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20 Jahre Anlaufstelle Basler Übereinkommen

20 Years Focal Point Basel Convention

Für Mensch & Umwelt

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20 Years Focal Point Basel Convention

Auswertung des Kolloquiums 20 Jahre Anlaufstelle Basler Übereinkommen

von / by

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Foreword

The Waste Movement Act of 14 October 1994 established the Focal Point to the Basel Convention in the Federal Environment Agency. To celebrate this 20th anniversary a colloquium was organized on 9 and 10 October 2014 in Dessau. It gathered speakers from different regions of the world representing authorities, industry and academics to discuss the future directions for the Basel Convention.

The Convention requires Parties to implement a system of monitoring and control of transboundary movements of wastes. This system provides for important safeguards to protect the environment and human health against the adverse effects of unwanted transboundary movements. However, after 20 years it is also important to acknowledge that the world has changed considerably. Wastes are increasingly being used as resources and also the role of industry, both as waste generator and as partner to solve waste management problems, has also changed.

New challenges require authorities, industry, environmental NGO's and academia to rethink their role and to determine what the most adequate strategies are to meet the new challenges. It is important to strengthen the systems developed under the Convention and to explore ideas for improving global waste management and for the development of environmentally sound solutions. During the colloquium the speakers provided their views on these strategic issues. The participants entered into debate with the speakers to provide additional views.

This report gives a reflection of the different contributions of the speakers and the participants and highlights the new challenges and possible ways forward. This may serve as inspiration for those involved in the international development of instruments to improve the management of waste.

Kurzbeschreibung

Mit dem Inkrafttreten des Abfallverbringungsgesetztes zum 14.10.1994 entstand die Anlaufstelle des Basler Übereinkommens im Umweltbundesamt. Anlässlich des 20-jährigen Bestehens fand am 9. und 10. Oktober 2014 ein Kolloquium in Dessau statt. Es trafen sich Interessenvertreter aus Industrie und Wissenschaft sowie von Behörden aus vielen verschiedenen Teilen der Welt, um die kommenden Problemstellungen des Basler Übereinkommens zu diskutieren.

Jenes Übereinkommen verpflichtet seine Vertragsparteien zur Umsetzung verschiedener Richtlinien zur Kontrolle und zum Verbleib grenzüberschreitender Abfallverbringungen. Dabei liefert das System wichtige Schutzmaßnahmen für unsere Umwelt und der menschlichen Gesundheit gegen unerwünschte Folgen der grenzüberschreitenden Abfallverbringung. Es ist festzustellen, dass sich die Welt in den letzten 20 Jahren stark gewandelt hat. So werden Abfälle vermehrt als Rohstoff angesehen und die Rolle der Industrie, Abfallerzeuger wie auch Entsorger, hat sich längst geändert.

Neue Herausforderungen und Probleme erfordern von den Behörden, Industrien, Umweltverbänden und der Wissenschaft ein Überdenken ihrer Rolle und die Entwicklung wirksamer Strategien zur Lösung aufkommender Problematiken. Dabei ist es sehr wichtig, die unter dem Basler Übereinkommen entstandenen Systeme kontinuierlich zu modernisieren, Ideen zur Verbesserung der globalen Abfallwirtschaft zu sammeln sowie die Entwicklung umweltfreundlicher Lösungen voranzutreiben und zu fördern. Während des Kolloquiums trugen dabei die Redner ihre Ansichten und Erfahrungen zu den verschiedenen Problemstellungen vor, welche anschließend mit den Teilnehmerinnen und Teilnehmern diskutiert wurden.

Der vorliegende Bericht fasst die verschiedenen Beiträge der Teilnehmerinnen und Teilnehmer zusammen und hebt die aktuellen Herausforderungen sowie mögliche Verbesserungsmaßnahmen hervor. Er dient als Inspiration für alle Akteure, welche sich mit der internationalen Optimierung der Abfallwirtschaft auseinandersetzen.

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List of Abbreviations

B2B	Business-to-Business
BCRC	Basel Convention Regional Centre
BIR	Bureau of International Recycling
Bo2W	Best of Two Worlds
CLI	Country-Led Initiative
COP	Conference of the Parties
EACR	East Africa Compliant Recycling
EPR	Extended Producers Responsibility
ESM	Environmentally Sound Management
EU	European Union
FYRoM	Former Yugoslav Republic of Macedonia
GEF	Global Environment Facility
HP	Hewlett Packard
MPPI	Mobile Phone Partnership Initiative
NGO (NRO)	Non-Governmental Organization (Nichtregierungsorganisation)
OECD	Organization for Economic Co-operation and Development
OEWG	Open-ended Working Group
PACE	Partnership for Action on Computing Equipment
PCB	Polychlorinated Biphenyl
PIC	Prior Informed Consent
POP	Persistent Organic Pollutant
PPP	Public Private Partnership
RoHS	EU Directive on Restrictions of Hazardous Substances
SAICM	Strategic Approach to International Chemicals Management
UN	United Nations
UNEP	United Nations Environmental Program

1 Welcome and Introduction

Maria Krautzberger, President of the Federal Environment Agency, Germany

Sehr geehrte Damen und Herren,

liebe Kolleginnen und Kollegen,

ich begrüße Sie herzlich zum Kolloquium „20 Jahre Anlaufstelle Basler Übereinkommen“ im Umweltbundesamt in der Bauhausstadt Dessau.

20 Jahre sind eine langer Zeitraum, meine sechs Monate als Präsidentin des Umweltbundesamtes nehmen sich dagegen vergleichsweise kurz aus.

Ich freue mich auf das spannende Thema, das uns heute hier im Umweltbundesamt zusammen führt.

Lassen sie mich auf einige Aspekte eingehen die die Arbeit der „Anlaufstelle Basler Übereinkommen“ des Umweltbundesamtes auszeichnen.

Die Einrichtung der Anlaufstelle Basler Übereinkommen vor 20 Jahren war ein Novum. Und zwar insofern als damit dem Umweltbundesamt erstmalig eine vollgültige Vollzugsaufgaben einschließlich Gebührenerhebung übertragen wurden. Heute gehören Vollzüge, z.B. als zuständige Stelle für Anzeige und Registrierung nach ElektroG/BattG selbstverständlich zu unserem Aufgabenkanon.

Sie erfüllen eine wichtige Funktion, da wir dadurch praktische Erfahrungen gewinnen, die unmittelbar Eingang in unsere wissenschaftliche Arbeit finden. Und dies ist eine der Kernaufgaben des Umweltbundesamtes. Der enge Zusammenhang zwischen der wissenschaftlichen Arbeit und der praktischen Erfahrung in den Vollzügen wird im Umweltbundesamt (UBA) auch als Kettenkompetenz bezeichnet.

Die Einrichtung der Anlaufstelle des Basler Übereinkommens war sowohl mit Blick auf die Aufgabenprofil als auch die internationale Vernetzung des Umweltbundesamtes wegweisend.

Ich freue mich, dass unter den Gästen und Referenten des Kolloquiums Vertreterinnen und Vertreter aus Europa, Afrika und Amerika sowie international agierende Unternehmen sind. Dass Sie die weite Reise nach Dessau anlässlich dieses Kolloquiums nicht gescheut haben, macht deutlich, wie gut es der Anlaufstelle Basler Übereinkommen in der vergangenen Zeit gelungen ist, sich mit den Fachexperten national und international zu vernetzen.

Als das Basler Übereinkommen über die Kontrolle der grenzüberschreitenden Verbringung von Abfällen vor 25 Jahren verabschiedet wurde, geschah dies vor dem Hintergrund verschiedener illegaler Abfallverbringungen, u.a. der unkontrollierten Verbringung von Abfällen aus dem Seveso-Unfall im Jahre 1983.

Dadurch wurde allen deutlich vor Augen geführt, wie wichtig es zum Schutz der Umwelt und der menschlichen Gesundheit ist, gefährliche Abfälle sicher und ordnungsgemäß zu entsorgen. Das Basler Übereinkommen war ein Meilenstein, da die Verbringung gefährlicher Abfälle seit dem nur noch mit Zustimmung aller beteiligten Staaten erfolgen kann.

Seit Inkrafttreten des Basler Übereinkommens im Jahre 1992 wurde vieles erreicht, so z.B. konnten Transporte gefährlicher Abfälle aus Europa in sich entwickelnden Staaten unterbunden werden.

Allerdings wurde das Ziel des Basler Übereinkommens, die Minimierung der grenzüberschreitenden Verbringung bei innereuropäischen Verbringungen nicht erreicht.

Dies berührt den zweiten Aspekt des heutigen Tagungsthemas, die Kreislaufwirtschaft.

Um nur eine Zahl zu nennen: 2012 wurden 70% der nach Deutschland importierten Abfälle einer Verwertung zugeführt.

Dies entspricht einem der Ziele der Kreislaufwirtschaft, mit dem das Recyclings von Abfällen und die Ressourceneffizienz von Abfällen gestärkt werden sollen. Daraus ergeben sich eine Reihe von Herausforderungen für die grenzüberschreitende Abfallverbringung.

Ich denke es ist zu diskutieren, wie aus Umweltsicht mit einer Situation umzugehen ist, in der Staaten über besondere Anlagentechniken oder Kapazitäten verfügen, die das Recycling von Materialien ermöglichen, dafür jedoch Abfälle grenzüberschreitend verbracht werden müssen.

Deutschland weist seit einigen Jahren einen Importüberschuss aus, weil eine gute Entsorgungsinfrastruktur vorhanden ist.

Dies könnte ein Ansporn für andere Staaten bilden, ebenfalls eine entsprechende Infrastruktur aufzubauen.

Ich möchte auch auf ein weiteres, in den vergangenen Jahren gewachsenes Problem, kurz eingehen. Dies betrifft den Umgang mit unseren stetig wachsenden Bergen von Elektroschrott. Dieser setzt sich aus Elektro-Altgeräten zusammen, von denen manche noch wiederverwendbar wäre, zumindest dann, wenn man sich der Mühe unterzieht, im Sinne der Abfallvermeidung und der Wiederverwendung den Weg der Reparatur zu beschreiten und damit die Nutzungsdauer des Fernsehers, des Computers oder des Handys um einige Zeit zu verlängern. Kürzlich wurden auf der Internationale Funkausstellung (IFA) in Berlin wieder zahlreiche Neuerungen vorgestellt. Bei Smartphones ist der regelmäßige Austausch fast schon selbstverständlich geworden.

Elektro- und Elektronikgeräte haben sich einen festen Platz in unserem Lebensalltag erobert. Im Hinblick auf ihre fachgerechte Entsorgung gibt es aber noch zahlreiche Herausforderungen. Ein Beispiel ist die Rückgewinnung der in nur geringen Konzentrationen in diesen Geräten enthaltenen Metalle. Zur Verbesserung der Situation sind neue Lösungen erforderlich beispielsweise wie sie im Ansatz "Best or Two Worlds" aufgegriffen werden.

Eine Herausforderung besteht darin, Vorschläge und Maßnahmen zu entwickeln, wie illegale Abfallverbringungen eingedämmt werden können. Verschiedene Reportagen und Studien haben in der Vergangenheit gezeigt, welche langen globalen Wege unser Elektroschrott, hier v.a. Fernseher, Computer und Handys teilweise nehmen.

Ein Teil noch gebrauchstauglicher Geräte landet beim Nutzer, und das ist auch durchaus gewünscht.

Ein großer Teil gelangt jedoch ohne fachgerechte Entsorgung auf unkontrollierte Müllkippen.

Häufig werden Geräte im sogenannten "informellen Sektor" zerlegt und Komponenten über offenem Feuer herausgelöst, um an Rohstoffe zu gelangen. Dies führt zu schweren Gesundheitsschäden und hohen Umweltbelastungen.

Hier haben wir eine besondere Verantwortung.

Ein Schwerpunkt liegt in der Förderung von Verwertungsstrukturen in den Entwicklungs- und Schwellenländern.

Deutschland unterstützt daher den Aufbau einer geeigneten Entsorgungsinfrastruktur in den Entwicklungsländern durch Kooperationsangebote, Informationsvermittlung, Technologietransfer und Thematisierung in internationalen Gremien.

Wir müssen noch stärker dafür sorgen, dass Abfallverbringungen besser kontrolliert und illegales Verhalten zurückgedrängt wird. Ein wichtiger Schritt dazu ist die in der novellierten Elektroaltgeräterichtlinie von 2012 verankerte Beweislastumkehr.

Kontrollbehörden wird es damit ermöglicht, beim Export vom Besitzer die Vorlage von Nachweisen für die Funktionsfähigkeit der Geräte zu verlangen. Dies ist ein erster wichtiger Schritt, um die illegalen Verbringungen von Abfällen zurückzudrängen.

Die Anlaufstelle Basler Übereinkommen ist häufig bei Verdacht auf illegale Abfallverbringungen, mit seinem Sachverstand hinsichtlich Einstufung von Abfällen sowie insgesamt zur Sachverhaltsaufklärung gefragt. Hier ist auch die gute nationale und internationale Vernetzung der Anlaufstelle von wesentlicher Bedeutung. Die heutige Veranstaltung dient auch der Pflege und Vertiefung der Zusammenarbeit.

Die aufgedeckten Verstöße reichen von Formverstößen bis hin zu Handlungen mit hoher krimineller Energie. Hier stellt sich die Frage, wo der Schwerpunkt der Kontrollen liegen soll.

Eine Rückbesinnung auf das Grundanliegen des Basler Übereinkommens ist diesbezüglich erforderlich.

Im Zentrum stehen der Schutz der Umwelt und der menschlichen Gesundheit, die nur durch eine sichere und ordnungsgemäße Entsorgung gefährlicher Abfälle erreicht werden kann.

Gerade im Kontext einer Stärkung der Kreislaufwirtschaft müssen wir die fachgerechte Behandlung und Entsorgung gefährlicher Abfälle im Blick behalten, sie ist ein Kernelement einer funktionierenden Kreislaufwirtschaft.

Dies sollte deshalb im Mittelpunkt aller Überlegungen stehen, wenn es darum geht, das Basler Übereinkommen unter den Vorzeichen der Kreislaufwirtschaft weiter zu entwickeln.

Ich wünsche Ihnen für die Veranstaltung gute Diskussionen, interessante Eindrücke und einen gelungenen Erfahrungsaustausch miteinander!

Herzlichen Dank für Ihre Aufmerksamkeit!

2 Experiences from CLI and what can be learned for the further development of Basel Convention

Jim Willis, Former Executive Secretary of the Secretariat of the Basel, Rotterdam and Stockholm Conventions, Switzerland

Good afternoon ladies and gentlemen,

It is a pleasure to join you today to give my perspectives on the country-led initiative and what can be learned from it for the further advancement of work under the Basel Convention.

As many of you know, I retired earlier this year as Executive Secretary of the Basel, Rotterdam and Stockholm Conventions. Of the 12 years I worked with the United Nations Environmental Program (UNEP) running its Chemicals program and administering the chemicals and waste Conventions only 3 of these were with the Basel Convention, so many of you probably know more about the Convention in terms of its inter-workings than I do. What I hope I can bring you is a candid "high level" view of this initiative and how it may spell a path forward for the Convention into the future.

There are a number of issues in play that do affect the success of the Basel Convention – and by extension of our ability to manage globally hazardous chemicals and wastes in an environmentally sound manner. Part of the challenge has been to overcome the rather low visibility, resources and attention Prior Informed Consent (PIC) regimes tend to get from governments. I think it is useful to look at Basel as, in many ways, being the original Prior Informed Consent scheme, designed for the transboundary movement of wastes between countries. Clearly it has evolved from there, but if you look at similar instruments such as the Rotterdam Convention, which deals with hazardous chemicals and pesticides, as well as the Cartegena protocol, under the Convention on biodiversity, you see over time a reduced attention by governments. And part of this is the very nature of the constant government-to-government transactions that keeps it from as high a global profile as it might otherwise have.

When the Basel Convention was adopted in 1989, the key legally binding provision was this manifest system controlling transboundary movements of hazardous and other wastes. It did not take very long, though for governments to realize that many countries had very weak infrastructures that would have trouble evolving to a good manifesting and decision-making system within a reasonable time frame. The Basel Ban Amendment was adopted in 1995 to prohibit waste moving from OECD[1] countries to non-OECD countries.

Although the Ban Amendment seemed like the right response at the time: international waste streams in the late 1980s and early 1990s were predominantly from OECD countries to developing countries; the Amendment proved to be almost immediately controversial and progress towards entry into force was hampered by a lot of debate over the number of ratifications necessary for the Amendment to enter into force. This is a clear sign that there was reluctance by some countries to want this Amendment to enter into force. This debate continued for well over a decade with no real resolution. It has been, if you will, a bit of a black cloud over the Basel Convention and has detracted from a lot

[1] Organization for Economic Co-operation and Development, with membership of industrialized countries

of the progress that has been made under the Convention. The control system works extremely well. The technical guidelines that were developed for the various waste streams are of high quality and a lot of people were satisfied with this progress. The feeling remained, however, that the Convention should be doing more. And it also polarized the Parties between those that favored the Ban Amendment and those who opposed to it.

During this time three key developments unfolded. Firstly, the domestic generation of wastes in developing countries increased and continues to increase. Globally it is outstripping the importation of waste: in most countries managing domestic waste is the issue, rather than imported waste. The Ban Amendment alone is not going to solve that problem. And, of course, many non-OECD countries are generating large quantities of waste that they may be exporting. Secondly, as the waste management hierarchy became better internalized in countries overall, people started to realize that some waste streams contain valuable raw materials. We are learning more and more what we can recover from waste streams. Wastes have become in some cases valuable commodities and useful for economic development. Thirdly, the period from the mid-90s to present has seen a rapid expansion of binding, and non-binding, instruments:

- The Rotterdam Convention,
- The Stockholm Convention,
- The Strategic Approach to International Chemicals Management (SAICM), and
- The Minamata Convention on mercury.

This is both good and bad. This has led to increased political visibility for global chemicals and waste issues, and even a specific role for Basel in some of these instruments. It has also, at its worst, resulted in competition for attention, resources and relevance: who is the most important in the group.

Confronted with these challenges, and based upon a statement by the President of the ninth Conference of the Parties (COP-9) in Bali, Switzerland and Indonesia jointly initiated and led the CLI (Country-Led Initiative). Based on the outcomes of this process, Basel COP-10 in Cartagena adopted a decision with a number of key components:

- Agreeing to a path forward on the entry into force of the Ban Amendment,
- Developing guidelines for environmentally sound management (ESM),
- Providing further legal clarity,
- Strengthening the Basel regional and coordinating centers,
- Combatting illegal traffic,
- Assisting developing countries, and
- Capacity building.

This is a big collection of elements, but the key aspect of it is a trade-off between the Ban Amendment and the development of ESM: when do you prohibit waste from going to developing countries, what ESM guidelines can be adopted and how this will create a future waste trade regime. This is still a very charged issue. Until a final decision is taken by the COP it is hard to predict what form this will take. I have full confidence that this will be developed and agreed and it will spell the future and the path forward of the Basel Convention. I believe that this ESM process, as I will call it, will be adopted at the same time when the Ban Amendment enters into force because that is going to resolve the polarity between those that favor the Ban Amendment and those who favor a legally and technically sufficient waste trading scheme. Having this will help ensure that countries that now have problems managing their own domestic waste will be able to manage them. Whatever is done to make the ESM program work will build capacities in developing countries whether they are accepting shipments or

not. This is why you develop PIC schemes. Recipient countries don't necessarily have the infrastructures to manage the chemicals or the wastes so they need this system. If we can put in place something under Basel that gives them this infrastructure, then, they will be able to manage their own wastes. It will also help to ensure that when wastes are imported for recovery these activities do take place in an environmentally sound manner.

The process itself has really reinvigorated the Basel Convention. It is not just the final results, but rather the notion that countries, based on an invitation by a COP President, can get together, to chart a path forward for a Treaty and then through a series of subsequent decisions really put in place a framework for ESM and now guidance and guidelines and other materials for ESM. This is an outstanding development for a number of different reasons and this gets to some of the lessons learned.

Firstly, country leadership and active involvement of countries in the implementation of COP decisions and new initiatives makes sure they are constructed in a way that they can be implemented. That may sound almost silly, but you would be surprised how many of the COP decisions are left to the Secretariat to draft and then countries debate on what the Secretariat has done. This process is entirely different. It is more like what takes place in the OECD and many of you may relate to that, where the decision taking and the work is bottom-up to chart this path forward.

Secondly, going back to what I said about Prior Informed Consent schemes, this is a way of addressing an underlying concern, where building this ESM program and having outside expertise helping countries to verify that they have everything in place to assure ESM can be really important. This is not only important for Basel, but also for the other Conventions that rely on PIC procedures.

Thirdly, and some of you that have been directly involved in the OECD work will relate to this, when countries sit down and work together, and Basel has experience doing this with technical guidelines but also now with this CLI, this process builds relationships across international boundaries and in itself is infrastructure building and builds stronger communications among countries who have very different positions sometimes.

Fourthly, the CLI and processes like it, help countries budget these processes during the COP. The people developing the CLI, and Alberto Capra and Andreas Jaron who are here today, know this as they are deeply involved in the process. You can make the direct link between your expectations and how you pay for this. This is quite different from how most COPs do budgeting. Most COPs work from a budget proposed by the secretariat. This is different. The people involved in the CLI know how much they need to continue the next phases of the work.

Lastly, and most importantly, this initiative shows that even after 20 or 25 years, countries can come together to solve a long standing problem with their Convention. We might all look around at other Conventions that have long standing problems that need solution. Here is a Convention where it is actually working and a path forward is under way.

I have no doubt that in a reasonable period of time, and I really don't know what that is, probably a couple of years, that the CLI will be adopted and the Ban Amendment will enter into force. That is not the end of the story though. It is very easy for countries to adopt things, but this is something that has to happen on the ground. It is easy to say that all you need for developing countries and industries to have the necessary capacities and skills, but how do you get there?

There are several ways. One is through the Basel Convention Regional Centres (BCRC) which are set up as regionally directed centers of expertise and exchange of information. They help running projects around the world. We have some people from regional centers here who can address some of their experiences. The tools that are being developed that help guide countries in addressing ESM are things that the centers can work with.

Another one is going to be technology transfer, which can be a very value-laden term among other value-laden terms. I think that preferably this can be done via direct business-to-business relationships where businesses in countries with relatively advanced technology and capacity in understanding and managing these waste streams can work with facilities in developing countries so that they can understand how they can manage the wastes that are coming to them. These in many cases may be done by direct subsidiaries located in these countries. For many of these waste streams the technology exists.

Training and assistance for both governments to understand what they know and what they don't know and for the waste management professionals and the industry can also be provided by agencies of the United Nations (UN) like UNEP.

There is direct financing which there is always a clamor for, and which occasionally is successful, but not always. The Global Environment Facility (GEF) is now broadening its window not to cover just Stockholm Convention but also chemicals under Minamata, plus a little bit of Rotterdam and Basel. And therefore the question is how you develop GEF projects that meet the CLI needs, if you are going to use direct financing.

Targeted assistance under the Convention is a challenging issue. Under the Basel Convention there is an implementation fund. It is linked to the compliance mechanism. But the funds that are given out by a committee of governments are used for very targeted programs to help bring countries into compliance on a specific manner where they are facing challenges meeting their obligations. And therefore countries may want to set up a system under their direct control which can do this work for ESM.

And then lastly, and probably most importantly there is bilateral assistance e.g. via country-to-country assistance. In terms of financing of capacity building, that is where the money is. Also business-to-business working arrangements come under this.

There are a number of things that will need to come into place to make sure that the CLI work when it is adopted. Let me come back one moment again to the Ban Amendment. I think that even today a number of Parties that have ratified it would probably agree it is not the perfect instrument for addressing the problem. There are probably a number of countries who will not have an adequate capacity to manage imported waste in our lifetimes. They need a scheme to keep the waste from coming in. But to simply ban it from OECD countries, when other industrializing countries can now send waste there does not really address the fundamental problem. So once the Ban Amendment enters into force the Parties to that Amendment will have to look if it was the right amendment for the purpose it was set out to accomplish.

In closing let me say the CLI is by far the most interesting part of the Basel Convention I have been involved in. It offers a path forward for the future of the Convention and to reinvigorate political support for the goals of the Convention. It also can show countries working in other Treaties that new approaches can be developed that help advance their Treaty goals. I look forward to watching future developments.

Thank you.

3 What does Basel Convention do and how can it be made sustainable?

Helge Wendenburg, Federal Ministry for the Environment, Germany

Im Rückblick auf die Situation in den Entwicklungsländern in den 1980er Jahre wird die Bedeutung des Basler Übereinkommens deutlich. Sowohl die europäische als auch die amerikanische Industrie suchten Wege, um ihre Abfälle möglichst günstig dort zu entsorgen. Allerdings zeigt das Bild des Jungen, der auf einer nigerianischen Müllkippe im Schweldampf des brennenden Computerschrottes steht, dass bei der Überwachung internationaler Transporte noch viel zu tun ist.

3.1 Leistungen des Basler Übereinkommens

Zu den wesentlichen Leistungen des Basler Übereinkommens gehört zweifellos, dass die internationale Verbringung von Abfällen streng reguliert wird. Die Ergänzung des Übereinkommens durch das Exportverbot (ban amendment), das auf der 3. Vertragsstaatenkonferenz 1995 verabschiedet wurde, ist ebenfalls ein wichtiger Schritt. Hierdurch wird der Export gefährlicher Abfälle aus OECD-Staaten in Staaten außerhalb der OECD grundsätzlich verboten. Ein Exportverbot kann in einer globalisierten Welt, in der aus Abfällen Rohstoffe werden, allerdings nicht die dauerhafte Lösung sein.

Das Notifizierungsverfahren gehört ebenfalls zu den Errungenschaften des Übereinkommens. Dadurch werden die staatlichen Behörden in den Export von Abfällen involviert. Aber auf der anderen Seite ist aber auch Verständnis für die Industrie notwendig, wenn sie sich über langwierige bürokratische Prozesse beschwert. Dies darf aber nicht dazu führen, die Überwachung des internationalen Transports von Abfällen zu verringern. Stattdessen müssen Länder, die bei der Umsetzung des Notifizierungsverfahrens Schwierigkeiten haben, dabei unterstützt werden, eine leistungsfähige Verwaltung aufzubauen. Dies ist nicht nur ein Problem in den Ländern Afrikas oder Asiens, sondern es tritt auch in Ländern der Europäischen Union auf.

Die umweltgerechte Behandlung von Abfällen ist ein weiterer wichtiger Punkt des Basler Übereinkommens. Auf den Vertragsstaatenkonferenzen im Jahr 2011 wurde der Rahmen für die umweltgerechte Abfallbewirtschaftung (Environmentally Sound Management, ESM) abgesteckt. Hierbei wurden Instrumente und Strategien zur Umsetzung von ESM beschlossen. Daneben wurde auch die Bedeutung von Abfall als Ressource anerkannt und herausgehoben. Zusätzlich wurden in den vergangenen Jahren zahlreiche technische Richtlinien für den Umgang mit bestimmten Abfallarten, z. B. POP- und quecksilberhaltige Abfälle, Krankenhausabfälle oder Richtlinien zu Behandlungsverfahren wie die Abfallverbrennung in Zementwerken beschlossen.

3.2 Globalisierte Abfall- und ressourcenwirtschaftliche Anforderungen an das Basler Übereinkommen

Die ursprüngliche Idee der Abfallwirtschaft der 1980er und 1990er Jahre ist in der globalisierten Welt nicht mehr denkbar. In Europa hat sich die Abfallwirtschaft vollkommen geändert. Es wird nicht mehr über die Beseitigung von Abfall gesprochen. Ausgenommen bei gefährlichen Stoffen, die aus Umweltschutzgründen aus den Stoffkreisläufen ausgeschleust werden müssen.

Notwendig ist ein neuer, ressourceneffizienter Umgang mit benötigten Rohstoffen. Angesichts einer stetig wachsenden Weltbevölkerung und dem immer größer werdenden Bedarf an Infrastruktur, an technischen Geräten, Fahrzeugen und an Mobilität kann der bisherige Umgang mit den Rohstoffen nicht fortgesetzt werden. Über die Abfall- und Ressourcenwirtschaft können neue Wege erschlossen werden, um Kreisläufe aufzubauen. Hierbei könnten im Rahmen des Basler Übereinkommens globale Stoffkreisläufe aufgebaut werden, um die Rohstoffversorgung der Welt sicherzustellen.

Wenn Abfälle als Ressourcen betrachtet werden, wird die Aussage einiger Schwellenländer, dass das Exportverbot (ban amendment) ein Versuch der OECD-Länder darstellt, sie von Rohstoffströmen auszuschließen, verständlich. Aber so ist das Exportverbot nicht gemeint, sondern es soll dem Schutz der Schwellen- und Entwicklungsländer vor gefährlichen Abfällen dienen. Unter dem Basler Übereinkommen könnten Überlegungen über die Gestaltung der globalisierten Stoffströme angestellt werden, ohne dass Entwicklungsländer wieder Gefahr laufen, von gefährlichen Abfällen überschwemmt zu werden.

Das Basler Übereinkommen kann dazu beitragen, dass die globalisierten Abfall- und Rohstoffströme unter zwei Gesichtspunkten gestaltet werden. Dazu gehört der Schutz von Entwicklungsländern vor der illegalen Verbringung gefährlicher Abfälle. Zusätzlich müssen hier aber auch Strukturen geschaffen werden, dass in diesen Ländern eine Abfallentsorgung möglich ist. Die Schwellenländer sind bereits technologisch in der Lage, aus Abfallströmen Rohstoffe zurückzugewinnen. Daher sollten diese Zugang zu den zertifizierten Anlagen erhalten, damit sollte auch sichergestellt ist, dass die entstandenen Abfälle sachgerecht gesammelt und entsorgt werden und nicht wieder eine Gefährdung der Umwelt darstellen.

Ein weiteres wesentliches Problem ist die Abgrenzung zwischen Abfall und nicht-Abfall. Hierbei dürfen keine Entwicklungen gefördert werden, die dazu geeignet sind, die internationale Verbringung von Abfällen zu unterlaufen, nur weil die Entwicklungen zu Begriffsverwirrungen führen.

Die Wiederaufarbeitung (Remanufacturing) kann als Methode zur Abfallvermeidung betrachtet werden, da die gesamte Energie, die ursprünglich für das Produkt eingesetzt wurde, erhalten bleibt. Zusätzlich wird der Nutzen des Produktes durch neue, moderne Komponenten gesteigert. Dadurch hat Remanufacturing auf der einen Seite abfallvermeidende Aspekte, auf der anderen Seite führt es zu Gütertransporten und Stoffströmen. Hierbei wird die Aufgabe des Basler Übereinkommens deutlich, darüber zu wachen, dass die internationalen Produkt- und Ressourcenströme nicht dazu genutzt werden, die abfallwirtschaftlichen Standards des Basler Übereinkommens zu umgehen.

3.3 Zusammenfassung

Neben der strengen Regulierung der internationalen Abfallverbringung gehört der Schutz der Entwicklungsländer vor gefährlichen Abfällen durch das Exportverbot (ban amendment) zu den wesentlichen Leistungen des Basler Übereinkommens. Durch den Rahmen der umweltgerechten Abfallbewirtschaftung (ESM) wurden entsprechende Vorgaben zum Umgang mit Abfällen gemacht. Hierzu gehören die technischen Richtlinien für den Umgang mit bestimmten Abfallarten und Verfahren.

Unter der Ägide des Basler Übereinkommens könnten die globalisierten Abfall- und Ressourcenströme so gestaltet werden, dass die Entwicklungsländer vor gefährlichen Abfällen weiterhin geschützt werden. In diesen Ländern müssen beim Aufbau von Strukturen zur Abfallentsorgung unterstützt werden. Die Schwellenländer dagegen, die technologisch dazu in der Lage sind, aus Abfällen Rohstoffe zurückzugewinnen, sollten Zugang zu zertifizierten Entsorgungsanlagen erhalten. Gleichzeitig sollte auch hier sichergestellt werden, dass durch entsprechende Entsorgungsstrukturen der Umweltschutz gewährleistet ist. Eine weitere zukünftige Aufgabe des Basler Übereinkommens sollte die Abgrenzung zwischen der Ressourceneffizienz und -nutzung sein. Hiermit verbunden ist auch die Aufgabe, darüber zu wachen, dass die globalisierten Stoffströme nicht dazu genutzt werden können, die abfallwirtschaftlichen Standards zu umgehen.

4 A level playing field for industry – how can this be achieved?

Klaus Hieronymi, Hewlett-Packard (HP), Germany

Bis etwa 2005/2006 konnten durch die illegale Verbringung von Elektroschrott in Länder Afrikas, Asiens und zum Teil auch Südamerikas hohe Gewinne erwirtschaftet werden. Doch das hat sich grundlegend verändert. Durch die hohen Rohstoffpreise, durch Importbeschränkungen in einigen Entwicklungsländern (Green Fence, China) und durch eine verbesserte Technik ist das Recycling von Elektroschrott in den früheren Exportstaaten wirtschaftlich geworden.

Jedoch gibt es auch in den sich entwickelnden Staaten weiterhin signifikante Mengen an Elektroschrott. Dieser stammt von lokal genutzten Gebrauchtgeräten, aus neuen Produkten und teilweise noch aus der illegalen Verbringung von Elektroschrott aus Industrieländern. Unabhängig von der Quelle des Elektroschrotts liegt das eigentliche Problem aber in der nicht existierenden Recyclingstruktur in den Entwicklungsländern und ungleichen Qualitäts- und Umweltstandards wie in Industriestaaten.

Was unternehmen die Hersteller gegen anfallenden Elektroschrott?

4.1 Die East Africa Compliant Recycling gegen Elektroschrott in Ostafrika

Zusammen mit Dell, Nokia und Philips initiierte HP die Gesellschaft East Africa Compliant Recycling (EACR). Finanziell unterstützt wird dieses Projekt von der Entwicklungsbank KfW. Mit der Firma Reclaimed Appliances betreibt das IT-Industriekonsortium in Nairobi einen Zerlegebetrieb. Hier werden werthaltige Geräte, z. B. PCs, Drucker, Videoanlagen, zerlegt. Zum Teil werden die Bestandteile auf dem lokalen Markt verkauft (Stahl, Kabel, Kunststoffe). Komplexere Bestandteile wie Platinen werden gesammelt und anschließend an Recyclingbetriebe in Europa verkauft. Hierzu gehören Umicore in Antwerpen, Boliden in Schweden oder Aurubis in Hamburg.

Gesammelt wird der Elektroschrott bisher im Umfeld von Nairobi und Mombasa und an Sammelstellen abgegeben. Die Mitarbeiter, die die Sammelpunkte betreiben, werden momentan noch von Reclaimed Appliances bezahlt. Langfristig sollen aus den Sammelpunkten Franchise-Betriebe werden. Ein weiteres Ziel ist es, die Abfallsammler schrittweise aus informellen Beschäftigungsverhältnissen in formelle Beschäftigungsverhältnisse zu überführen. In einem ersten Schritt wird den Sammlern nicht nur ein Entgeld für den gesammelten Elektroschrott gezahlt, sondern sie werden auch krankenversichert. Aufgrund von Finanzierungslücken beschränkt sich die Sammlung auf werthaltige Geräte, wie PC, Drucker oder Videoanlagen.

HP möchte, zusammen mit anderen Originalgeräteherstellern (OEMs), das System auf alle Elektro- und Elektronikgeräte ausweiten, auch auf die, die keine positiven Recyclingerlöse wie z. B. Röhrenbildschirme erbringen. Dazu ist es aber notwendig, alle Hersteller/Importeure an den Recyclingkosten zu beteiligen, nicht nur diejenigen, die eine Infrastruktur dafür entwickeln.

Ein Gesetz, ähnlich dem deutschen Elektro- und Elektronikgerätegesetz ist in Kenia schon seit Jahren entwickelt, aber noch nicht verabschiedet. Ohne die Inkraftsetzung eines solchen Gesetzes ist ein Überleben von EACR nicht garantiert.

4.2 Reparatur von Altgeräten

IT-Hersteller wie HP haben mittlerweile ähnliche Strukturen, wie sie auch aus dem Automobilbereich bekannt sind, aufgebaut. Es gibt verschiedene, vom Alter der Geräte abhängige Rücklaufströme. Bei einigen Rücklaufwegen sind die Hersteller direkt involviert, andere werden, wie z. B. in der Automobilbranche von Vertriebspartnern der Hersteller oder unabhängigen Händlern ausgeführt.

Hersteller sind meist, bedingt durch ihre Kostenstrukturen, an der Wiederaufarbeitung und Vermarktung von hochpreisigen Geräten beteiligt, die dann über eigene Vertriebskanäle verkauft werden. Bei HP hat sich eine eigene Marke für diese Geräte ‚HP-Renew' entwickelt, deren Geräte in der Regel maximal zwei Jahre alt sind, und die in der Leistung, der Lebensdauer und den Garantieleistungen Neugeräten ebenbürtig sind. Vertriebspartner der Hersteller engagieren sich vielfach im Gebrauchtmarkt der mittleren Preisklasse, während ältere Gebrauchtgeräte meist von kleineren, unabhängigen, auf Gebrauchtgeräte spezialisierte Händler vertrieben werden. In einem Projekt mit der Universität Clausthal untersucht HP gegenwärtig den Marktbereich an der Grenze zwischen älteren Gebrauchtgeräten und Elektroschrott um einen besseren Überblick über diesen Markt zu gewinnen.

In diesem Bereich der low-end-Gebrauchtgeräte agieren auch die sogenannten Abfalltouristen. Diese mieten Container in Industrieländern wie Europa, den USA und sogar in China, kaufen Altgeräte auf und verschicken die unsortierte Ware, d. h. Elektroschrott gemischt mit funktionstüchtigen Gebrauchtgeräten, in Entwicklungsländer.

Eine verlängerte Nutzungsdauer von Geräten ist ein wesentlicher Beitrag zur Abfallvermeidung. In verschiedenen Bereichen haben Hersteller bereits gelernt, nicht nur mit dem Verkauf von Neugeräten profitable Umsätze zu generieren. So setzt HP heute bei bis zu 80 % der weltweit durchgeführten Reparaturen generalüberholte Gebrauchtteile ein, die sich in ihren Leistungen und der Haltbarkeit nicht von Neuteilen unterscheiden, aber bis zu 40 % geringere Kosten verursachen. Wie man profitable Umsätze im Bereich der Gebrauchtgeräte, aber auch der ‚Dematerialisierung' (Dienstleistungen statt Hardware) erzielen kann, wird eine der Herausforderungen von Herstellern werden.

Für Kunden, die zwischen einer Reparatur oder aber dem Kauf eines Neugerätes schwanken, sind die damit verbundenen Kosten das entscheidende Kriterium. Die IT-Hersteller haben Strategien entwickelt, um die Kosten der Reparaturen zu senken. Hierzu gehören Produktdesign, Logistikoptimierung, Automatisierung der Fehlersuche oder Reparaturen gleicher Geräte in Fließband ähnlichen Prozessen. Die Reparatur und das Wiederaufarbeiten von Ersatzteilen sind besonders lohnintensiv, sodass es sich lohnt, diese Arbeiten auch an den Produktionsstandorten von Neugeräten (z. B. in Asien) durchführen zu lassen.

Leider sind in diesem Bereich gesetzgeberische Hindernisse zu beobachten. Verschiedene Länder verbieten den Verkauf generalüberholter Produkte oder den Einsatz generalüberholter Ersatzteile. Indien ist ein Beispiel hierfür. Erschwerungen beim grenzüberschreitenden Transport sind ein weiterer begrenzender Faktor. So wird zurzeit beim Basler Übereinkommen über den Entwurf von technischen Richtlinien zur Unterscheidung von Gebrauchtgeräten (Produkt) und Elektroschrott (Abfall) diskutiert.

Alle Hersteller von IT- und Elektronikgeräten sind ausnahmslos daran interessiert, Schlupflöcher wie z. B. die Aktivitäten von Abfalltouristen zu stopfen, denn letztendlich werden sie in der Öffentlichkeit für Skandalbilder mit brennenden Bergen von Elektroschrott in Afrika und Asien verantwortlich gemacht, obwohl sie diese Verbringung nicht beeinflussen können.

Allerdings hat der Vorschlag, grundsätzlich alle nicht voll funktionsfähigen Geräte als Abfall zu betrachten, schwerwiegende Nebenwirkungen. Geräte und Ersatzteile, die zur Reparatur bzw. zur Generalüberholung ins Ausland verschickt werden, sind per Definition nicht funktionsfähig und wären daher Abfall – mit dem Nachteil, das sich die Logistikkosten vervielfachen, die Transportzeiten sich

aufgrund der notwendigen Export-, Import- und Transitgenehmigungsverfahren wesentlich verlängern bzw. nicht mehr planbar sind. Hinzu kommt, dass einige der Länder, in denen die IT-Industrie die Ersatzteile repariert, das Exportverbot ("ban amendment") ratifiziert haben. Die Konsequenz ist, dass Produkte und Ersatzteile, die dann als gefährlicher Abfall gelten, nicht mehr zu den Reparaturzentren verbracht werden dürften.

Mittlerweile hat sich in vielen Ländern die Ansicht durchgesetzt, Geräte und Ersatzteile, die wirklich repariert werden, nicht als Abfall einzustufen. Dabei wurden Kriterien diskutiert, die eine Unterscheidung von Sendungen mit Geräten, die zu einer Reparatur vorgesehen sind und denen, bei denen dies nur vorgegeben ist, möglich machen. Während sich für die überwiegende Zahl der vorgeschlagenen Punkte eine grundsätzliche Übereinstimmung (etwa eine entsprechende, Wert erhaltende Verpackung) abzeichnet, gibt es erhebliche Meinungsverschiedenheiten bei den zwei folgenden Kriterien oder Forderungen.

Der Vorschlag, Geräte als Abfall einzustufen, die nicht der EU RoHS-Richtlinie[2] entsprechen, ist zumindest aus Sicht der Industrie unproblematisch. Jedoch ist für viele Länder der Bezug auf ein Gesetzeswerk anderer Staaten nicht möglich.

Die Forderung, dass bei der Reparatur entstehende Abfälle dem Recycling oder einer umweltgerechten Behandlung zuzuführen sind, stößt nicht auf Ablehnung der Industrie, denn verantwortungsvolle Hersteller stellen dies bereits heute sicher. Lediglich die Forderung, Abfälle, unabhängig davon, ob lokale Recycling- oder Behandlungsmöglichkeiten mit hohen Qualitätsstandards zur Verfügung stehen, immer in ein Industrieland zu verbringen, wird nicht akzeptiert.

4.3 Zusammenfassung

HP hat, zusammen mit Dell, Nokia und Philips, in Ostafrika die EACR gegründet, die dort den Elektroschrott sammelt und in einem Zerlegebetrieb zerlegt. Die Bestandteile werden entweder vor Ort verkauft (Kabel, Stahl, Kunststoffe) oder gesammelt und zur Verwertung nach Europa verschickt (z. B. Platinen). Um die Sammlung von Geräten, die keine ausreichenden Recyclingerlöse erbringen, finanzieren zu können, ist die Umsetzung der Herstellerverantwortung durch gesetzliche Maßnahmen für alle Hersteller und Importeure notwendig.

IT-Hersteller wie HP haben Systeme aufgebaut, mit denen Gebrauchtgeräte nach einer Generalüberholung einer weiteren Nutzung zugeführt werden können. Hierzu Markt haben die Hersteller ein weltweites Reparaturnetz aufgebaut, über das Ersatzteile/Ersatzgeräte weltweit repariert und weiter genutzt werden können. Nationale und internationale Gesetzgebungen behindern eine Erweiterung dieses Geschäftsfeldes. Das Verbot, generalüberholte Ersatzteile oder Geräte zu verwenden oder zu importieren, stellt ein nicht zu überwindendes Hindernis für eine globale Kreislaufwirtschaft dar. Das Bestreben, alle nicht funktionsfähigen Geräte als Abfall zu deklarieren, wird die Reparaturkosten in einem Maße erhöhen, dass eine Reparatur oder Generalüberholung schlichtweg zu teuer wird, der Kunde ein neues Geräte wählt und das alte verschrottet.

[2] EU Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten. (RoHS: Restriction of Hazardous Substances)

5 New situations call for new solutions: Findings in the project: „The Best of two Worlds“

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Als die US-amerikanische NGO Basel Action Network (BAN) im Jahr 2005 erstmals wegen der Verbringung von elektronischen Altgeräten nach Afrika Alarm schlug[3], fühlten sich viele Akteure aus dem Bereich der Giftmüllverbringung bestätigt: Schon wieder ein Fall in dem die Industrieländer Entwicklungsländer als billige Müllkippe missbrauchen. Doch bald zeigte sich, dass die Sachlage in diesem Fall nicht ganz so klar ist. Das E-waste Afrika Projekt des Sekretariats der Basler Konvention ist zusammen mit verschiedenen Akteuren aus Afrika und Europa – unter anderem dem Öko-Institut – zwischen 2009 und 2012 der Frage nachgegangen, wir dieser Handel mit Altgeräten abläuft, welche Akteure dabei involviert sind und wo die Geräte letztendlich verbleiben[4] [5]. Das Ergebnis war überraschend: Zwar bestätigte es die Vermutung, dass der Handel mit Elektro(nik)altgeräten zum Teil illegalen Geschäftspraktiken folgt, es zeigte aber auch, dass ein Großteil der Exporte mit dem Ziel der Wiederverwendung auf den Weg von Europa nach Afrika geschickt werden. Alleine für Ghana konnte ermittelt werden, dass der Marktanteil importierter Gebrauchtwaren bei vielen Produkten in einer Größenordnung von 50% liegt. Importierte Gebrauchtcomputer ermöglicht der dortigen Bevölkerung eine vergleichsweise preisgünstige Teilnahme am modernen Informations- und Kommunikationsgeschehen.

In dieser Situation wurde bald klar, dass das Problem der unsachgemäßen E-Schrott Entsorgung nicht alleine durch eine Verschärfung der Handelsbeschränkungen begegnet werden kann. Vielmehr bedarf es ebenso eines gezielten Aufbaus von sachgemäßen Recycling- und Entsorgungsstrukturen in den afrikanischen Ländern. Denn elektrische und elektronische Geräte sind auch aus dem Alltag der meisten Afrikaner nicht mehr webzudenken. Das gleiche gilt übrigens auch für Kraftfahrzeuge, bei denen ähnliche Export- und Entsorgungsmuster festzustellen sind.

Dabei muss man allerdings schnell feststellen, dass integrierte Recycling- und Entsorgungsketten in vielen afrikanischen Ländern derzeit noch unerreichbar sind. Denn viele Verfahrensschritte benötigen hochspezialisierte Ansätze, die derzeit nur an wenigen Standorten weltweit realisiert sind.

In dieser Situation hat das Öko-Institut e.V. zusammen mit den Partnern Umicore, Johnson Controls und Vakuumschmelze das Projekt Globale Kreislaufführung strategischer Metalle: Best-of-two-Worlds Ansatz (Bo2W) gestartet. Das im Rahmen des BMBF r3 Programms geförderte Projektes ist nun seit über zwei Jahren auf der Suche nach nachhaltigen Lösungen für das Recycling von Elektronik- und Kfz-Schrotten in den Pilotländern Ghana und Ägypten. Vor Ort sind die Partner City Waste Recycling Ltd. (Ghana) und CEDARE (Ägypten) mit der Implementierung betraut.

[3] Basel Action Network: The Digital Dump: Exporting Re-use and Abuse to Africa. Documentary Film. USA, 2005.

[4] Schluep, M.; Manhart, A.; Osibanjo, O.; Rochat, D.; Isarin, N.; Müller, E.: Where are WEee in Africa. Findings from the Basel Convention E-Waste Africa Programme. Genf, 2011

[5] Manhart, A.; Osibanjo, O.; Aderinto, A.; Prakash, S.: Informal e-waste management in Lagos, Nigeria – socio-economic impacts and feasibility of international recycling co-operations. Öko-Institut e.V. & University of Ibadan. Freiburg & Lagos, 2011

Dabei soll auch das Konzept „Best-of-two-worlds“ in der Praxis auf Implementierbarkeit getestet werde. Dieses Konzept skizziert die Möglichkeit eines arbeitsteiligen Recyclings für Schrotte die in Entwicklungs- und Schwellenländer anfallen: Während in Entwicklungs- und Schwellenländer eine manuelle Tiefenzerlegung erfolgen kann, müssen einige dabei generierte Fraktionen zu spezialisierten Anlagen exportiert werden. Theoretisch ergeben sich dabei verschiedene Vorteile wie eine deutlich verbessertes Management von Schadstoffen, eine verbesserte Rückgewinnung wertvoller und kritischer Materialien, sowie die Schaffung qualitativ hochwertiger Arbeitsplätze in Entwicklungs- und Schwellenländern.

Im Projekt wird dieser Ansatz verfolgt und auch mit wesentlichen Stakeholdern aus Politik, Verwaltung und Zivilgesellschaft besprochen[6]. Während bereits erste praktische Erfolge realisiert werden konnten, so wird doch zunehmend klar, dass das Bo2W-Konzept – trotz der unbestreitbar zahlreichen positiven Wirkungen – in Ländern wie Ghana und Ägypten kein Selbstläufer ist. Dies ist vor allem darin begründet, dass die konkurrierenden Recyclingstrukturen in Ghana und Ägypten vor allem im informellen Sektor zu finden sind und derzeit keinerlei Kosten für Sozial- und Umweltstandards zu tragen haben. Die Folgekosten aus den teilweise extremen Umweltauswirkungen werden dort vollständig sozialisiert bzw. müssen von den Menschen getragen werden, die selbst im Recycling arbeiten oder von Abluft und Abwasser betroffen sind. Dies hat zur Folge, dass informelle Recyclingstrukturen höhere finanzielle Erlöse erwirtschaften können als sauber arbeitende Recyclingbetriebe. Führt man sich nun vor Augen, dass die Schrottsammlung in Ghana und Ägypten beträchtliche Finanzmittel voraussetzt (Schrottsammler müssen metallhaltige Schrotte wie Altelektronik oder Fahrzeugteile in der Regel von Haushalten abkaufen), so wird klar, dass der informelle Sektor in der derzeitigen Situation einen strategischen Vorteil genießt.

Aus dieser Analyse sollte aber kein generelles Scheitern des Bo2W-Ansatzes abgeleitet werden. Vielmehr muss für einen breitenwirksamen Erfolg ein angemessener Rahmen geschaffen werden, für den auch und vor allem politische Akteure gefragt sind. Kern eines solchen Rahmens muss ein Finanzierungsmechanismus stehen, der es sauber arbeitenden Recyclern ermöglicht, im wirtschaftlichen Wettbewerb mit informellen Strukturen zu bestehen. Dabei soll nicht das Ziel sein, den informellen Sektor als Ganzes zu verdrängen. Vielmehr muss ein Anreizmechanismus geschaffen werden, der dafür sorgt, dass besonders kritische Fraktionen wie Kabel, mit Flammhemmstoffen belastetet Kunststoffe und Blei-Säure-Batterien in die richtigen Recycling- und Entsorgungskanäle eingespeist werden.

Denn allein mit Verboten können umwelt- und gesundheitsschädliche Praktiken kaum unterbunden werden. Gerade in Wirtschaftsräumen wie W-Afrika, wo ein Großteil der berufstätigen Bevölkerung im informellen Bereich tätig ist, ist ein solches Vorgehen nur sehr begrenzt erfolgsversprechend.

Hinsichtlich Finanzierungsmechanismus wird dringend empfohlen, auf das Konzept der erweiterten Produktverantwortung (Englisch: Extended Producer Responsibility) zurück zu greifen. Das Konzept besagt im Wesentlichen, dass die Inverkehrbringer von elektrischen und elektronischen Produkten mitverantwortlich für die sachgerechte Entsorgung einer Äquivalentmenge sind. Je nach Ausgestaltung eines solchen Systems werden Inverkehrbringer direkt für die Behandlung von Altgeräten (selbst oder über Auftragnehmer) verantwortlich gemacht, oder über entsprechende Transferzahlungen.

Neben diesen Hauptaspekten gibt es noch eine Reihe von wichtigen anderen erschwerenden Umständen. Hinsichtlich der Basel Konvention ist dabei vor allem die Problematik des Recyclings von Blei-

[6] Manhart, A.; Ahiayibor, V.; Buchert, M.; Bleher, D.; Meinel, J.; Meshers, C.; Picard, M.; Schleicher, T.; Vandendaelen, A.: Status des Projektes Best of two worlds – Beispiel Ghana. In: Thomé-Kozmiensky, K.J. & Goldmann, D.: Recycling und Rohstoffe Band 7, Neuruppin, 2014

Säure Batterien zu nennen. Das unsachgemäße Recycling dieser Batterien ist leider eine gängige Praxis in vielen Entwicklungs- und Schwellenländer: Die Säure wird unkontrolliert abgegossen, das Blei entnommen und in Hinterhöfen oder einfachen Schmelzhütten zu Rohbleibarren geschmolzen. Diese werden zu Bleiraffinerien – insbesondere im asiatischen Raum – exportiert. Diese Industrie gilt aufgrund des meist extrem laxen Umgangs mit Blei als eine der am schlimmsten verschmutzenden industriellen Praktiken weltweit[7]. Ein Team des Öko-Instituts wurde Mitte 2014 Zeuge der schockierenden Arbeitsbedingungen in einer solchen Bleihütte. 60 Arbeiter sind dort völlig ungeschützt giftigen Bleistäuben und Dämpfen ausgesetzt. Über die Arbeitskleidung wird der Bleistaub zudem in das Wohnumfeld der Arbeitnehmer verschleppt.

Diese Problematik hat insofern einen Berührungspunkt mit der Basel Konvention, als dass der Export der ausgemusterten Blei-Säure Batterien zu modernen Anlagen kurz- und mittelfristig die einzige Alternative darstellt. Dieses Modell setzt eine Notifizierung der grenzüberschreitenden Transporte voraus, was i.d.R. mit einem gewissen administrativen Aufwand und somit Kosten verbunden ist. Im Gegensatz dazu ist der grenzüberschreitende Transport von Rohblei nicht notifizierungspflichtig. Im Wettbewerb der Ansätze ergibt sich aus diesen Vorgaben also ein zusätzlicher Nachteil für die deutlich sauberere Version.

Dieser Nachteil sollte keinesfalls dazu verwendet werden, Sinn und Wirkung der Basel Konvention generell zu hinterfragen. Dennoch muss anerkannt werden, dass es vereinzelt zu nicht-intendierten Nebeneffekten kommen kann. Insbesondere anhand dieses Beispiels wird ermutigt, einen gezielten Denkprozess für Abhilfemaßnahmen einzuleiten.

[7] Blacksmith Institute & Green Cross Switzerland: The World's Worst Pollution Problems: Assessing Health Risks at Hazardous Waste Sites. New York & Zürich, 2012

6 Challenges of waste management of a developing country

By: Alberto Santos Capra, Technical Focal Point, Secretariat of the Environment and Sustainable Development, Argentina

6.1 Facts about Argentina

Argentina is located in the South American continent with and area of 3,761,274 km²; 2,791,810 km² belong to the American Continent; 969,464 km² on the Antarctic continent and the Austral Islands. It is a large country. The extension North-South on the American Continent is 3,694 km and the East-West extension is 1,423 km. Therefore logistics of hazardous waste are challenging and costly. It has 40 million people according to the census 2010.

The country has 25 jurisdictions: the Nation, 23 provinces and Buenos Aires autonomous city and 2.200 municipalities. Each provincial jurisdiction has an environmental department, like for the Länder in Germany.

6.2 Hazardous waste background and data

Argentina ratified the Basel Convention in June 1991 before it entered into force in 1992. It ratified the Ban Amendment in September 2011.

Its National Hazardous Waste legislation (Law 24.051, December 1991) established a National Register covering generators, transporters and disposal facilities of hazardous wastes. All these facilities are to be licensed. The information on hazardous waste is compiled in the 23 provinces and in Buenos Aires. These registers are not linked. Therefore there are some data compiled for the national level, but the registers are not fully integrated.

There is an administrative tax for generators of hazardous waste that is proportional to the quality and quantity of hazardous waste generated. There is also a tax for the disposal facilities.

Generators are required to present a plan to reduce the generation of hazardous wastes by means of changing technology and recovery and recycling the generated waste when it is possible. All waste must be managed in an environmentally sound manner.

National data on hazardous waste are included in a national register located in the National Hazardous Wastes Office in the Secretariat of Environment and Sustainable Development. It was established in 1993. There are 50 people working in this office in four areas:

- administrative,
- tax,
- technical and
- legal.

Information on this office can be found on its website[8].

[8] http://www.ambiente.gob.ar/?idseccion=22.

Some key figures for the year 2012:

- The total amount of hazardous waste generated is around 200,000 ton per year.
- This is generated by approximately 9,000 companies.
- Each year 50,000 documents of transport are issued.
- 350 inspections are done in the country where 30 fines were issued to a total of US$ 300,000

Some policy issues

- Argentina has no restrictions for export of hazardous waste. The amounts exported are around 200 tonnes per year, mainly printed circuit boards from e-waste, some spent catalysts and waste with Polychlorinated Biphenyl (PCB) in a concentration of more than 5,000 ppm. Occasionally some pesticides are being exported and some small amounts of hazardous batteries but not lead-acid batteries.
- Import in prohibited in article 41 of the Constitution and this prohibition includes a prohibition of transit.

Figure 6.1 gives an overview of the hazardous waste disposal facilities in Argentina. It indicates the type of facilities, their numbers and the provinces in which they are located.

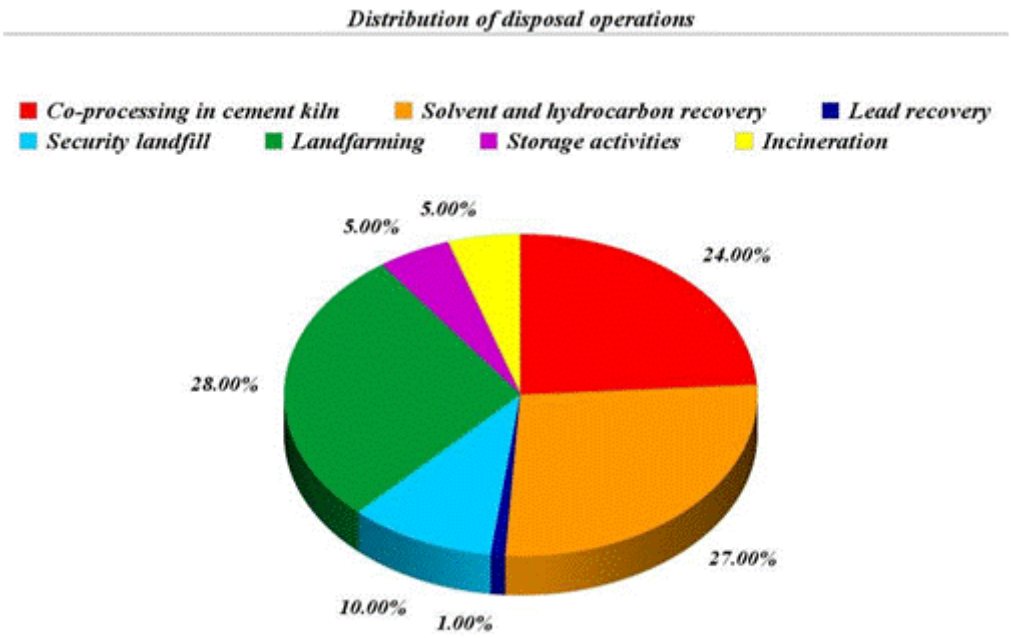
Figure 6.1 Disposal facilities in Argentina.

Type of fixed facility	Facilities	Provinces
Incinerator	17	Buenos Aires, Neuquén, San Juan, Santa Fe
Co-processing as fuel in kilns for clinker or preparation of fuel for these kilns	6	Cordoba, Jujuy, Mendoza
Autoclave (for pathological waste from healthcare)	10	Buenos Aires Autonomous City, Buenos Aires, Río Negro, Salta, Santa Fe
Landfarming	4	Buenos Aires, Córdoba, San Luis
Metal recovery (lead)	5	Buenos Aires Autonomous City, Entre Ríos, Jujuy, La Pampa
Drums recovery	7	Buenos Aires Autonomous City, Buenos Aires, Córdoba, Santa Fe
Hydrocarbons recovery	13	Buenos Aires, Córdoba, Entre Ríos, Mendoza, Salta, Santa Fe, Santa Cruz
Solvents recovery	6	Buenos Aires Autonomous City, Buenos Aires, Córdoba, Santa Fe
Security landfill	5	Buenos Aires, Córdoba
Storage	17	Buenos Aires, Chubut, Córdoba, Entre Ríos, Santa Fe, Santa Cruz, Tierra del Fuego

Source: National Register of Hazardous waste

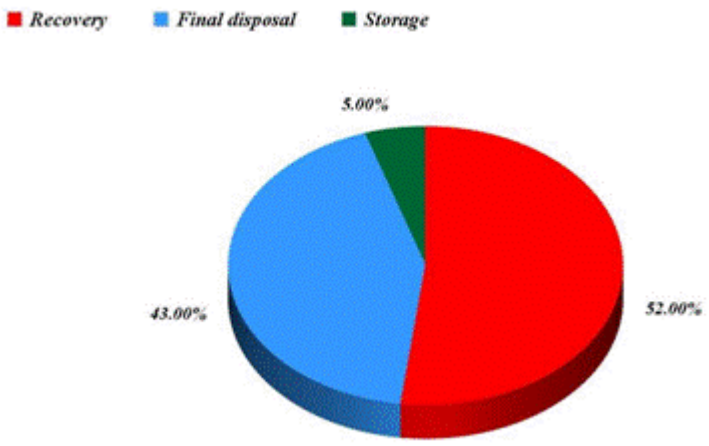
Figures 6.2 and 6.3 give an overview of the distribution of treatment of the hazardous waste that remains within Argentina. These data only correspond to the management of hazardous waste transported nationally and does not include data of waste that is treated within the provinces.

Figure 6.2 Share of hazardous waste per type of disposal operation in Argentina.



Source: National register of hazardous waste

Figure 6.3 Share of hazardous waste destined for recovery or final disposal in Argentina.



Source: National register of hazardous waste.

The data on storage refer to waste that is stored for more than 1 year awaiting further treatment.

Figure 6.4 Provincial legislation regarding movements of hazardous waste within the country.

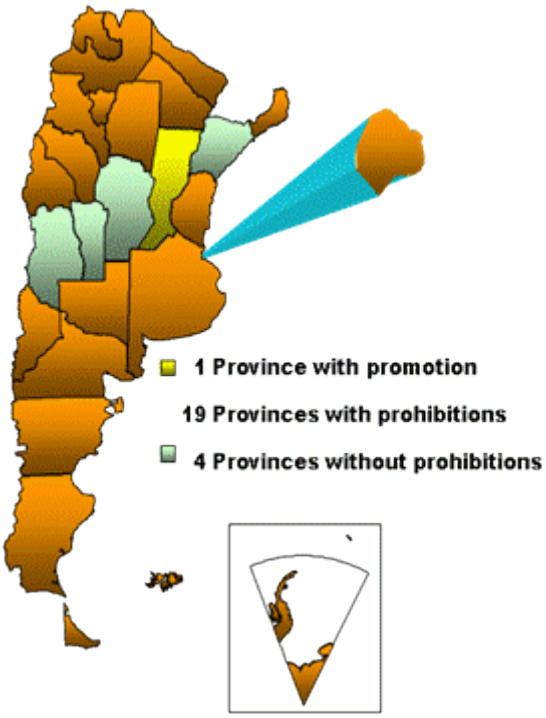


Figure 6.4 illustrates the status of legislation in the provinces of Argentina regarding movements of hazardous waste between the provinces. Provinces that implemented restrictions of movements between the provinces are represented in orange. Some have implemented restrictions of imports, others restrictions of exports, some for recovery and others for final disposal. Only a limited number of provinces have no such restrictions. Therefore most provinces need to be self-sufficient in management of hazardous waste. Most of the industrial activity is concentrated around the city of Buenos Aires. Only one province (in yellow) has implemented legislation that promotes movements of waste in general, not hazardous waste in particular.

6.3 Participation in the negotiation processes and international agendas of hazardous wastes

Argentina is present in all processes of the international agendas of hazardous wastes and chemicals.

6.3.1 United Nations activities

Argentina participated in the negotiations for the Rio+20 UN Conference on Sustainable Development. This resulted in a 10-year framework of programs on sustainable consumption and production patterns (the Marrakesh Process). It was also involved in the development of the Sustainable Development Goals (SDGs) which are complementary to the Millennium Goals and the Post-Agenda 2015. Argentina participated in the first United Nations Environmental Assembly in June 2014 where a special decision was taken on chemicals and wastes (Decision 1/5). It also participates in the preparation of the report on the global waste management outlook that is being prepared by the UN International Environmental Technology Centre in Osaka, Japan, in collaboration with the International Solid Waste Association (ISWA). This was requested by the UNEP Governing Council in 2013 based on the model of the Global Chemicals Outlook. It was published in 2015[9].

[9] The report can be downloaded from http://www.unep.org/ietc/Default.aspx?tabid=106373

The UNEP Governing Council in 2013 was the last one. From now on there is a new governing body for UNEP, which is the Environmental Assembly in which every country can participate; the second meeting will be in May 2016.

More information about the relevant decisions related to chemicals and wastes is included in section 6.3 of this article.

6.3.2 Basel Convention

Argentina held in 2013 – 2014 a regional membership in the Bureau of its Subsidiary Body: the Open-ended Working Group (OEWG). It was part of several Intersessional working groups on Environmental Sound Management (ESM). Argentina was co-chair of the group that is developing guidance on ESM following the adoption of the ESM framework during COP-11. The first meeting of that group took place in December 2013 in Buenos Aires. The second meeting was is Jakarta, Indonesia in 2014 and the last meeting in the beginning of 2015 in Konstanz, Germany, to prepare the work to be presented to the COP-12 in May 2015. Argentina also participates in the Partnership for Action on Computing Equipment (PACE), and in the groups that prepare Technical Guidelines for Persistent Organic Pollutants (POPs), e-wastes and mercury, in the preparation of the 10 years Strategic Framework 2012-2021 and the Cartagena Declaration on prevention, minimization and recovery of hazardous waste and other wastes. For prevention the main focus for Argentina as a developing country are cleaner technologies, substitution of products with less hazardous alternatives and technology transfer. Developing countries need technologies and facilities to implement ESM of hazardous wastes.

Regional Centres play an important role in this transfer of technologies. They are established pursuant to Article 14 of the Basel Convention. Argentina is the host country for the Regional Centre for the South American region of the Basel Convention. Following an agreement between the countries and the Secretariat of the Basel Convention it serves 10 countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Venezuela and Uruguay. The centre is active in providing information and capacity building and projects for technology transfer for the implementation of ESM in the countries it serves. The centre is specialized in e-waste. It also did some PCB projects and is developing its expertise in mercury. The centre was established after an agreement between the Secretariat of the Basel Convention and the host country and has received in 2012 a subsidy of US$100,000 from the Argentina government for projects in the region.

6.4 Chemicals and wastes on the international agenda

6.4.1 Rio+20

In June 2012 United Nations Conference on Sustainable Development Rio+20 “The future we want” was held. One of its outcomes, approved by Resolution United Nation General Assembly (UNGA) A/RES/66/288, is Section V “Framework for action and follow-up”, Subsection A “thematic areas and cross-sectoral issues” which contains two elements related to the chemicals and waste agenda:

1. Item “Sustainable cities and human settlements” says “support the sustainable management of waste through the application of the 3Rs (reduce, reuse and recycle)” (paragraph 135)

The concept of 3R was introduced in 2004 by Japan. It was first presented to OECD countries. Now also developing countries are implementing these initiatives. Some countries now have 4R or 5R programmes;

2. Item “chemicals and waste products” paragraphs 213-223

This is related to the 2020 goal on sound management of chemicals thorough their life cycle from the Johannesburg Plan of Implementation from United Nations Conference on Sustainable Development-Earth Summit from 2002.

Regarding the chemicals and waste program the 2020 goal is relevant. This initiative is a follow up of the Johannesburg Earth summit.

The Strategic Approach to International Chemicals Management, the SAICM voluntary program, initiated combining the efforts of the different chemicals- and waste Conventions: Stockholm, Basel and Rotterdam. And recently the Minamata Convention also was launched.

The principles used in this context are:

- Public-private partnerships
- Reduce, Reuse, Recycle wastes
- Long-term funding, launched after a consultative process on financing options for chemicals and wastes
- National and local waste management policies, strategies, laws and regulations
- Resource efficiency and ESM of waste
- Extended Producers Responsibility (EPR)

Regarding EPR it can be mentioned that it is an interesting approach but countries have different views on what such systems should be. Some put the burden completely on the private sector, but others, e.g. in South America also involve governments and the society when implementing EPR.

6.4.2 Sustainable consumption and production

Another important concept is sustainable consumption and production. This started also in the Johannesburg Summit in 2002. The current "10-year framework of programs on sustainable consumption and production patterns", which is also called the Marrakech Process, covers the period from 2012 to 2022.

The material developed during this summit contains several aspects related to chemicals. It is a voluntary agenda arising from Johannesburg Implementation Plan 2002 program document A/CONF.216/5 where in its Vision establishes the following principles:

- The need to reduce the use of hazardous materials and toxic chemicals and the generation of wastes, such as non-biodegradable materials and the emission of pollutants
- Promotion of lifecycle approaches. This includes resource efficiency and sustainable use of resources, as well as science-based and traditional knowledge-based approaches, cradle to cradle and the 3R concept (reduce, reuse and recycle) and other related methodologies, as appropriate.

This is also reflected in the functions that call on encouraging the 3R concept through, inter alia the promotion of repair and maintenance work as an alternative to new products. Programs are described in the implementation plan. The follow up is assured via annual meetings.

6.4.3 Sustainable Development Goals and post-2015 development agenda

This is a further development of the Millennium Development Goals. During the Millennium Summit of the UN in 2000 8 Millennium Development Goals (MDGs) were established with the adoption of the UN Millennium Declaration for the period 2000-2015.

One of these goals (goal 7) aims at ensuring environmental sustainability. There was some criticism because this goal does not incorporate well the three dimensions of sustainable development. UNEP was asked to establish an open working group to develop a set of new Sustainable Development

Goals. This process started in 2013 and finished recently. The result is a set of 17 goals that were presented in the 69th session of the General Assembly of the UN in September 2014 and will be part of the called Agenda Post-2015 that will cover the period 2015-2030

Goal 12 is to "ensure sustainable consumption and production patterns". Instead of having a separate goal, chemicals and wastes are included in this goal. Part of this goal is point 12.4:

- by 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

This is the most important goal related to chemicals and wastes.

Other references to waste include:

- 12.3: by 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
- 12.5 by 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

6.4.4 United Nations Environment Assembly

One of the last international documents to be featured is Decision 1/5 on chemicals and wastes taken by the United Nations Environment Assembly in June 2014 in Nairobi. This decision includes issues related to chemicals and wastes in general, but also specific measures regarding lead and cadmium and it refers to mercury. There are two aspects that are of general importance.

1. Continued strengthening of the sound management of chemicals and waste in the long term
2. A special Program approved to support institutional strengthening at the national level to enhance implementation of the Basel- Stockholm and Rotterdam Conventions, the Minamata Convention on Mercury, and the SAICM

6.4.5 GEF

The implementation of programs in the field of chemicals and wastes is dependent on financing. The most important international financial mechanism for environmental projects and programs is the GEF. This was established in 1991. New replenishments are made every 4 years. In the last one in 2014 the Focal Area for Chemical and Wastes was introduced for a total of 554 million dollars of which 375 for POPs, 141 for mercury, 13 for SAICM and 25 for Ozone Depleting Substances (ODS). The amounts have doubled in comparison with the previous replenishment. However, as for the use of this fund for developing countries the situation has in a certain sense become worst. Countries have to provide contributions in kind for the projects to be co-financed by the GEF. At the moment in some projects for every dollar that a country gets via the GEF it has to put itself 6 dollars as contribution. At the beginning of the GEF this requirement was much more flexible and usually with a ratio of 1-to-1. For some developing countries this is difficult, even though the GEF indicates that it is possible to come to different agreements in certain cases.

6.5 Challenges for Argentina

6.5.1 Establishment of facilities

One of the main challenges related to hazardous waste management is the establishment of facilities and services.

Figure 6.5: Circle indicating the concentration of hazardous waste facilities and services

Figure 6.5 shows that most transport and disposal services are concentrated in the central region which is the most industrialized, leading to poor supply of hazardous waste management in other areas.

The laws prohibiting the entry of hazardous waste or even not allow his departure from the various jurisdictions complicate the possibility of further development of services.

The private sector has developed a wide range of mobile technologies (in situ) which have the advantage of handling hazardous waste in smaller quantities for a limited time.

Some of these technologies are exported to the region through projects executed by the Basel Convention Regional Centre for South America located in Buenos Aires. One example is a UNEP PCB dechlorination project where an in situ technology from Argentina was shared with Peru for eliminating PCB in mining companies. This also helped companies and the Peru to be in compliance with the Stockholm Convention. This is a good example of the interrelationship between international Conventions and the delivering technology transfer through the Regional Centers in the frame of the Basel Convention.

6.5.2 Application of the strategic framework of the Basel Convention

Developing countries are not the only ones that are facing the challenge of the applying the strategic framework of the Basel Convention and to go away from the approach of cradle to grave and install a system of cradle to cradle.

The Basel Convention has a strategic guiding principle which is the waste management hierarchy:

- Prevention
- Minimization
- Reuse
- (Recovery) Recycling
- other recovery including Energy recovery
- Final disposal

There is a difference between recovery and recycling. Some countries have dismantling-, pretreatment- and other recovery services that are often called recycling technologies, but are not recycling the waste in the end.

Prevention, technology transfer and cleaner production have a high priority.

There are some activities and success stories in Argentina. In 2013 a resolution about tyres was approved.

This Resolution 523/2013 contains all the elements mentioned above:

- A National Strategy
- Environmental Guiding Principles
- Best Available Techniques (BAT) and Best Environmental Practices (BEP)
- Hierarchy for Tyre Life Cycle Management

- 3R approach through priority actions and practices

This was possible because Argentina has facilities that can do the recovery and the recycling of these tyres.

6.5.3 Other challenges

- Distinction waste - non wastes
- Mainstreaming hazardous waste in the national agenda through:
  - Improved coordination and cooperation locally and internationally and exploit synergies
  - Establishing a Chemical and Waste National Unit and developing a national strategy and a National Development Plan: programs related to the ESM for different categories of hazardous wastes; established for tyres

At the moment, there is not a single national unit responsible for chemicals and waste; the competences are spread in different areas of the national environmental organisms and sometimes in other organisms. It requires a political decision to establish such a unit.

- Implement EPR: established for tyres and developing for e-wastes

Establishing EPR for tyres was relatively easy because of the involvement of the industry. For e-waste it is quite difficult. Since 2008 this is tried, but there is no agreement yet because of the difficulties to get the private sector involved and committed.

- Industry involvement: public-private partnerships:

This is promoted through the involvement of chambers and associations in programs and projects. It is well developed for tyres and mercury.

- Promote and implement initiatives “cradle to cradle” replacing activities “cradle to grave” in national legislation, projects and programs
- Develop local technical capacity and obtain technology transfer for hazardous waste management in order:
  - Fulfill the objectives of the Basel Convention (the minimum transboundary movement and self-sufficiency management capacity)
  - Prevent the use of hazardous substances in products and processes and apply production methods to prevent and minimize the generation of waste at source
  - Financial guarantees for transboundary movements
  - Develop appropriate national legislation to prevent and punish illegal traffic

A law is under development to allow punishment of illegal traffic in accordance with the Basel Convention.

- Develop reliable qualitative and quantitative information: National Reports.

It is difficult to get reliable information from the provinces. Since 2012 work is ongoing to Developing an information system which should be operational by 2015.

- Internalize Basel Convention technical guidelines in national legislation:

This was done successfully for tyres but there are other guidelines that still need to be implemented.

6.6 Closing remarks

In the near future there will be a close collaboration with the ministry of science, technology and innovation. The ministry has a program aiming at strategic productive sectors. The recycling sector is

identified as one of these strategic sectors. Implementation round tables were organized with the private sector. This has resulted in the financing of:

- Research and development projects on hazardous waste streams
- Installation of 4 pilot-scale recovery/recycling plants for some waste streams:
    - End-of-live vehicles (ELV)
    - Used tyres for the mining industry
    - e-wastes
    - Energy recovery from Municipal Solid Wastes (MSW)

Next steps in this program will be:

- Promotion of the collaboration in international and regional projects
- Promotion of the development of graduate and postgraduate engineering in regions where the pilot plants will be established
- At least eight specialists will be trained in foreign Centres of excellence in recovery/recycling processes involved, life-cycle and sustainable design
- At least 20 technicians (engineers or with tertiary level) will be trained to perform in the pilot plants

The project selection is finished. The implementation will start in 2016 and will be finalized in 2020.

7 EU Recycling Strategy and Transboundary Waste Movements

By Joachim Wuttke, Federal Environmental Agency

This is a summary of the presentation Mr. Wessman, legal officer in the Directorate-General for the Environment, Unit for Waste Management & Recycling of the European Commission, held at the meeting.

7.1 Introduction

Improper waste management and illegal waste shipments can have serious negative environmental and health impacts which are well known. These negative impacts can be due to landfilling which may result in soil, water and air pollution. Inadequately disposed or untreated waste may cause serious health problems for populations surrounding the disposal area. Leaks from the waste may harm soils and water streams, and produce air pollution through emissions of e.g. heavy metals and persistent organic pollutants, ultimately creating health hazards. Other nuisances caused by uncontrolled or mismanaged waste disposal which may affect citizens negatively include impacts at local level such as landscape deterioration, local water and air pollution, as well as littering. This is why the European Union is strongly committed to promote environmentally sound management of waste.

EU waste legislation has been developed since the 1970s and has since then been continuously modernized and improved. To date the legislation marks a shift away from seeing waste as an unwanted burden towards seeing at as a valuable resource. The long-term goal is to turn the EU economy into a recycling society, avoiding waste and using unavoidable waste as a resource wherever possible. The aim is to achieve as high as possible recycling rates and to minimize the extraction of natural resources.

Within the European economy, each person uses 16 tonnes of materials per person per year, of which 6 tonnes become waste. Although the management of that waste continues to improve in the EU, the European economy currently still loses a significant amount of potential 'secondary raw materials' such as metals, wood, glass, paper, plastics present waste streams. In 2010, total waste production in the EU amounted to 2,5 billion tons. From this total only a limited (albeit increasing) share (36%) was recycled, with the rest was landfilled or burned, of which some 600 million tons could be recycled or reused. See further, the European Commission's website on waste, http://ec.europa.eu/environment/waste/index.htm.

Just in terms of household waste alone, each person in Europe is currently producing, on average, half of tonne of such waste. Only 40 % of it is reused or recycled and in some countries more than 80% still goes to landfill (source: Environmental Data Centre on Waste, Eurostat).

Environmentally sound management of waste can make a big contribution to economic growth and job creation. A study published by the European Commission in 2012 showed that full implementation of EU waste legislation would save €72 billion a year, increase the annual turnover of the EU waste management and recycling sector by €42 billion and create over 400,000 jobs by 2020. The study reported with the support of several case-studies that illegal waste operations are causing

missed opportunities for economic growth. See further on this study, http://ec.europa.eu/environment/waste/studies/pdf/study%2012%20FINAL%20REPORT.pdf.

Waste is not something to 'throw away', it is a resource. If waste is to become a resource that is fed back into the economy as a raw material, a high priority must be given to reuse and recycling. Today in the European Union there are Member States that recycle more than 80% of their waste. This indicates the possibility to use waste as one of the key resources.

How to do this?

7.2 EU policy for a circular economy

A combination of policies will have to help establishing a recycling economy. These policies include:

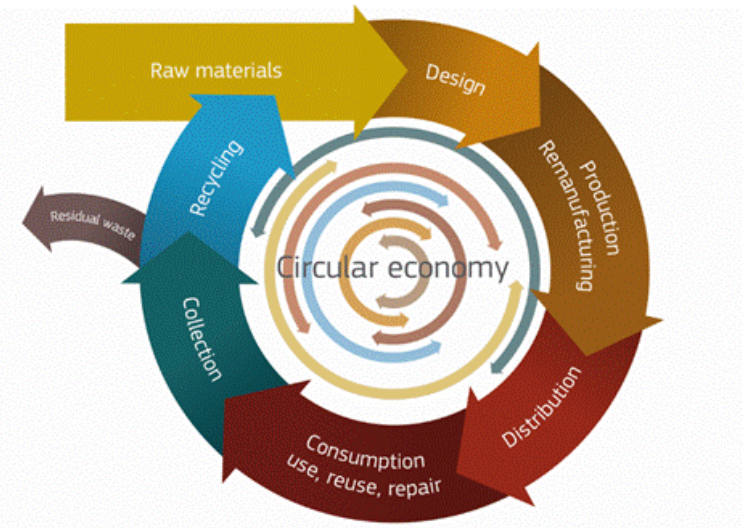
- product design;
- integrating a life-cycle approach;
- better cooperation among all the actors along the value chain;
- better collection processes; and
- an appropriate regulatory framework

Also incentives for waste prevention and recycling are important as well as public investment in modern facilities for waste treatment and high quality recycling.

It should not be forgotten that the waste legislation also provides cost-effective measures to reduce greenhouse gas emissions. As an example, greenhouse gasses can be reduced both directly by reducing greenhouse gas emissions from landfill and indirectly by recycling materials which otherwise would have to be extracted and processed.

To achieve these environmental, social and economic benefits the linear economy, where materials are mined, used and thrown away, should be transformed into a circular economy as drawn up in figure 7.1. This promises a much brighter future and allows arising to the current and future challenges of pressure on resources and security of supply. Resources need to be pumped back into production processes to be used again. The prospect of sustainable growth is at reach if the circular model is followed.

Figure 7.1 Circular economy



The figure was used when the European Commission presented a new legislative proposal on waste in July 2014. The phases represented are interlinked. As an example, products can be refurbished or

remanufactured, industry exchanges by-products and consumer may choose to purchase services rather than products. The aim is reducing residual waste escaping from the circle so that the system functions in an optimal way.

In this overall context, EU waste policy and legislation plays an important part, even though waste management is only part of the production and consumption cycle. It shows that with the right policies and legislation it is possible to re-inject waste into the economy by changing waste into valuable materials. This allows closing the loop in a circular economy model.

The Commission's preparation of a circular economy package was briefly presented at the meeting. Since the meeting the Commission has adopted its proposal 'Closing the loop – An EU action plan for the circular economy' (2nd December 2015), including legislative proposals to amend current EU waste legislation, including the Waste Framework Directive, the Landfill Directive and the Directives on packaging and packaging waste and electrical and electronic waste. The objective is to stimulate Europe's transition towards a circular economy which will boost global competitiveness, foster sustainable economic growth and generate new jobs.

The circular economy package consists of an EU Action Plan that establishes a concrete and ambitious program of action, with measures covering the whole cycle: from production and consumption to waste management and the market for secondary raw materials. The annex to the action plan sets out the timeline when the actions will be completed. The proposed actions will contribute to "closing the loop" of product lifecycles through greater recycling and re-use, and bring benefits for both the environment and the economy.

The revised legislative proposals on waste set clear targets for reduction of waste and establish an ambitious and credible long-term path for waste management and recycling. To ensure effective implementation, the waste reduction targets in the new proposal are accompanied by concrete measures to address obstacles on the ground and the different situations across Member States. Key elements of the revised waste proposal include:

- A common EU target for recycling 65% of municipal waste by 2030;
- A common EU target for recycling 75% of packaging waste by 2030;
- A binding landfill target to reduce landfill to maximum of 10% of all waste by 2030;
- A ban on landfilling of separately collected waste;
- Promotion of economic instruments to discourage landfilling ;
- Simplified and improved definitions and harmonized calculation methods for recycling rates throughout the EU;
- Concrete measures to promote re-use and stimulate industrial symbiosis –turning one industry's by-product into another industry's raw material;
- Economic incentives for producers to put greener products on the market and support recovery and recycling schemes (e.g. for packaging, batteries, electric and electronic equipment, vehicles).

Please see for further information on the Commission's web-site, http://ec.europa.eu/environment/circular-economy/index_en.htm

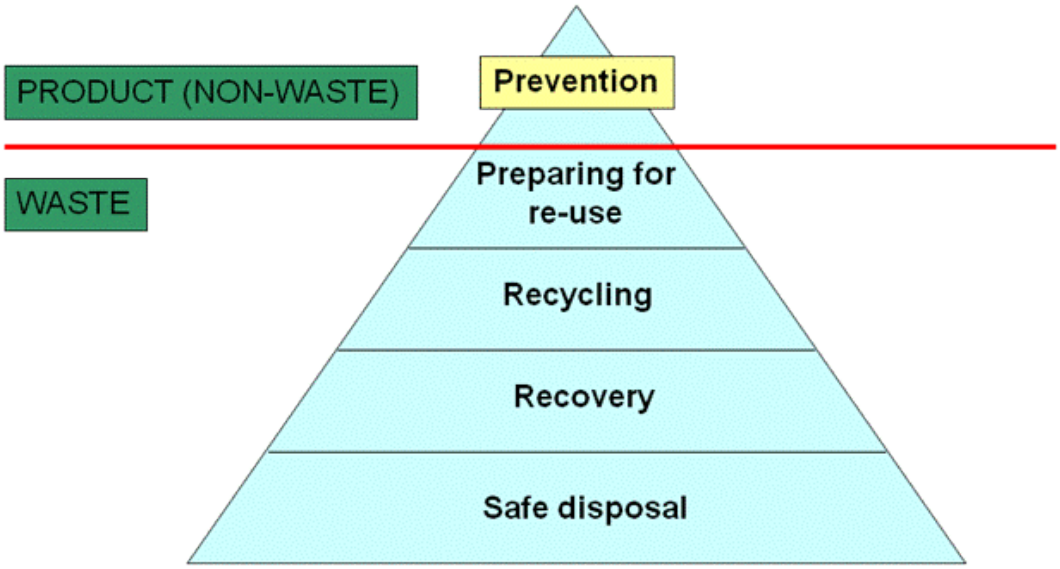
7.3 EU waste legislation and policy

This section gives an overview of the legislation that is currently in place.

EU waste legislation has been developed and continuously modernized since the 1970s.

Directive 2008/98/EC on waste (Waste Framework Directive) sets the basic concepts and definitions relating to waste management, such as definitions of waste, recycling and recovery. It explains when waste ceases to be waste and becomes a secondary raw material (so called end-of-waste criteria), and how to distinguish between waste and by-products. The Directive lays down some basic waste management principles: it requires that waste be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest. Waste legislation and policy of the EU Member States shall apply as a priority order the waste management hierarchy as presented in figure 7.2.

Figure 7.2 Waste management hierarchy in the EU waste legislation.



The Directive provides for the "polluter pays principle" and the "extended producer responsibility". It incorporates provisions on hazardous waste and waste oils (old Directives on hazardous waste and waste oils were repealed with the effect from 12 December 2010), and includes two recycling and recovery targets to be achieved by 2020: 50% preparing for re-use and recycling of certain waste materials from households and other origins similar to households, and 70% preparing for re-use, recycling and other recovery of construction and demolition waste. The Directive requires that Member States adopt waste management plans and waste prevention programs.

Another piece of legislation which is of paramount importance is the Landfill Directive 1999/31/EC. This directive ensures that landfilling is significantly reduced. Landfilling is the worst option from an environmental and resource efficiency perspective. Since biodegradable waste is of a particular concern, the current Directive has diversion targets for such wastes which should be fully implemented by 2020.

Where waste needs to be landfilled, it must be sent to landfills which comply with the requirements of the Landfill Directive. The objective is to prevent or reduce as far as possible negative effects on the environment, in particular on surface water, groundwater, soil, air, and on human health from the landfilling of waste by introducing stringent technical requirements for landfills.

A standard procedure for the acceptance of waste in a landfill is laid down so as to avoid any risks, including, e.g. that waste must be treated before being landfilled; hazardous waste must be assigned to a hazardous waste landfill; landfills for non-hazardous waste must be used for municipal waste and for other non-hazardous waste. Certain categories of waste may not be accepted in a landfill, i.e. liquid waste; flammable waste; explosive or oxidising waste; hospital and other clinical waste which is infectious; used tyres (with certain exceptions); and any other type of waste which does not meet

the acceptance criteria (Annex II of the Landfill Directive). The Directive also sets up a system of operating permits for landfill sites.

Another piece of legislation that is important in this context is the Waste Shipment Regulation 1013/2006/EC which implements the Basel Convention, including the Basel Ban Amendment. Certain waste shipments are strictly prohibited, including shipments from the EU of hazardous waste to developing countries. For other shipments, the regulation prescribes either a notification procedure ('PIC-procedure') or information requirements.

Illegal waste shipments have been identified as a serious problem existing at a significant scale. During recent years inspections at sea-ports, on roads and in companies have shown that around 25% of shipments containing waste in the EU do not comply with the Waste Shipment Regulation. Numerous reports of NGOs, media and studies have shown that large amounts of waste originating in the EU are illegally exported to developing countries in Africa and Asia. In order improve the Member States' inspection systems, ensure proper controls and effectively prevent illegal shipments, the Waste Shipment Regulation was strengthened in May 2014. Member States will have to establish risk based inspection plans and provide new powers to national inspectors. These changes to the Regulation have to be applied by Member States in 2016/2017. The reinforced inspections should help to reduce illegal exports of waste.

The Commission is currently preparing the ground for an electronic data exchange for waste shipment notifications and an implementing act on this topic is scheduled for 2016/2017. The idea is that an electronic exchange of relevant data on waste shipments should replace the current paper documents. Today, some documents, such as the notification and movement documents are creating a very large amount of administrative burden and paper sent between industry and authorities and between the different authorities involved. The authorities in some Member States have even to handle up to 100,000 pages of waste shipment documents per year. An efficient electronic data exchange on waste shipments replacing the paper documents would reduce administrative burden, as well as contribute to enhanced transparency and better traceability of where waste is sent. It would be easier for authorities to check where the waste is going and what it contains, and thus it would be easier to ensure compliance with the Waste Shipment Regulation. The authorities involved in inspections, including physical inspections, would have access to the electronically submitted data and thus have the possibility to cross-check compliance with the regulation. The enforcement authorities could also more easily exchange data which would facilitate risk-based targeting of illegal shipments.

EU directives have been adopted to ensure the environmentally sound management of certain waste streams, including:

- waste electrical and electronic equipment;
- packaging and packaging waste;
- batteries and accumulators;
- end-of-life vehicles;
- sewage sludge;
- mining waste; and
- PCB and PCT waste.

These directives share the same basic design in terms of substance restrictions, extended producer responsibility as well as collection, recovery and recycling targets. In addition to the above-mentioned recycling and recovery targets for household waste and construction/demolition waste, a number of specific targets have been laid down for Member States to recycle specific waste streams.

The waste stream directives have been key in improving waste management, stimulating innovation and changing consumer behavior.

7.4 Concluding remarks – Basel Convention

The Basel Convention offers an important and effective international framework to prevent illegal exports of waste and promote the environmentally sound management of waste. There are many issues which need to be addressed.

In recent years, the Parties to the Basel Convention have engaged in a process to ensure that waste is handled in an environmentally sound manner. This is the follow up of the CLI started by Indonesia and Switzerland. It consists of important activities:

- provide further legal clarity;
- better explain and understand the concepts included in the Basel Convention;
- further develop the implementation of the framework for ESM of wastes; and
- develop the different tools that are needed to understand and apply ESM.

These issues will be further discussed during the 12th Conference of the Parties to the Basel Convention in May 2015. It will offer an important opportunity to develop on international level measures ensuring that wastes will be handled in an environmentally sound manner. The EU and the European Commission will continue to be actively involved in this process and contribute to the development of the new actions

8 From debate to action – Partnerships in the frame-work of Basel Convention (MPPI und PACE)

By Marco Buletti, Federal Office for the Environment FOEN, Switzerland and Matthias Kern, UNEP Secretariat of the Basel, Rotterdam and Stockholm Conventions

Public Private Partnerships (PPP's) im Rahmen des Basler Übereinkommens, wie die Mobile Phone Partnership Initiative (MPPI) und die Partnership for Action on Computing Equipment (PACE), haben sich als ein erfolgreiches Modell für eine ergänzende Zusammenarbeit aller Beteiligter (‚Stakeholder') als gleichberechtigte Vertreter ihrer individuellen Interessen erwiesen. MPPI und PACE leisteten einen wichtigen Beitrag, um das Thema und Problem Elektronikschrott auf die internationale politische Agenda zu bringen und auch thematisch die Weiterentwicklung des Basler Übereinkommens zu fördern.

8.1 Hintergrund

Das Basler Übereinkommen wurde vor dem Hintergrund der damaligen Situation der internationalen Abfallbewirtschaftung verhandelt und schließlich 1986 abgeschlossen. Als Hauptproblem sollten insbesondere die damals unkontrollierten, grenzüberschreitenden Verbringungen von gefährlichen Abfällen bekämpft werden und zwar nicht nur von Exporten insbesondere nach Afrika, sondern auch beispielsweise innerhalb Europas.

Das mit dem Basler Übereinkommen eingeführte international harmonisierte Kontrollsystem der Transporte erwies sich als zweckmäßig. Es vermochte aber nicht weitere Exporte aus Industrieländern nach Entwicklungsländern nachhaltig zu unterbinden. Aus diesem Grund entschieden die Vertragsstaaten 1995 durch eine Änderung des Übereinkommens den Export von gefährlichen Abfällen aus OECD-Staaten in nicht OECD-Staaten völlig zu verbieten. Bis heute ist dieses sogenannte ‚Ban-Amendment' international nicht in Kraft getreten, weil nicht genügend Ratifikationen vorliegen. Die damit einhergehenden Diskussionen polarisierten im Nachhinein über sehr viele Jahre die weiteren Verhandlungen innerhalb des Basler Übereinkommens und führten teilweise zu einer Stagnation der nötigen Weiterentwicklung des Abkommens. Nicht nur die Vertrags- und Unterzeichnerstaaten des Basler Übereinkommens waren extrem vorsichtig in ihren Positionen, sowohl Industrie- als auch Entwicklungsländer, und auch die anderen Beteiligten, insbesondere aus Wirtschaft und Industrie, waren kaum mehr an Verhandlungen interessiert und beschränkten ihre Teilnahme auf ein Minimum. Zeitweise war auch eine gewisse Frustration der Vertragsstaaten, insbesondere aber bei den anderen Beteiligten aus Industrie und Wirtschaft festzustellen.

Parallel begann der Abfallstrom „Elektronikschrott" zu explodieren, eine Abfallart, die beim Abschluss des Basler Übereinkommens kaum jemanden beschäftigte und die heute mit rund 40 – 50 Mio. Tonnen pro Jahr neben dem Siedlungsabfall der am schnellsten wachsende Abfallstrom ist. Riesige Mengen von Elektronikschrott, vor allem aus der Informations- und Kommunikationstechnologie (IKT), werden in den asiatischen Raum exportiert, aber auch einzelne afrikanische Staaten werden von Elektronikabfällen überflutet. Die Entsorgung der Abfälle erfolgt dort in aller Regel nicht umweltgerecht, unter gesundheitsgefährdenden Bedingungen und weitgehend ohne arbeitsrechtlichen Schutz.

Die Exporte selber erfolgen oft unter dem Deckmantel „Gebrauchtware“ oder „zur Reparatur“ und entziehen sich damit jeglichen Kontrollen unter dem internationalen Abfallrecht. Zusätzlich entbrannten Diskussionen, wann ein Produkt zum Abfall wird und welche Arten von Elektronikschrott als gefährlich nach der Basler Konvention zu klassieren sind. Elektronikschrott ist damit „Fluch und Segen“ zugleich: Einerseits enthält er wertvolle Metalle und Edelmetalle, andererseits kann er auch gefährliche Komponenten enthalten und bei unsachgemäßer Behandlung zu Umweltbelastungen und Gesundheitsgefährdungen führen. IKT ist aber auch ein sehr wichtiger Faktor zur weiteren Entwicklung von Ländern, insbesondere auch Entwicklungsländern. In der Tat produzieren heute Entwicklung und Transitionsstaaten selber riesige Mengen von Elektronikabfällen. Elektronikschrott ist somit ein weltweites Problem.

8.2 Die Idee von Public Private Partnerships

Vor oben beschriebenem Hintergrund entwickelte sich während der schweizerischen Präsidentschaft des Basler Übereinkommens im Jahr 2002 die Idee, einen neuen Weg im Rahmen des Basler Übereinkommens zu lancieren und zu beschreiten, nämlich mit einer PPP. Einerseits sollten damit den polarisierten Diskussionen etwas Weiterbringendes entgegengestellt werden, andererseits war es auch Gelegenheit, die Problematik „Elektronikschrott“ auf die internationale politische Agenda zu bringen. Nichts lag näher als das Produkt Mobiltelefon zu thematisieren, weil damals der Boom von Mobiltelefonen zu starten begann; jeder konnte sich unter einem ‘Handy‘ etwas vorstellen und sich damit identifizieren.

Mit damals rund zwölf Produzenten von Mobiltelefonen waren etwa 90% des Weltmarktes abgedeckt. Zusätzlich mussten wichtige Netzwerkbetreiber, die effektiven Marktbeherrscher, sowie Recycler, aber auch Vertrags- und Signatarstaaten zum Mitmachen gewonnen werden. Nach mehr-monatiger Vorarbeit, bei der auch Skepsis und Vorurteile abgebaut werden mussten, konnte im Jahr 2002 die MPPI im Rahmen des Basler Übereinkommens mittels einer Unterzeichnungszeremonie gestartet werden. Damit verpflichteten sich alle Partner, gleichberechtigt zusammenzuarbeiten. Ziel war es, den umweltgerechten Umgang mit gebrauchten und ausgedienten Mobiltelefonen mit allen Beteiligten zu diskutieren und festzulegen.

Figure 8.1 Partners MPPI

Manufacturers	**Telecom Operators**
Alcatel	France Telecom / Orange
LG Electronics	Vodafone
Matsushita (Panasonic)	Bell Canada
Mitsubishi	
Motorola	**Others**
NEC	Parties and Signatories
Nokia	BC Regional Centres
Philips	Industry Associations
Samsung	Refurbishers
Sharp	Recyclers
Siemens	Consumer Organizations
Sony Ericsson	Public Interest NGOs

Nach erfolgreichem Abschluss der MPPI wurde als Nachfolgepartnerschaft die Partnership for Action on Computing Equipment (PACE) ins Leben gerufen.

In den Entwicklungsländern werden schätzungsweise ab 2016 mehr zu entsorgende Computer anfallen als in den Industrieländern. Deshalb geht es mehr und mehr darum, Systeme aufzubauen, mit denen in den Entwicklungsländern Elektronikschrott erfasst und entsorgt werden können.

Ein großer Unterschied zwischen MPPI und PACE ist, dass man bei MPPI mit ca. 10 Produzenten rund 90% des Marktes am Tisch hatte. Bei elektronischen Geräten sind eine ungleich höhere Anzahl von Produzent, Entsorgungsfirmen, Industrieverbände, akademische Institutionen, Nichtregierungsorganisationen und internationale Organisationen beteiligt.

Figure 8.2 Partners PACE

Industry Associations
Information Technology Industry Coucil
Institute if Scrap Recycling Industries
Bureau if International Recycling

Companies
PC Rebuilders and Recyclers
TES-AMM
SIMS Recycling Solutions
Boliden Mineral

Public Interest NGOs/Academia
Basel Action Network
Glose the Gap
Kevoy Community Dev. Institute
Öko-Institut
Institute of Env. and Resources
Asian Network
National Inst. for Environmental Studies

International Organizations
UNEP
ILO
UNIDO
WHO
ITU
UNU
ILZSG

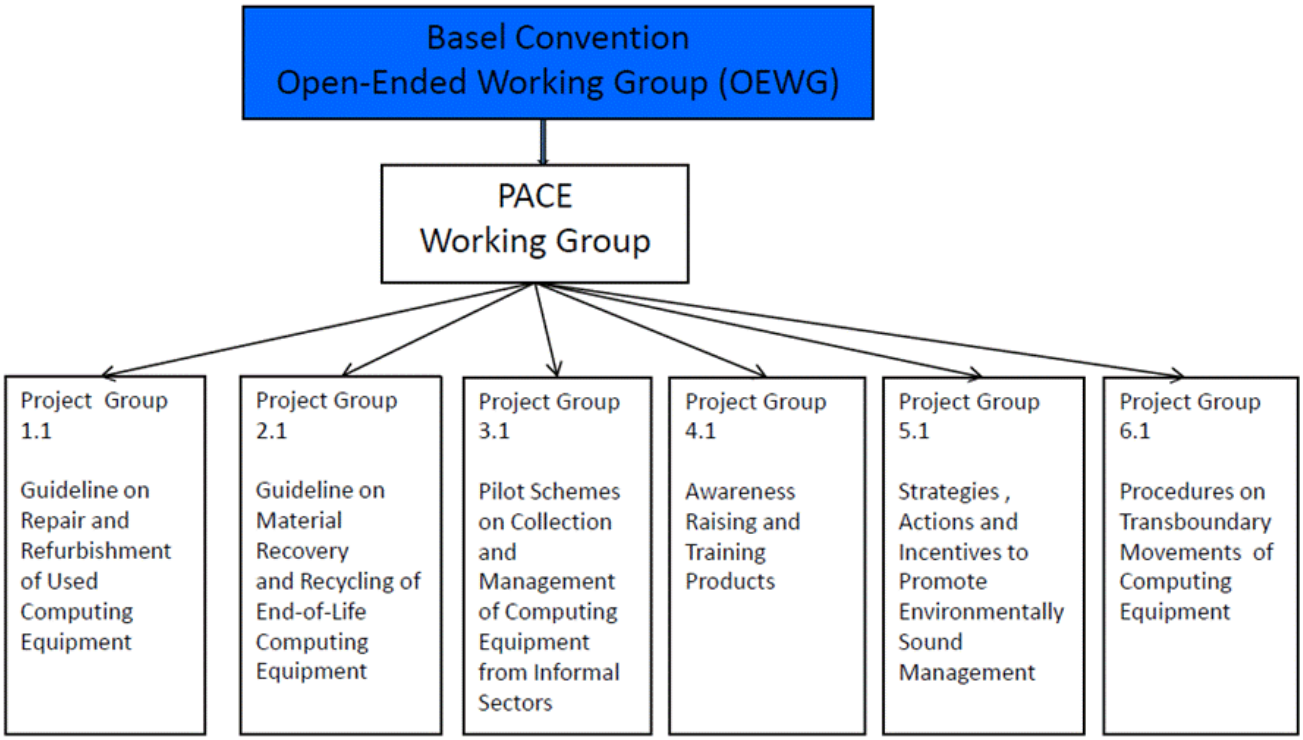
Countries and Regional Centres
25 Parties and Signatories
11 BC Regional Centres

8.3 Arbeitsweise von PPP'S anhand von MPPI und PACE

Sowohl in MPPI als auch in PACE wurde eine standardisierte Arbeitsstruktur und Arbeitsweise definiert, bei welcher alle Partner gleichberechtigt involviert sind. Die Arbeiten wurden in verschiedenen thematisch spezialisierten Gruppen mit genau definierten Arbeitszielen durchgeführt. Kommunikationsmittel waren hauptsächlich Telefonkonferenzen, E-Mail Korrespondenz und verschiedene physische Treffen der Partner. Die verschiedenen Partnerschaftsgruppen wurden von einer Hauptgruppe koordiniert. Falls eine Untergruppe schwierige Diskussionen hatte und ein Problem nicht lösen konnte, übernahm die Hauptgruppe diese Aufgaben.

Die Arbeit der Partnerschaft erfolgt unter einem Mandat der Vertragsstaatenkonferenz. Das technische Forum unter der Vertragsstaatenkonferenz ist die OEWG. Über die OEWG berichtet die Partnerschaft der Vertragsstaatenkonferenz.

Figure 8.3 PACE working structure



Es wurden bei PACE unter der Arbeitsgruppe sechs Projektgruppen gebildet, die zu unterschiedlichen Themen Richtlinien entwickeln sollen (siehe Organisationsschema oben).

8.4 Produkte von MPPI und PACE

Unter MPPI und PACE wurden viele Richtlinien zum umweltgerechten Umgang mit gebrauchten oder ausgedienten Mobiltelefonen bzw. Computern , insbesondere zur umweltgerechten Überholung, Reparatur und der dem Stand der Technik entsprechenden Verwertung erarbeitet. MPPI ging auch das Problem des grenzüberschreitenden Verkehrs von gebrauchten Mobiltelefonen an und entwickelte hierbei ein freiwilliges Notifikationsverfahren, welches heute als eine wichtige Grundlage für die Erarbeitung einer Richtlinie des Basler Übereinkommens zum grenzüberschreitenden Verkehr von Elektro- und Elektronikschrott und zur Unterscheidung von Produkt oder Abfall dient. Sämtliche von MPPI erarbeiten Empfehlungen wurden in einem ‚Overall Guidance Dokument' zusammengefasst und von den Vertragsstaaten des Basler Übereinkommens formell angenommen.

PACE orientierte sich für seine zu erarbeitenden Produkte stark an dem Vorgehen von MPPI, d.h. auch hier wurden verschiedene Richtlinien zum umweltgerechten Umgang mit gebrauchten und ausgedienten Computern erarbeitet und einem zusammenfassenden ‚Overall Guidance Dokument' integriert, welches von den Vertragsstaaten ebenfalls formell angenommenen wurde. Ausgenommen wurde hierbei der grenzüberschreitende Verkehr, weil mittlerweile das Basler Übereinkommen die obenerwähnte Richtlinie zum grenzüberschreitenden Verkehr von Elektro- und Elektronikschrott generell erarbeitet. PACE hat ferner erfolgreich konkrete Projekte in verschiedenen Entwicklungs-und Transitionsstaaten gestartet, in denen die Umsetzung der entwickelten Richtlinien getestet wird. Im Unterschied zu MPPI wurde auch ein abgestufter Mitgliederbeitrag eingeführt. Zudem unterstützen einzelne Geberländer und die EU MPPI und PACE mit freiwilligen Beiträgen.

8.5 Vorteile und Nachteile von PPPs

PPP's wie MPPI und PACE haben sich als sehr nützliche Arbeitsinstrumente im Rahmen des Basler Übereinkommens erwiesen und etabliert. Das strikt resultatorientierte Vorgehen und gleichberechtigte Einbeziehen aller Beteiligten hat zu einem großen Vertrauensgewinn unter allen Partnern, einem besserem Verständnis der Problematik und der einzelnen Positionen geführt. Nicht unterschätzt werden darf der ‚Think-Tank', der dabei entwickelt wurde und von dem Basler Übereinkommen im Nach-hinein aktiv genutzt wurde und wird.

Auf der andern Seite sind die Resultate und Produkte von PPP's zwangsläufig nicht rechtsbindend. Die Bereitschaft aller Partner, sich mit einem großen Arbeitsaufwand in PPP's engagieren zu wollen und zu dürfen, bildet einen weiteren wichtigen Aspekt für den Erfolg oder Misserfolg einzelner Partnerschaften. Ein wichtiger Punkt für erfolgreiche PPP's ist auch die Sicherstellung genügender finanzieller Mittel. Ohne externe Unterstützung durch Experten und der tatkräftigen Mitarbeit des Sekretariates des Basler Übereinkommens wären PPP's wie MPPI und PACE nicht realisierbar.

8.6 Fazit und Schlussfolgerungen

PACE und MPPI haben bewiesen, dass PPP's im Rahmen des Basler Übereinkommens einen gewinnbringenden Beitrag für die weitere Entwicklung des Basler Übereinkommens leisten können. Als erfolgreiches Modell sollten PPP's weiterhin eingesetzt werden, dies aber immer mit dem Ziel resultatorientiert in Spezialthemen zu arbeiten, mit voraussehbaren Produkten und zeitlich limitiertem Einsatz. Ein weiterer Pluspunkt ist sicherlich, dass MPPI und PACE einen großen Beitrag dazu geleistet haben, das Problem „Elektronikschrott" international zu thematisieren und weltweit auf die abfallpolitische Agenda zu bringen.

Ein großer Dank für den Erfolg von PPP's im Rahmen des Basler Übereinkommens gebührt allen Partnern, die sich engagiert haben: den Co-Chairs aller Gruppen, den verschiedenen Staaten und der EU, den beteiligten Vertretern von Industrie, Nichtregierungsorganisationen, akademischen Forschungsinstitutionen und internationalen Organisationen, welche MPPI und PACE mit technischen Wissen und auch finanziell unterstützt haben und weiterhin unterstützen.

9 The role of the Regional Centres in the Basel Convention: the case of the Africa Institute

By: Taelo Letsela (BCRC, South Africa)

9.1 Introduction

The Africa Institute is an intergovernmental organization that was founded as BCRC for English speaking African Countries. Due to the synergy process between the worldwide chemicals Conventions its Member Countries decided that the Centre should also serve as Regional Centre for the Stockholm Convention.

The Regional Centres under the Basel Convention have been established following slightly different models. In some cases it was a national institution that was given an international mandate. The Africa Institute was established as an intergovernmental organization through a treaty that was endorsed by the countries in the region to have common and collective ownership of the Regional Centre. This choice was taken after the experience with an interim Regional Centre that was first established under the Basel Convention. This was hosted by the government of South Africa, but without this collective ownership of the other countries. This institute ultimately collapsed because others were not pulling their weights as expected. When it was re-established it was decided it would no longer be a national organization but rather an international organization of all countries that have founded it.

There are 14 BCRCs and the Africa Institute is rather new. The Centres are based in developing countries and countries with economies in transition. In Africa there are 4 Regional Centres:

- Africa Institute, Pretoria, South Africa for English speaking African countries
- Dakar, Senegal, for French speaking African countries
- Cairo, Egypt, for Arab speaking African countries, also serving some countries from the Middle East
- Ibadan, Nigeria that serves as coordinating centre

The mandate of the Africa Institute is to coordinate the activities of its member countries in respect of the Conventions of Basel, Stockholm and Rotterdam. The countries are also active partners in the Minamata Convention and decided that it should work with this Convention as well. It is therefore a platform of action for all Conventions related to chemicals and wastes. This reflects the need for synergies as there are important overlaps of actions within the countries when addressing these conventions. The focal points are mostly situated within the ministries for the environment and some are working on more than one Convention. Having one Centre to coordinate their efforts was seen as a better solution.

The Africa Centre serves the following 23 out of the 54 African countries:

- Angola
- Botswana
- Eritrea
- Ethiopia
- Gambia
- Ghana
- Kenya
- Lesotho
- Liberia
- Malawi
- Mauritius
- Mozambique
- Namibia
- Nigeria
- Rwanda
- Seychelles
- Sierra Leone
- South Africa
- Swaziland
- Tanzania
- Uganda
- Zambia
- Zimbabwe

This covers a very large geographical scope from the south to the east of Africa and also some countries in West-Africa. Since the Centres have been organized along language lines, a country like Madagascar, which is very close to where the Centre is situated is served by the Centre in Dakar, which is in West Africa.

9.2 What are the issues?

During the Convention meetings there is always reference made to the work of the Regional Centres. It was very clear from the start of the Convention that developing countries and countries with economies in transition may not necessarily have the capacity to effectively implement the Convention. The Centres were established to assist these countries with this task. All the time the Convention takes decisions that the Centres need to be strengthened and that Parties that may have resources must assist the Centres so that they can effectively live up to their mandate. But none of these decisions is very clear on how the Centres should be strengthened and how the donor Parties should be providing the necessary resources.

The Convention was established to address the tsunami of waste coming from the developed countries to the developing countries. It is a mechanism that was established to a very large extent to protect the developing countries with the understanding that these are countries that do not have strong internal mechanisms to control wastes. When deciding to establish the Regional Centres one would assume that these Centres should be strong enough to provide the necessary support to the countries. However, it is recognized, also by the Convention itself, that these Centres are not strong enough to do that which is required of them effectively. The decision on the Country-led Initiative of Indonesia and Switzerland also clearly indicates that the Centres need to be strengthened but challenges remain.

9.2.1 Poverty

One of the issues why developing countries are struggling is that they embraced the Basel Convention but that are faced with a large problem of poverty. This absorbs the majority of the resources of the governments in most developing countries. Of course there are differences between developing countries. The situation in China for instance, which is also a developing country, is different from some others. But in particular in the context of the African continent poverty is the primary focus of any national government. Given those circumstances, issues related to the environment may not always get a very high level of political attention, not for reasons of lack of understanding of the issues, but due to these other priorities.

9.2.2 Instability of the political system

The experience with trying to rally the countries to support and implement the Conventions shows also that the political system in the countries often is very fragile, even when it looks extremely stable. In the last five years in nearly all countries the ministers and senior staff of the ministries have

changed. This implies that the Centre often has to start again from the beginning to raise awareness at the political level.

9.2.3 Unemployment

There is an extremely high unemployment in most of the countries. The trend is not, like in developed countries, to increase the age of retirement, but rather to decrease it to allow the large number of young graduates to find jobs.

9.2.4 Health

This is well illustrated by the Ebola crisis, where schools had to be closed and people were abandoned in clinics in extremely precarious situations. The developing countries are also Parties to the Basel Convention and want to protect their population as the developed countries do. But they also have to deal with these other issues and this creates a huge pressure.

As an example, there was the Probo Koala incident in 2006. The Basel Convention was in force. The countries involved were Parties to the Convention. The lesson that needs to be taken from this event is that developing countries are still extremely vulnerable to unscrupulous behavior even in the presence of the Basel Convention.

How did this ship end up in Côte d'Ivoire? It was not doing its business in Africa. How did it come to dump more than 500 tons of very toxic waste in Côte d'Ivoire? Because the country did not have strong enough internal controls to protect itself from unscrupulous business behavior. The ship did not follow the Basel Convention control measures. It tried first to unload its waste in Amsterdam, but because of the control measures there they could not. They did in Africa and the victims were in Côte d'Ivoire. This occurred because it is still possible for businesses to undercut the Basel Convention. They identify the weakest of the weak in the international community in terms of control. The Regional Centres are there and try to assist but the countries are still weak and these things still happen.

9.2.5 Poor waste management

Figure 9.1 and 9.2 show a relatively current scenario of waste management in Africa.

Figure 9.1 and 9.2 Women and children scavenging on a waste dump in Lusaka, Zambia

The landfill in Lusaka, Zambia was originally well designed and constructed with donor money. And now the landfill is used by women and children who derive their livelihood in this environment. This illustrates poor waste management.

Figure 9.3 shows examples of e-waste management in some African countries.

Figure 9.3 E-waste management in Accra (Ghana) and Lagos, Nigeria

As long as hazardous waste is not managed properly people will suffer. Diseases will arise and in particular children will be victims. The issue of proper waste management is to a very large extent also a human rights issue. Children will be exposed to this harm because they are not given the right tools and information. The system does not protect them, which is an issue of human rights.

Participation is important. The Africa Institute participates in the PACE trying to influence the results of this initiative based on the experiences on what is happening in some parts of the world. There are different realities in the world. Sometimes decisions are taken that do not take this into account and not all can be taken along when decisions are taken.

The Basel Convention attempts to protect human beings and the environment, to improve quality of life and reduce mortality. Some of the factors that are responsible for the real-life scenario's that can be seen in some African countries include:

- Lack of legislation

In some countries there is no strong legislation to protect human beings and the environment. The European Union is fortunate in a sense that there is the Brussels bureaucracy, which is looking out for the interests of maximizing the benefits that can be derived from waste management and waste recycling to Europe. This creates jobs but also protects the public from the impacts of the measures that are implemented. In negotiations the EU strongly represents the interests of Europe and provides necessary coordination.

- Lack of education and low literacy levels

In Africa large parts of the population do not have sufficient education. They are not able to take the necessary steps to protect themselves or even to understand the information that is provided to them. They are not necessarily stupid but may not have the tools to take the right decisions.

- Poor infrastructure

In most African countries there is no infrastructure in particular outside of the cities. Electricity is a problem. People have to walk for several kilometers to have access to clean water if that is available at all.

- Low recognition of human rights

The overarching attention that poverty gets is that human rights are badly protected as political support is directed to other priorities that are meant to address poverty.

9.3 What needs to be done?

Throwing ones hands in the air and say that it is too hard is no option. One has to do something and change things for the better.

Certain parties need to come to the table to make sure that something better than what we observe now happens. It was very good that the international community came up with the Basel Convention. Without it the situation would probably be far worse.

There is obviously a need to work very closely between Parties to maximize the collective good that comes out of the Convention. The Regional Centres need to be strengthened to make them effective in pursuing their mandate within the Convention. The relation between the Secretariat of the Convention and the Regional Centres needs to be improved. It must move beyond where it is now where the Secretariat requires certain reports from the Centres to ensuring that the decisions of the Convention are implemented. The Centres have a similar responsibility regarding the countries they represent. Otherwise the Secretariat will continue to face what it is facing now which is a very low response rate from certain Parties despite the fact they were there when the decisions were taken. If the Regional Centres remain as weak as they are now, and some of them only have 1 or 2,5 persons to do the work, obviously this will not work.

There is also a need for international support in the form of resources. There is a need for donors. This should go beyond just making statements of intent or statement of wishes. There are very little actual steps taken to make things happen.

A Regional Centre in Africa does not operate in a vacuum. There are other institutions that were established, some with a strong political support. In our region, there is the Southern African Development Community (SADC), the West African Development Community (ECOWAS), Comesa with members both in South and East Africa. These institutions have been established by governments with a certain political support. The Regional Centres should work with them. Even though the Centre originates from the Convention there is a need to link to such initiatives in the region. From the Africa Institute, there have been attempts to reach out to them and engage them in the work as they also have some mandate to address environmental issues. Unfortunately, in these institutions environment is only weakly represented.

Also links with other UN agencies are being forged such as with UNIDO, WHO and UNEP. But also the relationship with the Secretariat of the Convention needs to remain strong. Also links and relations with industry and with other expert institutions such as universities are important to be able to come up with a better scenario on the ground. The research institutes need to come together and become interested in this topic. They need to be able to mobilize resources from government and international agencies to be able to do research on waste. There is too much reliance on international data such as research from China, the US or Europe. Trying to situate that information into the African reality is difficult. The politicians want to know what is happening in their own part of the world. This is important for them to sell to their electorate.

The different issues on chemicals and wastes are related. Hazardous waste is hazardous because of the chemicals that are in it. There is a need to relate the management of chemicals with the management of hazardous waste if one wants to change the scenarios in this part of the world.

There is an increasing need to work together. Everybody is working very hard but rather in isolation and not making a lot of progress. Let's find a way to work together. This has to happen within the region, but also within the international community. The Basel Convention has been around for more than 20 years now. There is a need to make progress to make sure that it is possible to celebrate with pride that good progress is made all over the world. Cooperation is the key. When joining forces within the region and with the international community with the honest goal to make progress, the sky will be the limit.

10 Where are we going with waste management in the future?

By: Ross Bartley, Bureau of International Recycling (BIR), Belgium

10.1 Introduction

BIR was formed in 1948 as a federation of national associations from around the world. Nowadays with some 40 affiliated national associations, it also has direct member companies from over 70 countries in the world federation. BIR cannot claim it was involved in the Basel Convention from the very beginning. There were some member companies involved in the first Conference of the Parties (COP-1) in 1992 thereafter the BIR Secretariat attended from COP-2 often accompanied by member company experts.

10.2 The recycling industry

First some characteristics of the recycling industry, showing six photographs of a primary steelworks and a mini-mill, of a primary aluminium smelter and a secondary smelter, and of a primary pulp mill and secondary paper making.

Ferrous scrap is used for the secondary production of iron and steel predominantly in electrical arc furnaces (EAFs). In comparison with primary steelmaking, electrical arc furnaces are less expensive investments. It is remarkable to note that including the collection, sorting, manual and mechanical processing of scrap metal and the operation of the mini-mill there is considerably more employment generated across the secondary industry than in the primary industry.

Primary aluminium production facilities are very large with not so many people working in them. In the secondary aluminium industry there is more employment in particular if collection, sorting and processing of the scrap is taken into account.

Primary papermaking facilities require trees to provide the raw materials. Secondary papermaking facilities require that the many millions of households and businesses assist in the collection and sorting of waste paper to provide the secondary raw material. Likewise including waste paper collection and sorting there is more employment in the recycling sector than in the primary production.

There are well known benefits from the energy that is embodied in materials in use, particularly so in metals when these are recycled. There is less energy used per tonne of production using secondary raw materials in comparison to primary production, leading to an overall reduction of CO2 emissions. These benefits become obvious at the point of substitution of the secondary material for the primary material. This is the point when the secondary materials enter the market place as a commodity where the processed scrap displaces the primary ores or concentrates or wood pulp. Figure 10.1 shows some comparisons of the energy use for the production of primary and secondary materials and the savings when substituting primary materials with secondary materials.

Figure 10.1: Energy savings when substituting primary materials with secondary materials (expressed in TJ/100,000t)

Material	Primary	Secondary	Savings/ 100,000 tonnes
Aluminium	4700	240	4460
Copper	1690	630	1360
Ferrous	1400	1170	230
Lead	1000	13	987
Nickel	2064	186	1878
Tin	1820	20	1800
Zinc	2400	1800	600
Paper	3520	1880	1640

Source: 'Report on the Environmental Benefits of Recycling', Imperial College London, 2008

These energy savings result in reduced CO2 emissions. Figure 10.2 shows the CO2 emissions associated with primary and secondary production of a number of materials and the CO2 emission savings that can be obtained by substituting primary materials with secondary materials.

Figure 10.2: CO_2 emission savings when substituting primary materials with secondary materials (expressed in $ktCO_{2e}$/100,000t)

Material	Primary	Secondary	Savings/ 100,000 tonnes
Aluminium	383	29	354
Copper	125	44	81
Ferrous	167	70	97
Lead	163	2	161
Nickel	212	22	190
Tin	218	3	215
Zinc	236	56	180
Paper	0.17	0.14	0.03

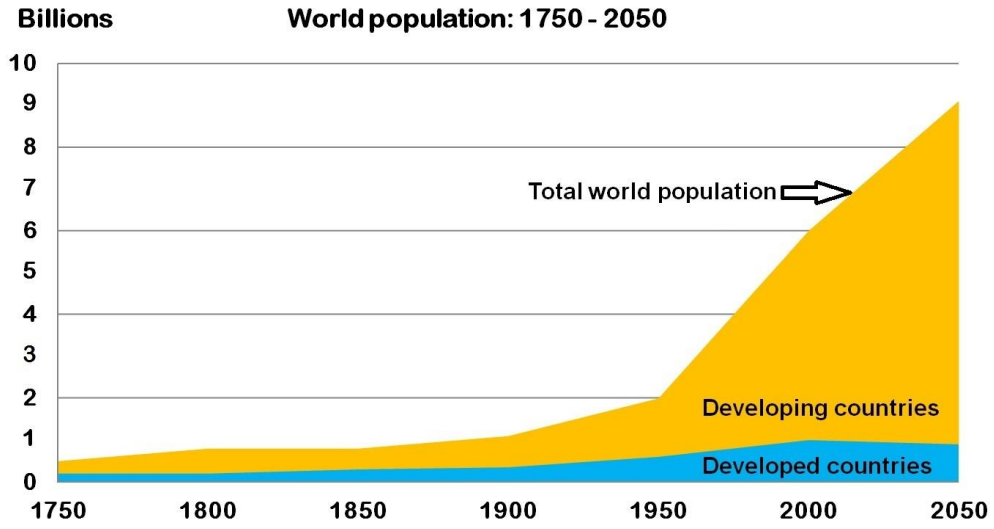
Source: 'Report on the Environmental Benefits of Recycling', Imperial College London, 2008

10.3 Legislative initiatives

In the preceding presentation, the European Commission gave an overview of the waste legislation in the European Union and recent initiatives to modernize waste management. The EU has the advantage in contrast with many other countries in the world that it has a raft of legislation build up over many decades to support the activities of the recovery and recycling industry. That legislation has also been evolving over the past decades with the European institutions engaging throughout the years with many stakeholders. The inclusion of scrap collectors, sorters and processors amongst all other stakeholders brings all of us together so for the most part we are all bound to support this legislation framework. Now the proposals are to move the mass of 'waste legislation' from its 'take-make-dispose' model of the linear economy to a new circular model and BIR is thinking through how to take account of this change in direction.

That we need a Circular Economy is justified by the rise of the world population as shown in figure 10.3. The picture is quite startling. The OECD environmental outlook report takes a slightly different slice of the graph where it does not look quite so steep. Within the rising worldwide population, the middle classes are forecast to increase from 1,8 billion in 2009 to 4,9 billion in 2030 which will result in increased demand for goods and so the materials they are made from. Some predict that in real terms the material values will increase for basic materials.

Figure 10.3: Development of the total world population since 1750 and projection to 2050

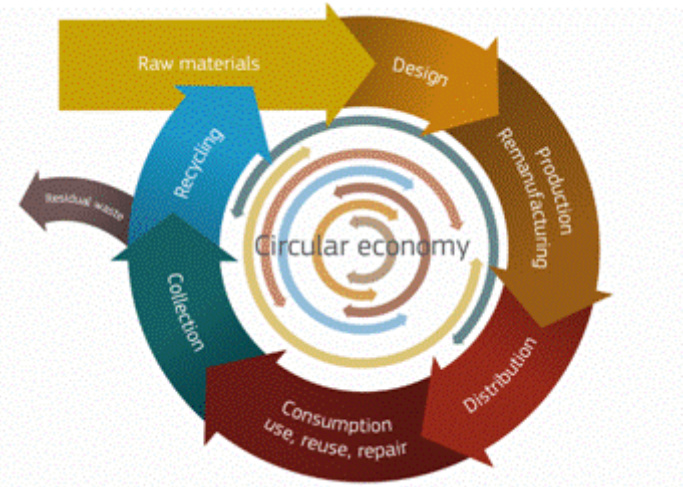


Data source: UN

Besides this forecast increased demand for materials the world has finite resources. There are also limits to the geographical exploration and to the mineral exploitation of those resources. After all there are places such as world heritage sites where it will not be possible for exploration or exploitation of primary materials.

These reasons, a booming world population, a more than doubling of middle class consumers, and finite exploitable resources are why we have to fully support the concept of the circular economy.

Figure 10.4: Circular economy



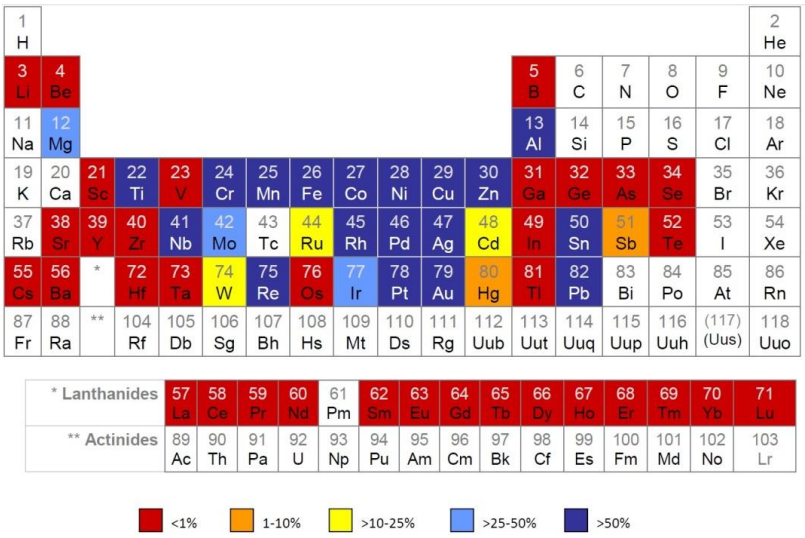
Source: European Commission DG Environment

Nowadays more of the BIR members are involved in repair, refurbishment and remanufacturing of components and of whole equipment which still needs further encouragement for a circular economy. However the BIR member's core interests remain in materials recycling. Many millions of tonnes of materials are recycled successfully every year, never the less the harsh reality is that some elements, some materials, even if they may be designated critical materials or even precious metals are, because they are in such small quantities or widely dispersed simply not economic to separate and recycle.

10.4 The opportunities for increased recycling

The need to boost recycling for some elements is shown in this periodic table with colour coded end-of-life recycling rates for 62 metals, those in red have a recycling rate of less than 1%

Figure 10.5: End-of-life recycling rates for 62 metals



Source: Graedel, T.E. et al. (2011). Recycling Rates of Metals - A Status Report. UNEP

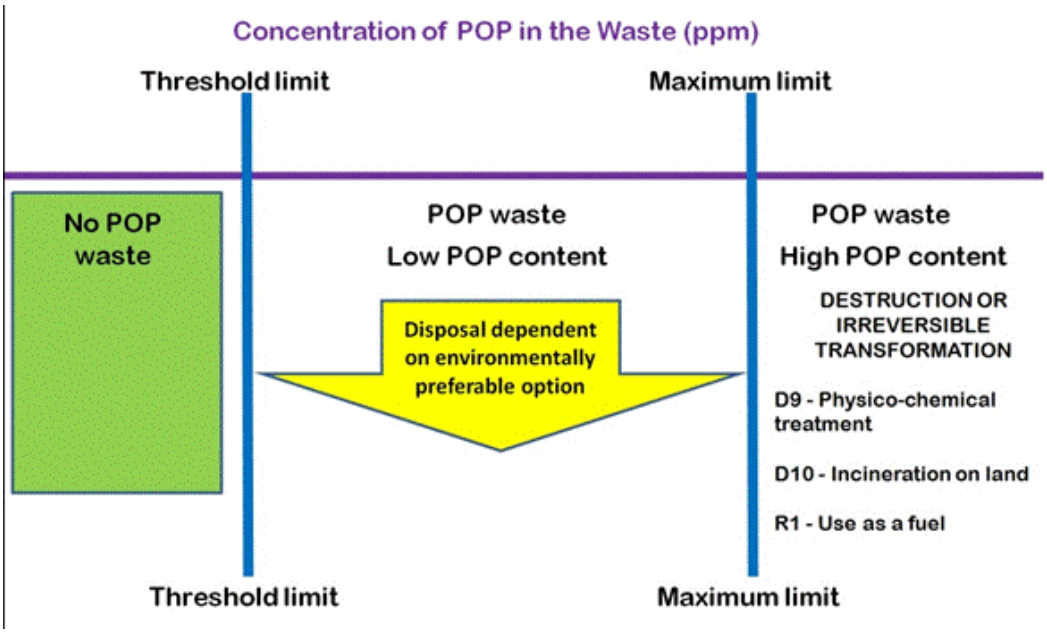
There is a need to find technologies, processes and systems that that will increase those recycling rates. Of course this has to be done in an environmentally beneficiary manner and it should be eco-

nomically viable too. Europe has the benefit of research and innovation programs such as the 'Horizon 2020' program in which there have been project proposals for increasing recycling rates of certain materials.

10.5 Clear rules

Chemicals legislation at the level of the UNEP Stockholm Convention and at the Basel Convention is evolving as are their guidelines covering disposal operations of POPs. What the recycling industry needs to know, in particular, are the rules for what can be recycled and what should not be. Figure 10.6 shows the example of POPs waste with the limit values for low-POPs waste.

Figure 10.6: Thresholds limits for concentrations of POPs in waste and their disposal routes

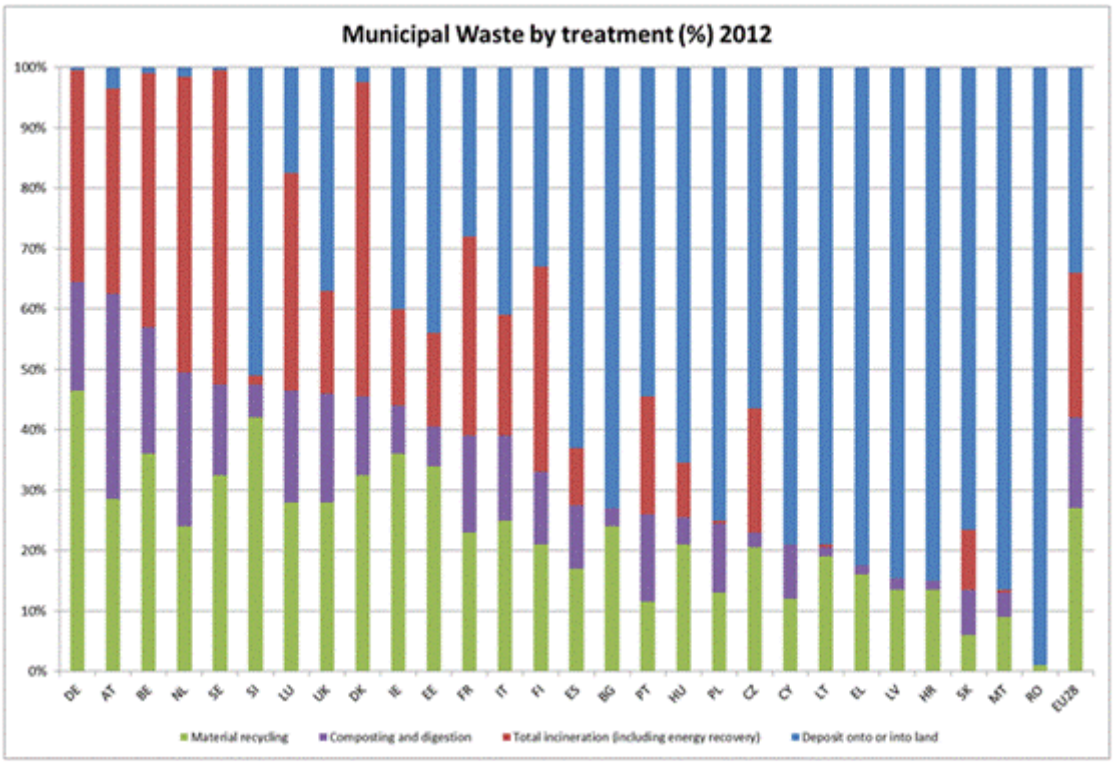


General Guidance documents on POPs wastes state that those wastes containing POPs above certain limits need to be disposed of in an environmentally sound manner, and those that contain POPs above the maximum limit need to be destroyed or irreversibly transformed. Furthermore those wastes containing POPs that are below the threshold limit are allowed to go back into the economy. Since such threshold limits are still changing the recycling industry is in the difficult position of trying to understand what materials, containing what type of pollutants, have to be destroyed or irreversibly transformed and what should be coming back into the recycling circuit. Clear rules are needed. Recyclers have not argued on the hazardous nature of these chemicals, arguments around toxicology are beyond the means of most recyclers. However, recyclers need to know where these chemicals are, if necessary how to detect them and the threshold limits for them so they can follow the rules.

10.6 Concentrate the efforts

Recyclers understand that the heavy lifting in the circular economy needs to be done at the bottom end of the waste hierarchy and also at the top end. The greatest efforts should be made for waste prevention and for getting materials out of the final disposal operations into recycling and also out of the energy recovery operations if the materials are viable for recycling. Greater efforts should be made in devising incentives for the original equipment manufacturers' designers to design for recycling and design for the environment and design for repair. Figure 10.7 shows the wide variation in waste management best practice across the EU.

Figure 10.7: EU Member States performance in treatment of municipal waste in 2012



Source: Eurostat 2014

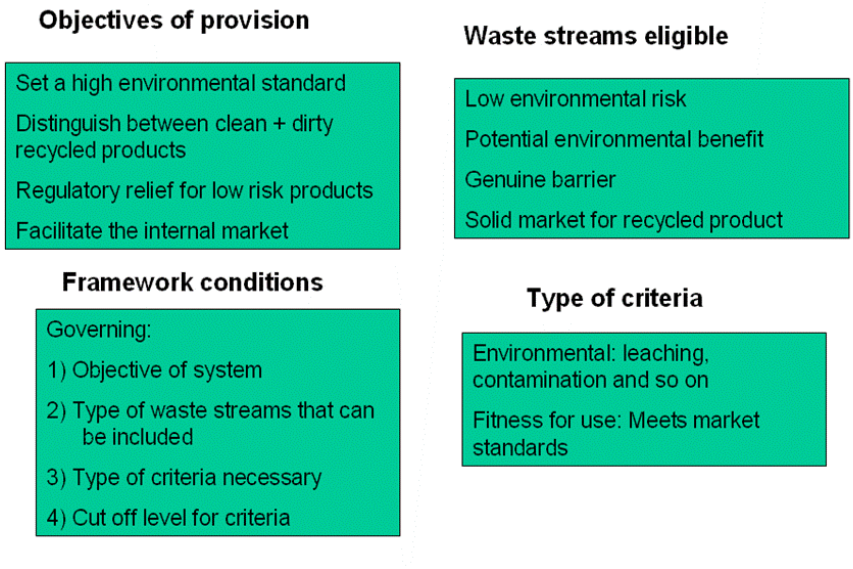
Even within the industrialized nations there is a huge difference in performance between countries that are recovering and recycling and those that depend largely on landfill. This is very illustrative of the country to country differences that would be observed if one were to conduct such an analysis on a worldwide level. It shows where the effort needs to go, that is to address the bottom end of the hierarchy, to lift materials up in the hierarchy, avoid landfilling and incineration of recyclables.

One of the means to achieve this is to increase separate collection of materials. The recycling industry has been arguing for this in many areas. This requires that everybody, every citizen, participates in the recycling society and engages at the earliest opportunity in separate collection. This first separation maintains the value in the materials as they go forward into the recovery sector.

10.7 End of waste

Earlier the point of substitution of primary raw material by secondary raw material was explained as taking place in the commodity markets. Related to this is the issue of end of waste that goes back to the philosophy of what this should do for certain materials. Figure 10.8 shows the process that was started in the EU around 2005 with the Thematic Strategy on Waste Prevention and Recycling to develop such end of waste criteria.

Figure 10.8: Key aspects of the development of end of waste criteria in the EU



Source: Slides for information event on the Thematic Strategy, 16 January 2006, European Commission

The Strategy recognized that not all waste streams, not all wastes are eligible for end-of-waste, that only materials with low environmental risk and good recycling potential would be selected. The objectives are to set high environmental standards, distinguish between clean and dirty recycled products and to give regulatory relief for low risk products. This European legislation, only in place in Europe, will benefit European operations within the European Single Market and actively promotes the recycling society. It encourages more separate collection, sorting and processing to get to the high quality that would meet the end of waste status, activities that may be compensated for by relief from the waste legislation. The European end-of-waste regulations facilitate the movement of these materials around the European internal market. European recyclers are still promoting this initiative. It was very unfortunate that the end-of-waste case of paper failed because multi-material beverage cartons were put into that proposal. This was a lost opportunity. Some Member States are now looking for other opportunities for mechanically processed materials where the end of waste status can be beneficial to the recycling markets.

10.8 Competition

The German Monopoly Commission, which is a State Agency that looks into the functioning of the free market in Germany, recently looked into the issue of 're-municipalization' of activities that are also done by private companies. This tendency does not only occur in Germany, but also notably in a number of countries in Central and Eastern Europe. It is a major concern of private industry to have competitive access to materials that municipalities or state owned enterprises may also collect. Competition rules should also be enforced for EPR schemes and their Producer Responsibility Organizations. That is why BIR is very much involved into looking how the governance of EPR schemes are organized and what needs to be done to make them operate competitively and fairly. This is also important to assure that the cost for society as a whole does not increase. In a rigid and restrictive system the societal cost will be greater. For countries that are performing poorly and rely largely on landfill the best environmental option may well be to utilize recycling facilities in countries that perform better, which will necessitate reducing barriers to movement of materials for recycling.

10.9 Transboundary movements

Another aspect to consider is the availability of environmentally soundly managed facilities around the world. Not every country has every type of facility to process every type of waste. Figure 10.9 shows the relatively few major metallurgical facilities that have the technical capability for handling printed circuit boards in an environmentally sound manner.

Figure 10.9: Facilities for hydro- and pyro-metallurgical treatment of circuit boards (incomplete list).

Source: BIR 2012, for 'Case Study on Critical Metals in Mobile Phones'

The map does not have the pretention to be complete and the company names may change over time as well. But it is remarkable that nearly all the facilities are in industrialized countries. It shows that if one would want to process circuit boards in these high-tech facilities one should allow them to be transported from wherever they are collected to these facilities. So there is a need to transport such wastes or scrap across borders. As circuit boards contain around 48 different elements, quite a number being critical or precious metals, it would be in the interests of resource efficiency to maximize the number of those elements recovered. The aim should be to extract the value from the circuit boards in such high-tech facilities managed in an environmentally sound manner. First though, it is necessary to locate the ESM facilities. The OECD had set in its legislation the means for national competent authorities to designate those facilities that are operating according to ESM standards as pre-consented facilities. This notion of pre-consented facilities does not yet exist on a worldwide level.

10.10 Trade measures

The increasing tendency of countries to hinder the trade in scrap, particularly scrap metals, contradicts the best economic advice. Figure 10.10 provides an overview of countries that have passed measures hindering the trade of iron and steel, zinc, tungsten, molybdenum, tin and cobalt for recycling.

Figure 10.10.: List of countries regulating trade in certain scraps

Iron and steel	Zinc	Tungsten	Molybdenum	Tin	Cobalt
234 (30 countries)	32 (21 countries)	22 (18 countries)	20 (17 countries)	21 (16 countries)	20 (16 countries)
Argentina, Guyana, Sri Lanka, Malaysia, Egypt, Uganda, Ukraine, Tanzania, Kenya, Belarus, Dominican Rep., Guinea, India, Indonesia, Paraguay, Rwanda, South Africa, Uruguay, Zambia, Algeria, Jamaica, Mauritius, Nigeria, Russia, Vietnam, Tunisia, Venezuela, Morocco, Pakistan, United Arab Emirates	*Egypt, Guyana, Malaysia, Sri Lanka, Algeria, Argentina, Jamaica, Kenya, Mauritius, Morocco, Nigeria, Pakistan, Russia, Rwanda, South Africa, Tanzania, Trinidad and Tobago, Uganda, Ukraine, Vietnam, Zambia.*	*Guyana, China, Sri Lanka, Algeria, Argentina, Jamaica, Kenya, Mauritius, Morocco, Pakistan, Russia, Rwanda, South Africa, Tanzania, Trinidad and Tobago, Uganda, Ukraine, Vietnam*	*Guyana, Sri Lanka, Algeria, Argentina, China, Jamaica, Kenya, Mauritius, Morocco, Pakistan, Russia, Rwanda, South Africa, Tanzania, Trinidad and Tobago, Uganda, Vietnam*	*Guyana, Sri Lanka, Nigeria, Argentina, Kenya, Malaysia, Mauritius, Morocco, Pakistan, Russia, Rwanda, South Africa, Tanzania, Uganda, Ukraine, Vietnam*	*Guyana, Sri Lanka, Argentina, Algeria, China, Jamaica, Kenya, Mauritius, Morocco, Pakistan, Russia, Rwanda, Tanzania, Trinidad and Tobago, Uganda, Vietnam*

OECD presentation at BIR Rome Convention, 2012

The reasons why these countries consider it to be necessary to hinder these movements should be addressed. For example South Africa has a system where the scrap companies are required to offer their scrap at prices lower than market price to metalworks within South Africa first. Only if it is refused for the purchase inside the country can it then be exported. The Figure shows many countries are making the choice to favor their national industries first before they allow the material to go elsewhere. This trend in export restrictions presents a problem. There are fears that the forthcoming mechanisms for a circular economy may construct a small circular economy within Europe rather than a wider circular economy sustainable through competition on a global scale. It is also a question of price. If one suppresses trade by introducing movement controls one suppresses the possibility of a seller to get the world-market price in an attempt to favor national industries. This has a kick-back though the whole of the system of collection, sorting and processing of the scrap acting as a disincentive to collection in particular. Besides Europe is a major importer of raw materials and one might suppose any export restriction might threaten access to material imports.

10.11 Certification

The drive for more and more certification can be observed everywhere. In one day I saw certificate logos printed on the back of paper pamphlets, on receipts from supermarkets, and on airline paper tray covers. Nowadays most all paper items get a certificate logo printed on them. One may question when everything has a logo what then is the added value of the certificate? Some authorities look to Certificates to 'police' their domain as a substitute for inspectors. When there is no official recognition of the equivalency of certificates companies are pressured to obtain multiple certifications. For example, some recycling companies pay for a variety of certificates to continue to engage in their business activities, besides having their license or permit to operate. Recyclers have to deal with a number of authorities, their agencies and many clients. Each certificate is costing money and to maintain them also costs money year on year. Also there are "clubs" where, if one does not have the 'right certificate', one cannot participate in the market. This proliferation is troubling the recycling industry. Recyclers are increasingly supporting the use of environmental management systems such as the ISO 14,000 series at the world level, EMAS[10] has quite a following too, and tailor made national environmental management systems are supported also. With niche certification systems de-

[10] The European Eco-Management and Audit Scheme.

vised for specific wastes, or particular bodies that are making systems just for themselves, the exclusivity and multiplicity of such systems is really worrying to recyclers. Governments should watch that Small and Medium Enterprises (SMEs) are not pushed out of the waste management marketplace. Furthermore in a whole world of certificates, the capabilities of the facilities behind the certificates become obscured. This paper-chase of certificates may well distract authorities from using inspectors on the ground at the facilities, besides the multitude of certifications proving more expensive overall in the long term.

10.12 Conclusion

So where are we going in the future with waste management? The need to change from a linear economic model to a circular economic model to become resource efficient and sustainable is unarguable, as are the energy savings and reduced emissions by substituting primary raw materials with recycled materials.

Best performing countries have shown a way forward, notably those advanced countries have a firm legislative framework. Furthermore, there is increasing awareness that it does cost citizens personal effort and money to get the most from the best economic, technical and environmental waste management practices. Whilst it is clear rules on what can and cannot be recycled that are a prerequisite for investments in both waste and recycling facilities.

The increased awareness of the large differences in waste management practices across countries shows how much could be gained in changing practices in all those countries relying far too much on landfill and incineration. So enabling the movement of recyclables to those facilities that will make the optimum use of them in an environmentally sound manner is unquestionably necessary for an economically efficient and resource efficient global circular economy. Fair rules on both imports and exports and so access to secondary raw materials have to be reinforced continuously, as is the need for a fair competitive access to recyclables for state-owned enterprises and private companies in country.

It has been argued that certifications or logos are not strictly necessary to identify ESM facilities if the means at the world level for national competent authorities to designate those of their waste facilities operating in an environmentally sound manner as pre-consented facilities can be established. Publicly identifying national ESM facilities could be a role for the competent authorities designated by each Party to the Basel Convention.

Governments and stakeholders can start straight away on constructing an optimum circular economy as the knowledge is readily available to harness the latent strength of the recycling markets.

11 Experiences of a Regional Centre (BCRC Bratislava)

By: Dana Lapesova, BCRC, Slovakia

11.1 Introduction

Basel Convention on the control of transboundary movement of hazardous wastes and their disposal belongs to one of the oldest multilateral environmental agreements. The Convention was signed in Switzerland in Basel in 1989 and entered into force in 1992 with the main goal to protect human health and environment against the adverse effects of hazardous waste.

There are two main pillars of the work of the Convention and these include:

- A control system for transboundary movements of hazardous waste; and
- Promotion of ESM of hazardous wastes

These are also the main activities of the Regional Centre in Bratislava.

Since its adoption there were many decisions and developments. One of the Decisions adopted during the first meeting of the COP was establishment of regional Centres for training and technology transfer. A special ad hoc committee had its role to identify specific needs of different regions and sub-regions. The third COP in 1995 has inter alia decided about the placement of different Centres. Bratislava was chosen to host the Centre for the Central and Eastern European region. It is operated by the Slovak Environmental Agency. It finally started its regional activity in June 1997 thanks to a generous sponsorship from Swiss government. The BCRC in Bratislava serves 19 countries from the region as shown in figure 11.1.

Figure 11.1: Countries served by the BCRC in Bratislava

11.2 Role of the Centre

The general role for the Centre was adoption and implementation of the Basel Convention and its principles into national legislation.

The first activities were:

- information exchange,
- regional workshops,
- project coordination and management, and
- an awareness raising programme.

In 2004 when nearly half of the countries joined the EU the situation changed a bit because EU member states are not eligible for the same financial support as countries with economies in transition. Until 2004 all activities were done together, but from 2004 onwards the cooperation with the EU countries is done e.g. via twinning projects or via experts from these countries that attend the workshops organized by the Centre as speakers.

At the start in 1997 the level of the hazardous waste management in the region was different. There were countries that had nearly no knowledge about the Basel Convention. The first topics that were selected for regional workshops were the following:

- adoption and implementation of the Basel Convention and its principles into national legislation and establishment of focal points and competent authorities in all countries
- setting up of management systems for ESM of hazardous waste
- setting up of technologies for the environmentally sound treatment and disposal of hazardous waste
- introduction of information systems on hazardous waste generation at national level
- establishment of the control system for the transboundary movement of the hazardous waste
- public awareness programs

The Strategic plan for the implementation of the Basel Convention for the period of 2002-2010 adopted in 2002 by COP6 gave a clear role to Regional Centres how to assist developing countries and countries with economies in transition to implement provisions of the Convention. The core functions of the Centre are as follows:

- training,
- technology transfer,
- information,
- consulting, and
- awareness raising.

Another very important Decision related to the BCRCs was the Decision that obliges the Centres to prepare two-year Business Plans. The Plan provides information on the current status of the hazardous waste management legislation and strategic documents in the countries served by the Centre and an overview of planned regional or national activities. The plan focuses on the following areas:

- Capacity building of the regional Centre
- Implementing obligations of the Convention
- The ESM of the Basel Convention priority waste streams

Starting in 2002, the BCRC Bratislava has been incorporating regional activities its Business Plan in accordance with the Strategic plan respectively the Strategic Framework and national countries priorities in the area of hazardous waste management.

11.3 Examples of activities

The Centre does more than organizing workshops only. It activity participates in many events organized by the UNEP such as in the Partnership Activities on Computing Equipment (PACE) and in ENFORCE that focuses on problems with transboundary movements of hazardous wastes and illegal traffic. It cooperates with relevant UN offices such as the Secretariats of the Rotterdam and Stockholm Convention and of Montreal Protocol

It participates in the preparation of strategic documents such as the Strategic Framework for the Implementation of the Basel Convention and it is active in the synergy activities to coordinate the three conventions of Basel, Stockholm and Rotterdam at national and regional level. It also participates in workshops with third countries and in waste management activities in the Slovak Republic.

11.3.1 Workshops

The Centre has organised approximately 30 regional workshops. They were aimed at both pillars of the Convention: ESM of hazardous waste and control system of the transboundary movement of hazardous waste. Experts from the Ministries of Environment or Environmental Agencies had a chance to participate in workshops or trainings aimed at the following topics:

- Illegal traffic problems and how to prevent them
- Prosecution of illegal traffic of hazardous wastes and other wastes
- Basel protocol on liability and compensation for damage resulting from transboundary movement of hazardous waste and their disposal
- ESM of different waste streams such as waste electrical and electronic equipment, used oils, used lead batteries, waste containing POPs and PCBs and pesticides
- Workshops aimed at strengthening of cooperation and coordination of Basel, Rotterdam and Stockholm Conventions
- Workshops aimed at promotion of partnership programmes including the MPPI and PACE

Most of these workshops were organized in Bratislava, some in the Czech Republic, Poland and one in Turkey.

11.3.2 Regional and national projects

The Centre's experts coordinate many regional or national projects with the aim to implement Basel Convention principles and obligations into national legislation and to assist with harmonization of national legislation to related European Directives and regulations. The aim of all countries in the region is to join the European Union. Harmonization of legislation with the EU therefore is an important aim for all countries served by the Centre.

Examples of the projects that were coordinated by the Centre include a number of projects on e-waste.

- Establishment of a system for the ESM of waste from electrical and electronic equipment in Moldova
- Technical assistance for the capacity building for e-waste management in Moldova

Both projects are financed by the Slovak Aid Program as assistance of the Slovak Republic to Moldova. During the first project an assessment of the legislation was made, a study visit for official from Moldova in the Slovak Republic was organized and a proposal for a management system was prepared. At that time e-waste was not mentioned in the waste legislation of Moldova. There was no collection system and all e-waste was dumped on landfills that did not meet relevant criteria. Some of the e-waste was imported by Romania that needed to meet EU targets.

Two possible approaches were proposed:

- One system that is strongly influenced by government institutions.

- The second system is more operated by private sector actors, including a collective scheme for extended producer responsibility

Moldova opted for the second option and the second project that is now running aims at the preparation of legislation on e-waste, secondary legislation and to prepare a register for obliged persons.

11.3.3 Capacity building for e-waste management in Serbia

This is a similar type of project as was done in Moldova. It is also one of the PACE pilot projects. The situation in Serbia is better than the starting point in Moldova and therefore the project requires less in-depth assistance.

Other e-waste activities consist of assessments and strategies in selected Mediterranean countries and an awareness raising project in Moldova. These are also small pilot projects under PACE.

11.3.4 Used oils and batteries

There were two projects managed by the Centre in Bosnia and Herzegovina.

- Development and establishment of a lubricating oil management system
- Development of instrumental framework, implementation schedule and guidelines for the ESM of waste oils

These two projects were prepared in cooperation with UNEP under the Mediterranean Action Plan.

Also a practical guideline for the ESM of used lead batteries in Mediterranean countries was developed.

11.3.5 Legislation

There were also projects that focus on legislation. An example is the preparation of the health care waste strategy management in Former Yugoslav Republic of Macedonia (FYRoM). There was also a project on legal assistance for the elaboration and adaptation of national legislation for the effective implementation of the Basel Convention in Bulgaria, FYRoM and Serbia and Montenegro.

11.3.6 Synergies

There were three projects that focused on synergies of the chemicals and waste Conventions. Two are sub-regional projects. A project for Croatia Montenegro and Serbia and a project on strengthening the national capacities for the coordinated implementation of Basel, Rotterdam and Stockholm Conventions in FYRoM were finalized. Currently there is a project ongoing on capacity building to promote synergies on the coordinated implementation of the Basel, Rotterdam and Stockholm Conventions in Belarus, FYRoM and Moldova.

11.3.7 Ongoing projects and plans

A number of activities are currently ongoing or are planned to start soon. These include:

- Technical assistance for the capacity building of e-waste management in Moldova
- Establishment of a system for the ESM of Waste Electrical and Electronic Equipment (WEEE) in Belarus
- Capacity building in e-waste and used batteries management in Albania
- Assistance in preparation of joint action plans for coordination and cooperation among Multilateral Environmental Agreements in served countries

11.3.8 Activities in the Slovak Republic

There is a new waste law in preparation. The current law was prepared in 2001 and an update is needed. A new law with 8 articles and 10 amendments is under preparation. It will cover all waste streams.

Main new ideas:

- Cancellation of the Recycling Fund

The Recycling Fund was established before the Slovak Republic joined the EU. There are big problems with the fund as it is not transparent enough. There are duties to pay to the fund and the control of the fund is difficult.

- Creation of a new waste information system
- Implementation of Extended Producer Responsibility in different waste streams
- Establishment of a coordination Centre, a non-profit institution with the main role to complete duties for a specific waste streams
- The tightening the rule of purchasing of metals from physical persons

This last issue is not only a problem in the Slovak Republic, but also in surrounding countries.

The law will cover:

- Basic information and definitions
- Main strategic documents
  - Waste management program
  - Waste prevention plan
  - Duties for physical and legal entities
- Extended producer responsibility
- Specific waste streams in particular
  - Used oils
  - Construction and demolition waste
  - Waste from generation of TiO_2
  - Management of PCB
- Waste from households will be a separate section
- Transboundary movement of waste
- Administrative tools
- Authorities in waste management
- Responsibilities and penalties

12 Panel discussion

Moderator:

Joachim Wuttke, (Germany, Umweltbundesamt)

Panelists:

Jim Willis (Former ExSec Basel Convention), Taelo Letala (BCRC South Africa), Ross Bartley (BIR), Alberto Capra (Argentina, Ministry Environment) and Klaus Hironimy (Hewlett-Packard).

Theme:

What is the best way forward for the Basel Convention?

The reality has changed in the last 25 years and the Convention needs to take this into account.

When the Convention was adopted the problems were:

- Uncontrolled dumping of waste from industrialized countries in developing countries
- Waste was something one wanted to get rid of
- Generation of hazardous waste in developing countries was minimal
- Developing countries did not have installations for ESM

The Convention provided for:

- A control system to ensure that waste would no longer go to places where it would not be managed well
- A ban on export of hazardous waste from the industrialized countries to developing countries

The goal of the Convention to ensure that waste is not dumped in countries that do not have proper facilities is still valid and will be valid in the future. However, the current situation regarding hazardous waste management has changed a lot since 25 years:

- Waste policies are geared towards the circular economy, turning waste into a resource
- Developing countries are generating more and more hazardous waste domestically
- Developing countries are establishing ESM facilities
- Specialized facilities are needed that cannot be implemented in all countries

This leads to the question what should be done in the context of the Convention to address this changing reality. There may be a need to rethink of role the convention without losing the goals and the protection it provides. However, changing the Convention is a very heavy process. E.g. the ban Amendment was decided in COP3 and at COP 12 it is still not in force, due to lack of ratifications. There may be a need at a certain point in time to envisage changing the Convention, but at first one should look what can be done within the current setting of the Convention. It is important to implement what is already in the Convention a better way and to better enforce its requirements.

The following issues for orientation of work under the Convention were mentioned:

- *Prevention*

Prevention had the highest priority in the waste management hierarchy. Prevention reduces the amount of waste that has to be managed. It reduces the need for transboundary movement and works towards more self-sufficiency and will contribute to reducing illegal traffic.

There is a need to work more with the Cartagena declaration and to put more emphasis on prevention and waste minimization. One should not be afraid to explore the issues that may seem beyond the scope of the convention and look into issues of reuse, eco-design and to the whole life-cycle of the products.

- *The control mechanism*

One might argue if the Ban amendment is still the right instrument in this time. There are also increasingly ESM facilities in non-annex VII countries. A good example is Singapore, which has probably a stricter enforcement system than Germany. But also in other countries this is improving, e.g. in China. Annex VII is no longer a good differentiator. However, it should be noted that the Ban is implemented in a number of parts of the world. E.g. the EU applies the amendment already since 1997. Making changes should be done prudently. Industry also prefers predictable stability over fast change.

Enabling the recognition of environmentally sound managed facilities in one way or the other is important. When allowing transboundary movements one has to be able to recognize a good facility from a bad facility. Certification may play an important role in this context. However, there are some concerns. One is the printing of a certificate after jumping through a burning loop. The other is a system like ISO certification. This last requires intensive industry participation and is very international and transparent.

Exploration of the various approaches with certification is important. This should not necessarily lead to a new certification scheme, but there is a need of ensuring that wastes transported transboundary are managed in an ESM manner. Transparency is also important e.g. in relation to certificates. Certification requires a well-functioning administration and a certification body. But also public accountability is important and should be integrated into the system.

- *Management of household waste and other non-hazardous wastes*

A lot of improvement can be made on the issue of household waste management, also being an indicator for good management of waste in general. The role of Annex II could be further clarified and the guideline on household waste is very old and may require a revision. Issues like

separate collection and improving the circular economy. Maybe a partnership arrangement could be envisaged.

Also in management of waste from industry and from small enterprises a lot can still be gained.

- *Further build on and use the results of the CLI process and partnerships*

It is very important to make sure that the important objectives of the Convention are well implemented and effectively applied. The work on ESM by the CLI is very important in that sense and may provide for an important step forward. The implementation of the results on the ground at national and regional level there will lead to good results. The same applied to partnerships such as PACE. The regional Centres could play a key role in disseminating these results and initiate activities for implementation on the ground. However, there is a concern that the current Centres may not have the critical mass to allow them to fulfill this role effectively and ways to further reinforce the Centres should be explored.

- *Link to the international environmental agenda*

The international environmental agenda is moving, both in the context of UN processes such as Rio+20 and on the thinking on the circular economy. Basel has to interlink with these developments. Looking at the differences in performance of the countries there is a need for each county to become a recycling society. This does not mean that every country needs to have all types of facilities, but the wastes need to be fed back into the economy.

- *Involvement of the public and transparency*

More cooperation, more partnerships are important as well as more effective governance. The role of the public and environmental NGOs is vital in that context.

NGOs are important and appreciated. They are the wake up calls and keep us on track. Participation of NGOs is important and most treaties have assigned lead NGOs for following the work of the conventions. For the Basel Convention it is the Basel Action Network. This is a rather small basis for NGO participation. NGOs work entirely different in the context of the Stockholm Convention. They created the International POPs Elimination Network. They work with a network of nearly 500 NGOs all over the world. This provides a lot of transparency to the public in large. Improving this situation has to be picked up by the NGO community itself. Focal Points can work nationally to involve NGOs.

There is also a need to engage every citizen. Everybody needs to know what is to be done for the better. This is also a matter of education. Education is important, but will reach only the willing. Economic incentives (including mechanisms such as pay-as-you-throw) are a powerful tool to steer behavior into the right direction.

13 Closing remarks

By Joachim Wuttke, Head of Focal Point, Federal Environment Agency, Germany

During the two days of the colloquium a large number of issue were presented and discussed. The most important questions were:

Where are possibilities to improve the Basel Convention? Is Basel 2.0 a way forward? Is the Convention a tanker that is difficult to redirect into a new direction?

What emerged is a number of interesting suggestions. It should be kept in mind that it is important to see what can be done within the current context of the Convention.

Some of the elements of the Convention will be needed anyway for the future and these should be maintained. In particular the control mechanism will continue to be relevant to ensure that waste will be managed correctly in the country of destination and to prevent illegal shipments.

Competent authorities are facing some particular problems in the context of the control system. There are new flows that are transported across border that differ from those that are being controlled for a very long period already. How to address these new streams must be thought through. There may also be a merit to consider introduction of a reversion of the burden of proof, which in certain cases was implemented in the EU legislation.

The potential role of certification was discussed. There are a lot of advantages but it is necessary that transparency is guaranteed. It is also important that the whole chain is included in this certification process. If only the products are certified, but not the processes that are used to get to the product this will lead to problems.

There is a need to advance with the results of the CLI process and its relation with the entry into force of the Ban Amendment. There may be difficulties in making this work together and one should follow these developments carefully.

It is also of great importance that countries that currently do not have a good waste management infrastructure enter into a process where such an infrastructure will be build up gradually. The regional Centres could play an important role here. But also public-private-partnerships such as those that were set up for PACE and MPPI could play an important role.

These two days were also a very good occasion to meet and get to know new colleagues and these contacts will provide for good opportunities to work together in the future. This is one of the important side effects of this type of gathering.

In my view the Basel Convention should develop into a waste management convention in the broadest possible sense. It should not be limited to hazardous waste. There are lots of examples of wastes that are considered to be non-hazardous, but where the treatment poses significant problems for health and the environment that need to be addressed.

Due to the active participation of the participants and the contributions of the speakers and panelists as well as the interpreters that allowed the different people to communicate effectively these two days provided inspiring insights in the potential new directions the Convention may take in the future.

Schlusswort

Joachim Wuttke, Leiter der Anlaufstelle Basler Übereinkommen im Umweltbundesamt.

Während des zweitägigen Kolloquiums wurden zahlreiche Themen und Problemstellungen vorgetragen und diskutiert. Hierzu ein paar der wichtigsten Punkte:

Welche Möglichkeiten bestehen, um das Basler Übereinkommen zu verbessern? Geht Basel 2.0 in die richtige Richtung oder ist es bereits zu sehr festgefahren, um Veränderungen herbeizuführen?

Es wurden eine Vielzahl interessante Vorschläge gemacht, allerdings ist es wichtig, sich zunächst im bestehenden Rahmen des Basler Übereinkommens zu bewegen.

Einige Kernelemente des Übereinkommens werden auch künftig eine Rolle spielen und sollten deshalb auch weiterhin fokussiert werden. So werden zum Beispiel die Kontrollorgane stets wichtig für die kontrollierte Verbringung von Abfällen in das Bestimmungsland sein, um auch illegale Verbringungen möglichst zu unterbinden.

In diesem Zusammenhang stehen die Behörden neuerdings einigen Problemen gegenüber. So werden immer mehr grenzüberschreitende Abfallströme ausgemacht, die sich von den bisherigen hinsichtlich ihrer Kontrolle unterscheiden. Die Behandlung jener neuen Abfallströme muss klar definiert sein. In diesem Zusammenhang könnte die Einführung der Beweislastumkehr, so wie sie schon in vielen Fällen der EU-Gesetzgebung zur Anwendung kommt, notwendig sein.

Darüber hinaus wurde auch die Bedeutung der Zertifizierung diskutiert. Obwohl das Verfahren einige Vorteile mit sich bringt, liegt die Notwendigkeit insbesondere darin, dass die Transparenz des Verfahrens stets gewährleistet wird. Um von Anfang an Problemen aus dem Weg zu gehen, ist es von hoher Wichtigkeit, den gesamten Verfahrensprozess und nicht nur das Endprodukt beim Zertifizierungsverfahren zu betrachten.

Ebenso besteht die Notwendigkeit, die Ergebnisse des CLI-Prozesses und deren Zusammenhang mit dem Inkrafttreten des Ausfuhrverbotes voranzutreiben. Es wird sicherlich Schwierigkeiten mit der Zusammenarbeit geben, sodass man diese Entwicklung sehr vorsichtig vorantreiben sollte.

Es wird ebenso von großer Bedeutung sein, dass die Länder, welche aktuell noch keine gute Abfallwirtschaft betreiben, mehr und mehr damit beginnen, ihre Strukturen zu entwickeln. Die regionalen Zentren, wie auch öffentlich-private Partnerschaften, welche bereits mit PACE und MPPI Anwendung finden, könnten hierbei eine große Rolle spielen.

Diese zwei Tage waren eine hervorragende Gelegenheit, sich mit den Kollegen bekannt zu machen und geben die Möglichkeit, mit den neu geknüpften Kontakten in Zukunft besser zusammen zu arbeiten. Dies ist der nette Nebeneffekt eines solchen Kolloquiums.

Aus meiner Sicht sollte sich das Basler Übereinkommen auf sämtliche denkbaren Bereiche der Abfallwirtschaft weiterentwickeln. Also keine Beschränkung auf gefährliche Abfälle. Es gibt eine Vielzahl von Fällen, wo zwar der Abfall als ungefährlich eingestuft wird, die anschließende Entsorgung jedoch beträchtliche Probleme für Gesundheit und Natur nach sich zieht.

Auf Grund der regen Teilnahme der Gäste, der Qualität von Beiträgen und Diskussionen sowie der hervorragenden Arbeit der Übersetzer, welche effektive Gespräche der verschiedenen Teilnehmer ermöglichten, gaben diese zwei Tage einen motivierenden Ausblick auf die zukünftige Zusammenarbeit.

14 Annex: Program of the Colloquium

Time	Title	Speaker
	9 October 2015	
13.30 – 13.45	Welcome and Introduction	Maria Krautzberger (Federal Environment Agency, Germany, President)
13.45 – 14.20	Experiences from CLI and what can be learned for the further development of Basel Convention	Jim Willis (Secretariat of the Basel, Rotterdam and Stockholm Conventions, Switzerland, Former Executive Secretary)
14.20 - 15:05	What does Basel Convention do and how can it be made sustainable?	Helge Wendenburg (Federal Ministry for the Environment, Germany)
15.05 – 15.30	Coffee break	
15.30 – 16.05	A level playing field for industry – how can this be achieved?	Klaus Hieronymi (Hewlett-Packard, Germany)
16.05 – 17.05	New situations call for new solutions: Findings in the project: „The Best of two Worlds“	Andreas Manhart (Öko-Institut Freiburg)
17.05 – 17.40	Challenges of waste management of a developing country	Alberto Santos Capra (Ministry for the Environment and Sustainable Development, Argentina)
19.00	Dinner	
	10 October 2015	
09.00 – 09.20	EU Recycling Strategy and Transboundary Waste Movements	Peter Wessman (European Commission, Belgium)
09.20 – 09.40	From debate to action – Partnerships in the frame-work of Basel Convention (MPPI und PACE)	Matthias Kern(Secretariat of the Basel Convention, Switzerland)
09.40 – 10.00	Experiences of a Regional Center (BCRC Johannesburg	Taelo Letsela (Basel Convention Regional Centre, South Africa)
10.00 – 10.20	Where are we going with waste management in the future?	Ross Bartley (Bureau of International Recycling, Belgium)
10.20 – 10.40	Experiences of a Regional Center (BCRC Bratislava	Dana Lapesova (Basel Convention Regional Centre, Slovakia)
10.40 – 11.15	Coffee break	
11.15 – 12.45	Selected speakers	Panel discussion
12.45	Closing remarks	Joachim Wuttke (Federal Environment Agency, Germany, Head of Focal Point)