

Statement of Verification

BREG EN EPD No.: 000089

Issue 04

ECO EPD Ref. No. 00000271

This is to verify that the

Environmental Product Declaration

provided by:

Medite Europe DAC

is in accordance with the requirements of:

EN 15804:2012+A1:2013

and

BRE Global Scheme Document SD207

This declaration is for:

MEDITE FR Clear



Company Address

Redmondstown
Clonmel
County Tipperary
Ireland



Signed for BRE Global Ltd

Emma Baker

Operator

28 February 2020

Date of this Issue

17 December 2015

Date of First Issue

16 December 2020

Expiry Date



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To check the validity of this statement of verification please, visit www.greenbooklive.com/check or contact us.

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Environmental Product Declaration

EPD Number: 000089

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom www.bre.co.uk	BRE Environmental Profiles 2013 Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012+A1:2013
Commissioner of LCA study	LCA consultant/Tool
Medite Europe DAC Redmondstown Clonmel County Tipperary Ireland	Kim Allbury BRE Bucknalls Lane Watford WD25 9XX United Kingdom www.bre.co.uk
Declared/Functional Unit	Applicability/Coverage
1 tonne of MEDITE FR CLEAR MDF	Product Average
EPD Type	Background database
Cradle to Gate	ecoinvent
Demonstration of Verification	
CEN standard EN 15804 serves as the core PCR ^a	
Independent verification of the declaration and data according to EN ISO 14025:2010 <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	
(Where appropriate ^b) Third party verifier: Nigel Jones	
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)	
Comparability	
Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A1:2013. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A1:2013 for further guidance	

Information modules covered

Product			Construction		Use stage							End-of-life				Benefits and loads beyond the system boundary
A1	A2	A3	A4	A5	Related to the building fabric					Related to the building		C1	C2	C3	C4	D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, Recovery and/or Recycling potential
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Medite Europe DAC
 Redmondstown
 Clonmel
 County Tipperary
 Ireland

Construction Product:

Product Description

MEDITE FR CLEAR Euroclass B is an MDF panel developed specifically for use in environmentally sensitive interior applications. MEDITE FR CLEAR is suitable for use in non-stressed applications in internal dry conditions as defined in EN 633 part 5. Board of this type are suitable for use only in Hazardous Class 1 of EN 355-3. Panel sizes will vary according to customer requirements.

The technical information data in the following table provides the values across all thicknesses.

Technical Information

Medite FR Eco Euroclass B MDF Technical Specification				Thickness (mm)			
PROPERTY	RANGE	TEST METHOD	UNITS	6-9	>9-12	>12-19	>19-25
Internal Bond	MIN	EN 319	N/mm ²	0.90	0.90	0.80	0.70
Modulus of Rupture	Min	EN 310	N/mm ²	28.0	28.0	24.0	22.0
Modulus of Elasticity	Min	EN 310	N/mm ²	3,000	3,000	2,800	2,500
Screw Holding Face	Min	EN 320	N	-	-	1500	1500
Screw Holding Edge	Min	EN 320	N	-	-	1000	1000
Moisture Content	Min-Max	EN 322	%	4.0 - 8.0	4.0 - 8.0	4.0 - 8.0	4.0 - 8.0
Thickness Tolerance		EN 324-1	mm	+/-0.15	+/-0.15	+/-0.15	+/-0.15
Thickness Swell (24hrs)	Max	EN 317	%	15.0	10.0	7.0	5.0
Dimensional Movement							
Length/Width		EN 318	%	0.40	0.40	0.40	0.40
Thickness		EN 318	%	6.0	6.0	6.0	6.0
<small>The results as listed above are based on the minimum specification requirements for all Medite FR Eco Euroclass B manufactured by Medite Europe. All board parameters are in compliance with EN 622 parts 1 & 5 for type MDF.H (Option 1). As part of the Medite Europe ongoing product development programme, the right to modify these product specifications without notice is reserved. Medite FR Eco Euroclass B conforms to E1 formaldehyde levels as well as also complying with the lower levels required by CARB phase 2.</small>							

Medite Europe DAC operates an ongoing product development and innovation programme. We therefore reserve the right to modify this product specification without notice. Current technical data may be viewed on our website www.mdfosb.com.

Main Product Contents

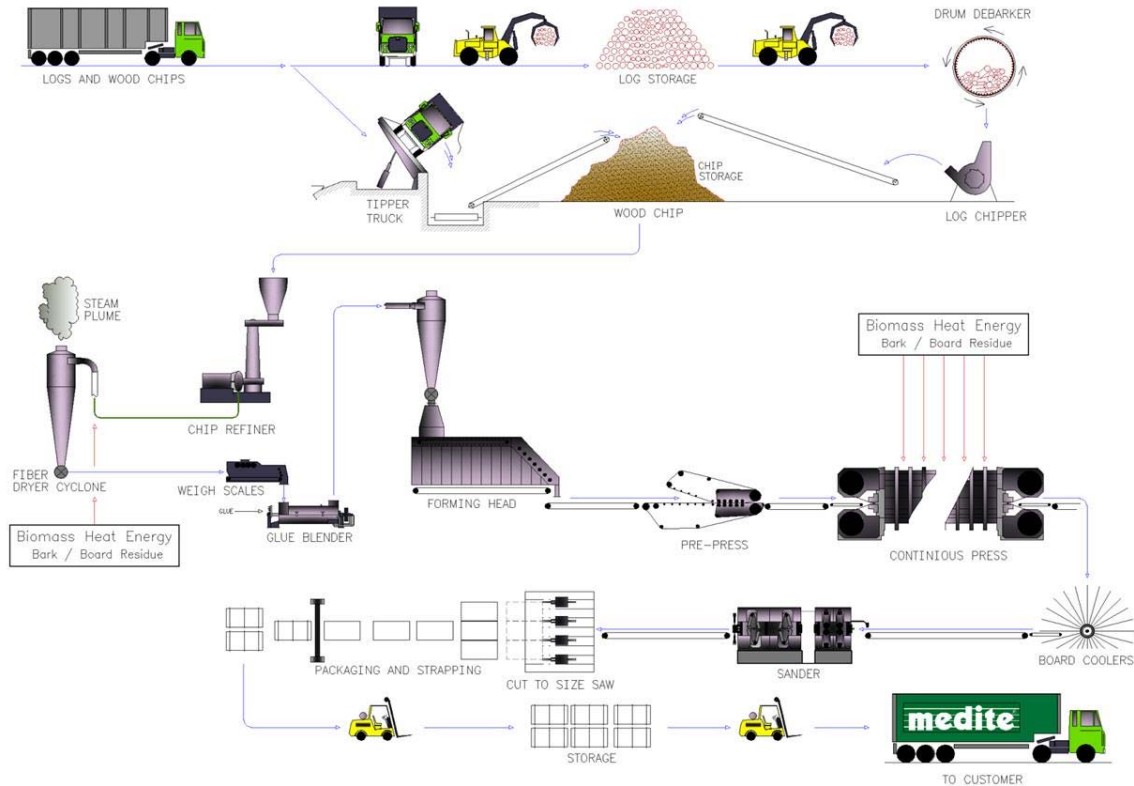
Material/Chemical Input	%
Wood	76.5
Additives	18.5
Moisture	5

Manufacturing Process

MEDITE FR CLEAR is manufactured by refining softwood chips into wood fibres and combining it with resin glue and other additives. The wood fibre is then conveyed and dried by hot air through tube dryers. The dried fibre passes over a continuous weigh belt and is conveyed to Fibre storage bins, ready for the next production stage. The wood fibre mat is then formed by even controlled spreading of the dried, resinated wood fibre onto a continuously moving wire mesh belt. The depth and width of wood fibre spread is pre-set according to thickness, width and density required.

The mat is then compressed down to a more compact form, excess fibre is trimmed off the edges and recycled back into the wood fibre forming system. The fibre mat then moves through a continuous hot press, which consists of an upper and lower continuously moving heated steel belt, the pressed panel is cross cut to the required length, then cooled, stacked and moved for either immediate storage or sanding.

Process flow diagram



Life Cycle Assessment Calculation Rules

Declared / Functional unit description

The declared unit is 1 tonne of MEDITE FR CLEAR MDF panel.

System boundary

In accordance with the modular approach as defined in EN 15804:2012, this cradle-to-gate EPD includes the product stage (A1-A3).

Data sources, quality and allocation

Specific foreground data derived from the production process at Clonmel is used in the production LCA for modules A1 – A3. Generic data is used for all other upstream and downstream processes that are beyond the control of the manufacturer (e.g. raw material production and energy).

Modelling of the life cycle of MEDITE FR CLEAR was performed using SimaPro 8 LCA software from PRé. Background LCI datasets were taken from ecoinvent database v3.1. Where the creation of additional background datasets was required, these have been created using ecoinvent datasets.

In accordance with the requirements of EN 15804, the most current available production data was used. The manufacturer specific data from Medite covered a production period of 1 year (01/01/2014 to 31/12/2014).

All allocation procedures in the background datasets were according to EN 15804 and based on the ISO 14044 guidance.

Medite manufactures other MDF panels at the Clonmel site, in addition to those covered by this EPD. Calculations were performed to enable allocation of total site energy use, water use, waste and emissions to the MEDITE FR CLEAR product.

Cut-off criteria

All raw materials, packaging materials and consumable item inputs, and associated transport to the plant, process energy and water use, direct production waste and emissions to air and water are included.

LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts			GWP	ODP	AP	EP	POCP	ADPE	ADPF
			kg CO ₂ equiv.	kg CFC 11 equiv.	kg SO ₂ equiv.	kg (PO ₄) ³⁻ equiv.	kg C ₂ H ₄ equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	-948	0.0000496	7.68	1.30	1.30	0.0037	16400
Construction process stage	Transport	A4	MND	MND	MND	MND	MND	MND	MND
	Construction	A5	MND	MND	MND	MND	MND	MND	MND
Use stage	Use	B1	MND	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND	MND
End of life	Operational water use	B7	MND	MND	MND	MND	MND	MND	MND
	Deconstruction, demolition	C1	MND	MND	MND	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND	MND	MND	MND
Potential benefits and loads beyond the system boundaries	Disposal	C4	MND	MND	MND	MND	MND	MND	MND
	Reuse, recovery, recycling potential	D	MND	MND	MND	MND	MND	MND	MND

GWP = Global Warming Potential;
 ODP = Ozone Depletion Potential;
 AP = Acidification Potential for Soil and Water;
 EP = Eutrophication Potential;

POCP = Formation potential of tropospheric Ozone;
 ADPE = Abiotic Depletion Potential – Elements;
 ADPF = Abiotic Depletion Potential – Fossil Fuels;

LCA Results (continued)

Parameters describing resource use, primary energy			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	32200	1.06	32200	16500	0.00	16500
Construction process stage	Transport	A4	MND	MND	MND	MND	MND	MND
	Construction	A5	MND	MND	MND	MND	MND	MND
Use stage	Use	B1	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND	MND	MND
	Disposal	C4	MND	MND	MND	MND	MND	MND
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND	MND	MND	MND

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
 PERM = Use of renewable primary energy resources used as raw materials;
 PERT = Total use of renewable primary energy resources;

PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
 PENRM = Use of non-renewable primary energy resources used as raw materials;
 PENRT = Total use of non-renewable primary energy resource

LCA Results (continued)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m ³
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.00	3630	0.00	28.4
Construction process stage	Transport	A4	MND	MND	MND	MND
	Construction	A5	MND	MND	MND	MND
Use stage	Use	B1	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND
	Disposal	C4	MND	MND	MND	MND
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND	MND

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;

NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

LCA Results (continued)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG
	Total (of product stage)	A1-3	2.49	0.71	0.023
Construction process stage	Transport	A4	MND	MND	MND
	Construction	A5	MND	MND	MND
Use stage	Use	B1	MND	MND	MND
	Maintenance	B2	MND	MND	MND
	Repair	B3	MND	MND	MND
	Replacement	B4	MND	MND	MND
	Refurbishment	B5	MND	MND	MND
	Operational energy use	B6	MND	MND	MND
	Operational water use	B7	MND	MND	MND
End of life	Deconstruction , demolition	C1	MND	MND	MND
	Transport	C2	MND	MND	MND
	Waste processing	C3	MND	MND	MND
	Disposal	C4	MND	MND	MND
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND

HWD = Hazardous waste disposed;
 NHWD = Non-hazardous waste disposed;
 RWD = Radioactive waste disposed

LCA Results (continued)

Other environmental information describing output flows – at end of life						
			CRU	MFR	MER	EE
			kg	kg	kg	MJ per energy carrier
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.0423	12.3	0.00	0.00
Construction process stage	Transport	A4	MND	MND	MND	MND
	Construction	A5	MND	MND	MND	MND
Use stage	Use	B1	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND
	Disposal	C4	MND	MND	MND	MND
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND	MND

CRU = Components for reuse;
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

Summary, comments and additional information

Interpretation

The results show that there is a negative Climate Change impact associated with the MEDITE FR CLEAR MDF panel during the production stage (A1-A3) – see Figure 1. This negative Climate Change impact is caused by the sequestration of carbon in the forest to produce the log; this carbon sequestration takes carbon dioxide (CO₂) from the air and fixes the carbon in the timber. The amount of CO₂ offset relates solely to the amount of wood in the final panel, not the amount of wood used to make the panel.

The largest contributors to the GWP total are the additives and electricity consumption. The ‘site aspects’ category contains the site data which is common to all products and has been allocated on a volume basis i.e. packaging and emissions to air/water and solid waste.

In regards to the other parameters describing environmental impacts, Figure 2 shows that the largest sources of contribution to these are the additives and energy consumption (electricity and diesel).

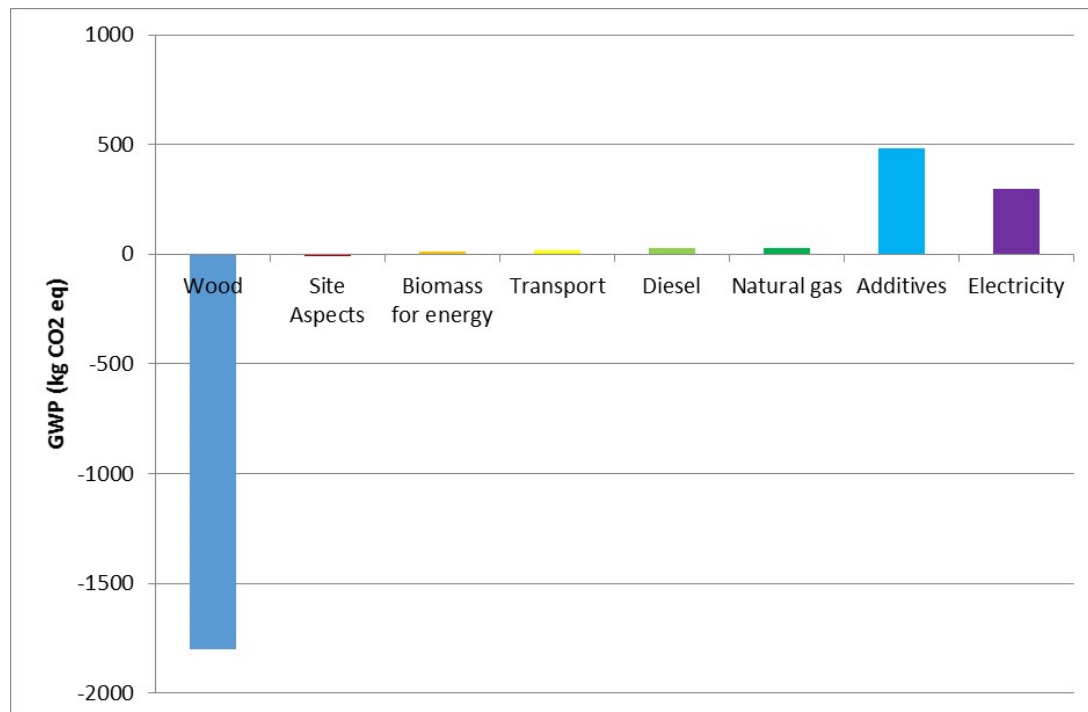


Figure 1

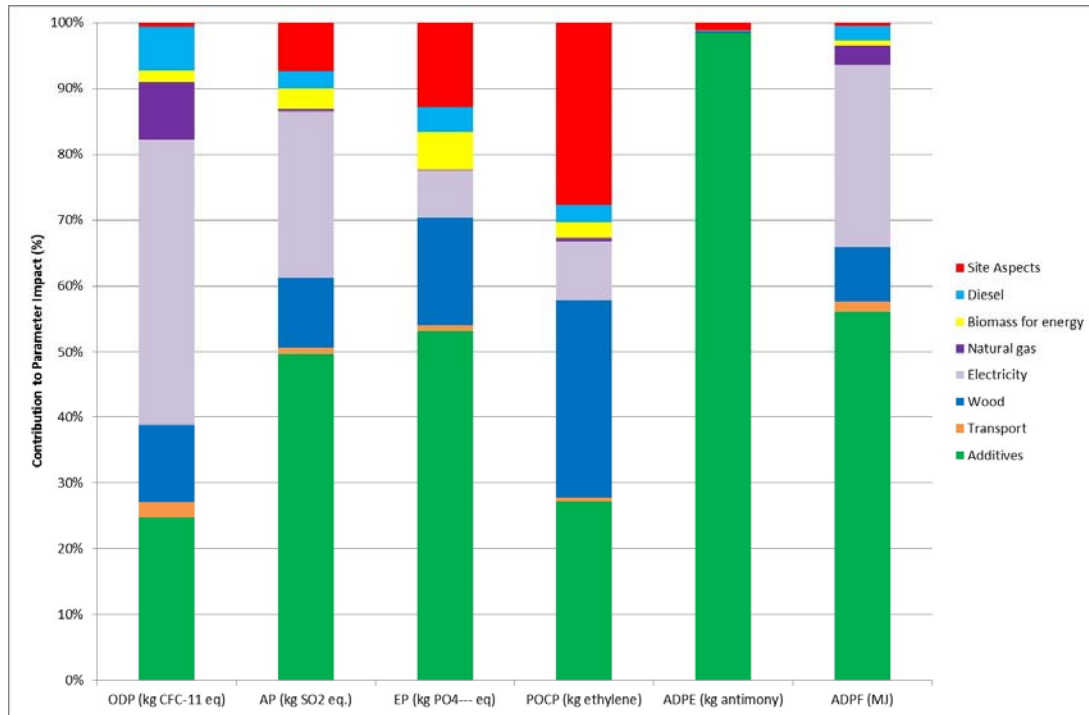


Figure 2

References

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