

# Ecoeffect environmental impact assessment of **natural resource consumption** **(ANNEX Documents)**

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# 1 Weighting Aspects

## 1.1 Weighting of weighting aspects

### 1.1.1 Weighting level I.

Weighting between different aspects for Natural resource consumption: Extent, Seriousness and Recovery Potential.

**I** Which aspect is the most important for natural resource consumption regarding the accessibility of coming generation to use them as today? How much more important?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely SHORTER

	E	V	M	m	Eq	m	M	V	E	
extent				X						seriousness
extent				X						recovery potential
seriousness						X				recovery potential

### 1.1.2 Weighting level II.

Weighting between different aspects within the main weighting aspects (level I) for Natural resource consumption: supply horizon with exploitation rate of change, resource market value with accessibility rate of change and recovering energy rate with regeneration time.

**II** Which aspect is the most important for natural resource consumption regarding the accessibility of coming generation to use them as today? How much more important?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely SHORTER

	E	V	M	m	Eq	m	M	V	E	
supply horizon				X						exploitation change
market value										accessibility change
regeneration time			X							recovering energy rate

## 2 Category Equivalencies

**1** Which resource has the shortest *supply horizon*? How much shorter is it?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely SHORTER

	E	V	M	m	Eq	m	M	V	E	
copper				X						oil
<b>28,5</b>										<b>40</b>
copper		X								sand
<b>28,5</b>										<b>L</b>
copper			X							wood
<b>28,5</b>										<b>330</b>

**2** Which resource is the fastest exploited? How much faster is it?  
*ref: Exploitation change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely FASTER

	E	V	M	m	Eq	m	M	V	E	
copper				X						oil
<b>3,6</b>										<b>1,3</b>
copper					X					sand
<b>3,6</b>										<b>4</b>
copper			X							wood
<b>3,6</b>										<b>0,8</b>

**3** For which resource has the yearly extraction the largest market value? How much larger?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely LARGER

	E	V	M	m	Eq	m	M	V	E	
copper								X		oil
<b>16</b>										<b>302,25</b>
copper						X				sand
<b>16</b>										<b>50</b>
copper							X			wood
<b>16</b>										<b>181,7</b>

**4** For which resource has the accessibility been reduced fastest? How much faster?  
*ref: embodied energy rate of change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
copper										oil
copper										sand
copper										wood

**5** Which natural resource needs more time to regenerate? How much more time?  
*ref: years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely more **TIME**

	E	V	M	m	Eq	m	M	V	E	
copper					X					oil
<b>EL</b>										<b>EL</b>
copper					X					sand
<b>EL</b>										<b>EL</b>
copper	X									wood
<b>EL</b>										<b>70</b>

**6** Which resource needs more energy to regenerate? How much more?  
*ref: recovering energy/embodied energy*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely much **MORE**

	E	V	M	m	Eq	m	M	V	E	
copper									X	oil
<b>14</b>										<b>EL</b>
copper									X	sand
<b>14</b>										<b>EL</b>
copper							X			wood
<b>14</b>										<b>1</b>

### 3 Resource Factors

#### 3.1 Metals

**1** Which resource has the shortest *supply horizon*? How much shorter is it?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely SHORTER

	E	V	M	m	Eq	m	M	V	E	
copper		X								aluminium
<b>28</b>										<b>196</b>
copper		X								chromium
<b>28</b>										<b>300</b>
copper			X							iron
<b>28</b>										<b>117</b>
copper					X					lead
<b>28</b>										<b>23</b>
copper					X					nickel
<b>28</b>										<b>37</b>
copper						X				silver
<b>28</b>										<b>18</b>
copper					X					tin
<b>28</b>										<b>39</b>
copper					X					zinc
<b>28</b>										<b>25</b>

**2** Which resource is the fastest exploited? How much faster is it?  
 Ref: *Exploitation change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely FASTER

	E	V	M	m	Eq	m	M	V	E	
copper						X				aluminium
<b>3,6</b>										<b>5</b>
copper				X						chromium
<b>3,6</b>										<b>-1,1</b>
copper					X					iron
<b>3,6</b>										<b>0,9</b>
copper				X						lead
<b>3,6</b>										<b>-0,7</b>
copper					X					nickel
<b>3,6</b>										<b>2,5</b>
copper					X					silver
<b>3,6</b>										<b>0,6</b>
copper					X					tin
<b>3,6</b>										<b>2,5</b>
copper						X				zinc
<b>3,6</b>										<b>4,8</b>

**3** For which resource has the yearly extraction the largest market value? How much larger?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely LARGER

	E	V	M	m	Eq	m	M	V	E	
copper						X				aluminium
<b>16</b>										<b>25,6</b>
copper				X						chromium
<b>16</b>										<b>1,1</b>
copper								X		iron
<b>16</b>										<b>412</b>
copper				X						lead
<b>16</b>										<b>1,4</b>
copper					X					nickel
<b>16</b>										<b>4,3</b>
copper					X					silver
<b>16</b>										<b>2,4</b>
copper				X						tin
<b>16</b>										<b>1</b>
copper						X				zinc
<b>16</b>										<b>7</b>

**4** For which resource has the accessibility been reduced fastest? How much faster?  
*ref: embodied energy rate of change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
copper										aluminium
copper										chromium
copper										iron
copper										lead
copper										nickel
copper										silver
copper										tin
copper										zinc

**5** Which natural resource needs more time to regenerate? How much more time?  
*ref: years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely more **TIME**

	E	V	M	m	Eq	m	M	V	E	
copper					X					aluminium
<b>EL</b>										<b>EL</b>
copper					X					chromium
<b>EL</b>										<b>EL</b>
copper					X					iron
<b>EL</b>										<b>EL</b>
copper					X					lead
<b>EL</b>										<b>EL</b>
copper					X					nickel
<b>EL</b>										<b>EL</b>
copper					X					silver
<b>EL</b>										<b>EL</b>
copper					X					tin
<b>EL</b>										<b>EL</b>
copper					X					zinc
<b>EL</b>										<b>EL</b>

**6** Which resource needs more energy to regenerate? How much more?  
*ref: recovering energy/embodied energy*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely much MORE

	E	V	M	m	Eq	m	M	V	E	
copper				X						aluminium
<b>14</b>										<b>4,6</b>
copper					X					chromium
<b>14</b>										<b>16</b>
copper						X				iron
<b>14</b>										<b>25</b>
copper										lead
<b>14</b>										
copper					X					nickel
<b>14</b>										<b>12,5</b>
copper										silver
<b>14</b>										
copper										tin
<b>14</b>										
copper						X				zinc
<b>14</b>										<b>27,5</b>

### 3.2 Fuels

**1** Which resource has the shortest *supply horizon*? How much shorter is it?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely SHORTER

	E	V	M	m	Eq	m	M	V	E	
oil			X							coal
<b>40</b>										<b>172</b>
oil					X					natural gas
<b>40</b>										<b>63</b>
oil			X							peat
<b>40</b>										<b>200</b>
oil					X					uranium
<b>40</b>										<b>90</b>
oil	X									wood-fuels
<b>40</b>										<b>EL</b>



**2** Which resource is the fastest exploited? How much faster is it?  
*Ref: Exploitation change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely FASTER

	E	V	M	m	Eq	m	M	V	E	
oil							X			coal
<b>1,3</b>										<b>5,4</b>
oil								X		natural gas
<b>1,3</b>										<b>17</b>
oil						X				peat
<b>1,3</b>										<b>0,7</b>
oil				X						uranium
<b>1,3</b>										<b>-11</b>
oil									X	wood-fuels
<b>1,3</b>										<b>40</b>

**3** For which resource has the yearly extraction the largest market value? How much larger?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely LARGER

	E	V	M	m	Eq	m	M	V	E	
oil		X								coal
<b>302</b>										<b>41</b>
oil		X								natural gas
<b>302</b>										<b>62</b>
oil	X									peat
<b>302</b>										<b>0,6</b>
oil	X									uranium
<b>302</b>										<b>0,4</b>
oil	X									wood-fuels
<b>302</b>										<b>0,17</b>

**4** For which resource has the accessibility been reduced fastest? How much faster?  
*ref: embodied energy rate of change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
oil										coal
oil										natural gas
oil										peat
oil										uranium
oil										wood-fuels

**5** Which natural resource needs more time to regenerate? How much more time?  
*ref: years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
oil					X					coal
<b>EL</b>										<b>EL</b>
oil					X					natural gas
<b>EL</b>										<b>EL</b>
oil					X					peat
<b>EL</b>										<b>EL</b>
oil					X					uranium
<b>EL</b>										<b>EL</b>
oil	X									wood-fuels
<b>EL</b>										<b>70</b>

**6** Which resource needs more energy to regenerate? How much more?  
*ref: recovering energy/embodied energy*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely much MORE

	E	V	M	m	Eq	m	M	V	E	
oil					X					coal
<b>EL</b>										<b>EL</b>
oil					X					natural gas
<b>EL</b>										<b>EL</b>
oil					X					peat
<b>EL</b>										<b>EL</b>
oil					X					uranium
<b>EL</b>										<b>EL</b>
oil	X									wood-fuels
<b>EL</b>										<b>1</b>

### 3.3 Minerals

**1** Which resource has the shortest *supply horizon*? How much shorter is it?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely SHORTER

	E	V	M	m	Eq	m	M	V	E	
sand					X					cement
<b>L</b>										<b>EL</b>
sand					X					clay
<b>L</b>										<b>EL</b>
sand										granite
<b>L</b>										
sand					X					gravel
<b>L</b>										<b>L</b>
sand					X					gypsum
<b>L</b>										<b>L</b>
sand										marble
<b>L</b>										
sand									X	phosphate rock
<b>L</b>										<b>83</b>

**2** Which resource is the fastest exploited? How much faster is it?  
*Ref: Exploitation change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
sand				X						cement
<b>4</b>										<b>0,1</b>
sand				X						clay
<b>4</b>										<b>1,8</b>
sand										granite
<b>4</b>										
sand					X					gravel
<b>4</b>										<b>4</b>
sand				X						gypsum
<b>4</b>										<b>0,3</b>
sand										marble
<b>4</b>										
sand					X					phosphate rock
<b>4</b>										<b>2,25</b>

**3** For which resource has the yearly extraction the largest market value? How much larger?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **LARGER**

	E	V	M	m	Eq	m	M	V	E	
sand				X						cement
<b>50</b>										<b>111</b>
sand				X						clay
<b>50</b>										<b>17</b>
sand										granite
<b>50</b>										
sand					X					gravel
<b>50</b>										<b>50</b>
sand				X						gypsum
<b>50</b>										<b>0,7</b>
sand										marble
<b>50</b>										
sand					X					phosphate rock
<b>50</b>										<b>3,2</b>

**4** For which resource has the accessibility been reduced fastest? How much faster?  
*ref: embodied energy rate of change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
sand										cement
sand										clay
sand										granite
sand										gravel
sand										gypsum
sand										marble
sand										phosphate rock

**5** Which natural resource needs more time to regenerate? How much more time?  
*ref: years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
sand					X					cement
<b>EL</b>										<b>EL</b>
sand					X					clay
<b>EL</b>										<b>EL</b>
sand					X					granite
<b>EL</b>										<b>EL</b>
sand					X					gravel
<b>EL</b>										<b>EL</b>
sand					X					gypsum
<b>EL</b>										<b>EL</b>
sand					X					marble
<b>EL</b>										<b>EL</b>
sand					X					phosphate rock
<b>EL</b>										<b>EL</b>

**6** Which resource needs more energy to regenerate? How much more?  
*ref: recovering energy/embodied energy*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely much MORE

sand										X											cement	
<b>EL</b>																						<b>EL</b>
sand										X												clay
<b>EL</b>																						<b>EL</b>
sand										X												granite
<b>EL</b>																						<b>EL</b>
sand										X												gravel
<b>EL</b>																						<b>EL</b>
sand										X												gypsum
<b>EL</b>																						<b>EL</b>
sand										X												marble
<b>EL</b>																						<b>EL</b>
sand																						phosphate rock
<b>EL</b>										X												<b>EL</b>

### 3.4 Flora

**1** Which resource has the shortest *supply horizon*? How much shorter is it?  
*Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely SHORTER*

	E	V	M	m	Eq	m	M	V	E	
wood										cork
<b>330</b>										
wood										straw
<b>330</b>										
wood					X					wood (Sweden)
<b>330</b>										<b>EL</b>

**2** Which resource is the fastest exploited? How much faster is it?  
*Ref: Exploitation change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely FASTER

	E	V	M	m	Eq	m	M	V	E	
wood										cork
<b>0,8</b>										
wood										straw
<b>0,8</b>										
wood						X				wood (Sweden)
<b>0,8</b>										<b>8</b>

**3** For which resource has the yearly extraction the largest market value? How much larger?  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **LARGER**

	E	V	M	m	Eq	m	M	V	E	
wood										cork
<b>181,7</b>										
wood										straw
<b>181,7</b>										
wood					X					wood (Sweden)
<b>181,7</b>										<b>181,7</b>

**4** For which resource has the accessibility been reduced fastest? How much faster?  
*ref: embodied energy rate of change over the last 10 years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
wood										cork
wood										straw
wood										wood (Sweden)

**5** Which natural resource needs more time to regenerate? How much more time?  
*ref: years*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely **FASTER**

	E	V	M	m	Eq	m	M	V	E	
wood										cork
<b>70</b>										
wood										straw
<b>70</b>										
wood					X					wood (Sweden)
<b>70</b>										<b>70</b>

**6** Which resource needs more energy to regenerate? How much more?  
*ref: recovering energy/embodied energy*  
 Eq= Equally, m = moderate, M = Much, V = Very much, E = Extremely much MORE

	E	V	M	m	Eq	m	M	V	E	
wood										cork
<b>1</b>										
wood										straw
<b>1</b>										
wood					<b>X</b>					wood (Sweden)
<b>1</b>										<b>1</b>



## 4 Database and Database Sources

### 4.1 EcoEffect Resources Values

		Total Reserves	ref	Yearly Exploitat	ref	Yearly Growth	ref	Embodied Energy	ref	Recover. Energy (%)	ref	Regenerat Time	ref	Res Market price	ref
<b>METALS</b>															
														\$/Tn	
Copper	90			9	4,1		-								
	97	320	30	11,3	30		-	19	2	3,16(16,6%)	31	EL		1414	52
Alumin *	90			17,95	1		-								
	97	23000*	30	21,2	30		-	107	2	5 (4,65 %)	31	EL		1210	52
Cadmium	90			20,2	35		-								
	97	0,530	30	0,019	35		-					EL		2205	30
Chromium	90			12,96	42		-								
	97	3600	30	12	30		-	61,2	42	10,15(16,6%)	31	EL		97,5	30
Cobalt	92			0,02794	37		-								
	97	4	30	0,027	30		-					EL		23	30
Iron	96			1020	30		-								
	97	167000	30	1030	30		-	22,05	48	5,51 (25%)	31	EL		400	30
Lead	90			2,92	30		-								
	97	65	30	2,9	30		-	16	46			EL		480	52
Mercury	96			0,00289	30		-								
	97	0,13	30	0,003	30		-					EL		200(\$/flask)	30
Nickel	90			0,918	30		-								
	97	40	30	1,08	30		-	79,29	36	9,91(12,5%)	31	EL		3955	52
Silver	96			15,2	30		-							491 (\$c/Oz)	52
	97	0,28	30	15,3	30		-			0,23	65	EL		158052	52
Tin	90			0,196	30		-								
	97	7,7	30	0,201	30		-							5090	52
Zinc	90			7,44	30		-								
	97	190	30	7,8	30		-			(27,5%)		EL		899	52
<b>FUELS</b>															
Oil	90	137	12	3450	12		-								
	98			27557,5	54		-	4,47	23	EL		EL		10,98 (\$/bar)	52
Bio-fuels	90						-								
	95						-								
Coal	90	501195	1	1029,1			-								
	97			1088,4			-	2,53	23	EL		EL		37,8	54
Natural gas	90	98812,5	1	1581	1		-								
				24,3(10 <sup>12</sup> cf)	54		-	5,35	23	EL		EL		3,53(\$/10 <sup>3</sup> cf)	54
Peat	96			25,8	30		-								
	97	5200	30	26	30		-			EL		EL		26	30
Uranium	92			37			-	0,124 (U308)							
				31,64	45		-	146	60	EL		EL		11000	56
Wood-fuels	90			10,2(Twh)	26	50-60 (Twh)	43								
	95	50-60 (Twh)	43	20,7(Twh)	27	50-60 (Twh)	43	0,37	24	1		1		15 (\$/MWh)	66

		<b>Total Reserves</b>	<b>ref</b>	<b>Yearly Exploitat</b>	<b>ref</b>	<b>Yearly Growth</b>	<b>ref</b>	<b>Embodied Energy</b>	<b>ref</b>	<b>Recover. Energy (%)</b>	<b>ref</b>	<b>Regenerat Time</b>	<b>ref</b>	<b>Res Market price</b>	<b>ref</b>
<b>MINERALS</b>															
Sand	96			>>>1031	30	-									
	97	L	30	>>>1076	30	-	05	50		EL		EL		18,1	30
Cement	96			1485	30	-									
	97	EL	30	1500	30	-	3,02	53		EL		EL		74,5	30
Clay	96			43100	30	-									
	97	EL	30	43900	30	-	0,288	53		EL		EL		40	30
Gravel	96			>>>1031	30	-									
	97	L	30	>>>1076	30	-	0,00625	32		EL		EL		18,1	30
Granite						-									
		L	30			-									
Gypsum	96			99,7	30	-									
	97	L	30	100	30	-	2	32		EL		EL		7,1	30
Marble															
Phosphate	96			133	30	-								43	61
	97	11000	30	136	30	-	0,105	39		EL		EL		23,7	30
<b>FLORA</b>															
Wood	80														
	90	5120,2	19	3430	1		0,22	2		0,22 (1%)	3	70		53,5	67
Cork															
Straw															
Wood (Swe)	70														
	90			65	8	100	8								
	93	2776	3	71	3	94	3	0,137	3	0,22 (1%)	3	70		53,5	67

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Table 5.3.1. Database Values for resources operated in the EcoEffect '98 (version 981231)

## 4.2 EcoEffect Weighting Aspects Database

		Supply Horizon	[ ]	Resource Significan.	[ ]	Accessibil.	[ ]	Exploitat. Change Rate	[ ]	Recover. Energy Rate	[ ]	Regenerat Time	[ ]
		ref		ref		ref		ref		ref		ref	
<b>METALS</b>		<b>Years (1/y)</b>		<b>B\$</b>		<b>Mj/Kg</b>						<b>Years</b>	
Copper	o	28,5 (0,035)	Ee	15,97	52	19	2	3,6	Ee	14	32,40	EL	Ee
Alumin.	o	196 (0,0051)	1	25,65	52	107	2	5	Ee	4,65	31	EL	Ee
Cadmium		27,17 (0,0368)	Ee	0,042	Ee			0	Ee			EL	Ee
Chromium	o	303 (0,00333)	Ee	1,17	Ee	61,2	42	0	Ee	16,6	31	EL	Ee
Cobalt		148 (0,00675)	Ee	1,37	Ee			0	Ee			EL	Ee
Iron	o	117 (0,0085)	1	412	Ee	22,05	48	1	Ee	25	31	EL	Ee
Lead	o	22,5 (0,0446)	Ee	13,92	52	16	46	0	Ee			EL	Ee
Mercury		43,5 (0,023)	Ee					3,8	Ee			EL	Ee
Nickel	o	37 (0,027)	Ee	4,27	52	79,29	36	2,5	Ee	12,5	31	EL	Ee
Silver	o	18,51 (0,054)	Ee	2,41	52			0,65				EL	Ee
Tin	o	38,5 (0,0261)	Ee	1,02	52			2,5	Ee			EL	Ee
Zinc	o	24,5 (0,041)	Ee	7,01	52	29,6	32	4,8	Ee	27,5	31	EL	Ee
												EL	Ee
<b>FUELS</b>													
Oil	o	40 (0,025)	Ee	302,58	52,54	4,47	23	1,3	54	>>>1	Ee	EL	Ee
Bio-fuels									Ee				
Coal	o	172 (0,0058)	1	41,17	Ee	2,53	23	5,4		>>>1	Ee	EL	Ee
Natural gas	o	62,5 (0,016)	1	43,74	Ee	5,35	23	17	Ee	>>>1	Ee	EL	Ee
Peat		200 (0,005)	Ee	0,6				0,7	Ee	>>>1	Ee	EL	Ee
Uranium	o	90 (0,0111)	51	0,4	Ee	0,146	57	-11	Ee	>>>1	Ee	EL	Ee
Wood-fuels	o	EL (-0,008285)	Ee	0,172	Ee	0,37	24	40	Ee	1	Ee	1	Ee
<b>MINERALS</b>													
Sand	o	L	Ee	>>>5	Ee	0,5	50	4	Ee	>>>1	Ee	EL	Ee
Cement	o	EL	Ee	111,75	Ee	4,699	53	0,1	Ee	>>>1	Ee	EL	Ee
Clay	o	EL	Ee	>>>1,72	Ee	0,288	Ee,53	1,8	Ee	>>>1	Ee	EL	Ee
Gravel	o	L	Ee	>>>5	Ee	0,00625	32	4	Ee	>>>1	Ee	EL	Ee
Granite										>>>1	Ee	EL	Ee
Gypsum	o	L	Ee	0,71	Ee	2	32	0,3	Ee	>>>1	Ee	EL	Ee
Marble												EL	Ee
Phosphate	o	83,3 (0,012)	Ee	3,22	Ee	0,105	39	2,25	Ee	>>>1	Ee	EL	Ee
<b>FLORA</b>													
Wood	o	333 (0,003)	1	181,7	Ee	0,22	3	0,8	8	1	Ee	70	3
Cork													
Straw													
Wood (Swe)	o	EL (-0,008285)	Ee	181,7(3,7)	Ee	0,142	3	8	3,8	1	Ee	70	3

Table 5.3.2. Weighting Aspects Database for resources operated in the EcoEffect '98 (version 981231)

### 4.3 EcoEffect Resource Factors

<b>RESOURCE FACTOR</b>			
Reference Category	<b>METALS</b>	<b>rf</b>	<b>Resource Factor RF</b>
Category Reference	Copper	<b>1</b>	<b>1</b>
	Aluminium	<b>0,59</b>	<b>0,59</b>
	Cadmium		
	Chromium	<b>0,33</b>	<b>0,33</b>
	Cobalt		
	Iron	<b>0,68</b>	<b>0,68</b>
	Lead	<b>1</b>	<b>1</b>
	Nickel	<b>0,67</b>	<b>0,67</b>
	silver		
	tin		
	Zinc	<b>1,04</b>	<b>1,04</b>
	<b>FUELS</b>	<b>rf</b>	<b>Resource Factor RF</b>
Category Reference	Oil	<b>1</b>	<b>0,73</b>
	Coal	<b>0,49</b>	<b>0,73</b>
	Natural Gas	<b>0,71</b>	<b>0,73</b>
	Peat	<b>0,35</b>	<b>0,73</b>
	Uranium	<b>0,408</b>	<b>0,73</b>
	Wood-fuels	<b>0,23</b>	<b>0,73</b>
	<b>MINERALS</b>	<b>rf</b>	<b>Resource Factor RF</b>
Category Reference	Sand	<b>1</b>	<b>0,6</b>
	Cement	<b>0,77</b>	<b>0,6</b>
	Clay	<b>0,58</b>	<b>0,6</b>
	Granite		<b>0,6</b>
	Gravel	<b>1</b>	<b>0,6</b>
	Gypsum	<b>0,72</b>	<b>0,6</b>
	Marble		<b>0,6</b>
	Phosphate	<b>1,60</b>	<b>0,6</b>
	<b>FLORA</b>	<b>rf</b>	<b>Resource Factor RF</b>
Category Reference	Wood (World)	<b>1</b>	<b>0,38</b>
	Cork		<b>0,38</b>
	Straw		<b>0,38</b>
	Wood (Sweden)	<b>0,62</b>	<b>0,38</b>

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