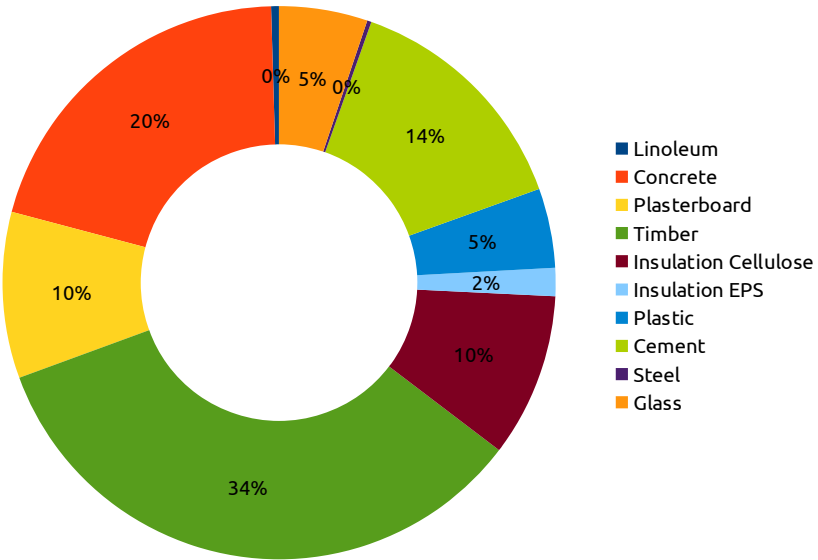


ESTIMATION OF EMBODIED EMISSIONS

Material	Quantity (kg)	Emissions (kg CO2 eq)
Linoleum	2298	2781
Concrete	102060	38783
Sand	214502	1094
Plasterboard	48545	18933
Timber	170257	60563
Insulation Cellulose	47807	12058
Insulation EPS	8277	27232
Plastic	23182	53572
Cement	70384	52084
Steel	1254	1901
Glass	25838	23512
TOTAL	714404	292511

QUANTITY OF MATERIALS [kg as %]



BREEAM RATING A+ MATERIALS USED IN THE PROJECT

Wall construction (A+)
pre-treated softwood weatherboarding
breather membrane
plywood (temperate EN 636-2)
sheathing
timber frame with insulation
vapour control layer
plasterboard on battens
paint

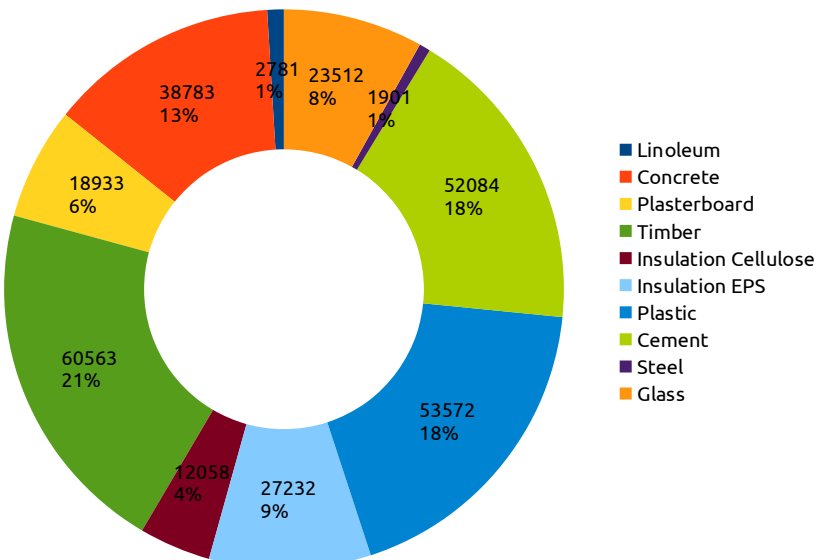
Framed partitions (A+)

timber stud
plasterboard
paint

Insulation (A+)

Dry blown recycled cellulose insulation - density 24kg/m3
Expanded polystyrene (EPS) - with different densities

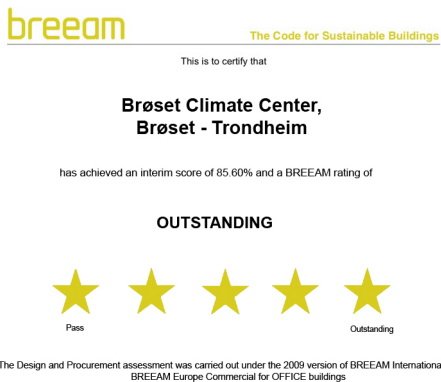
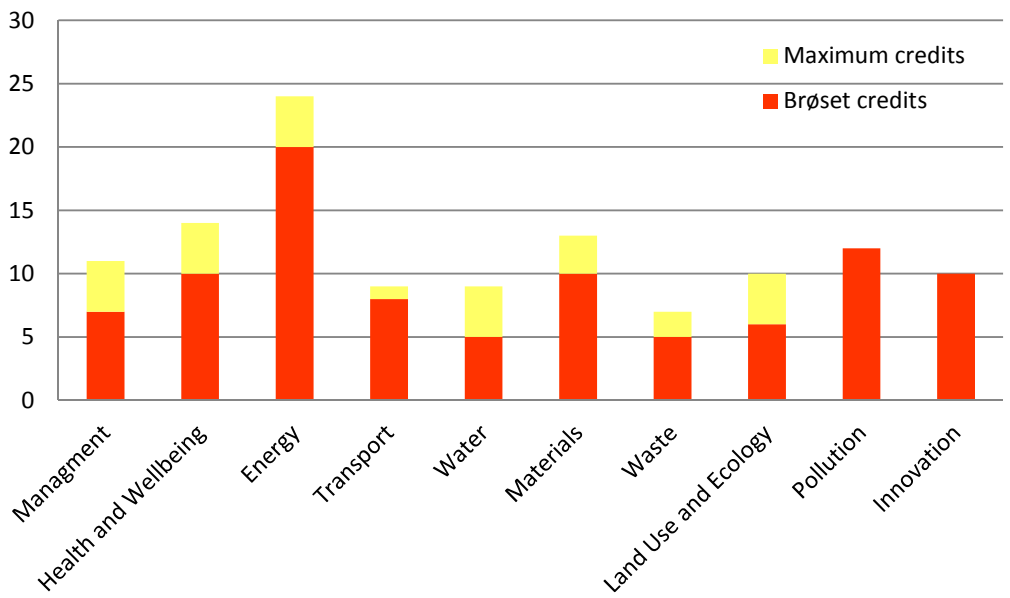
CO₂ EMISSIONS OF MATERIALS [kg CO₂ eqv]



BREEAM EVALUATION

CATEGORY	Issue title	Credits available	Issue weighting	VIP	TECH	FREE	Credits achieved Proved	Assumed	Not relevant issue
Management (section weighting 0.12)	Man 1 - Commissioning	2	0.24			x	2		
	Man 2 - Constructors' Environmental & Social Code of Conduct	2	0.24			x	2		
	Man 3 - Construction Site Impacts	4 (min.2)	0.48			x	2		
	Man 4 - Building User Guide	1	0.12			x	1		
	Man 12 - Life Cycle Cost Analysis	2	0.24			x			x
Health and Wellbeing (section weighting 0.15)	Hea 1 - Daylighting	1	0.15	x			1		
	Hea 2 - View Out	1	0.15	x			1		
	Hea 3 - Glare Control	1	0.15		x		1		
	Hea 4 - High frequency lighting	1	0.15		x			1	
	Hea 5 - Internal and external lighting levels	1	0.15			x			x
	Hea 6 - Lighting zones and controls	1	0.15			x			x
	Hea 7 - Potential for Natural Ventilation	1	0.15	x			1		
	Hea 8 - Indoor Air Quality	1	0.15		x			1	
	Hea 9 - Volatile Organic Compounds (VOCs)	1	0.15			x		1	
	Hea 10 - Thermal Comfort	2	0.3		x			2	
	Hea 11 - Thermal Zoning	1	0.15			x	1		
	Hea 12 - Microbial Contamination	1	0.15			x			x
	Hea 13 - Acoustic Performance	1	0.15		x				x
	Hea 14 - Office Space	(no credits)							
Energy (section weighting 0.19)	Ene 1 - Energy Efficiency	15 (min.10)	2.85	x			15		
	Ene 2 - Sub-metering of Substantial Energy Uses	1	0.19			x		1	
	Ene 3 - Sub-metering og High Energy Load and Tenancy Areas	1	0.19			x			x
	Ene 4 - External Lighting	1	0.19		x				x
	Ene 5 - Low or Zero Carbon Technologies	3 (min.1)	0.57	x			3		
	Ene 6 - Building fabric performance	(no credits)							
	Ene 7 - Cold Storage	(no credits)							
	Ene 8 - Lifts	2	0.38			x		1	
	Ene 9 - Escalators and travelling walkways	1	0.19			x			x
Transport (section weighting 0.08)	Tra 1 - Provision of Public Transport	2	0.16			x	2		
	Tra 2 - Proximity to amenities	1	0.08			x	1		
	Tra 3 - Alternative modes of transport	2	0.16	x			2		
	Tra 4 - Pedestrian and Cyclist Safety	1	0.08	x			1		
	Tra 5 - Travel Plan	1	0.08			x			x
	Tra 6 - Maximum Car Parking Capacity	2	0.16			x	2		
	Tra 7 - Travel Information Point	(no credits)							
	Tra 8 - Deliveries & Manoeuvring	(no credits)							
Water (section weighting 0.06)	Wat 1 - Water Consumption	3 (min.2)	0.18			x		2	
	Wat 2 - Water Meter	1	0.06			x	1		
	Wat 3 - Major Leak Detection	1	0.06			x			x
	Wat 4 - Sanitary Supply Shut Off	1	0.06			x			x
	Wat 6 - Irrigation Systems	1	0.06			x			x
	Wat 7 - Vehicle Wash	(no credits)							
	Wat 8 - Sustainable on-site water treatment	2	0.12			x	2		
Materials (section weighting 0.125)	Mat 1 - Materials Specification (Major Building Elements)	4	0.5	x			4		
	Mat 2 - Hard Landscaping and Boundary Protection	1	0.125			x	1		
	Mat 3 - Re-Use of Facade	1	0.125			x			x
	Mat 4 - Re-Use of Structure	1	0.125			x			x
	Mat 5 - Responsible Sourcing of Materials	3	0.375			x	3		
	Mat 6 - Insulation	2	0.25	x			2		
	Mat 7 - Designing for Robustness	1	0.125			x			x
Waste (section weighting 0.075)	Wst 1 - Construction Site Waste Management	3	0.225			x		2	
	Wst 2 - Recycled Aggregates	1	0.075			x		1	
	Wst 3 - Recyclable Waste Storage	1	0.075			x		1	
	Wst 4 - Compactor / Baler	(no credits)							
	Wst 5 - Composting	1	0.075			x		1	
	Wst 6 - Floor Finishes	1	0.075			x			x
Land Use and Ecology (section weighting 0.1)	LE 1 - Reuse of Land	1	0.1			x		1	
	LE 2 - Contaminated Land	1	0.1			x			x
	LE 3 - Ecological Value of Site, Protection of Ecological Features	1	0.1			x		1	
	LE 4 - Mitigating Ecological Impact	5 (min.2)	0.5			x		2	
	LE 6 - Long Term Impact on Biodiversity	2	0.2			x		2	
Pollution (section weighting 0.1)	Pol 1 - Refrigerant GWP – Building Services	1	0.1			x		1	
	Pol 2 - Preventing Refrigerant Leaks	2	0.2			x		2	
	Pol 3 - Refrigerant GWP – Cold Storage	(no credits)							
	Pol 4 - NOx emissions from heating source	3	0.3			x		3	
	Pol 5 - Flood Risk	3	0.3			x		3	
	Pol 6 - Minimising Watercourse Pollution	1	0.1			x		1	
	Pol 7 - Reduction of Night Time Light Pollution	1	0.1			x		1	
	Pol 8 - Noise Attenuation	1	0.1			x		1	
Innovation (section weighting 0.1)	Inn 1 - Innovation	10	1	x			10		
	Tot credits available	119					Credits achieved Proved 53	Assumed 40	Not relevant issues 17
							Total 93		(18 credits)

BREEAM Section	Credits Achieved	Credits Available	% of Credits Achieved	Section Weighting	Section Score
Management	7	11	63.6	0.12	7.64%
Health and Wellbeing	10	14	71.4	0.15	10.71%
Energy	20	24	83.3	0.19	15.83%
Transport	8	9	88.9	0.08	7.11%
Water	5	9	55.6	0.06	3.33%
Materials	10	13	76.9	0.125	9.62%
Waste	5	7	71.4	0.075	5.36%
Land Use and Ecology	6	10	60	0.10	6%
Pollution	12	12	100	0.10	10%
Innovation	10	10	100	0.10	10%
Final BREEAM score					85.60%
BREEAM Rating					OUTSTANDING



RESULT SUMMARY - THE FIVE GOALS

