



GREEN BUSINESS

G A Z E T T E

ISSUE 7



climate change and disability

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Battery
Toxicology

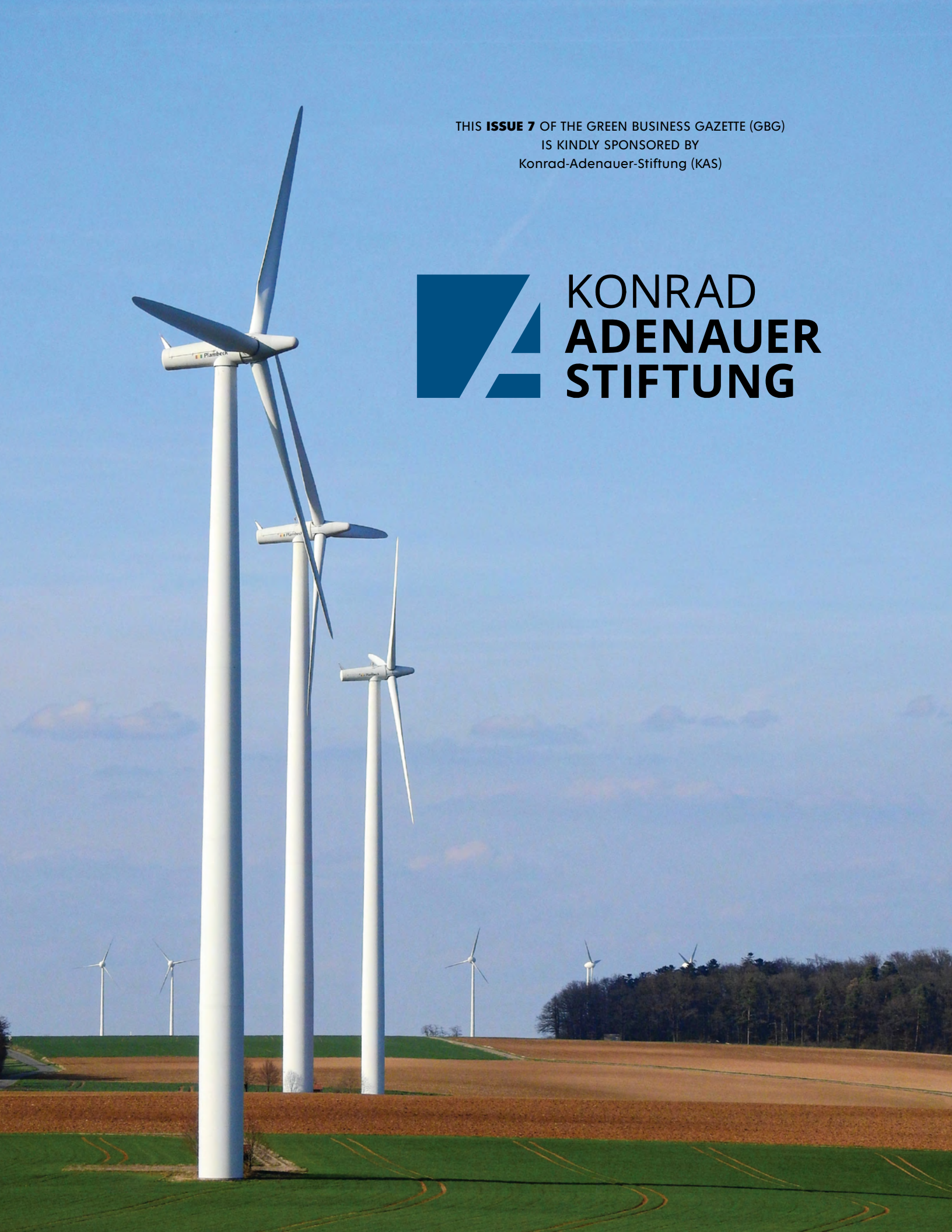
Livestock Emissions &
The Effect on Global Climate

Chemicals In Toys
Are Children Safe

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GREEN BUSINESS

G A Z E T T E

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FROM THE
EDITOR'S
DESK

Greetings to our readers! Welcome to the 7th Edition of the Green Business Gazette, the leader in sustainability publications. It is very encouraging that through the support of various stakeholders, this magazine is becoming a global success. Publication of this issue has been made possible through the kind support of Konrad-Adenauer-Stiftung. We continue to tell the sustainability story as it is.

This issue is full of new environmental insights. These include the theme of climate change and disability. Are the disabled being given a fair chance to access climate change programmes and financing? We encourage all stakeholders and organisations to involve people with disabilities in climate change discourse.

Batteries are in common use in various applications such as automobile sector, electric gadgets and electric vehicles because of their ability to store power. It is now imperative that we adopt environmentally sound management of batteries and ensure that proper life cycle assessment is undertaken. If improperly managed, batteries could cause negative effects on human health and safety.

This issue brings focus to the ASHER technology for managing waste in a

sustainable manner. We encourage stakeholders to take its adoption seriously in order to have a clean environment.

We delve into the issue of chemicals in toys. Most parents strive to work hard in order to make the best for their children, including buying for them the most advanced toys. However, it has been found out that about 25% of toys contain some harmful chemicals. How can parents and guardians better select toys in consideration of the safety of their children?

Furthermore, the current issue assesses how livestock production is impacting climate change due to the release of greenhouse gas emissions. Innovative animal feeds are being manufactured with a low impact on the environment. Additional matters covered in this issue include how a low carbon and resource efficient trajectory can help improve well-being and improve our lives.

We also take a look at innovative packing in retail sector using bio-degradable material. A deep dive into environmental standards such as ISO 14001:2015 is undertaken. It is now more imperative than ever, that the issue of sustainable development is a key enabler of economic prosperity, job creation and green growth. Wherever you are, continue to promote green living!

Tawanda Collins Muzamwese
EDITOR IN CHIEF



LEAD IN PAINT REMAINS A HEADACHE

Paint is required to add the aesthetic finish and look to our buildings and infrastructure. Since antiquity, paints have been used in single shades or unique combinations which yield attractive outcomes. However, some paints contain hazardous chemicals, including heavy metals such as lead. Lead is a potent neurotoxin which has the ability to affect the nervous systems of young children.

Lead is used in order to accelerate drying, increase durability and prevent moisture from damaging the paint. In recent years, lead has been banned from paint across the world. Paint manufacturers have been told about the toxicological effects of lead in the population. Some have taken heed of the technical advice, whereas some have not dared to adjust the formulation of their paints.

Continued use of lead in paint can easily result in lead poisoning within the population and could also turn out to be fatal in the long run. Reduced sperm concentration, apoplexy, liver damage and kidney damage are some of the common conditions when an individual is exposed to lead in paint.

Despite development of various alternative substances, lead usage remains high in the paint manufacturing sector of selected countries. Where bans exist, effective enforcement needs to be scaled up. The emergence of backyard and cottage industries manufacturing paint also makes it difficult to totally eliminate lead in paint. If the world needs to overcome the scourge of lead poisoning and ensure environmental protection as well as human health and safety, action must start now to make the paint sector lead free.

Consumers too, play a very important role in preventing the usage of lead in paint by purchasing paint which is lead free. If a higher number of customers are selective, the end result is that there is a high consumer pressure on organisations which manufacture leaded paint. Consequently, a shift towards friendly alternatives will be achieved.



PACKAGING WITH BANANA LEAVES GAINS POPULARITY ACROSS THE WORLD

Bright Beven Chituu

More than five trillion single-use plastic bags are used globally each year and according to UNO, single-use or disposable plastic comes with severe environmental problems, such as land and water pollution. The continued use of thin plastics to contain our consumables is said to cause more harm than good. If thin plastics remain unabated this results in degraded soils, increase floods, decline human health and loss in tourism revenue.

The move towards eco-friendly materials is part of a growing zero waste movement across the world aiming to eliminate non-biodegradable waste, significantly minimizing the quantity of waste that is finally disposed at open dumps or landfills and contaminates ecosystems. There is a significant waste problem at an international level, and businesses need to do something about it if they are going to survive and please new consumers. According to the United Nations Environment Report 2018, 128 countries have implemented regulations to curb plastic bags. However, Harare, Maputo and Lilongwe and other cities in Africa are becoming an eyesore and need to think of eco-friendly local solutions to dealing with municipal solid waste problems. Nevertheless, Thailand and Vietnam are one step ahead. Though we still wrap our fruits and vegetables with plastics and meshes, the Asian continent has developed a plan to avoid certain unnecessary waste by packaging their products with banana leaves.

Banana tree species are common throughout Sub-tropical continents and can yield leaves that can grow 2.5 metres in length, and many people around the world use them to cover various types of food and their sturdiness make them an ideal form of packaging for fresh produce that sells quickly. This solution has transformed social networks, which marvel the humanity with the simplicity of the material. The leaf size is ideal for wrapping food, since they have an elongated shape. Furthermore, they can be folded and handled easily. Banana trees are found in tropical areas during all times of the year, so their use would also be economic.

It's not the first time that the use of banana leaves has been practiced. In India it has been present much earlier. It's traditionally used as a plate and even as a way of steaming. Likewise, in Mexico, Banana leaves were used to wrap tamales. These leaves permeate hot foods with the vitamins of the banana, being beneficial for human health and for the planet at the same time. The move was soon afterwards adopted by big supermarkets in Vietnam such as Lotte Mart. Some

supermarkets are still examining the move and may likely adopt it. The biggest three supermarkets in Vietnam are in the banana leaves packaging campaign. If one visits Lotte Mart outlet today in Ho Chi Minh City you will be surprised to see scallions, okra and other vegetables wrapped in banana leaves. These supermarkets are looking forward to expand the use of banana leaves to the entire chain in the country later this year, following a trial period in the southern city.

As many corporations are now moving away from single use plastics, they're seeking biodegradable packaging for food. Banana leaves are 100% environmentally-friendly and sustainable. They will degrade just like any other plant product once they've been thrown away, and they're a by-product that is continuously produced. Because banana leaves are everywhere where bananas grow, they're readily available. They don't cost anything to grow, and they're already growing on existing distribution channels. The slick nature of banana leaves means that they're water proof and easy to clean. Other leaves may not be clean enough to use for food service. Banana leaves don't need additional treatments to remain fresh-looking or water-resistant. Consequently, they're perfect for those who are interested in natural foods. Using banana leaves also has a great added value in the fact that they are an aesthetic eco-friendly alternative, and also a positive shopping experience. It encourages the consumer to be more aware of being environmentally responsible. These thick, glossy leaves hold moisture in and don't easily degrade, thereby making them a perfect food saver. In short, they are natural, resistant and organic; the perfect substitute for plastic in many situations

On the other side, the banana leaves quickly deteriorate overtime. This why some food packaging companies are still relying on plastics, that now often clog the waterways and cause land pollution. A young Indian architect has managed to modify banana leaves to a packaging material that keeps it properties for three years. And it is perfectly decomposable. This innovation advances the traditional practice to suit modern needs, thus providing a sustainable environmental solution to a longstanding global problem and on its way to saving 4 billion trees per year. Using natural products is the best solution to save the environment. You give back what you take. You do not take anything extra, or give back anything more.





THE ASHER®

The Most Definitive, Realistic, Practical & Environmentally Friendly #ZeroWasteToLandfill Solution

The Asher does simply just this.



2 TONNE SOLAR
2.5 TONNE ES
4 TONNE ES

Solar Powered
70% vapour
30% smoke

Electric
Smokeless
100% vapour

Electric
Smokeless
100% vapour



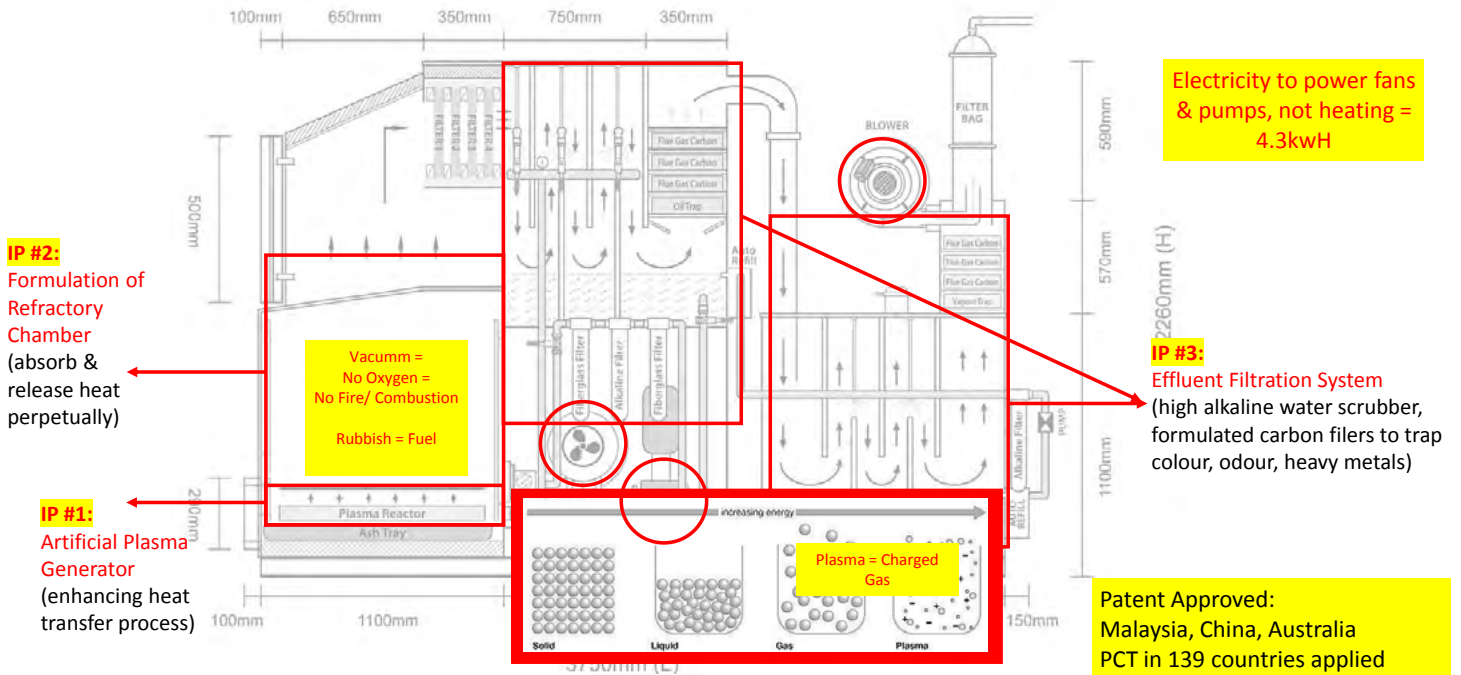
4-tonne
Electric + Smokeless

3 Capacities

processing capacity per day (16-20hours of operations)

Technology Brief.

Cross section of the 2.5-tonne Electric Smokeless





REVOLUTIONARY TECHNOLOGY FOR CLEARING DUMPSITES AND LANDFILL DIVERSION

by RESQ Energy

Waste management has been observed as one of the leading global problems that are directly contributing to greenhouse gas emissions, and consequently, climate change. In Zimbabwe, as in most cities of the world, waste management challenges are driven by population growth in urban centres, coupled with poor archaic waste management practices. The volume of waste being generated continues to increase at a faster rate than municipal authorities can manage and is projected to increase by 30% by 2030 if business continues as usual (Institute of Environmental Studies, 2013). The challenge of waste has come about as a result of the mismatch between waste generation and management; rapid urbanisation, globalisation, and change in consumption patterns among other issues.

The Asher, distributed by RESQ Energy Pvt. Ltd, provides a fitting solution. It is an eco-friendly waste management unit that decomposes organic and inorganic waste to a mere 4% of the original weight disposed of. The solar powered machine literally 'bakes' solid waste into a non-toxic inert ash without polluting

the environment - effectively solving problems associated with landfills and incinerators. The inert ash can be used as part of the circular economy, to make fertiliser and as an additive to pavers in construction.

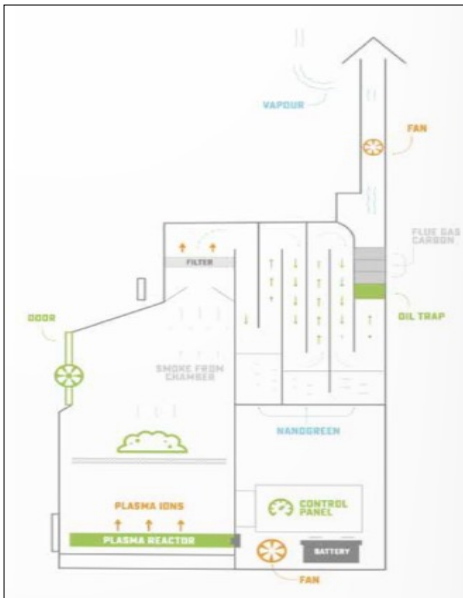
In Harare, waste is collected using a linear model that starts at collection, transportation and disposal at Pomona and Golden quarry disposal sites. Both sites have surpassed their carrying capacity and have become a socio-environmental crisis, characterized by flaring of landfill gas emissions, that add to the greenhouse gases. Adopting new technologies is the foundation of socio economic development. RESQ Energy is introducing the Asher technology to both business and local authorities' waste management systems, not only to address waste management challenges, but also reduce emissions for Zimbabwe.

The Asher is essentially a pyrolysis waste disposal unit that fits easily into a parking space. It can treat most types of solid waste, both organic and inorganic. When waste is put into the

Asher, it ends up in the bottom of the thermal degradation chamber, where it decomposes materials at elevated temperatures in the absence of oxygen. The emissions generated from the thermal degradation process are filtered and cleaned through its combination of liquid and solid filtration media. It emits no smoke, and the emissions are released as a neutral, non-toxic and non-harmful vapour.

FROM TRASH TO ASH

This breakthrough innovation has enabled a continuous self-combustion process without the need of extra fuel or power. The Asher currently comes in three variants. The 2t solar-powered Asher, which is 70% vapour and 30% smoke, is most popular for deployment in rural areas, mines, landfill or dumpsite clearing or where electricity supply is a challenge. There are also the 2.5t and 4t electric smokeless units. These units emit vapour and are recommended for clinical waste, city use, as well as large premises like airports, universities, shopping malls, office towers and hospitals.



THE BENEFITS

- Easy to operate and 1 person can manage up to 5 units
- Easy maintenance with virtually no downtime
- It is portable and easily mobilised
- Weather proof can operate under many weather conditions
- Decomposition of most solid waste with no need for prior sorting or segregation to a mere 4% of the gross weight (80-130kg) per hour disposed.
- The unit is self-powering requiring only solar or electric power for the blower fans used to cool it down
- Promotes the intergrated solid waste management system of reduce, reuse and recycle
- Allows waste to be treated "At source"
- Can be an alternative for clearing and cleaning out of dumpsites

The Foreseen Impact of the Asher

The Asher has multilevel impacts at community level, in business organisations, the local authority nationally and globally. Given the mobility of the Asher, both local authorities and even business organisations can acquire their own machines to place on site, in their parking lots (underground/over ground) or the backyard. This will enable trash to be treated at source, and consequently reduce the mounds of waste around street corners, dump sites, and also

fulfil the mantra, 'no waste to landfills.' The woes of waste collection by local authorities will be reduced drastically. While the Asher decomposes all unusable waste into ash, it still fits well into the circular economy as the ash is still reusable as an additive in brick moulding, or manure making depending on the composition of the waste loaded into the Asher.

On a national scale, the impact of the Asher will be seen in the achievement of an integrated waste management system which incorporates all levels of the community. Its effect will also be seen in the following areas:

- Reduction in greenhouse gas emissions that emanate from poor waste management

- Reduction in waste generation
- Improved livelihood through creation of green jobs
- Conservation of soil through the use of organic fertilizers
- Empowerment and capacitation of Women, Youth, people with disability and vulnerable groups

RESQ Energy

RESQ Energy, the distributors of the Asher, has expert focus on renewable energy innovations centred on providing modern solutions to modern economic development challenges. The Asher is their flagship innovation in waste management. They also distribute a range of circular economy technologies for waste to energy, plastic to diesel, including lighting and water solutions.

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Environmental degradation threatens livelihoods of the disabled

Wadzanai Manyame

People with disabilities are people with physical challenges or mental impairments that have substantial and long-term effects on the ability of the person to go about their normal day to day activities. This group makes up to 15% of the total population. Most people with disabilities are not solely independent and may need assistance with their day to day activities. This can be mechanized assistance or a person who gets to offer a helping hand to undertake a task. Important to note is that, disability does not mean inability and thus disabled people are capable of living just like any other normal person. The only difference is that they need support in certain areas of their weakness.

The way disabled people live in the developed countries is different from the way they live in developing countries. This is because of differences in technology, living standards, ability to afford and the environment in general. Social status despite economic status of a country also has an effect on the quality of life of a disabled person. One from a well up family has a better chances and opportunities in life as compared to one from a poor family. Likewise, the state of the environment is of importance to the welfare of the disabled.

Environmental degradation has physical, mental and social effects on the wellbeing of the disabled. The United Nations High Commissioner for Human Rights in his report mentioned

that people with disabilities are highly vulnerable to the adverse impacts of environmental degradation attributed to phenomenon such as climate change. Social and economic status as mentioned above coupled with discrimination and marginalization play a very important role in determining the intensity of environmental degradation effects on the disabled.

Environmental degradation is the dilapidation in the state of the environment and its different functions rendering it unsafe to support life. This can be due to the unsustainable exploitation of the environment through activities such as mining, agriculture industrial processes. The most detrimental factor contributing to significant environmental degradation currently is climate change. Its effects have been noted to pose threats to the livelihoods of the disabled. Imagine a deaf person not being able to hear signals on emergencies, and a person with mobility issues not being able to run for their life and seek shelter or refuge, a mute person not being able to scream for help so that she can be heard and rescued and a blind person not being able to see where to run to.

Extreme weather events attributed to climate change such as cyclones, floods, tornadoes, destroy the natural and the built environment leaving people stranded, homeless, without food, without property and

with poor access to transport and medical facilities. Disabled people have their special needs which include medication, wheelchairs, hearing aids, clutches among other equipment. They require constant check-ups at medical facilities and nurse aids visits. All this can be brought to a halt after experiencing environmentally degrading disasters. Migration and displacement are the survival measures taken when such phenomenon occur. Discrimination can be experienced when prioritising those to displace first. The economically active and capable could be displaced first and the disabled population be left out. Injury and death can be experienced during the occurrence of such disasters. The disabled can be the breadwinners who have been taking care of their families, leaving them stranded and to fend for themselves. Both mental and physical state get affected.

The majority of people living with disabilities experience poverty more than twice the rate of people without disabilities and might not have the means and resources to migrate, thus they are forced to remain in disadvantaged environments with no adequate housing, safe water and sanitary facilities, employment, support networks and health care facilities. Some disabled people have already existing underlying conditions and are thus vulnerable to attack by pathogens and are sensitive to changes, such environmental changes pose a threat on their health and could even lead to death.



How Youths in Zimbabwe are Harnessing Waste to Resources

Sipho Graham Ndebele



The Youths, are the leaders of tomorrow. Indeed, true to this vision, some of the youth's roles and responsibilities have already begun. The Youths of Zimbabwe are awake and smelling the coffee by taking accountability and responsibility to harness waste into resources.

Mishandled waste is a public health risk and an environmental hazard. Urgently, solid waste is significantly driving climate change through methane emissions from landfills. Everyone has a right to a clean and healthy environment as embraced by the Constitution of Zimbabwe. To fulfil this objective, the youths in Zimbabwe are designing and bringing into life, mechanisms which yield value and resources out of waste materials.

The youths of Zimbabwe are harnessing waste by venturing into waste collection services from households and corporates,

focusing on garbage and recyclables. The waste collection enterprises are bridging the gap between waste generators and recycling companies to promote maximum resource efficiency. For example; instead of disposing-off plastic waste, the youths are collecting and transferring it to recycling companies. Clean and renewable energy is another product being harnessed out of waste by the youth. They are using bio-digesters to produce biogas out of bio-degradable waste collected from our communities. We also see that food security is being promoted through cultivating mushroom out of agricultural waste.

The goal of the youth is to have zero waste reaching our landfills in order to conserve our Mother Earth. On the other side, the goal is creating jobs and generating income, moving business-as-usual towards green jobs and green economies. Therefore, closing the

unemployment gap that Zimbabwe is experiencing as every developing nation in Africa.

Based on the perspective of the youths in Zimbabwe, waste is no longer a nuisance. Rather it is a resource and an opportunity to improve their standards of living and transform economies while tackling waste related challenges. The youths are deriving innovative solutions that address waste management and climate change in Zimbabwe and its broader ecosystem.

Clean-up campaigns and raising awareness on sustainable waste management practices within communities and societies is another talk being walked by the youth. The act is transforming households and organisations to separate waste at source, facilitating the reduction, re-use and recycling of waste.

Battery toxicology - what they don't tell you about batteries

Tawanda Collins Muzamwese

Energy is a key driver of socio-economic prosperity. Storing this energy is one of the key elements of ensuring energy security. Battery technology has been deployed to ensure that energy is stored. There are different types of batteries in use, including the fuel cell, lead acid accumulators and batteries used for electric vehicles. Although beneficial, batteries can cause serious environmental toxicological and human health impacts.

Consumers should be aware of these impacts and make informed decisions when they do battery purchases and deploy equipment which uses sustainable forms of power storage. The end of the life-cycle and the usage phase of batteries needs to be properly managed in an environmentally sound manner.

Some batteries such as the lead acid accumulator, have the potential to cause damage to human tissue and cause groundwater pollution due to the

presence of acid in those batteries. In addition, lead contained in the batteries is a toxic heavy metal, which has toxicological effects from the mining, processing, usage and disposal of the batteries.

Toxicological effects include effects on the nervous systems of human beings and damage to vital body organs. The most affected population is that of little children. This is why disposal of such batteries should be undertaken at designated sites, under the guidance of organisations with adequate waste disposal facilities.

The advent of lithium-ion batteries has also been a vital element of the clean energy revolution. But their management needs to be done in an environmentally sound manner to prevent and toxic elements reaching the environment. The big challenge in many countries is the lack of proper facilities to manage batteries.

Batteries disposed indiscriminately can easily pollute the air, land and water. In extreme cases they can cause explosions and fire outbreaks. Batteries should be considered as having a potential impact on human health and environment. They are also a risk to public health and safety.

Little children are also at risk if they swallow batteries or are exposed to fumes emanating from burning batteries. The risk of poisoning from substances contained in batteries is an issue of concern. Manufacturers of batteries are working with consumers to raise awareness.

Battery manufacturers are encouraged to implement "take-back-mechanisms" to ensure that used batteries are returned to proper dismantling facilities. Customers are discouraged from burning old batteries. It is now high time the life cycle of batteries is evaluated in order to identify opportunities for reducing environmental and social impact.



Livestock emissions and the effect on global climate

Tawanda Collins Muzamwese

Farming plays an essential role in fostering food security in both developed and developing countries. Livestock in particular, is essential in providing food and nutrition in the growing world population. Rearing of cows, goats and sheep is a common practice in the world.

Livestock production is associated with the release of greenhouse gases, especially methane gas. Methane is produced in the rumen digestive systems. Scientifically ruminants such as cattle have four stomachs namely rumen reticulum, omasum and abomasum. These animals also commonly chew the cud.



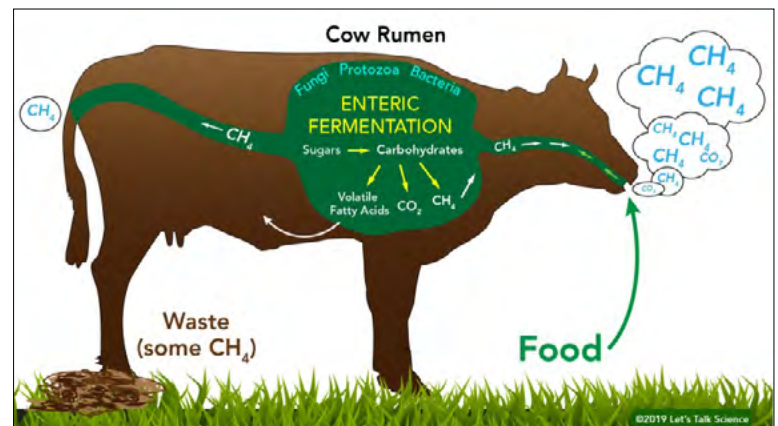
With respect to contributions from the agricultural sector, livestock production is the leading contributor to climate change. Managing farmyard manure and slurry is a key step in ensuring that emissions are reduced. Innovative feed options are also crucial in fighting climate change. Feed manufacturers are already formulating combinations which develop less emissions.

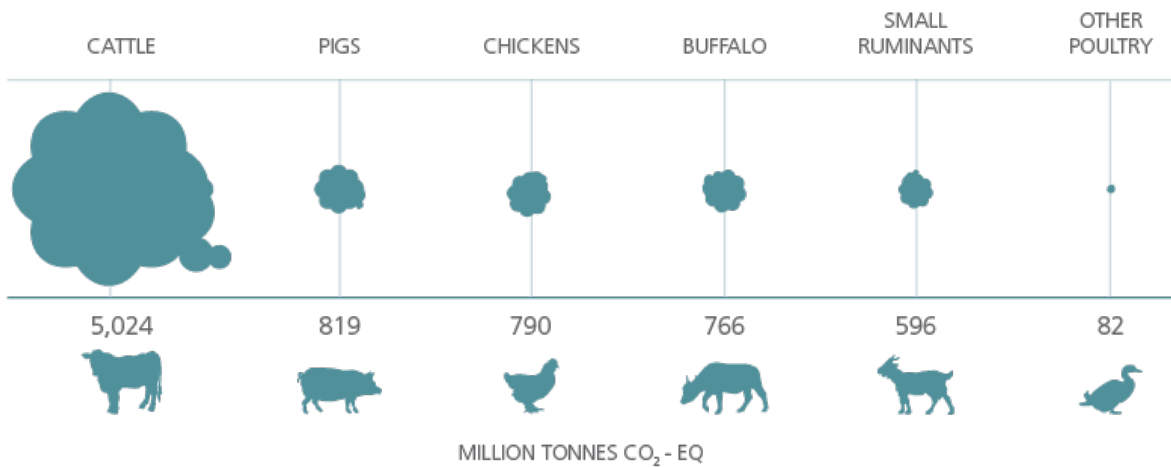
Some farmers are also implementing monogastric production, mainly focusing on poultry and pigs in order to minimise the effects of enteric fermentation caused by animals such as cows.

In the livestock sector, cattle rearing for meat and milk purposes accounts for 44% of emissions emanating from the livestock sector.

Some leading international companies such as Mootral

have developed environmentally friendly feed options for livestock. Mootral is a British Swiss company which develops natural feeds for the benefit of farmers to ensure that their livestock emits less emissions into the environment.





Source: FAO, 2021

Emissions by species show that cattle have the highest impact on the environment through a higher generation of Greenhouse Gas (GHG) Emissions. The choices that farmers make and the combinations of livestock and poultry as well as maintaining sustainable herds is critical in the fight against climate change.

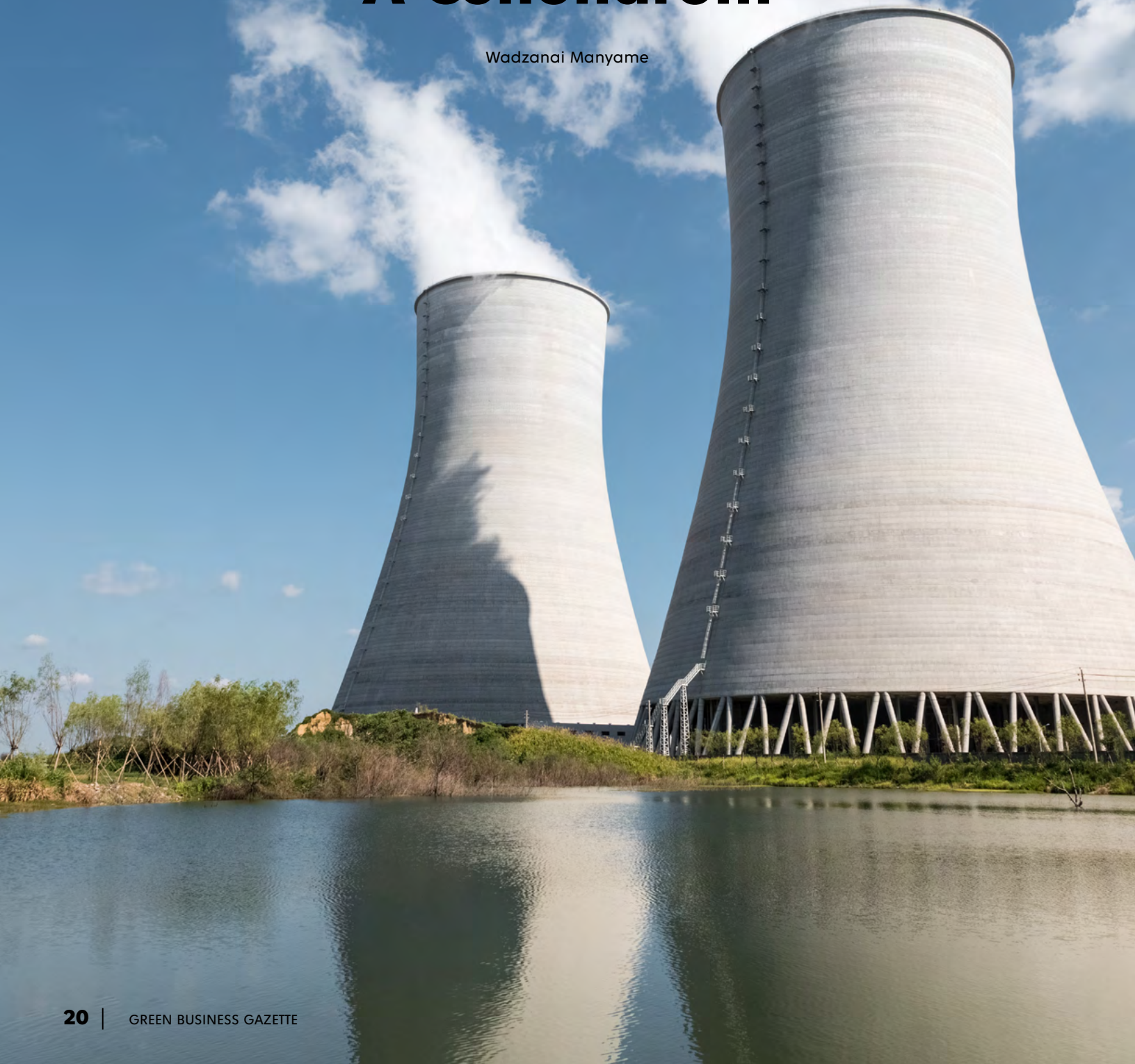


Picture: Editor-in-Chief Green Business Gazette (GBG) Tawanda Collins Muzamwese, meets a representative of Mootral in Barcelona, Spain

The Editor-in-Chief of the Green Business Gazette attended an international summit in Barcelona, Spain in which he met representatives from Mootral and received an update on the work being done to develop innovative feeds with minimal impacts on the environment.

Low carbon transformation and economic development. **A Conundrum**

Wadzanai Manyame



Low carbon transformation is a concept where countries, their governments, societies and economies come together to ensure reduction in greenhouse gas emissions to achieve low carbon economies, low carbon societies and in a nutshell, zero emissions. The concept comes with a word transformation because the world has been built on the exploitation of fossil fuels and practices that have left the atmosphere heavily burdened with excess greenhouse gases. Therefore, there is need to transform from such 'brown growth' to 'green growth'. The most topical issue after COVID -19 in the world right now is climate change. How to mitigate climate change, how to reduce temperature increases, how to adapt to already occurring climate change disaster and most controversially how to bring a balance between economic development and the climate change. A total of 25 COP meetings have been held since 1995. About 197 countries who are parties to the UNFCCC, meet annually to deliberate on climate change related issues and devise plans on how best to tackle the matter. Agreements and protocols have been set, signed and implemented. Results have been noted in terms of accepting that climate change is real and actions to try and mitigate and adapt to climate change have also been noted in different parts of the world.

The creation of global climate funds, implementation of clean energy mechanisms, green growth initiatives, resource efficiency, research and development, capacity building among others, are some of the actions that are being implemented globally. Global climate action is however not uniform across the world as the world is defined by developed countries and the developing countries which have different capabilities to manage climate change scenarios. The unfortunate part is developing countries are the least emitters and yet they are the most affected.

Over the years, developed countries such as the United States of America and economic giants such as China have been growing their economies through the use of fossil fuels and unsustainable exploitation of natural resources contributing chronically to climate change. The developed countries now have the economic muscle and are even fighting to achieve economic supremacy. The developing countries on the other hand are pushing to ensure a boost in their economies. Zimbabwe for example, is working towards achieving upper middle class economy by 2030. All its sectors are open for business and exploitation to build on revenue generation and growing the economy. It is believed that economic independence is key to high quality of life and improved livelihoods. In the context of climate change such development affords countries the ability to implement mitigation plans, adaptation plans and thereby reducing their vulnerability to devastating climate change scenarios and building climate resilience.

The interesting part is, every country wants to be free of climate change and every country wants to be better prepared for climate change. Whilst, at the same time, every country wants to grow its economy, improve the livelihoods of its citizens and every country wants to be better prepared financially for when other disasters such as Covid-19 hit, hence the conundrum. What then do we sacrifice for the other? Both factors are life determining and life threatening and are also interdependent. Climate change; if unabated is likely to cripple economies and economic development if not sustainable will contribute to the increase in climate change severity. Covid-19, a pandemic that hit the world in 2020 and is still causing havoc in some parts of the world. It has already shown signs of how economies can be affected by environmental or rather natural disasters. It is better to take heed and ensure robust action.

As has always been said, 'necessity is the mother of invention', scientists and business people are cracking their heads to find a way in which to ensure economic development that does not continuously cause greenhouse gas emissions, inefficient use of resources, causes pollution and destroys natural carbon sinks. It has been noted by scholars and practitioners that the best way to mitigate climate change and contribute towards the Paris Agreement goal of achieving a minimum increase of 2oC above pre-industrial levels can only be through achieving zero emissions. However, this is not practical to achieve instantly thus calling for low carbon transformation a concept that can be implemented by nations to achieve low carbon development, low carbon economies, low carbon societies and a low carbon world in the long run.

GREEN BUSINESS CREATES JOBS



**GREEN
BUSINESS'S**
GAZETTE



ISO 14001

Environmental Management System Standards and trade

by Bright Beven Chituu

The awareness of global environmental problems is growing across the world and it is felt by many that current development patterns cannot be sustained in the long term. A large part of activities that is undertaken by organisations has some serious environmental impacts, not only in the form of pollution, but also in the way it utilizes natural resources, manages its business and produces waste. As a result, governments in many countries are gradually endorsing regulations designed at protecting the environment, and consumers on the other hand requiring suppliers to demonstrate compliance and good practice in environmental matters. To address global environmental problem, several tools has been developed in the last two decades. Among these tools for environmental management is the ISO 14001 on environmental management systems (EMS) which emerged as the befitting response to the global sustainability problems.

In 1992 the United Nations Conference on Environment and Development (UNCED), also known as the 'Earth Summit, triggered the World Business Council for Sustainable Development to propose that the International Organization for Standardization (ISO), which had previously established standards for the quality of air, water, and soil, should develop international standards for environmental performance based on the concept of sustainable development. The following year International Organisation for Standardisation (ISO) created a new technical committee known as TC 207 to develop an international EMS standard, along with other standards on environmental management tools and techniques. In the year 1996, the ISO

14001 environmental management system specification was adopted and published.

An Environmental Management System (EMS) is part of an organization's overall management system. It is a systematic approach dealing with the environmental aspects of an organization. EMS is a tool that enables an organization of any size or type to control the impact of its activities, products or services on the natural environment. It provides a framework to help the organization identify those aspects of its business that have a significant impact on the environment, to set objectives and targets to minimize these impacts and to develop programmes to achieve targets and implement other operational control measures to ensure compliance with the stated environmental policy.

Nowadays organizations are increasingly called upon to demonstrate sound management of economic, social and environmental issues. Evidence suggests that a focus on this "triple bottom line" results in advantages in financing, insurance, marketing, regulatory treatment, and other areas. A certification to ISO 14001 improves environmental management and enables equal access to a growing "green" market place. ISO 14001 has proven to be a useful tool to evolve from maintaining regulatory compliance to a position of improved productivity and enhanced competitive advantage. There is evidence that organizations which manage not only the standard economic factors but also the environmental and social factors affecting their business show financial performance superior to those which fail to manage all three.

With respect to business skills, the adoption of ISO 14001 can award preferential access to foreign markets. In actual fact, although the costs of adopting ISO 14001 can be high, the pressure exerted by the markets and the customers is one of the main reasons why firms consider the investment in ISO 14001 to be worthwhile. Numerous studies have shown that countries, which export products, had higher levels of ISO 14001 certifications. Countries like China are good examples that started adopting ISO 14001 Standards to enter in the international market and to satisfy customers' requirements.

The point of view of importers has also been studied and results have shown that many importers feel more assured engaging a new supplier awarded with ISO 14001 because it means the supplier administrates well its business and it is environmentally friendly. Organisations which aim to export to environmental conscious markets need ISO 14001 certification. This can also be seen in studies that dealt with the supply chain in international markets. For example, in developing countries, because of higher availability of natural resources, adoption of ISO 14001 and through close cross-country supply chain diffused them from west to east.

Moreover, the significance of ISO 14001 in international trade is pointed out for the possibility of recovering a country from the crisis by reinforcing trade, and the potential of ISO 14001 as a market opener. Greek firms have used ISO 14001 as a means to restore their reputation in foreign markets and to stimulate their competitiveness.

The adoption of EMS can create competitive advantage for companies through the promotion and development of distinctive skills in organizational, commercial, and related stakeholder management. Apart from that, improvements in operational efficiency of a firm can emerge given that ISO 14001 is based on the principle of continuous improvement. In addition, the Environmental Management System promotes internal assessments in the consumption of energy and resources, the application of cost analysis in the life cycle, and other similarly cutting-edge practices of environmental management that are directly related to the reduction in environmental impacts.



ALCOHOL VALUE CHAIN AND THE ENVIROMENT

by Tendai Kaneta

Beer, wine and spirits are no doubt anchors of Zimbabwe social life. Whether you enjoy your ice cold beer listening to your jazz music on the other side of Samora or waiting on your barbeque at kwaMereki, a few understand the impacts that alcohol consumption can have to our planet.

When you make your way to your favorite liquor store and purchase that expensive Sweet red wine bottle, do you know how that bottle got to the shop all the way from South Africa?, and how much grapes were grown and harvested? Well, you need about 39 to 41kg of fresh grapes to make only about 19 litres of wine equivalent to only 25 bottles. Your liquor supplier would have stocked a hundred boxes for the customers meaning more grapes planted, more fertilizers used and more soil contamination. Generally, production of alcohol involves growing of the ingredients like grains for your lagers, sugar cane for your spirits, potatoes. These require a significant amount of water, fertilizers, land and use of machinery which then contributes to the environmental problems. These include water scarcity, soil contamination through the use of fertilizers, noise pollution from the machines and oil spillages from machinery which pollute our soils.

There has also been an alarming indication of improper disposal of the empty alcohol cans all around the country. Millions of alcohol cans are disposed into our environment every now and then causing land pollution. However, there have been efforts to separate and encourage recycling of these cans. Is it being done at your favourite watering hole? If not, then make use of the suggestion box.

For every bottle of tequila you have downed at your friend's birthday celebration, 10 litres of acidic waste water is produced and disposed contaminating the soil and water. Tequila is a product that can only be produced in Mexico, scotch whiskey can only be made in Scotland, yet both are readily available in all your liquor stores in Zimbabwe. This means the physical transport costs that come with distributing alcohol all over the world should be looked at, the large amounts of energy (fuels) used on trucks and their refrigerators which cause emission of greenhouse gases, leading to climate change.

Alcohol consumption has been part of human culture and can be traced back to 700 B.C. However, it is very important we note that it's not just a bad hangover but it also brings about negative impacts on the environment.

Composting in the Home

by Siphso Graham Ndebele

Each meal we make in our home is good for our health. It provides us with nutrients, essential for our growth. On the other side, making our meals also has adverse impacts upon our environment through the waste generated from our cooking activities. A delicious meal on the table is pleasant to our stomachs. Yet before it gets on the table, in the kitchen it would have generated organic and inorganic waste such as vegetables leaflets and a plastic juice bottles which we do not consume, rather we dispose them as waste.

The waste we generate in our homes is hazardous to our public health and the environment if mishandled. As it decomposes, it releases harmful chemicals capable of pollution. Waste is a serious contributor of climate change and global warming through landfills, among surface and ground water contamination. Certain measures can be carried out at home to prevent this case.

Waste segregation at home into organic and inorganic waste is a key effective measure that can be practiced to reduce the amount of waste sent to our landfills. Sorting waste based on its type helps to easily apply measures which recover value out of it. Composting organic waste into manure for gardening, reusing plastic materials for packaging purposes and recycling cans and tins through waste collectors are some of the initiatives that we can apply at home to harness the value and resources which exist in our waste.

Composting is the decomposition of organic waste in the presence of oxygen (aerobic) facilitated by microorganisms (bacteria and worms) into manure which is a rich-nutrient compound that adds value to plants and soil. When decomposition occurs anaerobically (lack of oxygen), it produces methane, becoming an environmental threat, driving climate change. Hence, when composting, ensure aerobic decomposition by turning the compost pile with a hand fork or any applicable tools to aerate it.

Open air and in-ground composting are the outdoors traditional methods of decomposing organic waste. The methods are cost-effective as they do not require complicated equipment and resources. With bare land available, either in your backyard or garden, you are good to go with composting at home. Open air composting piles a stock of organic waste on bare land. In-ground composting requires digging a hole or a trench where you bury the organic waste. Decomposition occurs naturally due to the presence of oxygen in the air, organic matter and moisture from waste, and sunlight.

Tumbler compost and vermicompost (worm farm) are some of the emerging technologies being applied to compost organics at home.





The methods are smarter as they are done indoors because decomposition is completed in mechanised containers. The benefit is that the methods perform better in winter due to insulated containers that enhance heat rather than depending on natural temperature. Despite the pros given, the methods are expensive as they require equipment purchase, maintenance and application knowledge.

Composting requires organic waste, but not all organic matter is good for your composts' effective performance. For best compost results, decompose yard waste, fruits and vegetables, tea bags, eggshells and nutshells for instance. Prevent decomposing dairy products, meat or fish bones, fats and oils, infected plants and ash. These materials create odour, attract pest and chokes the composts' porosity implicating the air ration, for example ash. Hence, decomposition prevails anaerobically resulting in undesirable outputs (odour and slurry).

To keep a compost pile healthy, observe and balance of the oxygen, carbon and nitrogen ratio, temperature and moisture levels. Turning and watering the compost pile either once or twice a week helps to balance the temperature, oxygen ration and moisture levels. Covering a compost pile with soil or plastic after adding every layer of organic waste helps to retain heat and moisture. Consistency of these factors creates a conducive environment for microorganisms to facilitate decomposition. Also ensure the greens (nitrogen) and browns (carbon) materials are added adequately into the compost pile to maintain the carbon and nitrogen ratio. Prevent adding inorganic waste because it intoxicates microorganisms.

Compost outputs are beneficial to our day to day lives as they offer valuable resources. Manure can be applied in our gardens and lawns to add nutritional value to plants and improve and restore soil fertility. Manure also improves soil water retention capacity, maximising water efficiency. Compost is environmentally friendly. It can substitute inorganic fertilizers which cause pollution.

Despite the eco-friendly properties of compost. Production and use of compost out of organic waste materials generated at home cuts down liabilities. Compost saves money against inorganic fertilizers which require funds to purchase. Most importantly, at the end of the material flow, composting reduces the amount of waste that is sent to landfills, therefore controlling climate change. Thus, the practice saves money, conserves the ecosystem and promotes a clean and healthy environment for all through effective waste management and sustainable development. Collective contributions close big gaps. It starts with you today.

CHEMICALS IN TOYS: ARE CHILDREN SAFE?

Tawanda Collins Muzamwese

The 21st Century has brought a hustle and bustle in our lives. Parents and guardians are in the rat race to make ends meet. In order to entertain kids, toys are seen as a way of making kids play and refresh with these imitations of reality. The global toy industry is booming with each day. Children's toys include baby dolls, dummy cars, toy buses and any other object which may mimic reality. However, some toys are manufactured using materials which may contain hazardous chemicals. Not all toys contain hazardous chemicals, but it is high time that society becomes vigilant in identifying and dealing with hazardous chemicals in toys. According to UN Environment about 25% of children's toys contain hazardous chemicals. Children are very vulnerable due to their quick metabolic rates.

Phthalates, plasticisers and brominated flame retardants have been found in selected toys. These are mainly used to ensure flexibility, durability and longevity of plastics. According to UN Environment and Peter Fantke from DTU Denmark, over 419 chemicals are present in some plastic toys whilst 126 can potentially cause harm to children.

In developed regions such as the Europe there are now labelling schemes which require labelling of toys in order to ensure that customers are aware before making purchasing decisions.

Ventilation of children's rooms is necessary in order to prevent greater toxicological effects and high level inhalation of the aforementioned chemicals. Parents are recommended to take greater caution in buying toys, as what could be considered as love could be a silent killer. Be warned and do your research on safe toys. The Green Business Gazette cannot name individual chemicals and toys where they are found, but at least, it paves way by informing parents of the silent epidemic.



Zimbabwe to implement sustainable food systems transformation mechanisms as per UN obligations

By Wallace Mawire

Zimbabwe has initiated processes to implement sustainable food systems transformation mechanisms according to United Nations obligations.

On 3 June, 2021, the country held its first stage food system national summit dialogue convened by the ministry of Lands, Agriculture, Fisheries, Water and Rural Resettlement with support from the Food and Agriculture Organization and the United Nations Development Programme.

According to Clemence Bwenje, National Curator for the initiative under the ministry of Agriculture, following the first national dialogue, the country will also hold provincial level dialogues followed by a final validation of the programme.

According to Dr Anxious Masuka, Minister of Lands, Agriculture, Fisheries, Water and Rural Resettlement the national food system dialogue was held under the theme: "Transforming Production and Food Systems in Zimbabwe". Dr Masuka said that this is the first of three national food systems dialogues that will be hosted in Zimbabwe.

He said that this United Nations Food Systems Dialogue Summit approach was adopted to enable systematic and inclusive opportunities for stakeholders to be engaged in food systems.

"The approach enables participants to contribute to the summit by building on efforts already underway, working together on pathways that lead to sustainable food systems, and setting out intentions and commitments for development," he said.

It is reported that in the run-up to the UN Secretary-General's Food Systems Summit 2021 to be held in September, UN Member States are expected to focus on how their national food systems can, in the coming decade, align with the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).

According to Dr Masuka, the national food systems dialogues are a critical element of the summit preparatory process because they encourage analyses, explorations and solutions that are context-specific.

He added that recognizing that the success of the food systems summit depends on the engagement of citizens all over the world, the United Nations has invited member states to convene a national 'three-stage' dialogue process that involves the participation of a broad base of stakeholders.

The three stages are stage one involving the initiation stage which involves the exploration of national food systems.

These also involve identification of issues affecting food systems and present existing national plans for sustainable food systems. An analysis of the current state of national food systems, including their purpose, the way they function, their potential as well as vulnerabilities will be explored.

Stage two is the extensive exploration phase and the purpose of this stage is to create an opportunity for engagement among an even broader set of stakeholders through sub-national level or provincial level dialogues. This stage will identify promising approaches and potential commitments as contributions to the development of national pathways especially in the face of devolution.

Stage three is the final dialogue at national level and it gives pathways, intentions and commitments.

This stage is for national authorities and stakeholder leaders to exchange views about the pathways towards sustainable national food systems by 2030 and to identify the intentions and commitments of different actors.



It is reported that at this stage, participants will consolidate outputs from the previous dialogues and agree on issues where consensus exists, identify issues where further dialogue could be fruitful and set out the issues that reflect unresolvable differences. Dialogue participants will explore options for contributing to the national pathways for sustainable food systems.

The minister said that Zimbabwe has communicated to the United Nations its intention to contribute to the food systems summit by convening dialogues at national and sub-national levels by organizing the local event.

The food systems summit dialogues are reported to give an opportunity for key players in agriculture and other sectors that contribute to attainment of sustainable food system to discuss the challenges, opportunities and way forward in building and strengthening food systems in Zimbabwe.

It has been added that after the national food systems dialogues have been concluded, the findings and resolutions from the dialogues will be shared with the world at the milestone UN Food Systems Summit. The findings will also feed into the pre-Summit meeting in Rome at the end of July 2021 and the final global Food Systems Summit in New York in September 2021,

during the High-Level Week of the United Nations General Assembly.

The minister added that the dialogues are coming at a time when the nation is grappling with the Covid-19 pandemic which in some way has also contributed to the disruption of the food systems in Zimbabwe.

He said that this disruption in global value chains for supply have also given opportunity for localization of production for which Zimbabwe has taken advantage of as seen from the bumper harvest of 2020 season.

He added that bringing together a diversity of stakeholders will provide an important opportunity for participants to debate, collaborate and take action towards a better future.

He said that the dialogues will contribute towards ensuring access to safe and nutritious food for all, shift to sustainable consumption patterns, boost nature-positive production, advance equitable livelihoods and building resilience to vulnerabilities, shocks and stress.

He added that although the emphasis is on food systems, in Zimbabwe the theme is relevant and appropriate because the country has faced perennial food insecurity as a result of inadequate production occasioned by drought and low productivity.

"Therefore, in the context of this dialogue, Zimbabwe has an opportunity to shape both the production systems and food systems. We need to focus on transforming production systems. In this regard, we should focus on the progress, priorities, concerns and challenges in selected value chains. We should also understand that the land reform process has reshaped the agricultural landscape spurring local economies that could be engines for land transformation and industrialization for the Vision 2030," Dr Masuka said.

He added that it is, therefore, appropriate that the Agriculture and Food Systems Transformation strategy (2020-2025) focuses on the Agriculture Recovery Plan, Horticulture Revitalization and Recovery Plan, Livestock Growth Plan, Accelerated Irrigation Revitalization and Growth Plan and the Agricultural Information Management Systems.

The Agriculture and Food Systems Transformation Strategy is for reviving, restructuring, reforming, rebuilding and transforming agriculture from a USD5.2 billion sector to USD 8.2 billion constituting up to 20% of national GDP by 2025 and anchoring Vision 2030.

"I urge you to critically review and analyse the current agriculture production and food systems and lay a solid foundation for a national and inclusive consultation process," Dr Masuka urged delegates.





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Corporate Governance and Sustainability – SMEs, start-ups and entrepreneurs get on board

by Simbarashe Machisa

It has been noted that Africa is lagging behind in terms of embracing and embedding corporate governance (CG) and sustainability in their enterprises. For them to be relevant in today's business environment that is rapidly changing, CG and sustainability are now the panacea to survival for all businesses across the globe. The western world has already started developing and implementing sustainability and corporate governance in their business operations.

Corporate Governance is defined by Brenna & Solomon (2008) as a system of checks and balances, both internal and external to companies, which ensure that companies discharge their accountability to all their stakeholders and act in a socially responsible way in all areas of their business activity.

Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs. The concept of sustainability is composed of three pillars: economic, environmental, and social—also known informally as profits, planet, and people.

SUSTAINABILITY AND CORPORATE GOVERNANCE

The nexus between sustainability and corporate governance is already well understood by scholars and other key stakeholders (government, private sector, academia, civil society and finance institutions). It is now the duty of LEADERSHIP to foster the strategic direction of their organisations, executing strategy, managing risk, ensuring compliance, sustainability and this has the potential to upscale their enterprise in any environment. Those firms embarking on this journey will enjoy the low hanging fruits including:

- Better access to finance (Investors)
- Lower costs of capital- i.e. interest on loans
- Improved company performance – sustainability
- Higher firm valuation and share performance.
- Reduced risk of corporate crisis and scandals.

Conforming to sustainability and corporate governance helps start-ups, business owners, SMEs and entrepreneurs to differentiate themselves from their competitors thereby reduce business risk and improve the reputation.

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ENVIRONMENTAL ISSUES IN CONSTRUCTION SITES

by Simbarashe Machisa

Environment management is now the main talk of the day everywhere from international level cascading to regional and national level due to human activities that contribute to the negative consequence to the environment and human health. The environment was created for life support, provisioning raw materials and for social and economic activities. In Zimbabwe this was supported by the Constitution Amendment No 20 of 2013 Section 73 (Environmental rights) which states that "everyone has the right to an environment that is not harmful to their health or well-being, to have the environment protected for the benefit of present and future generations through reasonable legislative and other means that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting economic and social development.

Construction companies in Zimbabwe have a duty and responsibility to manage their hazardous and non-hazardous

waste through adoption of cleaner production methods.

Construction by nature has significant impacts to the environment including but not limited to:

- Dust
- Noise
- Air emissions (Vehicle and Plant)
- Chemicals (Paint, Solvents and concrete)
- Hazardous waste (used oil, blasting grit)
- Sewage sludge
- Diesel, Petrol, Hydraulic oil which can pollute groundwater
- Construction waste (Concrete rubbles, off cuts of wood & metal)
- Soil erosion
- Loss of biodiversity



The above-mentioned environmental aspects are found during construction stages as from site establishment to site demobilisation, hence promotion of sustainable development becomes paramount.

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DID YOU KNOW?

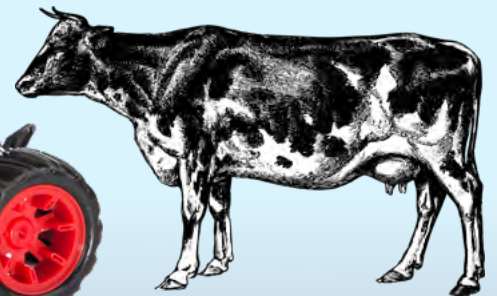
TIGERS CAN JUMP 5 METRES IN HEIGHT



Eagles build their nests on high cliffs and very tall trees



25% of children's toys contain hazardous chemicals.



CATTLE are the leading cause of Greenhouse Gas Emissions in the agricultural sector.

Drinking time is one of the most dangerous times for a GIRAFFE as it cannot look at its predator...





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