



PONTIFICIA UNIVERSIDAD
CATOLICA
DE VALPARAISO



ESCUELA DE
INGENIERÍA
BIOQUÍMICA



XCLAB
Curso Latinoamericano
de Biotecnología
24 al 29 de julio
2016
Valparaíso | Chile

Análisis de Ciclo de Vida

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Escuela de Ingeniería Bioquímica

*Tradición en Bioprocesos
desde 1970*



Valparaíso, 27 de Julio de 2016

Abriendo SimaPro database...

SimaPro Database Server 2.08 (7.3.3) [NexusDB / Active]

SimaPro Database Server

Server Help

Aliases

Alias Name	Path
Default	C:\Documents and Settings\All Users\Docu...

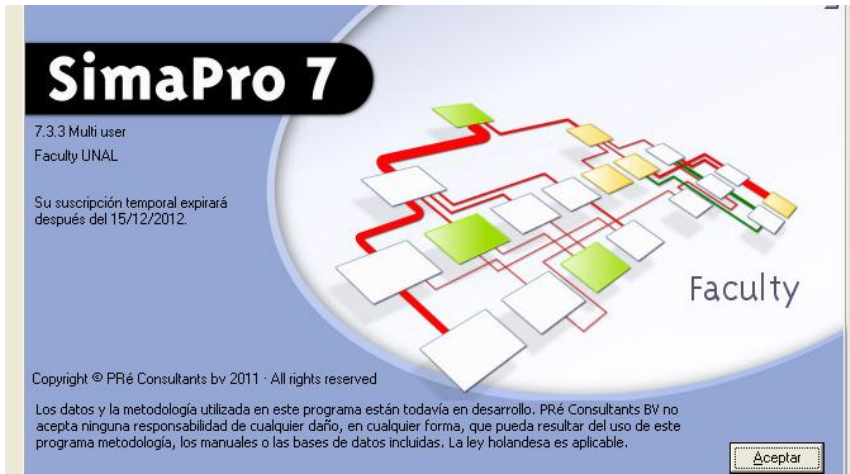
Alias Name: Path: ...

Add Update Delete

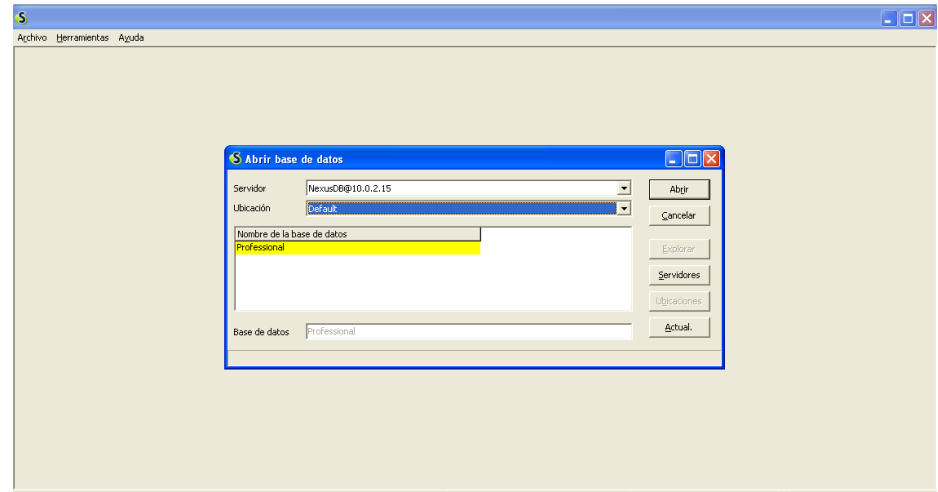
Version: 2.0803 Release (D11)

Abriendo SimaPro

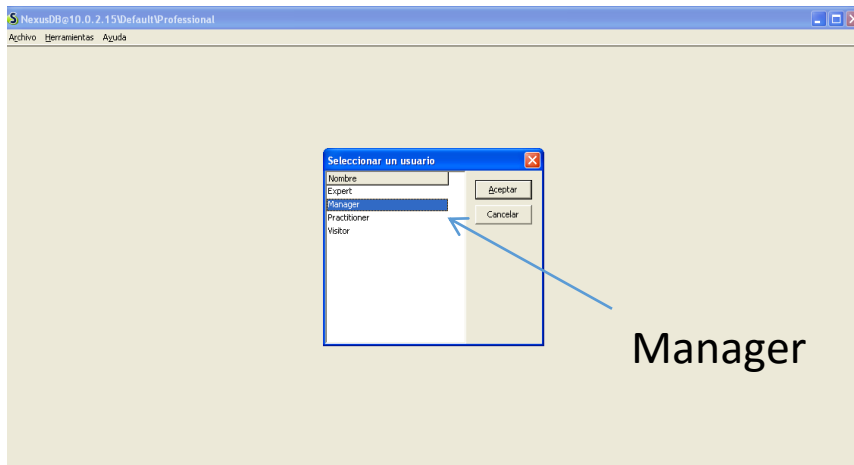
Paso 1



Paso 2



Paso 3



Explorador

NexusDB@10.0.2.15 Default Professional

Archivo Editar Calcular Herramientas Ventana Ayuda

Navegador ACV

- Instructor
 - Instructores
- Objetivo y alcance
 - Descripción
 - Bibliotecas
- Inventario
 - Procesos
 - Fases del producto
 - Tipos de residuo
 - Parámetros
- Evaluación de impacto
 - Métodos
 - Configuraciones de cálculo
- Interpretación
 - Interpretación
 - Enlace a otro documento
- Datos generales
- Referencia Bibliográfica
 - Sustancias**
 - Unidades
 - Cantidades
 - Imágenes

Sustancias

- Materias primas
- Emisiones atmosféricas
- Emisiones hídricas
- Flujos finales de residuos
- Emisiones al suelo
- Emisiones no materiales
- Aspectos sociales
- Asuntos económicos

Proyectos

Nombre	Supervisor de proye	Tipo	Protección
Ecoinvent system processes	Manager	Proyecto de bibli	
Ecoinvent unit processes	Manager	Proyecto de bibli	
ELCD	Manager	Proyecto de bibli	
EU & DK Input Output Database	Manager	Proyecto de bibli	
Industry data 2.0	Manager	Proyecto de bibli	
Introduction to SimaPro 7	Manager	Proyecto	
Introduction to SimaPro 7 MARJO	Manager	Proyecto	
LCA Food DK	Manager	Proyecto de bibli	
Methods	Manager	Proyecto de bibli	
Swiss Input Output Database	Manager	Proyecto de bibli	
Tutorial with wood example	Manager	Proyecto	
USA Input Output Database	Manager	Proyecto de bibli	
USA Input Output Database System Exp:	Manager	Proyecto de bibli	
USLCI	Manager	Proyecto de bibli	

Converted ecoinvent 2.2 data as unit processes with links to other processes, including uncertainty data. Compiled May 2010.

The Swiss centre for Life Cycle Inventories has combined and extended different LCI databases. The goal of this project was to provide a set of unified and generic LCI data of high quality. The data are mainly investigated for Swiss and Western European conditions. The ecoinvent database contains about 4100 datasets of products and services from the energy, transport, building materials, chemicals, pulp and paper, waste treatment and agricultural sector.

Detailed information, including support on how to select data, can be found in the reports on the ecoinvent CD-ROM. Should you have detailed questions on the content of the process records,

12084 elementos | 0 elementos seleccionados(as)

Menú

Proyectos

Descripción de proyectos

Explorador

Archivo Editar Calcular Herramientas Ventana Ayuda

Navegador ACV

Instructor

- Instructores
- Objetivo y alcance
 - Descripción
 - Bibliotecas
- Inventario
 - Procesos
 - Fases del producto
 - Tipos de residuo
 - Parámetros
- Evaluación de impacto
 - Métodos
 - Configuraciones de cálculo
 - Interpretación
 - Interpretación
 - Enlace a otro documento
- Datos generales
 - Referencia Bibliográfica
 - Sustancias
 - Unidades
 - Cantidades
 - Imágenes

Procesos

- Material
 - Agricultural
 - Animal product
 - Animal food
 - Food
 - Others
 - Plant oils
 - Plant productic
 - Ceramics
 - Chemicals
 - Construction
 - Electronics
 - Fishery
 - Food
 - Fuels
 - Glass
 - Input Output
 - Metals
 - Minerals
 - Others
 - Otros
 - Paper+ Board
 - Plastics
 - Textiles
 - Water
 - Wood

Nombre	Ud.	Tipo de residuo	Proyecto	Est.
Barley IP, at feed mill/CH 5	kg	Compost	Ecoinvent system proces: Nin	
Barley IP, at feed mill/CH U	kg	Compost	Ecoinvent unit processes: Nin	
Barley organic, at feed mill/CH 5	kg	Compost	Ecoinvent system proces: Nin	
Barley organic, at feed mill/CH U	kg	Compost	Ecoinvent unit processes: Nin	
Fava beans IP, at feed mill/CH 5	kg	Compost	Ecoinvent system proces: Nin	
Fava beans IP, at feed mill/CH U	kg	Compost	Ecoinvent unit processes: Nin	
Grain maize IP, at feed mill/CH 5	kg	Compost	Ecoinvent system proces: Nin	
Grain maize IP, at feed mill/CH U	kg	Compost	Ecoinvent unit processes: Nin	
Grain maize organic, at feed mill/CH 5	kg	Compost	Ecoinvent system proces: Nin	
Grain maize organic, at feed mill/CH U	kg	Compost	Ecoinvent unit processes: Nin	
Grass from meadow intensive IP, at field/CH 5	kg	no definido	Ecoinvent system proces: Nin	
Grass from meadow intensive IP, at field/CH U	kg	no definido	Ecoinvent unit processes: Nin	
Grass from meadow intensive, organic, at field/CH 5	kg	no definido	Ecoinvent system proces: Nin	
Grass from meadow intensive, organic, at field/CH U	kg	no definido	Ecoinvent unit processes: Nin	
Grass from natural meadow extensive IP, at field/CH 5	kg	no definido	Ecoinvent system proces: Nin	
Grass from natural meadow extensive IP, at field/CH U	kg	no definido	Ecoinvent unit processes: Nin	

Translated name: Gerste IP, ab Futtermühle
 Included processes: The inventory includes the transport of the raw materials to the feed processing centre, processing feedstuff (crushing or milling, heat treatment, dosing, mixing squeezing and pelleting) and the storage of the feed mixes. It also includes water use and wastewater treatment, the transformation and use of land related to the storage buildings. No process emissions were included except heat waste from the use of electricity. Packaging is not included.
 Remark: The inventory refers to 1 kg processed feedstuff (fresh weight).; Formula: 0; Geography: Values refer to feedstuff delivered in Switzerland.
 Technology: Refers to expanded feedstuff.

Filtro act. y o Borrar 44

11349 elementos 1 elemento seleccionados(as)

Sección de categorías

Sección de
datos

Sección de
Información

Instructores

Navegador ACV

Instructor

- Instructores**
- Objetivo y alcance
- Descripción
- Bibliotecas

Inventario

- Procesos
- Fases del producto
- Tipos de residuo
- Parámetros

Evaluación de impacto

- Métodos
- Configuraciones de cálculo


Interpretación


- Interpretación enlace a otro documento


Datos generales


Referencia Bibliográfica


- Sustancias
- Unidades
- Cantidades
- Imágenes


 **Calculate PAS2050**
Calculates the carbon storage and delayed emissions according to PAS2050. The result is one or more life cycles which you can link into your carbon footprint calculation.


 **Food shopping for dinner**
Try to compare the environmental effects from six food products within three categories (meat, milk and other products).

 **LCA Wizard**
The LCA wizard helps you to set up your LCA model. It is particularly useful when you want to model advanced end of life scenarios.

 **Meat for dinner**
In this script you can compare four different types of meat products and thereby make it easier to choose your meat for your dinner tonight.

 **My own freezer**
Here you can create a freezingprocess, referring to a specific object being stored. Afterwards you can find the process stored under "Use", "Preparation of food", "Cooling defined in script".

 **My own fridge**
Here you can create a coolingprocess, referring to a specific object being stored. Afterwards you can find the process stored under "Use", "Preparation of food", "Cooling defined in script".

 **Rolls for breakfast**

Descripción

Navegador ACV

Instructor	Nombre
Instructores	Taller LCA
Objetivo y alcance	Fecha
Descripción	25/07/2012
Bibliotecas	Autor
Inventario	Comentario
Procesos	Tipo ACV
Fases del producto	Unspecified
Tipos de residuo	Objetivo
Parámetros	Motivo
Evaluación de impacto	Quien ordena el proyecto
Métodos	Parte interesada
Configuraciones de cálculo	Ejecutor del Proyecto
Interpretación	
Interpretación	
Enlace a otro documento	
Datos generales	
Referencia Bibliográfica	
Sustancias	
Unidades	
Cantidades	
Imágenes	

Guardar cambios Reponer cambios

Descripción

The screenshot shows a software window titled "Navegador ACV" with a menu bar (Archivo, Editar, Calcular, Herramientas, Ventana, Ayuda) and a toolbar. The left sidebar contains a tree view with categories like "Instructor", "Objetivo y alcance", "Inventario", "Evaluación de impacto", and "Interpretación". The "Descripción" item is highlighted. The main content area displays the following information:

Nombre	Ecoinvent unit processes
Fecha	02/06/2010
Autor	The ecoinvent data are collected by a large group of Swiss institutes and consultants for the Swiss ecoinvent center. Individual authors and their affiliation are mentioned in the datasets.
Comentario	<p>Converted ecoinvent 2.2 data as unit processes with links to other processes, including uncertainty data. Compiled May 2010.</p> <p>The Swiss centre for Life Cycle Inventories has combined and extended different LCI databases. The goal of this project was to provide a set of unified and generic LCI data of high quality. The data are mainly investigated for Swiss and Western European conditions. The ecoinvent database contains about 4100 datasets of products and services from the energy, transport, building materials, chemicals, pulp and paper, waste treatment and agricultural sector.</p> <p>Detailed information, including support on how to select data, can be found in the reports on the ecoinvent CD-ROM. Should you have detailed questions on the content of the process records, you can contact the ecoinvent helpdesk via support@ecoinvent.ch.</p> <p>SimaPro contains two libraries that both contain all the processes that are found in the ecoinvent database. One library contains all 4100 unit processes, which show the specific inputs and outputs and have links to other processes. These processes are indicated by a U behind the process name. The systems library contains the calculated inventory results of all processes, saved as a system. The systems have an S extension. Note that systems do not contain uncertainty data.</p> <p>If you often use processes from the ecoinvent database as background processes, it is recommended to choose system processes to increase calculation speed. The unit processes can be used for detailed and Monte Carlo analysis. Due to their based structure, analysis of unit processes may take some time, depending on the speed of your...</p>

Buttons at the bottom right: "Guardar cambios" and "Reponer cambios".

Bibliotecas

Regador ACV

Nombre	Supervisor de proyecto	Protección
<input checked="" type="checkbox"/> Ecoinvent system processes	Manager	
<input checked="" type="checkbox"/> Ecoinvent unit processes	Manager	
<input checked="" type="checkbox"/> ELCD	Manager	
<input checked="" type="checkbox"/> EU & DK Input Output Datab...	Manager	
<input checked="" type="checkbox"/> Industry data 2.0	Manager	
<input checked="" type="checkbox"/> LCA Food DK	Manager	
<input checked="" type="checkbox"/> Methods	Manager	
<input checked="" type="checkbox"/> Swiss Input Output Database	Manager	
<input checked="" type="checkbox"/> USA Input Output Database	Manager	
<input checked="" type="checkbox"/> USA Input Output Database ...	Manager	
<input checked="" type="checkbox"/> USLCI	Manager	

Converted ecoinvent 2.2 data as results processes. No uncertainty data included. Compiled May 2010.

The Swiss centre for Life Cycle Inventories has combined and extended different LCI databases. The goal of this project was to provide a set of unified and generic LCI data of high quality. The data are mainly investigated for Swiss and Western European conditions. The ecoinvent database contains 4100 datasets of products and services from the energy, transport, building materials, chemicals, pulp and paper, waste treatment and agricultural sector.

Detailed information, including support on how to select data, can be found in the reports on the ecoinvent CD-ROM. Should you have detailed questions on the content of the process records, you can contact the ecoinvent helpdesk via support@ecoinvent.ch.

SimaPro contains two libraries that both contain all the processes that are found in the ecoinvent database. One library contains all 4100 unit processes, which show the specific inputs and outputs and have links to other processes. These processes are indicated by a U behind the process name. The systems library contains the calculated inventory results of all processes, saved as a system. The systems have an S extension. Note that systems do not contain uncertainty data.

Bibliotecas

Instructor
Instructores
Objetivo y alcance
Descripción
Bibliotecas
Inventario
Procesos
Fases del producto
Tipos de residuo
Parámetros
Evaluación de impacto
Métodos
Configuraciones de cálculo
Interpretación
Interpretación enlace a otro documento
Datos generales
Referencia Bibliográfica
Sustancias
Unidades
Cantidades
Imágenes

- Ecoinvent

Aprox. 4000 procesos.

Categorías de proceso: Material, Energía, Transporte, Transformación y tratamiento de residuos.

Bien documentado y regularmente actualizado.

- ELCD – European Life Cycle Database

Aprox. 300 procesos.

Categorías de proceso: Material, Transporte, Transformación y tratamiento de residuos.

Bibliotecas

Instructor
Instructores
Objetivo y alcance
Descripción
Bibliotecas
Inventario
Procesos
Fases del producto
Tipos de residuo
Parámetros
Evaluación de impacto
Métodos
Configuraciones de cálculo
Interpretación
Interpretación enlace a otro documento
Datos generales
Referencia Bibliográfica
Sustancias
Unidades
Cantidades
Imágenes

- Industry data

Aprox. 60 procesos, principalmente industria de plásticos.

Categorías de proceso: Material y Energía,

- LCA Food DK

Aprox. 300-400 procesos.

Categorías de proceso: Material, Energía, Transporte, Transformación, Uso y tratamiento de residuos.

- USLCI- The U.S. Life Cycle Inventory

Aprox. 250 procesos

Desarrollado por NREL

Categorías de proceso: Material, Energía, Transporte, Transformación y Tratamiento de residuos

Procesos

Archivo Editar Calcular Herramientas Ventana Ayuda

Navegador ACV

Instructor
Instructores

Objetivo y alcance
Descripción
Bibliotecas

Inventario
Procesos
Fases del producto
Tipos de residuo
Parámetros

Evaluación de impacto
Métodos
Configuraciones de cálculo

Interpretación
Interpretación
Vincula a otro documento

Datos generales
Referencia Bibliográfica
Sustancias
Unidades
Cantidades
Imágenes

Procesos

- Material
- Energía
- Transporte
- Transformaciones
- Uso
- Escenario de residuo
- Tratamiento de residuos

Nombre	Ud.	Tipo de residuo	Proyecto	Estado
--------	-----	-----------------	----------	--------

Nuevo
Editar
Ver
Copiar
Eliminar
Usado por

Mostr. en lista

Filtro act. y o Borrar 0

4117 elementos 0 elementos seleccionados(as)

Procesos

Categorías de Procesos Procesos

The screenshot shows the ACV Navigator interface. On the left is a sidebar with navigation options like 'Instructor', 'Objetivo y alcance', 'Descripción', 'Bibliotecas', 'Inventario', 'Fases del producto', 'Tipos de residuo', 'Parámetros', 'Evaluación de impacto', 'Métodos', 'Configuraciones de cálculo', 'Interpretación', 'Interpretación', 'Dato a otro documento', 'Datos generales', 'Referencia Bibliográfica', 'Sustancias', 'Unidades', 'Cantidades', and 'Imágenes'. The 'Inventario' section is expanded to show 'Procesos'. The main area displays a tree view of process categories under 'Material', including 'Agricultural', 'Animal product', 'Food', 'Plant oils', 'Plant product', 'Ceramics', 'Chemicals', 'Construction', 'Electronics', 'Fishery', 'Food', 'Fuels', 'Biofuels', 'Biogas', 'Ethanol', 'Infrastructure', 'Methane', 'Coal', 'Lignite', 'Natural gas', 'Oil', 'Peat', and 'Uranium'. The 'Biofuels' category is selected. The right pane shows a table of processes with columns for 'Nombre', 'Ud.', 'Tipo de residuo', 'Proyecto', and 'Est.'. Below the table is a detailed description for the selected process: 'Translated name: Rübenschnitzel, ab Vergärung. Included processes: Fermentation of sugar beets including materials, energy uses, infrastructure, and emissions. Remark: The multioutput-process "sugar beets, to fermentation" delivers the co-products Ethanol, 95% in H2O, from sugar beets", "beets chips", and vinasse. The allocation is based on economic criteria. World production of ethanol from sugar beets is around 10 Mio hl per year.; Geography: The inventory is modelled with data from a plant in Finland. Technology: Production of ethanol from sugar beets with extraction, fermentation, and distillation of ethanol. Time period: Time of publications. Version: 2.2'. At the bottom, there is a filter field and a 'Borrar' button.

Nombre	Ud.	Tipo de residuo	Proyecto	Est.
Beet chips, at fermentation plant/CH S	kg	no definido	Ecoinvent system proces: Nin	
Beet chips, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes Nin	
Digested matter, application in agriculture/CH S	kg	no definido	Ecoinvent system proces: Nin	
Digested matter, application in agriculture/CH U	kg	no definido	Ecoinvent unit processes Nin	
Ethyl tert-butyl ether, from bioethanol, at plant/RER S	kg	no definido	Ecoinvent system proces: Nin	
Ethyl tert-butyl ether, from bioethanol, at plant/RER U	kg	no definido	Ecoinvent unit processes Nin	
Methanol, from biomass, at regional storage/CH S	kg	no definido	Ecoinvent system proces: Nin	
Methanol, from biomass, at regional storage/CH U	kg	no definido	Ecoinvent unit processes Nin	
Methanol, from synthetic gas, at plant/CH S	kg	no definido	Ecoinvent system proces: Nin	
Methanol, from synthetic gas, at plant/CH U	kg	no definido	Ecoinvent unit processes Nin	
Palm methyl ester, at esterification plant/MY S	kg	no definido	Ecoinvent system proces: Nin	
Palm methyl ester, at esterification plant/MY U	kg	no definido	Ecoinvent unit processes Nin	
Palm methyl ester, production MY, at service station/CH S	kg	no definido	Ecoinvent system proces: Nin	
Palm methyl ester, production MY, at service station/CH U	kg	no definido	Ecoinvent unit processes Nin	
Rape methyl ester, at esterification plant/CH S	kg	no definido	Ecoinvent system proces: Nin	
Rape methyl ester, at esterification plant/CH U	kg	no definido	Ecoinvent unit processes Nin	

Descripción general de proceso

Fases del producto

Navegador ACV

Instructor

Instructores

Objetivo y alcance

Descripción

Bibliotecas

Inventario

Procesos

Fases del producto

Tipos de residuo

Parámetros

Evaluación de impacto

Métodos

Configuraciones de cálculo

Interpretación

Interpretación

Enlace a otro documento

Datos generales

Referencia Bibliográfica

Sustancias

Unidades

Cantidades

Imágenes

Fases del producto

- Montaje
 - Coffee machine (demo)
 - Sub assemblies (p...
 - Use phase product...
 - Others
 - Otros
- Ciclo de vida
- Escenario de disposición fi...
- Desensamblar
- Reutilizar

Nombre	Proyecto	Estado
Coffee pot	Introduction to SimaPro 7 Ning.	
Coffee pot	Introduction to SimaPro 7 Ning.	
Housing model Sima	Introduction to SimaPro 7 Ning.	
Housing model Sima	Introduction to SimaPro 7 Ning.	
Housing Pro (extruded alumin.)	Introduction to SimaPro 7 Ning.	
Housing Pro (extruded alumin.)	Introduction to SimaPro 7 Ning.	
Mains (230 Volt) cable	Introduction to SimaPro 7 Ning.	
Mains (230 Volt) cable	Introduction to SimaPro 7 Ning.	
Small parts for model Sima/Pro	Introduction to SimaPro 7 Ning.	
Small parts for model Sima/Pro	Introduction to SimaPro 7 Ning.	
Thermos jug for model Pro	Introduction to SimaPro 7 Ning.	
Thermos jug for model Pro	Introduction to SimaPro 7 Ning.	

Coffee pot for model Sima: glass jug with PP handle.

Filtro act. y o 12

41 elementos 0 elementos seleccionados(as)

Mostr. en lista

Tipos de residuos

Archivo Editar Calcular Herramientas Ventana Ayuda

Navegador ACV

Instructor	Nombre	Nombre de material	Proyecto
Instructores	Aluminium	Modified starch, at plant/RER U	Ecoinvent unit processes
Objetivo y alcance	Biopolymers	Poly lactide, granulate, at plant/GLO U	Ecoinvent unit processes
Descripción	Brick		
Bibliotecas	Cardboard		
Inventario	Cement		
Procesos	Ceramics		
Fases del producto	Compost		
Tipos de residuo	Coppers		
Parámetros	Ferro metals		
Evaluación de impacto	Glass		
Métodos	Newspaper		
Configuraciones de cálculo	Non-ferro		
Interpretación	Others		
Interpretación	Packaging paper		
Enlace a otro documento	Paint		
Datos generales	Paper		
Referencia Bibliográfica	PE		
Sustancias	PET		
Unidades	Plastics		
Cantidades	PP		
Imágenes	PS		
	PUR		
	PVC		
	PVDC		
	Rubber		
	Steel		
	Textile		

Base de datos

Ubicación

Base de datos

Navegador ACV

Instructor

- Instructores
- Objetivo y alcance
 - Descripción
 - Bibliotecas
- Inventario
 - Procesos
 - Fases del producto
 - Tipos de residuo
 - Parámetros
- Evaluación de impacto
 - Métodos
 - Configuraciones de cálculo
 - Interpretación
 - Interpretación
 - Enlace a otro documento
 - Datos generales
 - Referencia Bibliográfica
 - Sustancias
 - Unidades
 - Cantidades
 - Imágenes

Métodos

- European
- North American
- Others
- Otros
- Single issue
- Superseded

Nombre	Versión	Proyecto
CML 2 baseline 2000	2.05	Methods
CML 2001 (all impact categorie	2.05	Methods
Eco-indicator 99 (E)	2.08	Methods
Eco-indicator 99 (H)	2.08	Methods
Eco-indicator 99 (I)	2.08	Methods
Ecological Scarcity 2006	1.06	Methods
EDIP 2003	1.03	Methods
EPD (2008)	1.03	Methods
EPS 2000	2.06	Methods
IMPACT 2002+	2.10	Methods
ReCiPe Endpoint (E)	1.06	Methods
ReCiPe Endpoint (H)	1.06	Methods
ReCiPe Endpoint (I)	1.06	Methods
ReCiPe Midpoint (E)	1.06	Methods

Normalización/Conjunto de ponderación

- the Netherlands, 1997
- West Europe, 1995
- World, 1995
- World, 1990**

CML 2001 (baseline).

The CML 2001 (baseline) method elaborates on the problem-oriented (midpoint) approach. The CML Guide provides a list of impact assessment categories grouped into:

A: Obligatory impact categories (category indicators used in most LCAs)
 B: Additional impact categories (operational indicators exist, but are not often included in LCA studies)
 C: Other impact categories (no operational indicators available, therefore impossible to include quantitatively in LCA)

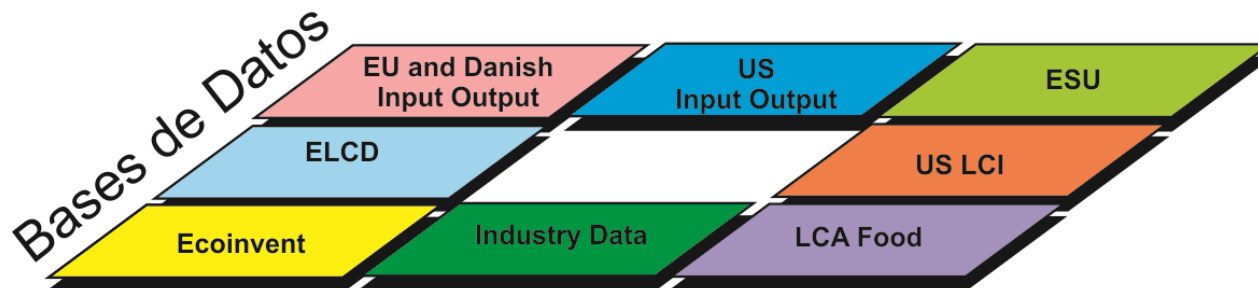
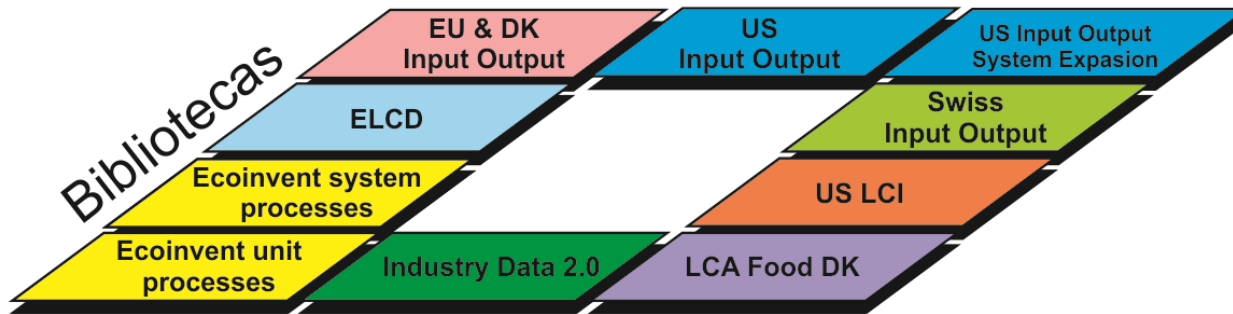
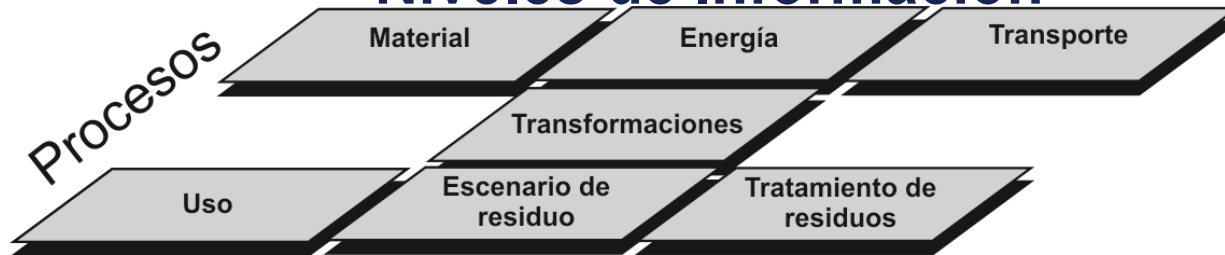
44 elementos | 0 elementos seleccionados(as) | Predet.: (No se ha seleccionado ningún método)

Métodos

Referencia de
normalización

Información de la base
de datos

Niveles de Información



Estudio de casos

Análisis

Comparación

Ver datos

The screenshot shows the ACV Navigator software interface. The main window displays a table of processes with columns for Name, Unit (Ud.), Residue Type (Tipo de residuo), Project (Proyecto), and Status (Est.). The selected process is 'Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR U'. The interface includes a navigation pane on the left, a toolbar at the top, and a right-hand menu with options like 'Nuevo', 'Editar', 'Ver', 'Copiar', 'Eliminar', and 'Usado por'. A detailed description of the selected process is shown at the bottom of the main window.

Nombre	Ud.	Tipo de residuo	Proyecto	Est.
Ethanol, 95% in H2O, from potatoes, at distillery/CH S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from potatoes, at distillery/CH U	kg	no definido	Ecoinvent unit processes	Ning
Ethanol, 95% in H2O, from rye, at distillery/RER S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from rye, at distillery/RER U	kg	no definido	Ecoinvent unit processes	Ning
Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH U	kg	no definido	Ecoinvent unit processes	Ning
Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes	Ning
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR U	kg	no definido	Ecoinvent unit processes	Ning
Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR U	kg	no definido	Ecoinvent unit processes	Ning
Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN U	kg	no definido	Ecoinvent unit processes	Ning
Ethanol, 95% in H2O, from whey, at fermentation plant/CH S	kg	no definido	Ecoinvent system proceses	Ning
Ethanol, 95% in H2O, from whey, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes	Ning

Translated name: Ethanol, 95% in H2O, aus Zuckerrohr, ab Vergärung
 Included processes: Fermentation of sugar cane including materials, energy uses, infrastructure, and emissions.
 Remark: The multioutput-process "sugar cane, to fermentation" delivers the co-products Ethanol, 95% in H2O, from sugar cane" and "electricity, bagasse, at fermentation plant". The allocation is based on economic criteria.; Geography: The inventory is modelled for Brazil.
 Technology: Production of ethanol from sugar cane with extraction, fermentation, and distillation of ethanol. Capacity of the plant: 90000 t/a.
 Time period: Time of publications.
 Version: 2.2

Modificación

Caso 1: Análisis de proceso

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Analizar

Navegador ACV

- Instructor
 - Instructores
- Objetivo y alcance
 - Descripción
 - Bibliotecas
- Inventario
 - Procesos
 - Fases del producto
 - Tipos de residuo
 - Parámetros
- Evaluación de impacto
 - Métodos
 - Configuraciones de cálculo
- Interpretación
 - Interpretación
 - Enlace a otro documento
- Datos generales
 - Referencia Bibliográfica
 - Sustancias
 - Unidades
 - Cantidades
 - Imágenes

Animal product

- Animal food
- Food
 - Others
 - Plant oils
 - Plant product
- Ceramics
- Chemicals
- Construction
- Electronics
- Fishery
- Food
- Fuels
 - Biofuels
 - Biogas
 - Ethanol
 - Infrastruct
 - Methane
 - Coal
 - Lignite
 - Natural gas
 - Oil
 - Peat
 - Uranium
 - Wood
- Glass
- Input Output
- Metal

Nombre	Ud.	Tipo de residuo	Proyecto	Est.
Ethanol, 95% in H2O, from potatoes, at distillery/CH S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from potatoes, at distillery/CH U	kg	no definido	Ecoinvent unit processes: Nin	
Ethanol, 95% in H2O, from rye, at distillery/RER S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from rye, at distillery/RER U	kg	no definido	Ecoinvent unit processes: Nin	
Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH U	kg	no definido	Ecoinvent unit processes: Nin	
Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes: Nin	
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR U	kg	no definido	Ecoinvent unit processes: Nin	
Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR U	kg	no definido	Ecoinvent unit processes: Nin	
Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN U	kg	no definido	Ecoinvent unit processes: Nin	
Ethanol, 95% in H2O, from whey, at fermentation plant/CH S	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from whey, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes: Nin	

Translated name: Ethanol, 95% in H2O, aus Zuckerrohr, ab Vergärung
 Included processes: Fermentation of sugar cane including materials, energy uses, infrastructure, and emissions.
 Remark: The multioutput-process "sugar cane, to fermentation" delivers the co-products Ethanol, 95% in H2O, from sugar cane" and "electricity, bagasse, at fermentation plant". The allocation is based on economic criteria.; Geography: The inventory is modelled for Brazil.
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 Version: 2.2

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11475 elementos 1 elemento seleccionados(as)

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Caso 1: Análisis

The screenshot shows the 'Navegador ACV' software interface. A dialog box titled 'Seleccionar un método y un conjunto de normalización-ponderación' is open, allowing the user to choose a method and a normalization/weighting set. The background shows a tree view of methods and a table of selected items.

Method Selection Table:

Nombre	Versión	Proyecto
CML 2 baseline 2000	2.05	Methods
CML 2001 (all impact categorie	2.05	Methods
Eco-indicator 99 (E)	2.08	Methods
Eco-indicator 99 (H)	2.08	Methods
Eco-indicator 99 (I)	2.08	Methods
Ecological Scarcity 2006	1.06	Methods
EDIP 2003	1.03	Methods
EPD (2008)	1.03	Methods
EPS 2000	2.06	Methods
IMPACT 2002+	2.10	Methods
ReCIpe Endpoint (E)	1.06	Methods
ReCIpe Endpoint (H)	1.06	Methods
ReCIpe Endpoint (I)	1.06	Methods
ReCIpe Midpoint (E)	1.06	Methods
ReCIpe Midpoint (H)	1.06	Methods
ReCIpe Midpoint (I)	1.06	Methods

Normalization/Weighting Set Selection:

- the Netherlands, 1997
- West Europe, 1995
- World, 1995
- World, 1990** (Selected)

Method Description:

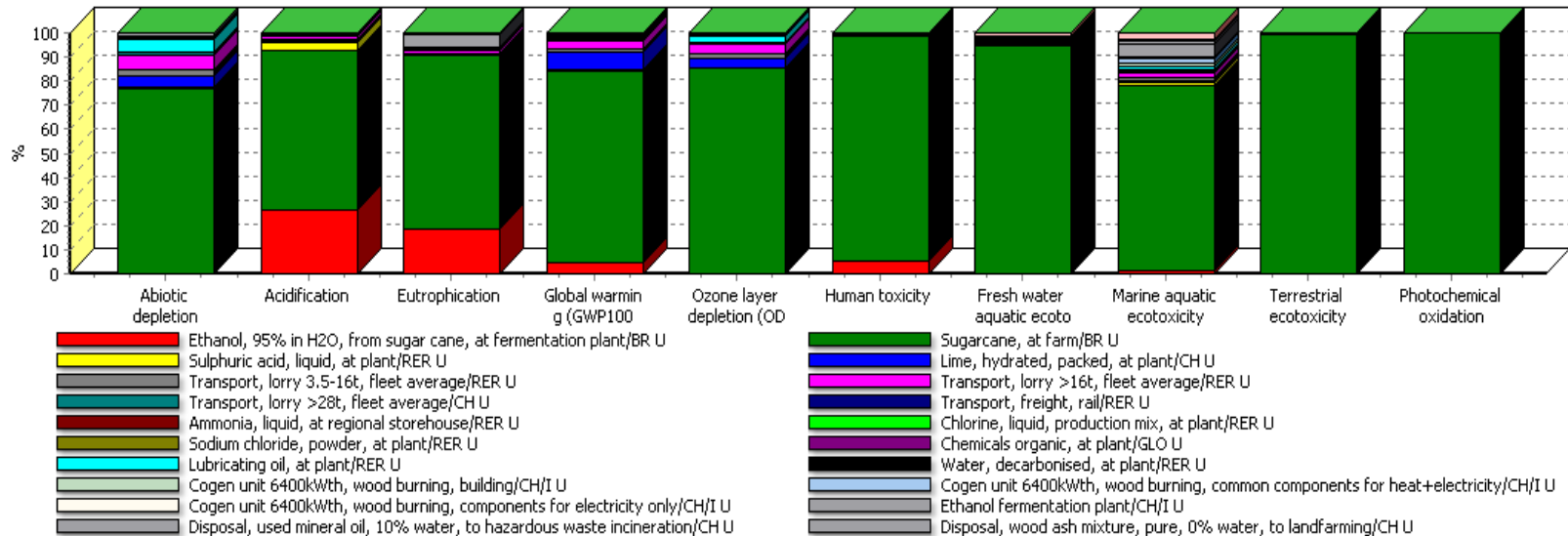
CML 2001 (baseline).
The CML 2001 (baseline) method elaborates on the problem-oriented (midpoint) approach. The CML Guide provides a list of

Background Interface Elements:

- Tree View:** Métodos > European > CML 2 baseline 2000
- Table:**

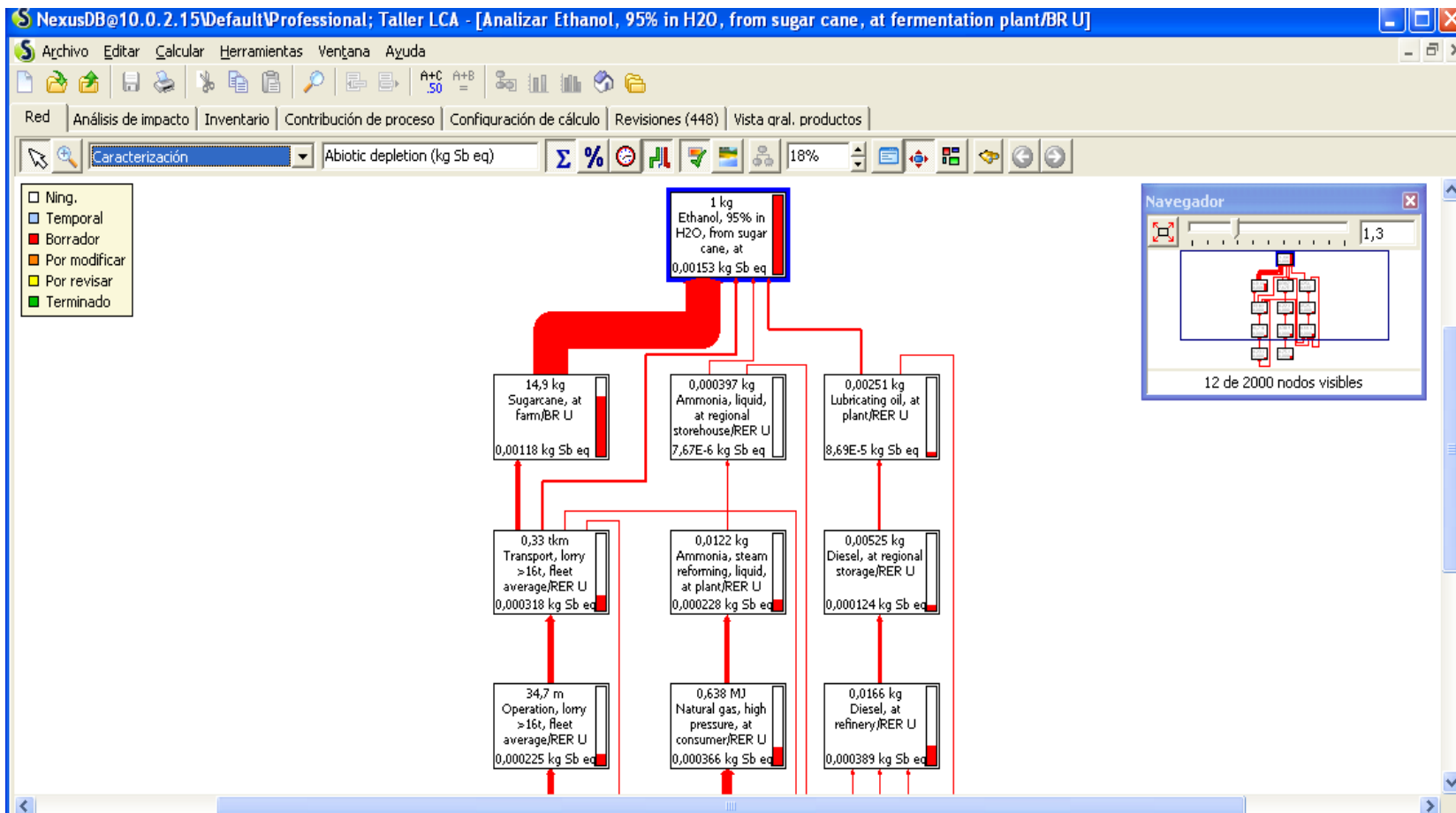
Instructor	Nombre	Ud.	Tipo de residuo	Proyecto	Est.
	Ethanol, 95% in H2O, from potatoes, at distillery/CH 5	kg	no definido	Ecoinvent system proces: Nin	
	Ethanol, 95% in H2O, from potatoes, at distillery/CH 5	kg	no definido	Ecoinvent unit processor: Nin	
- Dialog Box:** 'Nuevo configurac...' with tabs for 'General' and 'Grupos de aná...'. It includes fields for 'Nombre', 'Comentario', 'Función de cálculo' (with radio buttons for Red, Árbol, **Analizar**, Comparar), 'Método', and 'Producto' (Ethanol, 95% in H2O, f...).

Caso 1: Resultados Gráficos



Analizando 1 kg 'Ethanol, 95% in H₂O, from sugar cane, at fermentation plant/BR U'; Método: CML 2 baseline 2000 V2.05 / World, 1995 / Caracterización


Caso 1: Resultados Red



Caso 2: Comparación de casos

Comparar

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Navegador ACV

Instructor	Nombre	Ud.	Tipo de residuo	Proyecto	Est.
Animal product	Ethanol, 95% in H2O, from potatoes, at distillery/CH S	kg	no definido	Ecoinvent system proces: Nin	
Animal food	Ethanol, 95% in H2O, from potatoes, at distillery/CH U	kg	no definido	Ecoinvent unit processes Nin	
Food	Ethanol, 95% in H2O, from rye, at distillery/RER S	kg	no definido	Ecoinvent system proces: Nin	
Others	Ethanol, 95% in H2O, from rye, at distillery/RER U	kg	no definido	Ecoinvent unit processes Nin	
Plant oils	Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH S	kg	no definido	Ecoinvent system proces: Nin	
Plant productic	Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH U	kg	no definido	Ecoinvent unit processes Nin	
Ceramics	Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH S	kg	no definido	Ecoinvent system proces: Nin	
Chemicals	Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes Nin	
Construction	Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR S	kg	no definido	Ecoinvent system proces: Nin	
Electronics	Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR S	kg	no definido	Ecoinvent system proces: Nin	
Fishery	Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR U	kg	no definido	Ecoinvent unit processes Nin	
Food	Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN S	kg	no definido	Ecoinvent system proces: Nin	
Fuels	Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN U	kg	no definido	Ecoinvent unit processes Nin	
Biofuels	Ethanol, 95% in H2O, from whey, at fermentation plant/CH S	kg	no definido	Ecoinvent system proces: Nin	
Biogas	Ethanol, 95% in H2O, from whey, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol					
Infrastruct					
Methane					
Coal					
Lignite					
Natural gas					
Oil					
Peat					
Uranium					
Wood					
Glass					
Input Output					
Metal					

Translated name: Ethanol, 95% in H2O, aus Zuckerrohr, ab Vergärung
 Included processes: Fermentation of sugar cane including materials, energy uses, infrastructure, and emissions.
 Remark: The multioutput-process "sugar cane, to fermentation" delivers the co-products Ethanol, 95% in H2O, from sugar cane" and "electricity, bagasse, at fermentation plant". The allocation is based on economic criteria.; Geography: The inventory is modelled for Brazil.
 Technology: Production of ethanol from sugar cane with extraction, fermentation, and distillation of ethanol. Capacity of the plant: 90000 t/a.
 Time period: Time of publications.
 Version: 2.2

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11475 elementos 1 elemento seleccionados(as)

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Caso 2: Comparación de procesos

NexusDB@10.0.2.15\Default\Professional; Taller LCA - [Nuevo configuración de cálculo]

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General Grupos de análisis Opciones para gráfico

Nombre
Comentario

Función de cálculo

Red
 Árbol
 Analizar
 Comparar

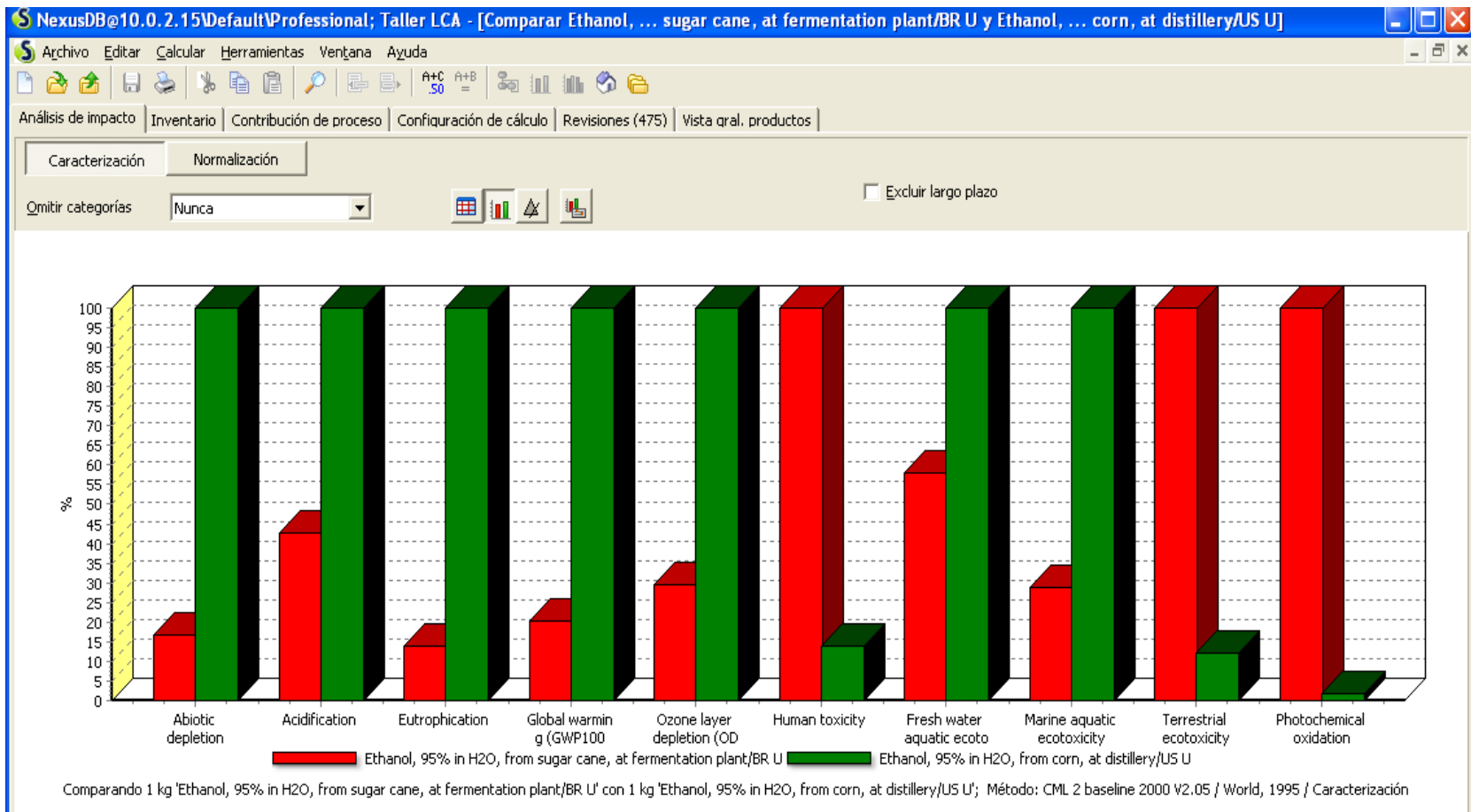
Método
CML 2 baseline 2000 V2.05 / World, 1995

Producto	Cantidad	Ud.	Proyecto	Comentario
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR U	1	kg	Ecoinvent unit processes	
Ethanol, 95% in H2O, from corn, at distillery/US U	1	kg	Ecoinvent unit processes	

Interruptores

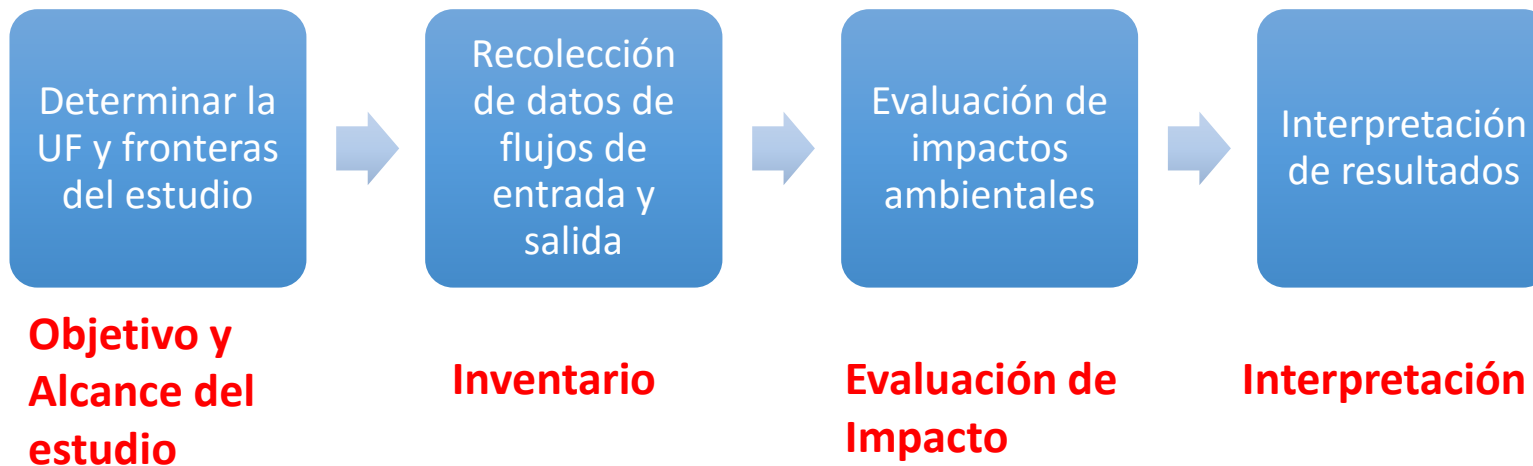
Excluir procesos de infraestructura
 Excluir emisiones a largo plazo

Caso 2: Resultados Comparación



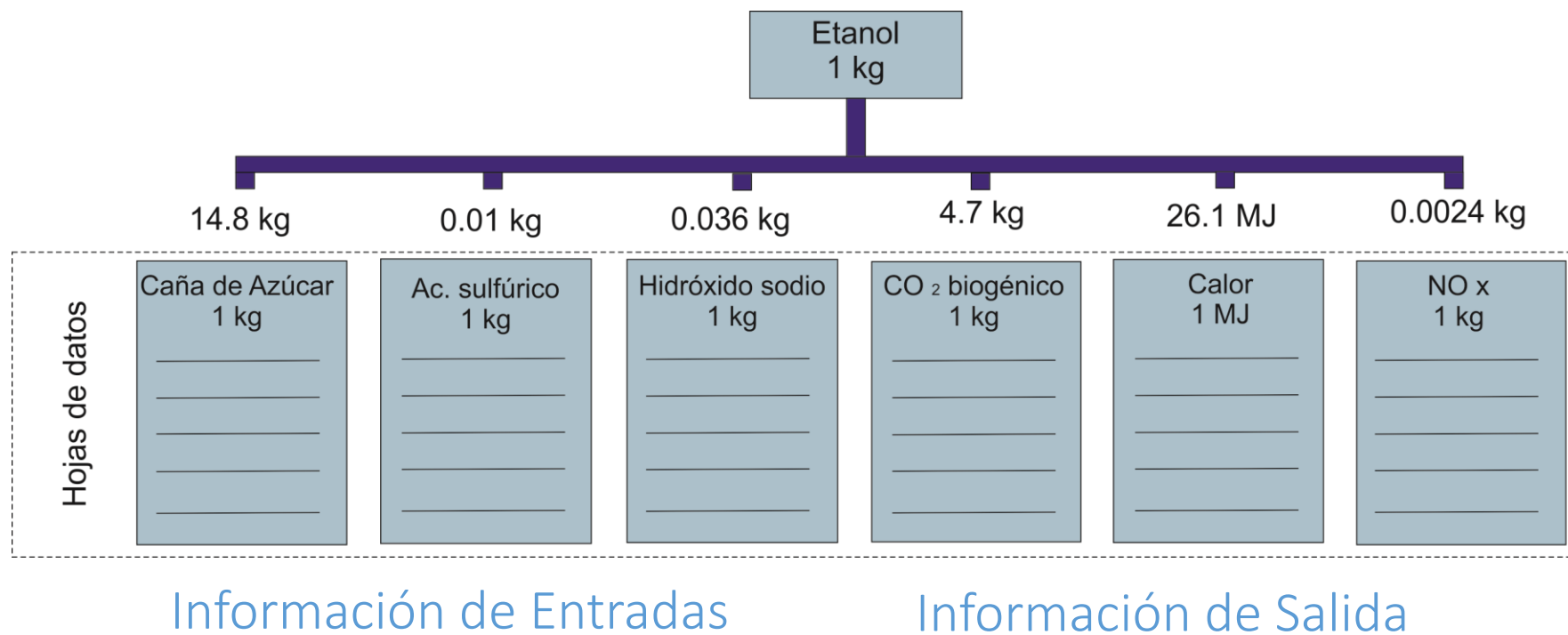
Recordemos

Etapas del ACV



Recordemos

Unidad Funcional



Caso 3: Modificación de un proceso

Archivo Editar Calcular Herramientas Ventana Ayuda

Navegador ACV

Instructor

- Instructores
- Objetivo y alcance
- Descripción
- Bibliotecas
- Inventario
- Procesos
- Fases del producto
- Tipos de residuo
- Parámetros
- Evaluación de impacto
- Métodos
- Configuraciones de cálculo
- Interpretación
- Interpretación enlace a otro documento
- Datos generales
- Referencia Bibliográfica
- Substancias
- Unidades
- Cantidades
- Imágenes

- Animal product
 - Animal food
 - Food
 - Others
 - Plant oils
 - Plant productic
 - Ceramics
 - Chemicals
 - Construction
 - Electronics
 - Fishery
 - Food
 - Fuels
 - Biofuels
 - Biogas
 - Ethanol
 - Infrastruct
 - Methane
 - Coal
 - Lignite
 - Natural gas
 - Oil
 - Peat
 - Uranium
 - Wood
 - Glass
 - Input Output
 - Metals

Nombre / Ud. Tipo de residuo Proyecto Est.

Ethanol, 95% in H2O, from potatoes, at distillery/CH 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from potatoes, at distillery/CH U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol, 95% in H2O, from rye, at distillery/RER 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from rye, at distillery/RER U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugar beet molasses, at distillery/CH U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugar beets, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery/BR U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from sweet sorghum, at distillery/CN U	kg	no definido	Ecoinvent unit processes Nin	
Ethanol, 95% in H2O, from whey, at fermentation plant/CH 5	kg	no definido	Ecoinvent system proces: Nin	
Ethanol, 95% in H2O, from whey, at fermentation plant/CH U	kg	no definido	Ecoinvent unit processes Nin	

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Translated name: Ethanol, 95% in H2O, aus Zuckerrohr, ab Vergärung
 Included processes: Fermentation of sugar cane including materials, energy uses, infrastructure, and emissions.
 Remark: The multioutput-process "sugar cane, to fermentation" delivers the co-products Ethanol, 95% in H2O, from sugar cane" and "electricity, bagasse, at fermentation plant". The allocation is based on economic criteria.; Geography: The inventory is modelled for Brazil.
 Technology: Production of ethanol from sugar cane with extraction, fermentation, and distillation of ethanol. Capacity of the plant: 90000 t/a.
 Time period: Time of publications.
 Version: 2.2

Caso 3: Modificación de un proceso

NexusDB@10.0.2.15\Default\Professional; Taller LCA - [Copiar Material proceso 'Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR U']

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Documentación Entrada/salida Parámetros Descripción del sistema

Productos

Salidas conocidas a la tecnósfera. Productos y co-productos

Nombre	Cantidad	Ud.	Cantidad	Asignación %	Tipo de residuo	Categoría	Comentario
Ethanol, 95% in H2O, from sugar cane, at fermentation plant/BR U (Insertar línea aquí)	1	kg	Mass	100 %	no definido	Fuels\Biofuels\Ethanol	BRAZIL

Salidas conocidas a la tecnósfera. Productos evitados

Nombre	Cantidad	Ud.	Distribución	D5^2 or 2*D5Min	Máx	Comentario
(Insertar línea aquí)						

Entradas

Entradas conocidas desde la naturaleza (recursos)

Nombre	Subcompartimento	Cantidad	Ud.	Distribución	D5^2 or 2*D5Min	Máx	Comentario
Water, river (Insertar línea aquí)	in water	0,015494	m3	Reg. normal	1,1249		(1,3,1,1,1,4); Literature 1998

Entradas conocidas desde la tecnósfera (materiales/combustibles)

Nombre	Cantidad	Ud.	Distribución	D5^2 or 2*D5Min	Máx	Comentario
Sugarcane, at farm/BR U	14,897610665	kg	Reg. normal	1,1249		(1,3,1,1,1,4); Literature 2003
Sulphuric acid, liquid, at plant/RER U	0,010786	kg	Reg. normal	1,1249		(1,3,1,1,1,4); Literature 2004
Lime, hydrated, packed, at plant/CH U	0,035659	kg	Reg. normal	1,1249		(1,3,1,1,1,4); Literature 2004
Transport, lorry 3.5-16t, fleet average/RER U	0,023836	tkm	Reg. normal	2,095000000		(4,5,na,na,na,na); Standard distances
Transport, lorry >16t, fleet average/RER U	0,095345	tkm	Reg. normal	2,095000000		(4,5,na,na,na,na); Standard distances
Transport, lorry >28t, fleet average/CH U	0,014921	tkm	Reg. normal	2,095000000		(4,5,na,na,na,na); Standard distances
Transport, freight, rail/RER U	0,01535	tkm	Reg. normal	2,095000000		(4,5,na,na,na,na); Standard distances
Ammonia, liquid, at regional storehouse/RER U	0,0000002232	kg	Reg. normal	2,080900000		(4,3,3,3,5,4); From bagasse burning
Chlorine, liquid, production mix, at plant/RER U	0,0000089295	kg	Reg. normal	2,080900000		(4,3,3,3,5,4); From bagasse burning
Sodium chloride, powder, at plant/RER U	0,0000000000	kg	Reg. normal	2,000000000		(4,3,3,3,5,4); From bagasse burning

Consideraciones Importantes

- Allocations (Asignaciones)
 - Evitarlas
 - Separando los procesos según los productos
 - Ampliando las fronteras del sistema
 - Calcularlas
 - % de contribución en masa
 - % de contribución en energía
 - % de contribución económica