



# **Experiences and Challenges of Hazardous Waste Management in a Developing Country**

**Commemorative Event “*Colloquium 20  
Years Focal Point to the Basel Convention*”**

**Federal Environment Agency, Dessau, Germany  
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## **SUMMARY OF THE PRESENTATION**

- I. Some relevant facts about Argentina**
- II. Hazardous wastes (HW) background/data**
- III. Argentinean experiences in the international chemicals and wastes agenda**
- IV. Challenges for Environmentally Sound Management (ESM) of HW**
- V. Near future**





## I. RELEVANT ARGENTINEAN COUNTRY FACTS



- Located in the South American continent. North borders the State of **Bolivia and Paraguay**; South borders the **Republic of Chile** and the South Atlantic Ocean; East borders the **Federative Republic of Brazil**, **Eastern Republic of Uruguay** and the South Atlantic Ocean; West borders the Republic of Chile
- Area 3,761,274 km<sup>2</sup>: **2,791,810 km<sup>2</sup>** belong to the American Continent; 969,464 km<sup>2</sup> on the Antarctic continent and the Austral Islands
- Extension (American Mainland): North-South: 3,694 km; East-West: 1,423 km
- **40 million people** 2010 census
- 25 jurisdictions: the Nation, 23 provinces and Buenos Aires autonomous city; 2.200 municipalities
- Each jurisdiction has an environmental competent authority; **Environmental Federal Council**



## II. HW BACKGROUND/DATA

- **Argentina ratified Basel Convention (BC) in June 1991 (Law 23.922) before entered into force in May 1992; Ban Amendment in September 2011 (Law 26.664)**
- **National HW legislation: Law 24.051 in December 1991**
- Administrative regime that establishes a **National Register of Generators and Disposals of HW**
- Annual Environmental Certificates
- Transport Documents
- Administrative Taxes for generators, proportional to the quality and quantity of hazardous waste generated, transporters depending units and disposers proportional to HW operated; and Fines.
- Requires the presentation of a plan to reduce the generation of HW by means of changing technology; recovery and recycling, when it is possible, in an **environmentally sound manner**.



## NATIONAL REGISTER OF HW

- Established in the **National Hazardous Wastes Office** in the Secretariat of Environment and Sustainable Development
- **50 people** working in four areas: administrative, tax, technical and legal
- **110 disposal establishments** and **175 transport companies** with Environmental Certificates
- **200.000 Tonnes of HW** transported annually/inter-jurisdictionally
- **9000 companies** : generators that require registration
- **50.000 manifestos** transport documents issued
- **350 inspections** round the country





## NATIONAL REGISTER – DISPOSAL FACILITIES

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	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

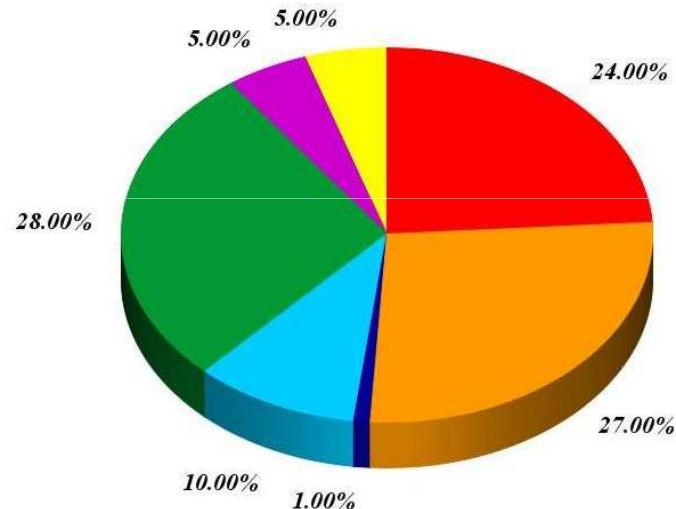




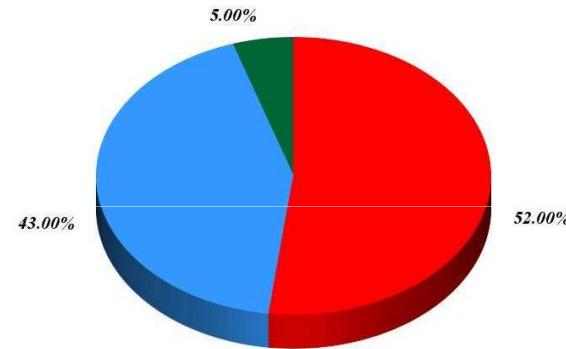
# NATIONAL REGISTER OF HW

*Distribution of disposal operations*

■ *Co-processing in cement kiln*   ■ *Solvent and hydrocarbon recovery*   ■ *Lead recovery*  
■ *Security landfill*   ■ *Landfarming*   ■ *Storage activities*   ■ *Incineration*



■ *Recovery*   ■ *Final disposal*   ■ *Storage*



**The values correspond exclusively to the management of HW transported nationally, not including provincial data**

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## NATIONAL REGISTER OF HW

- Exportation: ***no restriction*** - ***200 tonnes*** average annually
- Importation: ***prohibited in Constitution*** article 41; includes transit



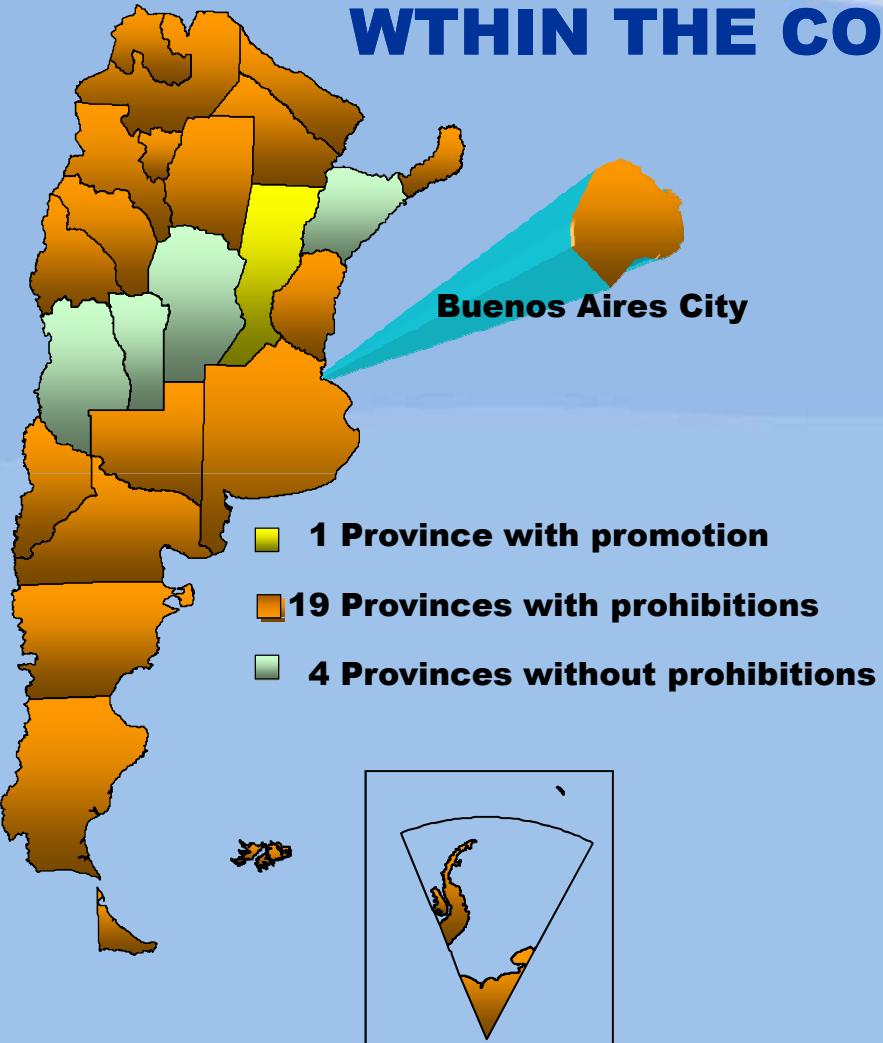
### ***Regional Centre for South American Region***

it serves 10 countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Venezuela and Uruguay





## LEGISLATION FOR HW MOVEMENTS WITHIN THE COUNTRY



**25 jurisdictions: the  
Nation, 23 provinces  
and Buenos Aires  
autonomous city**



### III. EXPERIENCES: INTERNACIONAL NEGOTIATIONS

#### ➤ *The Basel Convention*

- The United Nations Environment Programme (UNEP) and its global environmental conferences and agendas: June 2012
  - ❖ ***United Nations Conference on Sustainable Development Rio+20***
  - ❖ The ***“10-year framework of programmes on sustainable consumption and production patterns”*** 10YFP Marrakech Process from 2012 to 2022
  - ❖ To accelerate progress on achieving the Millennium Development Goals (MDGs); and establish a set of ***Sustainable Development Goals (SDGs)***

- The United Nations Environment Assembly (UNEA I) ***Decision 1/5 on Chemicals and Wastes. June 2014***

- ***Global Waste Management Outlook (GWMO)***

- ❖ International Environmental Technology Centre (IETC) DTIE UNEP Osaka, Japan
- ❖ International Solid Waste Association (ISWA) Vienna, Austria



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## THE BASEL CONVENTION

- As Legal Vice-Chair GRULAC representation in the Subsidiary body Bureau of the ***Open-ended Working Group (OEWG)***
- Being part of intersessional working groups and relevant agendas:
  - ✓ Co-chairing the ***Expert Working Group (EWG)*** on Environmental Sound Management (ESM)
  - ✓ Partnership for Action on Computing Equipment (PACE)
  - ✓ Technical Guidelines (POPs, e-wastes and mercury)
  - ✓ ***10 years Strategic Framework 2012-2021*** and ***Cartagena Declaration*** on the Prevention, Minimization and Recovery of HW and Other Wastes: ***cleaner production methods*** as well as to information on less hazardous substitutes for hazardous chemicals materials and capacity building and ***technology transfer***



- June 2012 **United Nations Conference on Sustainable Development Rio+20 “The future we want”** outcome approved by Resolution United Nation General Assembly (UNGA) A/RES/66/288 **Section V “Framework for action and follow-up”**, Subsection A “thematic areas and cross-sectoral issues”:
  - ❖ 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
  - ❖ Item **“chemicals and waste products”** paragraphs 213-223
  - ✓ Aim 2020 goal **sound management of chemicals** thorough their life cycle (Johannesburg Plan of Implementation)
  - ✓ Strengthening of the **Strategic Approach to International Chemicals Management (SAICM)**
  - ✓ **Coordination and cooperation among chemical and waste conventions:** BSR+Minamata
  - ✓ **Public-private partnerships**
  - ✓ Reduce, reuse and recycle waste, the **3Rs**
  - ✓ Long-term funding **Consultative Process on financing options for chemicals and waste**
  - ✓ National and local waste management policies, strategies, laws and regulations
  - ✓ **Resource efficiency and environmentally sound waste management**
  - ✓ **Extended producer responsibility (EPR)**



## UNITED NATIONS CONFERENCE ON SUSTAINABLE DEVELOPMENT RIO+20

❖ Item ***Sustainable Consumption and Production “10-year framework of programmes on sustainable consumption and production patterns”***

10YFP Marrakech Process from 2012 to 2022; a voluntary agenda arising from Johannesburg Implementation Plan 2002 program document A/CONF.216/5

✓ ***Vision***

(v) Reduces the use of hazardous materials and toxic chemicals and ***the generation of wastes***, such as non-biodegradable materials and the emission of pollutants

(vii) Promotes life cycle approaches, including ***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

✓ ***Functions***

(k) Encouraging the ***3R*** concept through, *inter alia*, the promotion of repair and maintenance work as an alternative to new products

✓ ***Programmes***

(c) Be based on life cycle approaches, including ***resource efficiency and sustainable use of resources***, and related methodologies, including science-based and traditional knowledge-based approaches, ***cradle to cradle and the 3R*** concept, as appropriate





## SUSTAINABLE DEVELOPMENT GOALS (SDGS) POST-2015 DEVELOPMENT AGENDA

- ❖ To accelerate progress on achieving the **8 Millennium Development Goals (MDGs)** established in the Millennium Summit of the UN in 2000 with the adoption of the UN Millennium Declaration for 2015
- ❖ Establishing a set of **Sustainable Development Goals (SDGs) : 17 Goals**. The outcome of an **Open Working Group (OWG) after 13 Sessions** presented in 69th Session of the UNGA September 2014
  - ✓ **Goal 12 “Promote sustainable consumption and production patterns”**
    - 12.2 by 2030 reduce by half global food waste and production and post-harvest food losses and those along food supply chains
    - 12.3 promote the sound management of chemicals and hazardous wastes in accordance with agreed international frameworks and by 2030 significantly reduce their release to air, water and soil
    - 12.4 by 2030, substantially reduce all waste generation through prevention, reduction, recycling and reuse



## UNITED NATIONS ENVIRONMENT ASSEMBLY - UNEA I

- ❖ ***Decision 1/5 on Chemicals and Wastes; June 2014***
- ✓ ***Continued strengthening of the sound management of chemicals and waste in the long term***: outcome of the country-led consultative process on the challenges to and options for further enhancing cooperation and coordination within the chemicals and wastes cluster in the long term, as set out in decision 26/12 of the Governing Council of the UNEP
- ✓ ***Special Programme to support institutional strengthening at the national level to enhance implementation of the BSR conventions, the Minamata Convention on Mercury, and the SAICM***
- ✓ SGGs were presented in the High-level Political Forum on sustainable development



- ❖ ***The Global Environment Facility (GEF):*** negotiating the new ***Focal Area Chemical and Wastes*** : 554 million dollars including 375 POPs, 341 mercury, 13 SAICM and 25 ODS. May 2014

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## IV. CHALLENGES



**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 HW or even not allow his departure from the various jurisdictions complicate the possibility of further development of services**

**Alternatively it 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:  
PCB disposal***



## STRATEGIC FRAMEWORK IMPLEMENTATION BC 2012–2021 DECISION BC-10/2 AND CARTAGENA DECLARATION COP10

*Apply the waste management hierarchy guiding principle*

**Prevention**

**Minimization**

**Reuse**

**(Recovery) Recycling**

**other recovery including Energy recovery**

**Final disposal**

**and, in so doing, encourage treatment**

**options that deliver the best overall environmental outcome, taking into account life-cycle thinking**

**Cleaner production methods and technology transfer**

### ***Resolution 523/2013 on Sustainable Tyres management:***

- ✓ Establishes 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

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## MORE CHALLENGES

- Waste - non wastes: ***developing legislation since 2011 and goes on***
- Mainstreaming HW in the national agenda:
  - ❖ Through coordination and cooperation locally and internationally (synergies)
  - ❖ Establishing a ***Chemical and Waste National Unit***, under analysis ***depending national budget or international assistance***
  - ❖ Developing a national strategy and a National Development Plan: programs related to the ESM for different categories of hazardous wastes; ***established for tyres***
  - ❖ Implemented EPR: ***established for tyres*** and ***developing for e-wastes***
- Industry involvement: public-private partnerships: ***through the involvement of chambers and associations in programs and projects (well developed for tyres and mercury)***
- Promote and implement initiatives ***“cradle to cradle”*** replacing activities “cradle to grave” in national legislation, projects and programs



## MORE CHALLENGES

- Develop local technical capacity and obtain technology transfer for HW management in order:
  - ❖ **Fulfil 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**
- **Develop reliable qualitative and quantitative information:** National Reports.  
**Developing an informatic system since 2012 to be operational by 2015**
- **Internalize BC technical guidelines in national legislation:** **done for tyres**

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## NEAR FUTURE: ARGENTINA INNOVATIVE PLAN 2020 MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION -SADS

- **Strategic Productive Sectors:** Environment and sustainable development Implementation Tables 2013 Number 13. **Recycling different waste streams**
  - ❖ Research and development projects on HW streams will be financed
  - ❖ **Installation of 4 pilot-scale recovery/recycling plants** for some HW:
    - ✓ End-of-live vehicles (ELV)
    - ✓ Used tyres for the mining industry
    - ✓ Valorisation of e-wastes
    - ✓ Energy recovery from Municipal Solid Wastes (MSW)
  - ❖ 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





# ¡Thank you!

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