Swiss Working Paper on Chemicals and Waste Management in the Post-2015 Agenda

1 October 2013

Introduction

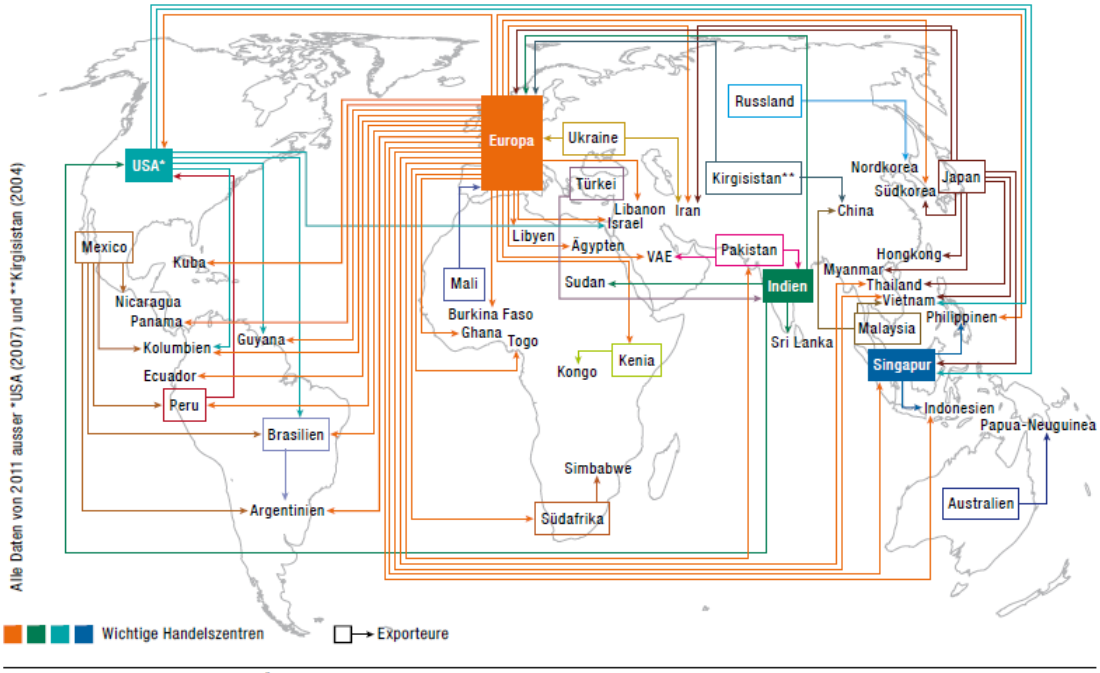
Chemicals form the basis for a myriad of processes and products that underlie our modern society. They are used in almost all aspects of life and spread out across the entire world by air, water, via the food chain, trade or even as waste. Despite the great benefits that chemicals can bring, they also pose challenges and risks for the environment and people's (or human) health. Many of the risks connected with handling chemicals are yet to be assessed are still not fully under control.

Every consumer product ends up sooner or later on the rubbish tip. Mountains of waste are growing steadily in every region of the world, including Oceania, owing to population and economic growth, as well as changing consumer patterns. Targeted waste management and recycling can help to meet these challenges. The view that waste can also be a resource is being increasingly accepted and the life cycle concept is also being put into action. Dangerous waste poses challenges and risks for the environment and people's health.

Based on the flow of trade in mercury as an example, we can see that chemicals and waste are a global problem:

Abb. 5.3b > Die weltweiten Handelsflüsse von Quecksilber

Chemikalien wie Quecksilber werden weltweit gehandelt. Einheitliche Regelungen haben somit einen grossen Einfluss auf den Schutz der Umwelt und den fairen Handel.



Quelle: Darstellung BAFU 2011, basierend auf ZOI Network 2011 und UN Comtrade 2011

Switzerland is an important location for the chemical industry and research in this field.[1] Actively contributing to an effective and comprehensive international regime for chemicals and waste management serves to uphold this position and Switzerland's reputation. The regime concerns the protection of people and the environment from the harmful effects of chemicals and waste, and includes mandatory operational conditions for the safe use of chemicals throughout their entire life cycle. Alongside this life cycle approach, the principles that preventive action should be taken and that the polluter should pay are particularly significant.
In its capacity as host state for key institutions and the secretariat of the global regime for chemicals and waste management, as well as the United Nations Environment Programme's (UNEP) Chemical Branch, the UN Institute for Training and Research (UNITAR) and the World Health Organisation (WHO), Switzerland has a significant role to play in these international processes.
In view of the effective and comparatively high environmental standards in Switzerland, it is also in the country's interests to limit unfair competition through international regulations.[2]

Abb. 5.3a > Die wichtigsten Exportbranchen der Schweiz

Chemikalien und pharmazeutische Produkte machen umsatzmässig den grössten Anteil der Schweizer Exporte aus. Die Schweiz ist deshalb an einer weltweiten Harmonisierung der entsprechenden Umwelt- und Sicherheitsstandards besonders interessiert.

	Mrd. CHF	
Nahrungs- und Genussmittel	7,4	4 %
Chemie und Pharma	75,9	37 %
Uhren	16,2	8 %

	Mrd. CHF	
33 %	67,6	Metalle und Maschinen
2 %	3,4	Textilien und Bekleidung
16 %	33,0	Übrige

Schweizerische Gesamtexporte: 203,4 Mrd. CHF (2010)

Quelle: OZD 2011

According to the 2012 Global Chemicals Outlook, the chemicals industry has grown enormously in recent years - while global output in 1970 amounted to 171 billion US dollars, the figure today is at 4.1 trillion. The shift of production and consumption can be seen in the example of China. Today, the country accounts for 42% of the global consumption of chemicals and has become the largest consumer of chemicals in the textile industry. The 2050 Environmental Outlook of the Organisation for Economic Co-operation and Development (OECD) states that the sale of chemicals doubled between 2000 and 2009. The statistics also show that the proportion of this sale in OECD countries fell from 77% to 63% whereas in the BRIICS countries (Brazil, Russia, India, Indonesia, China and South Africa) the sale of chemicals rose from 13% to 28%.
According to conservative estimates, the cost due to pesticide poisonings in sub-Saharan Africa in 2009 amounted to 6.2 billion US dollars. In this way, the cost of inaction is considerably higher than the entire health budget of the OECD Overseas Development Assistance (ODA), which spent approximately 4.8 billion US dollars on health during the same period (excluding HIV/AIDS assistance).[3]
In 2011, the WHO reported that in 2004, 4.9 million deaths worldwide (8.3% of total) and 86 million Disability-Adjusted Life Years (DALYs) (5.7% of total) were attributable to the management of selected

[1] Switzerland's largest export sector is in chemical products In 2009, global turnover of the ten largest chemical and pharmaceutical companies in Switzerland amounted to CHF 149 billion.
[2] Switzerland's international environmental policy 2012: http://www.bafu.admin.ch/publikationen/publikation/01636/index.html?lang=en
[3] Global Chemicals Outlook, Synthesis Report, page 29: http://www.unep.org/pdf/GCO_Synthesis%20Report_CBDTIE_UNEP_September5_2012.pdf

chemicals and the environmental release of them (this figure includes indoor smoke or the use of chemicals in the workplace).[4]

International processes

Since the 1992 World Summit in Rio, important legal international instruments have been adopted in order to promote good management of hazardous chemicals and waste. On Switzerland's initiative, a process to consolidate synergies to counteract the fragmentation of international environmental governance was launched in 2006. The process aims to improve cooperation and coordination among the three global conventions (Basel, Rotterdam and Stockholm) and other relevant instruments , and to increase the efficiency and effectiveness of the invested resources .

The Strategic Approach to International Chemicals Management (SAICM) was also launched in 2006. This came as a response to the goal that was set at the 2002 World Summit in Johannesburg that by 2020, chemicals should only be used or produced with minimal negative impact on the environment and people's health. To this end, UNEP and the United Nations Development Programme (UNDP) established a joint initiative.

Since 2010, a joint secretariat for the three global conventions in chemicals and waste management has been functioning. In April 2013, the conferences of the parties to all three chemicals and waste conventions were held back-to-back for the first time and a second joint extraordinary meeting was held.

In October 2013, the diplomatic conference of the Minamata Convention on Mercury took place. Switzerland initiated the negotiations on this new convention which were successfully concluded in Geneva in January 2013 and aims to merge the secretariat of the Minamata Convention with that of the other three global conventions.

The Millennium Development Goals adopted at the 2000 UN Millennium Summit do not take up the subject of chemicals and waste management even though the improper handling of chemicals and management of hazardous waste particularly impact the environment and people's health in developing countries.

Switzerland's commitment

Switzerland is very active in the international policy on chemical and waste management. This commitment includes having initiated the Basel Convention and the Convention on Mercury (i.e. two of the four global conventions that exist) and being actively involved in the establishment of SAICM. In addition, the process to enhance synergies in international environmental governance was initiated by Switzerland. The joint secretariat of the three global conventions in chemicals and waste management and the UNEP Chemical Branch are also located in Geneva.

Switzerland has high standards and considerable specific know-how in chemicals and waste management (for example, it took a leading role in the regulation of electronic waste in Europe) and would like to make this knowledge available to other countries.

Switzerland funds development projects in the field of chemicals and waste management: For example, the Swiss Agency for Development and Cooperation (SDC) funded SAICM pilot projects in Tanzania, Panama, Belarus, Mongolia and Pakistan to the sum of CHF 1.25 million between 2006-9, and has earmarked a further CHF 1.5 million for the development of national strategies on chemicals and waste management in various countries between 2010-13. The State Secretariat for Economic

[4] Global Chemicals Outlook, Synthesis Report, page 22:
http://www.unep.org/pdf/GCO_Synthesis%20Report_CBDTIE_UNEP_September5_2012.pdf
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Affairs (SECO) is also supporting the Better Gold Initiative in Peru with almost CHF 3 million and invests more than CHF 3 million a year in Cleaner Production Centres which also carry out risk analyses on chemicals and manage the Chemical Leasing Programme. In addition, SECO funds other projects in the field of urban waste management, waste exchange, sewage plants, waste recycling, professional disposal of persistent organic pollutants (POPs) from transformers and implementation of the UN Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

The three dimensions of sustainable development

The following table highlights how the topic of chemicals and waste management reflects the three dimensions of sustainable development:

Economy	• Chemicals are essential for prosperity today • Chemicals are used for the extraction of globally traded raw materials, and in industrial processes • The number of developing countries and emerging countries as global producers of chemicals is growing • The economic growth of recent years has led to increased waste production • Unprofessional disposal of waste leads to depreciation in land and massive additional costs in the future (contaminated sites such as the Kölliken landfills in Switzerland - CHF 0.5 billion). • For international value chains, compliance with limit values on toxicity and standardised labelling are key. • Waste is increasingly perceived as a resource / reusable material • Recycling limited resources as a chance and necessity (eg. rare earths)
Society	• Damage to health [5] • The unprofessional use of DDT in the fight against malaria can lead to consequences for people and the environment. • via the food chain Toxic chemicals accumulate in the organisms can • Working under poor conditions in mines and companies (which do not adhere to human rights or ILO working standards) - i.e. improper handling of chemicals and hazardous waste and the associated consequences • Urban waste management systems in towns or villages • Littering
Environment	• Damage to the environment caused by chemicals and hazardous wastes • Pollution of soil, water and air • Use of pesticides in agriculture can lead to infertile soil

Possible thematic components in the field of chemical and waste management

Examples for thematic components and subsidiary objectives that could be integrated into a future target system of specific Global Environmental Goals (GEGs) and that are agreed internationally are as follows:[6]

Rio+20 Outcome, para. 213
"[…] We reaffirm our aim to achieve, by 2020, the sound management of chemicals throughout their

[5] „Global Alliance on Health and Pollution" (http://gahp.net/index.html): „Toxins and chemicals such as lead, mercury, chromium, pesticides, POPs and radionuclides affect populations in many countries throughout the world, with thousands of toxic hotspots and well over 150 million people at risk. Health impacts include: physical and mental disability; organ dysfunction; neurological, reproductive, behavioral and other disorders; cancers; internal and external lesions; reduced life expectancy; and death. Toxins can weaken the body's immune system, rendering it more susceptible to other ailments and diseases. Children are especially vulnerable."

[6] The aims of the four global conventions and SAICM which could also be integrated into a new target system can also be found in the annex.

life cycle and of hazardous waste in ways that lead to minimization of significant adverse effects on human health and the environment, as set out in the Johannesburg Plan of Implementation. […]"

Johannesburg Plan of Implementation, para. 22
"Prevent and minimize waste and maximize reuse, recycling and use of environmentally friendly alternative materials, with the participation of government authorities and all stakeholders, in order to minimize adverse effects on the environment and improve resource efficiency, with financial, technical and other assistance for developing countries".

Agenda 21, para. 18.58 (c)
"By the year 2000, to have ensured that 75 per cent of solid waste generated in urban areas are collected and recycled or disposed of in an environmentally safe way. "

FAO International Code of Conduct on the Distribution and Use of Pesticides, revised 2002, art. 1.3
"The Code describes the shared responsibility of many sectors of society to work together so that the benefits to be derived from the necessary and acceptable use of pesticides are achieved without significant adverse effects on human health or the environment. […]"

ILO Convention Concerning Safety in the use of Chemicals at Work, 1990, preamble
"Considering that it is essential to prevent or reduce the incidence of chemically induced illnesses and injuries at work"

Johannesburg Plan of Implementation, para. 23 (c)
"Encourage countries to implement the new globally harmonized system for the classification and labelling of chemicals as soon as possible with a view to having the system fully operational by 2008

Switzerland's position

Switzerland is very active in the field of chemical and waste management. Owing to its national activities and implementation of comparatively high environmental standards, Switzerland has as well a leading role in the international chemicals and waste policy i. Switzerland also implements relevant projects in developing countries and emerging economies. Based on these endeavours, it is important that Switzerland actively commit itself to the issue as part of the Sustainable Development Goals process (SDGs).

To this end, Switzerland should strongly advocate for adequate consideration of the issue within a future timeframe. Although a separate goal on chemicals and waste would make sense since it clearly integrates all dimensions of sustainable development , this does not seem to be possible due to the political situation. It is therefore important that chemical and waste management is included as a thematic component in several l SDGs. In particular, it should be integrated into a possible goal on sustainable consumption and production. The issue should also be taken up in discussions on possible goals in the following fields: water security for all, sustainable / green growth, employment and decent work for all, maximising health for all at all stages of life, as well as food security and quality through sustainable agrifood systems.

Chemical and waste management is an agenda item of the Open Working Group on SDGs as part of the discussion on sustainable patterns of consumption and production. Whilst the relevance of the issue has thus been recognised, it is unlikely that it will be raised in the current proposals for a new target system (waste management receives partial mention where chemicals management not at all). It is therefore crucial that Switzerland remains committed in this field.

It is also important that chemicals management not be separated from the issue of waste management. A successful synergising process between the two has taken place internationally in recent years which has unified the global conventions in this field. It would therefore be counterproductive for these international processes. Further the life-cycle approach could not be used if the chemicals and f waste are addressed separately.

Annex

Aims of the four global conventions and international chemicals strategy:

Stockholm Convention on Persistent Organic Pollutants, art.1
“Mindful of the precautionary approach as set forth in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Convention is to protect human health and the environment from persistent organic pollutants.”

Rotterdam Convention, art. 1
“The objective of this Convention is to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and to contribute to their environmentally sound use, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.”

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, preamble
“Determined to protect, by strict control, human health and the environment against the adverse effects which may result from the generation and management of hazardous wastes and other wastes”
“Mindful also that the most effective way of protecting human health and the environment from the dangers posed by such wastes is the reduction of their generation to a minimum in terms of quantity and/or hazard potential”
The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes

Minamata Convention on Mercury, Article 1
“The objective of this Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compound

Strategic Approach to International Chemicals Management
The aim of the Strategy is the achievement of the goal agreed at the 2002 Johannesburg World Summit on Sustainable Development of ensuring that, by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health.

Abb. 5.3b > Die weltweiten Handelsflüsse von Quecksilber

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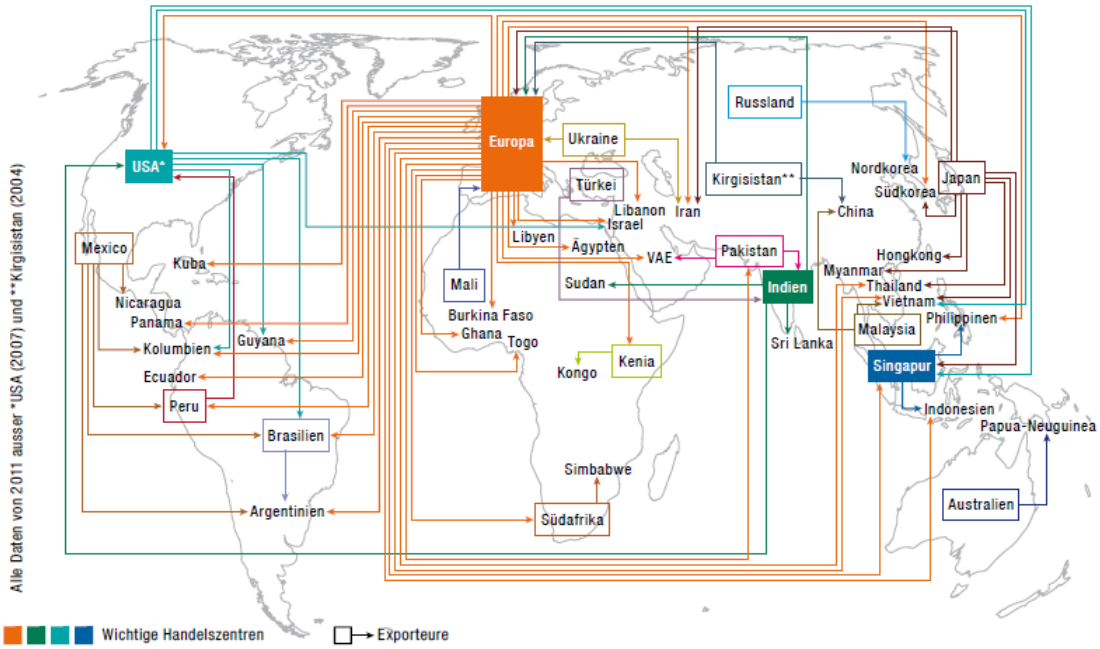

Quelle: Darstellung BAFU 2011, basierend auf ZOI Network 2011 und UN Comtrade 2011

Fig. 5.3b > Global flow of trade in mercury
Chemicals such as mercury are dealt with worldwide. Thus, uniform standards to regulate this have a great impact on environmental protection and fair trade.
All dates from 2011 except *USA (2007) and **Kyrgyzstan (2004)
Key trading centres
Exporters
Source: 2011 FOEN presentation based on ZOI Network 2011 and UN Comtrade 2011

Abb. 5.3a > Die wichtigsten Exportbranchen der Schweiz

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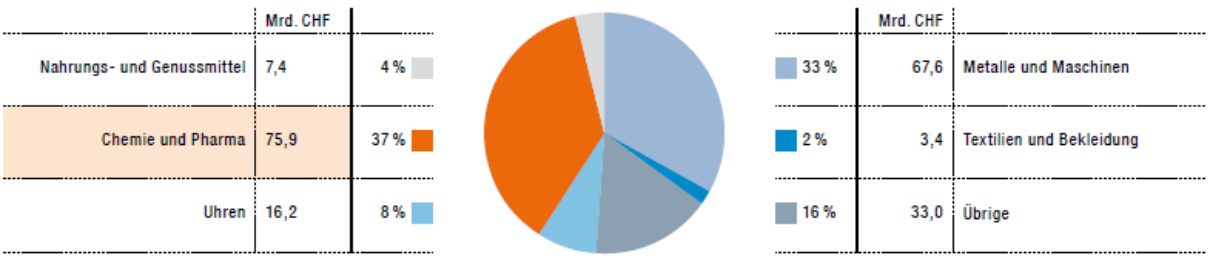

Schweizerische Gesamtexporte: 203,4 Mrd. CHF (2010)

Quelle: OZD 2011

Fig. 5.3a > Switzerland's key export sectors
In terms of revenue, chemicals and pharmaceutical products make up the largest part of the country's exports. Switzerland is therefore particularly interested in the worldwide harmonisation of standards on the environment and security.
CHF bn.
Food and beverages
Chemicals and pharmaceuticals

Watches and clocks
Metals and machinery
Textiles and clothing
Other
Total Swiss exports: CHF 203.4 bn (2010)
Source: OZD 2011