



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



ICCL
international
committee on
contaminated
land

ICCL 2013 survey Results

Common challenges in the development of Contaminated Land Policies

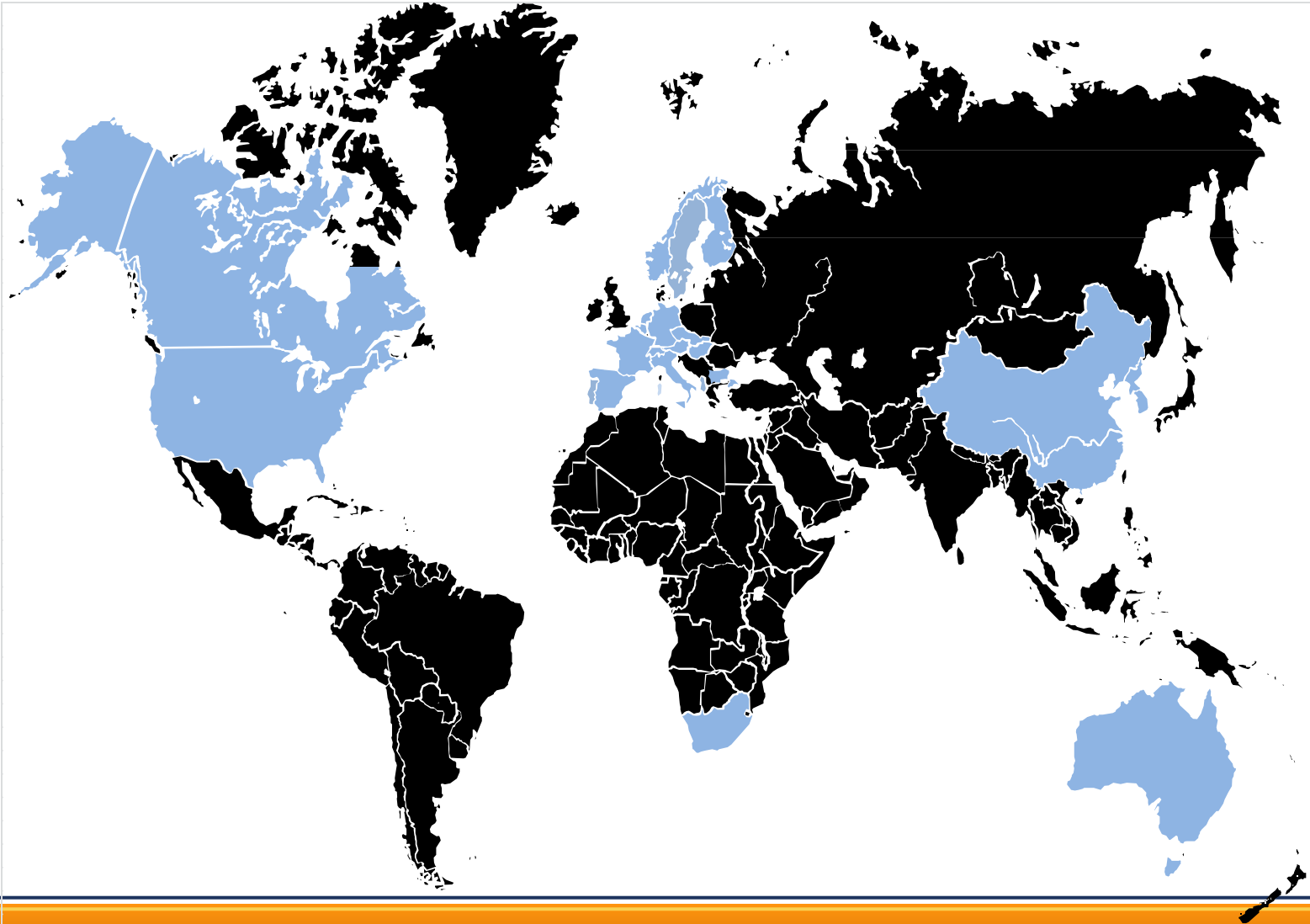
D. Darmendrail
Common Forum

The CLM Policy Challenges Survey

- ◆ Received 24 completed questionnaires
- ◆ The survey covered:
 - Overall context (definitions, sources of contamination)
 - Legal framework
 - Technical issues
 - Financial issues
 - Organisational issues
 - Crucial developments
- ◆ Comparison with the 1995 Vienna Questionnaire



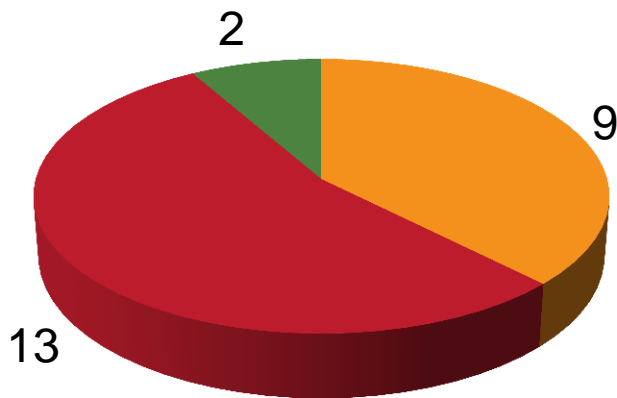
Countries represented in the survey



Policy issues

◆ 1995 Vienna & 1997 Amsterdam Quest.

◆ In 2013



- Specific Legislation
- Not specific
- Under elaboration

■ Under elaboration: CN, LU, PT

■ Specific framework:   

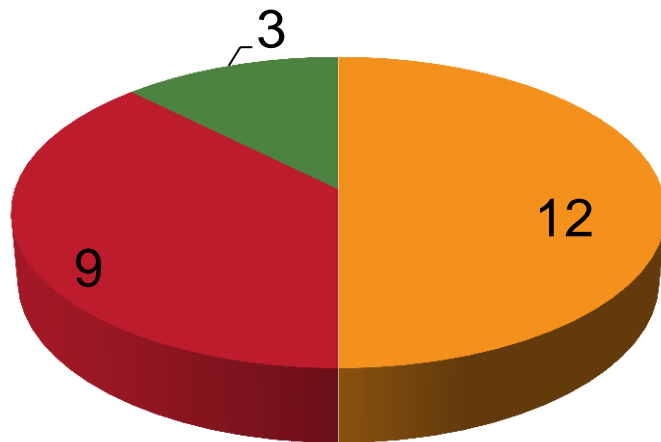
• AU/NSW, BE/FL, FI, ZA, SK CH

• AT & NL for historical sites only

• US (several federal policies – CERCLA, RCRA, Brownfields, Underground Storage Tanks, Oil Spills, ... + 50 States....)

■ Other countries integrated in Environment Protection Act / Code

Sources of Pollution considered



■ All sources



■ Mainly industrial, Mining and waste

■ no answer

- ◆ Mainly industrial, Mining and waste deposit sites
- ◆ All types (including urban and transport)

◆ Some specificities:

- Reorganization of industries 

- War Impacted areas  




- State owned companies before privatization   

- Management of contamination plumes in GW 



- Secondary asbestos pollution

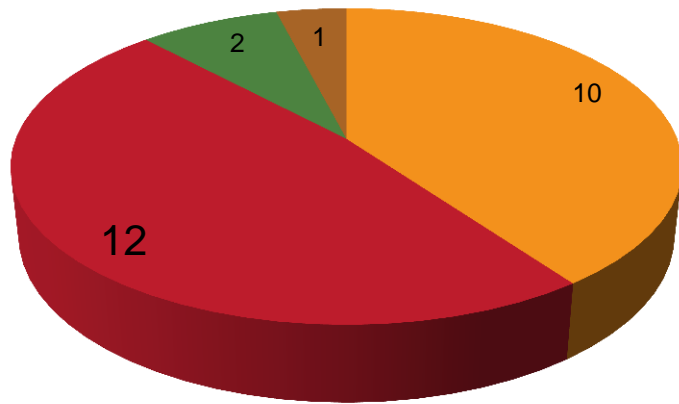
KEY PRINCIPLES

- ◆ Prevention of new incidents
- ◆ Polluter Pays Principle in All countries
- ◆ Distinction between new pollution and historical sites
 - All countries except CA, HU
 - New: Immediate treatment to negligible risk levels
 - Historical sites: risk based
- ◆ Other important principles explicitly mentioned:
 - Risk based (all countries in law & practice)
 - Fit – for – Use 
 - Stand-Still 
 - Reference to BATNEEC 
 - Proximity & self - sufficiency

CHAIN OF LIABILITIES / WHO PAYS?

<p>Short chain: (1) polluter, (2) operator or land owner, (3) State for orphan site</p>	<p>Long chain (different chains depending of circumstances): (1) Polluter, (2) Operator (with mother company), (3) land owner, (4) user / occupier; (5) redeveloper, (6) State for Orphan site</p>	<p>Same levels of liabilities</p>	<p>Specific chain</p>
<p>AT, AU, CA/ON, CA/QB, CN, CZ, FI, FR, HU, IT, LU, SE</p>	<p>BE/FL, PT (under discussion), ES, SK, SW, US</p>	<p>DE, CH, ZA</p>	<p>CN (all land state-owned) NL (1- owner, 2- polluter)</p>

TRANSFER OF LIABILITIES



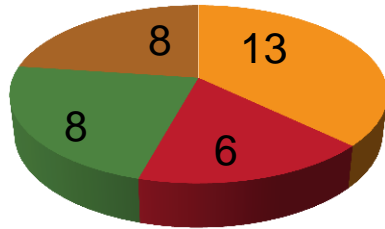
- YES (contracts)
- NO
- Under Special Conditions
- No info

- ◆ Yes, but
 - Under contracts
 - If it fails, back to statutory law
- ◆ Possible for historical sites / Not for new pollution
- ◆ Some under special conditions:
 - With administration approval and financial guarantees
 - Site purchased after a special enforcement date

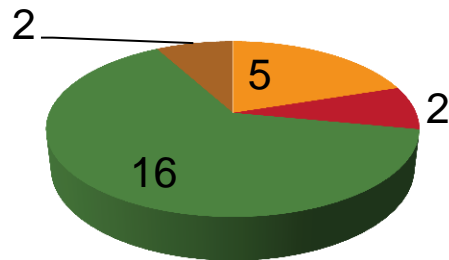
Inventories / Registers: a sensitive issue

Sites where potentially polluting activities have taken place or are taking place	AT, BE/FL, FI, FR, LU, NL, SW
Potentially polluted sites	AT, CA, CZ, FI, DE (Lander level), HU, IT (Region level), NL, SK, SW, CH, US (Federal facilities docket)
Sites where soil assessment has been performed	DE (Lander level), LU, NL
Polluted sites (pollutant concentration > threshold value)	AU/NSW, BE/FL, CA (federal + Provinces ON QB), IT, NL, NO, CH,
Contaminated sites (pollutant concentration > risk value; site needs urgent intervention)	AU/NSW, AT, CZ, DE (Lander level) FI, FR, HU, IT, ES (region level), SE (part of the EP information system), SK, SW, CH, US (Fed + States)
Remediated sites	AT, BE/FL, DE (Lander level), FI, FR, HU, IT NO, SK, SW, CH
Sites that need aftercare	AT, AU/NSW, BE/FL,FR, NO, SW
Accident sites	BE/FL, FR (specific), SW
Sites that are not polluted any more (or considered as such)	AU/NSW, CA, FR, SW
No inventory / Not yet	AU /F, CN, PT(under definition), ZA (under process)

Risk Assessment: Generic vs. Specific



■ Human Health
■ Ecosystems
■ Water resources
■ All targets



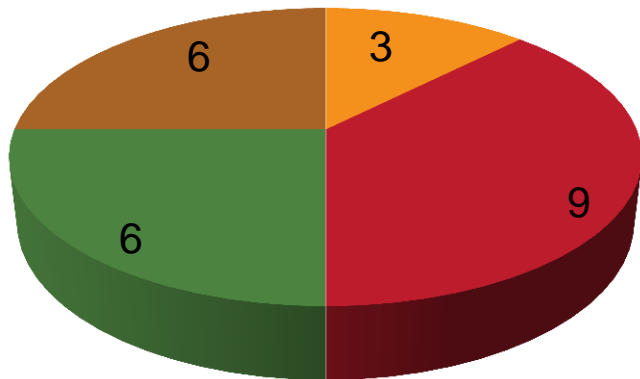
■ Generic Values ■ Site Specific Approach
■ Both, combined ■ No info

- ◆ Human Health and Water resources: targets to protect
- ◆ Ecosystems: increasing concern
 - DE (plants), FR (vs. reference zones), NL / ES /SW (local, regional conditions)
- ◆ Guidance under development: LU, PT, SE

Guideline Values / Apples & Oranges!

◆ 4 different types:

- Ranking of sites in regard of HH / priority settings / Screening
- Derivation of soil quality standards / thresholds
- Assessment of actual or potential risk at specific site
- Derivation of remediation objectives



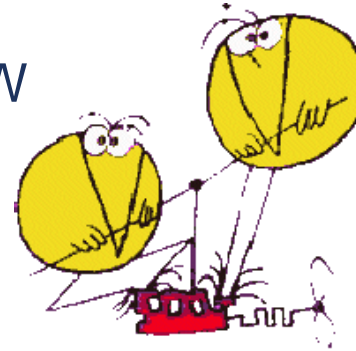
■ YES ■ YES under condition ■ NO ■ no info

Taking into consideration other sources of risks, e.g.:

- DE: other sources contributing to 80% of the trigger level
- FR, NO, SW: omitting high natural background levels
- SW: short & long term perspective (100 -1000 years)

Remediation phase

- ◆ Large variety of technologies now available
- ◆ Dig & Dump, Pump & Treat still predominant (40 to 75% depending of the country)
 - « easy pick » solution, easy to do and control, no further liability
 - Dig & Dump mostly used for soils. More open for GW
- ◆ Some evolution in the last years:
 - More on site / in situ technologies,
 - More combined solutions (trains of technologies)
 - More BIO, less Thermal and Washing
 - More fixed treatment plants (sometimes since end of 90s)
- ◆ Acceptance of new innovative tech: OK if risks treated and local pilot / demonstration



Type of Fundings



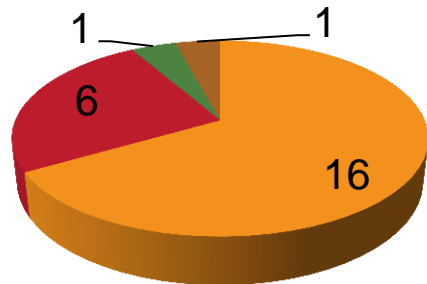
- ◆ Central / regional government budget (enforcement budget): Waste management or Product taxes, Environmental liability procedure, charges within the liquidation procedure,
 - Government Subsidies only for historical sites
- ◆ Responsible parties (public or private)
- ◆ Financial guarantees for operators & redevelopers
- ◆ Insurance mechanisms
- ◆ Public – Public and Public – Private Partnerships – mainly for redevelopment
- ◆ Special foundation / Industrial consortium

Some examples

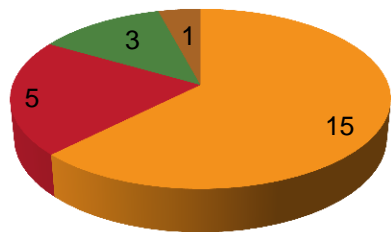
- ◆ Figures only available on the public national / regional funding programmes
 - From 10 M€/13,2 M\$ to 300 M€/400 M\$ /year in EU MS
 - USA: ~ 8 B\$ per year (of which Superfund- 1,2 B€/y)
- ◆ Estimation of the private contributions:
 - From 0,3 to 3 times the public contribution
- ◆ Distribution
 - Inventory – 1%
 - Investigation – 10 / 20%
 - Remediation – 50 / 80%
 - Monitoring – 1 / 5%

Organisational issues

Training



■ YES ■ NO ■ Not yet foreseen ■ no info



■ YES
■ NO
■ NOT YET
■ No information

Certification

- ◆ Bridge with Land Planning
- ◆ & With Public Health

- ◆ Development of competences / skills in this area
 - Training
 - Certification / Accreditation

Strengths / Weaknesses / Bottlenecks

Strengths

- ◆ Existence of policies / guidances, periodically reviewed/adapted
 - Incentive driven policy
- ◆ Implementation taking into account local conditions
 - Common principles but No uniform approach
- ◆ Structured and phased approach – risk based
- ◆ Transfer of site: driver of investigation and remediation
- ◆ Experimented experts / treatment facilities
- ◆ Good cooperation between Health & Environment Minist.

Weaknesses / Bottlenecks

- ◆ More prevention
- ◆ Management of site without legal liable parties
- ◆ Lengthy process to solve problems / situations
- ◆ Quality & efficiency of existing tools / resources
- ◆ Use of international « standards » vs. Development of national / regional standards
- ◆ Update of databases / public info
- ◆ AVAILABLE FUNDS

Strengths / Weaknesses / Bottlenecks

1995

- ◆ Policy Background (operation / hist)
- ◆ Sustainability / Economic framew.
- ◆ Liabilities and fundings
- ◆ Risk Assessment and values
- ◆ Risk management and prevention
- ◆ Remedial technologies development
- ◆ Information management
- ◆ Community involvment (risk comm)
- ◆ Special issues (military, radioactive, waste)

2013



Pending needs



- ◆ Organise and integrate the existing legal framework
- ◆ Promote the state-of-the art in CLM
- ◆ Exchange of information (toxicity, innovative techn, ...)
- ◆ Share the experiences / practices (good and bad examples)
- ◆ Develop specific knowledge for special cases (e.g. mining sites / areas, megasites)
- ◆ Promote subsequent reuse of sites as a contribution to reducing land uptake
- ◆ Establishment of experts teams
- ◆ Pilot projects for enhancing innovative techniques uptake by the market
- ◆ Identify R&D needs (ecosystem RA, new pollutants, ...)
- ◆ International cooperation / advisory work

CONCLUSIONS

- ◆ Several dimensions / a single framework with legal, technical, financial, organisational tools
 - Prevention, Operating sites, Historical sites, accidents
 - Still too sectoral, need of more integration
- ◆ Lots of innovative solutions for being adapted to local conditions
- ◆ Current evolution to Sustainable remediation / Sustainable land management with new challenges
 - Long-term & land planning, community involvement, public health issues
- ◆ Needs for further discussions:
 - Beneficial reuse of treated soils, Financial issues, Liability transfer or share?

◆ THANKS TO ALL CONTRIBUTORS



◆ More information on www.iccl.ch

Thanks for your attention!



◆ More information on
www.iccl.ch