Canvas Dock

Workspace

Environmental Product Declaration

Date of Issue: October 11th, 2021

Date of Expiration: October 11th, 2026

Product Category Rules

BIFMA PCR for Office Furniture Workspace Products, UNCPC 3814

ISO 14025/14040/14044 and EN 15804

Functional Unit

1 m^2 of workspace for 1 individual maintained for a 10-year period (desking)

This EPD was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the software tool used to conduct the study.

HermanMiller

www.hermanmiller.com/contact

NSF Certified Environmental Product Declaration www.nsf.org

Canvas Dock

Program Operator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
Manufacturer Name and Address	Herman Miller 855 E Main Ave, Zeeland, MI 49464
Declaration Number	EPD10645
Declared Product and Functional Unit	Canvas Dock (many desk configurations with components beginning with FD) Functional Unit: 1 m^2 of workspace for 1 individual maintained for 10 years
Reference PCR and Version Number	BIFMA PCR for Workspace
Product's intended Application and Use	Workspace
Product RSL	10 years
Markets of Applicability	North America
Date of Issue	October 11th, 2021
Period of Validity	5 years from date of issue
EPD Type	Product Specific
Intended Audience	Business-to-Business, Business-to-Consumer
Range of Dataset Variability	N/A
EPD Scope	Cradle to Grave
Year of reported manufacturer primary data	2019
LCA Software and Version Number	GaBi 9.5.2.49
LCI Database and Version Number	GaBi Database, Service Pack 40
LCIA Methodology and Version Number	TRACI 2.1 CML 2001-Oct 2012
The PCR review was conducted by:	Review Panel Chaired by Dr. Thomas Gloria
This declaration was independently verified in accordance with ISO 14025: 2006. The CEN Norm EN 15804 (2012), serves as the core PCR, with additional considerations from the BIFMA PCR for Office Furniture Workspace Products. ☐ Internal ☒ External	Tony Favilla tfavilla@nsf.org
This reference life cycle assessment was conducted in accordance with ISO 14044 and the reference PCRs:	Herman Miller Background Report for LCA/EPD Creation Tool v1.6 Lindsay Bonney - WAP Sustainability Consulting lindsay@wapsustainability.com
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Jack Geibig - EcoForm jgeibig@ecoform.com
References	BIFMA PCR for Office Furniture Workspace Products: UNCPC 3814. ISO 14025/40/44; 2006 EN 15804:2012+A1; 2013 Herman Miller Background Report for LCA/EPD Creation Tool v1.6

Limitations:

Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance of Products using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR. Full conformance with the PCR for Products allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible". Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

Canvas Dock

Product Description

Canvas Dock is the foundation for desks, storage, surfaces, and screens. As workplace needs evolve for organizations—influxes of employees, changing priorities—Canvas Dock keeps up by allowing additions and removals with ease. Mix and match materials based on your aesthetic and establish design consistency with the rest of your office.

Company Description
Herman Miller creates inspiring designs to help people do great things at work, for learning, for wellness, at home, wherever people are. Our designs and the designers who work with us solve real problems for people and their organizations. This way of thinking about design has led us to be recognized as an innovator in furnishings, personal work accessories, and strategic services.

Our Sustainability Goals
We will be Resource Smart, Eco-inspired, and Community Driven.

Resource Smart
- Zero Waste
- Net Zero Water
- Net Zero Energy

Eco-inspired Design
- All products designed for the environment
- All products BIFMA level 3 certified
- Closed-Loop recycling of used product

Community Driven
- All employees engaged in Earthright
- All suppliers committed to being Resource Smart

Supplier Support
At Herman Miller, we are committed to working closely with our suppliers to reduce our collective impact on the environment. We encourage our suppliers to minimize their operations' environmental impacts and require they assist us in decreasing our facilities' environmental effects.

Manufacturing Locations
855 E Main Ave, Zeeland, MI 49464

Design for the Environment Criteria

Warranty
Backed by Herman Miller's 12-year, 24/7 warranty

Our commitment to corporate sustainability naturally includes minimizing the environmental impact of each of our products. Our Design for the Environment team applies environmentally sensitive design standards to both new and existing Herman Miller products, and goes beyond regulatory compliance to thoroughly evaluate new product designs in key areas:

- **Material Chemistry and Safety of Inputs**
  What chemicals are in the materials we specify, and are they the safest available?
- **Disassembly**
  Can we take products apart at the end of their useful life, to recycle their materials?
- **Recyclability**
  Do the materials contain recycled content, and more importantly, can the materials be recycled at the end of the product's useful life?
- **Life Cycle Assessment (LCA)**
  Have we optimized the product based on the entire life cycle?

Product Environmental Data**
55% Recycled Content
16% Post-Consumer
39% Pre-Consumer
Up to 55% Recyclability *
*Based on availability of recycling facilities.

Environmental Certifications**
BIFMA level™ 3
Indoor Advantage™ Gold

Additional information, including installation and recycling instructions, can be found at https://www.hermanmiller.com

Canvas Dock

MATERIAL DECLARATION

Functional Unit

1 m^2 of workspace (desking) for 1 individual maintained over a 10-year period, including packaging materials used for the final assembled product.

Reference Flow and Product Specifications

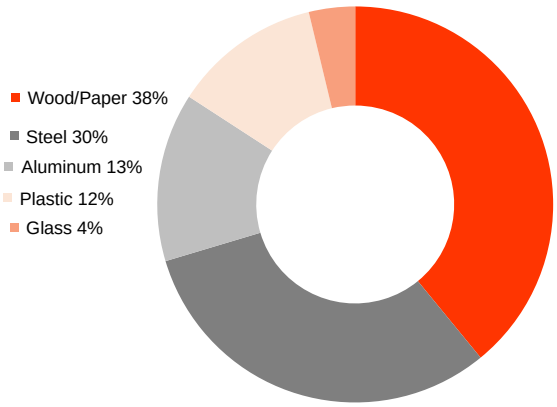
This study modeled 0.224 workspace units with 4.59 m^2 of workspace (12' x 4').

System Boundary

Cradle-to-Grave

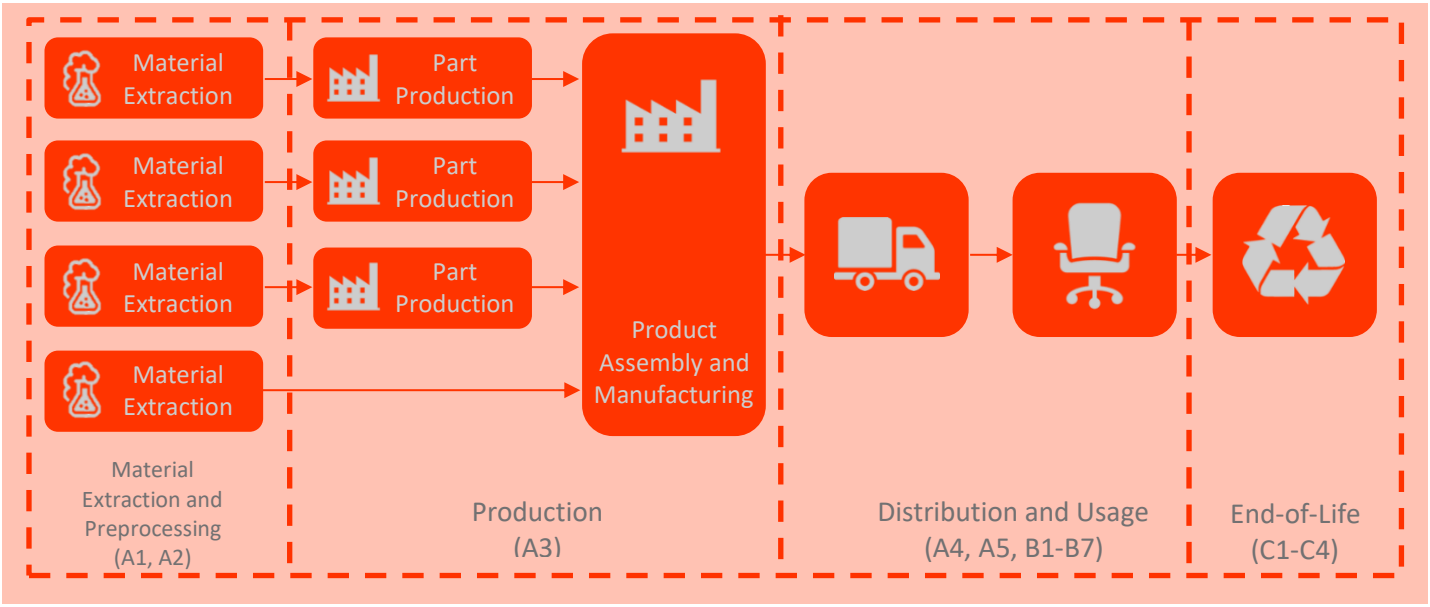
Content Declaration

The table to the right details the materials included in the product, summarized in the chart below. In order to achieve the functional unit, 0.224 workspace units is required.



Material	Mass (kg)	Mass (%)	Resource
Particle Board	97.46	36%	Virgin Renewable and Recycled Content
Steel	82.61	30%	Virgin Non-Renewable and Recycled Content
Aluminum	36.36	13%	Virgin Renewable and Recycled Content
Polymethyl Methacrylate (PMMA)	25.42	9%	Virgin Renewable
Fiberglass	9.96	4%	Virgin Non-renewable
Electric Components	6.67	3%	Virgin Non-renewable
High Pressure Laminate (HPL)	5.71	2%	Virgin Renewable
Other Materials	7.19	3%	Virgin Non-renewable
Total	**271.38**	**100%**	

Packaging*	Mass (kg)	Mass (%)	Resource
Corrugate	5.31	83%	Recycled Content
Expanded Polystyrene	0.44	7%	Virgin Non-renewable
Polyethylene Foam	0.46	7%	Virgin Non-renewable
Others	0.19	3%	Virgin Non-renewable
Total	**6.40**	**100%**	



Overview of Life Cycle Stages

Canvas Dock

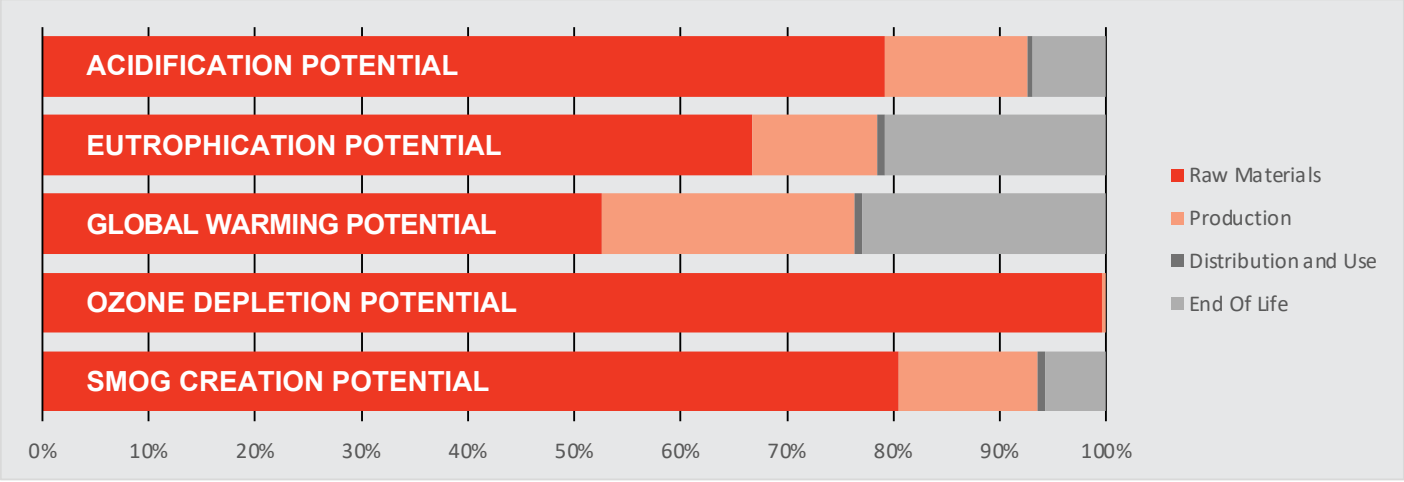
Life Cycle Impact Assessment – BIFMA PCR for United States Production

Environmental Impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.1 characterization factors, as well as LCI indicators for primary energy and water usage. Results presented in this report are for 1 m^2 maintained for 10 years. Additionally, the results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

LCIA Impact Category	Unit	Total	Raw Material Production	Product Production	Distribution and Retail	End of Life
Acidification Potential	kg SO_2 eq	5.85E-01	4.64E-01	7.83E-02	2.68E-03	4.06E-02
Eutrophication Potential	kg N eq	5.29E-02	3.53E-02	6.21E-03	3.74E-04	1.10E-02
Global Warming Potential	kg CO_2 eq	1.95E+02	1.03E+02	4.63E+01	1.25E+00	4.47E+01
Photochemical Ozone Creation Potential (Smog)	kg O_3 eq	8.04E+00	6.48E+00	1.05E+00	5.65E-02	4.60E-01
Ozone Depletion Potential	kg CFC-11 eq	1.06E-06	1.05E-06	3.64E-09	2.35E-16	9.75E-15

LCI Impact Category	Unit	Total	Raw Material Production	Product Production	Distribution and Retail	End of Life
Primary Energy Demand (Renewable and Non-Renewable)	MJ (net cal value)	4.04E+03	3.20E+03	7.71E+02	1.24E+01	5.80E+01
Fresh Water Consumption	kg	9.30E+02	7.71E+02	1.21E+02	2.35E+00	3.62E+01

Life Cycle Impacts of Canvas Dock



APPENDIX: EN 15804

In addition to the previous results, impact results according to EN 15804 have been calculated using CML characterization factors, as well as LCI indicators required. Results presented in this report are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

Modeling Assumptions

In order to comply with EN 15804, several modeling assumptions had to be altered from the previous BIFMA PCR-based results, as outlined here. The life cycle modules are aggregated differently according to the table below and Module D is included to calculate the benefits from the end-of-life scenarios including recycling materials, landfill gas capture, and waste-to-energy. Modules for which specific scenario data are not provided below were considered within the scope of study but had no relevant impact. As such, the relevant tables for these stages are not presented here.

Functional Unit

Parameter	Value
Functional Unit	1 m^2 of workspace for 1 individual maintained for a 10-year period
Number of Occupants	1
Reference Service Life Required	10 years

A4: Transport to the Building Site

Parameter	Value per functional unit
Transportation Type	Diesel Truck
Fuel Consumption	0.467 kg
Distance	2,253 km
Capacity Utilization	61%

A5: Installation in the Building

Parameter	Value per functional unit
Packaging Waste Produced	1.43 kg

Reference Service Life

Parameter	Value per functional unit
Reference Service Life	10 Years
Design Application Parameters	Use as indicated in product brochure and warranty
Declared Product Properties	Properties given in product description on page 4

End-of-Life

Parameter	Value per functional unit
Weight of Product Collected	62.5 kg
Weight to Recycling	7.8 kg
Weight to Energy Recovery	10.9 kg
Weight to Landfill	43.8 kg
Distance to Recycling	50 km
Distance to Energy Recovery	100 km
Distance to Landfill	50 km

Life Cycle Stages

The results are provided according to the following life cycle modules:

Module	Description	Module	Description	Module	Description
A1	Product Stage: Raw Material Supply	**B1**	Use Stage: Use	**C1**	EOL: Deconstruction
A2	Product Stage: Transport	**B2**	Use Stage: Maintenance	**C2**	EOL: Transport
A3	Product Stage: Manufacturing	**B3**	Use Stage: Repair	**C3**	EOL: Waste Processing
A4	Construction Process Stage: Transport	**B4**	Use Stage: Replacement	**C4**	EOL: Disposal
A5	Construction Process Stage: Installation	**B5**	Use Stage: Refurbishment	**D**	Benefits beyond system
		B6	Operational Energy Use		
		B7	Operational Water Use		

Canvas Dock

LCA Results – United States Production

CML Results – United States Production – 1 m^2 of workspace maintained for 10 Years

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements [kg Sb eq]	8.80E-05	2.48E-07	4.53E-09	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-07	0.00E+00	2.07E-07	-3.44E-03
ADP-fossil fuel [MJ]	2.37E+03	9.51E+00	4.77E-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	9.42E+00	0.00E+00	3.82E+01	-1.53E+02
AP [kg SO_2 eq]	4.93E-01	1.67E-03	1.49E-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	1.66E-03	0.00E+00	1.32E-02	-3.40E-02
EP [kg Phosphate eq]	5.53E-02	4.57E-04	2.68E-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	4.53E-04	0.00E+00	2.64E-02	-4.42E-03
GWP [kg CO_2 eq]	1.49E+02	8.04E-01	4.47E-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	7.97E-01	0.00E+00	4.39E+01	-1.41E+01
ODP [kg CFC 11 eq]	9.39E-07	1.37E-16	9.75E-17	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-16	0.00E+00	9.62E-15	-2.38E-13
POCP [kg Ethene eq]	4.71E-02	-5.67E-04	7.31E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.61E-04	0.00E+00	7.87E-03	-3.65E-03

ADP=Abiotic Depletion Potential; AP=Acidification Potential; EP=Eutrophication Potential; GWP=Global Warming Potential; ODP=Ozone Depletion Potential; POCP=Photochemical ozone creation potential

Resource Use and Waste – United States Production – 1 m^2 of workspace maintained for 10 Years

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
RPR_E [MJ]	9.21E+02	4.61E-01	3.54E-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	4.56E-01	0.00E+00	3.08E+00	-4.07E+01
RPR_M [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RPR_T [MJ]	9.21E+02	4.61E-01	3.54E-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	4.56E-01	0.00E+00	3.08E+00	-4.07E+01
$NRPR_E$ [MJ]	3.05E+03	1.14E+01	5.45E-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	1.13E+01	0.00E+00	4.32E+01	-2.14E+02
$NRPR_M$ [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
$NRPR_T$ [MJ]	3.05E+03	1.14E+01	5.45E-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	1.13E+01	0.00E+00	4.32E+01	-2.14E+02
SM [kg]	1.02E+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	0.00E+00	0.00E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m^3]	8.91E-01	1.99E-03	3.62E-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	1.97E-03	0.00E+00	3.43E-02	-4.93E-02
HWD [kg]	1.59E-05	9.55E-10	7.94E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-10	0.00E+00	6.99E-09	-3.30E-08
NHWD [kg]	1.96E+01	1.03E-03	3.91E-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	1.02E-03	0.00E+00	3.91E+01	-2.29E-01
RWD [kg]	1.17E-01	2.73E-05	6.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.70E-05	0.00E+00	5.85E-04	-8.42E-03
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR [kg]	2.72E+00	0.00E+00	7.81E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.81E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER [kg]	0.00E+00	0.00E+00	1.09E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

RPR_E=Renewable Primary Energy from Non-Materials; RPR_M =Renewable Primary Energy from Materials; RPR_T =Total Renewable Primary Energy; $NRPR_E$=Non-Renewable Primary Energy from Non-Materials; $NRPR_M$ =Non-Renewable Primary Energy from Materials; $NRPR_T$ =Total Non-Renewable Primary Energy; SM=Use of Secondary Materials; RSF=Use of Renewable Secondary Fuels; NRSF=Use of Non-Renewable Secondary Fuels; FW=Net Use of Fresh Water; HWD=Hazardous Waste Disposed; NHWD=Non-Hazardous Waste Disposed; RWD=Radioactive Waste Disposed; CRU=Components for Reuse; MFR=Materials for Recycling; MER=Materials for Energy Recovery; EE=Exported Energy