raw material	MJ, net calorific value	540,72	0,70	< 0,01	541,42
	TOTALE	MJ, net calorific value	1.695,88	307,67	59,53	2.063,09
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,75	0,03	0,01	0,78

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	0,01	< 0,01	< 0,01	0,01
Non-hazardous waste disposed	kg	0,00	1,09	0,00	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	28,49	28,49

I-SYSTEM

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	107,04	17,29	3,88	128,21
	Biogenic	kg CO ₂ eq	3,53	1,22	0,01	4,76
	Land use and land transformation	kg CO ₂ eq	0,08	0,01	< 0,01	0,09
	TOTALE	kg CO ₂ eq	110,65	18,52	3,89	133,06
Acidification Potential (AP)		kg SO ₂ eq	0,53	0,03	0,01	0,57
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,06	< 0,01	< 0,01	0,07
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,39	0,03	0,02	0,43
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.358,28	266,38	55,78	1.680,44
Water Scarcity (WSI)		m ³ eq	29,68	0,68	0,11	30,46

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	225,72	23,70	0,15	249,57
	Use as raw material	MJ, net calorific value	22,68	13,48	0,05	36,21
	TOTALE	MJ, net calorific value	248,40	37,18	0,21	285,79
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	1.068,68	304,65	59,53	1.432,86
	Use as raw material	MJ, net calorific value	513,18	0,70	< 0,01	513,88
	TOTALE	MJ, net calorific value	1.581,86	305,34	59,53	1.946,74
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,88	0,03	0,01	0,92

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	24,69	24,69

7148111 - SMART 1 TOP

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	57,04	16,36	3,88	77,28
	Biogenic	kg CO ₂ eq	1,61	0,95	0,01	2,56
	Land use and land transformation	kg CO ₂ eq	0,03	0,01	< 0,01	0,04
	TOTALE	kg CO ₂ eq	58,68	17,31	3,89	79,88
Acidification Potential (AP)		kg SO ₂ eq	0,27	0,02	0,01	0,31
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,03	< 0,01	< 0,01	0,04
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,20	0,02	0,02	0,24
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	855,79	253,69	55,78	1.165,27
Water Scarcity (WSI)		m ³ eq	20,55	0,56	0,11	21,22

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	104,44	18,91	0,15	123,50
	Use as raw material	MJ, net calorific value	10,08	10,35	0,05	20,48
	TOTALE	MJ, net calorific value	114,51	29,26	0,21	143,98
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	494,53	289,98	59,53	844,05
	Use as raw material	MJ, net calorific value	492,92	0,53	< 0,01	493,44
	TOTALE	MJ, net calorific value	987,45	290,51	59,53	1.337,49
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,57	0,02	0,01	0,60

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	13,97	13,97

7148141 - SMART 1 TOP BIG-FOOT

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	67,86	16,42	3,88	88,16
	Biogenic	kg CO ₂ eq	1,70	0,95	0,01	2,65
	Land use and land transformation	kg CO ₂ eq	0,03	0,01	< 0,01	0,04
	TOTALE	kg CO ₂ eq	69,60	17,38	3,89	90,86
Acidification Potential (AP)		kg SO ₂ eq	0,31	0,02	0,01	0,34
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,04	< 0,01	< 0,01	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,23	0,02	0,02	0,27
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.051,32	254,61	55,78	1.361,71
Water Scarcity (WSI)		m ³ eq	32,47	0,56	0,11	33,14

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	103,64	18,92	0,15	122,71
	Use as raw material	MJ, net calorific value	10,18	10,35	0,05	20,58
	TOTALE	MJ, net calorific value	113,82	29,27	0,21	143,29
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	600,16	290,97	59,53	950,66
	Use as raw material	MJ, net calorific value	626,51	0,53	< 0,01	627,04
	TOTALE	MJ, net calorific value	1.226,67	291,49	59,53	1.577,69
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,90	0,02	0,01	0,93

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	0,00	0,00	0,00	0,00
Components for reuse	kg	< 0,01	< 0,01	< 0,01	< 0,01
Material for recycling	kg	< 0,01	< 0,01	15,57	15,57

7148610 - SMART 6

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	62,88	16,45	3,88	83,21
	Biogenic	kg CO ₂ eq	1,98	0,95	0,01	2,93
	Land use and land transformation	kg CO ₂ eq	0,04	0,01	< 0,01	0,05
	TOTALE	kg CO ₂ eq	64,89	17,41	3,89	86,18
Acidification Potential (AP)		kg SO ₂ eq	0,30	0,02	0,01	0,34
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,03	< 0,01	< 0,01	0,04
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,23	0,02	0,02	0,27
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	925,84	254,99	55,78	1.236,61
Water Scarcity (WSI)		m ³ eq	17,22	0,56	0,11	17,89

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	129,19	18,92	0,15	148,26
	Use as raw material	MJ, net calorific value	12,56	10,35	0,05	22,97
	TOTALE	MJ, net calorific value	141,75	29,27	0,21	171,22
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	590,82	291,37	59,53	941,72
	Use as raw material	MJ, net calorific value	472,86	0,53	< 0,01	473,39
	TOTALE	MJ, net calorific value	1.063,68	291,90	59,53	1.415,11
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,48	0,02	0,01	0,51

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	16,23	16,23

7148641 - SMART 6 TOP BIG-FOOT

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	81,23	16,59	3,88	101,70
	Biogenic	kg CO ₂ eq	2,10	0,95	0,01	3,06
	Land use and land transformation	kg CO ₂ eq	0,04	0,01	< 0,01	0,05
	TOTALE	kg CO ₂ eq	83,37	17,55	3,89	104,81
Acidification Potential (AP)		kg SO ₂ eq	0,37	0,02	0,01	0,41
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,05	< 0,01	< 0,01	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,28	0,02	0,02	0,32
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.273,82	257,01	55,78	1.586,61
Water Scarcity (WSI)		m ³ eq	34,76	0,56	0,11	35,43

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	129,82	18,92	0,15	148,89
	Use as raw material	MJ, net calorific value	12,67	10,35	0,05	23,08
	TOTALE	MJ, net calorific value	142,49	29,28	0,21	171,97
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	710,53	293,52	59,53	1.063,59
	Use as raw material	MJ, net calorific value	770,99	0,53	< 0,01	771,51
	TOTALE	MJ, net calorific value	1.481,52	294,05	59,53	1.835,10
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,97	0,02	0,01	1,00

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	19,74	19,74

7157110 - DONATELLO

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	88,20	17,15	3,88	109,22
	Biogenic	kg CO ₂ eq	3,02	1,22	0,01	4,25
	Land use and land transformation	kg CO ₂ eq	0,05	0,01	< 0,01	0,06
	TOTALE	kg CO ₂ eq	91,26	18,38	3,89	113,53
Acidification Potential (AP)		kg SO ₂ eq	0,43	0,03	0,01	0,47
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,04	< 0,01	< 0,01	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,32	0,03	0,02	0,36
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.155,67	264,37	55,78	1.475,83
Water Scarcity (WSI)		m ³ eq	19,36	0,67	0,11	20,14

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	196,38	23,70	0,15	220,23
	Use as raw material	MJ, net calorific value	19,42	13,48	0,05	32,95
	TOTALE	MJ, net calorific value	215,80	37,17	0,21	253,18
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	850,81	302,51	59,53	1.212,85
	Use as raw material	MJ, net calorific value	483,73	0,70	< 0,01	484,43
	TOTALE	MJ, net calorific value	1.334,54	303,20	59,53	1.697,28
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,58	0,03	0,01	0,61

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	21,20	21,20

7157310 - RAFFAELLO

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	83,49	17,10	3,88	104,47
	Biogenic	kg CO ₂ eq	2,71	1,22	0,01	3,94
	Land use and land transformation	kg CO ₂ eq	0,05	0,01	< 0,01	0,06
	TOTALE	kg CO ₂ eq	86,25	18,34	3,89	108,48
Acidification Potential (AP)		kg SO ₂ eq	0,41	0,03	0,01	0,45
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,04	< 0,01	< 0,01	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,30	0,03	0,02	0,34
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.125,99	263,78	55,78	1.445,56
Water Scarcity (WSI)		m ³ eq	24,62	0,67	0,11	25,40

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	176,19	23,69	0,15	200,04
	Use as raw material	MJ, net calorific value	17,50	13,48	0,05	31,03
	TOTALE	MJ, net calorific value	193,69	37,17	0,21	231,06
Primary energy resources - Non-Renevable	Use as energy carrier	MJ, net calorific value	816,60	301,88	59,53	1.178,00
	Use as raw material	MJ, net calorific value	483,23	0,70	< 0,01	483,92
	TOTALE	MJ, net calorific value	1.299,82	302,57	59,53	1.661,92
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,70	0,03	0,01	0,73

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	20,17	20,17

7165010 - MICROTECH NANO

— ENVIRONMENTAL IMPACT CATEGORIES

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Global Warming Potential (GWP)	Fossil	kg CO ₂ eq	91,67	17,16	3,88	112,72
	Biogenic	kg CO ₂ eq	2,88	1,22	0,01	4,11
	Land use and land transformation	kg CO ₂ eq	0,04	0,01	< 0,01	0,06
	TOTALE	kg CO ₂ eq	94,59	18,40	3,89	116,88
Acidification Potential (AP)		kg SO ₂ eq	0,43	0,03	0,01	0,47
Eutrophication Potential (EP)		kg PO ₄ ³⁻ eq	0,05	< 0,01	< 0,01	0,05
Formation potential of tropospheric ozone (POFP)		kg NMVOC eq	0,32	0,03	0,02	0,36
Abiotic depletion potential - Elements		kg Sb eq	< 0,01	< 0,01	< 0,01	< 0,01
Abiotic depletion potential - Fossil fuels		MJ, net calorific value	1.236,97	264,65	55,78	1.557,40
Water Scarcity (WSI)		m ³ eq	24,89	0,67	0,11	25,67

— RESOURCES CONSUMPTION

PARAMETER		UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Primary energy resources - Renewable	Use as energy carrier	MJ, net calorific value	186,30	23,70	0,15	210,15
	Use as raw material	MJ, net calorific value	18,26	13,48	0,05	31,79
	TOTALE	MJ, net calorific value	204,56	37,17	0,21	241,94
Primary energy resources - Non-Renewable	Use as energy carrier	MJ, net calorific value	810,58	302,80	59,53	1.172,92
	Use as raw material	MJ, net calorific value	621,80	0,70	< 0,01	622,50
	TOTALE	MJ, net calorific value	1.432,39	303,50	59,53	1.795,42
Secondary material		kg	< 0,01	< 0,01	< 0,01	< 0,01
Renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Non-renewable secondary fuels		MJ	< 0,01	< 0,01	< 0,01	< 0,01
Net use of fresh water		m ³	0,73	0,03	0,01	0,76

— WASTE AND OUTPUT FLOWS

PARAMETER	UNIT	UP STREAM	CORE	DOWN STREAM	TOTAL
Hazardous waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Non-hazardous waste disposed	kg	< 0,01	1,09	< 0,01	1,09
Radioactive waste disposed	kg	< 0,01	< 0,01	< 0,01	< 0,01
Components for reuse	kg	0,00	0,00	0,00	0,00
Material for recycling	kg	< 0,01	< 0,01	21,68	21,68

The waste and materials for recycling reported in the Core Module are those produced by FALPI SRL itself, which generates no hazardous waste. All types of waste relevant to the trolley production (iron, steel filings and chips) are sent to suitable recycling systems.

FALPI SRL chase to produce items that are almost totally recyclable and in particular, for the stainless steel trolleys it started a service for the collection of the product at its lifetime end: those customers who will agree to the service, will be able to return the trolleys at the end of their lifetime, subject to prior agreement with dealers/agents, FALPI SRL will provide for the collection and start the recovery operations of the components. In particular the trolleys are realised with almost exclusively recyclable materials (about 90% of the total weight of the trolley), with the exclusion of the wheels.

The average lifetime is 10 years for Smart and Microrapid trolleys and 5 years for KUBI trolleys, after such period the trolley is entirely replaced. As far as its maintenance is concerned, according to historical data no significant requests for spare parts are reported.

Ratio (%) of recycled material in the product: 0%

Ratio (%) of material in the product that can be recycled in the end of life: 90%

— UP-STREAM PROCESSES

On the basis of the final results of the LCA study, most of the environmental impacts are generated by the **Up-Stream Processes** in all the impact categories considered. The Up-Stream Processes are the processes before the gate of FALPI SRL factory, related to the supply and the choice of the components used by FALPI SRL. The environmental impacts of the Up-Stream Processes are due to the production of constituent material of the trolley's components and only the selection of the trolley components materials may reduce the impacts connected to this phase, while taking however the peculiar features of the trolley itself into account.

— CORE MODULE

The **Core Module** impacts refer to the Production phase and the relevant activities (assembling, welding, electric and raw material consumption, etc...) which are carried out directly at the factory of FALPI SRL, and include the transport of components. Considering the results, such activities have a quite relevant contribution to the environmental impacts categories. Such impacts can be minimised by adopting suitable improvement programs under the direct control of the company, including the selection of the component suppliers (in particular for the steel) and the control of the plant consumption (in particular the natural gas).

— DOWN-STREAM PROCESSES

The impacts due to **Down-Stream Processes** represent the activities carried out at the factory (distribution, maintenance, disposal, etc...). As this EPD has considered the disposal of the trolley at its end lifetime only from a quality point of view and the trolley maintenance (spare parts for the components) during its use has turned to be marginal, the result is that the total impacts of the Down-Stream Processes is almost exclusively due to the distribution of the trolley to FALPI SRL customers. A feasible improvement aimed at reducing the environmental impacts related to the trolley in the downstream could be obtained by optimising the trolley distribution, the number of delivery tours made by the vehicles, the number of the transported trolleys and by using transport vehicles with lower environmental impact.

4**INFORMATION AND REFERENCES***Information*

EPD in the same category of product, but from different programs could be not comparable.

Final results are presented per declared unit and are not related to the lifetime of the product.

Final results of products with different lifetime cannot be compared. The EPD owner has the sole ownership, liability and responsibility of the EPD

This Environmental Product Declaration and other information thereof are available on the website of "The International EPD System": www.environdec.com.

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References

- Product Category Rules for preparing an environmental product declaration for cleaning trolley for professional use (PCR 2008:07, UN CPC code: 4993), version 3.0.
- General Programme instructions for Environmental Product Declarations (The International EPD System - version 3.01, www.environdec.com).
- Lyfe Cycle Analysis (LCA) applied to Kubi, Microrapid and Smart trolleys, rev. 2 of 16/07/2020
- Ecoinvent 3.5
- PE Plastics Europe (former APME Association of Plastics Manufacturers in Europe) www.plasticseurope.org IISI (International Iron and Steel Institute) www.worldsteel.org.
- Simapro vers. 9
- ISO 14025
- ISO 14040

PCR review conducted by: **The Technical Committee of the International EPD System.**

Contact via: info@environdec.com

Reviewer Chair: **Claudia A. Pena**

Independent Verification of the declaration and data, according to ISO 14025:

☐ EPD Certification Process

☒ EPD Verification

Third part verifier: **Rina Services S.p.A. Via Corsica 12, I-16128 Genova (Italy)**

Ph.: +39 010 53851 Fax: +39 010 5351000 www.rina.org

Accredited Verifier: **ACCREDIA (Accreditation reg. n° 001H)**

Procedure for follow-up of data during EPD validity involves third party verifier:

☐ YES

☒ NO

Glossary

— GLOBAL WARMING POTENTIAL

Indicator that includes first the emission of carbon dioxide, main greenhouse gas as well as other gases with minor absorption level of infrared rays, like methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbide (CFC). The indicator is expressed on the base of the CO_2 (g CO_2) absorption level.

— ACIDIFICATION

Due to this phenomenon rainfalls have a pH lower than the standard value and may damage forests and vegetal crops as well as water ecosystems and constructions. Mainly it is the result of the emission of SO_2 , NO_x and NH_3 , which are included in the indicator Acidification Potential (AP) expressed in kg SO_2 .

— EUTROPHICATION

The accelerated growth of plants due to the presence in the water ecosystem of excessive quantities of nourishing substances like nitrogen, phosphorus or sulphur from either natural or anthropic sources and the consequent degradation of the weak environment. The EP indicator (Eutrophication Potential) is expressed in equivalent PO_4^{3-} .

— PHOTOCHEMICAL OZONE FORMATION

Production of compounds which under the light may generate an oxidation reaction that causes the production of ozone in the stratosphere. POCP Indicator (Photochemical Ozone Creation Potential) includes above all the emissions of Volatile Organic Compound (VOC) and is expressed in equivalent ethylene grams (g C₂H₄).

— LCA

Life Cycle Assessment.

— PCR

Product Category Rules.