

Jarduera Akademikoen Ingurumen Aztarna Kalkulatzeko Tresnaren Garapena eta Aplikazioa

EHU-Aztarna

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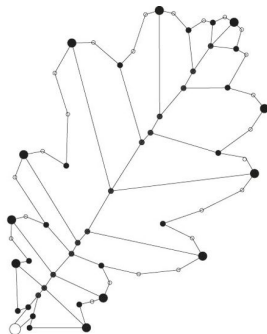
1. Sarrera
 - 1.1. Helburuak
 - 1.2. Metodologia

2. Emaitzak
 - 2.1. Tresna
 - 2.2. Interpretazioa

3. Ondorioak

1. Sarrera

CBL
CAMPUS BIZIA LAB.



1.1. Helburuak

- Jarduera akademikoarekin lotutako prozesuak eta ingurumen inpaktuak ezagutu eta kuantifikatzea: inpaktu iturri nagusiak identifikatu.
- Ingurumenari buruzko informazio kontrastatua lortu.
- Ikasleek aurrera eramandako Gradu Amaierako Lanetako ingurumen aztarnaren kalkulua etorkizunean ezarri.
- UPV/EHUK emaitzak zabaldu, gardentasuna eta ingurumenarekiko kontzientzia erakutsiz.

1.2. Metodologia



Ecoinvent 3.7 datu basea:

- Metal, ongarri, basogintza eta egurrarekin, ontziratze materialekin, hondakin / birziklapenarekin, biogasaren hornidura-kateekin eta elektrizitatearekin lotutako 900 datu multzo.

1.3. Metodologia



OpenLCA softwarea:

- Bizi-Zikloaren Analisia
- Software librea
- Aurrez hautatutako metodologia eta datu basearekin bateragarria.

2. Emaitzak



Inpaktu koefizienteak

- Lurreko ekotoxikotasuna
- Baliabide fosilen urritasuna
- Itsas ekotoxikotasuna
- Baliabide mineralen urritasuna
- Lurreko azidotzea
- Berotze globala
- Ozonoa eratzea
- Partikula finen eraketa
- Ur gezako ekotoxikotasuna
- Erradiazio ionizatzailea
- Uraren kontsumoa
- Giza toxikotasun minbiziduna
- Ozono estratosferikoa agortzea
- Giza toxikotasun ez minbiziduna
- Ur gezako eutrofizazioa
- Lurraren erabilera
- Itsas eutrofizazioa

Energy consumption

Process	Functional Unit	Process in Database	Description	Location
Electricity	1 kWh	market for electricity, low voltage electricity, low voltage Cutoff, U	<p>This dataset describes the electricity available on the low voltage level in Spain for year 2014. This is done by showing the transmission of 1kWh electricity at low voltage. The shares of electricity technologies on this market are valid for the year 2017. They have been calculated by the data provider and don't necessarily correspond with the production volumes entered in the undefined datasets of the different electricity producers. The shares have been calculated based on statistics from 2017: IEA World Energy Statistics and Balances. OECD iLibrary, eISSN: 1663-4240, DOI: 10.1787/enestats-data-en and ENTSO-E: Physical Energy & Power Flows, https://www.entsoe.eu/data/power-stats/physical-flows/. Grid losses are based on data from 2017 (also IEA World Energy Statistics and Balances). Further information can be found in a report available on ecoQuery, section 'Files'. This activity starts from 1kWh of electricity fed into the low voltage transmission network. This activity ends with the transport of 1 kWh of low voltage electricity in the transmission network over aerial lines and cables. This dataset includes: - electricity inputs produced in this country and from imports and transformed to low voltage - the transmission network - direct emissions to air (SF6 from the insulation gas in the high voltage level switchgear are allocated to the electricity demand on medium voltage). - electricity losses during transmission. This dataset doesn't include - electricity losses during transformation from high to medium voltage or medium to low, as these are included in the dataset for transformation - leakage of insulation oil from cables and electro technical equipment (transformers, switchgear, circuit breakers) because this only happens in case of accidental release - SF6 emissions during production and deconstruction of the switchgear, as these are accounted for in the transmission network dataset.</p>	Spain

Parameter 1		Parameter 2		Parameter 3		Parameter 4		Parameter 5	
Quantity 1	Unit 1	Quantity 2	Unit 2	Quantity 3	Unit 3	Quantity 4	Unit 4	Quantity 5	Unit 5
5	kWh	-		-		-		-	

Global warming (GWP100a) kg CO2 eq	Acidification kg SO2 eq	Abiotic depletion (fossil fuels) MJ	Fresh water Aquatic ecotox. kg 1,4-DB eq	Eutrophication kg PO4-- eq	Terrestrial Ecotoxicity kg 1,4-DB eq	Photochemical Oxidation kg C2H4 eq	Ozone layer Depletion (ODP) kg CFC-11 eq	Abiotic Depletion kg Sb eq	Marine aquatic Ecotoxicity kg 1,4-DB eq	Human Toxicity kg 1,4-DB eq
1,9324	0,01405	22,4453	1,7739	0,0034	0,0171	0,0005	0,000000100683	0,0000351735	3575,1618	1,2245

2.2. Interpretazioa

Impacts of academic activity

Process	Global warming (GWP100a) kg CO2 eq	Acidification kg SO2 eq	Abiotic depletion (fossil fuels) MJ	Fresh water Aquatic ecotox. kg 1,4-DB eq	Eutrophication kg PO4 ³⁻ eq	Terrestrial Ecotoxicity kg 1,4-DB eq	Photochemical Oxidation kg C2H4 eq	Ozone layer Depletion (ODP) kg CFC-11 eq	Abiotic Depletion kg Sb eq	Marine aquatic Ecotoxicity kg 1,4-DB eq	Human Toxicity kg 1,4-DB eq
Energy consumption	1,9324	0,01405	22,4453	1,7739	0,0034	0,0171	0,0005	0,00000106683	0,0000351735	3575,1618	1,2245
Consumption materials	0	0	0	0	0	0	0	0	0	0	0
Treatment of generated waste	0	0	0	0	0	0	0	0	0	0	0
Transportation needs	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1,9324	0,01405	22,4453	1,7739	0,0034	0,0171	0,0005	0,00000106683	0,0000351735	3575,1618	1,2245

3. Ondorioak

- Jarduera akademikoaren alor batzuen inpaktuak erraz kalkulatzeko tresna bat sortu da.
- Sortutako tresna kalkulu-orri bat da eta ikasleek eskuragarri izango dute.
- Ikasleek, euren MaL edo GrAL-ekin lotutako ingurumen-inpaktuak kalkulatu ahal izango dituzte.