



BASEL CONVENTION

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UNEP

DEWA
Europe

Vital Waste Graphics

Prepared by

Elaine Baker (University of Sydney)

Emmanuelle Bournay (GRID-Arendal)

Akiko Harayama (Dewa-Europe/GRID-Geneva)

Philippe Rekacewicz (GRID-Arendal)

In collaboration with

Milton Catelin (Basel Convention)

Nicole Dawe (Basel Convention)

Otto Simonett (GRID-Arendal)

vital waste graphics

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Waste

Rising mountains of waste have become a major issue of our time.

From dumped chemicals and pesticides in Africa to the electronic or e-wastes piling up in Asia, waste and the shipment of hazardous materials require urgent action on both environmental and health grounds.

At the heart of the issue are the production and consumption patterns operating on the globe. If we are to deliver a healthy and more prosperous planet, if we are to realize the Millennium Development Goals and if we are to meet the targets and time tables enshrined in the World Summit on Sustainable Development's Plan of Implementation, we need a new vision and political will to produce and consume the goods and services of the 21st century in more efficient and less polluting ways.

Vital Waste Graphics aims to give policymakers, experts, media professionals, teachers and students a comprehensive overview of relevant waste-related issues, causes, effects, as well as possible solutions. *Vital Waste Graphics* is based on the most recent data received by the Basel Convention Secretariat and by research undertaken especially for the production of the publication.

I hope the publication will encourage all stakeholders to think about what they can do to tackle the rising generation and inappropriate management of waste. Both producers and consumers of goods must work on the betterment of waste management. Industry has the tools, technologies and financial resources to adopt cleaner production methods. All sectors of society need to engage into an integrated life-cycle management of goods. The more efficient and the less wasteful manufacturing and consumption processes will be, the less pressure there will also be on essential resources and the better human health and the environment will be protected.

I hope that your personal copy of *Vital Waste Graphics* will encourage you to be part of a global network for improving the quality and quantity of information on how to address the global waste challenge.

I wish to thank all the experts involved in this project for their valuable contributions to the publication.

Klaus Toepfer

Executive Director
United Nations Environment Programme

Nairobi, 12 October 2004

INTRODUCTION

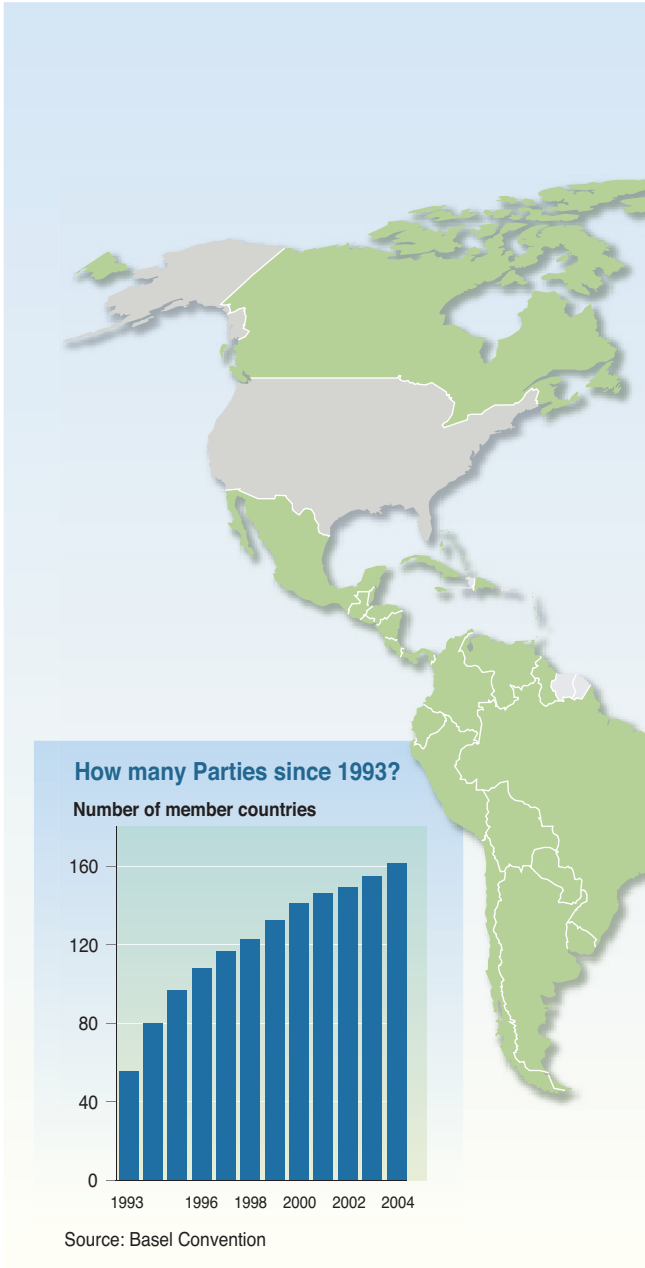
dear readers,

welcome to *Vital Waste Graphics*. This publication has been prepared by the United Nations Environment Programme (UNEP) in collaboration with the Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

It is clear that the data used and the definitions employed by the various “sources”, and other crucial factors such as reporting capacity and compliance, varies considerably between organizations and countries. This may lead in some cases to particular graphs and graphics that appear counter-intuitive. In some cases this is simply because some countries have reported accurately even when it contrasts them negatively with countries that have not reported at all or have reported using different definitions.

The document has been produced to raise awareness of the global waste challenge and stimulate debate. It helps to draw attention to the pressing need to improve national reporting capacity and to improve international reporting systems. If it does nothing more than this, it will be a major contribution to an important global challenge.

As data collection systems, definitions and reporting methodologies improve over time, so too will the quality and usefulness of this approach, and the quality of the debate it supports. In the meantime, please enjoy this work, join this debate, and think about how you can contribute to meeting the global waste challenge.



The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is the most comprehensive global environmental agreement on hazardous and other wastes. It has over 160 Parties and aims to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes.

The Basel Convention regulates the transboundary movements of hazardous and other wastes and obliges its Parties to ensure that such wastes are managed and disposed of in an environmentally sound manner. The Convention covers toxic, poisonous, explosive, corrosive, flammable, ecotoxic and infectious wastes.

Parties are also expected to minimize the quantities that are transported, to treat and dispose of wastes as close as possible to their place of generation and to prevent or minimize the generation of wastes at source.

The Basel Convention has 13 Basel Convention Regional Centers in the following locations: Argentina, China, Egypt, El Salvador, Indonesia, Nigeria, Russian Federation, Senegal, Slovak Republic, South Pacific Regional Programme, South Africa, Trinidad and Tobago, Uruguay. They deliver training and technology transfer for the implementation of the Convention.

The Basel Convention came into force in 1992.

162 Parties to the Basel Convention in October 2004



WHAT IS WASTE:

a multitude of approaches and definitions

What a waste! This is what we hear when we have spent more time, money or energy than was really necessary... It is disturbing to realize that we use the same word to indicate materials that have been used but are no longer wanted, either because they don't work or the valuable part has been removed. In both cases, the word "waste" is related to the way we behave in the context of the consumer society. In order for communities to function smoothly, people assume and accept the generation of a certain level of waste. A whole business has developed around waste management, in certain cases contrary to the preservation of the environment and natural resources, leaving little incentive to permanently reduce the volume of waste generated.

Waste is generated in all sorts of ways. Its composition and volume largely depend on consumption patterns and the industrial and economic structures in place. Air quality, water and soil contamination, space consumption and odors all affect our quality of life.

Definitions: **Waste according to the Basel convention:**

Wastes are substances or objects which are disposed or are intended to be disposed or are required to be disposed of by the provisions of national laws.

the United Nations Statistics Division (UNSD):

Wastes are materials that are not prime products (that is products produced for the market) for which the generator has no further use in terms of his/her own purposes of production, transformation or consumption, and of which he/she wants to dispose.

Wastes may be generated during the extraction of raw materials, the processing of raw materials into intermediate and final products, the consumption of final products, and other human activities. Residuals recycled or reused at the place of generation are excluded.

OECD definitions for selected categories of waste

Municipal waste is collected and treated by, or for municipalities. It covers waste from households, including bulky waste, similar waste from commerce and trade, office buildings, institutions and small businesses, yard and garden, street sweepings, contents of litter containers, and market cleansing. Waste from municipal sewage networks and treatment, as well as municipal construction and demolition is excluded.

Hazardous waste is mostly generated by industrial activities and driven by specific patterns of production. It represents a major concern as it entails serious environmental risks if poorly managed: the impact on the environment relates mainly to toxic contamination of soil, water and air.

Nuclear (radioactive) waste is generated at various stages of the nuclear fuel cycle (uranium mining and milling, fuel enrichment, reactor operation, spent fuel reprocessing). It also arises from decontamination and decommissioning of nuclear facilities, and from other activities using isotopes, such as scientific research and medical activities.

Waste data: Handle with care

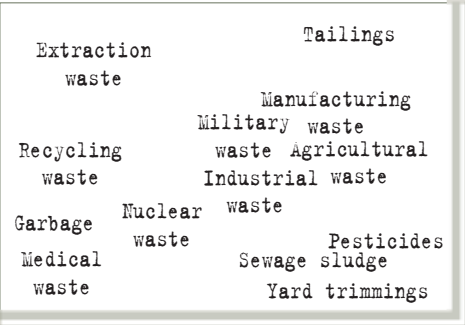
Waste is a complex, subjective and sometimes controversial issue.

There are many ways to define, describe and count it depending on how you look at it. Citizens, technicians, businessmen, politicians, activists; all of them use a different approach, and this explains why it is often a challenge to gather comparable data. From one country to the next, statistical definitions vary a lot. It is notably difficult, for example, to compare waste in rich and poor countries. The topic is also sometimes political, especially when it comes to the trade and disposal of hazardous and nuclear wastes. All waste data should therefore be handled with care.

Different approaches

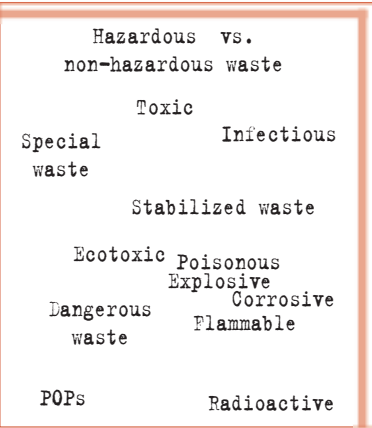
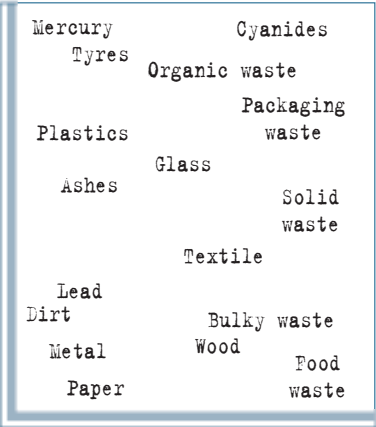
Origin

what human activities generate waste?

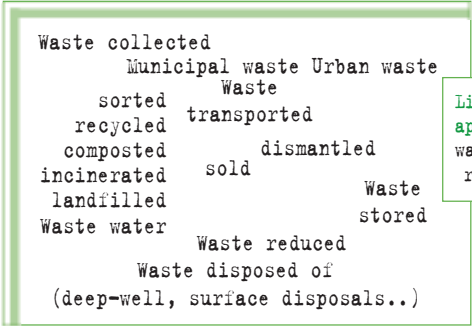


Composition

what is waste made of?



TOTAL
WASTE



Life cycle
approach :
waste as a
resource

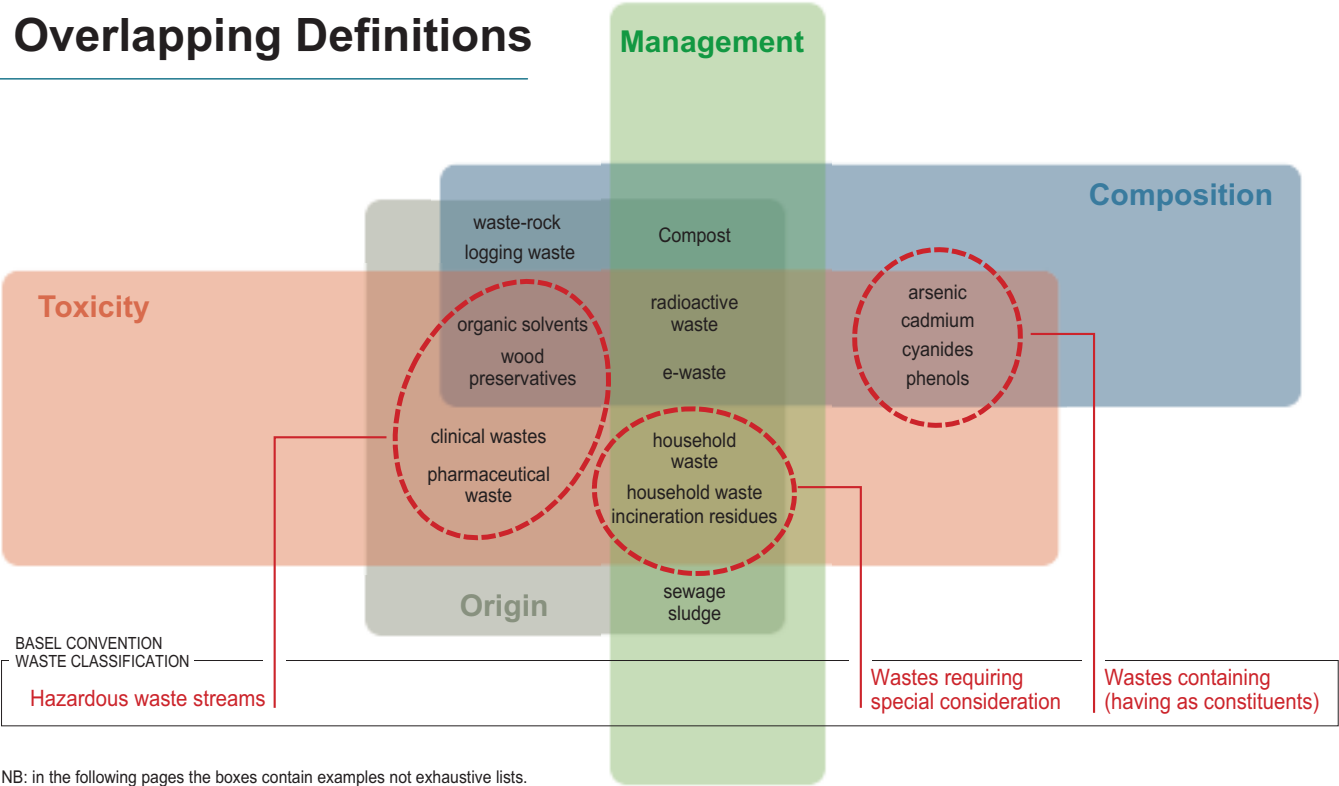
Toxicity

how dangerous is it for human health and the biosphere?

Management

how is waste handled? who is in charge?

Overlapping Definitions

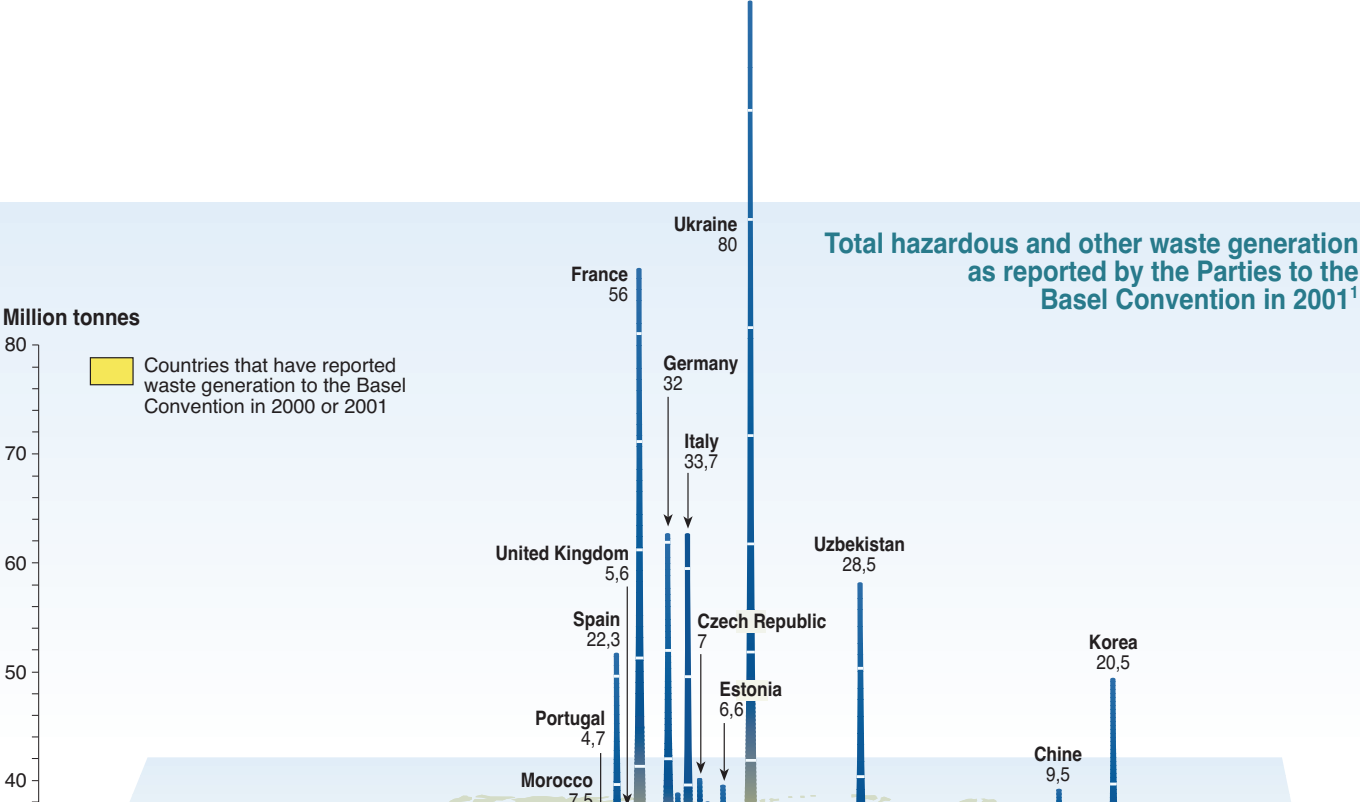


NB: in the following pages the boxes contain examples not exhaustive lists.

WASTE GENERATION

how many million tonnes, really?

On a global scale, calculating the amount of waste being generated presents a problem. There are a number of issues, including a lack of reporting by many countries and inconsistencies in the way countries report (definitions and surveying methods employed by countries vary considerably). The Basel Convention has estimated the amount of hazardous and other waste generated for 2000 and 2001 at 318 and 338 millions tonnes respectively. However these figures are based on reports from only a third of the countries that are currently members of the Convention (approximately 45 out of 162). Compare this with the almost 4 billion tonnes estimated by the Organisation for Economic Co-operation and Development as generated by their 25 member countries in 2001 (Environmental Outlook, OECD) and the problems of calculating a definitive number for global waste generation are obvious. Therefore the figures shown below should be used with caution.



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