

DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

NO. 6114

11 April 2025

**NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008
(ACT NO. 59 OF 2008)**

CONSULTATION ON THE DRAFT STRATEGY RELATING TO THE DESIGN OF PRODUCT LIFE CYCLE, RE-USE, CONTROLS, AND DISPOSAL OF ABSORBENT HYGIENIC PRODUCTS

I, Dion Travers George, Minister of Forestry, Fisheries and the Environment, hereby in terms of section 24 of the Constitution of the Republic of South Africa, 1996, read together with sections 72 and 73 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), give notice of my intention to develop the Strategy relating to the design of product life cycle, re-use, control, and disposal of absorbent hygienic products (AHP), as set out in the Schedule hereto.

The demand for diapers and other absorbent hygienic products continues to grow in South Africa. AHPs are widely used for feminine hygiene and baby care, as well as by senior citizens experiencing incontinence. Currently, used AHPs are typically disposed of in landfills or released into the environment, with little focus on recycling and reuse of their materials by waste management operators and AHP suppliers. Improper disposal of AHPs poses risks to safety, health, and the environment, especially when discarded improperly, resulting in environmental pollution. This is common in rural and informal communities lacking formal waste management systems.

Although recycling AHPs was previously uneconomical due to their minimal material worth, there are now biodegradable materials, reusable diapers, and proven treatment technologies that could help address the AHP waste problem. However, addressing these issues require collaboration among public and private sectors, academia, consumers, and civil society, hence the development of this draft Strategy.

Members of the public are invited to submit, within 30 days from the date of publication of this notice in the *Government Gazette*, or in a national newspaper, whichever date comes last, written representations or objections to the draft Strategy to any of the following addresses:

By post to: The Director General: Department of Forestry, Fisheries and the Environment
Attention: Mr Jeremia Sibande
Acting Director: Waste and Chemicals Policy and Information Management
Private Bag X447
PRETORIA
0001

By hand at: Ground Floor (Reception), Environment House, 473 Steve Biko Road, Arcadia, Pretoria, 0001.

By email: jsibande@dfpe.gov.za

Any inquiries in connection with this notice can be directed to Mr Jeremia Sibande at jsibande@dffe.gov.za. at (012) 399 9832/067 417 3844.

The draft Strategy can be accessed at <http://sawic.environment.gov.za/> under "Draft documents for comment".

The Department of Forestry, Fisheries and the Environment complies with the Protection of Personal Information Act, 2013 (Act No. 4 of 2013). Comments received and responses thereto will be included in a comments and response report which may be made available to the public. If a commenting party has any objection to his or her name, or the name of the represented company/organization, being made publicly available in any comments and responses report, such objection should be highlighted as part of the comments submitted.

Comments received after the closing date may not be considered.



DR DION TRAVERS GEORGE, MP

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

SCHEDULE

**DRAFT STRATEGY RELATING TO THE DESIGN
OF PRODUCT LIFE CYCLE, RE-USE,
CONTROLS, AND DISPOSAL OF ABSORBENT
HYGIENIC PRODUCTS 2025**



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ABBREVIATIONS

| | | |
|-----------------|---|---|
| AHP | : | Absorbent Hygienic Product |
| CO ₂ | : | Carbon dioxide |
| COGTA | : | Department of Co-Operative Governance and Traditional Affairs |
| CSIR | : | Council for Scientific and Industrial Research |
| CV | : | Calorific Value (measured in Joules) |
| DFFE | : | Department of Forestry, Fisheries and Environment |
| DOH | : | Department of Health |
| DPME | : | Department of Performance Monitoring & Evaluation |
| DSI | : | Department of Science and Innovation |
| DTIC | : | Department of Trade, Industry and Competition |
| EIA | : | Environmental Impact Assessment |
| EMPr | : | Environmental Management Programme |
| EPR | : | Extended Producer Responsibility |
| FHP | : | Feminine Hygienic Products |
| GDP | : | Gross Domestic Product |
| GEF | : | Global Environmental Facility |
| HEI | : | Higher Education Institution |
| I&APs | : | Interested and affected parties |
| kg | : | Kilogram (= 1000grams) |
| LCC | : | Lindon Consulting Corporation Pty Ltd |
| LM | : | Local Municipality |
| MRF | : | Material Recovery Facility |
| MSW | : | Municipal Solid Waste |
| NDP | : | National Development Plan |
| NEMA | : | National Environmental Management Act, 1998 (Act No. 107 of 1998) |
| NEM:WA | : | National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) |
| NGO | : | Non-Government Organisation |
| NPO | : | Non-Profit Organisation |
| NWMS | : | National Waste Management Strategy |
| PFAN | : | Private Financing Advisory Network |
| PPP | : | Public Private Partnership |
| PRO | : | Producer Responsible Organisation |
| R&D | : | Research & Development |
| RDF | : | Refuse Derived Fuel |
| SA | : | South Africa/African |
| SABS | : | South African Bureau of Standards |
| SANS | : | South African National Standards |
| SAP | : | Super Absorbent Polyacrylate/Polymer |
| S@S | : | Separation at source |

| | | |
|--------|---|---|
| SAWIC | : | South African Waste Information Centre |
| SDG | : | Sustainable Development Goal |
| SEMAAs | : | Specific Environmental Management Acts |
| SMART | : | Specific, Measurable, Achievable, Relevant and Time-Bound |
| TOPS | : | Threatened Or Protected Species |
| tpa | : | Tons per annum |
| WtE | : | Waste to Energy |

1. BACKGROUND

Ever since Procter & Gamble first produced *Pampers* in 1961, the popularity of diapers and AHPs in general has grown steadily. AHPs provide a convenient, less unpleasant, better hygiene solution for users than the conventional alternatives. Demand for AHPs has grown with the increase in population, the rise of the two-salary households, which increased disposable incomes, but which gave people less time for domestic chores, and the emergence of a throw-away culture. Demand is not only for infant diapers and feminine hygiene products. Diaper use by the elderly is growing rapidly with an increase in incontinence amongst those who live longer.

Currently, the majority of AHP waste in most countries, including South Africa, is disposed to landfill or dumped in the environment, with little effort being made, by both waste management operators or suppliers of AHPs, towards diversion and recovery of raw materials.

Apart from consuming air space in registered landfill for a very long time, the other issue with AHPs (and similar residual waste streams) is the safety, health and environmental impacts that AHPs cause when disposed into unlined landfill or dumped into the environment such as in bushes, at roadsides, in open fields and near fresh water sources. This disposal method is becoming an increasing trend in rural and informal settlements, where there are generally no proper waste management systems in place or due to traditional practices regarding disposal of materials with human waste or blood.

Due to the low value of the materials as well as the low value to weight ratio of post-consumer AHPs, the collection, transportation and treatment/recycling of AHP waste have, in the past, been uneconomical. However, bio-degradable materials, re-usable diapers and proven treatment technologies are now available and could have a net positive effect on the AHP waste problem. However, success in overcoming the AHP waste problem requires the joint efforts of a range of stakeholders including the public and private sectors, academia and civil society, consumers, *inter alia*.

DFFE commissioned Lindon Consulting Corporation (LCC) to assess and develop a Strategy relating to the design of product life cycle, re-use, controls, and disposal of AHPs.

The Scope of the Study and Phases of the project are shown in the figure below:



2. STAKEHOLDER ENGAGEMENT PROCESS

In person and online workshops with public and private sectors were held in all provinces. The aim of these sessions was to obtain credible and grass-root information from key stakeholders directly responsible for AHPs and AHP waste. These sessions were also used to share ideas and thoughts on the draft Strategy.

3. STATEMENT OF THE PROBLEM

Despite having a national policy in South Africa that promotes the waste hierarchy of reuse, recycle and recovery before disposal, most of the waste continues to be disposed to landfill (and into open fields), with little regard (or ability) to transition to more sustainable waste management practices and alternate waste treatment technologies. There are tremendous socio-economic opportunities and environmental benefits that can be unlocked when waste is redefined as a resource instead of as a nuisance.

The problems associated with the management of AHP waste are well documented, and include:

- i. Even though AHPs are problem waste, consumers continue to dispose of them into general waste destined to landfill, which is still regarded as the most cost-effective “technical” solution by most municipalities.
- ii. Due to their functional requirements for water proofing, liquid retention and comfort, AHPs are designed and assembled using a variety of durable and waterproof materials that take between 200 to 500 years to decompose once disposed at landfills.
- iii. The rise in demand for AHPs increases the demand for virgin raw materials and increases the emission of pollutants during manufacturing and landfilling.
- iv. Design of AHPs currently does not take environmental impacts, S@S and treatment into account.
- v. The potential health risks, hygiene concerns and unpleasant odours of soiled AHPs compel consumers to dispose them immediately.
- vi. Documented research has indicated that the disposal of AHPs (especially feminine hygienic products) in some African communities is influenced by cultural beliefs and superstition where some communities continue to bury, burn or throw AHPs into rivers.
- vii. Exposure to waste AHPs pose a health risk, especially to waste pickers. A number of pathogens are present in human excreta and blood contained within AHPs.
- viii. AHPs are considered a low-risk Health Care Waste (HCW), even though they contain organic waste, sewage sludge, plastic and a Super Absorbent Polymer (SAP), all with known environmental and health impacts.
- ix. Recycling of AHPs is a complex and expensive process requiring collection, transportation, energy, chemicals and mechanical equipment.
- x. There are few market outlets for AHP recovered materials due to the risk of cross contamination.

- xi. AHPs lock in airspace permanently at landfills. At R200 to R500 per ton for current (2023) landfill disposal fees, the loss in future revenue because of this “unsaleable” airspace runs into billions of rands.
- xii. Currently, there is very little effort being made, by both waste management operators or suppliers of AHPs, towards consumer education, diversion and recovery of AHP raw materials.
- xiii. Due to the low value to weight ratio of AHPs, the collection and transportation of AHPs over long distances or across the province is uneconomic.
- xiv. The choice of raw materials and the producers of AHPs do not consider sustainable disposal during research and design, such as faster decomposition or recycling.

The other pressing issue with AHPs is the safety, health and environmental impacts that these risks pose to unlined landfills or in open spaces. The practice of indiscriminate disposal is prevalent especially in rural areas and informal urban settlements, where there are no alternate waste disposal options available.

4. QUANTIFYING AHP WASTE

Estimates from the market suggest that approximately 3 billion diaper units are sold in South Africa each year. Puig and González (2009) weighed a wet diaper as being approximately 210 grams. Using this estimate, we can calculate that approximately 630 thousand tons of wet diapers are disposed each year in South Africa.

To give a better estimate of all AHP waste in South Africa, the number of infants, menstruating females and elderly that would be using AHPs over a certain period of time in their lives were estimated from South African population statistics.

A baby uses 4 000 to 6 000 nappies¹ on average before being toilet trained by the age of two and a half years. This is equivalent to 840 – 1 260 kg of waste AHP per infant (note: the weight includes the human waste aspect as well).

A menstruating female individual (typically between the ages of 9 to 51) uses approximately 19 656 sanitary pads in her lifetime, equivalent to approximately 687 kg of waste AHP.

¹ Assuming a baby used between 5.5 – 8 nappies per day over two years.

An adult (aged 65+) that suffers from incontinence will generate approximately 467 kg of diaper waste before death; and as life expectancy is increasing, more adult diapers will be used.

Based on calculations, it was concluded that the tonnage of soiled AHP disposed annually is closer to 900,000 tons per annum in South Africa. Since post-consumer AHP consists of two-thirds liquid and solid waste and one third of dry raw materials, the tonnage of AHP waste equates to about 300,000 tons per annum of dry raw materials with some economic value.

5. RATIONALE FOR THE STRATEGY

The use of sustainable or compostable materials, alternate design options and diversion of waste AHP from landfill (and from open fields) and into some form of treatment process provide several benefits to various stakeholder groups, specifically because:

- Producers of AHPs are under increasing pressure from consumers and legislators to implement or fund programmes to manage their post-consumer waste. Furthermore, producers of AHPs dispose of hundreds of tons of production waste each month, incurring high disposal costs due to storage and transportation to landfill.
- The AHP products are excluded from the listed products in the Extended Producer Responsibility Notices. Therefore, producers of AHP products are currently not implementing an EPR scheme and paying EPR levy. The producers are ready to participate in an EPR to reduce the disposal and reputational costs associated with AHP waste. AHP producers would benefit financially and reputationally if they send their production waste to an AHP recycling plant and participate in post-consumer collection and recycling activities.
- Industrialists are under increasing pressure to reduce energy consumption (and costs) and their CO₂ emissions. Businesses that operate fossil-fuel boilers and kilns are particularly hard pressed due to rising fossil fuel costs, greenhouse gas (GHG) emission reduction targets and stakeholder objections to fossil-fuel boilers. Industrialists would benefit from converting or replacing part or all their fossil fuel with Refuse Derived Fuels (RDFs) derived from AHPs which will be relatively cleaner.

- **Municipalities:** With no current solution to the problem of AHP waste, municipalities are forced to send a potentially valuable (and bio-hazardous) waste stream to general landfill where it occupies landfill airspace for at least 300 years. AHPs make up to 6% of municipal solid waste (MSW). By separating and diverting waste AHPs away from landfill and into processing plants, municipalities will, in effect, extend the life of landfills, delay investment in new landfill and prevent long-term environmental damage. Municipalities also experienced blocked drains, damaged pumps and compromised stormwater systems, leading to expensive repairs and maintenance, as a result of the disposal of AHPs in the environment, which ends up in stormwater systems.
- **Private recyclers** could capitalise on the economic opportunity of processing waste AHPs into usable raw materials and RDFs.
- **Economy:** The diversion of AHP waste to processing plants would create jobs (as many as 400 per region including collection and sorting), create and support small enterprises in the waste value chain, generate taxes and contribute to the national Gross Domestic Product (GDP).
- **Environment:** The collection and processing of AHP waste would reduce the leaching of contents and contaminants contained within AHPs, especially when disposed into the natural environment. Furthermore, there are other compatible and comparable residual waste, for which there are currently no solutions except landfill. These residual waste streams include low grade and contaminated plastics and multi-laminate (N#7) waste such as soap powder packaging, dog food packaging, chips packets, etc. These could be combined with waste AHP to increase the overall calorific value (CV) or energy value of a AHP derived RDF.
- **Consumers:** Participation in AHP collection and recycling programmes provide consumers with the satisfaction that they are helping protect the environment. However, a financial incentive and a robust collection system needs to be considered to encourage support for recycling programmes. Additionally, there is a need for a national campaign to raise awareness of the negative effects of AHPs, the alternative disposal options available to consumers and the need to rinse off human solid waste from diapers (to ensure such waste is disposed correctly in the sewer system) before forwarding for recycling. Solutions would need to consider

the current cost of living crisis, water supply and sanitation challenges experienced by many South Africans.

6. ALIGNMENT WITH CURRENT POLICIES AND OBJECTIVES

Sustainable management of waste AHP is linked to, and supportive of, several government policies and objectives such as:

6.1 National Waste Management Strategy

The objects of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), the Norms and Standards and associated Regulations are structured around the steps in the waste management hierarchy, which is the overall approach that informs waste management in South Africa. Therefore, the AHP waste management strategy follows the waste management hierarchy approach.

The waste management hierarchy can and should be applied to for the disposal of AHPs by adopting processes during the lifecycle of AHPs, arranged in descending order of priority. All stakeholders must apply the waste management hierarchy in making decisions on how to manage AHP waste.

The foundation of the hierarchy, and the first choice of measures in AHP waste management, is avoidance and reduction. This step aims for AHP to be designed in a manner that minimises their waste components. Also, the reduction of the quantity and toxicity of AHP waste generated during the production process is important, as well as reducing the carbon footprint during the manufacturing process.

The next stage of the hierarchy is re-using AHP waste. Re-using an AHP article removes it from the waste stream for use in a similar or different purpose without changing its form or properties. After re-use comes the recycling of AHP waste, which involves separating components from the waste stream and processing them as products or raw materials.

These first four stages of the AHP waste management hierarchy are the foundation of the cradle-to-cradle AHP waste management philosophy. This approach seeks to re-use or recycle AHP when it reaches the end of its life span. In this way, it becomes inputs for new products and materials. This cycle repeats itself until as small a portion

as possible of the original AHP eventually enters the next level of the waste management hierarchy, namely recovery.

Recovery involves reclaiming particular components or materials or using the waste as a fuel.

As a last resort, AHP waste enters the lowest level of the hierarchy to be treated and / or disposed of, depending on the safest manner for its final disposal.

Where the quantity of AHP waste cannot be reduced during production, the purpose of implementing the waste management hierarchy is to use waste as a resource and divert these potential resources from landfill. Although landfill is widely considered the most affordable way to manage AHP waste, this view does not take into account factors such as the environmental impacts of landfills; the costs of developing and maintaining additional landfill capacity to accommodate the increasing rate of waste disposal; and the cost of closing and remediating the landfill.

[adapted from NWMS/ <http://wastepolicy.environment.gov.za/>]

6.2 National Sustainability Objectives

The proper management of waste AHP is supportive of the Sustainable Development Goals (SDGs), particularly:

- *SDG 3 : Good Health and Well-being*
- *SDG 4 : Quality Education*
- *SDG 6 : Clean Water and Sanitation*
- *SDG 11 : Sustainable Cities and Communities*
- *SDG 12 : Responsible Consumption and Production*
- *SDG 14 : Life Below Water, and*
- *SDG 15 : Life on Land*

Additionally, better management of waste AHP is aligned to South Africa's National Development Plan 2030 (NDP), in particular its *Objective 6, Chapter 5: Environmental Sustainability and Resilience*.

Issues contained in the NDP that are relevant to this Study include:

- (a) A global drive for compliance on environmental standards which, while it will have cost implications, it will drive innovation, reduce waste, improve energy efficiency and promote new investment;
- (b) Consumer awareness initiatives and sufficient recycling infrastructure resulting in South Africa becoming a zero-waste society;
- (c) Investment in consumer awareness, green product design, recycling infrastructure and waste to-energy projects resulting in significant strides to becoming a zero-waste society;
- (d) As per the National Waste Management Strategy (NWMS), implementing a waste-management system through the rapid expansion of recycling infrastructure, and encouraging the composting of organic domestic waste will bolster economic activity, particularly in poor urban communities;
- (e) Waste makes up two percent of emissions and South Africa will cut down on solid-waste disposal through composting and recycling of organic waste, and running countrywide programmes to capture land-fill gas methane; and
- (f) Introduce measures such as stepped tariffs and targeted penalties that would eliminate waste going to landfill;

6.3 Applicable Environmental legislative framework

The collection, transportation, storage and processing of AHPs must be in line with the Constitution of the Republic of South Africa, 1996, the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the various other applicable Specific Environmental Management Acts (SEMA), notably the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA), as well as the National Waste Management Strategy 2020. Relevant municipal bylaws will also be applicable.

Table 6.1: Applicable Environmental Legislations and Relevance to Project

| No. | Legislation | Environmental Aspect |
|-----|---|--|
| 1. | Constitution of the Republic of South Africa, 1996 | Environmental rights of the I&APs |
| 2. | National Environmental Management Act, 1998 (Act No. 107 of 1998); (NEMA) | Duty of care; reasonable measures; reporting of incidents; protection of workers; environmental whistleblowers; private prosecution; criminal proceedings; fines; EIA regulations for AHP waste plants |

| No. | Legislation | Environmental Aspect |
|-----|--|---|
| 3. | Environmental Conservation Act, 1989 (Act No. 73 of 1989) | Establishment of waste sites; littering |
| 4. | National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004); | Threatened or protected species (TOPS) of plants and animals |
| 5. | National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA) | Waste generation, storage and disposal |
| 6. | National Water Act, 1998 (Act No. 36 of 1998); | Watercourses (rivers, wetlands, etc.); water use |
| 7. | Hazardous Substances Act, 1973 (Act No. 15 of 1973) | Hazardous substances and chemicals |
| 8. | Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965); | Vehicle and machinery emissions |
| 9. | National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004); | Emissions include dust |
| 10. | National Forest Act, 1998 (Act No. 84 of 1998) | Indigenous and protected trees affected by construction of infrastructure for AHP waste plants |
| 11. | National Heritage Resources Act, 1999 (Act No. 25 of 1999) | AHP facilities near or interfering with structures older than 60 years, archaeological (human remains, wrecks, rock art, artefacts of military history older than 75 years) or paleontological (fossil remains of animals or plants) or any meteorite or graves |
| 12. | Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947) | Use of herbicides and pesticides at AHP facilities |
| 13. | The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983); | Soil erosion; spreading of weeds (alien invasive plants) at AHP facilities |
| 14. | Advertising on Roads and Ribbon Development Act, 1940 (Act No. 21 of 1940) | Litter along public roads |

| No. | Legislation | Environmental Aspect |
|-----|--|---|
| 15. | National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977) | Erection of buildings; building standards |
| 16. | Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) | Safety of workers and the public at AHP facilities |
| 17. | Fencing Act, 1963 (Act No. 31 of 1963) | Accessing properties; fences; farm gates for the collection of AHP waste from open areas |
| 18. | Public Finance Management Act, 1999 (Act No. 01 of 1999) | Fruitless, wasteful, and irregular expenditure arising from environmental incidents or non-compliance to Environmental Authorisation EA or the Environmental Management Programme (EMPr) for AHP facilities |

The management of waste AHPs may be further governed by other various national, and provincial ordinances, including municipal bylaws.

6.4 Applicable Standards

The Sanitary Dignity Policy Framework, 2017

Paragraph 8.9 of the Sanitary Dignity Policy Framework, 2017, which is about Sanitary waste disposal, provides some basic guidelines on the disposal of Feminine Hygienic Products (FHP, which calls for the education of users on the safe disposal of used sanitary pads and that sanitary pads may be disposed of as part of the municipal waste management strategy.

In areas where municipal waste disposal services are limited or unavailable, it is recommended that sanitary waste be disposed at a municipal dump site by means of deep burial, composting, pit burning or incineration, provided the necessary approvals have been obtained.

SANS 8841 of 2019

The Disposable diapers for infants Standard, while specifying requirements for the manufacture of disposable diapers for infants, has little to no guidelines on the disposal of used diapers.

Non-compliance of relevant legislation, Regulations and Standards could lead to costly delays, legal and financial risks, as well as health risks for all those involved in the AHP value chain.

7. STRATEGY FRAMEWORK

7.1 Proposed Vision

Within 15 years (i.e. between 2025 and 2040), 100% of AHPs will be biodegradable and/or compostable and all forms of AHP waste in South Africa will be diverted from the natural environment and incorporated into an appropriate material recovery solution.

7.2 Proposed Mission

Rethink, Reduce, Re-design, Recover, Recycle and Re-circulate AHPs in the South African economy.

7.3 Proposed Objectives

Rethink,

- Policy changes around classification, stockpiling and transportation of AHP waste
- AHP Waste as an economic resource
- Rural-urban dynamics in AHP waste management
- Funding initiatives

Reduce,

- AHP waste disposed into the natural systems,
- Single-use AHPs, and
- AHP waste disposed to landfill

Re-design,

- Using bio-degradable materials,
- AHPs into re-usable (outer) and disposable (inner) components, and
- For cost-effective treatment and recovery of raw materials

Recover through,

- S@S and collection programmes,
- Extraction at material recovery facilities, and
- Centralised consumer disposal and collection points

Recycle,

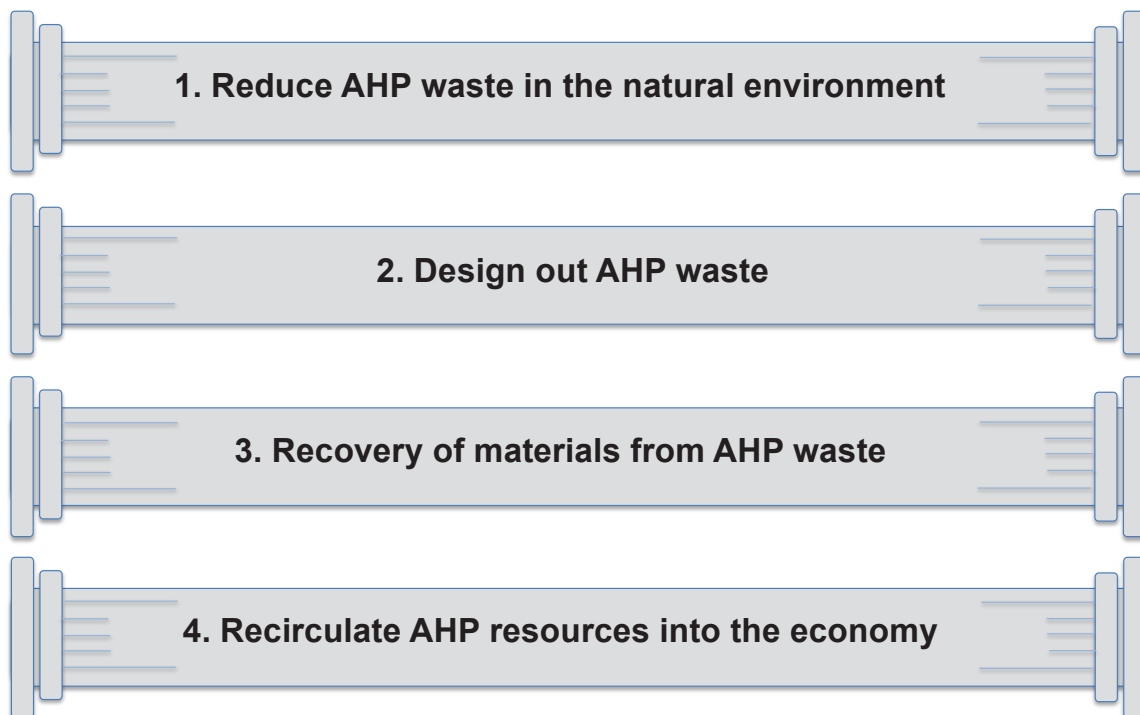
- Using sustainable and cost-effective technology, and
- Into materials with some economic value

Re-Circulate by,

- Setting standards for recycled materials, and
- Creating market demand

8. STRATEGIC INTERVENTIONS

The following FOUR strategic interventions or key performance areas are proposed to realise the vision and objectives of the Strategy:



8.1 Strategic Pillar 1 - Reduce AHP waste

KPA 8.1.1: Consumers/users (with a focus on those in areas where waste collection systems are non-existent or problematic) are educated and programmes are implemented to collect AHP waste for responsible disposal to landfill

KPI and milestones:

- 2025²: Commence with national awareness campaigns about the risks of disposing AHP in the natural environment and start with clean-up of AHP (and other domestic waste) in pilot rural and informal settlements and dispose to local modular treatment facility or to nearby approved landfill. Establish partnerships with relevant NGOs and private sector working in this space.
- 2025 - 2040: Roll-out of long-term sustainable disposal and collection solutions in rural and informal settlements, e.g. skips, concrete bins, and regular emptying of these.
- 2035: 50% roll-out of long-term sustainable disposal and collection solutions in rural and informal settlements.
- 2040: 100% roll-out of long-term sustainable disposal and collection solutions in rural and informal settlements.

Overall timeframe:

2025 to 2040

Responsible stakeholders:

Relevant regulatory authorities, DFFE, AHP Producers and PROs, rural/informal consumers, local waste management authorities.

KPA 8.1.2: Reduce single-use AHP

KPI and milestones:

- 2025-7: National public awareness campaigns on sustainable use of single-use AHPs (e.g. keeping them on for a longer period or less frequent changes).

² Targets should be met by the end year given.

- 2025: Study on the economics, life-cycle costs, benefits and risks of re-usable AHPs, etc.
- 2026-7: Set standards for re-usable (cloth) AHP materials. Standards to include recyclability percentage, bio-degradability rate, compost-ability rate, price levels, quality standards and hygienic cleaning requirements.
- 2028 - 2040: Government procurement of sustainable and/or re-usable AHPs, e.g. issue of FHP for menstruating learners and diapers for infants and adults at public healthcare facilities, etc.

Overall timeframe:

2025 - 2040

Responsible stakeholders:

DFFE, Department of Health (DOH, Rural Planning & Development, DTIC, DW&S, Co-operative Governance and Traditional Affairs (COGTA, AHP Producers and PROs, and retail outlets.

| |
|--|
| 8.2 Strategic pillar 2 – Design out AHP waste |
|--|

KPA 8.2.1 Design and produce AHPs with reusable components

KPI and milestones:

- 2025: Private sectors commence with re-design/re-engineer of AHP with re-usable and washable components, e.g. outer covering
- 2030: At least 30% of AHP have reusable components
- 2040: At least 60% of AHP have reusable components

Overall timeframe:

2025 - 2040

Responsible stakeholders:

DFFE, Higher Education Institutions (HEIs), CSIR, and AHP Producers and PROs.

KPA 8.2.2 *Develop AHP raw materials with faster biodegradable or compostable rates (<5 years)*

KPI and milestones

2026: Collaboration between raw material producers, AHP assemblers and HEI and CSIR to develop bio-degradable or compost-able raw materials for use in AHP.

2030: At least 30% of AHP consist of materials that have faster biodegradable or compost-able rates, i.e. <5 years for complete breakdown.

2040: At least 60% of AHP consist of materials that have faster biodegradable or compost-able rates, <5 years for complete breakdown.

Overall timeframe:

2026 - 2040

Responsible stakeholders:

DFFE, Department of Science and Innovation (DSI), AHP Producers and PROs, HEI's, and CSIR.

KPA 8.2.3 *Design for easier and cost-effective S@S, drop-off and treatment of AHP*

KPI and milestones:

- 2026: Collaboration between raw material producers, AHP assemblers and HEI and CSIR to develop AHPs that are cost effective to treat and recover of raw materials.
- 2030: Develop a cost-effective technical solution to de-activate SAP and release locked-in liquids from the AHP waste.
- 2035: Design and prototype proprietary local technology to treat and recover AHP materials that have some economic value.
- 2026: Collaboration between producers and plastic packaging companies to design and produce cost-effective S@S solutions such as vermin-, odour-, pet and child-proof disposal bags and drop-off bins.

Timeframe:

2026 - 2030

Responsible stakeholders:

AHP Producers and PROs, CSIR (Material research unit), and HEIs.

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| 8.3 Strategic Pillar 3 – Recovery of materials from AHP waste: |
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KPA 8.3.1 (@S and collection programmes

KPI and milestones:

- 2026: Implement S@S through a bagging solution and drop-off programme
- 2026: Develop a network of stakeholders willing to accommodate AHP drop-off centres.
- 2026: Implement a weekly collection of AHP waste from households and/or drop-off centres.

KPA 8.3.2: Reduce AHP waste disposed to landfill

KPI and milestones:

- 2026: National public awareness campaigns on S@S and alternate disposal solutions for AHP waste
- 2026: 5% of SA's local government waste management operations have S@S, central drop-off and regular collection programmes for general consumer AHP waste. This includes extraction of AHP from material recovery facilities (MRFs); and sent to approved AHP treatment facilities.
- 2030: 20% of SA's local government waste management operations have S@S, central drop-off and regular collection programmes for general consumer AHP waste. This includes extraction from MRFs; and sent to approved AHP treatment facilities.
- 2035: 50% of SA's local government waste management operations have S@S, central drop-off and regular collection programmes for general consumer AHP waste. This includes extraction from MRFs and sent to approved AHP treatment facilities.
- 2040: 75%-100% of SA's local government waste management operations have S@S, central drop-off and regular collection programmes for general consumer AHP waste. This includes extraction from MRFs and sent to approved AHP treatment facilities.

Overall timeframe:

2026 to 2040

Responsible stakeholders:

Relevant regulatory authorities, DFFE, AHP Producers and PROs, rural/informal consumers, local waste management authorities

KPA 8.3.3: Small scale treatment and recovery of AHP materials

KPI and milestones:

- 2025-26: Assess options and procure small scale modular AHP treatment facilities for installation at centralised urban and rural locations.
- 2026: Commission small scale modular AHP treatment facilities at five major urban and rural locations.
- 2030 : Commission 20 additional small scale modular AHP treatment facilities at urban and rural locations
- 2035 Commission 20 additional small scale modular AHP treatment facilities at urban and rural locations
- 2040: Commission 20 additional small scale modular AHP treatment facilities at urban and rural locations

Overall timeframe:

2025 - 2040

Responsible stakeholders:

DFFE, Metros, LMs, private sector, and AHP Producers and PROs.

KPA 8.3.4: Large scale treatment and recovery of AHP materials

- 2028: Undertake a feasibility study for an industrial scale (40,000 tpa) AHP waste treatment plant.
- 2030: If feasible, implement an industrial scale (40,000 tpa) AHP waste treatment plant through a public-private-partnership (PPP) model at one metro with a large volume of AHP waste.

2035: If feasible, implement another industrial scale (40,000 tpa) AHP waste treatment plant through a PPP model at a second metro with a large volume of AHP waste.

2040: If feasible, implement another industrial scale (40,000 tpa) AHP waste treatment plant through a PPP model at a third metro with a large volume of AHP waste.

Overall Timeframe:

2028 - 2040

Responsible stakeholders:

Consumers, municipalities, DFFE (feasibility study), DTIC, CSIR, industrial plant operators (private sector), and AHP Producers and PROs.

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| 8.4 Strategic Pillar 4 – Re-circulate AHP resources back into the economy |
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KPA 8.4.1 Set standards for recycled AHP materials

KPI and milestones:

2026 - 2028: Establish the quality, technical standards and specifications (such as bacterial content, odour, moisture content, calorific value, pellet size, etc.) for AHP-derived recycled materials such as for plastic, wood fibres, SAP and RDF, etc.

Timeframe:

2026 – 2028

Responsible stakeholders:

DFFE, CSIR, South African Bureau of Standards (SABS), Market off-takers, and AHP Producers and PROs.

KPA 8.4.2 Create market off-take opportunities for AHP2RDF products

KPI and milestones:

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|-------|--|
| 2026: | Establish RDF fuel blending rates for boiler, kiln and waste to energy plant (WtE) operators |
| 2026: | 10% AHP derived RDF blended with fossil fuels such as coal in industrial applications, e.g. industrial boilers and kilns |
| 2028: | 20% AHP derived RDF blended with fossil fuels such as coal in industrial applications, e.g. industrial boilers and kilns |
| 2030: | 30% AHP derived RDF blended with fossil fuels such as coal in industrial applications, e.g. industrial boilers and kilns |
| 2040: | AHP derived RDF available to the general consumer as an alternate green energy source for heating, etc. |

Overall Timeframe:

2026 - 2040

Responsible stakeholders:

DFFE, CSIR, Retailers, private sector, and AHP Producers and PROs

9. FINANCING AND SUPPORTING THE STRATEGY

Funding of the AHP design and disposal Strategy interventions may be obtained from a number of sources such as:

- EPR levies. In the future, AHP producers and PROs should be required to integrate the management of AHP products into their operations and adhere to

published targets in the notice, as well as to establish an EPR Scheme for these products.

Other funding options that should be considered include:

- Carbon reduction grants, especially for RDF that could be a replacement for coal in industrial and consumer applications.
- Grants available for protection of clean water resources and catchments.
- Grants available for sustainable rural development.
- Grants available for indigent women/families to support with re-usable AHP.
- International grants, e.g. Global Environmental Facility (GEF, focused on environment, waste and climate issues).
- Private funding, e.g. from Private Funding Advisory Network (PFAN), focused on environment, waste and climate issues.

A programme for the local development and implementation of AHP treatment technologies as well as the verification of imported technologies should be initiated and headed by the likes of CSIR Waste RDI Roadmap, with support from local and international institutions and programmes such as:

- SABS
- Expertise France
- Expertise Holland (PUM)
- Senior Experten Service (SES), Germany

10. MONITORING AND EVALUATION FRAMEWORK

The overall development of the Strategy and targets is the responsibility of the DFFE with support from the Department of Performance, Monitoring and Evaluation (DPME).

Since the bulk of AHP waste is generated and its impacts are felt at the local level, it is imperative that local municipalities be co-opted as implementing and monitoring partners for the Strategy.

The targets proposed in this Strategy should become an integral part of the *National Waste Management Strategy*. Furthermore, a local municipality should incorporate the management of AHPs into its *Integrated Waste Management Strategy*. Finally, the

DFFE, should incorporate the targets mentioned in this Strategy, as well as the performance against the KPIs, in the annual *South Africa State of Waste Report*.

11. KEY SUCCESS FACTORS

The success of the AHP Design and Disposal Strategy would depend on a number of factors and approaches during its implementation:

- The implementation of the Strategy must be phased over a number of years to ensure that municipalities budget for and allocate resources for AHP management initiatives.
- Goals and targets set in the Municipal Integrated Waste Management Plans must be SMART, i.e. Specific, Measurable, Achievable, Relevant, and Time-Bound.
- Proposals and solutions must align with this Strategy and comply with the relevant regulations.
- Public awareness campaigns, with a specific focus on attitude and behaviour of AHP consumers, is a pre-requisite to change attitude towards AHP and current disposal practices.
- A robust collection, transport and storage system is a prerequisite and a pre-cursor to alternate AHP treatment.
- Market demand for recycled AHP material such as such as RDF, or plastics must be engaged, ready and willing.
- Access to sustainable finance, subsidies and grants.
- Establishment of national agency (under the jurisdiction of the DFFE), if one does not exist, responsible for the governance, monitoring and enforcement of requirements for the AHP Producers and PROs.
- Partnerships with key stakeholders, such as R&D, AHP Producers and PROs, NPOs and NGOs working in the AHP design and disposal space.
- The Strategy should become an integral part of the *National Waste Management Strategy*. Furthermore, a local municipality should incorporate the management of AHPs into its *Integrated Waste Management Strategy*. Finally, the DFFE, should incorporate the targets mentioned in this Strategy, as well as the performance against the KPIs, in the annual *South Africa State of Waste Report*

12. SUPPORTING INITIATIVES

12.1 National Communication Plan

A national communication strategy and plan for all media platforms to be developed and launched at the appropriate time. The Strategy would encompass:

- Messages to create awareness in society about AHPs and its negative environmental impacts.
- Posters, e.g. for schools and clinics, as well as on-air and on-line materials
- Integration into Municipal newsletters, billing statements, and local and national environmental and waste management awareness campaigns
- Partnerships with private, government and NGOs to assist with campaigns

12.2 Information Management

Provision or integration with the South African Waste Information Centre (SAWIC) to document AHP statistics, such as production volumes, disposal volumes, disposal points, S@S volumes, treatment volumes, volume of raw materials recovered, and treatment plant locations, challenges experienced, lessons learned, etc.