



ASFALTART
El espíritu de las grandes obras

Environmental Product Declaration



In accordance with ISO 14025:2006 and ISO 21930:2017 standards for:

Asphalt mixtures produced by Asfaltart S.A.S. at their plant located in Girón, Santander - Colombia

Date of publication:

05-05-2025

Valid until:

05-05-2030



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Administrative Information

Certified International Environmental Product Declaration

Declared Product:	One (1) ton of asphalt mix	
Owner of the DAP:	Asfaltart S.A. S	
	Km 5 Anillo Vial, Girón-Florencia Route	
	Santander, Colombia	
	www.asfaltart.co	
LCA Study:	Casostenible S.A. S	
	Carrera 10 # 96 – 25 Oficina 408	
	Bogotá, Colombia	
	www.casostenible.com	
Program Operator:	Labeling Sustainability	
	11670 W Sunset Blvd	
	Los Angeles, CA 90049	
	www.labelingsustainability.com	
Product Category Rule (PCR):	Product Category Rules (PCR) for Asphalt Mixtures, version 2.0	
	National Asphalt Pavement Association	
	www.asphaltpavement.org/epd	
	This declaration was independently verified in accordance with the standard ISO 14025:2006.	
Independent LCA Reviewer and EPD Verifier:	Independent verification of the declaration, in accordance with the standard ISO 14025:2006.	
	Internal ☐ External ☒	
	Third-party verifier	
	Denice V. Staaf, external verifier certified under Labeling Sustainability Program (www.labelingsustainability.com)	
Date of Issue:	05 May 2025	
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Company Description

Asfaltart is a company specialized in the production, supply, and application of asphalt mixtures, located at kilometer 5 of the Anillo Vial, towards Girón-Floridablanca, in the department of Santander, Colombia. The company boasts a highly qualified team and possesses financial, technological, and infrastructural resources that support its extensive experience in the sector.

In its plant, it implements cutting-edge technologies, such as using natural gas instead of fuel oil as an energy source, aimed at minimizing the environmental impacts of its operations. By identifying and managing the most significant environmental aspects, Asfaltart is committed to continuous improvement, with the objective of reducing its ecological footprint, optimizing the use of natural resources, and protecting both natural and social environments. Following these principles, the company develops projects focused on reducing atmospheric emissions and minimizing environmental impacts, providing concrete solutions to global challenges. This allows them to achieve high standards of excellence in their environmental management system.

Product Information

The references included in this Environmental Product Declaration correspond to nine types of asphalt mixes manufactured by Asfaltart. Among them are seven hot dense mixes, designed to provide high durability and resistance to deformation, ideal for wearing courses and structural layers in high traffic roads.

Also included is a semi-dense hot mix, which offers good performance in medium traffic conditions, optimizing material consumption without compromising strength.

Finally, a patching mix, specifically developed by Asfaltart for quick and localized repairs, has been included, allowing for efficient installation even in adverse environmental conditions

Product Names:

Product	Description
MDC-10	Hot dense mix with a maximum size of 3/8"
MCD-19	Hot dense mix of nominal maximum size 1/2" or maximum size 3/4"
MDC-25	Hot dense mix of nominal maximum size 3/4" or maximum size 1".
MDC-19 MOD	Hot dense mix of nominal maximum size 1/2" modified or maximum size 3/4" modified
MSC-19	Semi-dense hot mix of nominal maximum size 1/2" or maximum size 3/4"
MP-19	Patch mix with a maximum size of 1/2"
FAA – P401-1	Hot dense asphalt mix with continuous grading, with a maximum aggregate size of 19 mm, meeting FAA-Aero civil specifications and Type P 401-1 grading
FAA – P401-2	Hot dense asphalt mix with continuous grading, with a maximum aggregate size of 19 mm, meeting FAA-Aero civil specifications and Type P 401-2 grading
MGCR-19	Hot asphalt mix made with GCR modified asphalt



Technical Characteristics

The following are the technical specifications of the nine asphalt mixes produced by Asfaltart, which are the subject of analysis in this study. These mixes are designed to meet the quality standards required by various organizations such as INVIAS and the Federal Aviation Administration (FAA) and are intended for various road applications, ranging from dense surface layers to patching and modified mixes.

TECHNICAL SPECIFICATIONS OF ASFALTART ASPHALT MIXES										
N	ITEM	ASPHALT MIXES PRODUCED								
		MCD-10	MDC-19	MDC-25	MDC-19 MODIFIED	MSC-19	MP-19	FAA P 401-1	FAA P 401-2	MGCR-19
1	The relevant specification that the asphalt mix complies with	DENSE CONTINUOUS GRADATION MIXTURE	DENSE CONTINUOUS GRADATION MIXTURE	MEZCLA SEMIDENSA DE GRADACION CONTINUA	MEZCLA SEMIDENSA DE GRADACION CONTINUA	SEMI-DENSE CONTINUOUS GRADATION MIXTURE	PRE-CAST ASPHALT MIXTURES STOCKPILED FOR POTHOLE PATCHING	DENSE GRADATION MIX TYPE P-401-1	DENSE GRADATION MIXTURE TYPE P-401-2	HOT MIX ASPHALT WITH ASPHALT CEMENT MODIFIED WITH RECYCLED RUBBER GRANULES
2	Specification owner/agency	INVIAS	INVIAS	INVIAS	INVIAS	INVIAS	INVIAS	Federal Aviation Administration (FAA) Standard Specifications	Federal Aviation Administration (FAA) Standard Specifications	INVIAS
3	Mix production temperature range	145°C-149°C	145°C-149°C	145°C-149°C	166°C-173°C	151°C-157°C	120°C-135°C	158°C-164°C	163°C-171°C	153°C-159°C
4	Type of gradation	DENSE GRADED	DENSE GRADED	DENSE GRADED	DENSE GRADED	DISCONTINUOUS GRADED	OPEN GRADED	DENSE GRADED	DENSE GRADED	DISCONTINUOUS GRADED
5	Mix design method	MASHALL	MASHALL	MASHALL	MASHALL	MASHALL	MASHALL	MASHALL	MASHALL	MASHALL
6	Nominal maximum aggregate size	# 4 (4,76")	1/2"	3/4"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
7	Performance grade of asphalt binder or asphalt emulsion	NA	NA	NA	NA	NA	NA	PG-70-22	PG-76-28	PG 76-22
	Penetration rate at 25°	penetration 60-70	penetration 60-70	penetration 60-70	penetration 60-70	penetration 60-70	penetration 60-70	NA	NA	NA
8	Additional identifying information that may be useful to potential end users of the WTP (their customers), as appropriate.	1. Perishable materials outside the compaction temperature range. 2. correct minimum degree of compaction must be guaranteed, according to the structure, whether it is a base, intermediate or wearing course. 3. Do not apply in the rain 4. All mixtures are reusable as long as they are reprocessed and a rejuvenation process is performed 5. The final disposal must be properly disposed according to the indications of the safety data sheet.								

Content Information

The general composition of each asphalt mixture according to its mix design is detailed below:

Component	MDC-10	MDC-19	MDC-25	MDC-19 MOD	MSC-19	MP-19	FAA P401-1	FAA P401-2	MGCR-19
Stone Aggregates	95,00%	95,20%	95,50%	95,10%	95,60%	94,10%	95,20%	95,20%	94,70%
Asphalt without additives	5,00%	4,80%	4,50%	4,90%	4,50%	4,10%	4,80%	4,80%	5,40%
Additives	-	-	-	-	-	1,80%	-	-	-

Note: The additives added to the asphalt mix include Polymers, Adhesion Promoters, Lubricant Base, and Sulfur.



Regulated Hazardous Substances

Regulated hazardous substances, if applicable, are listed in the safety data sheet (SDS) associated with this asphalt mix. The chemical names and composition of the mix from the SDS are provided here for transparency.

The National Institute for Occupational Safety and Health (NIOSH) has established a recommended exposure limit (REL) for asphalt fumes of 5 mg/m³ over a 15-minute time weighted average. Studies of worker exposure to asphalt fumes during asphalt paving operations indicate that exposures are well below the REL during typical asphalt paving operations (NASEM, 2014). In some applications, for example when paving in an enclosed or semi-enclosed area like a tunnel or subterranean parking garage, personnel involved with asphalt paving operations may potentially be exposed to asphalt fumes in excess of the REL. In these situations, paving contractors should consider either using WMA technologies to reduce paving application temperatures or implementing additional engineering controls or personal protective equipment to reduce occupational exposures below the REL.

There are no regulated hazardous substances in the composition of asphalt mixtures.

Chemical Number	CAS Number	Weight (%)
Asphalt	8052-42-4	(5-10%)
Sand and Gravel Limestone (CaCO ₃)	471-34-1	(90-95%)
Crystalline Silica (SiO ₂)	14808-60-7	-
Additives	Not available	(0-1%)

LCA Information

Declared unit:

The declared unit is 1 metric ton (1 short ton) of asphalt mixtures (UNSPSC Code 3011509: Asphalt Based Concrete), which is defined as a “plant-produced composite material of aggregates, asphalt binder, and other materials”.

Type of LCA:

Cradle-to-gate with options (Includes modules A4, A5, C1 to C4, and D)

Time representativeness:

The life cycle inventory data represents the average production (Module A3) over 12 months, from June 2022 to May 2023.

Data base and software used

The database and software used to perform the life cycle analysis were Ecoinvent 3.9.1 and Simapro 9.5, utilizing the built-in system model "Allocation, cut-off by classification." Ecoinvent 3.9.1 was used in the modeling as the source of generic data.

System boundaries

Description of system boundaries:

This study considers the scope of a cradle-to-gate LCA with Module D, meaning the product stages (Modules A1–A3), construction stage (Modules A4–A5), end-of-life stage (Modules C1–C4), and the benefits and loads beyond the system boundary (Module D), as shown below:

Description of system boundaries														
(•included in the LCA; ND: Module not declared)														
Product			Construction process		Use					End of life				Recovery
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	D
Raw material supply	Transport	Manufacturing	Transport	Construction Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Deconstruction–Demolition	Transport	Waste processing	Waste Disposal	Future reuse, recycling or energy recovery potential
					B6–Operational energy use									
					B7–Operational water use									
•	•	•	•	•	ND	ND	ND	ND	ND	•	•	•	•	•

Product Stage

A1 - Supply of raw materials

This module covers the extraction, processing and manufacture of raw materials that are part of the asphalt mixes. It includes stone aggregates, asphalt and additives, in accordance with the proportions defined in the design of each mix. The operations associated with this stage include the emissions and energy consumption of the extraction and production of these materials, according to the LCA methodology.



A2 - Transport to the plant

Module A2 includes the overland transportation of raw materials from the manufacturing sites to the Asfaltart plant. Since all raw materials are sourced domestically, the transportation scenarios are based on land routes. Emissions related to the vehicles used for this transportation, mainly cargo trucks operating under EURO IV regulations, are included.

A3 - Manufacturing

This module comprises the asphalt mix production processes within the Asfaltart plant. It includes the consumption of electricity and fossil fuels (mainly natural gas) necessary for the operation of the plant, as well as the emissions generated by machinery and equipment during the production process. It also considers the management of waste generated at this stage. To reflect the electricity consumed in the production processes within Asfaltart production plants, we used the information of the Colombian electricity mix loaded in the *Ecoinvent 3.9.1. database, specifically the dataset Electricity, medium voltage {CO} market for electricity, high voltage | Cut-off, U*

Construction Stage

A4 - Distribution

Module A4 refers to the transportation of the final product (the asphalt mix) from the plant to the installation site. A EURO IV category road transport vehicle with a capacity of 16 to 32 tons is used. The distance scenario was calculated independently for each mix and can vary between 10 – 100 km.

A5 - Construction and installation

This module includes the inputs used for the installation of asphalt mixes, such as asphalt binder and water, as well as the equipment and machinery used (milling machine, finisher, compactor, irrigator, among others). The emissions generated by this

equipment during installation are considered, as well as the management of waste produced during this process.

End-of-life stage

C1 - Deconstruction / Demolition

This module refers to the deconstruction or demolition of the asphalt mix at the end of its useful life. It considers the fuel consumption necessary for the milling and demolition of the wearing course, as well as the emissions generated by the machinery used. It also includes the management of waste generated during milling.

C2 - Transport

The transportation of waste to the management site is modeled with a distance of 100 km, since it is considered that the product is installed near the Asfaltart plant and therefore will also be demolished and taken to nearby disposal sites at the end of its useful life.

C3 - Waste treatment

In this module, it is considered that the milled material has a potential for 100% utilization. Of the total milled material, it is estimated that 90% will be reused as aggregate for bases and sub-bases, and 10% will be reincorporated in the production of new RAP (Reclaimed Asphalt Pavement) asphalt mixes, thus maximizing the circularity of the material.

C4 - Waste disposal

No waste generation is foreseen in module C4, since the milled material derived from the demolition of the roads is reincorporated in its entirety in new applications, avoiding its disposal in landfills or dumps.

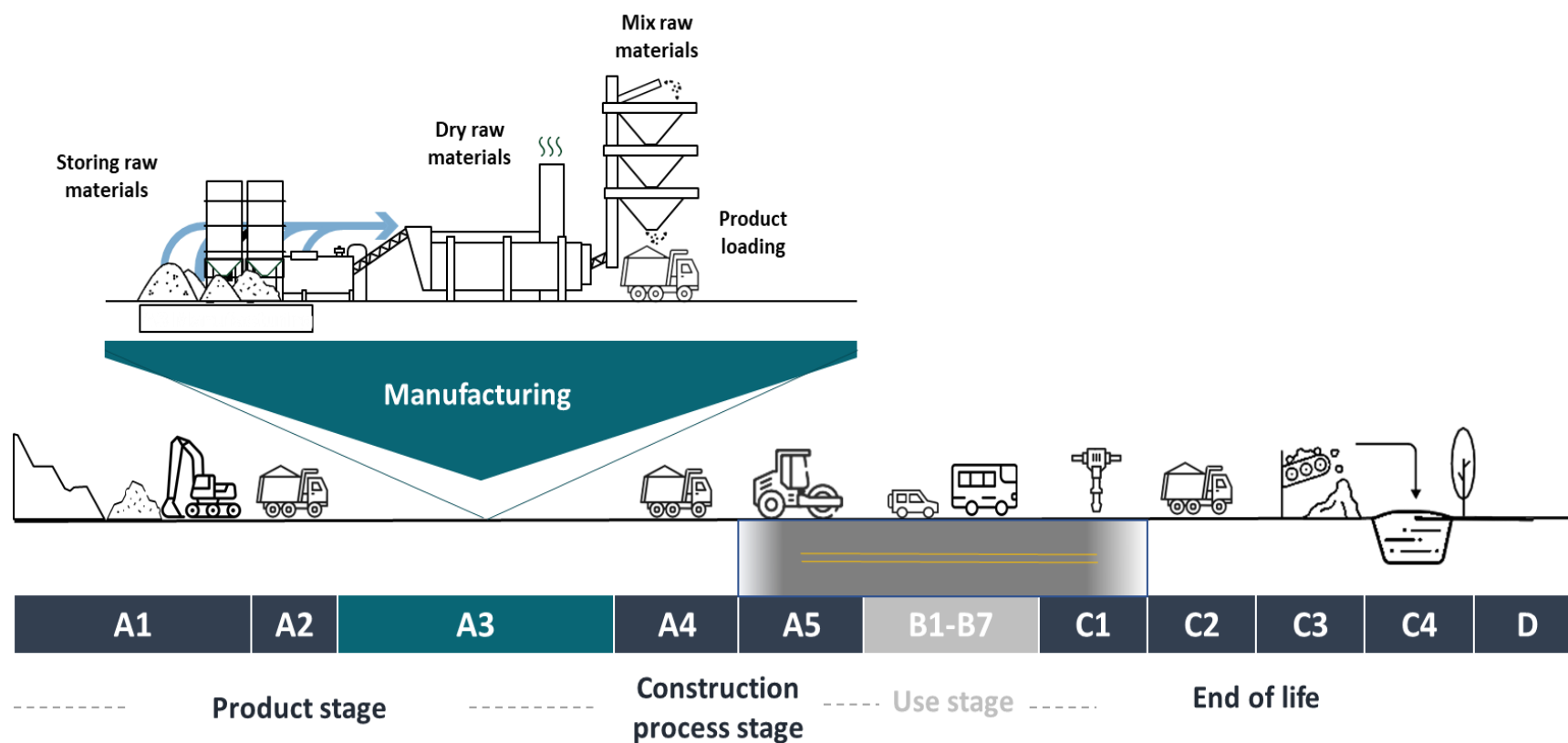
Benefits and loads beyond system boundaries

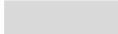
Module D

This module evaluates the benefits and avoids loads derived from the utilization of 100% of the milled material, which replaces the extraction of new stone aggregates of primary origin. This recycling contributes to reducing the extraction of natural resources and emissions associated with the production of new materials.

System Diagram

The flow diagram shown below corresponds to the manufacturing process of ASFALTART and applies equivalently to all product references:



 Module not declared



Cut-off criteria

Adopting the National Asphalt Pavement Association (NAPA) Specific Product Category Rule (c-PCR) for Asphalt Mixes in version 2.0, paragraph 7.1.8.3:

“(...) While maintenance items (e.g., lubricants) and other components that undergo wear and tear, (e.g., conveyor belts) are technically consumed during the production of asphalt mixtures, the annualized quantities are well below the cut-off criteria of 1% of the total mass input per unit (metric tons or short ton) of asphalt mixture.

Given the goal of the EPD Program – to facilitate comparison of environmental impacts of products within the category of asphalt mixtures – infrastructure and consumables are excluded from the system boundary as asphalt mixture producers use similar capital goods and consumables to produce the same product. Hence, capital goods are considered non-essential to the comparison and are not relevant to the decisions that are anticipated to be supported by EPDs for asphalt mixtures. This also includes consumables (e.g., lubricants and conveyor belts) used in operating and maintaining the equipment (...).

Thus, inputs such as personal protective equipment (PPE), filters, tires, oils, lubricants, lubricants, rags, tow and absorbent materials will NOT be considered within the LCA boundary.

All raw materials, additives, emissions and waste (product of the production process) will be included in the corresponding modules.

Assignment, estimation and assumptions

In this study, according to ISO 14044:2006, the assignment is performed according to the following steps:

1. Assignment avoidance.
2. The assignment should be based on the physical properties of the inputs and outputs of the system (e.g., mass, volume).
3. If the allocation cannot be made on the basis of physical properties, the inputs and outputs could be allocated between co-products in proportion to the economic value of the products.
4. This methodology is in line with the requirements of ISO 21930.

This LCA study is carried out in accordance with all methodological considerations, such as, system boundaries, data quality, mass allocations and percentages less than 1% to evaluate inputs and outputs.

Some of the assumptions made were as follows:

- ✓ Since no specific isokinetic sampling is performed for each of the nine asphalt mixtures analyzed, it is assumed that the pollutants generated by the ELVA aggregate heating plant remain constant during the production of all references evaluated. This assumption is based on the operational stability of the plant throughout the year.
- ✓ It is assumed that during the transfer of the asphalt mix between the transport dump truck and the finisher machine there are no material losses, since it is considered a perfect fit between the two pieces of equipment. This assumption eliminates losses associated with the loading and unloading process.
- ✓ It is considered that the amount of fuel used by the installation equipment, such as the finisher, compactors and loaders, remains constant for the nine asphalt mixes analyzed. This assumption is justified because the equipment and installation conditions do not present significant variations among the different mixes.

Some of the allocations made were as follows:

- ✓ The fuel consumption associated with transporting stone aggregates from the supplier to the plant is allocated uniformly for all asphalt mixes, given that the different types of material are transported in the same vehicle, which prevents precise quantification of the specific fuel consumption for each material.
- ✓ 90% of the fuel consumption of the loading equipment is allocated to activities related to the movement of raw materials within the plant, and 10% to waste management within the plant.

Environmental indicators

In accordance with the PCR, this EPD is consistent with the life cycle impact assessment indicators and inventory metrics listed in the tables below.

As specified in the PCR, the most recent US EPA Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI) impact categories were used as they provide a North American context for the mandatory category indicators to be included in the EPD. In addition, the PCR requires a set of inventory metrics to be reported with the LCIA indicators and are listed below:

ID	LCIA indicators	Abbreviations	Units
1	Climate change: global warming potential (GWP100)	GWP100	kg CO ₂ -eq
2	Ozone depletion: ozone depletion potential (ODP)	ODP	kg CFC-11-eq
3	Acidification: acidification potential (AP)	AP	kg SO ₂ -eq
4	Eutrophication: eutrophication potential (EP)	EP	kg N-eq
5	Photochemical oxidant creation potential (smog)	POCP	kg O ₃ -eq
Inventory metrics			
6	GHG emissions from land use change	GWP-luluc	kg CO ₂ -eq
7	Hazardous waste disposed	HWD	kg
8	Non-hazardous waste disposed	NHWD	kg
9	High-level radioactive waste disposed	RWD-HL	kg
10	Intermediate- and low-level radioactive waste disposed	RWD-LL	kg
11	Components for reuse	CRU	kg
12	Materials for recycling	MFR	kg
13	Materials for energy recovery	MFER	kg
14	Recovered energy exported from the product system	REE	MJ
15	Renewable primary resources used as an energy carrier (fuel)	RPRE	MJ
16	Renewable primary resources with energy content used as material	RPRM	MJ
17	Non-renewable primary resources used as an energy carrier (fuel)	NRPRE	MJ
18	Non-renewable primary resources with energy content used as material	NRPRM	MJ
19	Secondary materials	SM	kg
20	Renewable secondary fuels	RSF	MJ
21	Non-renewable secondary fuels	NRSF	MJ
22	Recovered energy	RE	MJ
23	Abiotic depletion potential for fossil resources	ADP fossil	MJ

It should be noted that the LCA impact categories and emerging inventory elements are still under development and may have high levels of uncertainty that prevent their international acceptance pending further development. Use caution when interpreting data from any of the following categories.



- ✓ Renewable primary energy resources as energy (fuel);
- ✓ Renewable primary resources as matter;
- ✓ Non-renewable primary resources as energy (fuel);
- ✓ Non-renewable primary resources as matter;
- ✓ Non-renewable primary resources as energy (fuel);
- ✓ Non-renewable primary resources as matter;
- ✓ Non-renewable primary resources as energy (fuel);
- ✓ Primary non-renewable resources as matter;
- ✓ Secondary materials;
- ✓ Renewable secondary fuels;
- ✓ Non-renewable secondary fuels;
- ✓ Recovered energy;
- ✓ Emissions from land use change [GWP 100 (land use change)];
- ✓ Hazardous waste disposed of;
- ✓ Non-hazardous waste disposed of;
- ✓ High-level radioactive waste;
- ✓ Low and intermediate level radioactive waste;
- ✓ Components for reuse;
- ✓ Materials for recycling;
- ✓ Materials for energy recovery;
- ✓ Recovered energy exported from the product system

Table 1. Life cycle impact indicators

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
MDC-10	A1	3,03E+01 (2,75E+01)	2,82E-06 (2,56E-06)	3,01E-02 (2,73E-02)	1,81E-01 (1,64E-01)	3,30E+00 (2,99E+00)
	A2	9,74E+00 (8,83E+00)	7,57E-07 (6,86E-07)	7,08E-03 (6,42E-03)	4,25E-02 (3,85E-02)	6,15E-01 (5,58E-01)
	A3	2,00E+01 (1,81E+01)	1,71E-08 (1,56E-08)	2,20E-03 (2,00E-03)	3,97E-02 (3,60E-02)	1,09E+00 (9,91E-01)
	A1-A3	6,00E+01 (5,44E+01)	3,59E-06 (3,26E-06)	3,94E-02 (3,57E-02)	2,63E-01 (2,38E-01)	5,01E+00 (4,54E+00)
MDC-19	A1	2,83E+01 (2,57E+01)	2,69E-06 (2,44E-06)	2,65E-02 (2,40E-02)	1,71E-01 (1,56E-01)	3,18E+00 (2,89E+00)
	A2	9,97E+00 (9,05E+00)	7,78E-07 (7,06E-07)	7,27E-03 (6,60E-03)	4,35E-02 (3,95E-02)	6,28E-01 (5,70E-01)
	A3	2,15E+01 (1,95E+01)	1,72E-08 (1,56E-08)	2,25E-03 (2,04E-03)	4,05E-02 (3,67E-02)	1,12E+00 (1,02E+00)
	A1-A3	5,97E+01 (5,42E+01)	3,49E-06 (3,16E-06)	3,60E-02 (3,27E-02)	2,55E-01 (2,32E-01)	4,93E+00 (4,48E+00)
MDC-25	A1	2,82E+01 (2,56E+01)	2,53E-06 (2,30E-06)	2,89E-02 (2,62E-02)	1,68E-01 (1,52E-01)	3,11E+00 (2,82E+00)
	A2	9,96E+00 (9,04E+00)	7,80E-07 (7,07E-07)	7,28E-03 (6,60E-03)	4,35E-02 (3,95E-02)	6,27E-01 (5,68E-01)
	A3	1,89E+01 (1,72E+01)	1,79E-08 (1,62E-08)	2,28E-03 (2,07E-03)	4,12E-02 (3,74E-02)	1,13E+00 (1,02E+00)
	A1-A3	5,70E+01 (5,18E+01)	3,33E-06 (3,02E-06)	3,84E-02 (3,49E-02)	2,53E-01 (2,29E-01)	4,87E+00 (4,42E+00)
MDC-19 MOD	A1	3,26E+01 (2,96E+01)	2,76E-06 (2,50E-06)	3,50E-02 (3,18E-02)	1,86E-01 (1,69E-01)	3,35E+00 (3,04E+00)
	A2	9,90E+00 (8,98E+00)	7,76E-07 (7,04E-07)	7,24E-03 (6,57E-03)	4,33E-02 (3,93E-02)	6,22E-01 (5,64E-01)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
	A3	2,07E+01 (1,87E+01)	1,73E-08 (1,57E-08)	2,25E-03 (2,04E-03)	4,05E-02 (3,67E-02)	1,12E+00 (1,02E+00)
	A1-A3	6,32E+01 (5,73E+01)	3,55E-06 (3,22E-06)	4,45E-02 (4,04E-02)	2,70E-01 (2,45E-01)	5,10E+00 (4,62E+00)
MSC-19	A1	2,83E+01 (2,57E+01)	2,69E-06 (2,44E-06)	2,65E-02 (2,40E-02)	1,71E-01 (1,56E-01)	3,18E+00 (2,89E+00)
	A2	9,97E+00 (9,05E+00)	7,78E-07 (7,06E-07)	7,27E-03 (6,60E-03)	4,35E-02 (3,95E-02)	6,28E-01 (5,70E-01)
	A3	2,15E+01 (1,95E+01)	1,72E-08 (1,56E-08)	2,25E-03 (2,04E-03)	4,05E-02 (3,67E-02)	1,12E+00 (1,02E+00)
	A1-A3	5,97E+01 (5,42E+01)	3,49E-06 (3,16E-06)	3,60E-02 (3,27E-02)	2,55E-01 (2,32E-01)	4,93E+00 (4,48E+00)
MP-19	A1	4,77E+01 (4,32E+01)	3,07E-06 (2,78E-06)	8,45E-02 (7,67E-02)	2,36E-01 (2,14E-01)	3,90E+00 (3,54E+00)
	A2	9,76E+00 (8,86E+00)	7,65E-07 (6,94E-07)	7,14E-03 (6,48E-03)	4,27E-02 (3,87E-02)	6,14E-01 (5,57E-01)
	A3	2,03E+01 (1,85E+01)	1,75E-08 (1,59E-08)	2,23E-03 (2,03E-03)	4,03E-02 (3,66E-02)	1,11E+00 (1,00E+00)
	A1-A3	7,78E+01 (7,06E+01)	3,85E-06 (3,49E-06)	9,39E-02 (8,52E-02)	3,19E-01 (2,90E-01)	5,62E+00 (5,10E+00)
FAA P401-1	A1	3,10E+01 (2,81E+01)	2,70E-06 (2,45E-06)	3,49E-02 (3,17E-02)	1,90E-01 (1,73E-01)	3,29E+00 (2,99E+00)
	A2	9,94E+00 (9,02E+00)	7,75E-07 (7,03E-07)	7,24E-03 (6,57E-03)	4,34E-02 (3,94E-02)	6,27E-01 (5,69E-01)
	A3	2,51E+01 (2,27E+01)	1,97E-08 (1,78E-08)	2,30E-03 (2,09E-03)	4,16E-02 (3,77E-02)	1,13E+00 (1,02E+00)
	A1-A3	6,60E+01 (5,98E+01)	3,50E-06 (3,17E-06)	4,45E-02 (4,04E-02)	2,75E-01 (2,50E-01)	5,05E+00 (4,58E+00)
FAA P401-2	A1	3,10E+01 (2,81E+01)	2,70E-06 (2,45E-06)	3,49E-02 (3,17E-02)	1,90E-01 (1,73E-01)	3,29E+00 (2,99E+00)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
	A2	9,94E+00 (9,02E+00)	7,75E-07 (7,03E-07)	7,24E-03 (6,57E-03)	4,34E-02 (3,94E-02)	6,27E-01 (5,69E-01)
	A3	2,51E+01 (2,27E+01)	1,97E-08 (1,78E-08)	2,30E-03 (2,09E-03)	4,16E-02 (3,77E-02)	1,13E+00 (1,02E+00)
	A1-A3	6,60E+01 (5,98E+01)	3,50E-06 (3,17E-06)	4,45E-02 (4,04E-02)	2,75E-01 (2,50E-01)	5,05E+00 (4,58E+00)
MGCR-19	A1	2,97E+01 (2,70E+01)	2,58E-06 (2,34E-06)	3,84E-02 (3,48E-02)	1,72E-01 (1,56E-01)	3,15E+00 (2,85E+00)
	A2	1,00E+01 (9,08E+00)	7,76E-07 (7,04E-07)	7,27E-03 (6,59E-03)	4,37E-02 (3,96E-02)	6,34E-01 (5,75E-01)
	A3	2,51E+01 (2,27E+01)	1,97E-08 (1,78E-08)	2,30E-03 (2,09E-03)	4,16E-02 (3,77E-02)	1,13E+00 (1,02E+00)
	A1-A3	6,48E+01 (5,88E+01)	3,37E-06 (3,06E-06)	4,80E-02 (4,35E-02)	2,57E-01 (2,33E-01)	4,91E+00 (4,45E+00)

Materials and Resources

Table 2. Indicators of resource use Module A1-A3

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)								
		RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
MDC-10	A1	0,00E+00 (0,00E+00)	2,69E+01 (2,44E+01)	0,00E+00 (0,00E+00)	2,50E+03 (2,27E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,59E+02 (3,26E+02)
	A2	1,01E+00 (9,17E-01)	0,00E+00 (0,00E+00)	6,92E+02 (6,28E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,93E+01 (9,01E+01)
	A3	1,02E+01 (9,21E+00)	0,00E+00 (0,00E+00)	1,86E+01 (1,69E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,26E+00 (2,05E+00)
	A1-A3	1,12E+01 (1,01E+01)	2,69E+01 (2,44E+01)	7,10E+02 (6,44E+02)	2,50E+03 (2,27E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,61E+02 (4,18E+02)
MDC-19	A1	0,00E+00 (0,00E+00)	1,50E+01 (1,36E+01)	0,00E+00 (0,00E+00)	2,38E+03 (2,16E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,43E+02 (3,11E+02)
	A2	1,04E+00 (9,43E-01)	0,00E+00 (0,00E+00)	7,11E+02 (6,45E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,02E+02 (9,26E+01)
	A3	9,65E+00 (8,76E+00)	0,00E+00 (0,00E+00)	1,87E+01 (1,69E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,29E+00 (2,07E+00)
	A1-A3	1,07E+01 (9,70E+00)	1,50E+01 (1,36E+01)	7,30E+02 (6,62E+02)	2,38E+03 (2,16E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E+02 (4,05E+02)
MDC-25	A1	0,00E+00 (0,00E+00)	3,17E+01 (2,87E+01)	0,00E+00 (0,00E+00)	2,25E+03 (2,04E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,23E+02 (2,93E+02)
	A2	1,04E+00 (9,45E-01)	0,00E+00 (0,00E+00)	7,13E+02 (6,47E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,02E+02 (9,28E+01)
	A3	1,09E+01 (9,89E+00)	0,00E+00 (0,00E+00)	1,94E+01 (1,76E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,34E+00 (2,12E+00)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)								
		RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
	A1-A3	1,19E+01 (1,08E+01)	3,17E+01 (2,87E+01)	7,32E+02 (6,64E+02)	2,25E+03 (2,04E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,28E+02 (3,88E+02)
MDC-19 MOD	A1	0,00E+00 (0,00E+00)	5,16E+01 (4,68E+01)	0,00E+00 (0,00E+00)	2,49E+03 (2,26E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,56E+02 (3,23E+02)
	A2	1,04E+00 (9,40E-01)	0,00E+00 (0,00E+00)	7,09E+02 (6,43E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,02E+02 (9,24E+01)
	A3	9,80E+00 (8,89E+00)	0,00E+00 (0,00E+00)	1,87E+01 (1,70E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,28E+00 (2,07E+00)
	A1-A3	1,08E+01 (9,83E+00)	5,16E+01 (4,68E+01)	7,28E+02 (6,60E+02)	2,49E+03 (2,26E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,61E+02 (4,18E+02)
MSC-19	A1	0,00E+00 (0,00E+00)	2,70E+01 (2,45E+01)	0,00E+00 (0,00E+00)	2,26E+03 (2,05E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,25E+02 (2,95E+02)
	A2	1,05E+00 (9,51E-01)	0,00E+00 (0,00E+00)	7,17E+02 (6,51E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,03E+02 (9,34E+01)
	A3	1,08E+01 (9,82E+00)	0,00E+00 (0,00E+00)	1,96E+01 (1,78E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,36E+00 (2,14E+00)
	A1-A3	1,19E+01 (1,08E+01)	2,70E+01 (2,45E+01)	7,37E+02 (6,68E+02)	2,26E+03 (2,05E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,30E+02 (3,90E+02)
MP-19	A1	0,00E+00 (0,00E+00)	2,76E+02 (2,51E+02)	0,00E+00 (0,00E+00)	2,38E+03 (2,16E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,32E+02 (3,01E+02)
	A2	1,02E+00 (9,27E-01)	0,00E+00 (0,00E+00)	6,99E+02 (6,34E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,00E+02 (9,10E+01)
	A3	1,06E+01 (9,57E+00)	0,00E+00 (0,00E+00)	1,91E+01 (1,73E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,30E+00 (2,09E+00)
	A1-A3	1,16E+01 (1,05E+01)	2,76E+02 (2,51E+02)	7,18E+02 (6,52E+02)	2,38E+03 (2,16E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,34E+02 (3,94E+02)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)								
		RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
FAA P401-1	A1	0,00E+00 (0,00E+00)	3,70E+01 (3,36E+01)	0,00E+00 (0,00E+00)	2,41E+03 (2,19E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,46E+02 (3,14E+02)
	A2	1,04E+00 (9,39E-01)	0,00E+00 (0,00E+00)	7,09E+02 (6,43E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,02E+02 (9,23E+01)
	A3	1,22E+01 (1,11E+01)	0,00E+00 (0,00E+00)	2,16E+01 (1,96E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,60E+00 (2,36E+00)
	A1-A3	1,32E+01 (1,20E+01)	3,70E+01 (3,36E+01)	7,30E+02 (6,62E+02)	2,41E+03 (2,19E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,50E+02 (4,08E+02)
FAA P401-2	A1	0,00E+00 (0,00E+00)	3,70E+01 (3,36E+01)	0,00E+00 (0,00E+00)	2,41E+03 (2,19E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,46E+02 (3,14E+02)
	A2	1,04E+00 (9,39E-01)	0,00E+00 (0,00E+00)	7,09E+02 (6,43E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,02E+02 (9,23E+01)
	A3	1,22E+01 (1,11E+01)	0,00E+00 (0,00E+00)	2,16E+01 (1,96E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,60E+00 (2,36E+00)
	A1-A3	1,32E+01 (1,20E+01)	3,70E+01 (3,36E+01)	7,30E+02 (6,62E+02)	2,41E+03 (2,19E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,50E+02 (4,08E+02)
MGCR-19	A1	0,00E+00 (0,00E+00)	8,07E+01 (7,32E+01)	0,00E+00 (0,00E+00)	2,28E+03 (2,07E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,27E+02 (2,97E+02)
	A2	1,04E+00 (9,41E-01)	0,00E+00 (0,00E+00)	7,10E+02 (6,44E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,02E+02 (9,24E+01)
	A3	1,22E+01 (1,11E+01)	0,00E+00 (0,00E+00)	2,16E+01 (1,96E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,60E+00 (2,36E+00)
	A1-A3	1,32E+01 (1,20E+01)	8,07E+01 (7,32E+01)	7,31E+02 (6,63E+02)	2,28E+03 (2,07E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,32E+02 (3,92E+02)

Table 3. Indicators of waste and material flow Module A1-A3

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)							
		Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
MDC-10	A1	1,10E-02 (9,97E-03)	2,28E-01 (2,07E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,62E-03 (4,20E-03)	3,69E-02 (3,35E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	8,89E-05 (8,06E-05)	2,72E-02 (2,47E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,57E-02 (1,42E-02)	2,92E-01 (2,65E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-19	A1	1,04E-02 (9,47E-03)	1,65E-01 (1,49E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,76E-03 (4,31E-03)	3,78E-02 (3,43E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	9,04E-05 (8,20E-05)	2,59E-02 (2,35E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,53E-02 (1,39E-02)	2,28E-01 (2,07E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-25	A1	9,93E-03 (9,00E-03)	2,47E-01 (2,24E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,77E-03 (4,32E-03)	3,78E-02 (3,43E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	9,19E-05 (8,34E-05)	2,92E-02 (2,65E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,48E-02 (1,34E-02)	3,14E-01 (2,85E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)							
		Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
MDC-19 MOD	A1	1,08E-02 (9,78E-03)	3,63E-01 (3,29E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,74E-03 (4,30E-03)	3,76E-02 (3,41E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	9,03E-05 (8,19E-05)	2,63E-02 (2,39E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,56E-02 (1,42E-02)	4,26E-01 (3,87E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MSC-19	A1	9,95E-03 (9,03E-03)	2,22E-01 (2,02E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,80E-03 (4,35E-03)	3,80E-02 (3,45E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	9,28E-05 (8,42E-05)	2,90E-02 (2,63E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,48E-02 (1,35E-02)	2,89E-01 (2,62E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MP-19	A1	1,02E-02 (9,21E-03)	2,44E+00 (2,21E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,68E-03 (4,24E-03)	3,70E-02 (3,36E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	9,05E-05 (8,21E-05)	2,83E-02 (2,56E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,49E-02 (1,35E-02)	2,51E+00 (2,27E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
FAA P401-1	A1	1,05E-02 (9,51E-03)	9,19E-01 (8,34E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

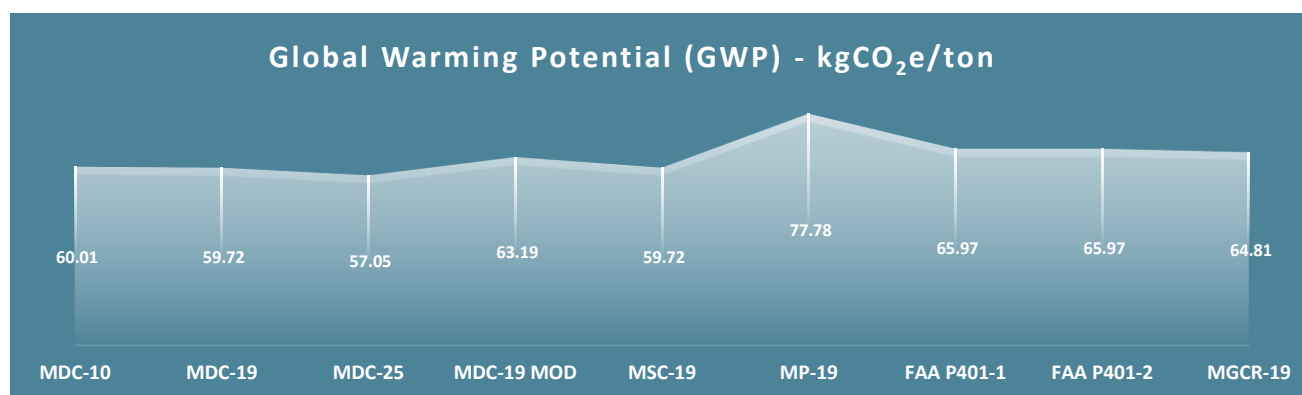
Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)							
		Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
	A2	4,74E-03 (4,30E-03)	3,77E-02 (3,42E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	1,01E-04 (9,17E-05)	3,26E-02 (2,96E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,53E-02 (1,39E-02)	9,90E-01 (8,98E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
FAA P401-2	A1	1,05E-02 (9,51E-03)	9,19E-01 (8,34E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,74E-03 (4,30E-03)	3,77E-02 (3,42E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	1,01E-04 (9,17E-05)	3,26E-02 (2,96E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,53E-02 (1,39E-02)	9,90E-01 (8,98E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MGCR-19	A1	1,00E-02 (9,11E-03)	4,32E-01 (3,92E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	4,74E-03 (4,30E-03)	3,79E-02 (3,44E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	1,01E-04 (9,18E-05)	3,26E-02 (2,96E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A1-A3	1,49E-02 (1,35E-02)	5,03E-01 (4,56E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,53E+02 (2,30E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

Interpretation

As can be seen in the results of the life cycle analysis (LCA), module A1, corresponding to the production of raw materials (stone aggregates, asphalts and additives), is the one that generates the greatest environmental impact in all the categories evaluated. This behavior is consistent due to the energy and resource consumption processes associated with the extraction, refining and preparation of the raw materials necessary for the production of asphalt mixtures.

For its part, module A3, which comprises the manufacture of the mixes at the Asfaltart plant, shows the second highest impact. At this stage, the consumption of electricity and natural gas used in the asphalt mixing and heating processes contribute significantly to the impact observed in the module's indicators.

Finally, module A2, which covers the transportation of raw materials to the Asfaltart plant, has the lowest environmental impact compared to the other modules. This is because the raw material is purchased locally, within the department of Santander, where the plant is also located. Geographical proximity minimizes transportation-related emissions, which significantly reduces the impact in all the impact categories evaluated.



The behavior of the nine (9) asphalt mixes evaluated in the study follows a similar pattern in all impact categories. The variations observed among the mixes are directly related to the amount of asphalt used in each formula, as well as to the inclusion of additives that provide specific properties of resistance, flexibility and durability, adapting to the specific conditions of the installation project.

Additional environmental information

Environmental indicators (Additional modules)

Table 4. Life-cycle impact indicators Module A4-D

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
MDC-10	A4	5,16E+00 (4,68E+00)	8,45E-08 (7,66E-08)	5,33E-03 (4,83E-03)	1,97E-02 (1,78E-02)	5,01E-01 (4,55E-01)
	A5	3,51E+01 (3,18E+01)	6,14E-07 (5,57E-07)	8,99E-03 (8,15E-03)	9,14E-02 (8,29E-02)	2,41E+00 (2,19E+00)
	C1	1,50E+01 (1,36E+01)	2,40E-07 (2,17E-07)	3,24E-03 (2,94E-03)	3,32E-02 (3,01E-02)	9,00E-01 (8,16E-01)
	C2	2,17E+01 (1,97E+01)	1,84E-07 (1,67E-07)	3,64E-03 (3,30E-03)	4,28E-02 (3,89E-02)	1,20E+00 (1,09E+00)
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
MDC-19	A4	1,14E+01 (1,03E+01)	1,86E-07 (1,69E-07)	1,17E-02 (1,06E-02)	4,33E-02 (3,93E-02)	1,10E+00 (1,00E+00)
	A5	3,58E+01 (3,25E+01)	6,27E-07 (5,68E-07)	9,18E-03 (8,33E-03)	9,34E-02 (8,47E-02)	2,46E+00 (2,23E+00)
	C1	1,53E+01 (1,39E+01)	2,45E-07 (2,22E-07)	3,31E-03 (3,01E-03)	3,39E-02 (3,08E-02)	9,19E-01 (8,34E-01)
	C2	2,22E+01 (2,01E+01)	1,88E-07 (1,71E-07)	3,71E-03 (3,37E-03)	4,37E-02 (3,97E-02)	1,23E+00 (1,11E+00)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
MDC-25	A4	1,14E+01 (1,03E+01)	1,86E-07 (1,69E-07)	1,17E-02 (1,06E-02)	4,33E-02 (3,93E-02)	1,10E+00 (1,00E+00)
	A5	3,63E+01 (3,29E+01)	6,34E-07 (5,76E-07)	9,29E-03 (8,43E-03)	9,45E-02 (8,58E-02)	2,49E+00 (2,26E+00)
	C1	1,55E+01 (1,41E+01)	2,48E-07 (2,25E-07)	3,35E-03 (3,04E-03)	3,43E-02 (3,11E-02)	9,30E-01 (8,44E-01)
	C2	2,25E+01 (2,04E+01)	1,90E-07 (1,73E-07)	3,76E-03 (3,41E-03)	4,43E-02 (4,02E-02)	1,24E+00 (1,13E+00)
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
MDC-19 MOD	A4	1,24E+01 (1,12E+01)	2,03E-07 (1,84E-07)	1,28E-02 (1,16E-02)	4,72E-02 (4,28E-02)	1,20E+00 (1,09E+00)
	A5	3,58E+01 (3,25E+01)	6,27E-07 (5,68E-07)	9,18E-03 (8,33E-03)	9,34E-02 (8,47E-02)	2,46E+00 (2,23E+00)
	C1	1,53E+01 (1,39E+01)	2,45E-07 (2,22E-07)	3,31E-03 (3,01E-03)	3,39E-02 (3,08E-02)	9,19E-01 (8,34E-01)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
	C2	2,22E+01 (2,01E+01)	1,88E-07 (1,71E-07)	3,71E-03 (3,37E-03)	4,37E-02 (3,97E-02)	1,23E+00 (1,11E+00)
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
MSC-19	A4	2,94E+01 (2,67E+01)	4,81E-07 (4,37E-07)	3,04E-02 (2,75E-02)	1,12E-01 (1,02E-01)	2,86E+00 (2,59E+00)
	A5	3,66E+01 (3,32E+01)	6,40E-07 (5,80E-07)	9,37E-03 (8,50E-03)	9,53E-02 (8,65E-02)	2,51E+00 (2,28E+00)
	C1	1,57E+01 (1,42E+01)	2,50E-07 (2,27E-07)	3,38E-03 (3,07E-03)	3,46E-02 (3,14E-02)	9,38E-01 (8,51E-01)
	C2	2,26E+01 (2,05E+01)	1,92E-07 (1,74E-07)	3,79E-03 (3,44E-03)	4,46E-02 (4,05E-02)	1,25E+00 (1,14E+00)
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
MP-19	A4	9,55E+00 (8,67E+00)	1,56E-07 (1,42E-07)	9,85E-03 (8,94E-03)	3,64E-02 (3,30E-02)	9,27E-01 (8,41E-01)
	A5	3,58E+01 (3,25E+01)	6,27E-07 (5,68E-07)	9,18E-03 (8,33E-03)	9,34E-02 (8,47E-02)	2,46E+00 (2,23E+00)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
	C1	1,53E+01 (1,39E+01)	2,45E-07 (2,22E-07)	3,31E-03 (3,01E-03)	3,39E-02 (3,08E-02)	9,19E-01 (8,34E-01)
	C2	2,22E+01 (2,01E+01)	1,88E-07 (1,71E-07)	3,71E-03 (3,37E-03)	4,37E-02 (3,97E-02)	1,23E+00 (1,11E+00)
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
FAA P401-1	A4	5,16E+00 (4,68E+00)	8,45E-08 (7,66E-08)	5,33E-03 (4,83E-03)	1,97E-02 (1,78E-02)	5,01E-01 (4,55E-01)
	A5	3,58E+01 (3,25E+01)	6,27E-07 (5,68E-07)	9,18E-03 (8,33E-03)	9,34E-02 (8,47E-02)	2,46E+00 (2,23E+00)
	C1	1,53E+01 (1,39E+01)	2,45E-07 (2,22E-07)	3,31E-03 (3,01E-03)	3,39E-02 (3,08E-02)	9,19E-01 (8,34E-01)
	C2	2,22E+01 (2,01E+01)	1,88E-07 (1,71E-07)	3,71E-03 (3,37E-03)	4,37E-02 (3,97E-02)	1,23E+00 (1,11E+00)
	C3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
FAA P401-2	A4	5,16E+00 (4,68E+00)	8,45E-08 (7,66E-08)	5,33E-03 (4,83E-03)	1,97E-02 (1,78E-02)	5,01E-01 (4,55E-01)

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)				
		GWP	ODP	EP	AP	POCP
	A5	3,58E+01 (3,25E+01)	6,27E-07 (5,68E-07)	9,18E-03 (8,33E-03)	9,34E-02 (8,47E-02)	2,46E+00 (2,23E+00)
	C1	1,53E+01 (1,39E+01)	2,45E-07 (2,22E-07)	3,31E-03 (3,01E-03)	3,39E-02 (3,08E-02)	9,19E-01 (8,34E-01)
	C2	2,22E+01 (2,01E+01)	1,88E-07 (1,71E-07)	3,71E-03 (3,37E-03)	4,37E-02 (3,97E-02)	1,23E+00 (1,11E+00)
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)
MGCR-19	A4	2,07E+00 (1,87E+00)	3,38E-08 (3,07E-08)	2,13E-03 (1,93E-03)	7,87E-03 (7,14E-03)	2,00E-01 (1,82E-01)
	A5	3,58E+01 (3,25E+01)	6,27E-07 (5,68E-07)	9,18E-03 (8,33E-03)	9,34E-02 (8,47E-02)	2,46E+00 (2,23E+00)
	C1	1,53E+01 (1,39E+01)	2,45E-07 (2,22E-07)	3,31E-03 (3,01E-03)	3,39E-02 (3,08E-02)	9,19E-01 (8,34E-01)
	C2	2,22E+01 (2,01E+01)	1,88E-07 (1,71E-07)	3,71E-03 (3,37E-03)	4,37E-02 (3,97E-02)	1,23E+00 (1,11E+00)
	C3	2,73E+00 (2,47E+00)	2,94E-08 (2,67E-08)	1,45E-02 (1,32E-02)	8,57E-03 (7,78E-03)	9,28E-02 (8,42E-02)
	C4	8,29E-01 (7,52E-01)	1,60E-08 (1,45E-08)	1,53E-01 (1,39E-01)	3,79E-03 (3,44E-03)	9,54E-02 (8,65E-02)
	D	-1,41E+01 (-1,28E+01)	-1,29E-06 (-1,17E-06)	-2,00E-03 (-1,81E-03)	-8,18E-02 (-7,42E-02)	-2,07E+00 (-1,88E+00)

Materials and Resources (Additional Modules)

Table 5. Indicators of resource use Module A4-D

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)								
		RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
MDC-10	A4	9,71E-01 (8,81E-01)	0,00E+00 (0,00E+00)	7,51E+00 (6,82E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	5,67E-02 (5,14E-02)
	A5	1,24E+00 (1,13E+00)	0,00E+00 (0,00E+00)	5,51E+02 (5,00E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	7,86E+01 (7,13E+01)
	C1	2,06E-01 (1,87E-01)	0,00E+00 (0,00E+00)	2,13E+02 (1,93E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,06E+01 (2,78E+01)
	C2	2,34E-01 (2,12E-01)	0,00E+00 (0,00E+00)	1,69E+02 (1,53E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,38E+01 (2,16E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
MDC-19	A4	2,14E+00 (1,94E+00)	0,00E+00 (0,00E+00)	1,65E+01 (1,50E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,25E-01 (1,13E-01)
	A5	1,27E+00 (1,15E+00)	0,00E+00 (0,00E+00)	5,63E+02 (5,11E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,03E+01 (7,28E+01)
	C1	2,11E-01 (1,91E-01)	0,00E+00 (0,00E+00)	2,18E+02 (1,97E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,13E+01 (2,84E+01)
	C2	2,39E-01 (2,17E-01)	0,00E+00 (0,00E+00)	1,72E+02 (1,56E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,43E+01 (2,21E+01)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
MDC-25	A4	2,14E+00 (1,94E+00)	0,00E+00 (0,00E+00)	1,65E+01 (1,50E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,25E-01 (1,13E-01)
	A5	1,29E+00 (1,17E+00)	0,00E+00 (0,00E+00)	5,70E+02 (5,17E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,13E+01 (7,38E+01)
	C1	2,13E-01 (1,94E-01)	0,00E+00 (0,00E+00)	2,20E+02 (2,00E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,17E+01 (2,87E+01)
	C2	2,42E-01 (2,20E-01)	0,00E+00 (0,00E+00)	1,74E+02 (1,58E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,46E+01 (2,23E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
MDC-19 MOD	A4	2,33E+00 (2,11E+00)	0,00E+00 (0,00E+00)	1,80E+01 (1,64E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,36E-01 (1,23E-01)
	A5	1,27E+00 (1,15E+00)	0,00E+00 (0,00E+00)	5,63E+02 (5,11E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,03E+01 (7,28E+01)
	C1	2,11E-01 (1,91E-01)	0,00E+00 (0,00E+00)	2,18E+02 (1,97E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,13E+01 (2,84E+01)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
	C2	2,39E-01 (2,17E-01)	0,00E+00 (0,00E+00)	1,72E+02 (1,56E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,43E+01 (2,21E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
MSC-19	A4	5,54E+00 (5,02E+00)	0,00E+00 (0,00E+00)	4,28E+01 (3,89E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,23E-01 (2,93E-01)
	A5	1,30E+00 (1,18E+00)	0,00E+00 (0,00E+00)	5,75E+02 (5,21E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,20E+01 (7,44E+01)
	C1	2,15E-01 (1,95E-01)	0,00E+00 (0,00E+00)	2,22E+02 (2,01E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,19E+01 (2,89E+01)
	C2	2,44E-01 (2,21E-01)	0,00E+00 (0,00E+00)	1,76E+02 (1,60E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,48E+01 (2,25E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
MP-19	A4	1,80E+00 (1,63E+00)	0,00E+00 (0,00E+00)	1,39E+01 (1,26E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,05E-01 (9,51E-02)
	A5	1,27E+00 (1,15E+00)	0,00E+00 (0,00E+00)	5,63E+02 (5,11E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,03E+01 (7,28E+01)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
	C1	2,11E-01 (1,91E-01)	0,00E+00 (0,00E+00)	2,18E+02 (1,97E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,13E+01 (2,84E+01)
	C2	2,39E-01 (2,17E-01)	0,00E+00 (0,00E+00)	1,72E+02 (1,56E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,43E+01 (2,21E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
FAA P401-1	A4	9,71E-01 (8,81E-01)	0,00E+00 (0,00E+00)	7,51E+00 (6,82E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	5,67E-02 (5,14E-02)
	A5	1,27E+00 (1,15E+00)	0,00E+00 (0,00E+00)	5,63E+02 (5,11E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,03E+01 (7,28E+01)
	C1	2,11E-01 (1,91E-01)	0,00E+00 (0,00E+00)	2,18E+02 (1,97E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,13E+01 (2,84E+01)
	C2	2,39E-01 (2,17E-01)	0,00E+00 (0,00E+00)	1,72E+02 (1,56E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,43E+01 (2,21E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
FAA P401-2	A4	9,71E-01 (8,81E-01)	0,00E+00 (0,00E+00)	7,51E+00 (6,82E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	5,67E-02 (5,14E-02)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	RPR _E	RPR _M	RPR _M	NRPR _M	SM	RSF	NRSF	RE	ADP _{fossil}
	A5	1,27E+00 (1,15E+00)	0,00E+00 (0,00E+00)	5,63E+02 (5,11E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,03E+01 (7,28E+01)
	C1	2,11E-01 (1,91E-01)	0,00E+00 (0,00E+00)	2,18E+02 (1,97E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,13E+01 (2,84E+01)
	C2	2,39E-01 (2,17E-01)	0,00E+00 (0,00E+00)	1,72E+02 (1,56E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,43E+01 (2,21E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)
MGCR-19	A4	3,89E-01 (3,52E-01)	0,00E+00 (0,00E+00)	3,01E+00 (2,73E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,27E-02 (2,06E-02)
	A5	1,27E+00 (1,15E+00)	0,00E+00 (0,00E+00)	5,63E+02 (5,11E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,03E+01 (7,28E+01)
	C1	2,11E-01 (1,91E-01)	0,00E+00 (0,00E+00)	2,18E+02 (1,97E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	3,13E+01 (2,84E+01)
	C2	2,39E-01 (2,17E-01)	0,00E+00 (0,00E+00)	1,72E+02 (1,56E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	2,43E+01 (2,21E+01)
	C3	3,81E+01 (3,46E+01)	0,00E+00 (0,00E+00)	7,70E+00 (6,98E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	4,47E-02 (4,05E-02)
	C4	1,95E-01 (1,77E-01)	0,00E+00 (0,00E+00)	1,23E+00 (1,12E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	8,81E-03 (7,99E-03)
	D	3,55E+01 (3,22E+01)	0,00E+00 (0,00E+00)	-6,01E+00 (-5,45E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	-5,70E-02 (-5,17E-02)

Table 6. Indicators of waste and material flow Module A4-D

Product	Module	Quantity per ton of asphalt mix (short ton of asphalt mix)							
		Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
MDC-10	A4	5,11E-04 (4,63E-04)	3,49E+00 (3,16E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,64E-03 (7,84E-03)	7,04E-02 (6,38E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,43E-03 (1,29E-03)	9,86E-03 (8,94E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,07E-03 (9,70E-04)	4,05E-02 (3,68E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-19	A4	1,12E-03 (1,02E-03)	7,67E+00 (6,96E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,82E-03 (8,00E-03)	7,18E-02 (6,52E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,46E-03 (1,32E-03)	1,01E-02 (9,13E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,09E-03 (9,91E-04)	4,14E-02 (3,76E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Quantity per ton of asphalt mix (short ton of asphalt mix)							
Product	Module	Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-25	A4	1,12E-03 (1,02E-03)	7,67E+00 (6,96E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,93E-03 (8,10E-03)	7,27E-02 (6,60E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,48E-03 (1,34E-03)	1,02E-02 (9,25E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,11E-03 (1,00E-03)	4,19E-02 (3,80E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-19 MOD	A4	1,23E-03 (1,11E-03)	8,37E+00 (7,59E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,82E-03 (8,00E-03)	7,18E-02 (6,52E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,46E-03 (1,32E-03)	1,01E-02 (9,13E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,09E-03 (9,91E-04)	4,14E-02 (3,76E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Quantity per ton of asphalt mix (short ton of asphalt mix)							
Product	Module	Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MSC-19	A4	2,91E-03 (2,64E-03)	1,99E+01 (1,80E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	9,01E-03 (8,17E-03)	7,33E-02 (6,65E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,49E-03 (1,35E-03)	1,03E-02 (9,32E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,11E-03 (1,01E-03)	4,23E-02 (3,83E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MP-19	A4	9,45E-04 (8,57E-04)	6,45E+00 (5,85E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,82E-03 (8,00E-03)	7,18E-02 (6,52E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,46E-03 (1,32E-03)	1,01E-02 (9,13E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Quantity per ton of asphalt mix (short ton of asphalt mix)							
Product	Module	Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
	C2	1,09E-03 (9,91E-04)	4,14E-02 (3,76E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
FAA P401-1	A4	5,11E-04 (4,63E-04)	3,49E+00 (3,16E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,82E-03 (8,00E-03)	7,18E-02 (6,52E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,46E-03 (1,32E-03)	1,01E-02 (9,13E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,09E-03 (9,91E-04)	4,14E-02 (3,76E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
FAA P401-2	A4	5,11E-04 (4,63E-04)	3,49E+00 (3,16E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,82E-03 (8,00E-03)	7,18E-02 (6,52E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Quantity per ton of asphalt mix (short ton of asphalt mix)							
Product	Module	Waste categories				Other material streams			
		HWS	NHWD	RWD-HL	RWD-LL	CRU	MFR	MFER	REE
	C1	1,46E-03 (1,32E-03)	1,01E-02 (9,13E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,09E-03 (9,91E-04)	4,14E-02 (3,76E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MGCR-19	A4	2,04E-04 (1,85E-04)	1,39E+00 (1,27E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	8,82E-03 (8,00E-03)	7,18E-02 (6,52E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	1,44E+03 (1,30E+03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	1,46E-03 (1,32E-03)	1,01E-02 (9,13E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	1,09E-03 (9,91E-04)	4,14E-02 (3,76E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	2,95E-04 (2,68E-04)	1,08E-01 (9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	9,50E+02 (8,62E+02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	8,84E-05 (8,02E-05)	5,01E+01 (4,55E+01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-5,14E-03 (-4,66E-03)	-1,08E-01 (-9,78E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

Additional inventory indicators describing the carbon emissions and removals accounted for in the GWP-100

In the interest of transparency, the following indicators provide additional information on the processes accounted for in the GWP-100 value listed in the Table below. Many of the publicly available inventories lack the information needed to calculate these indicators.

Table 7. Carbon indicators included in the GWP-100 Module A1-D

Product	Module	Amount per ton of asphalt mix (short ton of asphalt mix)								
		GHG _{LUC}	BCPR	BCPE	BCKC	BCKE	BCWR	BCWN	CCAL	CCAR
MDC-10	A1	7,02E-01 (6,37E-01)	0,00E+00 (0,00E+00)	2,40E-02 (2,18E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,12E-03 (2,83E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	2,11E-03 (1,91E-03)	0,00E+00 (0,00E+00)	1,74E-04 (1,57E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	6,79E-03 (6,16E-03)	0,00E+00 (0,00E+00)	2,33E-03 (2,12E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,26E-04 (2,95E-04)	0,00E+00 (0,00E+00)	6,55E-04 (5,94E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,53E-04 (4,11E-04)	0,00E+00 (0,00E+00)	6,73E-04 (6,10E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	GHG _{LUC}	BCPR	BCPE	BCKC	BCKE	BCWR	BCWN	CCAL	CCAR
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-19	A1	3,62E-01 (3,29E-01)	0,00E+00 (0,00E+00)	2,15E-02 (1,95E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,21E-03 (2,92E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	4,64E-03 (4,21E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	6,93E-03 (6,29E-03)	0,00E+00 (0,00E+00)	2,38E-03 (2,16E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,33E-04 (3,02E-04)	0,00E+00 (0,00E+00)	6,69E-04 (6,07E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,63E-04 (4,20E-04)	0,00E+00 (0,00E+00)	6,87E-04 (6,23E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-25	A1	8,45E-01 (7,66E-01)	0,00E+00 (0,00E+00)	2,30E-02 (2,09E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,22E-03 (2,92E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	GHG _{LUC}	BCPR	BCPE	BCKC	BCKE	BCWR	BCWN	CCAL	CCAR
	A4	4,64E-03 (4,21E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	7,02E-03 (6,37E-03)	0,00E+00 (0,00E+00)	2,41E-03 (2,19E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,37E-04 (3,05E-04)	0,00E+00 (0,00E+00)	6,78E-04 (6,15E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,69E-04 (4,25E-04)	0,00E+00 (0,00E+00)	6,96E-04 (6,31E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MDC-19 MOD	A1	1,41E+00 (1,28E+00)	0,00E+00 (0,00E+00)	2,80E-02 (2,54E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,21E-03 (2,91E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	5,06E-03 (4,59E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	6,93E-03 (6,29E-03)	0,00E+00 (0,00E+00)	2,38E-03 (2,16E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,33E-04 (3,02E-04)	0,00E+00 (0,00E+00)	6,69E-04 (6,07E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,63E-04 (4,20E-04)	0,00E+00 (0,00E+00)	6,87E-04 (6,23E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	GHG _{LUC}	BCPR	BCPE	BCKC	BCKE	BCWR	BCWN	CCAL	CCAR
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MSC-19	A1	7,10E-01 (6,44E-01)	0,00E+00 (0,00E+00)	2,24E-02 (2,03E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,24E-03 (2,94E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	1,20E-02 (1,09E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	7,08E-03 (6,42E-03)	0,00E+00 (0,00E+00)	2,43E-03 (2,21E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,40E-04 (3,08E-04)	0,00E+00 (0,00E+00)	6,83E-04 (6,20E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,72E-04 (4,29E-04)	0,00E+00 (0,00E+00)	7,01E-04 (6,36E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MP-19	A1	7,74E+00 (7,02E+00)	0,00E+00 (0,00E+00)	1,23E-01 (1,11E-01)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	GHG _{LUC}	BCPR	BCPE	BCKC	BCKE	BCWR	BCWN	CCAL	CCAR
	A2	3,16E-03 (2,87E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	3,90E-03 (3,54E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	6,93E-03 (6,29E-03)	0,00E+00 (0,00E+00)	2,38E-03 (2,16E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,33E-04 (3,02E-04)	0,00E+00 (0,00E+00)	6,69E-04 (6,07E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,63E-04 (4,20E-04)	0,00E+00 (0,00E+00)	6,87E-04 (6,23E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
FAA P401-1	A1	9,83E-01 (8,92E-01)	0,00E+00 (0,00E+00)	2,56E-02 (2,32E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,20E-03 (2,90E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	2,11E-03 (1,91E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	6,93E-03 (6,29E-03)	0,00E+00 (0,00E+00)	2,38E-03 (2,16E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	GHG _{LUC}	BCPR	BCPE	BCKC	BCKE	BCWR	BCWN	CCAL	CCAR
	C1	3,33E-04 (3,02E-04)	0,00E+00 (0,00E+00)	6,69E-04 (6,07E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,63E-04 (4,20E-04)	0,00E+00 (0,00E+00)	6,87E-04 (6,23E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
FAA P401-2	A1	9,83E-01 (8,92E-01)	0,00E+00 (0,00E+00)	2,56E-02 (2,32E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,20E-03 (2,90E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	2,11E-03 (1,91E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	6,93E-03 (6,29E-03)	0,00E+00 (0,00E+00)	2,38E-03 (2,16E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,33E-04 (3,02E-04)	0,00E+00 (0,00E+00)	6,69E-04 (6,07E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,63E-04 (4,20E-04)	0,00E+00 (0,00E+00)	6,87E-04 (6,23E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

		Amount per ton of asphalt mix (short ton of asphalt mix)								
Product	Module	GHG _{LUC}	BCPR	BCPE	BCKC	BCKE	BCWR	BCWN	CCAL	CCAR
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
MGCR-19	A1	2,19E+00 (1,99E+00)	0,00E+00 (0,00E+00)	7,00E-02 (6,35E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A2	3,20E-03 (2,91E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A3	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A4	8,43E-04 (7,65E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	A5	6,93E-03 (6,29E-03)	0,00E+00 (0,00E+00)	2,38E-03 (2,16E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C1	3,33E-04 (3,02E-04)	0,00E+00 (0,00E+00)	6,69E-04 (6,07E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C2	4,63E-04 (4,20E-04)	0,00E+00 (0,00E+00)	6,87E-04 (6,23E-04)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C3	1,07E+00 (9,74E-01)	0,00E+00 (0,00E+00)	1,18E-02 (1,07E-02)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	C4	3,70E-04 (3,35E-04)	0,00E+00 (0,00E+00)	3,10E-03 (2,81E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)
	D	-7,95E-03 (-7,21E-03)	0,00E+00 (0,00E+00)	-1,08E-02 (-9,80E-03)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)	0,00E+00 (0,00E+00)

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Third party verifier		Denice V. Staaf, external verifier certified under Labeling Sustainability Program (www.labelingsustainability.com)

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