



# Industry Waste Management Planning Guidelines for the Consumer-formulated Chemical Sector



DANIDA (UEMP) ANNUAL  
CONFERENCE

Presenter: A. Hoon

Email: [iwmp@pgwc.gov.za](mailto:iwmp@pgwc.gov.za)

Phone: 021 483 2712

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# BACKGROUND



- Management of hazardous waste – problematic
- Study – promote waste management planning in industry and to complete the integration of waste management planning at facility level.
- Questionnaire (generic) – assessment of chemical industry in the Western Cape.
- Chemical producers, targeted, - distributors of consumer formulated products.
- Project focus on industries closest to the consumer in terms of the value chain.





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# WASTE MANAGEMENT POLICY FRAMEWORK



- RSA, Constitution: Chapter 2 Bill of rights
- NEM: Waste Act; (Act No 59 of 2008).
- Hazardous Substances Act, (Act No.15 of 1973).
- NEM: Air Quality Act, (Act No 39 of 2004).
- Environment Conservation Act; (Act No.73 of 1989).
- National Waste Management Strategy (1999).
- Integrated Pollution & Waste Management Policy; (March 2000).





# POLICY FRAMEWORK cont.

- National Road Transportation Act, (Act No 93 of 1996).
- National Water Act, (Act No 36 of 1998).
- By-laws of the Local Authority (CoCT).
- National Environmental Management Act, (Act No 107 of 1998).
- Occupational Health and Safety Act, (Act No 85 of 1993).





# STATUS QUO



Total of 21 companies in the consumer formulated chemical sector were approached & 19 responded:

- Automotive.
- Cleaning.
- Construction and engineering.
- Pharmaceutical, Medical and Personal health.
- Personal care / hygiene.
- Printing.
- Surface coatings.
- Surface joining.

90%





# QUESTIONNAIRE



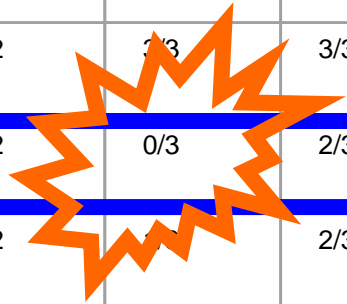
- Aim: Gathering information wrt aspects of chemical handling & hazardous waste disposal:
  - Chemical usage and production.
  - Hazardous waste stream handling.
  - Chemical inventory records.
  - Personnel competence and training.
  - Waste minimization.
  - House keeping and quality control.
  - Risk profiling of facility.
  - Emergency planning and safety.
  - Barriers to the implementation of plan.





# SUMMARY OF THE RESULTS OBTAINED FROM THE SURVEY

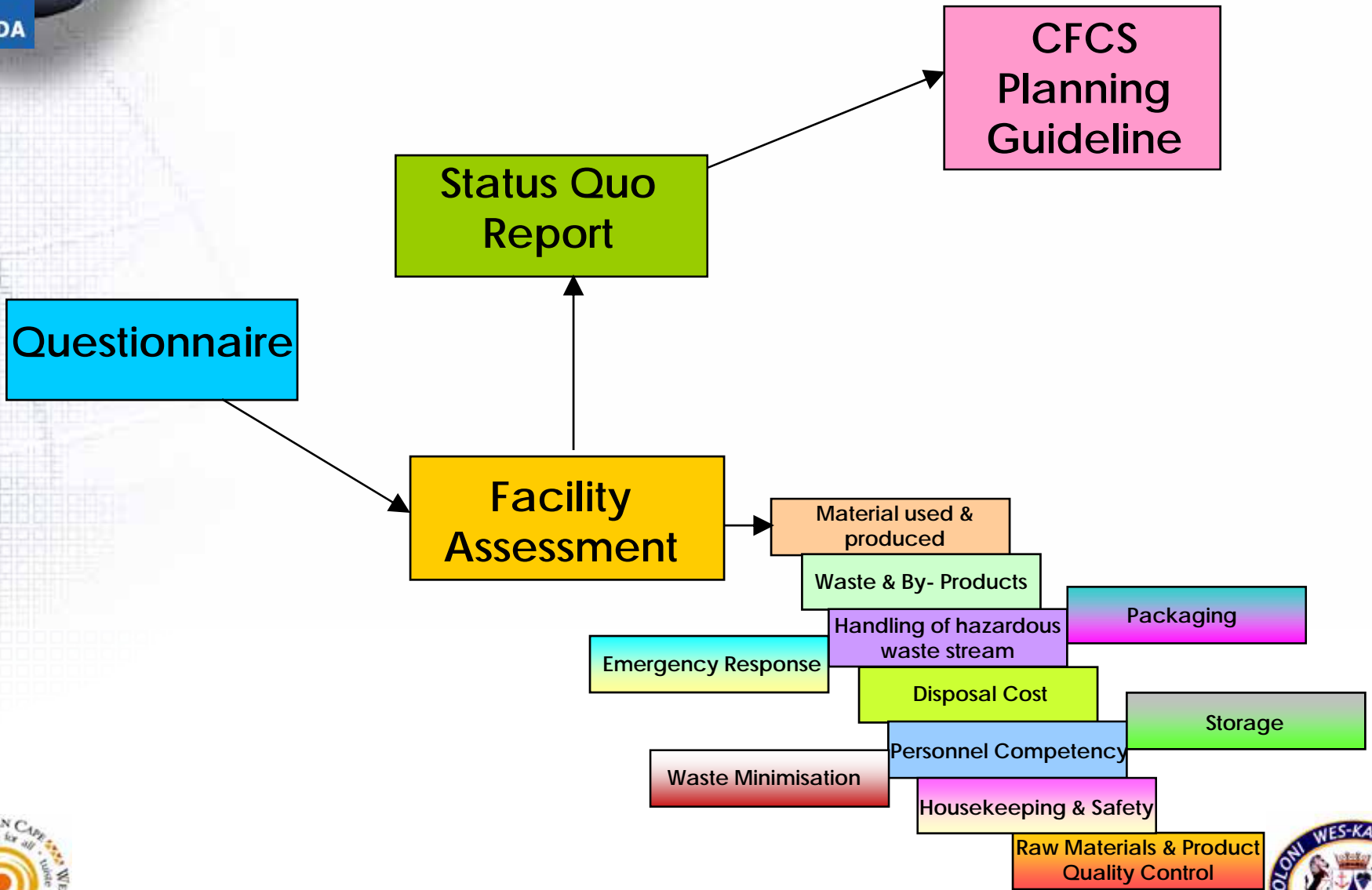
Key Indicators	SUB - SECTORS							
	Automotive	Cleaning	Construction Engineering	Medical	Personal Care	Printing	Surface Coatings	Surface Joining
Uses chemical inventory	3/3	3/3	1/1	2/2	2/2	3/3	3/3	1/1
Separates hazardous from non-hazardous	1/3	0/3	1/1	2/2	1/2	2/3	2/3	1/1
Settles particulates from liquid effluent	2/3	1/3	1/1	1/2	1/2	N/A	3/3	0/1
At least ISO 9000 accredited	3/3	3/3	1/1	1/2	2/2	2/3	2/3	0/1
Continuous refresher training courses for site staff	2/3	3/3	1/1	2/2	2/2	2/3	3/3	1/1
Reconditioning of failed batches to reduce waste	1/3	1/3	1/1	N/A	2/2	0/3	2/3	N/A
Recycling of packaging material	2/3	1/2	1/1	2/2	2/2	2/3	2/3	1/1
On-site monitoring of raw material quality	3/3	2/3	1/1	1/2	2/2	3/3	2/3	1/1
On-site monitoring of product	3/3	2/3	1/1	2/2	2/2	2/3	2/3	1/1
Monitoring of effluent quality	2/3	3/3	1/1	1/2	2/2	1/2	1/3	1/1
Has documented emergency plans	2/3	3/3	0/1	2/2	2/2	3/3	3/3	1/1



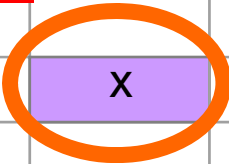
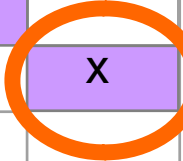
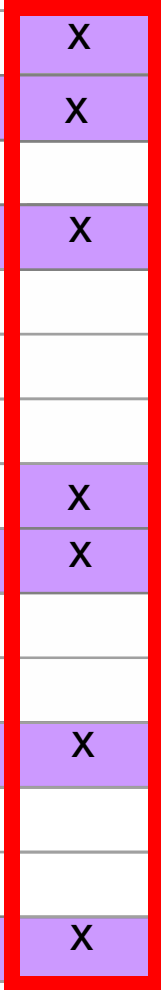


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# PROCESS FLOW OF THE PROJECT



COMPANIES	SUB-SECTORS							
	Automotive	Cleaning	Construction Engineering	Medical	Personal Care	Printing	Surface Coatings	Surface Joining
Coating company A							X	
Cleaning company A		X						
Multiple company A	X	X						
Printing company A						X		
Multiple company B	X	X						
Pharmaceutical company A								
Pharmaceutical company B								
Hygiene company A				X	X			
Cleaning company B		X		X				
Multiple company C	X	X						
Coating company B							X	
Coating company C							X	
Multiple company D	X	X						
Printing company B						X	X	
Surface joining company A								X
Automotive company E	X	X				X		
Printing company C						X		
Construction company A			X					
Hygiene company B					X			





# ALIGNMENT WITH THE WESTERN CAPE PROVINCIAL HWMP



- In this study, the feedback received from the participating companies served as the primary source of input in developing the generic waste management planning guideline.
- Hazardous Waste Management Plan for the Western Cape Province (DEA&DP, 2006) the strategic goal read as follows:
  - *“ To ensure the safe and integrated management of hazardous waste in the Western Cape through integrated sustainable hazardous waste management planning.”*





# AIM OF THE GUIDELINE



- To encourage and assist the consumer formulated chemical sector with integrated waste planning & drafting of their plans.
- To improve waste management in order to reduce the impact on the rural and urban poor.
- This initiative forms part of an attempt to address the many urban environmental challenges in South Africa and improve the quality of the environment and the quality of life of the poor and vulnerable.





# ELEMENTS OF THE PLAN



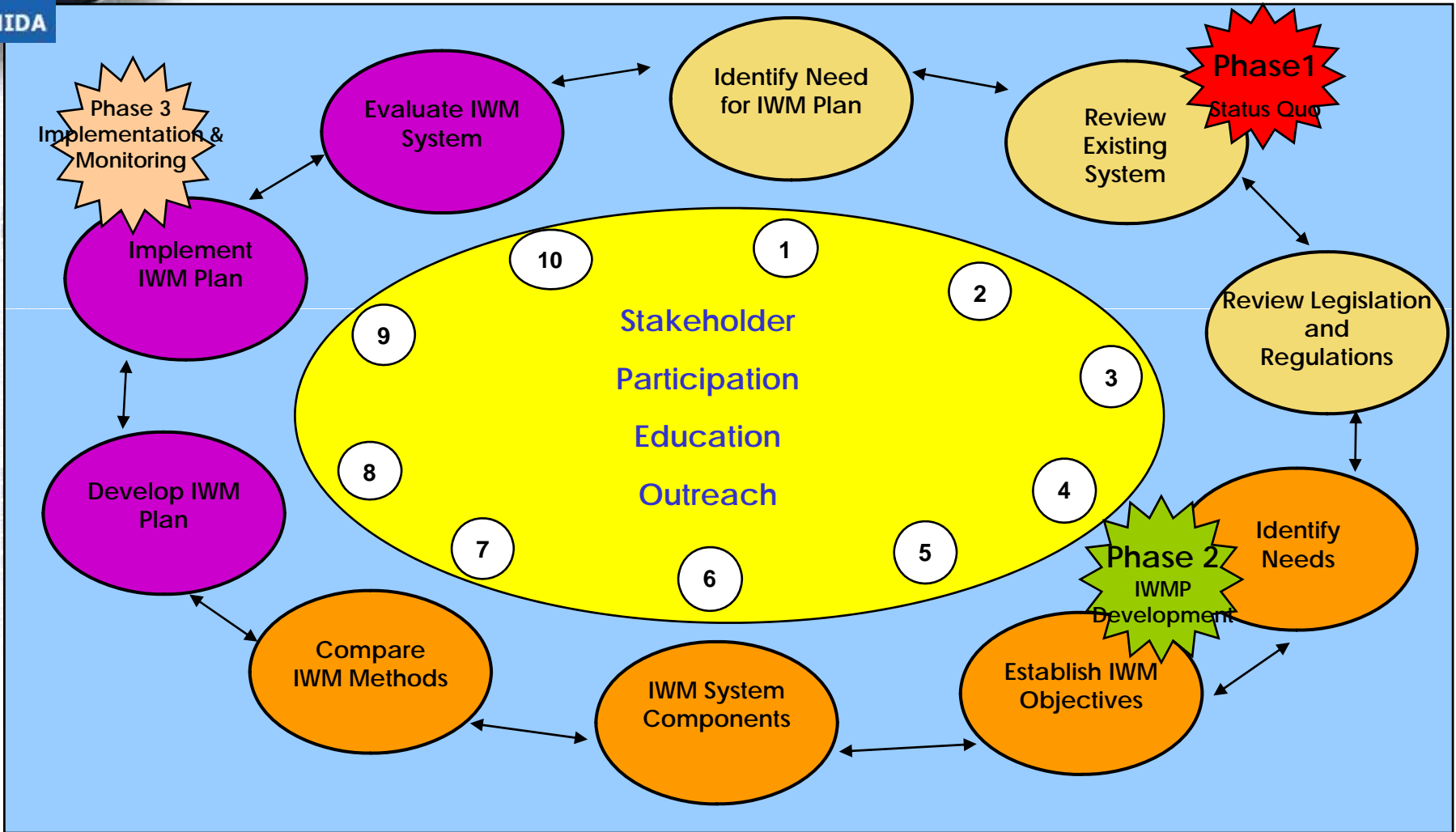
- Status Quo.
- Classification of chemicals.
- Handling.
- Storage & packaging.
- Transportation & Transferring.
- Processing.
- Mixing / Blending.
- Disposal.



# INTEGRATED WASTE MANAGEMENT PLANNING CYCLE



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# BENEFITS TO INDUSTRY



- Waste reduction.
- Better yields and efficiencies.
- Cost savings.
- Less environmental impacts.
- Greater worker safety.
- Minimise the impacts on the vulnerable surrounding communities.
- Create awareness wrt waste management.
- Empower workers.





# STRATEGIC LINKAGES



- This project support:
  - **Strategic Objective:**
    - To provide integrated and holistic environmental management to improve the quality of the life all people in the Western Cape.
  - **Key Measurable Objective:**
    - Mainstream integrated waste management planning within the consumer formulated chemical sector.
    - Promote sound integrated waste management within the Western Cape province.





# LINKAGES WITH SPHERES OF GOVERNANCE



- **National:**

- Use our generic guideline to inform the development of the National Guideline for the CFC sector.
- Assist – implementation of international conventions such as the Basel Convention.
- National – implementation of incentive program and the development of industry waste management plans.

- **Provincial:**

- Focus on the safe and responsible management of chemicals work done within the sector, by the Directorate: Pollution Management, within the Department.
- Focus is upstream, while Directorate: Waste Management focus on down stream activities.



# LINKAGES WITH SPHERES OF GOVERNANCE cont...



- **Municipal/Local:**

- Industry facilities - well manage and can assist in addressing municipal IWMP objectives and targets.
- Application of municipal by-laws by City of Cape Town to measure effluent discharged to the sewerage and storm water management system.
- Address safe and sound chemicals management within industry.
- Focus on implementation of waste management practices.





# SUSTAINABLE IMPLEMENTATION

- Project can be replicated and implemented on a sustainable manner anywhere.
- Content was used to inform the draft national guidelines.
- Can be applied to other sectors.
- Guideline – assist industry to develop their facility specific industry waste management plans.





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# VALUE ADDED TO THE INSTITUTION

- SQ - allow – pin point areas of concern to be addressed in terms of general and specific.
- Build-up knowledge base.
- Staff exposed to various facilities, practices & processes applied within the facilities.
- Obtain in-depth knowledge of role-players in the sector.
- Allow us to establish networks within facilities in this sector - our objective and legislative requirements.
- To ensure that these requirements can be practically implemented into operational challenges, personal cost and constraints.
- Help us when we assess industry waste management plan because of increased knowledge gained.





# CHALLENGES



- High staff turnover, no dedicated project manager to take the process further.
  - Late last year, staff on-board – conducted workshop with the consumer formulated chemical sector.
  - The generic guideline to municipal integrated waste management training could not be revised for the CFCS.
- No legislative requirement, requesting the development of the CFCS plans, but request to NWMS.
- Overcome these challenges – linkages to CMAP (upstream) while CFCS (downstream).





# CHALLENGES cont...



- Modify the municipal guideline for the CFCS.
- Workshop the guideline document.
- Huge and divers sector.
- SMME`s (Small Medium Enterprises) – resource constrained ito staff and funds hampering the development of their plans.
- Waste Act,(59/2008)- development is voluntary.
  - Minister / MEC – identify sectors to develop CFCS facility plans.
  - Dept depend on industry to develop their facility plans.
  - If industry don't develop plans – develop regulations to make it mandatory to develop and submit their plans.





# LESSIONS LEARNED



- Capacity building process for young/inexperienced staff members.
  - Effects of these chemicals – environment, humans etc.
- Guideline allow industry to be more focus on what is expected from them – compliance, financial contributions, staff training etc.





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**THANK YOU**



**ANY BURNING  
CONCERNS**

August Hoon; Phone: 021 483 2712;

Email: [iwmp@pgwc.gov.za](mailto:iwmp@pgwc.gov.za) or [ahoon@pgwc.gov.za](mailto:ahoon@pgwc.gov.za)