

Environmental Sustainability



AFROX's VISION FOR SAFETY, HEALTH, ENVIRONMENT AND QUALITY



AFROX
A Member of The Linde Group

Safety, Health, Environment and Quality (SHEQ) Policy.

The Linde Group will avoid harm to people, society and the environment while providing quality products and services to our customers.



Leading.

THE LINDE GROUP

Our principles:

- Safety, health, quality and care for the environment are foundational principles of our businesses.
- The safety and health of our colleagues, customers, business partners and communities in which we do business is our number one priority.
- Visible leadership and personal accountability for SHEQ, at all levels.
- SHEQ principles shall be reflected in 100% of our behaviour, 100% of the time.

Our vision:

- Zero incidents.
- Safe, secure and healthy working conditions for all who work with and for us.
- High quality, safe and environmentally responsible products and services that meet or exceed customer expectations.
- Responsible use of natural resources.
- Economic and environmental sustainability in everything we do.

Our commitment:

- Comply with applicable legal, regulatory, industry and corporate requirements.
- Design, construct and operate our facilities in a safe, secure, efficient and environmentally responsible way.
- Accountability and performance tracking against our SHEQ goals and targets.
- Work with our business partners and industry to actively promote and enforce compliance with this policy.
- Promote open communication with all stakeholders and sharing of SHEQ knowledge.
- Continuously improve our performance and actively manage risk in our business.
- Provide resources, training, equipment and other support to enable fulfilment of this policy.

This policy is integral to The Linde Group strategy and is periodically reviewed by the executive management board.



The executive management board is committed to the implementation of this SHEQ policy.

Professor Dr Wolfgang Reitzle

Professor Dr Aldo Bellani

Thomas Blades

Georg Dencke

Sanjiv Lamba

Brett Kimber MD

Munich, 18 April 2012 // Group Level, Version 2.0

“Accountability and performance tracking against our SHEQ goals and targets.”



ENVIRONMENTAL STRATEGY –

“To be LEADING in ENVIRONMENT”



	Strategic direction	What are we trying to achieve ?
Operations, Production, Distribution	Objectives and targets drive environment improvement	Use existing process improvements gained through operational efficiency to demonstrate improved environmental performance
Products and Services	Environmental benefits communicated in PSOs. Active support to improve customers' environmental performance	Gain business by marketing environmental benefits of products, services and applications
Culture and Communication	Employees demonstrate proactive environmental behaviours	Give employees belief that it is acceptable to employ environmental issues to improve business
Organisational Management Processes	Environmental considerations integrated into business processes and decision making	Provide tools and training for our employees to highlight opportunities to deliver business and environmental benefits

Responding to Customers

What information do our customers ask us for?



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Trends

Afrox Stakeholders expect decrease of environmental impact

Afrox consumption will increase with growth agenda

Challenge

Demonstrate and show environmental improvements with KPIs and targets

SWOT Analysis



STRENGTHS

- Legal Compliance
- ISO 14001 Accreditation at some sites
- Credit 360 – on-line tool for capturing environmental data
- SHEQ Roadmap – Environmental Component
- Linde Best Practices
- SHEQ Risk Assessment Tool

OPPORTUNITIES

- Government Funding for Energy Efficiency Initiatives
- Create and communicate a change imperative for environmental improvement targets – potential for Electricity, Waste, Water cost savings
- Increase level of Environmental Awareness
- Competitive Advantage & Investor Attractiveness

THREATS

- Carbon Tax 2015
- Electricity Tariff Increases
- Proposed Energy Regulations – Energy Management Plan's & Targets, Alignment to SANS 50001- best practice
- Stakeholders expectations with regards to carbon emissions

ENVIRONMENTAL PERFORMANCE IMPROVEMENT & PROJECT STREAMLINE COST SAVING OPPORTUNITY



Annual cost of water, electricity and waste is millions of rands

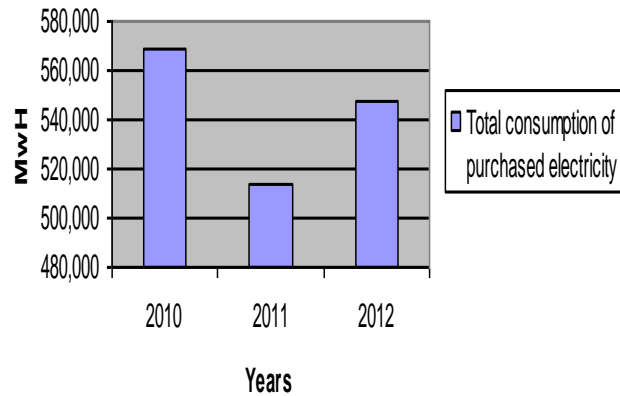
Opportunity to communicate and create a change imperative for the reduction of our environmental impact to -

- ü Reduce waste & use of natural resources;
- ü Contribute to Project Streamline objectives;
- ü Prepare for electricity tariff increases;
- ü Prepare for the carbon tax (expected in 2015);
- ü Meet stakeholders expectations – good Corporate Citizen - and
- ü Increase attractiveness of investors;
- ü Support our claim of being “Leading”;
- ü Create awareness of wasteful practices and
- ü Align employees proactive environmental behaviour.

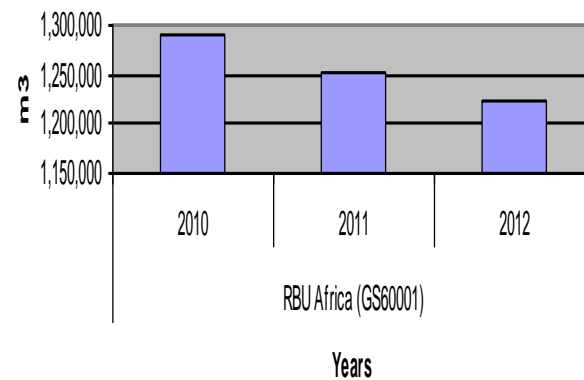
CURRENT CONSUMPTION IN KEY AREAS



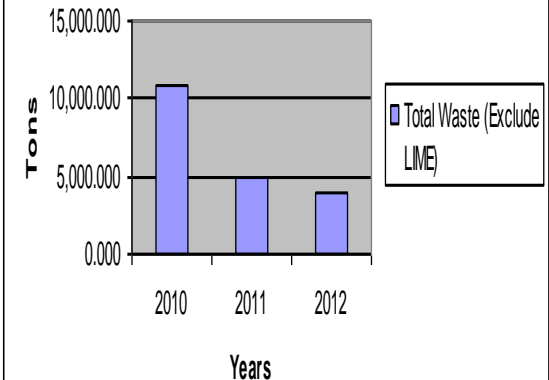
Total consumption of purchased electricity



Water Consumption(m³)



Total Waste (Exclude LIME)



- 9.7% decrease between 2010 and '11
- 6.5 % increase between 2011 and '12 due to new Pretoria ASU
- 2012 spend = R306M
- Top 20 sites = R 298M (97% of total spend)
- ASU plants =R253M (82% of total spend)

- 2.8% decrease between 2010 and '11
- 2.5% decrease between 2011 and '12
- 2012 spend = R10.6M
- Top 10 sites = R 8.5M (80% of total spend)
- ASU/CO2 plants =R6.5M (61% of total spend)

- 54% decrease between 2010 and '11
- 21% decrease between 2011 and '12
- 2012 spend = R4.65M



2013/2014 Action Plan:

- ✓ Define company objective & top 10 site reduction targets, and monitor regularly
- ✓ Consistent, streamlined company approach to Energy Management Systems
- ✓ Top 10 site energy audits, alignment to SANS 50001, Power factor corrections
- ✓ Government Funding – NCPC, DTI, Eskom IDM, IDC
- ✓ Build energy efficiency into new designs
- ✓ Reduce consumption campaign



2013/2014 Action Plan:

- ✓ Set company objective & top 10 site reduction targets, and monitor regularly
- ✓ Top 10 site water audits
- ✓ Build water efficiency into new designs eg. new sites
- ✓ Save Water campaign



2013/2014 Action Plan:

- ✓ Set company objective & site reduction targets, and monitor regularly
- ✓ Consolidate waste service providers – new national contracts
- ✓ Review purchasing processes to reduce waste
- ✓ De-list some hazardous wastes
- ✓ Reduce Waste campaign

EFFLUENT/WASTE WATER(new)



2013/2014 Action Plan:

- ✓ Set company objective & site reduction targets, and monitor regularly
- ✓ Effluent/waste water campaign

2013 ENVIRONMENTAL CAMPAIGN



Electricity/ Carbon Footprint "Switch off and Save"

Ideas:

- Mascot – Light bulb handout
- Posters
- Stickers for use at light switches, aircons, etc
- Ongoing communication of tips for use in office and home

Waste/ Carbon Footprint "Reduce-Reuse-Recycle"

Ideas:

- Mascot – SRD up-cycled bags handout
- "Consider before printing" in e-mails
- Photocopier initiatives
- Re-cycling initiatives
- Ongoing communication of tips

Water/ Carbon Footprint "Every drop counts"

Ideas:

- Mascot –recycled plastic bottle of water handout
- Posters
- Stickers for taps
- Rain water storage
- Ongoing communication of tips

MD's launch of campaign and competition to support Project Streamline, and GM addresses to launch sub-campaigns

Year end competition award ceremony celebrating the achievement of reaching targets, innovative ideas and savings

Environmental KPI's



Aspect	Impact	Objective & Targets	Responsible	When	Status
Energy management	Conservation of Resources	3% improvement in energy intensity in our air separation plant designs (relative to 2008 baseline)	Stephen Moran	2014	
		To reduce absolute electricity consumption against 2012 baseline	Stephen Moran	2014	
Water	Conservation of Resources	To reduce absolute water consumption against 2012 baseline	Stephen Moran	2014	
Waste	Conservation of Resources	To reduce absolute waste generation against 2012 baseline	Stephen Moran	2014	
Waste Water/Effluent (New Focus Area)	Pollution	Maintain legal compliance against permit requirements Set company objective & site reduction targets, and monitor regular Implement an effluent/waste water campaign	Stephen Moran	2014	
Emissions	Conservation of Resources, Pollution	Calculate carbon footprint for Afrox Scope 1 and Scope 2 Emissions To reduce Direct & Indirect CO2 Emmissions against 2012 baseline	Stephen Moran	2014	
Legal Compliance	Deterioration of environment	To ensure legal compliance to relevant Environmental Legislation	Stephen Moran	2014	

Safety & Health KPI's



Aspect	Planned measures	Goal	Responsible	When	Status
Site and transport safety	Review of all local and global minimum standards for transport safety, incl. Integration of new standards in a global database, Training on new standards for relevant employees, Audits to ensure compliance with new transport standards, Global implementation of new transport safety driver training programme (ActSafe for Drivers)	Transport Safety Transport Critical Standards Training(TRACESS measure) Quarterly Completion of Transport Focussed (1day) audits at 20% of sites with Transport operations	Stephen Moran	2012-2015	
	Site risk review: Creation of a uniform framework to measure risks at all locations and definition of control mechanisms to minimise these risks to the greatest possible extent (major hazards review programme, MHRP)	SHEQ Audits No overdue or repeat P1's and P2's within the last 12mnths Completion of focussed audit program Incident Investigation MIR investigations completed and report submitted on time(60-days) No repeat(avoidable) MIR Types – Evidence of sustained preventative action(No more than 1 repeat within the last 12 months) •Transport/Passenger Car •Fall from Height •Uncontrolled Release Process Safety Ensure up to date MHRP Cat1 & 2 sites licensed Complete emergency exercises for all Cat1&Cat2 sites(29) Behavioural SHEQ Leadsafe/Acts safe Behavioural program – roll out against plan(Quarterly) Robust standard achieved in critical elements of the SHEQ Roadmap(HPO measure 1.8 to 2.0) Completion of SHEQ Action plans	Stephen Moran	long-term goal	

Occupational Health & Product Stewardship KPI's



Aspect	Planned measures	Objective & Targets	Responsible	When	Status
Product Stewardship	Initiatives to mitigate environmental impact of products & services	MSDS's for all Afrox products must be changed to comply to Group Harmonised standard All new products must follow Afrox NPI Continue with the high Hazardous product audits	Stephen Moran	2014	
Occupational Health	Expansion and harmonisation of healthcare management programmes: • Harmonisation of occupational healthcare guidelines • Expert training on occupational healthcare management	HIV Training Wellness Days Substance Abuse Policy Review To develop an Occupational Health Code of Practice	Winky Makwela	ongoing	
	Reduction of health risks associated with tasks	To ensure Legal and Linde Group Occupational Health Risk Compliance(e.g Silica Exposure, N20, Noise) Manual Handling Risk Assessment and TrainingProgram	Winky Makwela	ongoing	