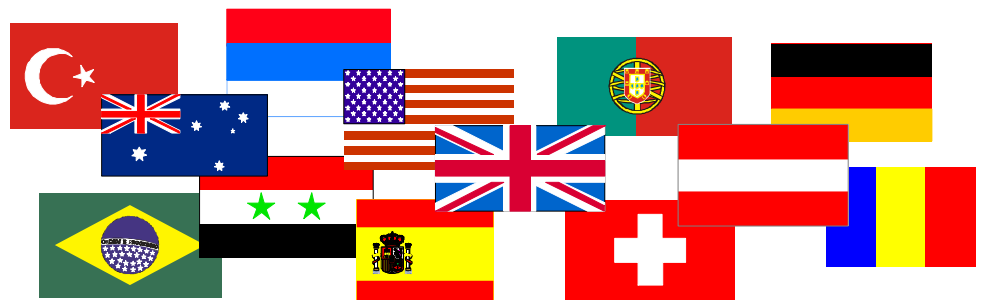




Terminology of the New Science "Metabolism of the Antroposfera"

A	Deutsch-Englisch Terminologie der neuen Wissenschaft "Metabolismus der Anthroposphäre"
B	Terminología inglesa-española en el campo de la nueva ciencia del metabolismo de la antroposfera
C	Terminologia engleză - română din domeniul noii științe „Metabolismul Antroposferei“
D	Терминология новой науки метаболизма антропосферы (английский, русский)
E	عربي - انكليزي المصطلحات الحديثة الخاصة بموضوع حركة المواد ضمن الأنتروبوسفير
F	Terminologia Inglesa-Portuguesa da Nova Ciência do "Metabolismo da Antroposfera"
G	Ingilizce-Türkçe "Antroposfer Metabolizmasi" Yeni Bilimin Terminolojisi
H	
I	



English-Portuguese
Terminology of the New Science
"Metabolism of the Anthroposphere"

Terminologia Inglesa-Portuguesa da Nova Ciência do
“Metabolismo da Antroposfera”

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CONTENT

Fachtermini	1
Indikationsverzeichnis	63
Index of the English Terms	63
Índice de Termos em Português	65
Literaturverzeichnis	67



English	Português
activity	atividade
anthropogenic	antropogênico
anthroposphere	antroposfera
biomass	biomassa
biosphere	biosfera
combustion	combustão
compost	composta
composting	compostagem
early recognition	reconhecimento antecipado
ecobalance	balanço ecológico
ecodesign	design ecológico
eco-label	etiqueta ecológica
ecosystem	ecossistema
educt	nutrientes
emission	emissão
end-of-pipe	end-of-pipe
energy consumption	energia de consumo
environmental compartment	compartimento ambiental
environmental quality standards	critérios de qualidade ambiental
eutrophication	eutrofização
final storage	armazenamento final
final storage quality	qualidade de armazenamento
global warming potential (GWP)	potencial de aquecimento global (global warming potential; GWP)
good	bem
hazardous waste	resíduos perigosos
immission	immision
incineration (of refuse and waste)	incineração (de resíduos e descartes)
landfill	aterro
material	material
material balance	balanço de massa
material flow	fluxo de massa
material flow analysis	análise de fluxo de massa
material flux	fluxo de matéria
material management	gestão de materiais
municipal solid waste (MSW)	resíduos sólidos municipais
ozone depletion potential (ODP)	redução potencial de ozônio
polluter pays principle	princípio de “quem contamina paga”
primary energy	energia primária
private household	moradia privada
process	processo
production	produção



English	Português
recycling	reciclagem
region	região
resources	recursos
sewage sludge	lodo
sewage treatment plant	estação de tratamento de águas residuais
sink	depósito
source	fonte
stock	estoque
storage	armazenamento
substance	substância
sustainable development	desenvolvimento sustentável
to clean	limpar
to nourish	alimentação
toxicology	toxicologia
transformation	transformação
transportation	transporte
urbanization	urbanização
waste	resíduo
waste management	gestão de resíduos



Português	English
atividade	activity
alimentação	to nourish
armazenamento	storage
armazenamento final	final storage
análise do fluxo de massa	material flow analysis
antropogênico	anthropogenic
antroposfera	anthroposphere
balanço de massa	material balance
biomassa	biomass
biosfera	biosphere
qualidade de armazenamento	final storage quality
fluxo de matéria	material flux
combustão	combustion
compartimento ambiental	environmental compartment
composta	compost
compostagem	composting
depósito	sink
critérios de qualidade ambiental	environmental quality standards
desenvolvimento sustentável	sustainable development
resíduo	waste
resíduos perigosos	hazardous waste
resíduos sólidos municipais	municipal solid waste (MSW)
design ecológico	ecodesign
balanço ecológico	ecobalance
ecossistema	ecosystem
nutrientes	educt
emissão	emission
end-of-pipe	end-of-pipe
energia de consumo	energy consumption
energia primária	primary energy
estação de tratamento de águas residuais	sewage treatment plant
etiqueta ecológica	eco-label
eutrofização	eutrophication
fluxo de massa	material flow
fonte	source
gestão de resíduos	waste management
gestão de materiais	material management
immision	immission
incineração (de resíduos e descartes)	incineration (of refuse and waste)
limpar	to clean
lodo	sewage sludge



Português	English
material	material
potencial de aquecimento global (global warming potential; GWP)	global warming potential (GWP)
princípio de “quem contamina paga”	polluter pays principle
processo	process
produção	production
produto	good
reciclagem	recycling
reconhecimento antecipado	early recognition
recursos	resources
redução potencial de ozônio	ozone depletion potential (ODP)
região	region
estoque	stock
substância	substance
toxicologia	toxicology
transformação	transformation
transporte	transportation
urbanização	urbanization
aterro	landfill
moradia privada	private household



FACHTERMINI

WASTE

DEF.:

Waste originally meant, under Council Directive 75/442, any substance or object that the holder disposes of or is required to dispose of pursuant to the provisions of national law in force. Article I was amended by Directive 91/156. The current definition of waste is therefore "any substance or object in the categories set out in Annex I to Directive 75/442 which the holder discards or intends or is required to discard." Annex I specifies 16 categories of waste. The 16th category reads "any materials, substances or products which are not contained in the above categories." A holder means the producer of the waste or the natural or legal person who is in possession of the waste. There is no definition of discard or intend. It may therefore be stated that waste in European law means

"any substance, material, product or object which the 'holder' discards or intends or is required to discard, subject to the exclusions, to interpretation by the European Court of Justice, to the application of the European Waste Catalogue and to the conclusions of the technical working group." [The ISWA Yearbook, 1994/95]

CON.:

Wastes may be transformed and then deposited or emitted directly without any pretreatment into the environmental compartments. Not all the produced wastes generated by production, distribution and consumption are covered by waste management. [Baccini und Brunner, 1991]

CON.:

Waste materials have to be recycled to reduce pollution especially from the final treatment of wastes and the corresponding production of new materials. [Bonomo und Higginson, 1988]

RESÍDUO

DEF.:

Originalmente resíduo significava, segundo o Conselho de Diretrizes 75/442, qualquer substância ou objeto que o titular despeja ou precisa ser despejado de acordo com as estipulações em obrigação das leis nacionais. O Artigo I foi corrigido pela Diretriz 91/156. A definição geral de resíduo é, desde então: "qualquer substância ou objeto, classificado segundo as categorias do Anexo I da Diretriz 75/442, que o titular descarte, tenha a intenção de descartar ou precise ser descartado". O Anexo I especifica 16 categorias de despejos. A categoria número 16 diz: "qualquer material, substância ou produto que não está contido nas categorias anteriores". Um titular é o produtor do despejo ou a pessoa legal que está em posse do mesmo. Não se especifica o significado de descartar ou ter a intenção de descartar. Por esta razão se estabelece, segundo as leis Européias, que despejo significa "qualquer substância, material, produto ou objeto que o "titular" descarta, tem a intenção de descartar ou precisa ser descartado, sujeita às exceções, à interpretação do Tribunal Europeu de Justiça, à aplicação do Catálogo Europeu de Resíduos e às conclusões do grupo de trabalho técnico". [The ISWA Yearbook, 1994/95]



WASTE MANAGEMENT

DEF.:

The major goal of environmental protection and waste management is to reduce the material flows at the anthroposphere/environment interface to sustainable levels. [Lohm et al., 1994]

CON.:

(...) With increasing accumulation and improvement of building stock, construction waste will pose the major waste management problem in the future, at least in quantitative terms. Because of its predominant inorganic nature it cannot be substantially reduced in mass by combustion or biological degradation, on the other hand the changing composition and "chemicalization" will make separation and recycling of construction materials as well as their disposal increasingly costly. [Koenig, 1994]

CON.:

Not all the produced wastes generated by production, distribution and consumption are covered by waste management. [Baccini und Brunner, 1991]

CON.:

The compartment waste management will receive all the goods which are of no use and little or no value in the three other compartments (agriculture; industry, trade, commerce; private household), i.e. sewage, solid and liquid wastes. Wastes may be transformed and then deposited or emitted directly without any pretreatment into the environmental compartments. Not all the produced wastes generated by production, distribution and consumption are covered by waste management. [Baccini und Brunner, 1991]

GESTÃO DE RESÍDUOS

DEF.:

A meta mais importante da proteção ambiental e da gestão de resíduos é a redução do fluxo de materiais na interface antroposfera/meio ambiente a níveis sustentáveis. [Lohm et al., 1994]



ACTIVITY

DEF.:

An activity can be defined as a set of processes and fluxes of goods, materials, energy, and information serving a certain purpose, such as to nourish, to clean, or to transport. [Brunner et al., 1992]

CON.:

All human activity, from the most basic (our individual metabolism), to the most industrialized (energy infrastructures), is embedded in the earth's environment and leads to some transaction with it. This relationship works in both directions. Human activity is bounded by environmental conditions while also influencing the environment, by preempting a part of it and by emitting waste residuals into it. Indeed, the history of human activity can be seen as a history of overcoming environmental limitations in the pursuit of personal, political, or social goals. [Socolow et al., 1994]

CON.:

Somehow, we must find ways of reducing the impacts of human activities on the environment, but of still maintaining and improving the quality of life, which is, after all, the avowed principle aim of development. [Allen, 1992]

ATIVIDADE

DEF:

Uma atividade pode ser definida como um conjunto de processos e fluxos de produtos, materiais, energia e informação para a um determinado propósito; por exemplo, a alimentação, a limpeza ou o transporte. [Brunner et al,1992]



ANTHROPOGENIC

DEF.:

Influenced or caused by man. [++ Eigenvorschlag]

CON.:

Anthropogenic environmental changes are largely due to the massive increases in energy and material flows that have been generated since the early 19th century, fuelled by fossil energy, directed by increasing flows of capital, and shaped by information as well as technical and chemical innovations. [Pillmann, 1992]

ANTROPOGÊNICO

DEF.:

Influenciado ou causado pelo homem. [++Eigenvorschlag]



ANTHROSPHERE

DEF.:

The anthroposphere is the field where human activities take place: it is embedded in the environment. Sometimes called the man-made biosphere, it can be envisaged as a living organism. It has its own metabolism consisting of the uptake, transformation, storage, and discharge of energy, matter, and information. The anthroposphere can be described as a system of processes, and fluxes of goods, materials, energy, and information. There are many regional varieties of the anthroposphere, since it is highly influenced by such parameters as climate, the topography and geology, the native population and its values, the neighbouring regions, and others. [Brunner et al., 1992]

CON.:

The anthroposphere is still growing. Although the dominant part of the anthroposphere consists of inorganic material (e.g. buildings, roads), long-living organic materials such as wood and plastics are also stocked by man. [Baccini und Brunner, 1991]

ANTROPOSFERA

DEF.:

A antroposfera é o espaço onde as atividades humanas ocorrem: está contida no meio ambiente. Também chamada de biosfera artificial, pode ser vista como um organismo vivo. Tem seu próprio metabolismo, que consiste na obtenção, transformação, armazenamento e dissipação de energia, matéria e informação. A antroposfera pode ser descrita como um sistema de processos e fluxos de produtos, materiais, energia e informação. Existem muitas variações regionais da antroposfera, por esta ser altamente influenciada por alguns parâmetros como o clima, a topografia e geologia, a população nativa e seus valores, as regiões vizinhas, entre outros. [Brunner et al., 1992]



BIOMASS

DEF.:

Organic, non-fossil material of biological origin, a part of which constitutes an exploitable energy resource. Although the different forms of energy from biomass are always considered as "renewable", it must be noted that their rates of renewability are different. These rates depend on the seasonal or daily cycles, solar flux, climatic hazards, techniques or cycles of plant growth, and may be affected by intensive exploitation. However, for statistical needs, they may be considered as renewable yearly. In some countries biomass is further subdivided, when considered as an energy resource, into

primary biomass: rapidly growing plant material that may be used directly or after a conversion process, for the production of energy;

secondary biomass: biomass residues remaining after the production of fibre, food or other agricultural products or biomass by-products from animal husbandry or food preparation that are modified physically rather than chemically. Examples include waste materials from agricultural and forestry industries, manure, sewage, etc., from which energy may be produced.

Note: The above distinction between primary and secondary biomass is based on economic factors. The terms are defined otherwise in ecological science. It is also possible to classify the different types of biomass according to the nature of their main constitutional component: ligno-cellulosic biomass, glucidic biomass (cellulose, starch, etc.), lipidic biomass (oleaginous), which determines the output products and the type of processing equipment and methods to apply. [Energy Terminology, 1986]

CON.:

(...) This scenario projects that nearly one-half of the world's energy could be supplied from renewable sources by the year 2025, with biomass providing the largest share. [Socolow, 1994]

CON.:

Seafood wastes, being animal biomass, are highly biodegradable and nutrient rich. Loose piles of seafood wastes therefore self-heat due to rapid thermophilic microbial activity. [Twelfth Canadian Waste Management Conference, 1990]

BIOMASSA

DEF.:

Matéria orgânica não fossilizada, de origem biológica, parte da qual constitui-se um recurso energético explorável. Apesar das diferentes formas de energia provenientes da biomassa serem sempre consideradas como "renováveis", deve-se considerar que suas taxas de renovação são diferentes. Estas proporções dependem de ciclos temporais ou diários, fluxo solar, efeitos climáticos, técnicas ou ciclos de cultivo e exploração intensiva. Entretanto, para fins estatísticos, podem ser consideradas como anualmente renováveis.

Em alguns países, quando considerada como um recurso energético, a biomassa pode se subdividir em:



biomassa primária: material de plantas de rápido crescimento que podem ser usado, diretamente ou depois de um processo de transformação, para a produção de energia;
biomassa secundária: resíduos de biomassa resultantes da produção de fibra, alimentos ou outros produtos agrícolas, de subprodutos procedentes da criação de animais, ou da preparação de alimentos que tenham sido química e fisicamente modificados. Exemplos incluem despejos da agricultura e da indústria florestal, esterco, águas residuais, etc., a partir dos quais pode-se obter energia.

Nota: a distinção anterior entre biomassa primária e secundária está baseada em fatores econômicos. Estes termos se definem de outra forma em ecologia. Também é possível classificar os diferentes tipos de biomassa de acordo com a natureza de seus componentes principais: biomassa ligno-celulósica, biomassa glucídica (celulose, amido, etc.), biomassa lipídica (oleaginosa), os quais determinam os produtos resultantes, o tipo de processamento e os métodos a serem aplicados. [Energy Terminology, 1986]



BIOSPHERE

DEF.:

Portion of the earth where living organisms are found (governs the existence of plant and animal life, including micro-organisms). It includes the lower part of the atmosphere, the hydrosphere, and a part of the lithosphere. All ecosystems of the earth overlap to form the biosphere. [+Energy Terminology, 1986]

CON.:

Natural scientists have developed plausible models for the evolution of biotic systems on the earth. A thin layer of about 20 km, from the bottom of the deepest oceans to the outer boundary of the atmosphere, contains the entire biotic system, the biosphere. [Baccini und Brunner, 1991]

BIOSFERA

DEF.:

Porção da terra onde vivem os organismos que a habitam (rege a existência de plantas e animais, incluindo os microorganismos). Inclue a parte inferior da atmosfera, a hidrosfera e parte da litosfera. Todo o ecossistema da terra se superpõe para formar a biosfera. [+Energy Terminology, 1986]



LANDFILL

DEF.:

A sanitary landfill is traditionally defined as an engineered method of disposing of solid wastes on land in a manner that protects the environment, by spreading the waste in thin layers, compacting it to the smallest practical volume, and covering it with soil by the end of each working day. [Robinson, 1986]

DEF.:

A sanitary landfill can be described as engineered burial of solid wastes that are subsequently degraded by soil microorganisms. [Robinson, 1986]

DEF.:

Landfill is to be the last step in an integrated waste management policy and not a primary means of waste disposal. Thus, in the future, the landfill will find itself at the very end of the waste management chain, the last step, but nonetheless a very crucial step.

[The ISWA Yearbook, 1994/95]

CON.:

In practice, today`s landfills produce leachates and gas fluxes to water and air. Furthermore, they require an additional material and energy flux for their operation, e.g. for leachate purification and landfill gas treatment. [Baccini und Brunner, 1991]

CON.:

Modern landfills are constructed to be stable, to entomb our wastes, and to minimize leachate and biogas generation and thus impacts from these sources. The entry of air and water is limited. As a result, biodegradation of organic waste is not an effective nor rapid process in modern landfills; favourable conditions for biodegradation do not exist. [Casu und Marino, 1990]

ATERRO

DEF.:

Um aterro sanitário pode se definir tradicionalmente como um método de engenharia para a disposição de resíduos sólidos na terra, de forma a se proteger o meio ambiente, mediante o espalhamento dos resíduos em finas camadas, compactando-se estas no menor volume possível e cobrindo-as com terra ao término do dia de trabalho. [Robinson, 1986]

DEF.:

Um aterro sanitário pode ser descrito como o soterramento planejado através de técnicas de engenharia para resíduos sólidos que são subsequencialmente degradados pelos microorganismos do solo. [Robinson, 1986]

DEF.:

Um aterro é o último passo de uma política integrada de gestão de resíduos e não um meio primário de descarte de resíduos. Portanto, no futuro, os aterros se encontrarão bem no final da cadeia de gestão de resíduos, o último passo, mas não como um passo crucial. [The ISWA Yearbook, 1994/95]



ECO-LABEL

DEF.:

The eco-labelling scheme, ratified by the European Union (EU) in 1991, confers a stamp of approval on products that meet a series of environmental criteria. Companies awarded an eco-label can display the official logo - 12 stars encircling the letter "E" on a green stem - on their products. [Kozloff, K.L., ES&T - Vol. 28, N. 4, 94, p. 197 A]

DEF.:

Ecolabeling, or Green Labeling, is the advertising of a product's environmental benefits on the product or its package. [Eblen, 1994]

CON.:

The first eco-label was awarded in November 1993 for a group of washing machines. Deciding suitable criteria in this case proved relatively straightforward. But agreement on the award criteria for detergents is proving more difficult. The German federal environment agency, which was asked to draw up the criteria for the EU's detergent eco-label, has proposed an assessment based on the impact of detergents in wastewater. Points will be awarded covering factors such as biological oxygen demand, total chemical content, and nonbiodegradable content per wash. [Kozloff, K.L., ES&T - Vol. 28, N. 4, 94, p. 197 A]

ETIQUETA ECOLÓGICA

DEF.:

O esquema de etiquetas ecológicas, ratificado pela União Européia (UE) em 1991, concede um selo de aprovação a produtos que têm uma série de critérios ambientais. As companhias premiadas podem dispor do logotipo oficial - 12 estrelas rodeando a letra "E" com uma haste verde - em seus produtos. [Kozloff, K.L., ES&T- Vol. 28, N. 4, 94, p. 197 A]

DEF.:

A etiqueta ecológica, ou a Etiqueta Verde, mostra que o produto é benéfico para o meio ambiente no produto ou sua embalagem. [Eblen,1994]



EDUCT

DEF.:

Educts are input goods. [Baccini und Brunner, 1991]

DEF.:

Goods or materials that flow into a process. [++Eigenvorschlag]

CON.:

Despite the good yield efficiency of the composting process (96% of P and 75% of N in the educt "household waste" are transferred to the product compost; Obrist, 1987), this material contains only about 1% of the N and P used as input into agriculture. [Baccini und Brunner, 1991]

SUPRIMENTOS

DEF.:

Suprimentos são os produtos de entrada. [Baccini und Brunner, 1991]

DEF.:

Produtos ou materiais que fluem para dentro de um processo. [++Eigenvorschlag]



EMISSION

DEF.:

The release of matter, energy and information (e.g. noise, vibration, radiation, heat) into the environment from a source. [Energy Terminology, 1986]

CON.:

Western industrialized countries have accomplished a great deal in curbing process-related emissions and improving waste disposal/treatment on a per unit output basis during the past 20 years. Even so, actual overall emissions, effluents, and waste generation are still increasing. [Pillmann, 1992]

EMISSÃO

DEF.:

A liberação de matéria, energia ou informação (ex. ruídos, vibrações, radiações, calor) desde uma determinada fonte até o meio ambiente. [Energy Terminology, 1986]



FINAL STORAGE

DEF.:

The term "final storage" (Baccini et al., 1989) denotes a system, where inert materials, which are not to be mobilized by natural processes even for long time periods, are confined by three barriers: the natural impermeable surroundings, an artificial barrier (such as a liner) which can be controlled and, most important, the inert material itself. The concept of final storage includes the possibility to mine the materials in the future if such materials are sufficiently "clean" (mono-landfills) and if it becomes economic to mine such ores. [Baccini und Brunner, 1991]

CON.:

The good which contains the largest fraction of lead is the residue from the car - shredder. This waste does not yet have "final storage" quality; when it is landfilled, long-term biogeochemical reactions occur, which may mobilize the lead and other materials contained in the landfill. (...) One technical option for producing a residue with "final storage" quality would be incineration, followed by immobilization of the incineration residues. (...). [Brunner et al., 1992]

ARMAZENAMENTO FINAL

DEF.:

O termo "armazenamento final" (Baccini et al., 1986) denota um sistema, onde a matéria inerte, que não será removida por processos naturais durante longos períodos de tempo, está confinada por três barreiras: as vizinhanças naturalmente impermeáveis, uma barreira artificial (como um contorno) que pode ser controlada e, a mais importante, a própria matéria inerte. O conceito de armazenamento final inclui a possibilidade de extrair os materiais no futuro se estes estiverem suficientemente puros (mono-aterros) e se for economicamente viável extraí-los. [Baccini und Brunner, 1991]



FINAL STORAGE QUALITY

DEF.:

Waste can be regarded as having "final storage quality" if the flows of materials it emits when landfilled are environmentally compatible even in the long run. [Brunner, 1992]

DEF.:

A material has "final storage quality" if its interaction with the environment does not alter the existing concentrations in water, soil and air beyond a certain extent. [Brunner und Baccini 1991]

CON.:

For those wastes, which leave the man made system, it is therefore necessary that their disposal yields sustainable fluxes only (c.f. waste treatment residues with "final storage quality"[Baccini, 1988]). [Brunner et al., 1992]

QUALIDADE DE ARMAZENAMENTO FINAL

DEF.:

Pode-se considerar que um resíduo tem “qualidade de armazenamento final” se o fluxo de materiais emitido, quando aterrado, é compatível com o meio ambiente mesmo a longo prazo. [Brunner, 1992]

DEF.:

Um material tem qualidade de armazenamento final se sua interação com o meio ambiente não alterar as concentrações existentes na água, solo e ar, a partir de um determinado valor. [Brunner und Baccini, 1991]



END-OF-PIPE

DEF.:

The total number of measures which are designed to minimize emissions and waste and which are implemented at the end of the chain production-consumption (e.g. sewage treatment).

[++Eigenvorschlag]

CON.:

It must be pointed out that pollutants (e.g. fly ash) removed from waste streams by "end-of-pipe" technologies, like Cottrell precipitators, are usually disposed of in landfills. [Ayres und Ayres, 1994]

END-OF-PIPE

DEF.:

Número total de medidas que são projetadas para minimizar as emissões e resíduos, e que são implementadas no final da cadeia de produção-consumo (ex. tratamento de águas residuais).

[++Eigenvorschlag]



ENERGY CONSUMPTION

DEF.:

The utilization of energy for conversion to secondary energy or for the production of useful energy. It should be stated whether the energy consumed is primary energy, secondary energy, energy supplied or useful energy. [Energy Terminology, 1986]

CON.:

There is clear evidence that substantial energy taxes lead to a substantially smaller energy consumption per unit of GNP than in countries where such taxes are lacking. (...) In the US the energy consumption per ECU of national income is about twice as high as in Japan and Western Europe. (...) Thus, in Western Europe and Japan, energy depletion and CO₂ emissions from energy use, per ECU of GNP, are half that of the US and about a quarter of that of the former Soviet Union. [Huppel, 1993]

CON.:

Energy consumption in general is accompanied by more or less serious environmental effects, and energy-intensive industries in particular pose environmental threats. Energy consumption thus is probably "the" central ecological dimension of the production pattern of a country. [Simonis, 1994]

CONSUMO DE ENERGIA

DEF.:

Uso de energia para converter a energia secundária ou para a produção de energia útil. Deve-se indicar se a energia consumida é primária, secundária, de abastecimento ou energia útil. [Energy Terminology, 1986]



TO NOURISH

DEF.:

This comprises all processes and goods to produce solid and liquid food for man. To nourish includes agricultural production (e.g. the process "crop raising"; the good "fertilizer"), food production and distribution (e.g. the process "dairy"; the good "cheese"), consumption (the processes "eating and drinking"; the goods "bread", "apple", "wine"), and the release of wastes and digested residues to the environment (e.g. the process "composting"; the goods "compost", "feces"). [Baccini und Brunner, 1991]

CON.:

(...) This means that the activity "to nourish", i.e. the biological need for water, is globally the dominant factor for the anthropogenic water flux. [Baccini und Brunner, 1991]

ALIMENTAÇÃO

DEF.:

Compreende todos os processos e produtos para produzir alimentos sólidos e líquidos para o homem. Inclue a produção agrícola (ex. o processo "cultivo"; o produto "fertilizante"), a produção e distribuição de alimentos (ex. os processos "lácteos"; o produto "queijo"), consumo (os processos "comer e beber"; os produtos "pão", "maçã", "vinho"), e o descarte dos restos e resíduos da digestão para o meio ambiente (ex. o processo "compostagem"; os produtos "composta", "fezes"). [Baccini und Brunner, 1991]



EUTROPHICATION

DEF.:

Proliferation of phosphorous, nitrogen and organic matter in a body of water, causing the multiplication of vegetable matter which, by decomposition, decreases the oxygen content required for animal life. [+Energy Terminology, 1986]

CON.:

The growth of phosphate-free detergents is widely regarded as a victory for green consumerism. In Germany, thanks to sustained environmental and product-marketing campaigns, the market for phosphate-based detergents had virtually vanished by 1987. The well-rehearsed case against phosphorus is that in rivers it acts as a nutrient that causes eutrophication; blue-green algae prosper at the expense of other species. [Kozloff, K.L., ES&T - Vol. 28, N. 4, 94, p. 197 A]

EUTROFIZAÇÃO

DEF.:

Proliferação de fósforo, nitrogênio e matéria orgânica em um volume de água, causando a multiplicação de matéria vegetal, a qual, ao se decompor, faz com que descreça o nível de oxigênio necessário para a vida animal. [+Energy Terminology, 1986]



EARLY RECOGNITION

DEF.:

Awareness of potentially advantageous and/or disadvantageous future burdens on and changes in the global resource potentials. [++Eigenvorschlag]

CON.:

However, it is possible to give "if-then" answers for a given system with respect to physically and chemically defined processes and goods. Therefore, it is a useful instrument to prevent damage to man and the biosphere by early recognition. [Baccini und Brunner, 1991]

RECONHECIMENTO ANTECIPADO

DEF.:

Conhecimento das vantagens e/ou desvantagens potenciais de mudanças que podem ocorrer nas fontes potenciais globais. [++Eigenvorschlag]



GOOD

DEF.:

A good consists of one or many materials, such as a pipe made of lead, or gasoline containing benzene. A good has a negative or positive economic value. In the economic sense, goods can also be energy, information, or services. [Brunner et al., 1992]

CON.:

The law of conservation of mass and energy (the "first law" of thermodynamics) gives rise to the materials balance principle. One implication of this principle is that materials extracted from the natural environment for the production of goods and services must eventually be returned to the environment in degraded form. [Ayres et al., 1994]

CON.:

The huge increase in the consumption of goods has several implications: on the one hand, it causes a quantitative problem, since the large mass of used goods has to be recycled or disposed of as waste, and thus financial and natural resources (land, water, air for dissipation) are required for its management. [Ayres et al., 1994]

PRODUTO

DEF.:

Um produto consiste em um ou mais materiais, tais como um tubo feito de chumbo, ou gasolina contendo benzeno. Um produto pode ter um valor econômico positivo ou negativo. No sentido econômico, energia, informações ou serviços também podem ser considerados produtos. [Brunner et al., 1992]



MATERIAL FLUX

DEF.:

Material fluxes are measured in mass per time and area. The "area" can be an entire region, a household, or a person; hence the flux unit may be in kg/capita and year.

[Brunner et al., 1992]

CON.:

Today, in densely populated areas, the fluxes of many anthropogenic materials surpass natural material fluxes. [Brunner et al., 1992]

CON.:

Each flux has a "process of origin" and a "process of destination" and thus is precisely defined. Equally, each process is linked with other processes by means of fluxes. [Brunner et al., 1992]

FLUXO DE MATÉRIA

DEF.:

Fluxos de matéria são medidas de massa por tempo e área. A área pode ser uma região inteira, uma casa ou uma pessoa; por isso, a unidade de fluxo pode ser em kg/ pessoa e ano.



IMMISSION

DEF.:

A German term for which there is no simple English equivalent. In the Federal Republic of Germany, "Immissionen" were legally defined as "air pollutants, noise, vibrations, light, heat, radiation, analogous environmental factors affecting human beings, animals, plants or other objects. They are to be distinguished from emissions ("Emissionen"), which are defined as "air pollutants, noise, vibrations, light, heat, radiation and analogous phenomena originating from an installation." [Skitt, 1992]

IMMISION

DEF.:

Termo alemão para o qual não há uma tradução simples. Na República Federal Alemã, "Immissionen" foram legalmente definidas como "poluição, ruído, vibrações, luz, calor, radiações e fatores ambientais análogos que possam afetar seres humanos, animais, plantas ou outros objetos". Eles devem se distinguir de emissões ("Emissionen"), que se definem como "poluentes do ar, ruído, vibrações, luz, calor, radiações e fenômenos análogos originados por uma instalação". [Skitt, 1992]



SEWAGE TREATMENT PLANT

DEF.:

Plant designed to purify municipal, commercial and/or industrial sewage by means of mechanical, biological and/or chemical-physical treatment. [++Eigenvorschlag]

CON.:

From a quantitative point of view the waste fluxes from the consumer are the most important ones, namely, sewage sludge (taken as fresh sludge, leaving the sewage treatment plant for land application or further treatment, e.g. digesting, composting, incineration, landfill and municipal solid waste. [Baccini und Brunner, 1991]

CON.:

In sewage treatment plants with primary and secondary treatment, typically 50 per cent or more of input, heavy metals are trapped in sewage sludges. [Stigliani und Anderberg, 1994]

ESTAÇÃO DE TRATAMENTO DE ÁGUAS RESIDUAIS

Planta projetada para purificar a água residual municipal, comercial e/ou industrial mediante métodos de tratamento mecânico, biológico e/ou físico-químico. [++Eigenvorschlag]



SEWAGE SLUDGE

DEF.:

Sewage sludge is any liquid, semisolid, or solid waste generated from a municipal, commercial, or industrial sewage treatment plant. [++Eigenvorschlag]

DEF.:

Treated or untreated sludge from municipal sewage treatment plants. [++Eigenvorschlag]

CON.:

Sewage sludges exhibit wide variations in their physical, chemical and biological properties according to their origin, type, previous treatment and period of storage. Other, less definable, factors may also influence sludge characteristics and can make their behaviour rather unpredictable. [Dirkzwager und L'Hermite, 1988]

CON.:

The treatment and disposal of sewage sludge is an expensive and environmentally sensitive problem for the Community. At present, approximately 6 million tonnes dry solids (tds) of sludge are produced each year and it is likely that this figure will increase significantly in the future. [Dirkzwager und L'Hermite, 1988]

LODO

DEF.:

Lodo é o resíduo líquido, semi-sólido ou sólido gerado por uma estação de tratamento de águas residuais municipal, comercial ou industrial. [++Eigenvorschlag]

DEF.:

Resíduo tratado ou não, procedente de uma estação de tratamento de águas residuais. [++Eigenvorschlag]



COMPOST

DEF.:

Compost is a humus-like soil conditioner with low levels of nutrients unless the compost is used as a carrier for chemical fertilizers. [Robinson, 1986]

CON.:

(...) The others want to make compost, using manure from their livestock operations, and chips and sawdust from a local pallet mill as a carbon source. They are planning to use the compost on their farms, and hope to sell some to people in town. [Bio-Cycle, Vol. 36, N.11, Nov., 1995, p.25]

COMPOSTA

DEF.:

Uma composta é uma espécie de húmus com baixos níveis de nutrientes, a não ser que seja utilizada como portadora de fertilizantes químicos. [Robinson, 1986]



COMPOSTING

DEF.:

Composting is a natural process that breaks down organic waste compounds to a soil-like product, compost. [Casu und Marino, 1990]

DEF.:

Composting is a biochemical process that stabilizes the putrescible fraction of an organic material under controlled conditions. As with organic digestion, it is an ancient natural process that has for millions of years broken down leaves and other organic material into humus. [Robinson, 1986]

CON.:

Composting offers a way for society to reduce the amount of waste that must be landfilled while recycling organic waste materials and producing a useful product. Composting of diapers along with other wastes represents, therefore, one way that soiled diapers might be recycled and reused. [Casu und Marino, 1990]

CON.:

Before the advent of chemical fertilizers, farmers and gardeners sought and used biological wastes to manure their lands. The more enlightened ones composted the waste before application to land, as composting reduced the bulk, sanitized the wastes, conserved the nutrients to produce a humus-rich product that both conditioned soils and nourished plants. Also, unlike most chemical fertilizers, the plant nutrients in compost are not all water soluble and consequently not subject to loss through run off and leaching. Further, unlike raw wastes, composts do not have to be ploughed in immediately, and create no problems of vermins and nuisance insects, nor pose health hazards to man, crops or farm animals. Composts can therefore be spread with impunity on any ground that can be traversed. [Twelfth Canadian Waste Management Conference, 1990]

COMPOSTAGEM

DEF.:

É um processo natural que decompõe a matéria orgânica dos resíduos em produtos que enriquecem o solo. [Casu und Marino, 1990]

DEF.:

Processo bioquímico que estabiliza a porção da matéria orgânica capaz de se decompor sob condições controladas. Como a digestão orgânica, é um antigo processo natural que tem, por milhões de anos, transformado as folhas e outros materiais orgânicos em húmus. [Robinson, 1986]



STOCK

DEF.:

A stock is produced by the accumulation of the material under investigation in the respective process. [++Eigenvorschlag]

CON.:

If the input into the anthroposphere is larger than the output inevitably the stock in the anthroposphere will grow. [Brunner et al., 1992]

CON.:

The landfill of the non-metallic shredder residue is the largest sink for lead in the region. It can be assumed that after a decade of landfilling this stock is the most important regional reservoir of lead. Therefore, the careful management of this stock is or will become extremely important. [Ayres et al., 1994]

ESTOQUE

DEF.:

Um estoque é produzido pelo acúmulo de determinado material no respectivo processo. [++Eigenvorschlag]



STORAGE

DEF.:

The turnover of materials in the process "storage" can be very large. It cannot be assumed a priori that no transformation of materials takes place during storage. To support storage, energy (cooling, heating, maintenance) and materials (construction, emission control) are required. [Baccini und Brunner, 1991]

CON.:

One of the most important storage processes at the interface anthroposphere/environment is sanitary landfilling. [Baccini und Brunner, 1991]

ARMAZENAMENTO

DEF.:

A modificação dos materiais no processo de armazenamento pode ser muito grande. Não se pode assumir a priori que não há transformação de materiais durante o armazenamento. Para a conservação são requeridos energia (resfriamento, aquecimento, manutenção) e materiais (construção, controle de emissões). [Baccini und Brunner, 1991]



SUSTAINABLE DEVELOPMENT

DEF.:

Sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations. [1987:46, Brundtland Report]

CON.:

The World Commission on Environment and Development, in its report (the Brundtland Report), considered sustainable development to be a process of change that meets the needs of the present without compromising the ability of future generations to meet their own needs. (...) Ekins (1992) analyses sustainable development by looking at sustainability and development and their interaction. On sustainability he says that in order for economic activity...to be environmentally sustainable, certain conditions need to be adhered to concerning the use of renewable and non-renewable resources, the emission of wastes and associated environmental impacts. These conditions can be defined. The first principle of sustainable development is that these conditions have absolute priority over GNP growth. [Trindade, 1994]

DESENVOLVIMENTO SUSTENTÁVEL

DEF.:

O desenvolvimento sustentável é um processo de mudanças em que a exploração de recursos, a direção dos investimentos, a orientação do desenvolvimento tecnológico e trocas institucionais estão todos em harmonia e melhorando os potenciais presentes e futuros para satisfazer as necessidades e desejos humanos. [1987:46, Brundtland Report]



ECOBALANCE

DEF.:

Ecobalances analyse the productline of a product (extraction and treatment of resources, production, distribution and transport, use, consumption and disposal), they analyse the effects on the environment and the ecological burden which results. [++Eigenvorschlag]

CON.:

Experience with the introduction of eco-balances shows that the basis of information about the ecological consequences of all the activities of a company thus obtained provides a substantial contribution to a preventive ecological policy. [+Van Weenen, 1990]

BALANÇO ECOLÓGICO

DEF.:

Os balanços ecológicos analisam as linhas de produção de um produto (extração e tratamentos de recursos, produção, distribuição e transporte, utilização, consumo e resíduos), seus efeitos sobre o meio ambiente, e as responsabilidades ecológicas resultantes. [++Eigenvorschlag]



ECODESIGN

DEF.:

Products and production processes are designed in such a way that the legitimate amount of substances released to the environment does not have a negative effect on the environment.

[++Eigenvorschlag]

CON.:

Methods are needed for the general area "control of material flow in regions", in particular for topics such as eco-design, eco-auditing, environmental impact statement, waste management design and concepts. [MM - ARS, 1994]

ECODESIGN

DEF.:

Os produtos e processos de produção são projetados de forma que o equivalente admissível de substâncias liberadas no meio ambiente não tenha efeitos negativos sobre ele.

[++Eigenvorschlag]



ECOSYSTEM

DEF.:

An ecosystem is a biotic assemblage of plants, animals, and microbes, taken together with their physico-chemical environment. [Husar, 1994]

DEF.:

The combined effect of a living community and the physico-chemical environment in which it lives (e.g. a forest, lake, cultivated field, etc.). All the ecosystems of the earth overlap to form the biosphere. [Energy Terminology, 1986]

CON.:

On the basis of more and new data, it was emphasized that the impact of the residual material fluxes from the anthroposphere back to the air, the aquatic and terrestrial ecosystems, can or could have a fatal effect on man much earlier than it was thought at first. (...) This means that even highly organized ecosystems with sophisticated self-regulating properties have a limited lifetime, due to a limited biological, chemical or physical capacity to adapt to changes in their environment and alter their biotic and abiotic environment. This is about all we can predict about ecosystems. (...) [Baccini und Brunner, 1991]

CON.:

Purposive interventions in natural ecosystems are historically the oldest form of modification of the environment for economic purposes. [Fischer-Kowalski et al., 1994]

ECOSSISTEMA

DEF.:

Um ecossistema é um conjunto biótico de plantas, animais e micróbios que convivem em seu ambiente físico-químico. [Husar, 1994]

DEF.:

O efeito combinado de uma comunidade viva e o ambiente físico-químico em que vivem (por exemplo um bosque, um lago, campos de cultivo, etc.). Todos os ecossistemas da terra se sobrepõem para formar a biosfera. [Energy Terminology, 1986]



OZONE DEPLETION POTENTIAL (ODP)

DEF.:

Ozone depletion potential (ODP) is defined as the ration of the calculated ozone column change per mass of a given compound released to the column change for the same mass of CFC-11. [Wallington et al., ES&T - Vol. 28, N. 7, 94, S. 323A]

CON.:

HFCs do not contain any chlorine and so have no ozone depletion potential associated with the well-established chlorine-based catalytic ozone destruction cycles. Recently, there has been speculation regarding the possibility of an impact of HFCs on stratospheric ozone by virtue of their degradation into CF₃Ox, FCOx, and FOx radicals that could participate in catalytic ozone destruction cycles. However, experimental studies have shown that no such cycles are viable. The ODPs of HFCs are essentially zero ($< 10^{-3}$). [Wallington et al., ES&T, Vol. 28, N. 7, 94, p. 323 A, 324 A]

REDUÇÃO POTENCIAL DE OZÔNIO

DEF.:

Taxa da mudança da coluna de ozônio calculada por massa de um determinado composto liberado na coluna para a mesma massa de CFC-11. [Wallington et al., ES&T-Vol. 28, N. 7, 94, S. 323A]



PRIMARY ENERGY

DEF.:

Energy that has not been subjected to any conversion or transformation process. [Energy Terminology, 1986]

CON.:

The region's share of the world's population is plotted on the x-axis. The area of each rectangle in this graph is proportional to the share of the economic region's energy consumption. It shows that about half of the world's population consumes about 90% of the total primary energy per year. [Baccini und Brunner, 1991]

ENERGIA PRIMÁRIA

DEF.:

Energia que não foi submetida a nenhum processo de conversão ou transformação. [Energy Terminology. 1986]



PRIVATE HOUSEHOLD

DEF.:

This process stands for the many processes which take place in a private home in relation to the activities "to breathe", "to nourish", (e.g. shopping, preparation and consumption of food), "to reside" (construction and maintenance of buildings, heating, purchase and maintenance of furniture, carpets, curtains), "to clean" (laundry, dishwasher, toilet, shower, car wash, cleaning) and "to communicate" (transport of persons, goods, energy, and information). Included are processes (and goods) which serve exclusively the private household but which take place outside of it, such as the use of a motor vehicle for shopping, the use of a sewerage system to collect sewage from households, or part of the telecommunication network for TV and phone. The process "private household" comprises all households in a region. [Brunner et al., 1992]

CON.:

Private households also have a productive function, in industrialized countries mostly a limited one. Consumption, the other main economic activity, however, is generally quite diffuse in households, and in some private and public organizations. In their capacity as producers and consumers, households belong to the economy of society, even if not functionally differentiated and specialized. [Huppel, 1993]

MORADIA PRIVADA

DEF.:

Este processo representa muitos processos que têm lugar em uma moradia em relação a atividades como a "respiração", "alimentação" (ex. compras, preparação e consumo de comida), "residência" (construção e manutenção de edifícios, aquecimento, aquisição e manutenção de móveis, carpetes, cortinas), "limpeza" (roupa, louças, banho, limpeza de automóveis, faxina) e "comunicações" (transporte de pessoas, produtos, energia e informação). Incluem-se processos (e produtos) que servem exclusivamente ao ambiente doméstico, mas que têm lugar fora dele, como o uso de veículos motores para fazer compras, o uso do sistema de tratamento de águas residuais, ou parte da rede de telecomunicações para televisão e telefone. Os processos de "moradia privada" compreendem todas as moradias de uma região. [Brunner et al., 1992]



PRODUCTION

DEF.:

Production means the transformation of raw material into products through the use of utilities, energy, know-how, capital and manpower. It is absolutely impossible to avoid the occurrence of byproducts and wastes. [Pillmann, 1992]

CON.:

Economic institutions specialize in the procurement of goods and services, i.e. production, the first main economic activity. [Huppel, 1993]

CON.:

Industry has traditionally focused on production rather than waste management. Over time this has led to the creation of chemicals and products for which no environmentally sound method of disposal exists. Large-scale production has led in turn to significant waste disposal problems. [Socolow et al., 1994]

PRODUÇÃO

DEF.:

Produção é a transformação da matéria prima em produtos a partir do uso de serviços, energia, conhecimento, capital e mão de obra. É absolutamente impossível impedir o surgimento de subprodutos e resíduos. [Brunner et al., 1992]



PROCESS

DEF.:

A process is defined as a transport, transformation, or storage of goods, materials, energy, and information. A transport often involves a change in the value of a good. There are processes possible on all levels: a car engine may be looked at as a process, in the same way as a private household, a waste incinerator, a branch of regional economy, or an entire region. [Brunner et al., 1992]

CON.:

The processes of thinking, learning, discussing, promising and deciding do not have any direct material effect, and therefore no direct effect on the environment either. They are symbolic in the sense that they manipulate symbols. They may function only to the extent that others recognize the meaning of these symbolic actions properly. Other processes, such as the production of food and materials, the use of energy, and the dumping of wastes, are material ones. Such material processes encompass a-biotic, chemo-physical processes and biological processes, such as fermentation, digestion, respiration, etc.. In human communities the symbolic processes determine or regulate the material ones, within the boundaries of course of what is possible in the material world. [Huppel, 1993]

PROCESSO

DEF.:

Um processo se define como um transporte, transformação ou depósito de produtos, materiais, energia e informação. O transporte normalmente modifica o valor do produto. Há processos possíveis em todos os níveis: um motor de um carro pode ser visto como um processo, do mesmo modo que uma moradia privada, um incinerador de resíduos, uma filial da economia regional, ou uma região inteira. [Pillmann, 1992]



SOURCE

DEF.:

Origin of materials. [++Eigenvorschlag]

CON.:

Reduction activities aim at minimizing the generation of wastes at the source by substituting products which are less wasteful, by redesigning packaging and products, and utilizing processes which are less wasteful. [Twelfth Canadian Waste Management Conference,1990]

FONTE

DEF.:

Origem dos materiais. [++Eigenvorschlag]



RECYCLING

DEF.:

Recycling refers to the use or reuse of a waste as an effective substitute ingredient or feedstock in an industrial process. It also refers to the reclamation of useful constituent fractions within a waste material or removal of contaminants from a waste to allow it to be reused. [Van Weenen, 1990]

CON.:

At first glance, the thought of Kodak's single-use camera being environmentally benign seems contradictory. But the single-use camera has been designed for reuse and recycling, and over 85% of each camera can be reused or recycled. [Socolow et al., 1994]

CON.:

Collecting, transporting, and sorting material to be recycled can use so much energy and effort that recycling damages the economy and environment.

(...) Use of virgin materials and energy, environmental leadings, safety, reliability, and cost are all relevant in evaluating a recycling program. Society desires high-value recycling but only when the energy, environmental, and labor costs make these solutions attractive. [Lave et al., ES&T - Vol. 28, N. 1, 94, p. 20 A]

CON.:

Recycling is a dirty, unromantic business. Companies that operate municipal recycling facilities and automobile shredders try to cover their costs; they don't see themselves as environmental idealists. Instead, they try to figure out how to make a profit from the consumer waste that is their raw material. [Lave et al., ES&T - Vol. 28, N. 1, 94, p. 22 A]

RECICLAGEM

DEF.:

Reciclagem é a utilização ou reutilização de um resíduo como um substituto eficaz de um componente ou como combustível em um processo industrial. Refere-se também à recuperação dos constituintes úteis de um material de descarte ou à separação dos contaminantes de um resíduo para permitir a reutilização do mesmo. [Van Weenen, 1990]



REGION

DEF.:

A region is a more or less autonomous network of ecosystems and anthropospheres. Its area can vary from tens to thousands of squarekilometers, its population density from tens to thousands of inhabitants per squarekilometer. [Baccini und Brunner, 1991]

CON.:

The region is an open, three-dimensional system where man determines essentially the main sources, pathways, storages and sinks. [Baccini und Brunner, 1991]

CON.:

A region may be defined as a complex combination of processes. [Baccini und Brunner, 1991]

CON.:

For each region the phosphorus load from different sources (e.g. agriculture, detergents, human feces) has to be limited to reduce the resulting residual flux to a tolerable level (Bundesamt für Umweltschutz, 1983). [Baccini und Brunner, 1991]

REGIÃO

DEF.:

Uma região é mais o menos uma rede autônoma de ecossistemas e antroposferas. Esta área pode variar desde dez até mil quilômetros quadrados, e sua densidade de população de dez a mil habitantes por quilômetro quadrado. [Baccini und Brunner, 1991]



TO CLEAN

DEF.:

The activity "to clean" can be defined as the separation of goods: "unwanted" goods (dirt, grease, sewage, etc.) are separated from "wanted" goods (shirt, metal, water, etc.). The motivation for this separation may be a hygienic, an aesthetic, an environmental or an economic reason. The activity "to clean" takes place at many levels. [Baccini und Brunner, 1991]

CON.:

The flux of P is mainly due to the two activities "to nourish" and "to clean". It was recognized several decades ago that P can be the limiting factor for the eutrophication of surface waters. In areas where eutrophication of lakes is a serious problem, the time-span between scientific recognition of its cause and preventive action was about two decades. Most actions concerned the replacement of phosphate-based detergents, i.e. processes and goods involved in the activity "to clean". [Brunner et al., 1992]

LIMPAR

DEF.:

A atividade "limpar" pode ser definida como a separação de produtos: os produtos "indesejáveis" (sujeira, graxa, águas residuais, etc.) são separados para se obter produtos "desejados" (camisas, metais, água, etc.). A separação pode ser feita por motivos higiênicos, estéticos, ambientais, ou econômicos. A atividade de "limpar" tem parte em muitos níveis. [Baccini und Brunner, 1991]



RESOURCES

DEF.:

Generally spoken, resources are the total amount of the production factors labour, nature and capital, which are used in the production of goods. More specifically, resources are natural capital, raw materials, energy sources and environmental media, whereas a distinction can be made between renewable and non-renewable resources. [++Eigenvorschlag]

CON.:

(...) The conclusions of this study are as simple as convincing: assuming a continued growth of population, a collapse of the anthroposphere will take place within two generations, due to lack of resources (energy, food, water and minerals) and/or environmental pollution. [Baccini und Brunner, 1991]

RECURSOS

DEF.:

De modo geral, os recursos são o equivalente total de fatores de produção, naturais e econômicos usados na produção de bens de consumo. Mais especificamente, os recursos são naturais, capitais, matéria prima, fontes de energia e o meio ambiente, onde se pode fazer uma distinção entre recursos renováveis e não renováveis. [++Eigenvorschlag]



SINK

DEF.:

An environmental compartment where materials are accumulated and may be eliminated by decomposition processes. [++Eigenvorschlag]

CON.:

(...) Thus, soil and aqueous systems with long residence times (e.g. groundwater reservoirs and lakes) within the region can become main sinks for anthropogenic residual matter. [Baccini und Brunner, 1991]

CON.:

The landfill of the non-metallic shredder residue is the largest sink for lead in the region. It can be assumed that after a decade of landfilling this stock is the most important regional reservoir of lead. Therefore, the careful management of this stock is or will become extremely important. On the one hand, the lead in the landfill poses a threat to the hydrosphere, on the other hand, it may be an important resource for the future. [Brunner et al., 1992]

DEPÓSITO

DEF.:

Compartimento ambiental onde os materiais são acumulados e podem ser eliminados por processos de decomposição. [++Eigenvorschlag]



MUNICIPAL SOLID WASTE (MSW)

DEF.:

Municipal Solid Waste (MSW) is operationally defined as wastes which are produced by private households (residual source), small trade, working places of the tertiary sector (commercial source), open areas, and which are collected by public authorities. [+Baccini und Brunner, 1991]

DEF.:

Municipal solid waste is defined by the US Environmental Protection Agency (EPA) as the wastes generated from residences, community establishments, institutions, and to a limited extent, industrial facilities. It is generated by everyone in the daily life - at home, at school, traveling and at work. The use of the term generally implies that the waste generation is not a one-time event but occurs regularly over a period of time. Thus, residential wastes are generated every day and industrial wastes are generated every working day. [Eblen, 1994]

CON.:

The United States generates approximately 450,000 tons per day of MSW. This amounts to an average of 1 ton per person per year. Although composition varies from city to city and also according to seasons, more than two-thirds of the MSW (on a weight basis) is comprised of organic or combustible materials (i.e., paper, wood, food, yard clippings). The remaining one-third is primarily metals, glass, and dirt. Approximately 90% of the MSW is disposed of by land burial. [Dirkzwager und L'Hermitte, 1988]

RESÍDUOS SÓLIDOS MUNICIPAIS

DEF.:

Os resíduos sólidos municipais se definem como aqueles produzidos no campo doméstico (superfície residual), pequena empresa, lugares de trabalho do setor terciário (estabelecimentos comerciais), áreas abertas, e que são de posse de autoridades públicas. [+Baccini und Brunner, 1991]

DEF.:

A Agência de Proteção Ambiental dos Estados Unidos (EPA) define os resíduos sólidos municipais como aqueles gerados por bairros, estabelecimentos comunitários, instituições e, até certo ponto, atividades industriais. É gerado por todos no dia-a-dia - em casa, na escola, viajando e no trabalho. O uso do termo implica geralmente que a geração de resíduos não é um fato antigo e sim que ocorre regularmente em um período de tempo. Portanto, os resíduos domésticos são gerados a cada dia e os resíduos industriais a cada dia de trabalho. [Eblen, 1994]



HAZARDOUS WASTE

DEF.:

According to the Resource Conservation and Recovery Act (RCRA), a waste is defined as hazardous if it exhibits properties of ignitability, corrosivity, reactivity, or toxicity. Additionally, a waste or waste stream is considered hazardous if it has been specifically listed in the federal regulations or is a mixture of a listed hazardous waste and nonhazardous waste. In general, Congress has defined hazardous wastes as those discarded materials which may threaten human health or the environment when improperly disposed.

Hazardous wastes may be in any of the following forms:

solids, liquids, sludges, or contained gases. These wastes are generated by a variety of sources, including industry, the military, hospitals, research institutions, schools, businesses, and households. [Dirkzwager und L`Hermitte, 1988]

DEF.:

Waste that requires special precaution in its storage, collection, transportation, treatment or disposal to prevent damage to persons or property. There are no universally accepted definitions for the term hazardous waste, and each country defines the term with its own criteria. In a general sense, however, hazardous wastes include explosive, flammable, volatile, radioactive, toxic and pathological wastes. [Van Weenen, 1990]

CON.:

More often than before unused hazardous chemicals from households, schools, hospitals, small companies, etc. eventually find their way to treatment plants for hazardous waste. To get there they have to be collected, sorted, labelled and transported. All these phases have their safety problems. The knowledge and attitudes of persons involved in this chain vary greatly. Thus a general safety guide has to be simple and short, emphasizing only the most important aspects of a vast amount of safety topics. [Pillmann, 1992]

SYN.:

Toxic and dangerous waste

RESÍDUOS PERIGOSOS

DEF.:

De acordo com o Resource Conservation and Recovery Act (RCRA), um resíduo pode ser considerado perigoso se possuir propriedades de irritabilidade, corrosão, reatividade ou toxicidade. Adicionalmente, um resíduo ou corrente de resíduo é considerado como perigoso se tiver sido mencionado especificamente nas regulamentações federais ou for uma mistura de resíduo perigoso listado e um resíduo não perigoso. Em geral, o Congresso tem definido como resíduos perigosos aqueles materiais descartados que possam ser uma ameaça para a saúde ou para o meio ambiente quando descartados incorretamente. Os resíduos perigosos podem aparecer nas seguintes formas: sólidos, líquidos, lodos ou contidos em gases. Estes resíduos são gerados por uma variedade de fontes, incluindo indústrias, exército, hospitais, instituições de pesquisa, escolas, negócios e a área doméstica. [Dirkwager und L`Hermitte, 1988]



DEF.:

Resíduos que requerem precaução especial em seu armazenamento, recolhimento, transporte ou tratamento de efluentes, para evitar danos a pessoas ou propriedades. Não existe uma definição universalmente aceita para este termo, e cada país a faz segundo seu critério. Como norma geral, os resíduos perigosos incluem materiais explosivos, inflamáveis, voláteis, radioativos, tóxicos e resíduos patológicos. [Van Weenen, 1990]



MATERIAL

DEF.:

The term „material“ is used as a generic term for both, goods and substances.

MATERIAL

DEF.:

O termo „material“ é utilizado como termo genérico para ambos, bens e substâncias.



SUBSTANCE

DEF.:

A substance is a chemical element (e.g. lead, carbon) or its compounds (lead chloride, benzene). [Brunner et al., 1992]

CON.:

(...) It is essential that the disposal of wastes that leave the man-made system should yield sustainable substance fluxes only. Hence, input, storage, and output of substances in the anthroposphere are interrelated and cannot be controlled separately. [Brunner et al., 1992]

SUBSTÂNCIA

DEF.:

Uma substância é um elemento químico (por exemplo: chumbo, carbono) ou seus compostos (cloreto de chumbo, benzeno). [[Brunner et al., 1992]



MATERIAL BALANCE

DEF.:

A material balance includes the assessment of imports, exports, and internal fluxes of goods and materials in the anthroposphere and environment, and emphasizes the growth and/or depletion of natural and anthropogenic reservoirs. [Brunner et al., 1992]

CON.:

The materials-balance principle, a straightforward application of the first law of thermodynamics (widely used in the design of chemical engineering systems, for example), is a potentially valuable and underutilized tool for using economic data in environmental analysis. Frequently, a combination of input data (obtainable from economic statistics), together with technical process data available from engineering analysis, gives a more reliable estimate of waste residual outputs than direct measurements alone could be expected to do. [Ayres et al., 1994]

BALANÇO DE MASSA

DEF.:

Um balanço de massa inclui a variação de entrada, saída e fluxos internos de produtos e materiais na antroposfera e no meio ambiente, enfatizando o crescimento e/ou a redução das reservas naturais e antropogênicas. [Brunner et al., 1992]



MATERIAL FLOW

DEF.:

Material flows are measured in mass per time units. [Brunner et al., 1992]

DEF.:

Amount of material transported per unit of time. [++Eigenvorschlag]

CON.:

For the time being, it is beyond the capacity of any research project to investigate the total material flow of a region; the number of goods and materials (elements and compounds, especially of organic carbon), as well as the number of processes, is far too large. [Brunner et al., 1992]

CON.:

In principle, the flow of every material can be characterized by three types of information:

1. the mass fluxes of the input goods
2. the material concentration of the input goods
3. the transfer function of this material in each process

[Baccini und Brunner, 1991]

FLUXO DE MASSA

DEF.:

Medidas de massa por unidade de tempo. [Brunner et al., 1992]

DEF.:

Equivalente de material transportado por unidade de tempo. [++Eigenvorschlag]



MATERIAL FLOW ANALYSIS

DEF.:

Material flow analysis consists of the following steps: First, the system (company, branch, watershed, region, nation, etc.) is identified by selecting the system's boundaries in time and space, by defining the processes and goods and the interrelationship between the processes and goods, and by selecting the indicator materials. In the next step, the flows of goods and materials between the processes are determined by assessments, by measurements or by balancing processes. In order to investigate into the various means to control material flows with respect to resource optimization, static or dynamic modeling may be applied to different scenarios. As a result, the most important flows and stocks of materials, its changes with time and its means to manage them with respect to minimum environmental loading and optimum resource utilization are identified. [MM - ARS, 1994]

DEF.:

Substance flow analysis is a method to describe the processes, material flows, stock and its changes within a defined system on the basis of technical and scientific criteria.
[++Eigenvorschlag]

CON.:

The method of the material flux analysis is an indispensable instrument in the perception of the metabolism of the anthroposphere. [Baccini und Brunner, 1991]

SYN.:

Substance flow analysis, pathway analysis

ANÁLISE DO FLUXO DE MASSA

DEF.:

A análise de fluxo de massa consiste nos seguintes passos: Primeiro, o sistema (empresa, filial, região, nação, etc.) se identifica através da seleção de suas fronteiras no espaço e tempo, da definição de processos e produtos e sua interrelação e da seleção dos materiais indicadores. Na etapa seguinte se determinam os fluxos dos produtos e materiais por avaliações, medições ou balanços. Com a finalidade de se investigar várias formas de controle de fluxos, em relação à otimização de recursos, modelos estáticos ou dinâmicos podem ser aplicados. Como resultado, se identificam os fluxos mais importantes, os acúmulos de matéria, suas mudanças com o tempo e seus métodos de administração para uma carga ambiental mínima e uma ótima utilização dos recursos. [MM-ARS, 1994]

DEF.:

A análise de fluxos de substâncias é um método para descrever os processos, fluxos de materiais, acúmulos e trocas, com um sistema definido baseado em critérios técnicos e científicos. [++Eigenvorschlag]



MATERIAL MANAGEMENT

DEF.:

The analysis and control of material flows and stocks in order to utilize efficiently natural and manmade resources. [++Eigenvorschlag]

CON.:

In order fully to exploit the potential of material management for efficient resource conservation and environmental protection, it is essential to identify the key processes within a region and to establish their annual material balance. [Brunner et al., 1992]

CON.:

However, given a defined set of processes and goods, called a material management system, it is possible to quantify and qualify the resulting material fluxes. [Baccini und Brunner, 1991]

CON.:

In urban areas, the key processes for material fluxes are private households. They are characterized by a large turnover and a growing stock of materials. Hence, the management of wastes from households is an important part of regional material management. [Brunner et al., 1992]

GESTÃO DE MATERIAIS

DEF.:

A análise e o controle dos fluxo de massa e acúmulo para utilizar eficientemente os recursos naturais e artificiais. [++Eigenvorschlag]



TOXICOLOGY

DEF.:

deals with the negative effects of natural and anthropogenic substances on living organisms. [++Eigenvorschlag]

CON.:

Toxicology of Beryllium: The practical importance of acute and chronic beryllium induced diseases in occupationally exposed persons and for the general public has decreased during the last three decades due to improved industrial hygiene standards. [Gmelin, 1986]

TOXICOLOGIA

DEF.:

trata-se dos efeitos negativos produzidos por substâncias naturais e antropogênicas nos seres vivos. [++Eigenvorschlag]



TRANSFORMATION

DEF.:

Through transformation, goods are changed into new products of new qualities and usually new chemical compositions. [Baccini und Brunner, 1991]

CON.:

(...) First, as noted above, most materials "pass through" the economic system rather quickly. That is to say, the transformation from raw material to waste residual takes only a few months to a few years in most cases. [Ayres et al., 1994]

CON.:

An important problem of long-term storage (more than 100 years) is the slow transformation by microorganisms and/or geological processes which cannot be followed by experiments or analyses. [Baccini und Brunner, 1991]

CON.:

Materials used by industrial societies undergo numerous transformations in the time between their extraction from the earth as raw materials and their deposition back to the environment as wastes. [Socolow et al., 1994]

TRANSFORMAÇÃO

DEF.:

Através da transformação, os produtos se tornam novos produtos com novas qualidades e, geralmente, novas composições químicas. [Baccini und Brunner, 1991]



TRANSPORTATION

DEF.:

The process "transportation" changes the location of a good without changing its physical and chemical properties. [++Eigenvorschlag]

CON.:

The potential for problems are numerous, ranging from groundwater contamination through leaching to accidents during transportation and direct contact with hazardous materials. [Dirkzwager und L'Hermite, 1988]

TRANSPORTE

DEF.:

O processo de transporte muda a localização de um produto sem modificar suas propriedades físicas e químicas. [++Eigenvorschlag]



GLOBAL WARMING POTENTIAL (GWP)

DEF.:

Halocarbon global warming potential (GWP) is defined as the ratio of the calculated warming at steady state for a fixed mass release of gas relative to that calculated for the release of the same mass of CFC-11. [Wallington et al., ES&T - Vol. 28, N. 7, 94, p. 324 A]

CON.:

The global warming potentials of HFCs and HCFCs are less than those of CFCs but substantially greater than those of CO₂. For example, the HGWP of CFC-12 is 4,100 times greater than for CO₂, whereas HGWP of HFC-132a is only 350 times greater than for CO₂. [Wallington et al., ES&T - Vol. 28, N. 7, 94, p. 324 A]

POTENCIAL DE AQUECIMENTO GLOBAL (GLOBAL WARMING POTENTIAL; GWP)

DEF.:

O potencial de aquecimento global se define como a relação entre o aquecimento calculado em estado estacionário para uma massa fixa de gás liberada relativa à mesma massa de CFC-11. [Wallington et al., ES&T - Vol. 28, N. 7, 94, p. 324 A]



ENVIRONMENTAL COMPARTMENT

DEF.:

Section of the environment, e.g. soil, water, air, biota (all living creatures).

[++Eigenvorschlag]

CON.:

The environmental compartments serve not only as sources of energy and matter for the anthroposphere, but are also short- (hours to years) or long-term (hundreds and thousands of years) sinks for its residual fluxes. [Baccini und Brunner, 1991]

COMPARTIMENTO AMBIENTAL

DEF.:

Parte do meio ambiente, ex. solo, água, ar, biota (todas as criaturas vivas).

[++Eigenvorschlag]



ENVIRONMENTAL QUALITY STANDARDS

DEF.:

Environmental quality standards are those regulations that dictate acceptable levels of toxic substances in the environment. The standards are determined by assessing how much of the various pollutants can be discharged into the environment without adversely affecting the desired quality of the environment. [Eblen, 1994]

CON.:

By introducing quality standards for air, water and soil (environmental protection by emission control), each anthropogenic compartment is essentially forced to limit its emissions (environmental pollution control). [Baccini und Brunner, 1991]

CON.:

Threshold values for potentially hazardous elements in soils were fixed to maintain the fertility of soils to be used by man. These quality standards are based essentially on physical, chemical and a few biological properties of the environmental compartments. They have been derived from studies of processes in various ecosystems. [Baccini und Brunner, 1991]

CON.:

(...) The resulting "sewage" (or raw waste water) enters the sewage treatment plant which produces essentially three new goods, namely offgases, effluents and sludge. If they meet the quality standards they can be transferred directly into air, water and soil respectively, the latter step being partly a recycling procedure, and no further treatment is necessary. [Baccini und Brunner, 1991]

PADRÕES DE QUALIDADE AMBIENTAL

DEF.:

Os critérios de qualidade ambiental são aquelas regulamentações que determinam os níveis aceitáveis de substâncias tóxicas no ambiente. Os padrões são determinados mediante avaliações da quantidade de contaminantes que podem ser liberados sem afetar negativamente a qualidade do meio ambiente. [Eblen, 1994]



URBANIZATION

DEF.:

Urbanization inevitably means the concentration of large numbers of people in a small area whose needs have to be supplied from outside: much of the water, food, timber and fuel has to be imported. [Herbert Girardet, 1992]

CON.:

Today, it appears that the urbanization of planet Earth is an irreversible process. The expression "let's go to town", known in most languages in analogous terms, has a manifold meaning. [Baccini und Brunner, 1991]

CON.:

Urbanization of the anthroposphere has produced a high density of energy and material fluxes, i.e. a high metabolic rate. [Baccini und Brunner, 1991]

URBANIZAÇÃO

DEF.:

Urbanização significa inevitavelmente a concentração de um grande número de pessoas em uma pequena área, cujas necessidades precisam ser supridas pelo meio externo: água, alimento, madeira e combustível têm que ser importados. [Herbert Girardet, 1992]



COMBUSTION

DEF.:

An exothermic chemical reaction with oxygen. [+Energy Terminology, 1986]

CON.:

Combustion is an aerobic thermal chemical process that changes the chemical composition of MSW. [+Tillman et al., 1989]

CON.:

Combustion is a process where compounds of carbon, hydrogen, sulfur, and fuel-bound nitrogen are oxidized to carbon dioxide, water, sulfur dioxide, and various oxides of nitrogen: if chlorine is present in the fuel, hydrogen may be preferentially oxidized to hydrogen chloride. [+Tillman et al., 1989]

COMBUSTÃO

DEF.:

Reação química exotérmica na presença de oxigênio. [+Energy Terminology, 1986]



INCINERATION (OF REFUSE AND WASTE)

DEF.:

The controlled burning of solid, liquid, or gaseous combustion wastes to produce gases and solid residues containing little or no combustible material.

[Skitt, 1992]

DEF.:

The ignition and burning of solid, semi-solid, liquid or gaseous combustible waste matter in combustion equipment specially designed for this purpose.

Note: The main purpose of incineration is to reduce the bulk of the waste materials prior to disposal of the ash residue and to render toxic materials harmless; a further possibility is to utilise the heat of the combustion for steam generation and electricity production; the products of incineration may also be utilised in the road-making and construction materials. [Energy Terminology, 1986]

CON.:

Incineration, the thermal destruction of organics by combustion, or high temperature oxidation, is one of the many techniques used for the treatment of municipal solid wastes (MSW) and hazardous wastes. (...)

Incineration has several distinctive characteristics. For the most part, it dramatically reduces the volume of waste to be landfilled. Further, incineration chemically transfers MSW and hazardous wastes and, when combined with stabilization, can produce a material which is relatively benign in the landfill. Incineration is also among the most capital-intensive solutions to both MSW and hazardous waste disposal. (...)

Technically, however, incineration is simply the process of thermally oxidizing various wastes. [Tillman et al., 1989]

INCINERAÇÃO (DE RESÍDUOS E DESCARTES)

DEF.:

A queima controlada de resíduos combustíveis sólidos, líquidos e gasosos para produzir gás e resíduos sólidos com baixo ou nenhum conteúdo de matéria combustível. [Skitt, 1992]

DEF.:

A ignição ou queima de resíduos combustíveis sólidos, semi-sólidos, líquidos ou gasosos tem lugar em equipamentos de combustão especializados projetados para este propósito.

Nota: A razão principal da incineração é reduzir o volume de resíduos antes de descartar as cinzas e tornar inofensivos os materiais tóxicos; uma boa alternativa é utilizar o calor da combustão para gerar vapor e produzir electricidade; os produtos da incineração podem também ser utilizados na construção de estradas e como material de construção. [Energy Terminology, 1986]



POLLUTER PAYS PRINCIPLE

DEF.:

The principle that those causing environmental harm by producing or utilizing energy and goods shall bear the cost of its remedy, i.e. such cost shall become a component in the cost of the product. [+Energy Terminology, 1986]

CON.:

In 1985, OECD Member countries adopted the "Declaration on Environmental Resources for the Future", in which they undertake to seek to introduce more flexibility, efficiency and cost-effectiveness in their pollution control measures in particular through a consistent application of the Polluter-Pays Principle (PPP) and a more effective use of economic instruments in conjunction with the regulations. [OECD, 1989]

PRINCÍPIO DE “QUEM CONTAMINA PAGA”

DEF.:

O princípio de que aqueles que causarem danos ao meio ambiente através de produção ou utilização de energia e produtos, deverão assumir o custo necessário para a devida remediação, tal custo se pode se tornar parte do custo do produto. [+Energy Terminology, 1986]



INDIKATIONSVERZEICHNIS

Index of the English Terms

activity.....	3
anthropogenic.....	4
anthroposphere.....	5
biomass.....	6
biosphere.....	8
combustion.....	60
compost.....	25
composting.....	26
early recognition.....	19
ecobalance.....	30
ecodesign.....	31
eco-label.....	10
ecosystem.....	32
educt.....	11
emission.....	12
end-of-pipe.....	15
energy consumption.....	16
environmental compartment.....	57
environmental quality standards.....	58
eutrophication.....	18
final storage quality.....	14
final storage.....	13
global warming potential (GWP).....	56
good.....	20
hazardous waste.....	45
immission.....	22
incineration (of refuse and waste).....	61
landfill.....	9
material balance.....	49
material flow analysis.....	51
material flow.....	50
material flux.....	21
material management.....	52
material.....	47
municipal solid waste (MSW).....	44
ozone depletion potential (ODP).....	33
polluter pays principle.....	62
primary energy.....	34
private household.....	35
process.....	37
production.....	36
recycling.....	39
region.....	40
resources.....	42



sewage sludge.....	24
sewage treatment plant	23
sink	43
source	38
stock	27
storage	28
substance	48
sustainable development	29
to clean	41
to nourish.....	17
toxicology.....	53
transformation	54
transportation.....	55
urbanization.....	59
waste management	2
waste.....	1



Índice de termos portugueses

alimentação.....	17
análise do fluxo de massa.....	51
antropogênico.....	4
antroposfera.....	5
armazenamento final.....	13
armazenamento.....	28
aterro.....	9
atividade.....	3
balanço de massa.....	49
balanço ecológico.....	30
biomassa.....	6
biosfera.....	8
combustão.....	60
compartimento ambiental.....	57
composta.....	25
compostagem.....	26
consumo de energia.....	16
depósito.....	43
desenvolvimento sustentável.....	29
ecodesign.....	31
ecossistema.....	32
emissão.....	12
end-of-pipe.....	15
energia primária.....	34
estação de tratamento de águas residuais.....	23
estoque.....	27
etiqueta ecológica.....	10
eutrofização.....	18
fluxo de massa.....	50
fluxo de matéria.....	21
fonte.....	38
gestão de materiais.....	52
gestão de resíduos.....	2
immision.....	22
incineração (de resíduos e descartes).....	61
limpar.....	41
lodo.....	24
material.....	47
moradia privada.....	35
padrões de qualidade ambiental.....	58
potencial de aquecimento global (global warming potential; gwp).....	56
processo.....	37
produção.....	36
produto.....	20
qualidade de armazenamento final.....	14
reciclagem.....	39



reconhecimento antecipado	19
recursos.....	42
redução potencial de ozônio	33
região	40
resíduo	1
resíduos perigosos	45
resíduos sólidos municipais.....	44
substância	48
suprimentos	11
toxicologia.....	53
transformação	54
transporte	55
urbanização.....	59
princípio de “quem contamina paga”	62



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