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Toxic scrap: Wind and solar's not-so-green flipside

Photovoltaic panels and wind turbines are green technologies – but not in terms of waste disposal. Both are difficult to break down in an environmentally sound way, leaving business and technical specialists demanding a solution.



Photo credit: Aurecon

Cookhouse Wind Farm.

WIND turbines – and their cousins, solar panels – maybe green energy creators but both wind turbines and photovoltaic modules are tough to break down, and nor can they readily be recycled.

Disposal options are too expensive and require far more resources than can be gained by either reuse or sustainable scrapping – at least with current technology.

That leaves the question of what is then to be done with the tens of thousands of wind turbines and solar panels that have served their full lifecycle and must be replaced, and which will only grow in number as the world moves away from fossil fuels.

The wind and solar sectors are said to be working on a solution but the matter is fraught with also technical and environmental challenges and at first glance, current options don't look great. According to a report from the International Renewable Energy Agency (IRENA), the world will

have 78 million tons of spent PV panels on its hands in 2050.

A similar proportion is forecast for old wind turbines.

However, solar modules are apparently an even larger problem. Contemporary PV units contain multiple chemicals and elements like lead and cadmium that are extremely harmful for both the environment and human health. At the same time, such materials quickly trickle down into ground water when old solar panels are tossed into landfills, which is currently the case.

While the EU has strict rules for how solar units may be scrapped it is not so everywhere else, nor in the US, where only 10 percent of all solar modules are discarded in an environmentally sound manner, according to an interview with company Recycle PV Solar in tech media Wired, from August last year.

Meanwhile, it's both costly and difficult to break down old, decommissioned

PV panels to remove toxic chemicals. A recent study from Arizona State University shows that processing an old solar module in an environmentally defensible way costs USD 12-25 against a single dollar needed to just bury the stuff.

Moreover, materials like silver and silicon taken from spent solar cells have a mere market value of around USD 3, or far less than the costs of recovery.

That's why the modules often end up in toxic pits, both in the west, according to a report from the UN Environmental Programme, as well as in developing countries with a deficit of environmental legislation.

Wind turbines face a similar challenge, despite the fact that around 85 percent of the technology can be recycled after end of lifecycle. The problem applies first and foremost to the enormous blades that harness wind energy. Blades are almost impossible to crush, burn or in any other way disassemble, which is also why most of them are just put into the ground.

Even that's a cumbersome process. Today's wind turbine blades are not only massive – often longer than the wings of a Boeing 747 and weighing up to 36 tons apiece – but they're also made of an especially hardened type of fiberglass built to withstand hurricanes as well as decades of salt and sea air.

Turbine blades can only be broken up with diamond-tipped industrial saws in an expensive process that splits the blade into three sections, after which they are hauled via semi-truck and, in the US, transported to landfills like sites in Wyoming or similar places in South Dakota and Iowa.

In Denmark, used blades are put into a similar ditch on the island of Lolland – and there they stay.

The super-strong fiberglass is practically impervious to natural decomposition. Although unlike PV panels, there isn't the same issue of chemical spillage into groundwater. Nonetheless, there's

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Scribes rise to the challenge



Charl Smith, sales manager at Mitsubishi Motors Cape Town, received more than 150 books from the Western Cape members of the SA Guild of Motoring Journalists. The books will be sent to Pretoria to be added to the many JOE lil'brary stalls and other projects.

WESTERN Cape members of the SA Guild of Motoring Journalists rose to the challenge from Mitsubishi Motors South Africa (MMSA) to help collect books for the JOE lil'brary charity.

The SAGMJ Western Cape branch donated mostly children's books they do not use anymore after noticing the MMSA drive for book donations to be dropped at any Mitsubishi dealership countrywide.

This was in reaction to the MMSA Golf Day early in December where the JOE lil'brary campaign was promoted. The campaign, supported by Mitsubishi Motors, brings the joy of reading to children who might not have access to reading material.

The SAGMJ members in the Western Cape donated a car boot full of books.

Sabine Lehmacher, spokesperson for the project, thanked Mitsubishi Motors SA and the SAGMJ Western Cape for their contribution:

The JOE lil'brary is literally that – a little library in a box – and MMSA and the SAGMJ Western Cape members donated books they and their children have read but were just gathering dust.

South Africans are asked to join the ongoing drive throughout 2021 to donate more books.

"You can simply take it to a JOE lil'brary near you, drop it off at any of our dealers, or send an email to lockdown@mitsubishi-sa.co.za so that we can make arrangements," she said.

The SAGMJ donation was received by Mitsubishi Motors Paarden Eiland.





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What do you call panic-buying of sausage and cheese in Germany? The Wurst Kase scenario.

Abalone stays afloat

THE burgeoning farmed abalone sector – which relies heavily on export markets in the Far East – has struggled valiantly during the Covid-19 pandemic and it seems the seafood niche might emerge stronger than ever when healthier trading conditions resume.

Late last year Abagold, one of the biggest standalone abalone farming enterprises, reported an encouraging sales volume increase – but a drop of over 20% in selling prices.

Overall the Hermanus-based Abagold achieved sales of 444 tons of live equivalent abalone, an increase of 109 tons from the prior year. The total sales revenue on abalone ended at R160 million, which is a slight increase on last year. On a consolidated basis, Abagold managed a commendable gross profit of R104 million on a gross margin of 51% – better than the previous year's R92 million gross profit and a 45% gross margin.

Abagold chairman Hennie van der Merwe said the improvement was largely due to an increased harvest and an improvement in size profile and sales mix. Most importantly, Abagold – hit hard by a red tide event in early 2019 – noted that



the improved harvest meant that reliance on third-party purchases was reduced to 37 tons in the current year from 109 tons in the prior year (explaining the much improved margin).

Premier Fishing & Brands (PremFish) appeared to endure a tougher time at its Gansbaai-based Marine Growers abalone farming operations. In the year to end August revenue was static at R27 million but the operating loss was almost halved to -R1.8 million.

PremFish has, however, not eased off on its ambitious expansion plans for Marine Growers.

A recent communique to shareholders confirmed the last phase of the abalone farm expansions was being completed and that 79 new employees would be taken onboard at the end of July.

PremFish disclosed that the Marine Grower's expansion had

already increased the annual production output to around 229 tons at the end of August last year – most of which was marketed to customers in the Far East.

PremFish has invested more than R220 million in the existing farm, and – based on the current growth of spat (baby abalone), Marine Growers is expected to produce between 300 to 350 tons of abalone in the near future – meaning a valuable extension to PremFish's existing import basket of south coast lobster and squid.

The Marine Growers abalone farm is also one of the first in the country to be solar powered, and PremFish have indicated plans are in place for further "greening" the farm.

Like Abagold, PremFish is determined that the farm – where production is already up over 90% since the start of its expansion in 2018 – will strategically grow its abalone to a larger

size to meet market demand. This should enhance margins markedly in the abalone division.

The year ahead for Abagold also looks intriguing. The company admitted that the consistent production of the required volumes of high-quality spat – provided to its farms as efficiently as possible – remained an essential basis for the sustainability of the supply pipeline.

However Van der Merwe noted: "While the expansion of operations on other farms in the region led to a demand for spat sales, this demand for spat, unfortunately, has reduced significantly and the hatchery has already scaled back their production capabilities as well as the area that the hatchery occupies on the farm."

Van der Merwe said the focus of the hatchery was now on meeting Abagold's own demand with the focus on the production of larger spat at lower cost through innovation within the same time frames. "This division is the platform for the rest of the operation to achieve growth targets, competitive feed conversion rates and cost efficiencies in the overall plan."

Abagold reported that its Sea View,

Sulamanzi, Amaza and Bergsig production pipelines were now full – enabling the operation to have access to larger size product to harvest.

He said the yield (growth net of sales/starting volume) of 80% targeted for a maturing pipeline.

Encouragingly, for the farmed abalone sector (which also includes Sea Harvest and I&J), Abagold's outlook for the year ahead is fairly optimistic.

Van der Merwe noted that the market conditions via the traditional channels and markets – especially Hong Kong – had been complicated since the first quarter of 2020 with demand depressed.

"The further complications of protest action in Hong Kong and the global impact of Covid-19 on demand, created an environment of uncertainty for our sales and marketing team."

But Van der Merwe felt that the improved offerings from Abagold's mature pipeline and the slow recovery of base demand in traditional markets – together with some momentum in new markets – had given the team the comfort that demand would recover in the first half of 2021. "This will allow the business to gain some momentum in the year ahead."

Farewell JSE

THE JSE is seemingly no longer a happy place for several Cape Town companies.

In short succession three small Cape Town-based companies have opted to delist from the JSE – meaning they will no longer be open to public scrutiny...or subject to increasingly stringent listing regulations.

Construction group Mazor (which special-

ises in claddings for buildings), KayDay (which manufactures timber boards) and Mettle (which is a specialist financier) have either left or are in the throes of leaving the JSE. Mazor and KayDay have been listed for around a dozen years, while Mettle – formerly part of Christo Wiese's Tradehold – was only listed two years ago.

Mettle is subject to

a takeover by another financial services entity, which shareholders understandably supported because of a premium priced buyout offer.

The major shareholder in Mazor and KayDay respectively are buying out minority shareholders – at prices, some may argue, undervalue the operating assets and discounts prospects in a post-

Covid19 environment.

Because of a lack of tradability in both these companies' shares, the respective buyout offers – even though not reflective of the real underlying value – were not resisted too strenuously.

Both KayDay and Mazor have endured some highly successful years on the JSE, and paid solid dividends.

But a general lack of interest in smaller companies on the JSE neither company would realistically be able to use the exchange platform to raise fresh capital, or use its paper (shares) to make acquisitions.

Mazor has traded in the red recently and probably leaves the JSE at a low point for the general construction sector. KayDay, on

the other, hand looks in finer fettle with prospects bolstered by an upturn in the timber market.

The delisting of these three counters follows the buyout of Pioneer Foods by PepsiCo, and subsequent delisting of that Stellenbosch-based company from the JSE.

The big question for the year ahead is whether more Cape

Town-based companies might decide to exit the JSE.

Already Trencor, which was started by the Jowell family more than 50 years ago, has disposed of most of its operational assets involved in the container leasing sphere.

Once Trencor pays out its cash holdings to shareholders the company is likely to delist from the JSE.

Toxic scrap: Wind and solar's not-so-green flipside

Continued from P1

broad agreement that the mounting turbine graveyards aren't a tenable long-term solution.

The problem will only become compounded over time. According to analyst firm Bloomberg New Energy Finance, tens of thousands of wind turbines will need to be replaced in the coming years as the oldest models on the market will soon be worn out. In the US alone, this

means 8 000 blades will be decommissioned and then buried annually ahead of 2024. The figure for the EU is 3 200.

At the same time, more and more turbines are being built. If the current trend continues, the US will be stuck with 720 000 tons worth of blades, that will have to be buried if another avenue for disposal doesn't present itself.

There are, however,

(Ed: not so green) alternatives: For instance, blades can be broken down in special ceramic vacuum furnaces with temperatures of up to 700°C – an expensive option and one that pollutes. Startups and several industrial heavyweights are working to find a better method.

Veolia North America and GE Renewable Energy, have produced a clever method to crush the giant blades

into piles of small, rock-like clumps in a special compressor. This material can then be used in concrete and can even, the company says, reduce CO2 emissions in cement production by 27 percent on account of small bits being a cleaner raw material.

Global Fiberglass Solutions, a startup, is working on the same technology, and the company says it expects

to soon process up to 7 000 blades per year for each cement plant fitted with its machines.

Commercial innovation might also be to rectify the darker side of solar panels. Recycle PV Solar, founded in 2018, says it will be able to recycle up to 90 percent of an old panel in an economically viable way. These techniques are simply not yet commonly known, the company underscores on its

website.

The National Renewable Energy Laboratory's (NREL) research team reaches the same conclusion and highlights a series of innovations that in theory could be capable of recycling or defensibly breaking down 95-100 percent of the materials from a scrapped solar panel.

The only thing that's missing is a bag of investment capital for

startups with vision and fortitude. Meanwhile, the clock is ticking.

English Edit: Daniel Frank Christensen
The original of this edited version was written by Thomas Høy Davidsen and appeared in *Energy Watch*, 04.01.21.

For the original article visit: [www.https://energywatch.eu/EnergyNews/Renewables/article12664321.ece](http://www.energywatch.eu/EnergyNews/Renewables/article12664321.ece)

Chips down for casinos

GAMING companies have been so stretched by the Covid-19 lockdown and related restrictions that the fate of the 'second' casino in the Cape Town metropole has almost been forgotten.

Not that the big casino operators – Sun International and Tsogo Sun Gaming – would be thinking about spending billions on developing a new casino in Cape Town when their respective balance sheets are labouring worryingly under a considerable debt load and while cash flows are stunted by trading restrictions associated with the lingering pandemic.

As it stands, Sun still enjoys an extended monopoly period with its GrandWest property – which officially saw its exclusivity arrangement end in 2013 – still the sole casino operating in the greater Cape Town area.

Officially, though, the Western Cape Twentieth Gambling and Racing Amendment Bill and the Western Cape Twenty-First Gambling and Racing Amendment Bill were both published in early May last year. This pro-

vides for the relocation of an "outlying casino licence" to the new Helderberg zone.

The outlying casino licences are Caledon, Mykonos, Garden Route – which are all owned by Tsogo – and the Golden Valley casino in Worcester, which is owned by Sun.

If these bills are enacted, GrandWest's so-called exclusivity zone will be reduced from 75km to 25km.

Three years ago the prospect of a second casino licence being allowed in the Cape Town metropole would have caused a good deal of excitement.

But right now Covid-19 has rendered both Tsogo and Sun – who hold all the cards in the Western Cape casino segment – very vulnerable. With debt levels barely being serviced by cash flows the enthusiasm for splurging capital on a new casino development must be seriously lacking.

While the limited operating regime – no serving of alcohol and restricted trading hours under the curfew – must be frustrating, casinos did show some evidence of resilience in the second half of 2020.

Sun, for instance, reported that casino income for the month of July achieved 39% of income earned during the comparative month in 2019.

The group said it expected casino results to continue to recover strongly following the lifting of the lockdown. Sun disclosed that casino operations continued to post a strong recovery during August – achieving 56% of the prior corresponding period's income.

Of course, that is off a low base. In the half-year to end June (including most of the stricter lockdown weeks), Sun's flagship GrandWest casino could only muster R434 million in turnover compared with over R1 billion in 2019. Profits were markedly down at R80 million compared with R396 million in the 2019 interim period.

The Golden Valley casino in Worcester managed to scrape together revenue of R38 million (R82 million last year) – but went R8 million into the red.

In view of the poor performance by

Golden Valley, it is interesting to note that Sun said it is weighing up a review of "the small unit operating model"

Significantly Sun recently disclosed that it sold its Carousel Casino licence in the North West province.

Whether Golden Valley may be put up for sale is debatable. With Sun already holding the GrandWest casino, it seems unlikely that the group will be allowed to shift the Golden Valley licence to the Helderberg area. That said, if a second casino does open up in the Cape Metropole – and closer to Worcester – then the viability of the Golden Valley casino does come into question.

Tsogo – in its last set of results for the six months to end September – reminded that with significant investment in infrastructure, high employment numbers and staff costs, casinos were not built to operate in a constrained environment. It stressed there was severe pressure being placed on the group's cash flow and debt position in the interim period.



Tsogo said no major projects are planned for the next year – adding that investments and acquisitions in the industry and the possible sale of non-core assets would be continuously evaluated.

At this juncture Tsogo does not appear to be weighing up the sale of any small casinos – which would include Mykonos and Caledon – preferring to focus on the sale of surplus property.

Tsogo did indicate that the month of October delivered a solid performance and a further improvement as a

result of the relaxation of the curfew being applicable for the full month.

The group argued that reduced levels of revenue (due to restricted trading) could be offset by a lower cost base. In addition lower capital expenditure and a halt on dividends gave management confidence that debt levels could be reduced significantly by September this year.

The clear and determined inward focus on surviving the side-effects and potential after-effects of the

Covid-19 pandemic surely will mean that progress on establishing a second Cape Town metropole casino is at least a handful of years away.

It might be possible that a new casino venture can be pursued on a partnership basis – with private equity players probably chomping at the bit to make new investments.

But CBN would bet that any shuffling in the existing Western Cape casino licences will be a long game. Who knows, bets might even be completely off the table?

Disarming deals

TWO Cape Town-based investment companies divested from their defence-related interests late last year. Stellar Capital Partners – which once was touted as a vehicle to carry retail tycoon Christo Wiese's smaller strategic investments – has sold its two business units housed in Retreat-based technology business Tellumat.

Defence & Security business units to Hensoldt South Africa.

Pretoria-based Hensoldt has a strong presence in SA, and designs, manufactures and sells a variety of highly technical solutions for defence and security applications internationally.

Stellar explained that Hensoldt South Africa and Tellumat had business areas that

lance and reconnaissance applications).

What Stellar did not reveal was the transaction value.

The record will show Tellumat was originally acquired for around R280 million. Later a 51% stake in Tellumat was sold to Amalinde Technologies for an attractive price of R180 million. But by the end of June 2020 Stellar's share of Tellumat's value – based on the estimated recoverability the sale of remaining operations was just R8.9 million.

In another 'disarming' African Empowerment Equity Investments (AEEI) – which owns Premier Fishing & Brands and Ayo Technologies – retreated from its strategic investment in SAAB Grintek Defence (SGD).

In 2015 AEEI

acquired a 25% (plus 1 share) stake in SGD. SGD was considered one of AEEI's prime 'strategic investments' – alongside its stake in British Telecoms SA.

Although it seems AEEI had plans to reinforce its shareholding in SGD, a call option was triggered by SAAB after the lapsing of the 60 month investment agreement.

Essentially this meant SAAB (re) acquired AEEI's 25% (plus one share) stake SGD for R150 million.

While AEEI appears to have made a decent turn on the investment and would welcome the additional cash in its coffers, there might be some regret in relinquishing an investment in a specialist business that was renowned for strong export earnings.

SGD operates mainly as a South African



defence and security company. Its expertise lies in electronic warfare systems, sensor, technology, command and control, training systems, avionics, security and support solutions to the African and international markets.

The sales price, though, seems decent

considering that the loss before tax attributable to the SGD net assets was over R17 million for the year to end August 2020.

Interestingly, both defence disposals by AEEI and Stellar followed a similar move by Stellenbosch-based investment company

PSG Group – which sold its 25% stake in antenna specialist Alaris Holdings in December 2019.

Alaris specialises in global radio frequency technology with a focus on defence and specialised antennas for mainly international customers.

"The record will show Tellumat was originally acquired for around R280 million. Later a 51% stake in Tellumat was sold to Amalinde Technologies for an attractive price of R180 million."

According to an official statement, Stellar – which owns 49% of Tellumat – confirmed the sale of the technology group's Air Traffic Management and

complemented each other – including sensors and communications (particularly for unmanned aerial vehicles and other airborne intelligence, surveil-

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THE BEE IN MY BONNET COLUMN

Legalised theft or when is a TV not a TV?

If the SABC gets its way, you could be charged not once but three times for a third rate service.

LOOKS like I shall be in court soon, answering a charge of not paying my TV licence.

A week or so ago I received an email from a firm of debt collectors, who have been contracted to the SABC to collect unpaid licence fees.

After pondering the communication for a millisecond I decided that although the amount is small – R130,00 – it's the principle of the thing dammit!

I placed the following points in a courteous reply:

"I am disinclined to pay a licence for a service that I don't make use of for the following reasons:

- SABC is an inferior service, managed by political appointees with no broadcasting or communications competence.
- SABC promotes ANC propaganda
- I will not support such a scandal and debt ridden organisation
- Gross mismanagement has led to a financial loss of more than R400-m in the last 12 months and a slew of law suits that if proven, amount to more than R1-bn. A government bailout of over R3-bn is sought by the Minister.
- I already pay for

DSTV where I have the choice of both local independent and international news channels, international sport and entertainment.

- Although free, I choose to subscribe to Fine Music Radio and listen to independent channels such as Cape Talk.
- I object to having to pay a licence fee AND having to endure advertisements. One or the other but not both, although one pays a hefty subscription for DSTV, I overlook the ads due to the choice and content quality.
- I pay for an internet

service which includes access to a multitude of independent business, news and other services.

"While I appreciate that me paying a licence fee would help those less fortunate with access to a communications service, the SABC's recent history (+R500-million debt, corruption, mismanagement and Hlaudi Motsoeneng et al), inferior content and political bias mitigates against this. Perhaps when the SABC is a truly independent broadcaster with competent management and staff, then I may consider paying a

licence fee for a service that is worthwhile."

I received a follow up phone call from the debt collectors who informed me that I had got it wrong about the licence fee – that it was the fee levied to operate a TV set, not to receive channels. OK, I said, and who is the recipient of the licence fee? The SABC I was told!

Now the SABC (thankfully) don't make, sell or distribute TV or radio sets for that matter, or distribute the signal, so it is fairly clear to me that the licence fee that is levied is precisely used for providing 'channels' and content that

I object to and don't view or listen to.

I realise that I'm in contravention to section 27 of the Broadcasting Act 4 of 1999, but my TV set can't receive a terrestrial signal (as transmitted by the SABC) and is merely a monitor that can display a decoded satellite and / or an internet signal.

As the dominant player, DSTV mostly pay for the content on their platform and then recover the cost from subscribers and advertisers, making a tidy profit in the process.

'Mostly' apparently doesn't include the SABC channels, but if one chooses to watch

the SABC's offering via DSTV you're paying for the privilege through the hefty subscription, whether DSTV are paying SABC or not. So paying a TV licence while receiving DSTV, means that you are effectively paying for the same inferior content twice.

But wait, there's more! The SABC are now pushing for a licence fee for all devices that can receive an internet signal and potentially receive their broadcasts. So for a DSTV subscriber, you face the prospect of paying three times for the same lousy service!

Eish!

Kaap Agri - a new brand identity

KAAP AGRI has unveiled a new logo and brand structure. The 108-year-old agribusiness, which trades in agricultural, fuel and related retail markets, is introducing a refreshed logo and consolidating its trade and retail businesses under one brand.

The announcement comes as the JSE-listed group presented a resilient financial performance, declaring a 4.7% increase in gross profit for the financial year.

"Our brand strategy and new look is the result of a year-long brand analysis and design process. Our aim was to find a solution which would

simplify our brand structure, improve customer awareness of our brands and have enough built-in flexibility to support our future growth ambitions," says Kaap Agri CEO Sean Walsh.

"Going forward, Agrimark will be positioned as the main customer-facing brand and the group's trade and retail businesses will all adopt the Agrimark brand name. This means that existing brands including Wesgraan, Pakmark, Liquormark, and Kaap Agri Mechanisation will be retired.

"Alongside our Agrimark stores, our Agrimark brand now includes Agrimark



Example of new Agrimark branding.

Grain, Agrimark mark Liquor, Agri- Agrimark Tyre and Mechanisation, Agri- mark Packaging, and Fitment. Agrimark

Value-Added Services include Agrimark Financial Services, and the newly-launched Agrimark App. Financial Services is being positioned as a more customer-facing offering and new growth projects will also carry the Agrimark name, like Agrimark Pet, our new standalone pet store, the first of which is scheduled to open in Cape Town in December."

"Apart from achieving cost efficiencies, moving from several different brands to one main customer-facing brand will ensure our one-stop agri-lifestyle offering becomes more recognisable, especially amongst new

customer segments," says Walsh.

He adds that the consolidated Agrimark brand structure will also benefit the company's suppliers and their product brands as the group continues to optimise its retail offering.

At a corporate level, the Kaap Agri brand will remain the parent brand and will be focused on employees, the investor community and other external stakeholders.

"Kaap Agri is trusted in the farming community. We've built intergenerational connections and the brand carries a lot of historical value," explains Walsh.

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Glove to speak

IT started with a glove designed to help him speak to his parents, both of whom are deaf. Now it has the potential to break down communication barriers in banks, hospitals, schools and even airports.

Lucky Netshidzati is the inventor of sign language recognition technology that helps the non-hearing communicate with the hearing.

Lucky's technology was recently the subject of a Standard Bank brand repositioning advertisement and his work has received recognition all over the world.

The technology, which started off as an intelligent glove which translates sign language into a computer-gen-

erated voice, is nearly ready to go to market in the form of sign language recognition technology. It requires only a television, mounted camera, and mobile app to allow people who could not speak to each other in the past do so with ease today.

"I was raised in a deaf community and growing up I had difficulty communicating with my parents. Both are deaf so there was always a communication barrier between me and them. Many of my parent's friends were also deaf so I was exposed to the community quite a bit growing up."

Being part of this community at an early age lead to many challenges for Lucky, so when he was in high

school his parents chose to send him to live with his grandmother.

In 2015 Lucky started researching his invention and in 2017 the glove was patented and has received attention from both local and international parties.

But how does it work?

"The technology allows for ease of communication both ways. On one end a deaf person wears gloves with flag sensors attached to it. When the person signs the sensors read the gestures of the movement of the hand and translates it to voice. The technology also allows for a hearing person to communicate with a deaf person using a mobile app. The app detects your voice and translates what you

are saying into South African sign language which is displayed on the phone thanks to a coded database of animations. Your voice is also converted to text which is simultaneously displayed on the phone."

The next evolution of the technology includes the use of smart screens in spaces such as hospitals, banks, libraries, classrooms, and airports. In this case a deaf person does not need the smart gloves to communicate but would sign in front of a screen with a camera attached to it. The camera picks up the hand movements and sends this information to screen hardware which detects the gestures and movement of the hands and trans-

lates them to voice and text which appears on the screen - eliminating the need for a translator in these environments.

The prototype of this technology as well as the glove technology has already been developed and Lucky is currently looking for investors to roll his invention out in South Africa first before taking it to the rest of the world.

"If we can get the funding we need, we could be out in early next year. We are trying to eliminate the challenges that come with interpretation. In my research and work with disabled people I asked them what some of the challenges they were facing were. One of the challenges that came up was the need

for an interpreter to communicate in lecture theatres and classrooms and that there is often room for human error which leads to the wrong information being translated. The vision behind the technology is to eliminate human error and to ensure that everyone can communicate no matter their hearing ability," Lucky says.

One of the places that Lucky's technology might find an application is in the Dubai International Airport which is one of the biggest interchanges for travel in the world and where language barriers can often be a problem. It also has potential applications in hospitals, banks and schools.

Engen launches proudly SA private label Quickshop & Co.

True to its proud history of innovation and customer service, Engen has launched an exciting new private label convenience brand, Quickshop & Co. with all products in the range locally sourced and offering good quality at a great price.

South Africans have come to expect constant innovation from South Africa's favourite petrol station* brand, which revolutionised the retail petroleum sector with the introduction of the Quickshop convenience store concept in the early 1990s, Woolworths Foodstop in the early 2000's and Krispy Kreme in 2019, amongst various other convenience partnerships, least of which are the partnerships with leading rewards programmes, eBucks and Clicks Clubcard.

"Constant innovation is a key driver for Engen, which is why we are extremely excited to launch Quickshop & Co., our private label range which is authentically South African and offers exceptional value and convenience," says Engen's General Manager: Retail, Seelan Naidoo.

"The range of proudly South African products is available at participating Engen Quickshop stores including a braai range, which many South Africans are already enjoying this summer."

The braai range includes the essentials needed for a perfect braai, including: briquettes, firelighters, sauces and spices, paper straws, serviettes, light and heavyweight foil, sea salt and black pepper, utensils, serviettes, water (Sparkling & Still), plates and cups, and a Birchwood Cutlery range.

Customers can choose between four marinade flavors – barbeque, spicy, sweet & sticky and sweet chilly – all of which are ideal for basting or as a marinade for chicken, chops, steak and ribs. The full seasoning range is gluten and preservative free, with no added MSG or food colourants.

"Our authentically South African private label Quickshop & Co. range offers exceptional value and convenience for our customers as well as recyclable and sustainable packaging. Research has shown that our customers are cost and value-driven and we have taken great care to offer them locally produced products that are sourced from within each surrounding province," adds Naidoo.

For example, Quickshop & Co. sparkling and still water (500ml, 1l, 5l) is sourced close to Matjiesfontein in the Karoo. The area is one of the richest sources of pure mineral water because approximately 170 meters below ground are rock formations that naturally filter and mineralise water, delivering a pure, crisp taste with a silky feel in the mouth. This special spring is hidden from all city pollutants and contamination and is both delicious and nutritious for the whole family.



Engen Quickshop & Co private label braai range.

Quickshop & Co. briquettes are made from Namibian intruder bush, which is harvested to return grassland to its original state. Due to the properties of this invader plant, these quality briquettes can be produced with long lasting burning properties and provide a clean burning braai with a woodsmoke flavour.

While Engen continues to have the largest service station footprint in South Africa, the company's constant innovation and customer service focus places it ahead of the pack in brand recognition and loyalty across all audiences.

Staying relevant and placing the customer at the very heart of the business is an over-arching priority for Engen, which means the company continues to invest great effort into remaining an attractive stop-over for motorists.

"Some exciting plans ahead include the launch of the Quickshop & Co. biltong, dried fruit and nuts range in February 2021."

To remain a compelling, top of mind destination for fuel and convenience needs, Engen maintains a firm focus on consistently invigorating the Engen brand and its associated offerings.

Comments Naidoo: "It's about never standing still, and continually seeking relevant and innovative ways to meaningfully impact our customers lives."

While pumping over 1 in every 4 litres of petrol purchased in SA, and with over 149 million customer visits to their forecourts and 177m customer visits to their convenience stores in 2019, Engen is also continuing to woo customers by increasing its industry leading service station footprint and continually growing its share of the local fuels and convenience market.

"The launch of our ground-breaking Engen 1app earlier this year, which conveniently offers motorists a contactless way to pay, has also been very well received as it provides a safer customer service experience, as there is no touching of devices, cards or cash required.

"Now our new private label brand aims to provide quality, value and variety that our customers can trust while on the move," he adds.

Look out for more great products coming soon, just for you!

* As voted for 10 consecutive years (2011-2020) in the Sunday Times Top Brands survey. Engen has also been voted the "Coolest" petrol station for 11 consecutive years (2010-2020) in the Sunday Times Generation Next Brand survey.

ENGEN SUNSET BEACH offers a slice of Andiccio24



Lee Pillay (centre), the dealer at Engen Sunset Beach at the official launch of Andiccio24.

Engen's fast-food convenience offering is flourishing, and Cape Town customers can now enjoy a slice of Andiccio24's delicious pizza at Engen Sunset Beach Convenience Centre in Milnerton.

Opened officially on 4 December 2020, Engen Sunset Beach operates 24/7 and offers customers a diverse range of convenience services along with Andiccio24's gourmet Italian cuisine.

Conveniently located in a high traffic area on the corner of Otto Du Plessis Drive and Ocean Way in Milnerton, Engen Sunset Beach offers both sit-down and pizza deliveries for residents in the Milnerton, Sunset Beach and Table View areas.

It's bouquet of convenience offerings also includes an Engen Quickshop, Steers and ATM machines covering major banking brands.

Engen General Manager: Retail, Seelan Naidoo says Engen is extremely excited to partner with a vibrant brand like Andiccio24, who source only the finest ingredients and the most skilled and passionate pizza makers.

"Engen Sunset Beach is the perfect launchpad for our first Andiccio24 partnership and we believe that this site will become a flagship in our network," says Naidoo.

Since launching in 2008, Andiccio24's has grown to 27 stores, operating predominantly in Gauteng.

The new partnership means that South Africa's favourite petrol station* brand can now offer customers more choice and variety.

"Andiccio24 complements Engen's basket of pizza offerings, which already includes Debonairs for customers who enjoy an American style pizza. For our customers who are fans of a thin-based Italian pizza, Andiccio24 offers this style of wood-fired pizza," adds Naidoo.

With plans to launch a second Andiccio24 outlet at Engen Settlers Way in Mowbray this month, and with the brand actively searching for additional locations, Engen customers across the country can look forward to their 'slice of the pizza' soon.

"At Engen we are passionate about progress and we will continue to shake up the local petroleum market and move with the times, while always providing our customers with the best service, the best value and the best convenience offerings."

* As voted for 10th consecutive years (2011-2020) in the Sunday Times Top Brands survey. Engen has also been voted the "Coolest" petrol station for 11 consecutive years (2010-2020) in the Sunday Times Generation Next Brand survey.

<https://www.engen.co.za>



With us you are Number One

"It's about never standing still, and continually seeking relevant and innovative ways to meaningfully impact our customers lives," says Naidoo.

Electronic engineers help wine growers to vintage success



ENGLISH wine is taking off, with more and more people recognising its award winning quality and production growing by the year. A generation ago it was wise to steer clear of 'British wine', blends of cheap wine from generally unnamed sources. But since then, a warming climate and improvements in viticulture has seen a whole new industry blossom. Commercial vines are now grown throughout the UK, predominantly in the south of England about also in Wales and even Scotland. Viniculturalists all over the world know that without treatment, large portions of any vine crop will routinely be lost to fungi, bacteria, and – the blight of the industry - mildew. The English growers also realise that like all developing industries,

as production grows so the need for efficiency increases.

Oxfordshire's Heli-Lift Services has been pioneering the use of helicopters for spray treating grapevines, using technologies developed by neighbours Sensor Technology - represented in SA by INSTROTECH. Starting in the historical vineyards of Douro Valley, Portugal, where with little room for tractors, Heli-Lift soon realised that aerial spraying was very much more efficient and cost effective than traditional manual methods. It is now promoting its capabilities to English vine growers, who are all keen to innovate and advance their industry further onto the world stage.

Heli-Lift Services' spraying rig is designed so that its

nozzles release perfectly weighted droplets evenly and swiftly over the crop. The company has also developed a hydraulically stabilised Heli-Deck for easy refilling on rough or sloping ground. To ensure even spray coverage, the pilots use a sophisticated GPS mapping device called HeliNav LoadMaster coupled with an intelligent LoadSense weight sensor that monitors spray usage to plot and record progress in precision detail.

The pilots asked if Sensor Technology could link the load information with accurate GPS positioning, to automated flight planning for optimised spray patterns, and HeliNav LoadMaster was born. The load sensing and position monitoring technology developed by Sensor

Technology is essentially simple, yet is accurate to very fine tolerances. LoadSense combines Sensor Technology's wireless signalling with a strain gauge Load Sensor. It has the capability of wirelessly transmitting its data to a readout where it both displays live readings and records them to build up an exact profile of each operation. Its inbuilt 32MBit memory can hold up to 280 hours of data which can then be downloaded to a PC via its USB cable.

HeliNav LoadMaster provides position information through an on-board GPS (global positioning system), inclinometer and accelerometer and helps pilots plot and follow flight paths, monitor flight times, fuel requirements, etc. As such it makes even the most complex spraying jobs simple and efficient. It also logs the weight of the load and the distance travelled, so that the helicopter operating company can provide the client with accurate work reports and precise billing as well as schedule timely maintenance.

For more information: 010 595 1831, sales@instrotech.co.za

TNPA head office to relocate to Port of Ngqura

THE Coega Development Corporation (CDC), developer and operator of the Coega Special Economic Zone (SEZ) welcomes the move by Transnet National Ports Authority (TNPA) to relocate its head office to the Port of Ngqura.

"It's a much-welcomed move and one the CDC looks forward to with keen interest bearing in mind the symbiotic economic enabling relationship the CDC and Port of Ngqura have enjoyed over a long period of time," remarks Dr. Ayanda Vilakazi, CDC Unit Head of Marketing, Brand & Communications.

"We see this decision of the TNPA as showing the commitment to be closer to clients, ensure unblocking of projects, and also facilitate further the competitiveness of ports, impacting positively on the various port users," adds Dr. Vilakazi.

"TNPA provides the assurance that there are adequate, affordable, equitable and efficient port services and facilities available to the users of

the ports. In addition, TNPA provides high levels of service and increasing efficiency for a growing customer base, enhancing South Africa's global competitiveness and facilitating the expansion of the South African economy through socially and environmentally sustainable port development," says Dr. Vilakazi.

With the establishment of the Coega Project as far back as 1999, the Port of Ngqura has added tremendous value to the Coega SEZ due to its strategic location. The relocation of the head office, to Port of Ngqura is a critical enabler in tapping into the raw potential of the Eastern Cape (EC) economy, its role in improving the overall competitiveness of South Africa, and unlock opportunities in the coastal regions, further realizing the country's strategy on the Oceans Economy.

The Coega SEZ sees itself as a crucial linkage to the Port of Ngqura, and the symbiotic on the ground experience will be of benefit to the rest of

the TNPA staff located here, as part of ongoing programmes to improve the competitiveness of the South African ports.

"It is worth mentioning that there are various national strategic projects on which we are already collaborating with the TNPA, including the proposed Gas to Power Programme, following a declaration by national government that the CDC will be the location for Liquefied Natural Gas (LNG) through the allocation of 1 000MW. The Port of Ngqura is required to play a pivotal role in laying the groundwork in preparing for the project."

Moreover, the CDC is particularly keen to advance the Coega SEZ's Transshipment-Hub strategy, with Zone 1 (back of Port operations) set aside as a maritime and logistics area that is integrated with the deep-water Port of Ngqura. The Transshipment Hub has proven successful in other countries like at the Port of Singapore, concludes Dr. Vilakazi.

See-through environmental control



Apex Strip Curtains are ideal for cordoning off areas within a facility.

WIM Dessing, sales executive of Apex Strip Curtains & Doors, says high quality PVC strip curtains offer an affordable solution in various applications where dirt, dust or insects need to be kept out and hygiene, humidity, temperature and noise need to be controlled.

Apex General Purpose Strip Curtains are equally at home in heavy engineering and light fabrication facilities as well as packaging and warehouse opera-

tions. Significantly, these locally manufactured strip curtains feature a patented Balledge® design which facilitates an optimal thermal seal.

The specially formulated PVC material used to produce these high quality strips is transparent making it ideal not only for doorways and similar openings, but also for cordoning off areas within a facility.

Dessing cites as an example instances where the product has

been used to enclose loud machinery to contain noise levels or where it is used to control the level of humidity where this is critical to the quality of finished products.

"Tests have shown that PVC strip curtains can reduce noise levels by between seven and fifteen decibels, and this certainly assists in improving working conditions," he says.

Being transparent is a major safety advantage as using strip curtains does not impede

visibility or obstructing operations.

In packaging and warehousing operations where keeping the temperature at specific optimum levels is critical, use of strip curtains has proved valuable. Applications where temperature control is important also include food preparation areas, cold storage and freezer areas, as well as refrigerated trucks. In such facilities, PVC strip curtains are also effective in keeping out dust and insects thereby maintaining high levels of hygiene.

Similarly, in pharmaceutical and chemical plants PVC strip curtains are used to ensure hygienic and dust-free manufacturing and packaging areas.

Apex Strip Curtains & Doors has been manufacturing PVC strip curtains since 1981, and the company's team is able to assess individual applications and propose the best fit solution to meet the operating parameters.

Another year of clean audits

By David Maynier,
Western Cape
Minister of Finance
and Economic
Opportunities



THE Auditor General of South Africa (AGSA) has completed the audit for the 2019/20 financial year in the Western Cape.

We are pleased to announce that of the 22 provincial departments and entities that received an audit outcome, 21 (96%) of the auditees received an "unqualified" audit outcome on their annual financial statements, while 17 (77%) received a coveted

"clean" audit (unqualified with no findings).

One department, the Department of Health, has not been finalised due to a delay by the AGSA as a result of the Covid-19 pandemic. They have estimated that the audit results for the Department of Health will be finalised in January 2021.

In the 2019/20 financial year, of the 12 Western Cape Government departments that received audit outcomes, 10 received "an unqualified opinion with no findings", or "clean audit", one received an "unqualified opinion with findings", and 1 received a "qualified opinion with findings".

The Department of Agriculture remains qualified as a result of a long-standing matter of a technical nature. After a Western Cape High court exonerated the department, we now await the matter to be finally determined by the supreme court of appeal.

Of the 10 Western Cape Government public entities, seven received an "unqualified opinion with no findings", or "clean audit", three received an "unqualified opinion with findings", and none received a "qualified opinion with findings" in the 2019/20 financial year.

And the Western Cape Provincial Parliament received an "unqualified opinion with no findings", or "clean audit", for the 2019/20 financial year.

These audit outcomes are the result of a concerted effort by all officials to ensure that good governance and good financial management remain at the heart of what we do in the Western Cape Government.

I would like to express my sincere gratitude to all the officials within these departments and entities for their diligent leadership and hard work in delivering this result.

MER Project launched in the Western Cape



THE Western Cape Government has launched its three-year Municipal Energy Resilience (MER) Project to assist municipalities to take advantage of the new energy regulations, which may include purchasing energy directly from Independent Power Producers (IPPs), so that we can create a more energy secure future in the Western Cape.

The MER Project will help municipalities across the Western Cape to understand the requirements of the new national energy regulations, and mitigate related risks as well as provide for network and operational capacity requirements for energy project development and procurement in municipalities.

The procurement of energy at utility and municipal distribution scale, such as bulk energy purchases from IPPs, under conditions of developing and evolving policies and regulations is a complex and challenging task. Municipalities may not have the policies, plans, resources, funding, or procurement expertise to procure wholesale electricity from sources other than Eskom, specifically IPPs. Neither have all municipalities' electricity distribution systems been technically evaluated to clarify their readiness to support new electricity

generation and energy trading.

The MER Project is structured in the following three phases:

Phase 1 involves the identification of potential candidate municipalities and pioneering projects and the development of a roadmap for rolling these out. The work will explore multiple pioneering renewable energy technologies and scales, cost options, scale of investment required, location issues, risks, municipal readiness needs, infrastructure needs, timelines to get capacity onto the grid, transaction and procurement mechanisms and regulatory issues.

Phase 2 will focus on starting the implementation of the pioneering energy projects in the identified candidate municipalities along with working with municipalities to help fill gaps to enable future energy project implementation.

Phase 3 will see the development of a master plan for energy projects to be rolled out in municipalities along with the commencement of energy projects in further municipalities as budget allows.

While only a few municipalities are likely to be able to procure utility scale energy from IPPs in the near term, there are other energy generation and storage opportunities that may serve

to improve municipal energy resilience and future economic growth in the Western Cape.

To support the MER Project, two bids have been advertised in the Government Tender Bulletin on 20 November 2020 and all applicable parties are invited to apply:

For strategic advisory support - <https://etenders.treasury.gov.za/content/department-economic-development-tourism-seeks-appoint-service-provider-extensive-energy>

For project development services - <https://etenders.treasury.gov.za/content/department-economic-development-and-tourism-dedat-seeks-appoint-service-provider-extensive>

Cumulative load shedding in 2020 was 23% worse than in 2019 despite a 9% decrease in real GDP. This is estimated to have cost the country's economy R500 million per stage per day and the Western Cape's economy R75 million per stage per day. Recent regulatory changes in the energy sector have started to open the door for new renewable energy generation which will allow for an increasingly decentralised system of energy generation and distribution to mitigate the risk of load shedding in South Africa.

CNH acquires four divisions of CEG

THIS transaction will enable the Company to expand its direct distribution network in southern Africa and drive continuous development of new and improved services for our customers in the region.

CNH Industrial N.V. has successfully concluded the deal to acquire the four businesses from CEG, a business unit of Humu-

lani Marketing Pty Ltd, ultimately owned by Invicta Holdings Limited. The businesses to be acquired from CEG are: Case IH distributor Northmec; CASE Construction Equipment distributor CSE; spare parts distributor NNSA; and spare parts and implements distributor Landboupart.

While these four divisions will continue to do business under

their established market identities, they are now an integral part of CNH Industrial and will continue to support the Company's dealer network and end users.

The transaction enables CNH Industrial to consolidate the distribution of Case IH Agriculture, CASE Construction equipment and aftermarket services in South Africa.

Gears and lubrication

CALLUM Ford, National Marketing Manager at Lubrication Engineers (LE) South Africa, says that while gears have been around for centuries, modern gears have been engineered to perform heavier work and carry greater loads than ever before. He says that in the automotive, aviation and marine areas, among others, there's an increasing demand for more power in smaller packages. "Gears are used to transmit this power, so people are always looking to boost the load capacity of gears," he says.

Lubricant manufacturers are continually developing better gear oils to help carry these increased loads safely. Ford says that the company will always make a recommendation based on an assessment of exactly what is needed, such as what loads, temperatures and contaminants the gears will be subjected to.

This begins by understanding the type of gear the customer needs to lubricate. These may include:

- **Spur gears:** Cylindrical gears with teeth cut parallel with the axis on the surface of the cylinder – most commonly found on industrial machinery working under ordinary conditions at moderate speeds

and tooth pressures.

- **Bevel gears:** These gears have teeth cut on an angular surface, like a section of a cone, and are used for the transmission of motion between shafts with intersecting centre lines.
- **Spiral bevel gears:** Similar to a bevel gear, but with the teeth spiralling around the cone. In nonparallel shafting, it is usually known as an angle drive.
- **Helical gears:** These resemble the spur gear in that the teeth are cut on a cylinder, but instead of being cut parallel to the gear axis, the teeth spiral around the cylinder rather than being cut parallel to the gear axis. This helix provides smoothness of operation.
- **Herringbone gears:** This gear is like two helical gears, each with reversed directions of spiral. They are placed side by side so that the teeth come together to form a chevron pattern. Spiralling the teeth in both directions neutralises end thrust.
- **Hypoid gears:** These spiral bevels have a pinion lowered below the centre line of the driv-



Example of worm gears.

en gear. The hypoid gear develops a longitudinal sliding motion between the teeth of the gears in contrast to the conventional spiral bevel gear where motion is predominantly rolling, creating a wiping effect, along with high tooth pressures. The hypoid gear is being used more and more in trucks because the pinion is larger and stronger than a corresponding bevel pinion.

- **Worm gears:** This gear set comprises the worm and worm wheel or gear. The worm resembles a screw, although it is really a special form of helical gear and its teeth are referred to as threads. The worm is usually made of hard-wearing steel. The worm wheel, which resembles a helical gear, should be of a good bearing bronze. The worm

wheel is throated or curved on the face to partially envelop the driver. Its action in the worm gear is similar to the action of a screw on a nut. Due to the wedge-like action of the worm thread on the gear tooth, the set is relatively quiet in operation. It also provides a very wide range of speed reduction.

Aside from these types of gears, Ford says there are many patented gears produced by specific manufacturers. "Most of the gears mentioned can be lubricated fairly easily with a mineral oil, but hypoid gears and worm gears require special care," he says. "With hypoid gears, you need to strike a balance between two critical properties: film strength and anti-weld protection. Worm gears endure a great deal of rubbing, and therefore require more than straight mineral oils for lubrication."

Big tank

ABECO Tanks have completed construction of its biggest tank in Africa. The tank - equivalent to two tennis courts in surface area - holds 5.8 million litres of water and together with a 3 million litre supplementary tank provides one of South Africa's largest poultry producer's with a total of 8.8 million litres of saved water.

A water bank is essential if this producer is to continue surviving the almost decade long drought and water insecurity issues in the North West Province.

Water security for chickens, especially laying hens, is extremely important as they are highly susceptible to any form of disturbance and can stop laying for up to two weeks because of a single disruptive incident in the water supply.

COO of Abeco, Mannie Ramos Jnr comments: "We are the only company in Southern Africa with



the expertise to manufacture and install a tank of this size in the rapid timeframe provided. We had to connect the 5.8 million litre tank with the existing one, ensure it was water-tight, tested and safe, in a record-breaking 38 days versus 128 days it would normally take."

Despite the tank's colossal capacity, the modular design makes tanks of this nature easy to transport and easy to install. Through the marriage between careful design and premium

material the tanks are 100% hygienic and safe for livestock consumption and are unaffected by UV rays thus preventing degradation over time.

They are also built to last using an internal bracing of angle iron welded to base plates, all sealants and rubber components are non-toxic and non-tainting to ensure the purity of the water and all steel components are hot dip galvanised to prevent corrosion.

Storing water for agricultural purposes

is not a suggestion in the world of farming. It is a necessity. As water crises have shown us, the need to plan water consumption, track water saving and save for continuity of service is necessary as an effective 'insurance plan' against water interruption brought about by changing weather patterns, exploding populations and urban sprawl.

For more information go to www.abecotanks.co.za or call +27 (0)11 616 7999

Concrete that works fine – without any sand

No-fines concrete (NFC) is obtained by eliminating the fine material – sand - from the normal concrete mix. Instead, single-sized coarse aggregates are surrounded and held together by a thin layer of cement paste to add strength.

AMONG the main advantages of NFC is economy in materials, higher thermal insulating values, lower shrinkage, and lower unit weight and density. It is mainly used for load-bearing, cast-in-place external walls of single storey and multi-storey housing, small retaining walls or damp-proofing sub-base material for concrete floors cast on grade.

Here Bryan Perrie, managing director of The Concrete Institute (TCI) sheds some light on this type of concrete:

NFC consists of coarse aggregate and cement paste. In the hardened state, the aggregate particles are covered by a thin

layer of cement paste and are in point-to-point contact with each other. At each contact point, the paste forms a small fillet and these fillets hold the particles together and give strength to the concrete.

NFC therefore has large interconnected voids and a lower density than conventional dense concrete. The structure of NFC makes it ideal for use as a drainage layer under reservoir and basement floors and it can also serve as an insulating layer and as a damp-proofing material. Note, however, that NFC is definitely not suitable for drainage purposes where the water is soft or aggressive to concrete.

Materials:

* Cement – Common cement that complies with SANS 50197 should be used for NFC. Masonry cements are not suitable.

* Water - Water that is suitable for making conventional concrete should be used.

* Aggregates - Clean, single-sized concrete stone should be used, and flaky aggregates should be avoided. The most commonly used aggregate is 19mm crushed stone. Smaller stones may be used and mixes made with smaller stone are in fact easier to handle and place, but consume substantially more cement.

For most applications, mix proportions

range from 200 to 300 litres of aggregate per bag (50kg) of cement. The water content of the mix is critical: if the paste is too dry it will not coat the aggregate properly; if it is too wet, it will run off the aggregate particles and possibly block the voids at the bottom of the pour. Experience has shown that the water content should be between 18 and 22 litres of water per bag of cement.

A cubic metre of compacted NFC requires about 1.05m³ of stone, measured in the loose state. Cement content is between 260 and 180kg, depending on mix ratio.

NFC should be machine-mixed as hand mixing is difficult

and laborious. If hand mixing is unavoidable, it is best to mix the cement-water paste in a container prior to mixing the paste with the stone. When mixing the paste, mix the cement into the water rather than the other way around.

NFC must be placed and compacted as soon as possible after mixing as it tends to dry out rapidly because of its open structure. Compaction is achieved by rodding the concrete - vibration must not be used and heavy tamping is not necessary.

Because of its open structure, NFC must be protected from drying out and must be thoroughly wet cured for at least seven days unless it is plastered,

screeded or covered before that time.

NFC has a rough surface texture for plastering. Normal plaster mixes are used and the surface of the NFC must be dry when applying the plaster. Plastered NFC walls have some excellent qualities, but one drawback is that neither conventional wall plugs nor masonry nails can be used for attaching fixtures to the walls.

When used in under-floor drainage, roof insulation and domestic floors, NFC should be screeded within 72 hours of placing with particular attention paid to wet-curing the screed. Normal screed mixes of 100 to 130 litres of concrete sand per bag of cement

should be used with enough water to produce a mix of plastic consistence.

NFC has negligible flexural or tensile strength. Compressive strength is usually between 5 and 10 MPa at 28 days for mixes in the range mentioned previously. Higher strengths may be obtained by including 50kg of fine sand per bag of cement. This increases the size of the fillets, and hence the strength, but reduces the voids and increases the density correspondingly.

For further information, contact info@theconcreteinstitute.org.za or visit www.theconcreteinstitute.org.za or phone 011 315 0300.

What the fog is happening on Table Mountain?

The next time you visit Table Mountain, check out the City's innovative Fog Harvesting pilot project. The project aims to investigate fog harvesting as a means to augment drinking water supply. The City's Mayoral Committee Member for Water and Waste Alderman Xanthea Limberg visited the site to see the progress.

AS a result of Cape Town's drought shock, the implementation of desalination, water reuse, and aquifer abstraction have been implemented at an accelerated rate. Recently a project to investigate the potential of fog to directly or indirectly augment the drinking water supply was initiated.

What is fog harvesting?

In short, it is the collection of fog (water) from the atmosphere.

The principle of fog harvesting is based on the fact that air contains a certain amount of water vapour, originating from ocean evaporation. At higher temperatures, air contains a larger volume of water vapour than at lower temperatures. As air is transported up a gradient by wind, it interacts with colder air and is condensed into fog.

Key ingredients to the favourable formation of fog are high altitude mountains (> 800m above sea level) within close proximity to the coastline. The technique has been used for decades in dry and isolated regions, such as in Chile, Peru, and Spain, though mostly managed by research/academic institutions as opposed



From left to right: Mercia Volschenk, Mpharu Hloyi, Alderman Xanthea Limberg, Dr Rembu Magoba and Alderman Clive Justus.

to a municipal scale.

Various studies had been conducted on fog harvesting for domestic water supply purposes elsewhere. Most of the studies involved the use of a polymer mesh or shade cloth, kept in an upright position by stainless steel poles, that collects droplets as the wind blows the fog through the mesh. Droplets then trickle into a collection chamber.

Phase one of the pilot project, just completed, aimed to assess the suitability of the various locations on Table Mountain, and design elements for such project and also to understand the physical & chemical complexities

of fog. Factors such as the aspect, the elevation, presence of topographical obstructions in the vicinity of the site and weather conditions can affect how well a system will operate. The City's Scientific Services Branch is currently in the final stages of commissioning phase two of the pilot, which will assess potential yield at two experimental locations identified during phase one.

Once phase two is complete in December 2022 the City will have a much better idea if this kind of project can yield meaningful amounts of water and of good quality at a reasonable price. 'Implementation of this project should

assure residents that every possible effort is being made to ensure water security at a cost that is affordable to the residents of Cape Town. City officials are willing to think outside the box, and this is so important for ongoing adaptability and resilience. The more we research and understand, the stronger and better prepared we become.'

'All visitors using the Cable Car will be able to see the phase two site where a notice explains the project to the public. Hikers are asked to please keep their distance, and to avoid drinking the water as it has not been treated,' said Alderman Limberg.

Stiff penalties for POPI breach

PARTS of the long-awaited Protection of Personal Information Act 4 of 2013 came into force on 1 July 2020, and companies will have a period of one year to get their ducks in a row or risk substantial fines and even imprisonment.

The Act seeks to regulate the processing of personal information (which includes, amongst other things, collection, storage and dissemination) to ensure greater security of data and privacy. From the storing of customer data, employee data, to direct marketing and e-commerce, the commencement of POPI will have far-reaching implications, but first, businesses will need to be clear that what they are collecting is in fact personal information.

This is according to Justine Krige, a Director in the Corporate & Commercial practice at business law firm Cliffe Dekker Hofmeyr (CDH), who notes that it is almost impossible to do business these days without collecting personal information of customers, suppliers and employees. 'The wide definition of personal information includes any data or information that can be used to identify a person; from physical descriptors and contact details, to personal history, opinions and preferences.

'This information is collected in many ways, but there are gener-

ally four key areas for businesses to be aware of: market research via direct marketing; online contact forms; browsing and profiles; employment agreements; and service level agreements. For POPI compliance, it is critical to ensure that the requisite approvals are in place from data subjects in all of these areas.'

In terms of compliance requirements, Fatima Ameer-Mia, a Director in CDH's Technology, Media & Telecommunications practice, highlights the importance of having a tailor-made 'POPI Policy'. 'This is essentially a privacy policy which describes how an organisation collects, uses, stores, processes, and shares personal information of its data subjects. An organisation's POPI Policy may be embedded on its website (where applicable) and/or included in contractual arrangements with suppliers and customers.

'Critically, no one size fits all when it comes to privacy policies, so organisations should avoid 'off the shelf' bought policies and rather tailor their own.' Ameer-Mia explains.

On the topic of employment, Director in CDH's Employment practice, Gillian Lumb warns that employers will also bear increased liability for the conduct of their employees. 'In terms of section 99(1) an employer may be held

liable for the conduct of its employees, regardless of whether there is any wilful or negligent conduct on the part of the employer.'

'Employers therefore have one year to prepare for and take steps to mitigate the risk which this section creates, in particular ensuring that their employees do not process information unlawfully and that they are aware of the conditions for lawful processing and act in accordance with these conditions at all times.'

Kendall Keanly, Director in CDH's Corporate & Commercial practice says, 'The Information Officer's role within an organisation is now not only governed by the provisions of the Promotion of Access to Information Act 2 of 2000 (PAIA), but also POPI, which requires the drafting of a compliance framework, attending to any personal information impact assessment; and providing internal POPI awareness sessions.

'For business owners, contravention of POPI could result in far-reaching sanctions, including the imposition of fines, imprisonment for a period of 12 months to 10 years and/or a damages claim by the data subject. Each role player has one year within which to ensure that their business practices comply with POPI, failing which, they will fall foul of the statutory provisions,' Keanly concludes.

R600 million budget cut leaves CCMA in crisis

THE Commission for Conciliation, Mediation and Arbitration (CCMA) is in crisis after it recently announced that its budget would be cut by R600 million over three years, starting with a budget cut of R100 million in 2020. The cut was unexpected and not in line with the increased demand for its services, including dealing with the effect of the Minimum Wage Act.

The budget cut will impact heavily on the country's workers who suffered job losses due to the Covid-19 lockdown regulations, and who in cases of unfair dismissal or other labour-related problems will now have to deal with a CCMA that is not functioning to full capacity. Apart from the budget cut the CCMA has to make do with a diminished staff component due to Covid-19, which means a greater turnaround

time per case.

UASA (United Association of South Africa is one of South Africa's oldest trade unions with a rich labour history dating back to 1894.) attended a virtual discussion with stakeholders last week during which CCMA Director Cameron Morajane highlighted the changes at the CCMA, including:

- The annual use of part-time commissioners between December 2020 to March 2021 has been summarily stopped due to budget constraints. The full-time commissioners will bear the brunt of the additional work previously carried out in the December to March period.
- The Commission will switch to digital platforms where possible.
- Between March and November in

2020, 110 employees were tested positive for Covid-19 which resulted in the closure of CCMA offices on 27 occasions.

- The Commission will be focusing on conducting telephonic conciliations between parties to disputes.

Morajane said despite the challenges by the CCMA it would continue with its statutory conciliation-mediatory- and arbitral obligations.

UASA insists that government provide proper services for workers who need assistance with labour-related issues. Both workers and employers must know that there is a well-functioning CCMA to protect against abuse and unfair treatment, to retain industrial peace and carry out its mandate of social justice.

Unless the duties go, steel shortages are here to stay

Opinion from Gerard Papenfus, CEO of NEASA

OVER the course of the last few months, AMSA has repeatedly assured both its customers and Government that the backlogs would have been resolved during December '20.

allocation is done on a day-to-day basis. The backlogs are not being addressed and are to stay for at least the first half of 2021.

Since the shortages have a dramatic effect on pricing, this scenario suits AMSA perfectly. AMSA's local selling-price is nearly 50% more expensive than the better qual-

albeit, probably, only temporarily.

Government's relentless support for AMSA by keeping the duties in place is mind-boggling. All AMSA's undertakings to address the backlogs turned out to be false, yet the DTIC is apparently not in the least deterred by this extremely poor track-record. The DTIC persists on echoing AMSA's latest undertaking that the backlogs will soon be something of the past.

In this regard, it is important to note that, although AMSA has informed Government that the start-up of the second blast-furnace (late December 2020) will rapidly address the current steel shortages, which is clearly not the case, they did not disclose to Government that they are only running this oven at 50% of its capacity, thereby deliberately prolonging the period during which these high prices are supported by the shortages.

If this is not enough reason to immediately suspend the duties, a huge question mark will arise on what Government's motives actually are.

"These exorbitant prices, coupled with the duties which deter the importation of the shortfall, suits AMSA equally well."

The situation, however, continued to deteriorate, to the point where it is now an industry-wide crisis. Further assurances were then given that, with the start-up of AMSA's second blast-furnace, the shortages would be a thing of the past and that AMSA would be able to supply the market. The situation is currently still critical.

Since AMSA's capacity has been sold out long before the actual closing dates for specific orders, the normal order lead-times have become irrelevant and

ity, imported equivalent. In general, as a result of the shortages, manufacturers are so desperate for steel that they pay nearly double for the raw material. This obviously results in a totally uncompetitive manufactured product.

These exorbitant prices, coupled with the duties which deter the importation of the shortfall, suits AMSA equally well. AMSA has, in fact, become so uncompetitive with their antiquated equipment, that only exorbitant selling-prices can save them,

City's first free public electric vehicle charger launched



THE City of Cape Town has launched its first public electric vehicle (EV) charging station, situated in the parking area of the Bellville Civic Centre. This is the first of two solar powered EV charging stations that will be offered free-of-charge for the first two years to members of the public. The sites were chosen because of their convenient, safe and visible locations. The chargers were donated to the City by the United Nations Industrial Development Organization (UNIDO). eMobility offers an opportunity to create a healthier, more inclusive city, and one that uses a proactive climate change response to help drive the COVID-19 recovery.

How it works:

- A motorist with an EV drives up to the charging station. Depending on the car, reversing into the space may provide the best access to the charger.
- Limitless charging is offered and the car's charge card will be required to start the charge.
- Using their own cable, users will connect the cable to the charger and then to the car. This initiates the charge. Users can then simply lock their car and attend to other business. The system will be secure and the cable cannot be released. Unlocking the car will stop the charge and release the cable.
- The length of charge required will depend on the car and charge cable. But it takes roughly three hours to charge the battery from close to 0% to 80% for this particular 22 kW Dual AC charger.

- How long a charge lasts will depend on the car and driving style. A three-hour charge can last roughly 150km depending on which vehicle one uses.

The charging stations will be closed at night.

The demand for transport services in the city will grow in the coming years and public transport presents the best business case for electrification. Currently, 38% of morning peak trips are on public transport, with about 95% of public transport users being in the low to low-middle income brackets. As such for many Capetonians, public

transport is their main, and often, only way of getting around. Even during the peak of the COVID-19 pandemic, public transport was still in demand. Thus, the challenge the industry faces is to reduce the environmental impact of the sector while delivering improved mobility,' said the City's Executive Deputy Mayor, Alderman Ian Neilson. 'By deploying the charging stations in Bellville and Somerset West, UNIDO hopes to encourage a cultural change and awareness into the mainstreaming of EVs in the City's vehicle fleet and within the surrounding communities.

Simple reg change could fuel recovery

TANYA van Lill, CEO of the Southern African Venture Capital and Private Equity Association (SAVCA), points to a recent McKinsey report which shows that South African SMEs represent more than 98% of businesses, employ between 50% and 60% of the country's workforce across all sectors and are responsible for a quarter of private sector job growth. "Stimulus of SMEs is therefore the most effective mechanism to drive a recovery of the estimated 2-million jobs that have been lost through the COVID-19 crisis thus far," she says.

More specifically, however, van Lill believes that a simple amendment to Regulation 28 – a regulation in terms of the Pension Funds Act that specifies ceilings for exposures to different asset classes – could support this recovery by enabling considerably more investment to be directed towards SMEs. "Private equity and ven-

ture capital are major sources of funding for SMEs, but the sector is currently unable to mobilise the level of investment required and, as a result, 763 companies and close corporations were liquidated in the first six months of 2020.

"This is because the asset class is consolidated in the same bucket of alternative investments as hedge funds, which is capped at 15% of compliant funds' assets under management. Within that, private equity is capped at 10% and any one fund to a maximum of 2.5%," she explains.

As the private equity sector has grown over time, and investor awareness has increased, van Lill argues that this consolidation no longer makes sense. "The 'alternative investments' category was introduced into Regulation 28 in 2011 after pressure from institutional investors for more diversification options. Subsequently, however, investors have

built up capacity to engage with the asset class and today model the risk/return characteristics of hedge funds and private equity quite differently."

While the COVID-19 crisis has highlighted the need to amend this regulation, van Lill explains that it does not need to be overhauled. "This is a relatively simple measure that can be quick to implement. As we saw in 2011, Regulation 28 can be easily amended, and the quicker this is done, the sooner the economy will start feeling the benefits."

SAVCA has prepared a positioning paper which outlines two proposed amendments to Regulation 28:

Van Lill says: "We believe that the private equity cap should be raised by expanding exposure at a gradual rate, as pension funds will need to develop the skills to analyse the asset class and the supply side may need to increase capacity." She adds that such

amendments to Regulation 28 would also allow for much-needed economic stimulus following the low rate of loan approvals from the government's R500bn bank loan guarantee scheme. "While this initiative was aimed at providing relief to businesses affected by COVID-19, companies' balance sheets are under immense pressure and businesses are therefore looking to de-risk rather than take on more debt.

"This is where equity and smart capital can play a fundamental role in supporting economic recovery and growth. Amendments to Regulation 28 could see much-needed capital being invested to where it is needed," van Lill concludes.

More details are contained in the positioning paper which can be accessed by visiting <https://savca.co.za/wp-content/uploads/2020/06/Reg-28-Paper-SAVCA-format-2-June-2020-FINAL.pdf>

Support responsible waste management efforts

SOUTH Africa produces approximately 95 million tons of waste per year, of which less than 40% is recycled. In an industry currently worth over R25 billion - local businesses, homeowners and the general public can help to not only demonstrate corporate social responsibility but also assist with giving back to an already struggling economy. In addition to generating income and jobs, recycling also saves money by reducing fees spent at landfills, which charge tipping fees and require significant amounts of land.

"Although the necessity to recycle has been around for some time many are still not well informed about which items can be reused and understand the different waste streams that are created," says

Joey Barnard, operation manager at waste management company Averda.

There is also a lack of understanding amongst the general public on recycling correctly and how they could be assisting around 300 recycling companies which vary in the size and scope of the facilities they operate. The recyclability of an item, Barnard further explains, is dependent on its ability to reacquire the properties it had in its original state before it entered the process of recycling.

"Even though we receive materials from residents and commercial enterprises at a number of specialised facilities that use a combination of equipment and manual labour to sort and densify materials, we still require the assistance of all waste



Averda's Materials Recovery Facility in Blackheath, Cape Town.

generators," says Barnard.

Averda has two 'Materials Recovery Facilities' (MRF) that operate from 07h00 till 23h00 in two shifts. At the Cape Town facility Barnard oversees 46 employees who all come from local communities. The site receives on average 700 tons of waste a month, from

this 80% is recovered and prepared for shipment downstream to recyclers.

The role of these facilities is to sort as much waste as possible and reduce the amount of waste that goes to landfill sites. More waste ending up at landfills means more methane and carbon dioxide released into the air,

resulting in higher temperatures and a likelihood of natural disasters globally.

So, the big question is 'how can businesses and the public help these MRF's in the long run?'

Both sectors need to dispose their waste correctly so that more can

be recycled and less is discarded.

For example, items such as bubble wrap, holiday ribbons and bows, cellophane and foam packaging cannot be recycled at MRF's but can be reused or repurposed at home and in business spaces. Cardboard packaging that contains plastic can only be recycled once it has been separated, if not they pose a potential hazard to the recycling equipment and an increased health risk to employees.

"We have seen some interesting items come through on our conveyor belt from used needles, medical waste, disposable nappies to dead pets and live snakes," adds Barnard. He also advised that cigarette butts are not recyclable and food containers need to be

cleaned out before they are placed in one's recycling bin.

"We all need to take waste prevention into consideration, with an emphasis on avoiding and reducing waste before substances, materials and products are discarded."

Barnard says all South Africans must start engaging in responsible waste disposal and management practices. "We are optimistic that MRFs are already receiving great support from local businesses, residential estates and municipal authorities around South Africa, but we believe more can be done. The benefits to the environment and to the economy are many, and this can be further amplified if more industry players make use of MRFs."

Solution to high grade bitumen shortage

AECI SprayPave which manufactures bituminous binders, emulsions, primes and pre-coats for road construction, is now able to offer the asphalt industry scarce 10/20 penetration grade bitumen using unique technology that enables the production of specialist bitumen products.

In response to an ongoing bitumen shortage in South Africa, the company acquired a multistage bitumen converter from Technix Industries in New Zealand in 2015, only the second to be commissioned worldwide. The technology enables AECI SprayPave to achieve predictable and repeatable conversion of penetration grade bitumen available from South African refineries to grades that are both lower in penetration and higher in softening point

than the feedstock bitumen.

"We are very excited to be able to add 10/20 bitumen, which is currently in short supply, to our offering," says AECI SprayPave director Eddie Jansen van Vuuren. "The 10/20 bitumen product conforms to the penetration grade bitumen specification."

10/20 bitumen is commonly used in the production of high modulus asphalt (EME), which is well suited to high trafficked roads likely to suffer significant fatigue and stress.

Currently this grade of bitumen is only supplied by one South African refinery. Other local refineries have not been able to produce 10/20 bitumen due to higher demand for other "normal" grades and difficulty in meeting the required



Jonathan Bell, Cape Town technical manager (left), and Eddie Jansen van Vuuren, director at AECI SprayPave, with the multistage bitumen converter that enables the production of 10/20 penetration grade bitumen.

specifications. Unforeseen breakdowns and scheduled shutdowns at refineries add to the problem, Jonathan Bell, AECI SprayPave's Cape Town technical manager, points out.

The multistage bitu-

men converter uses pressure, heat and air to precisely convert bituminous refinery feedstocks into high grade bitumen. The softness, penetration index and physical properties of the bitumen can be

changed to meet exact design specifications.

The controlled processes in a bitumen converter make it possible to rearrange chemical structures to create asphaltenes. The gentle process and highly effi-

cient addition of air and therefore oxygen (air rectification), preserve the highly polar aromatic/resin fraction and minimise coke build-up.

In addition to the 10/20 product, the current bitumen line-up offered by AECI SprayPave includes 70/100, 50/70 and 35/50.

"The converter has enabled us to deliver SABS certified 50/70 bitumen to the Western Cape since it became fully operational three years ago, with steady expansion of the product range since," explains Bell. "The value of this technology to the local asphalt sector was highlighted when only soft grade bitumen was available locally and the converter was able to overcome this shortfall through successful production of 50/70," he says. "Our technical rela-

tionship with the plant manufacturer, Technix Industries, remains strong with a high level of collaboration to deliver value to Southern African customers."

Bell says throughputs of 30 to 60 tons per day can be achieved when converting from conventional 70/100 to 10/20.

Herman Marais, technical director at AECI Much Asphalt, AECI SprayPave's parent company, adds that demand for high modulus asphalt incorporating 10/20 penetration grade bitumen is growing in South Africa. "The technology is proving valuable for high traffic load routes. Demand is anticipated to increase exponentially when the major N3 freeway contracts are awarded, as several of these projects will use high modulus asphalt."

More than 680 cases of fronting questions success of B-BBEE Act

FRONTING, where a black person or entity is given a stake but does not get the powers associated with it, remains the biggest challenge to the power of the B-BBEE Act to deliver on economic transformation, the B-BBEE Commission has warned.

Speaking at the launch of the B-BBEE Commission's Investigations and Enforcement Webinar Session, the B-BBEE Commission indicated that of the 822 complaints received since 2016, 687 (83,5%) were due to fronting. The mining, transport, construction and engineering sectors account for most of the fronting complaints.

B-BBEE Commissioner Zodwa Ntuli said fronting remained a

scourge that needed to be rooted out if South Africa is to achieve its goal of an inclusive economy. "The Commission considers compliance with the B-BBEE Act as critical to achieve the envisaged change in the patterns of ownership through the transfer of productive assets of the South African economy to black people. Fronting and misrepresentation sabotage this with these fraudulent schemes and falsification of status."

After fronting, falsified B-BBEE Certificates (70) and contractual complaints (42) accounted for the most common complaints received by the B-BBEE Commission. To date some 386 cases had been finalised of which

22 had been referred to the CIPC; and seven had been referred to the National Prosecution Authority and the South African Police Service. The B-BBEE Commission has in seven cases instituted proceedings in court to restrain any breach of the B-BBEE Act or to obtain appropriate remedial relief. Six entities have initiated review processes in the high court against the B-BBEE Commission.

The B-BBEE Commission was created in 2016 following the 2013 amendments to the B-BBEE Act to oversee the implementation of the B-BBEE Act, which includes receiving complaints and acting against fronting practices and other vio-

lations of the B-BBEE Act. The B-BBEE Act requires that all organs of state and public entities include B-BBEE requirements in determining qualification criteria for issuing of licences, concessions or other authorisations, sale of assets, incentives and grants, and implementation of preferential procurement.

Given B-BBEE requirements, some non-compliant entities as aided by consultants or advisors and with the involvement of rent seekers in most instances, devised structures and schemes to circumvent the requirements to access these government opportunities, which amounts to fronting practice. This is

often done in a sophisticated way and difficult to detect at times.

The schemes range from basic ownership structures with one or two shareholders to complex structures involving thousands of people through multiple corporate vehicles that purport to have black ownership. In some instances, non-compliant entities simply bought B-BBEE certificates with a compliant status from unscrupulous verification agencies, all these practices aimed at accessing contracts, licences, incentives, etc. from government.

Ntuli said: "We want the public to know about these cases of fronting and misrepresenta-

tion of B-BBEE status to raise awareness of these practices that are detrimental to transformation and criminal in nature, with a view to identify and prevent them from occurring in our economy. Our ability to publish findings in cases is restricted by the Act, and this has significantly affected communication to the public."

The investigation report notes that a multitude of trends that constitute a criminal offence continue to undermine the objectives of the B-BBEE Act. These trends include, among others, willing black participants to fronting, non-existent participants in Broad Based Ownership Schemes and trusts, non-adherence to section

10 of the B-BBEE Act by organs of state and public entities, false or fraudulent B-BBEE Certificates and White people, Chinese people and Foreign Nationals claiming black ownership.

The consequences are dire and any person convicted of fronting may be imprisoned for up to 10 years and an entity may be fined up to 10 per cent of their annual turnover in accordance with Section 130 of the B-BBEE Act. The B-BBEE Commission aims to emphasise cancellation of contracts, licences, blacklisting of entities under the PPPFA and delinquency processes for those involved in addition to referral to criminal law enforcement agencies.

Client satisfaction central to Ctrack support

TO ensure the best possible client service, Ctrack's Central Support Centre is split into the dedicated divisions of Bureau, Fleet and Technical Support divisions.

Ctrack's Bureau Service is the full outsourcing of fleet control room activities, backed by advanced data analytics and reporting.

Dedicated fleet controllers monitor vehicle movements, incidents, alerts and alarms from its 24/7 Central Support Centre, providing real-time support to optimise fleet operations.

Experienced fleet consultants interrogate and interpret vehicle data to provide the insights and actions needed for future cost reductions and operational improvements, saving clients costs and enabling them to focus on their core business.

Bureau agents are skilled in investigating and interpreting both primary and secondary alarms, or the combination of alarms to act swiftly in any situation. These skills are honed through regular training which ensures rapid and appropriate response to recovery activations or medical emergencies. All client information is strictly confidential and secured and Ctrack employees are subject to regular security screening to maintain security integrity and quality standards. Risk reduction through accurate alarm monitoring and quick recovery response is available both nationally and across borders. And direct and continuous feedback between Ctrack agents, recovery teams and the client covers all 'need to know' bases.

The bureau service can be adapted to suit the operational needs of each client and is supported by a thorough service level agreement.

Ctrack Fleet

Ctrack Fleet includes 24/7/365 fleet monitoring, emergency response and the provision of panic and tamper alarms. Parameters monitored include driver behaviour, fuel consumption and optimised travel routes. Other services include vehicle immobilisation, stolen vehicle services and bodyguard / vehicle escorting duties.

Clients receive weekly reports indicating vehicles that are active, non-active or due for repairs. Weekly contact confirms necessary

installations, maintenance and repairs. The nearest Ctrack branch is then contacted to ensure bookings are assigned and completed where applicable. Dedicated fleet controllers perform daily health checks and incorporate fleet management software and rich fleet

analytics as part of the Ctrack Fleet offering.

Ctrack Technical Support

Ctrack Technical Support is responsible for vehicle and driver set-ups and the creation of vehicle profiles and business groups. This team creates cost cen-

tres, performs unit testing, schedules reports and sets up and manages message forwarding plus, providing software usernames and passwords, handling technical and software queries, sets up points of interest, geozones, waypoints and no-go areas with appropriate alarms.





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African lives apparently don't matter



Renault's Kwid under performing in offset crash test.

GLOBAL NCAP and AA South Africa launched the fourth round of #SaferCarsForAfrica crash test results supported by Bloomberg Philanthropies and the FIA Foundation. The three models tested, the Steed 5 bakkie from Great Wall, the Haval H1 five door SUV and the Kwid five door compact from Renault, all gave serious cause for concern with poor levels of adult and child protection. Alarmingly the zero rated Great Wall Steed 5 demonstrated a high probability of life threatening injury.

Alejandro Furas, Global NCAP Secretary General said, "Another zero star rated 'Bakkie' gives us

very serious cause for concern in our latest crash test results for Africa. The potential for life threatening injury in the Steed 5 follows the zero star performance of the Nissan Hardbody pick up. The contrast between the marketing claims for such vehicles and the reality of their poor safety performance could not be more stark." David Ward, Towards Zero Foundation President said, "This is a worrying set of results for the safety of both adult and child occupants in these popular African cars. Our second #SaferCarsForAfrica zero rating in the 'Bakkie' category, with the high probability of life threatening

injury, should be ringing alarm bells for any consumer considering the purchase of a Steed 5 pick up

"From our global perspective, with successful crash test programmes in India and Latin America, we can track the varying safety equipment specifications for cars manufactured in one market and sold in others. It's therefore surprising to note that the Renault Kwid developed for Latin America, based on the original Indian version, has a better adult and child occupant protection performance, includes standard ISOFIX anchorages as well as dual front and side airbags."

Willem Groenewald,

AA South Africa CEO said: "I concur with both Ale and David that these results are worrisome and cause for concern. Since the #SaferCarsForAfrica programme's first results were launched in 2017 we've been calling for an improvement in the safety standards set by government. These results again confirm the urgent need for this to happen; we simply cannot have unsafe cars on our roads anymore.

"We have spoken to the National Regulator for Compulsory Standards about standards and although the evidence is clear, we are eager to see movement in this regard. Action is needed, and needed now because it's about protecting South African citizens."

Great Wall Steed 5

Following the 2018 crash test of the Nissan NP300 Hardbody, Global NCAP selected the Great Wall Steed 5, which competes on price with the Nissan in the pick up category. The Steed 5 is tested in the basic version without airbags. Driver dummy readings showed a red head and brown chest and neck, which translates into poor protection for head and weak

protection for neck and chest. Those body parts are considered critical body regions. The structure was considered as unstable as was the footwell area. The deformation in the passenger compartment and movement of the steering column questions if an airbag would be able to prevent serious injuries to the driver.

The Steed 5 does not have ISOFIX anchorages for the child seats in the rear and lacks three point belts in all seating positions.

Renault Kwid

The Renault Kwid was tested by Global NCAP when it was launched in India in 2016 and its structure has since been improved. A version manufactured in Brazil was later tested by Latin NCAP where it achieved 3 stars, with side body airbags added to frontal airbags and ABS.

In Africa the Kwid with the recent facelift offers 2 airbags as standard. The protection offered to the driver head was rated adequate and good for the passengers. Both necks show good protection but the driver chest showed weak protection. An unstable body structure, unstable footwell structure

and pedal movement, explain the two stars for adult occupant protection. The child occupant protection showed poor performance as the head contacted the interior of the car. The lack of three point belts in all seating positions and lack of ISOFIX anchorages contribute to the 2 star rating for Child occupant protection.

Haval H1

The Haval H1 is part of the popular new vehicle segment of small SUVs. The H1 offers two airbags as standard. The injuries recorded in the driver and passenger head and neck showed good protection. Driver chest showed weak protection and passenger chest showed good protection. Feet showed poor protection, which together with the driver readings, unstable structure and unstable footwell area explain the two star rating for adult occupant protection.

Child occupant protection was negatively affected because the manufacturer refused to indicate a CRS for use in the test bringing dynamic points to zero. The CRS selected by Global NCAP used

the ISOFIX anchorages available in the car. Both child dummies heads contacted the car during the test threatening the safety of the child occupants. Lack of proper ISOFIX markings and the lack of a passenger airbag disabling switch resulted in a two star child occupant protection rating for the H1.

Child Occupant Protection

Global NCAP awards a separate child safety rating to each car in order to highlight the different levels of protection vehicles provide to child passengers on the rear seats. Global NCAP tests a CRS recommended by the vehicle manufacturer. Because the only safe way for young children to travel is properly restrained in a child seat, the assessment checks how compatible the car is with the child seats, as well as crash protection. Only one of the vehicles tested offers ISOFIX as standard which is a major concern knowing the major advantages of this feature.

The #SaferCarsForAfrica Campaign was launched by Global NCAP in 2017 with the objective of promoting safer vehicles across the continent of Africa.

Market share of diesel vehicles declines by 51%, while average price for new cars almost doubles

- Share of new vehicles with a diesel engine sold shrinks to 27.2% in Germany
- As recently as 2011 more than half of all new cars were diesel powered
- Average buying price for new cars 73.2% higher than back in 2009
- Average age of cars used in Germany is 9.5 years old, Austrian average 8.2 years
- Fewer and fewer Germans interested in buying a new car

The proportion of new passenger cars sold with diesel engines has shrunk to 27.2% in Germany. As recently as 2011, more than half of all vehicles were diesels, according to Kryptoszene.de. In the same period, the prices for new passenger cars have risen considerably.

There are however, significant differences between car manufacturers: while almost one in two vehicles sold by BMW was equipped with a diesel engine in 2020, at Renault the proportion will be only 14.8%. German manufacturers Mercedes and Volkswagen also continue to sell an above-average number of diesels, with 47.8% and 46.1% respectively.

Germans paid an average of EUR 37,710 for a new car in the year of the corona crisis. The average price in 2009 was just EUR 21,770, meaning an increase of 73.2%.

A European comparison, however, reveals that the cars on the road in Germany are comparatively old, with an average age for vehicles of 9.5 years. Austrians drive cars that are on average 8.2

years old, while cars driven by the British are on average 8 years old.

Germans' readiness to buy a new car is in steady decline. Back in 2018, 2.32 million people were planning to buy a new vehicle. This year the figure was 1.9 million.

"While the number of diesel vehicles sold is decreasing considerably," reports Kryptoszene analyst Raphael Lulay, "German premium manufacturers continue to sell an above-average number of cars with diesel engines. However all in all, Germans seem to be attaching less and less significance to a new car. Contrary to what you might expect, vehicles on the roads in Germany are significantly older than in many Western European countries".

SA's vehicle exports under threat

SOUTH Africa's important built-up vehicle export programme is under threat from two major fronts. This is one of the strong messages that came out of Messe Frankfurt SA's recent Hypermobility virtual conference and it was mentioned by several speakers at this annual conference.

The first speaker to highlight the threat to South Africa's vehicle exports was Neale Hill, the Managing Director of the Ford Motor Company of Southern and Sub-Saharan Africa and Vice President of NAAMSA.

Hill said the immediate threat was the second wave of the virus which had resulted in further lockdowns in several European countries. Hill said that last year's record vehicle exports of 387 125 units to 151 countries in the world accounted for 64% of South Africa's vehicle production of 632 000 units and 74% of these exports went to European countries.

This is where the first problem lies for SA vehicle exporters. Not only have these

countries been hit by the pandemic, but the United Kingdom also faces the tough challenges of Brexit, which will see the UK leave the European Union at the end of December, while there are ongoing shifts in global trade patterns as well as a move towards regionalisation.

Hill said that the latest estimate for the future of SA's vehicle exports was a drop of almost 40% in 2021, compared to 2019, with forecasts for a full recovery to 2019 levels varying between two and five years.

This is a sad picture when one considers that automotive exports from SA in 2019 were at a new high and 10.2% above the 2018 figure. The automotive industry was the fifth largest exporting sector in the South African economy last year, contributing 6.4% to the nation's Gross Domestic Product (GDP).

The second threat to the local manufacturing industry is the swing to electric vehicles and upcoming bans on the sale of cars and vans

with internal combustion engines (ICE) in many European countries.

The United Kingdom, a major destination for SA vehicle exports, has just seen the ban on the sale of cars and vans with ICE brought forward by five years from 2035 to 2030. The ban on petrol-electric hybrids will remain at 2035. This kind of decision could have a big impact on the SA automotive industry if it is unable to replace ICE vehicles with electric vehicles for the export markets.

Mikel Mabasa, the CEO of NAAMSA, speaking at Hypermobility on the subject of the NAAMSA roadmap for the future, said the organisation's major thrust going forward was to ensure the production of EVs came to South Africa so local manufacturers could continue to service their export customers.

Mabasa explained that without EVs the value of SA's automotive exports would drop from a figure such as 2019's R201.7-billion to only R40.3-

billion, and the contribution to GDP would fall from 6.9% to 4.6%, while employment would shrink from 110 000 jobs at the OEMs to only 55 000.

The NAAMSA CEO stressed that a healthy and growing domestic EV market would be required to make local EV manufacture viable for the OEMs. To this end NAAMSA is making a proposal to the government that import duty on vehicles with engines larger than 1 000 cm³ be increased to a starting point of 18%, while import duty on EVs after the three-year no duty period be set at 18% instead of the current 25%.

In addition, there is a plea to government to exclude the cost of EV battery packs from ad valorem duty while the OEMs are also looking for further financial support from the various assistance programmes such as the Automotive Investment Scheme (AIS), Volume Assembly Localisation allowance (VAI) and Production Incentive (PI).

Automotive company on the move

JSE-listed Motus, the largest retail motor group in South Africa, is ramping up its brand building strategy after consolidating and restructuring the business in the two years since Motus Holdings was unbundled from Imperial Holdings. The pace of brand building, together with the launch of a string of business innovations, will continue this year.

Corné Venter, the CEO of the Motus Retail and Rental Division, says that the launch of the highly interactive Motus portal at the end of last year was a major step forward, as it links into a number of upcoming new business developments for the Motus brand.

"The most recent development, to kick off our start to 2021 is the launch of Motus Select, which replaces the long-standing Imperial Select as an ideal and trusted place to buy a pre-owned vehicle", explained Venter.

Motus Select will be the brand used in the



Motus Retail division as either a 1st or 2nd tier used car brand for the business. Traditionally Motus Select was the used car brand for only the Motus Hyundai, Kia and Renault multi-franchise dealers. Going forward this brand will spread much wider. Several of the new car brands we represent do not have a 1st tier used car brand (e.g. Isuzu to name but one). Furthermore, often opportunity exists within franchised dealerships for a 2nd tier used car brand, and Motus Select will in the future fulfil such a role.

"Motus Select has a dedicated website at www.motusselect.co.za and these dealers will also buy used vehicles provided they are from 2015 or later and have less than 120 000 km on the odometer, as well as a full-service history" added Venter.

All vehicles sold through the Motus Select pre-owned network are owned by Motus dealerships, so customers have the peace of mind of knowing that they are dealing with a reputable, countrywide organisation that has qualified staff and the backing of

the largest automotive retail network in South Africa.

There are already more than 20 dealerships in the Motus Select network and this number will grow in the future.

Buyers can search the Motus Select website for the vehicle they are looking for in terms of make, model and price and can also start the finance process online or structure their own deal to suit their budget using the Motus Select portal.

Owners of Kia, Renault, Mitsubishi, and Hyundai vehicles

can book routine services for their vehicles on the Motus Select website as an added convenience.

"We are very excited about the headway that Motus has made already and believe that as we launch Motus Select into the keenly contested used vehicle market, we will build further on our new brand as the source of good quality used vehicles, competitively priced and backed up by the largest motor retail group in the country," concluded Motus Retail and Rental CEO Corné Venter.

Cleaning components for OEMs

IDENTIFYING needs within its customer base and addressing these sets Metric Automotive Engineering apart in the diesel engine component remanufacturing sector. The company recently announced it now offers a cleaning service to OEMs for diesel engine components.

"We found that few OEMs have the equipment, resources or time to adequately clean components to the correct level of cleanliness required. This prompted us to offer this service to our customers," says Andrew Yorke, operations director of Metric Automotive Engineering.

Cleanliness of diesel engine components cannot be underestimated prior to assessing the components for repair or remanufacturing work.

Yorke says it is critical components are cleaned to a certain specified level of cleanliness to facilitate accurate inspections to be done.

"By offering this ancillary service we will remove some of the frustration from OEMs, while at the same time drive up efficiencies in the diesel engine component remanufacturing sector," he says.

Metric Automotive Engineering has a long and impressive track record remanufacturing heavy diesel engine components across a host of industries. The company offers services which include cylinder head remanufacture, cylinder block line boring, milling, honing and boring, camshaft grinding, crankshaft grinding, engine assembly and dynamometer testing.

Fibertex
NONWOVENS

Fibertex Nonwovens are used in automotive manufacturing to reduce the weight of a vehicle for improved fuel economy, enhanced comfort, general thermal and acoustic insulation with flame retardancy. These high-performance materials improve the driving experience through advanced acoustics.

High performance automotive materials



FIBERTEX SA - part of the global Fibertex group - has a thorough understanding of constantly advancing requirements in the automotive sector in South Africa. Fibertex specialists work

closely with automotive manufacturers to design solutions for vehicles, using lightweight materials for high performance, enhanced comfort inside the cabin, extended service life

and optimum safety on the road.

"It is critical in automotive design and manufacture that the correct materials are used to meet stringent quality, acoustic, safety and environmental require-

ments - as specified in the industry," explains Rosa Naidoo, Sales Manager, Fibertex South Africa. "Fibertex nonwovens are used in automotive manufacturing to reduce the weight of a vehicle for improved fuel economy, enhanced comfort and general thermal and acoustic insulation, with flame retardancy. These high-performance materials improve the driving experience, through advanced acoustics."

Fibertex nonwovens are designed for use in many automotive applications, including the engine bay, interiors, wheels and underbody, as well as the luggage compartment. Materials for the engine bay are suitable

for engine compartment and dashboard insulation and tunnel absorbers. Fibertex materials are used in automotive interiors for headliners, seats, carpet backings and door panels. These durable materials are also used for wheel housings and liners, the underbody cover, secondary carpet backings and cable wraps. Luggage compartment applications include the parcel tray liners, trunk liners, as well as seat cover backings and carpet backings.

Fibertex, which continuously invests in technological advancements to meet requirements in the automotive sector, has developed a wide range of environmen-

tally-friendly sound absorption materials, with excellent acoustic properties.

Sound absorbing materials are essential in automotive design and manufacture, to obtain maximum comfort for the driver and passengers. Lightweight materials are highly-effective in vehicle roofs to reduce high-frequency noise during travel. Heavyweight, needled PET fabric is used in moulded wheel arches to reduce tyre noise and facing fabrics for bonnet insulation, significantly reduce engine noise. Composite nonwovens are designed for use in carpet moulding to minimise noise generated from beneath the

vehicle.

Global support from the holding company in Denmark guarantees the edge on product design, impeccable manufacturing standards, cost efficiency, safety and reliability of every Fibertex material. Apart from the automotive sector, key areas of business are acoustics, bedding, building, composites, concrete, filtration, flooring, furniture, geotextiles, medical and wipes.

The local team offers a technical support service to its diverse customer-base throughout Africa, to ensure correct specification of durable and safe materials for high efficiency in every application.

Tough times for autobody repair shops

AUTOBODY repair workshops are continuing to experience tough times as they try and recover from the hard COVID-19 lockdowns, while the future looks bleak too.

"The recovery is slow but fortunately there have been only limited business failures so far," said Richard Green, the Director of the SA Motor Body Repair Association (SAMBRA), which represents about 75% of the autobody repair shops in the country. He was speaking at a workshop stream programme at the recent Hypermobility 2020 virtual conference.

Green said the slow recovery is partially due to the fact that there are less incidents involving vehicles because there are far fewer of them on the road as people drive far fewer kilometres than pre-pandemic, while the shortage of personal finance means that some owners take the damaged vehicles to "backyard workshops" rather than getting the repair done at an accredited repairer.

"Only about 30% of the registered vehicles on South Africa's roads are comprehensively insured and they provide a substantial volume of work that goes to accredited body shops, but these



people are also driving less on less congested roads," explained Green.

"What we urgently need to make our business viable and sustainable is an increase in the labour rate, particularly as we now have to deal with some of the insurers buying replacement parts themselves. This means that the panel shops do not get a share of the parts spend, which makes finances even more difficult to balance. Some of the insurers have even tried to run their own repair shops, but all these ventures have proved dismal failures."

"We, at SAMBRA, are very aware of the need for transformation in our industry and believe the best way forward to encourage growth in the ownership of body shops by previously disadvantaged groups is to have more collaboration between the

industry and the various business partners.

"One aspect of the industry where we are expecting progress is in the certification of assessors - a qualification sorely needed. "However, on the other side of the coin we are extremely disappointed at the way in which insurance companies are writing off 'uneconomical to repair' vehicles at 50% of their value instead of the previous 75%.

"Not only does this take major repair work away from authorised repairers, but these vehicles are then auctioned off and later find their way back onto the road, often through fraudulent dealings."

"They are often unroadworthy and not repaired to manufacturers' standards before being sold to unsuspecting customers. This situation requires urgent attention from the relevant authorities.

Get connected with genuine parts

ALEXANDER & Poole (A&P) was founded in 1980 and today is the sole distributor for the Southern African region of Anderson Power Products (APP).

Anderson Power Products has a sound reputation for the manufacture and distribution of highest quality electrical products, locally, but report on an alarming influx of counterfeit and inferior products supplied by unscrupulous companies, which are replicating APP connectors under the guise of authenticity.

This is posing a serious threat to the local manufacturing and 4 x 4 vehicle sectors - amongst numerous others where these connectors typically are used.

Juanita Fisher-Hill, National Sales Manager for Alexander & Poole and responsible for the sale and distribution of APP products in South Africa, is adamant that end-users and consumers need to be educated regarding what to look for to avoid purchasing counterfeit and inferior parts.

"The greatest offenders are companies from the Far East, which export counterfeit and inferior products - literally by the container load! Unless one knew what to look for, one would be convinced that these products were original. They are manufactured to appear indistinguishable from the genuine



Juanita Fisher-Hill.

OEM (Original Equipment Manufacturer) products," she advises.

"We are currently focused on a concerted sales and marketing drive, to re-ignite and drive awareness around the need for genuine OEM parts, and our Anderson Power Products (APP) range in particular," Fisher-Hill states.

To this end, she cautions prospective buyers to inspect products more closely, to ensure that they know exactly what they are buying.

"This will have the added benefit of ensuring that the local manufacturing, 4 x 4 vehicle, greater automotive - and other vertical industry sectors using electrical connectors and allied products - start using genuine OEM parts again. This will boost the entire sector from a quality, safety and productivity perspective,

as these products are the mainstay of many mission-critical and essential operational systems," Fisher-Hill maintains.

"Unfortunately, the drawback of counterfeit parts is that they are cheaper than the original OEM parts and, until a malfunction occurs, the end-user is none the wiser," she explains.

She points out that there is however an important 'authenticity checklist' of specific tell-tale signs which can alert buyers as to the authenticity of the part: "The APP range is produced with the strictest adherence to international industry quality and safety compliance standards. Therefore, inferior materials are the first cause for concern. For example, typically used within the 4 x 4 vehicle manufacturing industry and a key product

in the APP range, the SB series connectors clearly demonstrate the difference between the OEM parts and the vastly inferior, counterfeit version."

Fisher-Hill draws attention to the (apparently) silver lugs: "With an APP connector, these components should be made from silver-coated copper. In the cloned or counterfeit parts however, they comprise nothing other than inferior tin that - when subjected to heat - will simply melt.

"Also, the connector plastic is made from recycled, thinner material and - needless to say - nothing has a warranty or a guarantee of any kind. There are also no other inherent safety features either," she adds.

"What is of particular concern to us is that these counterfeit parts have no certification whatsoever - they have not passed any form of standards compliance or quality assessment. Anderson Power Products parts, on the other hand, undergo advanced quality and safety testing and have been appropriately certified."

Fisher-Hill cites the Anderson DIN product line (heavy duty power connectors) as a good example, which meets and exceeds the 5 000-mating cycle required by the DIN 43589-1 standard. It is an expensive exercise to have parts certified and the counterfeiters obviously do not go to that expense.

DHL Express purchase of eight additional 777 Freighters

DHL Express, one of the world's leading logistics, express service providers have an order for an additional eight new Boeing 777 freighters. The investment marks a further step in DHL Express' expansion of its inter-continental air network to meet customer demand in fast growing international express shipping markets. First deliveries are scheduled for 2022.

"Although the current health crisis has pushed pause on several areas of life, global trade did not

stand still," says John Pearson, CEO at DHL Express. "Fuelled by globalization, digitalization and the unprecedented demand of our customers during the recent peak season, our global e-commerce volume grew by more than 40% in Q4. With the order of eight new wide body freighter aircraft, we underline our conviction that e-commerce is an enduring megatrend. This is why we decided to act early and kick-off 2021 with this investment in our future."

The world's largest

and most capable twin-engine freighter, the B777 supports future growth while providing outstanding reliability. Furthermore, the aircraft contribute to the committed sustainability goals due to their fuel efficient technology reducing CO2 emissions by 18% compared to the legacy B747-400s.

The 777 Freighter is the world's largest, longest range and most capable twin-engine freighter with a range of 9 200 km and can carry a maximum payload of 102 010 kg. It

allows DHL Express to make fewer stops and reduce associated landing fees on long-haul routes, resulting in the lowest trip cost of any large freighter.

Preceding the new order, DHL Express had already taken delivery of the first ten new B777F aircraft as part of an original order of 14 aircraft made in 2018. These timely deliveries ensured that DHL could accommodate customer's unprecedented demand during the peak shipping season last year.



Four elements of contingency planning within the food and beverage industry

WHILE contingency planning is a key element within the supply chain, it takes on even greater importance within the food and beverage industry. The combination of real-time supply of products, just-in-time deliveries and an industry that is vulnerable to weather and agricultural conditions means shippers sometimes have to shift their sourcing and routing of products with very little notice. As a result, their transportation needs can shift quickly as can available capacity.

"There is always this balance between fixed and dedicated resources and more variable resources in capacity," said Andy Moses, senior vice president of sales and solutions for Penske Logistics. "You can have fluctuations or disruptions that require you to shed capacity and you can have those that

require you to quickly take on additional capacity."

Moses said that there are two types of contingency planning that organizations should go through—contingencies for normal surge requirements driven by weather or seasonality and contingencies for the disruptions from disasters, acts of God and labour unrest. "They intersect a little bit, but in the domain of the industry, it is fairly common to see these addressed separately," he said.

Moses said having multiple sources of capacity and being able to leverage those sources can help mitigate supply disruptions no matter what has caused them. Here are four ways third-party logistics providers, like Penske Logistics, are able to utilize their networks.

1. Leveraging Multiple Carriers

Whether shippers are responding to a seasonal surge, a large storm or a natural disaster, access to a large pool of carriers can ensure they have the capacity they need.

2. Creating a Driver Pool

Given the current shortage of professional drivers, today's driver pool looks nothing like it did in the past. "There aren't easily accessible drivers waiting to be added to private or dedicated fleets to manage spikes, but having a broader network of multiple customers enables the sharing of resources back and forth as one ebbs and another flows," Moses said.

3. Accessing Equipment

It is also important for shippers and carriers to

have access to equipment on short notice along with areas to stage the equipment. Moses emphasized "A network of facilities comes in handy in these situations. If you're going to gather the equipment, where are you going to put it? We make that question go away for our customers."

4. Nailing Down the Details

In order for all parties within the supply chain to be able to react quickly, it is important to have agreements already in place. The agreements should also have some discussions of price. Moses said one client has asked Penske Logistics to be at the ready for certain types of contingencies. "When the bell rings, we're ready. We don't have to start negotiating and that makes it all faster," he said.

The best warehouse may be no warehouse

By Doug Hunter, doug.hunter@za.syspro.com

A full warehouse is a buffer between production throughput efficiency and customer service, or is it an excuse and a costly monument to supply chain ineffectiveness?

I love walking warehouses, and they're always full. But, is it all the right stuff or is it hiding hopeless planning and constrained coordination? Should I be staggered at efficiencies of put away, picking, packing and shipping, or is this effort expended to get delivery efficiency from a logistics stage that shouldn't be there? Is this DC crammed with intentional overstocks to hold future margins high and not cost ease service delivery to customers and the economy? My stance is that warehouses are often not required today. Many are swollen with dead stock like working capital cemeteries, leaving little money or space for stock

that protects customer service.

How to avoid a warehouse: apply your APICS knowledge; make it second nature, not second-hand.

Think supply chain value, not profit centre

- Coordinate: Buying, manufacturing and order-filling to more exact customer demand.
- Location of stock: Retailers blend one-step and two-step delivery.

Optimise production and inventory schedules

- Demand forecast to ID exactly what your customers want and backtrack to what to produce, what to buy when and how much of each. The data is there, just use it.

Seek planning effectiveness before execution

- Filter out high level noise in manufacturing/ distribution plans before diving into detail. Focus on the products and the parameters that matter. It's inventory management basics,

which can be armed today with AI fuelled by machine learning, getting dynamic accuracy into plans.

- Source. Use inventory management/inventory optimisation dynamically, so finished goods stock mix is optimal for next day delivery. No or smaller warehouse.

Systems

- Enterprise resource planning (ERP) got better, smarter, faster. It holds your data, transforming it into customer value and cost efficiency. It's your planning and execution engine.

Relationship and knowledge

Unlearn the 'SAA way' bad habits like one truck/ route fits all. Use systems and knowledge, yours or artificial, to predict with accuracy.

This abridged article is reprinted from Logistic News. For the full version, visit: <https://www.logistic-news.co.za/Article/the-best-warehouse-may-be-no-warehouse>

'A Glimpse into the Future of E-Commerce'

Surveys of retailers and consumers help gauge logistics resources needed for future demand.

XPO Logistics, Inc. a leading global provider of transportation and logistics solutions, has released a whitepaper detailing data from two surveys conducted immediately prior to the holiday shopping season. The whitepaper, titled "Holiday Peak 2020: A Glimpse into the Future of E-Commerce," elaborates on six key findings, ranging from retailers' proactive expansion of e-commerce platforms to consumer confidence in utilizing online channels.

A PDF version of the whitepaper is available by clicking: [https://mailchi.mp/xpo/the-future-of-e-commerce-white-](https://mailchi.mp/xpo/the-future-of-e-commerce-whitepaper)

paper.

Malcolm Wilson, XPO Logistics chief executive officer for Europe, said, "The increase in e-commerce is a trend that should play out for a long time to come. The pandemic has accelerated e-commerce growth by at least several years, and importantly, we're seeing a strong secular base to demand. Beyond the record holiday peak, we're helping our customers respond to more permanent e-commerce shifts in consumer behaviour."

The findings in "Holiday Peak 2020: A Glimpse into the Future

of E-Commerce" are informed primarily by the results of two pre-holiday surveys commissioned by XPO and conducted by Statista in late October 2020. The retailer statistics were derived from approximately 600 respondents representing companies of various sizes, split between the US and the UK. The consumer statistics were derived from approximately 4 000 total respondents across the US, the UK, France and Spain. The findings were complemented by XPO's internal data as the peak season progressed, and by contextual information from outside sources.



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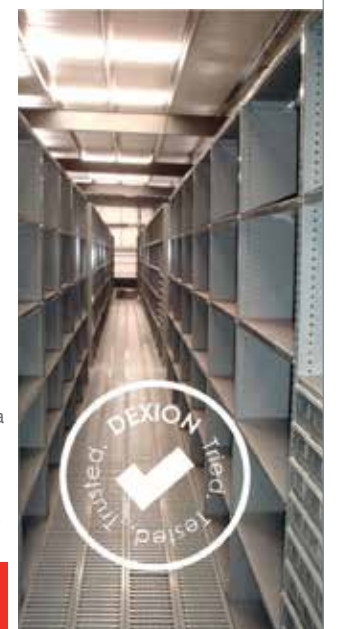
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New space-saving inline pump for buildings and complexes

KSB has introduced the pump that industrial engineers and building managers have been asking for to reduce space requirements and ease of maintenance over traditional pump types used in residential, office and industrial building environments.

The new Etaline range of pumps was designed to provide a flexible in-line pump for a wide range of applications for water distribution, heating, ventilation and air-conditioning systems in complex buildings. It is also particularly useful in high-rise buildings and skyscrapers where it takes up considerably less of the expensive space that is required for traditional long-coupled designs.

As with all modern pumps from KSB, the Etaline is designed with energy-efficiency



Stuart Rugg with examples of the new space saving Etaline pumps.

as a prime focus and its engineers worked with computational fluid dynamics simulation to optimise the hydraulic shape of the suction elbow, volute casing and impellers. As a result, all pump sets meet the requirements of the globally recognised European ErP Directive 2009/125/EC, and their

suction characteristics exceed those of previous pump generation.

Maximum versatility

According to Stuart Rugg, KSB Pumps and Valves product manager for water and wastewater, the new Etaline pumps can be installed horizontally

or vertically directly in the pipeline. The range is available in 22 pump sizes with a maximum motor rating of 55 kW. The maximum flow rate is 700 m³/h with the maximum discharge head possible being 96 m.

"The cast iron casing and the mechanical seals are designed

for operating pressures of up to 16 bar. The flanges of suction and discharge nozzles are optionally drilled to EN 1092 or ASME dimensions."

"The impellers are available in grey cast iron EN-GJL-250, tin bronze CC480K DW or stainless steel 1.4408, depending on the application.

"Mechanical seals to EN 12756 are standard with a large number of material variants to choose from. The maximum operating temperature is 140°C. The conical design of the seal chamber allows easy access and provides more space for maintenance work," says Stuart.

Purpose built

He adds that each pump is delivered with an impeller diameter matched to its duty point. This ensures that the pumps operate at their best efficiency point and are not oversized, as is usually the case with ready-made impellers. Another benefit is the replaceable casing wear rings on the discharge and suction sides which allow for ease of service and maintenance, even after many years of operation.

Pumps can be used with KSB's motor mounted KSB Pump-Drive speed control systems - a variable speed system which allows the use of up to six pumps and provides the ability to change over if the duty pump should fail. It has a harmonised design and is able to effect energy savings of up to 60 per cent via variable speed operation in combination with IE2 motors.

"The Etaline range brings to market pumps that are compact, efficient, economical and supported round-the-clock by our aftermarket service division. The pumps are guaranteed to provide long and reliable service in any market anywhere in southern Africa. Despite its premium badge, the Etaline range is affordable and due to built-in maintenance saving features will provide the lowest possible lifecycle cost available," concludes Stuart.

For more information contact KSB Pumps and Valves, Tel: (011) 876 5600, Fax: (011) 822 1746, Email: info-za@ksb.com, salesza@ksb.com, Web: www.ksb.com/ksb-za

Optimum flow restriction at low cost

INSTROTECH has KOBOLD REG flow restrictors to maintain constant quantities of liquids in pipework systems. The REG rate regulators are ideally suited for the simple restriction to a preset value of throughputs of water, or of liquids similar to water. The flow restrictors ensure equilibrium, particularly in systems with many users and resulting pressure fluctuations caused by random flow conditions. This ensures that the desired throughput is not exceeded. Constant flow is achieved by two stainless steel diaphragms that are cross-mounted and riveted together. The gap between the spring-loaded stainless steel plate and seal face is continuously varied as the differential pressure changes. As the differential pressure decreases the gap widens, and it closes as the pressure increases, thus maintaining a constant flow volume through the device.

Optimized water distribution is one example of application possibilities for REG, and specifically the regulated supply of fresh water to remote settlements. Initially, core settlements consume too much water, so that bottlenecks can occur at the remote end of the pipeline. Direct installation of REG completely eliminates the problem. The REG system offers advantages such as, tamper-proof application, maintenance-free for life, and it's a low-cost unit, requiring no auxiliary power.

Pump Protection is another ideal application of REG, wherever a constant flow rate is needed despite pressure fluctuations, for example, switching on or off water consumers. In cooling circuits REG offers lifelong protection against overheating at idle, water hammering and cavitation.

Industrial areas are another area in which REG finds good appli-



cation, as virtually every industry needs water at its inlet and outlet points. REG's high-quality stainless steel design is completely maintenance free, and independent from auxiliary power and totally tamper-proof, making it optimally suitable for most diverse of industrial requirements, such as district heating systems, cooling circuits, filtration processes, spray moisture application, dosing applications, agricultural irrigation, fire fighting and fire protection services, emergency shower systems (hazardous areas), water treatment.


Technical specifications

- Pressure Max. 200 bar; Temperature Max +300 °C
- Connections: screw thread G1/2, G3/4, G1 1/2, G2, G2 1/4, G2 1/2 and 3/4" NPT

Highlights

- Energy saving - No auxiliary power required
- Compact design - easy to fit/assemble
- Durable and reliable - No wearing parts

Contact INSTROTECH for more information on 010 595 1831 or sales@instrotech.co.za




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Eaton offers proportional directional valve

POWER management company Eaton's new SLV20 load-sensing proportional directional valve is designed for priority flow sharing for mini and micro machinery.

The SLV20 valve is designed in sections to enable stacking of multiple functions and uses Eaton's new ESV9 four-way three-position proportional solenoid cartridge

valve in a hydraulic integrated circuit concept. Meter-out or meter-in control is achieved through logic elements, which enables flow sharing and flow prioritisa-

tion in the same valve bank.

The valve's sections are manufactured from aluminium drawn bar, enabling production of small batches of individual

sections with added functions.

This could include pilot-operated check valves, counterbalance valves or other bespoke functions, reducing the need for

remotely mounted ancillary valves.

The aluminium sections weigh significantly less than traditional cast iron sections. A patent-pending multifunction

meter-out compensator reduces section size by 40%, saving space on the machine. It has flows of up to 60 l/min at the inlet and 30 l/min at the work port.

Bigger isn't better

CLOGS are dangerous for wastewater pumps. A clogged pump shuts down operations, often requiring technicians to access the site. These interventions tend to be temporary, as a clog can quickly develop again after removing the obstructing materials. Often, the pumps don't clog entirely but instead continue to operate at a sub-optimal level.

from Xylem disputes this, citing that big is not the problem, complexity of the object is.

Anatomy of a clog

Long, stringy and fibrous objects are the real culprits. Large objects often don't even reach the pump. Due to their size and weight, such objects often get deposited in low-flow and stagnant wastewater cycle areas. They rarely make it to the wastewater pumps.

But long and stringy materials — such as tissues, wipes, and dishcloths — are different. They can travel with the stream at leisure, and hook onto and entangling the leading edges of impellers. They then provide more surface areas for other materials to grab, ultimately forming a clog.

A clog results in two outcomes: either the impeller stops moving, so operations cease, or the pump has to use more power to keep the flow going. Other than the inconveniences of shutdowns, the pump's components also can become damaged.

Traditional wastewater impeller designs don't address this. Vortex impellers and single-vane impellers are subject to reduced efficiency, damage to parts, and difficulties establishing balance for the throughput. There is a phenom-

enon with intermittent pumps where clog material can backwash in the pump sump, but this is temporary. Once operations resume, that clogging process quickly starts again.

Fixing clogging

If a bigger throughlet size isn't doing the job, then what will? Since the early Nineties, Flygt — a Xylem brand — has engineered a design solution that tackles clogging at several levels. Its wastewater pumps manage the transport of liquid and solids by using a self-cleaning hydraulic. The new backswept impeller design stops materials from attaching to its leading edge. A relief groove pushes such materials to the chamber's periphery, where they are subsequently flushed out.

This design is effective at avoiding clogs caused by stringy materials that can accumulate, thus saving in pump maintenance, total cost of ownership and significantly reduced operational and unplanned costs.

When it comes to clogging in wastewater pumps, bigger throughlet size isn't better - a smarter pump design that manages clogging in a modern and efficient manner is.

For more information visit: www.xylem.com

“Long, stringy and fibrous objects are the real culprits.

Large objects often don't even reach the pump.”

To explain what is going on, we must first address a mistaken assumption - the prevailing logic is that you need larger throughlet sizes to avoid clogging. If an object can navigate the throughlet feeding water into the impeller area, there shouldn't be clogging.

This principle makes sense at face value, and when introduced over a century ago, it also suited operations of the day. Brute performance, not efficiency, was the main priority, and engineers assumed that a large object is the greatest danger to a pump's continued operations.

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Let's Solve Water

Vac truck for hazmat applications



WERNER Pumps, design, manufacture, supply and maintenance specialist of high-pressure jetting equipment, has launched a new vacuum truck designed specifically to handle hazardous material applications.

"We're calling our super sucker truck the Mammoth Vac as it has stronger suction power and filtering capabilities than any other unit in our range," says Werner Pumps MD, Sebastian Werner. "It is also designed to be spark-proof and explosion-proof and can be remotely operated for additional operator safety."

The first Mammoth Vac is currently being built at the Werner Pumps manufacturing facility and is due for completion in the

first quarter of 2021. The company has used the same principles applied to its other vacuum truck units but undertaken a complete redesign to meet the requirements for safe spillage vacuuming and other potentially dangerous applications.

The Mammoth Vac has suction capability of 3 980 CFM, (114 m³/min) twin-cyclone filtration and a 152mm, 360-degree suction boom. With two spark arrestors that remove any sparks that might come from the sludge tank and a PLC controlled electric system with touch-screen operation and wireless remote control, the unit is ideal for applications in the mining, construction, refinery, oil and gas and chemical sectors.

"The tank top dish-end door makes for easy cleaning of the filter compartment, and we've included two toolboxes for easy storage, six suction hose carriers, a box to store dirty PPE and couplers, and two tank-side logo boards for branding the vehicle," says Werner. "We're very proud of this unit and we've worked to make it more affordable than other imported options."

In common with all the Werner Pumps truck units, the Mammoth Vac will be available with or without a maintenance contract. Werner Pumps is also able to provide financing options, and to source a suitable truck chassis for customers across all available vehicle brands, according to their requirements and preferences.

Big means BIG

ZWICK is a leading manufacturer of large valves which meet the highest requirements and quality standards. The product range contains metal-seated butterfly valves known as series TRI-CON, the check valves series TRI-CHECK and the TRI-BLOCK series, ZWICK's Double Block and Bleed Design.

Big means BIG, valves can be manufactured in maximum dimensions of over

200 cm in diameter.

The number of unique technical attributes of the product, such as the cone-in-cone seating design with the multiple laminations and the metal seat makes the series TRI-CON to an all-rounder for many different industrial applications.

Zwick valves are used for industrial and exhaust gases, liquids, hot water or steam at lowest as well as high temperature zones up



to 815°C.

The TRI-CON is utilized extensively in the chemical, petrochemical, oil & gas,

offshore and district heating markets.

For more information visit: <https://valve.co.za>

Updated PAX range of actuators

THE wider Rotork PAX range is made up of a variety of linear actuators and motorised regulators.

PAX1 units are flexible, low voltage actuators that are ideal for use in remote explosion proof locations. They offer a thrust output of up to 2 890 N, enabling control of most regulators, small valves and pumps. They are capable of controlling pressure ranges of 0-0,3 bar to 207 bar.

Common applications include pump stroke control, valve control, test equipment and the automation of mechanical spring-loaded pressure regulators. Hazardous area rated to FM, CSA and

ATEX, they also have high levels of ingress protection; NEMA 4X, Type 6P, IP66 and IP68 (7 metres for 72 hours), increasing the areas in which they can be used. They have a wide ambient temperature range of -40 to +80 °C.

The addition of an AC power variant allows for longer cable runs without degradation of the power supply. This allows PAX series units to be installed within existing installations where DC power does not exist or is too expensive or difficult to run. Existing field-proven features, such as reliable fail-freeze and manual operation, help ensure uninterrupted service.



The PAX series is low powered and dramatically reduces power usage while maintaining position.

The PAX1 is ideal for midstream and

downstream natural gas systems demanding precision and reliability, such as natural gas distribution automation. The AC PAX1 is especially well suited for water and power industrial applications.

In the water industry, the integration of an AC PAX1 unit allows for optimisation and control. It is suitable for use with pressure reducing and management valves that allow, in conjunction with an AMI (advanced metering infrastructure) network, for the realisation of data analytics that can be used to create control algorithms to lead to lower leakage rates, reduction of chemical usage, reduction in pipe bursts and a lower pump operating cost.

Bilfinger Intervolve Africa (Pty) Ltd. is one of the enterprises in Bilfinger Power Africa (Pty) Ltd., the South African subsidiary of German based Bilfinger SE. For years, we have been adding value to the power, mining, paper pulping and broader industry through comprehensive valve supply, valve maintenance and heat treatment solutions.

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Due to the quarantine, I'll only be telling inside jokes.

Career growth platform for engineers



Vishaal Lutchman, SAICE CEO.

MANY industries are facing skills shortages while unemployment remains high. Conversely, there are myriad opportunities in the engineering and built environment industry, but the problem lies in finding these opportunities and connecting them with the appropriately skilled professionals.

To solve this challenge, the South African Institution of Civil Engineering (SAICE) has launched an innovative new platform that enables members to network and engage with potential employers and like-minded individuals. Aply called SAICE Connect, this platform allows potential recruiters to find your resume and is designed to help engineers, technicians, and technologists to engage and grow their careers.

Vishaal Lutchman, SAICE CEO, says: "We are excited to launch this platform. We foresee that it will become a go-to portal for connecting employers with skilled engineers, connecting mentors and mentees, and helping qualified engineers, technicians or technologists to find steady work in South Africa." He says that while many engineers have left the country in search of work, there is in fact plenty of work to be done locally. "The problem isn't a lack of opportunities; the problem has been a historically disjointed industry in connecting skills with the work required. With SAICE Connect, we are helping align the various fields of the built environment landscape to see a more prosperous industry."

The platform is available free of charge for SAICE members that may not have employment at this time, by registering under a variety of categories. Registration can be done for one-on-one, online and group mentoring; subcontracting for projects or fixed term; working for a consultant, sub-contractor, contractor, developer, government department, municipality, or state-owned enterprise; working in an office or on-site; business start-ups or consortiums; full-time or part-time academic work; and technical online or in person training opportunities.

ment or a mentor can register online here: <https://saice.xenon.co.za/connect.php>.

- Those seeking employees or for those

who would like to mentor: <https://saice.xenon.co.za/connectsearch.php>.

"This platform provides an opportunity

for our members to progress and grow their careers in a difficult economy.

It offers endless possibilities to help you grow as an individual

and as a company whilst SIACE continues to lobby government to unlock a resilient and sustainable project pipeline," concludes Lutchman.

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The Safe Operation Of Gas Systems

South Africa has experienced gas-related incidents reporting fires and explosions costing domestic, commercial and industrial facilities millions of Rands. However, these statistics say nothing of numerous other smaller events that occur and go unrecorded, such as boiler fires, process oven failures, piping ruptures, non-conforming installations, and non-suited/non approved equipment amongst others. These have been the cause of unpublicised damages and injuries. Unfortunately, action is often only taken on these issues after some large and tragic event occurs.

The Pressure Equipment Regulations (PER) Reg17 states; “No person shall...

- a** handle, store or distribute any gas in any manner, which includes the filling of a container, other than in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;
- b** install or remove an appliance, pressure equipment or system for gas in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act;
- c** install or remove a gas appliance, or a gas system or a gas reticulation system, unless such person is an authorised person.”

Taking the above regulations into consideration, one needs to consider the experience, knowledge, qualification, and competency of any person, whether internal or contracted, working in the gas industry or with gas-related equipment. Unless properly trained and qualified, no personnel or operator should be permitted to attempt repairing/replacing pipes or pressure equipment, tune burners, work on or replace burner management/control systems. The intent of Reg 17 is also to ensure all persons working on gas systems need to be registered and licenced with the registration body namely the SAQCC Gas.

Combustion equipment safety is critical to the daily operation of all facilities and the safety of every employee, yet awareness on this topic is lacking simply because it is deemed too “complicated”. It takes diligence and understanding to protect employees, facilities and industrial organisations from combustion-related incidents involving fuel-fired equipment.

Being competent in only a specific field (silo approach) is not enough, persons working on gas systems should have a total understanding of the complete and integrated philosophy and functionality of gas systems (lateral approach). Once again, understanding the gas system or specifically combustion equipment safety is very critical from a performance and maintenance perspective.

An equal amount of emphasis should be placed on the importance of using compliant equipment, which also conforms to the required health and safety standards. There is typically no screening for how far away from the most recent health and safety standards the old “grandfathered” technology has become. Passing a statutory inspection sometimes means that you could be “technically” in compliance with archaic and antiquated equipment that is 50 or more years old. This could be equipment that requires many manual steps to operate safely and presents serious risk of improper manual start-up or shutdown daily. Equipment could be “in compliance” with this kind of inspection, but quite far from the current health and safety standards ‘level of safety’.

Should grandfather equipment be progressively upgraded in line with newer technologies? Possibly, from a financial perspective probably “no or not now”, from a safety perspective a definite “yes”

The risk assessment of current gas equipment and gas systems needs to be ongoing and analytically direct the way to concrete affirmations of upgrading the site’s equipment.

Once an incident occurs, it means years of court cases, job losses and changes, higher insurance rates, and maybe even criminal litigation. It also takes years to overcome the stigma of possible safety credibility to employees, industry and the community at large.

How should one ensure the safe operation of gas systems?

Start with a review of the equipment’s state of protection relative to current health and safety standards, – an equipment “gap analysis.” Prioritise your needs and address them at a comfortable pace. Conduct a human “gap analysis” to identify the state of knowledge and skills regarding your operations and maintenance staff. Make training a regular and serious effort. The bottom line is that by ensuring persons are competent and implementing comprehensive equipment safety programs saves lives.

The right thing to do is to be proactive and the very least is to ensure persons working on gas systems are licensed to operate and manufactured, imported and supplied equipment conforms to the required regulations which ensures equipment permits are obtained from the required authority, in this case, the Southern African Gas Association (SAGA).



Ensuring all persons working in the methane-based environment are competent to undertake work which complies with the relevant legislation and national health and safety standards in order to provide safe and efficient operations from point of supply to users in the domestic, commercial and industrial markets within Southern Africa. Covers Industrial Thermoprocessing, Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG), Biogas, and Natural Gas Vehicles (NGV)...

Safe Gas Equipment
Verifying Natural and Liquefied Petroleum Gas Industrial Equipment locally manufactured, imported and supplied prior to being placed in the market. Covers all equipment operating above 0.5 GJ/h or 10 kg/h or 140 kW in the Commercial, Industrial and Specialised environments. Being expanded to include NGV, Natural Gas fueling stations, CNG and LNG Industrial applications. The intent is to prevent the import and supply of non conforming equipment and that all equipment sold or placed in the market meets the Pressure Equipment Regulations

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Don't paper over your EPR obligations

WITH extended producer responsibility (EPR) now mandatory in South Africa, managing the end-of-life of a product has become a social, environmental and economic requirement.

This, says Fibre Circle general manager Francois Marais, means that companies will need to take responsibility for their waste so that less goes to landfill.

The Fibre Circle, the producer responsibility organisation (PRO) for the paper and paper packaging sector, advises companies and brand owners against going it alone.

The non-profit

organisation represents the collective interests of the paper and paper packaging sector, helping members to identify shared constraints and common opportunities, as opposed to individual companies developing a separate, and perhaps more costly, EPR scheme.

"For many years, the recovery and recycling of paper products has been voluntary and largely industry-driven, through strategic recovery initiatives, school recycling programmes and awareness campaigns," says Marais.

EPR will now become compulsory for all producers and

importers of products identified in the recently gazetted and amended regulations under Section 18 of the National Environmental Management: Waste Act.

Any South African company or brand that makes or imports paper, packaging and some single use products for distribution is required to pay an EPR fee per sales ton of product.

"EPR will therefore change how producers, brand owners, retailers and importers design, make, sell and keep their products in the recycling loop as far as practically possible," he says, adding that

producers of goods or packaging will have to take back their material after use and do something with it, whether it is cost-effective or not.

The paper products included in the new regulations are newspapers, magazines, office and graphic papers, corrugated/kraft, liquid board packaging, label backing paper and paper sacks. Each of these categories has been set yearly collection and recycling targets for the next five years.

The regulations also make the producer or group of producers responsible for the establishment

of an EPR scheme, the development and implementation of an EPR plan and compliance against each product's targets for recovery and recycling.

"EPR will see an investment in collection infrastructure, not only providing consumers with more convenient recycling facilities, but also a concerted recovery effort at the pre-consumer or post-industrial phase. Intensive consumer awareness campaigns will also help to drive behaviour change," he adds.

Since early 2019, the majority of paper and paper packaging manufacturers have paid



voluntary EPR fees to Fibre Circle. We'd like to make this circle bigger to reduce the burden on the environment, take responsibility for our products

and support a thriving circular economy," Marais concludes.

For more information visit www.fibrecircle.co.za

SAPMA lobbying for paint sales sparked off sales surge

THE beneficial results of SAPMA (South African Paint Manufacturers Association) lobbying for the reopening of hardware stores during the harsh lockdown last year are underlined in a report in Sunday Times on December 13 in which several hardware

retailers spoke about the upsurge in paint sales since the pandemic started early this year.

Under the headline "HOME IS WHERE THE PANDEMIC SPENDING IS - Homeowners tackle to-do lists, drive home improvement sales", the report

states that "items flying off the shelves" included paint. One major retailer interviewed said "paint as a category has huge interest at this time."

You can use something as basic as paint colour to change your environment". Cashbuild CEO, Werner de Jager,

said the group had seen a strong demand for paints and related products from the renovation market. He said that in May last year, when building suppliers were allowed to trade again, group sales rose by 12% compared to the same month in the prior year.

Bob Lister, MD of Build It, also said sales growth had been strong once the hardware sales ban was lifted. Newcomer to the SA market, Leroy Merlin, also reported "a skyrocketing increase in the sales of paint".

The company's Dmitry Anderson told the

Sunday Times: "That wall that you wanted to paint and were looking at each week and saying, 'I will paint it next week', is now being repainted as part of the pandemic home improvement surge."

Existing and potential new members of

SAPMA should take note - and be grateful for - SAPMA lobbying to the government so that paint sales were allowed even during the early harsh stages of the Covid-19 lockdown in SA. Since then the paint retail industry has not looked back.

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No shortcuts for quality

SAPPMA warns against cost cutting as pipe manufacturers' return to work after lockdown

SOUTH AFRICA, like the rest of the world, is facing a stark new reality of "life after lockdown" as the outbreak of the Coronavirus recently forced companies to shut down their operations. Many pipe manufacturers have resumed their operations with

a reduced workforce and a negatively impacted cash flow. The Southern African Plastic Pipe Manufacturers Association (SAPPMA) has urged pipe makers and pipeline installers to avoid giving into the temptation of compromising quality or sidestepping

certain processes and procedures for the sake of saving a few Rands. "Piping systems is one of the key elements of a country's infrastructure. Communities are relying on the fact that the pipes we provide for their water, sewage, telecommunication and gas supply,

will last for fifty to a hundred years before they need replacing. Similarly, a wide spectrum of industries, such as mining, agriculture, telecommunication, building and construction also need pipelines they can trust as the cost of failure in terms of disruption and

repairs is prohibitive," says Jan Venter, Chief Officer of SAPPMA. SAPPMA is an association of leading companies in the plastics piping business, with the purpose of facilitating high standards of ethics, product quality and technical information. Its pri-

mary focus is to create absolute customer confidence in the plastics pipe industry by ensuring that pipes produced by its members and bearing the SAPPMA mark, meet local and international quality and manufacturing standards. However, Venter

warns past experience has shown that manufacturers quickly look for ways to save money or take shortcuts when the economy takes a downward turn. "Without continuous intervention, product quality and standards inevitably deteriorate. We then end up seeing things like pipes that are underweight or shorter in length entering the market, companies using substandard procedures, skipping certain quality tests or including recycled materials," he says.

For this reason, SAPPMA members undergo regular announced and unannounced factory visits during which every step of the production process is inspected and pipe samples are randomly picked and sent away for testing by an independent body. Only once the compliance officer is satisfied that every standard has been met, are members allowed to display the SAPPMA logo on their pipes as guarantee of quality, reliability and dependability.

"It is important to understand that seeing the South African Bureau of Standards (SABS), South African Technical Auditing Service (SATAS) or SANS logo displayed on a pipe does not mean that the pipe automatically meets SAPPMA standards or that it was produced by a SAPPMA member. The first two are certification bodies who work closely with us to test and certify the pipe samples we send to them. The South African National Standards (SANS) on the other hand, is part of the SABS and is the custodian of the national standards according to which all locally produced pipes are manufactured," Venter says. He explains that SAPPMA is not in competition with these entities, but plays a crucial coordinating role between all the stakeholders in this industry.

"Because our sole focus is on a relatively small, but crucially important sector of industry, we are in the ideal position to detect problems much earlier than any other organisation. To this end, we closely monitor our members to ensure product quality and full adherence to all relevant national standards.

For more information, visit www.sappma.co.za

QUALITY CONNECTIONS

CREATING ABSOLUTE CUSTOMER CONFIDENCE IN THE PLASTIC PIPE INDUSTRY

The Southern African Plastic Pipe Manufacturers Association (SAPPMA) is a voluntary, self-regulating association incorporated under Section 21 as a company not for gain, which was launched in 2004 to represent the interests of the well-developed plastic pipe business in South Africa and surrounding countries.

Pipes produced by member companies carry the registered SAPPMA logo for clear identification. SAPPMA members are allowed to use the association's logo on their products only after they have been able to successfully demonstrate that their plastic pipes and fittings comply with the association's quality and manufacturing requirements and that they are fully compliant with all relevant local and international standards and specifications. This includes:

- Ensuring they are ISO 9001:2015 quality management system compliant (or alternatively, they have passed a SAPPMA systems audit) and as such strive towards successful maintenance and improvement of these systems.
- Agreeing to be independently audited on a regular basis (announced or unannounced), including sampling and testing of products.
- Conforming to additional SAPPMA 'Minimum Standards' to further differentiate members from non-members.

THE SAPPMA MARK: A GUARANTEE OF QUALITY
The purpose of SAPPMA is to create consumer confidence within the plastic pipe industry and to promote the production and the

use of high quality plastic pipes and pipe systems. SAPPMA members contribute towards the long term well-being of the plastic pipe industry by way of research, technical discussion, analysis and problem-solving. Being a non-profit organisation, it is solely aimed at protecting the customer and the infrastructure of the country.

All SAPPMA members are committed to a strict Code of Conduct whereby they agree to comply with various requirements for national product standards, internal standards and pay due regard to trade mark, copyright, patent ownership and all other intellectual property in order to maintain the industry body's highest ethical standards.

By signing SAPPMA's Code of Conduct, members undertake not to supply counterfeit products, refrain from negative marketing and any form of corruption with customers, suppliers, competitors, legal authorities and any other persons, desist from any anti-competitive behaviour (including the fixing of prices or other trading conditions), the division of markets through the allocation of customers, suppliers, territories or types of goods, or collusive tendering.

IT'S WHAT'S ON THE INSIDE THAT COUNTS
SAPPMA members only use virgin grade approved polymers and in terms of the relevant product standards no third party regrind PE-HD material. They do not use any fillers, nor heavy metal additives in the production of PVC pipe.



SAPPMA
southern african plastic pipe manufacturers association
www.sappma.co.za



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Innovation in the LNG carrier sector

Patrick Janssens, Vice President, Global Gas Solutions, ABS, reviews the latest trends in LNG carrier designs.

THE last decade has seen a continuous stream of innovation in LNG carrier design and operations; vessel designs have continuously evolved to meet changing trade demands and this evolution is set to continue.

An owner ordering a vessel 15 years ago would have had very little choice in what they could specify. LNG carriers were almost all large ships of around 140 - 145 m³ with standard designs featuring steam propulsion and little choice of containment systems.

Today, the drive for higher performance vessels has seen a choice of propulsion systems come onto the market. Common

options include dual-fuel diesel engines and even slow speed diesel engines, with more options being developed. Owners now have options in types of containment systems ranging from independent tanks to membrane systems.

For large LNG carriers, membrane systems remain the standard, with the choice driven by the need to balance the cost of better performing systems versus the required flexibility.

There have been some design developments in MOSS tanks, mainly optimising the tank shape and recently a number of ships with SPB containment systems were delivered, but at present there are no large LNG carriers on order with independent tanks.

Generally, the choice of membrane type is dictated by the shipyard, but there are nowadays a variety of

membrane solutions available including No.96 GW, No.96 LO3, No. 96 LO3+, Mark III Flex, Mark III Flex+, with different degrees of boil off gas (BOG) performance. New membrane types are emerging including the KC-1 and GTT is developing a new system which is a hybrid between No.96 and Mark III.

Where we see the use of independent tanks emerging is in the small and medium size sector, driven by the developing LNG bunkering market as well as a need for local redistribution. Traditionally, LNG carriers could trade their entire lives on fixed routes with little need for flexibility.

The need to respond to changing patterns of trade means that it is becoming more common for new vessels to include a reliquefaction system.

In fact, there are a number of factors prompting vessels to install reliquefaction plant. A key driver is the much better energy efficiency of modern power plants such as slow speed dual fuel engines).

As a result, the vessels are only capable of burning the full natural boil-off when sailing at near the design speed. In addition, vessels are on average operating at lower speeds and at times may store the LNG to deliver at the most opportune time commercially.

With the emergence of something akin to a spot market in LNG, ships may load for different destinations depending on the state of the market and the season, potentially spending more time on the water, so requiring greater use of reliquefaction.

Some of the world's largest LNG exporters



are scaling up of their trading operations to find new markets and supply existing ones with greater flexibility, which has increased the interest in different ship types to serve emerging trades.

These changes in demand have also seen the emergence of mid scale and small scale LNG shipping, with new trades requiring discharge flexibility to parcel level where a large LNG carrier may discharge to the shore or other vessels for final delivery to small,

draft-restricted ports.

It is in the nature of the design process to have a third party evaluate new concepts for compliance. Not all the concepts that result come fully into the mainstream, not all prove commercially acceptable to owners, but AIPs demonstrate to buyers that creative minds are trying to find new solutions and the best will survive the process of natural selection.

The last decade and a half has demonstrated beyond doubt

the depth of creativity in LNG carrier design and operations. The AIP process will continue to give owners confidence across a range of options from which to select the technologies appropriate for the next generation of vessels.

This reprinted article has been shortened. For the full text visit <https://www.lngindustry.com/liquid-natural-gas/27012021/innovation-in-the-lng-carrier-sector/>

Nel wins contract of offshore hydrogen platform

Norway's Nel is hired to supply an electrolysis system for the world's first offshore hydrogen platform to be located off the coast the Netherlands.

By Anne Filbert of Energy Watch

NORWEGIAN hydrogen company Nel has added yet another contract to its late-year order book. This time entails a deal to supply an electrolysis system to the world's first offshore hydrogen platform to be located in off the coast of the Haag.

The project goes by the name of Poshydron and is being launched by Nexstep, a joint initiative formed by Dutch state-owned gas exploration and production group Energie Beheer Nederland (EBN) and the domestic oil and gas industry. The partnership is reportedly mainly focused on promoting recycling components from decommissioned Dutch fossil energy infrastructure.

Poshydron seeks to integrate three energy technologies – offshore wind, natural gas and hydrogen – on a single platform. Nel's electrolysis system will be placed in a maritime container and be installed at power Neptune Energy's Q13a-A-platform located roughly 13 km from shore.

The electricity used to power the electrolysis process for converting demineralized water into H₂ will be supplied by offshore wind turbines.

According to Nel, the project is also meant to provide insights on integrating multiple energy systems to make hydrogen at sea.

The pilot project is set to commence in late 2021, Nel says.

English Edit: Daniel

Frank Christensen.

Nel is a global, dedicated hydrogen company, delivering optimal solutions to produce, store, and distribute hydrogen from renewable energy. It serves industries, energy, and gas companies with leading

hydrogen technology. Its roots date back to 1927, and since then, it has a proud history of development and continuous improvement of hydrogen technologies. Today, Nel solutions cover the entire value chain: from hydrogen production

technologies to hydrogen fuelling stations, enabling industries to transition to green hydrogen, and providing fuel cell electric vehicles with the same fast fuelling and long range as fossil-fuelled vehicles - without the emissions.



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- Built to resist with strengthened guard



HESPER ENGINEERING ACQUIRES MOSSSEL BAY ENGINEERING STALWART



SwiftNova Engineering recently manufactured and delivered an arc furnace roof to PetroSA's GTL refinery in Mossel Bay. This intricate part of the GTL process is a first of its kind to be built by a local company.



Hesper Engineering is known for being the propulsion specialists in the marine industry. The 25 ton, 400mm OD tailshaft pictured was removed from a fishing vessel, the Trondheim and was inspected, repaired and fitted back in a quick turnaround time.

Novatech, trading as Hesper Engineering, a ship repair and general engineering company based in Cape Town, has purchased a 51% shareholding in Swift Engineering. Swift Engineering (now trading as SwiftNova Engineering) is a reputable specialized fabrication company servicing the marine, energy and oil & gas sectors in the Mossel Bay area and nationally. The company's acquisition will strengthen the capabilities of Sturrock Grindrod Maritime's (SGM) Technical Division which comprises Hesper Engineering, NovaMarine and United Container Depots (UCD).

Marcus Twine, CEO of SGM Technical said, "The relationship between Hesper Engineering and SwiftNova goes back many years. Discussions regarding a potential partnership started at the beginning of 2020. We were open to it because we are always on the lookout for complementary opportunities to grow our business and footprint with partners that uphold similar values. Director Danie Otto, and his team, have built a solid reputation and are established and respected in the construction community. They are known for delivering quality products with a high level of proficiency. I am confident that this partnership will be mutually beneficial."

When SGM and Novagroup joined forces in 2018, Andrew Sturrock, CEO of Sturrock Grindrod Maritime, stated that the intention was to strengthen their position in the niche technical market. He added, "With the addition of SwiftNova, we are excited to see how we can leverage off their respective sales and service agreements and ultimately offer one-stop technical solutions to our clients. SwiftNova's expertise lies in steelwork, pipe fabrication, corrosion protection, design and diverse projects, which sits in the same service pool as Hesper Engineering; the partnership just makes sense."

SwiftNova was established in 1982 by Mr. J.D.T Otto. He decided to seize the opportunity of the development of the oilfields in Mossel Bay when news broke of major offshore developments that resulted in the PetroSA GTL refinery, a first SOE of its kind as it is known today. Danie Otto took over the business in 2004 after completing intensive training and gaining experience in related fields to assist with business expansion. Their clientele includes

state-owned entities such as PetroSA, GTL and Logistics & Offshore/Onshore, oil majors Shell SA, Total, Astron Energy, Engen SA as well as internationally renowned shipping companies.

Danie Otto, Director of SwiftNova says, "The partnership with Hesper Engineering and the changing of our name to SwiftNova Engineering signifies a new era for the company. Nova in Latin means new and I am excited to see what the future holds. I appreciate the support we have received thus far from Hesper Engineering and the SGM Group."

Hesper Engineering is owned by Sturrock Grindrod Maritime (SGM) and, along with its sister companies NovaMarine and UCD, make up the SGM Technical Division within Grindrod Limited. SGM Technical offers solutions ranging from marine safety equipment and maintenance to steel/pipe fabrication, mechanical repairs as well as blasting and coating services. Hesper Engineering now has offices and workshop locations in Cape Town, Saldanha and Mossel Bay.



Marcus Twine, CEO of SGM Technical (pictured left) and Danie Otto, Director of SwiftNova Engineering are excited for what new opportunities this acquisition will bring for both companies.

HESPER
ENGINEERING

SwiftNova
ENGINEERING

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“Most powerful” MIG MAG machine yet - ‘The Beast’

THE first release in the gases and welding company's revamped Smootharc welding range, the Smootharc Advance II MIG 555R complies to AS/NZS 60974-1 and IEC/EN 60974-10 and is backed by a three-year conditional warranty.

“The Beast is a true workhorse – the biggest in our Smootharc range. It's versatile, robust and simple to operate – with an inverter-based power source that offers a high duty cycle for optimal results,” said Tony Newnham, Head of the BOC Welding Business.

“It's great value for money for its size, with affordable upgrade options from standard gas-cooled welder, to water-cooled for increased productivity and even longer weld



times.”

“Designed to withstand the toughest environment conditions, it is housed in a steel case with large wheels making it easy to manoeuvre around the workshop or site.”

BOC said more products are set to be announced this year (2021).

“We look forward to raising the curtain on new Smootharc products in 2021 – and encourage manufacturers to get in touch with our technical welding specialists for advice on the best products and shielding gases to improve productivity and safety,” Newnham said.

Versatile manufacturing via new punch-laser combo machine

LVD Strippit has rolled out the Strippit PL Punch-Laser combination machine, which combines the punching and forming capabilities of the Strippit PX- or V-series punching machine with the speed and versatility of fiber laser cutting. Three punch-laser models are available: the single-head-style Strippit PX 1530-L, and the Strippit V 1530-L in thick- and thin-turret configurations.

The combination setup provides answers for the trends toward small batches, short lead times and increasingly complex parts. The Strippit PL, offered with a 3 or 4 kW fiber laser source and paired with the Strippit PX single-head 20-ton punch press, can laser cut intricate shapes and process materials to 9,5mm. thick, punch holes to diameters of 6,0mm, produce forms and bends in lengths to 100mm. and heights to 7,6mm.

Combination technology offers complete part processing, according to LVD Strippit officials, who note that the punch press handles high-speed punching and forming operations, while the fibre laser delivers high-quality cutting of outer contours and intricate inner contours, and can be used for material

etching. In addition, they report, the combination of technologies eliminates processes, can improve part quality, reduces production time and material handling, and lowers the cost per part in both

small lot sizes and high production runs.

The machine can process a 3m x 1,5m workpiece without repositioning, and a 404mm by 1,5m. work chute evacuates laser-cut parts.

SAIW awards two international welding bursaries to champion local skills

THE South African Institute of Welding (SAIW) has announced the winners of its internationally recognised welding student training bursaries worth R120 000 each. Fhumulani Netshakhuma (22) and Palesa Mokoena (28) were each awarded prized bursaries which provide a 28-week welding training course carrying both global recognition and access to opportunities for a welding career in 58 countries around the globe.

The bursary outreach program which takes place under South Africa's COVID-19 pandemic lockdown has seen the SAIW come to the fore in motivating for employment upliftment to highlight the potential of welding as a profitable career path for the country's youth generation.

SAIW Business Development Manager Etienne Nell confirmed the SAIW received 56 applications in total, each of which was required to be accompanied by a letter motivating why the applicant should be the winner of the bursary. “I and my colleague Mahlatsi Confidence Lekoane then compiled a shortlist of applicants which we followed up with a telephonic interview.

“Based on the answer to the interview questions, we chose the two

bursary winners Fhumulani Netshakhuma and Palesa Mokoena for their purpose and enthusiasm. Both individuals meet the SAIW's commitment to the upliftment of our South African youth and our goal of sharing the SAIW's quality training opportunities.”

Sought after training

The bursary will give the two students access to the highly sought after International Welder Program over the next 28-weeks and will provide the candidates with an internationally recognised qualification where they are competent in the welding of carbon steel, stainless steel and aluminium material, using the four main welding processes (GMAW, GTAW, SMAW, FCAW).

The course follows an International guideline used across 58 countries and covers two weeks of theory, together with practical welding modules. The winning candidates will exit the course as highly skilled welders with opportunities to diversify into Welding Inspection, Welding Coordination or Non-destructive testing.

Meant to be

The first of the two bursary winners, 28-year-old Palesa Mokoena was born and raised in



Johannesburg. She received her Matric at Mbowa College and then had an opportunity to study further via a youth organisation where she opted to do a welding course.

Palesa says the reason for her choice is that a career in welding presents many opportunities in a largely male-dominated industry. “Given that there are far fewer female welders I thought why not grab an opportunity to do something different. Once I had completed my initial training I carried on my studies at the African International Training Facilities in Kempton Park in arc welding.

Following this Palesa saw a post on the SAIW's Facebook page about the bursaries it was offering for 2021. She applied and sent through her motivational letter highlighting her existing skills, passion for the profession of welding and desire to take part in the bursary scheme.

A career springboard

The second bursary winner is twenty-two-year-old Fhumulani Netshakhuma, who hails from Tsianda in Limpopo and expressed her gratitude for the opportunity this bursary brings in spring boarding her future career; “This is a great opportunity for me and I am grateful, I believe it is going to open so many doors for me and give me exposure to international countries. I could never have afforded to study welding and I believe when my community sees me prosper it will inspire them to reach further.”

A friend initially pointed Fhumulani to the bursary opportunity post on the SAIW Facebook page. Asked where she now sees herself in 10 years, Fhumulani responds “I see myself growing within the industry. I would like to study further once I have had exposure to the international welding industry. My dream is to be an engineer.”

Steinmüller
africa

Steinmüller Africa (Pty) Ltd. is one of the enterprises in Bilfinger Power Africa (Pty) Ltd., the South African subsidiary of German based Bilfinger. Our presence in the local market, spanning 53 years, is testimony to our unrivalled expertise in the steam generation industry. Services offered range from the design and manufacturing to the construction and maintenance of boiler pressure parts. At our South African based manufacturing facilities, we also specialise in fabrication of high-pressure feedwater heaters, pressure vessels, pipe supports and compensators. On-site maintenance crews provide support to the power generation and petrochemical sectors.

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- Plant erection services ▪ Explosive welding



BILFINGER

**WE
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Pneumatic valves sort diamonds quickly and gently

From Mary Gannon of www.pneumatictips.com

DIAMOND cutting is a task for human beings. The cutting must be carried out by a perfectly trained specialist, because — no matter how flawless the gemstones may be — an incorrectly placed cut will ruin everything. Even with perfect colour and purity, the wrong cut can significantly reduce the value, which is why good grinders are considered artists in the industry.

The sorting of the stones according to size, however, is done

by machines. Much depends on them, too: the sorting process has to be very fast, yet there must not be any scratches. A sorting system with fast-switching valves from Festo manages to sort up to 10 000 diamonds per hour according to size without scratches.

A gentler alternative to mechanical sorting is optical straining, where a camera determines the size of the stones. For this purpose, a vibrating spiral conveyor — a special conveying device for dusty to coarse-grained bulk materials — first transports the diamonds one after the other onto a rotating, round glass



plate and carefully turns them onto their flat side.

A vibrating spiral conveyor transports diamonds to the optical sieve and aligns them on their flat side. In this way, the conveyor prevents the stones from being damaged during

tipping.

A vision system with a camera is mounted above the glass plate. A photoelectric cell detects each new stone on the glass plate and triggers the camera. The vision system counts the pixels on the captured

image to determine how large the gemstone is.

The diamonds move on the rotating glass disk between valves and sorting containers.

For the actual sorting of the gemstones, pneumatic valves are arranged in a circle under the rotary disk on which the diamonds are placed. Containers for the different stone sizes are positioned around the glass plate. As soon as a diamond passes the container corresponding to its size, the valves emit a compressed-air pulse and push it into it.

As soon as a stone has reached the ejection point corresponding to its size, a compressed-

air pulse pushes it out of the valve into the corresponding container.

To ensure that the compressed-air pulse is as fast and precise as possible, fast-switching valves are used. These valves contain a magnet, into which a relatively high current is introduced for a very short time. This builds up the magnetic forces very quickly that attract the valve body, and the valve opens. The current is then immediately turned down to a minimum and finally turned off, causing the valve to close again.

The fast-switching valves have a response time of less than 2 ms

and a repetition accuracy of less than 0.2 ms. In this way, they sort the diamonds quickly and precisely.

Quickly reducing the current makes very high cycle rates possible — in other words a constant opening and closing of the valve, without the magnet overheating and the valve failing. In addition, it switches very smoothly in every cycle. In total, the time per cycle is no more than 3 ms and around three stones per second are pushed into the appropriate container. With such fast sorting, the grinder can take a little more time for a perfect result.

Hydraulic pumps streamline tyre recycling

By Ray I. Scroggins, a contributing editor at <https://www.hydraulics-pneumatics.com/>

CRUMB rubber and rubber powder made from recycled tyres are in growing demand for use in artificial turf, playground surfaces, pavement and other applications. In the recycling process, a cracker mill turns the rubber in recycled tyres from which steel and tire cords are removed into smaller “crumbs.” In the mill,

two corrugated rolls operating at different speeds crush and grind the rubber into particles. Current cracker mills have a fixed or narrow range of these speed differentials, known as friction ratios, and this limits their ability to turn out enough of the material with the right level of quality and size.

To overcome these limitations, engineers at Eco Green Equipment, a tyre recycling equipment manufacturer in North Salt Lake, Utah, developed the Krum-

buster. It's a hydraulically powered cracker mill designed to crank out up to 1 800 kg of crumb rubber per hour in sizes smaller than 3,36 µm. With the same setup, it can also produce up to 900 kg per hour of 0,5µm rubber powder. It hits these goals while using up to 35% less horsepower than traditional mills and occupies a smaller footprint. Hydraulic power lets it respond quickly to changes in friction ratios, high shock loads and constantly chang-

ing pressures, including pressure spikes.

The Krumbuster cracker mill uses hydraulic power to recycle tyres into quality crumb rubber used to make pavement, playground surfaces and even artificial turf.

Traditional cracker mills have a separate mechanical gearbox and motor driving each roll; their friction ratios are fixed by the gearboxes. Some of these machines incorporate variable frequency drives to adjust the friction ratios, but

this prevents them from maintaining full torque throughout their speed range.

The Krumbuster uses individual Parker Gold Cup hydrostatic piston pumps to power identical Hägglunds hydraulic motors mounted directly on the roller shafts. Each pump's flow rate can be adjusted to provide the exact speed differential needed between the rolls. Typically, one motor may be running at 110 r/min while the other is at 3 r/min.

Using bearings centred around the barrel instead of a support shaft reduces the size of the Gold Cup axial piston pump and provides higher speeds and saves energy.

This lets the main shaft have a smaller diameter, and the rotating pistons can be located closer to the center, lowering fluid velocity and generating more flow for speeds up to 3 600 r/min.

With hydraulically driven rolls, the Krumbuster delivers full

torque at all speeds and uses 25 to 35% less horsepower than traditional mechanical designs. The manufacturer says that the speed differential between the rolls means the slow-roll piston pump receives flow from the slow-roll motor, providing energy that assists the machine's electric motor in driving the larger pump. All three pumps are assembled and connected at the same time. They are driven by a single electric motor.

Looking for an easier way to connect?

QUICK-release hydraulic couplings on agricultural equipment and related applications have historically enabled Faster Couplings to provide innovative solutions to meet this sector's needs.

Hydrasales is the authorized distributor of Faster Couplings in Africa. Sales man-

ager, Cheryl Johnson advised, “The Faster range is all-encompassing and offers a full range of products. The range includes quality hydraulic connections on tractors and harvesters on rear hydraulic lines and front loaders.” She continued; “Faster Couplings systems and couplers

work under extremely harsh conditions while achieving the highest levels of safety.”

The product range complies with the requisite ISO ratings and includes special and innovative solutions. The cast iron manifold block with quick release couplings screwed on is popular.

A universal cast iron block is suitable for three different sizes and two interchangeable standards with integrated cartridges assisted with a lever. There are arrays of accessory solutions in rubber and plastic. To help protect the quick connect couplings while disconnected

a rubber dust cap is available. There are modular plastic caps to collect spilt oil in dedicated bottles. The 3/8 inch break valve for trailers complies with the requirements of ISAO 5676 is a special flat-face which connects with a sleeve retraction. This does not connect or disconnect under pressure.

“The MultiFaster range is an excellent range for agricultural applications; this range allows for simultaneous connection of several lines and it allows for an efficient manner in which lines are disconnected. It also allows for a reduction in connection and disconnection time. This technology reduces the risk of line misalignment - an important safety feature” Cheryl Johnson says.

To facilitate flexibility, Faster Couplings allows designers the opportunity to “play” with the configuration during the design time. A MultiFaster Configurator can be found on Faster's website: <https://www.fastercouplings.com/multifaster/configurator>.

[com/multifaster/configurator](https://www.fastercouplings.com/multifaster/configurator).

These simple steps allow for any designer to configure his own MultiFaster:

Select - Simply insert your general parameters, select the plate, select the lever and every single coupling, in the position you want it to be.

View - Follow a few easy steps to personalise your very own MultiFaster.

Confirm - Save the configuration that has been personalised with the required parameters. Contact Hydrasales with the desired configuration and your design will be confirmed with Faster Couplings.

The configurator

captures information such as application, maximum flow rates, the number of hydraulic lines required to be connected, multi grease, the electrical lines and the plate proposed.

Hydrasales carries a range of standard MultiFasters for the African market and is in a position to promptly supply customer's requests.. Hydrasales stocks an extensive range of ball type, pin type and flat face couplings for agricultural, construction and trucking solutions.

Visit www.hydrasales.co.za for more information on the Faster range of quick release couplings.



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Faster

Keep to the rules for successful concrete floors



Warehouse floor.

THE construction of as warehousing and industrial floors, such factory floors, calls for

concrete with specific characteristics, says Bryan Perrie, managing director of The Concrete Institute (TCI), which monthly receives huge volumes of appeals for advice regarding faulty flooring.

“It is also important for the tenant or property owner to fully brief architects and concrete designers about the logistics system and handling equipment on the floor being planned to help define the loading criteria for the concrete mix for the surface tolerances of the finished floor. If incorrect information is supplied, the same

serviceability criteria used for routine slabs could be selected – with disastrous results when handling huge volumes of heavy forklift movement and racking,” Perrie adds.

Concrete for flooring calls for correct design, materials, and proportions. Material specifications for all the ingredients of the concrete exist - and should be adhered to - as well as South African Codes of Practice for the actual placement of concrete and the finishing of floor slabs.

“A thorough understanding of all the characteristics of concrete,

the influence of material selection, environmental inconsistencies, as well as handling and finishing, are essential to produce a quality floor. It is also critical to specify the correct surface tolerances for the type of operation on the floor and to ensure they are met by the contractor, preferably assessed by an independent third party.”

Consistency by experienced contractors is crucial throughout: receiving, discharging, placing, consolidating and finishing the concrete which has to be protected during placement and curing.

“Lack of attention to these factors could lead to a floor with poor durability, strength and aesthetics. Successful concrete flooring relies on successive phases: understanding what is being done in each design phase, using the right concrete and equipment, by the right person at the right time,” he adds.

“Concrete Industrial Floors on the Ground”, a one-day training course on all facets of industrial floor design and construction, will be presented online on June 1 by TCI.

Visit www.theconcreteinstitute.org.za for more details.

Modular handrailing and balustrades



MODDEX modular systems provide flexibility on a project, wherever the location or

accessibility limitations. The use of the latest technology, creates end-to-end systems from concept design to installation by combining a wide range of Moddex innovative customised modular components which fit together like building blocks to create the perfect project solution for handrails and balustrades.

Moddex customers include architects and

specifiers, fabricators and professionals in civil and infrastructure construction, non-residential construction and mining.

How do they compare to traditional welded systems?

All Moddex modular systems are 100% no-weld, because they are customised and manufactured off-site,

all that’s needed for installation is a battery-operated hand drill, eliminating the need for heavy tools and machinery essential for traditional welded systems.

Being quick and easy to install, saves valuable time and costly project delays. For instance, by avoiding on-site welding, hot tools licenses, toxic fume safety procedures and site shut-downs.

Moddex’s modular range includes:

- Disability handrails
- Bikeway barriers
- Commercial balustrades
- Industrial handrails
- Trolley bays
- Safety bollards
- Tactile indicators
- Stair nosing

For more information visit www.moddex.com

New cork flooring system



US firm CALI is launching a new collection of cork flooring: CALI DEX. The fresh, four-SKU lineup ushers in an improved generation of cork while remaining true to the material’s renewable

and planet-safe roots. A high-resistance finish and water-resistant construction make CALI cork a more durable upgrade from the cork planks of yesterday. Plus, a 15-year residential and 5-year

commercial warranty make this collection an attractive option for storefronts and fitness studios.

Cork is naturally renewable; the material is trimmed from the bark of the cork

oak tree and regenerates without harming the plant or surrounding environment. The cork in this flooring is also recycled, demonstrating cork’s ability to be reprocessed over and over for different uses.

Customers looking to purchase responsibly and opt for products that “do no harm” will take heart in cork’s bona fide sustainability story.

Planks in the inaugural CALI cork collection are topped with a high-resistance finish, making them easier to clean and better protected from scratches

and the build-up of dirt. The cork material in planks’ top beauty layer and bottom underlayment is naturally water resistant, sound insulating, antimicrobial and temperature regulating. Thanks to its spongy composition, cork flooring is highly cushioning and capable of absorbing impacts without losing its shape.

All of which promises quieter, more comfortable rooms that keep joints, homes and the planet happy.

CALI cork is also Greenguard certified, ensuring it’s safe for

homes with children and pets. Its nontoxic construction and forgiving surface make this flooring especially ideal for nurseries and kids’ rooms.

CALI cork planks are lightweight, click-lock milled and measure 900 mm long x 280 mm wide and 11 mm-thick. Boards come in packs of eight for a total of 2 m² per carton and can be floated or glued down.

The four new SKUs include Brisa, El Natural, Classico and Pura.

For further information and enquiries, visit www.calibamboo.com

Modern balustrade in North London



MODERN metal balusters are still leading the way in terms of staircase trends. Powder coated black balusters compliment parquet floors, crittall windows and other art deco styles, popular in London and in luxury homes across the UK.

Handrail Creations recently manufactured and installed a continuous mahogany handrail with plain round

balusters for a private client in North London.

The curved handrail included a large 180 degree wreathing transition to the landing and no newel posts. The metal balusters were shot blasted and powder coated black. The curved timber handrail was stained and French polished as part of this staircase refurbishment.

Handrail Creations manufacture bespoke handrails and balustrade in its factory near Manchester. It produces over 5 000 individual handrail components per year and work on some of the finest construction projects in the UK.

For more information and examples of work, visit www.handrailcreations.co.uk

I’ll tell you a coronavirus joke now, but you’ll have to wait two weeks to see if you got it.

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Advanced solutions in filtration for a cleaner environment

FIBERTEX Nonwovens - manufacturers of a comprehensive range of nonwovens and performance-based materials used in diverse industries - has over the course of 50 years, developed advanced filtration solutions that contribute to a cleaner environment.

"The global operation is committed to creating filtration solutions of tomorrow, today. Together with dedicated partners and customers, Fibertex is setting a new standard in filter media by challenging the way filtration is used and opening new avenues for a purer world," explains Sefton Fripp, Commercial Executive, Fibertex South Africa. "The local team works closely with customers to design filtration systems to suit exact requirements, by combining quality filter media, with the latest filtration technologies and advanced manufacturing processes.

"The global operation designs and manufactures a wide range of high-performance air and liquid

filter media, including pleated, needlepunch, spunlace and thermally bonded filter media. These materials enhance filtration in diverse applications, including dust collection, gas turbines, heating, ventilation and air conditioning (HVAC), automotive, protective facemasks and liquid filtration."

Fibertex nonwoven materials, impregnated with activated carbon, are designed to absorb odours, smoke and liquids. This durable material, which ensures extended service life, is designed for clean handling and further processing of the media into filters. Typical applications of this durable material include air purifiers, HVAC, cabin air, cook hoods and fryers, packaging materials, vacuum cleaners and appliances and chemical protection suits, as well as facemasks and respirators.

Air Filtration

Fibertex has developed advanced pleatable products for air filtration, based on in-house product nanofibres,



Fibertex filtration solutions for HVAC.

which are combined with tailored nonwovens. The main benefits of Fibertex nanofibre layers - being a purely mechanical filtration layer - are greater efficiency and durability of the filtration layer during the lifetime of the product.

The Pleatex filter media range - which can be pleated on all types of pleating machines - offers high-efficiency and a low pressure drop - through pure mechanical filtration. Pleatex media does not lose efficiency due to electrical discharge in the presence of moisture

and air pollutants, like electret meltblowns. Additionally, these filter products do not contain any harmful, small fibre shreds, as is the case with conventional fine glass fibre-based filtration products.

Pleatex filter media containing nanofibres can achieve filtration efficiencies up to High-Efficiency Particulate Air (HEPA) level 13, according to EN 1822 and ISO 35H, according to ISO 29463.

All products in this range conform with the latest ISO 16890 requirements and also adhere to the lowest

energy consumption standards in ventilation systems.

In addition to Pleatex filter media, Fibertex manufactures a wide range of needlepunch, carded, thermally bonded and spunlace air filtration products.

All Fibertex filtration products can be treated with permanent plasma coating or non-permanent impregnations, to enhance hydrophobicity, oleophobicity or hydrophilicity. Anti-static treatment is also available.

Surface filtration products have been developed for many applications, including

dust collection and air pollution control media for cartridges and bags, engine air intake media for heavy-duty vehicles, gas turbine inlet air media and dust collection appliances, like industrial vacuum cleaner media.

Depth filtration products - both pleatable and flat media types - are suitable for HVAC media, protective facemask and respirator media, cabin air and engine air intake media of passenger vehicles, as well as appliance media and HEPA filters.

Liquid Filtration

The company's liquid filtration solutions encompass a full range of needlepunch filter media, with high flow capacity and good retention properties, from 1 micron to 200 micron.

Fibertex filter media is manufactured with FDA/EC compliant materials, for safe use in food applications and other critical functions.

Pleatable media is available with or without a nanofibre layer, on a pore size range

from 0,8 Micron to 100 Microns. Fibertex nanofibres can be utilised in liquid filtration products and as separation media.

Fibertex Nanofibres, which provide a uniform pore size structure, minimise resistance against liquid flows, compared to conventional melt-blown and glassfibre layers and traditional membranes.

Typical applications for liquid filter media include industrial processes and oil filtration, chemical and ceramic filtration, industrial coolant oil filtration, food and beverage filtration, machine tool emulsion filtration, evaporation, swimming pools and spas, as well as EDM filtration and syringe filters.

Fibertex continuously invests in technological advancements, to meet exact market requirements in diverse industries. Apart from offering filtration solutions, key areas of business are acoustics, bedding, building, composites, concrete, flooring, furniture, healthcare and geotextiles.

Expanded partnership to tackle vehicle emissions

AT the start of 2020, filtration specialists, MANN+HUMMEL, and global recycling and environmental services company, the ALBA Group, joined forces to launch a pilot project with the aim of significantly improving air quality standards in Singapore. As part of a series of innovative measures developed by the ALBA Group for the city state, the company's recycling trucks were fitted with PureAir fine dust particle filter roof boxes from MANN+HUMMEL.

The partnership proved very successful and the two companies now plan to fit more of the ALBA fleet with PureAir roof boxes. The hope, ultimately, is that the technology can be rolled out to wider markets. The roof box design is well suited to trucks and lorries because they generally operate at lower speeds in environments where there is a high concentration of particulate in the ambient air. These are the ideal performance conditions for the roof box, which means these products can significantly reduce emissions from these vehicles.



"Although electric vehicles are becoming increasingly prevalent worldwide, particulate emissions are still a major problem, especially in cities," explains Franck Bento, Director of Sales for New Products at MANN+HUMMEL. "Our technology can make a real difference in tackling this problem, so we're excited to continue our partnership with the ALBA Group and help them install more of our roof boxes in the near future," he continues.

"It's vital for us that we protect our environment and preserve our natural resources," explains Thomas Mattscherodt, Head of Project Management Office at ALBA W&H Smart City Pte Ltd in Singapore. "In 2019 alone, our recycling operations saved 32.3 million tons of primary raw materi-

als and reduced greenhouse gas emissions by more than 4.2 million tons compared with producing the same materials from scratch. We're always looking for ways to reduce our environmental footprint and the PureAir fine dust particle filters provide a really effective way of reducing the particulate pollution generated by our trucks on their rounds."

PureAir fine dust particle filter for buses and trucks

The PureAir roof box is a great solution for buses, trucks and other similar use cases. The built-in filter elements are extremely energy efficient. The low flow resistance maximises the volume of air passing through the filter and guarantees excellent filtration results. In fact,

the filter removes over 90% of PM10 particles - that is particles measuring 10 micrometres or less in diameter - from the ambient air. The standard filter element is a PM10 design, but other filters are available on request.

Fans also increase the flow of air through the filter by drawing in ambient air in addition to the airflow generated by the moving vehicle. So even when the vehicle is stationary, the roof box continues to filter particulate out of the ambient air. This low-energy design makes the roof box a very sustainable solution.

Moreover, customers have the option to customise the outside of the roof box with their own company branding or advertising material. As well as working to optimise the aerodynamics, size and efficiency of this product, MANN+HUMMEL has also developed new versions of the technology, including its concept for integrating particulate filters into the front end of cars, which it showcased at the IAA International Motor Show in Frankfurt in 2019.

Filtration solutions

"WITH broad technical capabilities and an extensive range of quality-branded fluid power components, BMG is able to offer total process, filtration and lubrication management solutions, even in chemical and corrosive environments, as well as in arduous mining conditions, throughout Africa," says Willie Lamprecht, BMG's Business Unit Manager, Fluid Technology Low Pressure. "BMG's Fluid Technology team has a thorough understanding of the filtration process and offers solutions to ensure fluids - including oil, fuel and lubricant oil - are within the required cleanliness standards.

"Efficient filtration disciplines result in optimum performance, improved reliability and extended service life of machinery, equipment and vehicles. Without a structured control and contamination prevention programme, premature equipment failure is likely to occur, resulting in unnecessary downtime and costly replacement of parts."

Optimum filtration performance, combined with lower differential pressure



of the system, significantly reduces energy consumption, which is critical to maximizing production efficiencies. BMG's fluid technology services include solutions for fuel and industrial filtration systems, hydraulics and pneumatics, lubrication, hydraulic hose and fittings, as well as instrumentation, pumps and industrial valves.

The range encompasses FG EcoPart filter elements for stationary and mobile hydraulic systems from the Filtration Group. These components, with defined filter performance and purity class, comply with stringent DIN and ISO standards and have all other necessary standard industry approvals.

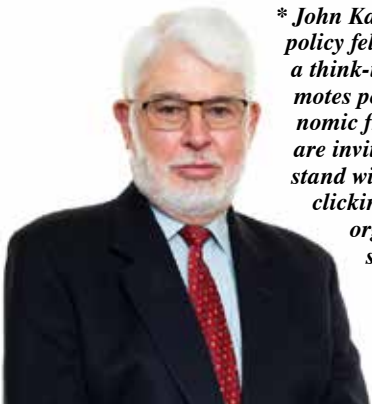
FG EcoPart series, which includes a wide range of pressure filter and return filter

elements, is available from BMG in different versions, with various grades of fineness. These components are suitable for diverse hydraulic applications, as well as gear oil treatment. FG Filter elements are designed to reduce the solid particle contamination to the prescribed contamination class, to prevent the ingress of dirt from the environment and maintain the properties of hydraulics fluids for an extended time period.

BMG's national branch network supports an extensive range of fluid technology products and bespoke systems, with field services and technical resources. BMG also offers a design and manufacturing service, to meet exact requirements in small installations and major projects.

Clean energy's dirty secrets

John Kane-Berman * notes that 30 kg of coal can store as much energy as a 500 kg Tesla battery



* John Kane-Berman is a policy fellow at the IRR, a think-tank that promotes political and economic freedom. Readers are invited to take a stand with the IRR by clicking [https:// irr.org.za/join](https://irr.org.za/join) or sending an SMS with your name to 32823. Each SMS costs R1. T's and C's apply.

WHAT could be more agreeable? Oodles of electricity free of charge and free of carbon.

Two big claims are made for solar and wind energy. One is that it is cheap. However, as this column observed last week, this claim ignores the costs of all the back-up required to keep the power on when there is no sunshine or wind.

The other claim is that solar and wind energy is "greener" - that is, cleaner, - than fossil fuels. This ignores even more contrary evidence than the renewables-are-cheapest claim. Sun and wind may come out of the sky, but the machinery to turn them into energy does not. That machinery requires mining, manufacture, and transport.

Vast expanses of land have to be turned into energy farms. Huge quantities of minerals have to be dug up and then transported, mostly across the oceans, to make batteries for energy storage. And when windmills, solar panels, and batteries have worn out, they have to be disposed of.

Because they are available only intermittently, solar and wind cannot be relied upon for the mining, manufacture, and transport of windmills and solar panels. So conventional fuels must be used. "Clean" energy systems accordingly require fossil fuels not only as backup, but cannot even be built or installed without them. Using efficient energy to help the sun and the wind provide inefficient energy is not much of a bargain

for anyone other than those, prominent among them Elon Musk, involved in the supply of renewables.

Even the ever green Economist admits that wind and solar power need "a lot more" of some non-ferrous metals than do fossil fuels. Batteries store less energy than fossil fuels, while building the infrastructure to support them is a "huge task".

A recent paper by Mark Mills, a senior fellow at the Manhattan Institute and a faculty member of the school of engineering and applied science at Northwestern University, gave some of the detail about the manufacture of "green machines" in the form of wind turbines, solar panels, and batteries for electric cars and other things. "Compared with hydrocarbons, green machines entail, on average, a tenfold increase in the quantity of the raw materials extracted and processed to produce the same amount of energy."

Says Mr Mills: "Oil, natural gas, and coal are needed to produce the concrete, steel, plastics, and purified minerals used to build green machines. The energy equivalent of 100 barrels of oil is used in the process to fabricate a single battery that can store the equivalent of one barrel of oil."

A recent article on renewables by Lars Schernikau in International Cement Review calculated that one 500 kg Tesla battery required 25-50 tons of raw materials to be mined, transported, and processed - all entailing carbon emissions. Moreover, 30 kg of coal can store as much energy as that same much heavier Tesla battery.

According to the Minerals Council South Africa (formerly the Chamber of Mines) all 39 elements in green technologies are mined or are by-products of mining. As South Africans well know, mining necessitates the excavation of vast quantities of rock by Caterpillars and other machines using fossil fuels. Much of the mining takes place in poor countries (such as the Congo) with weak environmental controls.

These weak controls then enable richer countries to use poor countries (such as Ghana, Kenya, and Mozambique) as

dumping grounds for worn-out batteries, turbines, fibreglass blades, and solar panels. Since all machines wear out and have to be replaced, this process of mining and dumping never ends.

Mr Mills cites forecasts by international energy agencies that on present green plans, the quantity of worn-out and non-recyclable solar panels will constitute double the tonnage of today's global plastic waste by 2050. More than three million tons a year of unrecyclable turbine blades will also have to be disposed of. By 2030 more than 10 million tons of batteries will become garbage each year.

If rich countries can export some of their carbon footprint and their often toxic waste, they can't avoid the damage to their own environment resulting from turbine and solar farms. Having been produced using fossil fuels, gigantic quantities of iron ore, cement, glass, and plastics must be transported to the chosen site by trucks using fossil fuels. According to Michael Shellenberger, a former Time "hero of the environment," solar and wind projects require on average "300-400 times more land than a nuclear or natural gas plant". This is because of their "low power density".

These huge wind and solar farms entail habitat loss, the destruction of bird and animal life, the desecration of the countryside, noise pollution, the glare from countless solar panels, and also sometimes the replacement of crop farming by energy (and subsidy) farming in California, the United Kingdom, and elsewhere.

What all this boils down to, in the words of W S Gilbert, is a "most intriguing paradox". Building more and more green machines necessitates greater and greater consumption of raw materials, the burning of more and more fossil fuels, more and more carbon emissions, and the increasing use of efficient energy to produce inefficient energy.

A strange way to combat "global warming" and "save the planet".

Reproduced from *Politicweb*
15 December 2020

Court rules against "Arbitrary" vagrancy laws

ON December 4, a continental court in Africa delivered a landmark opinion on colonial era vagrancy laws, which criminalize activities such as loitering, public indecency, and begging. The judgment has the potential to help reshape criminal justice policy and practice in dozens of African countries and reduce prison overcrowding.

The African Court on Human and Peoples' Rights issued an Advisory Opinion in response to a case brought by the Pan African Lawyers Union and found that vagrancy laws or bylaws in nearly every country in Africa discriminate against marginalized populations including women, children, people with disabilities, and others.

"These vague and arbitrary laws, rooted in the era of empire law making, are used to arrest and imprison thousands of poor and marginalized people every day including the poor and the homeless, street children, migrants, people with disabilities, sex workers, LGBTI people, and drug users," said Louise Ehlers, of the Open Society Foundations.

"This judgment has the potential to significantly reduce exposure to police violence and incarceration for these communities, both in Africa and in other places grappling with a colonial legacy of vague, discriminatory criminal law," she said.

The Open Society Justice Initiative filed an amicus brief in the case, citing the urgent need to decriminalize vagrancy laws in light of the

COVID-19 pandemic because the laws over-incarcerate poor and marginalized people, putting them at greater risk of contracting the virus.

"It is in the interest of African states to implement this advisory opinion by repealing all vagrancy laws, which reinforce structural discrimination and penalize poverty," said Stanley Ibe, associate legal officer for Africa at the Open Society Justice Initiative. "Since vagrancy laws contribute to dangerously overcrowded prisons, a hotbed of COVID-19, failing to do so could have disastrous consequences."

British, French, Portuguese, Dutch, and Belgian colonists used vagrancy laws to control the streets. They were intentionally broad and vaguely defined, giving law enforcement wide discretion to arrest and detain just about anyone.

These laws are still in place in many former colonies. For example, the very same language introduced to British colonies through the English Vagrancy Act

of 1824 is still in use today in some places. In Botswana, the Gambia, Nigeria, Seychelles, Tanzania, Uganda, and Zambia, you can still be cited for being a "rogue and a vagabond." The penal codes of at least 18 former French colonies, including Algeria, Burundi, Burkina Faso, Cameroon, Chad, Comoros, Republic of Congo, Cote d'Ivoire, Gabon, Guinea, Madagascar, Mauritania, Mali, Morocco, Niger, Sahrawi Arab Democratic Republic, Senegal, and Togo contain a similarly worded offense of "vagrancy."

This African Court opinion provides clarity on the discriminatory nature of these laws. This will bolster efforts to strike them down in domestic and regional courts across Africa and provide a foundation to limit their enforcement by the police in the short term. This pronouncement, coming from Africa's apex court will also add legal weight and moral authority to broader efforts to address the legacy of slavery, colonialism, and structural racism on the continent.

"This is a significant legal victory as it sends a clear message to policymakers across Africa," added Ehlers. "These arcane laws have no place in open, inclusive societies and need to be repealed."

The Open Society Foundations, founded by George Soros, are the world's largest private funder of independent groups working for justice, democratic governance, and human rights.



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Surviving Covid and Mini-Zuma

I'VE got bad news for Tito Mboweni," announced Stevie the Poet to the confederacy of conversationalists once central to the local Pub & Grill (since laid low by the dead hand of the ANC) and currently unsocially distanced by diktat from Frau Doktor Da Mini-Zuma and her public relations spokesperson, Cyril the Frog Boiler.

"Explain yourself, Boyo," demanded Colin the Golfer, "he's the finance minister, isn't he? All he knows to do with bad news is to pass it on to us."

"Ah ha," beamed Stevie the Poet, "not this time." He took a sip of some unidentified fluid masquerading as apple juice (nothing to see here, Cele the Coci, go and bully some surfers at the Corona-safe beach). Stevie was taking his time to make sure he had our attention. Old lawyer trick.

"Although you'd never say it when you see our politicians trumping it about," he resumed, "fact is the government has run out of money. What with foxes in the hen house, robbers in the vault and embezzlers in the inner circles of the kakistocracy. They're now imitating Donald Trump, living it up on other people's money past the point where no bank will lend them another cent."

"No problem for the ANC," wise-guyed Luke the Dude, "they simply carry on trumping while the voting people go without."

"Ah ha again," continued Stevie, "they now have to borrow even to pay their own salaries. Do you see the problem?"

"I do not agree with this pessimism," disagreed Big Ben, "the ANC know what they are doing. They will have a solution if there is a problem."

"Of course they do," nodded Stevie in recognition of Big Ben's right to freedom of folly. "Their solution is the same one as always – borrow and tax. Now that the loan providers think the ANC won't pay back the money, our masters have only their joker to play: Increase taxes again."

"That's what I told you, Boyo!" thundered Colin the Golfer, well, in his soft-spoken way. "Almost one beer ago, if I had a beer of course, you never know with walls and ears. They always pass it on to us."

"Still I see no bad news for Tito," shrugged Jean-Jay in his Gallic way. "That one who receives the taxes."

"The bad news will hit them the same time as reality," obliged Stevie. "Tito is the least confused Cabinet member. The simple fact is, there are no taxes to increase. We were in a recession already, before the pandemic. Then came the first lockdown, which pulled us into disaster, softened somewhat by the R500 billion relief package."

"And sabotaged by the way the relief funds were stolen and mismanaged," contextualized Miss Lily, who has no mercy for fat-cats who steal from the poor. "Never mind the ridiculous over-reach of Mini-Zuma's Command Centre – banning fried chicken, T-shirts and open-toed shoes. Assaulting and humiliating harmless people and beating to death a man who had a drink in his own front yard ..."

"With Lindiwe Zulu crowned Queen of Cluelessness," agreed Luke the Dude, "the minister whose job it is to protect people and their children from destitution."

"Did she do that? On the contrary, she aired her amazement at the riddle of people going hungry when they don't have money for food."

"Yes," mused The Prof, "she once challenged some male honourable members

of, forgive me, the Economic Destruction Fighters to step outside the Houses of Parliament for a fist fight on the cobbles. That was one of her clearer moments, a *lucidum intervallum* as my legal friends would have said in the days when lawyers studied Latin."

"Can't force lawyers to study that one," revealed Jean-Jay, "too easy to fail."

"Lindiwe Zulu is still into her disdain for the helpless," said Irene the Queen, "She's the one who set a water cannon on the old and harmless queueing for days outside a dysfunctional SASSA office for a pittance to buy food."

"In her mind they deserved it, of course. Did they not disobey her when she ordered social distancing?"

Big Ben tried again: "You cannot blame her. She said the police gave the order."

"So she would," agreed Colin the Golfer, "wouldn't she?"

"Wasn't Stevie the Poet," wondered Bob the Book, "making a point when this conversation wandered off?"

"Oh," said Stevie the Poet, "now that you mention it, yes. Our already sick economy was hospitalised by the combination of Covid and braggadocio but, and here is the optimism so vital for any businessper-

son – as the lockdown was eased, business rebounded with a heartening burst of energy.

"In Quarter 3 we were only some 6% down on the end of 2019 and we were on our way back. Then came the second lockdown. The police again revelled in their bullying rights and Zuma got another chance to kill off the tourism goose laying the golden eggs – together with her punchbag-of-choice, the wine industry, our local and global success story bringing in sorely needed currency to the Cape and the country."

"No fine-tuned Covid restrictions when the heavy hammer is easier," agreed The Prof.

"So here we are," concluded Stevie. "Many restaurants, with their thousands of workers, will not survive. The wine industry with its 290 000 jobs is under threat, having lost more than 400 million dollars, not rands, since the first shutdown. Wineries will close. Overall, armies of jobless will not be re-employed."

"Bottom line: Businesses without profits do not pay taxes. Workers without income do not pay taxes. So what is there for Tito to increase?"

"Bad news point taken," nodded The Prof. "At the same time, it is the good news

OPINION

ON THE CONTRARY



Pieter Schoombee

we now desperately need. Reality's snot-klap. Nothing like a body punch straight into the wallet to focus the mind.

"So. Here's to Premier Alan Winde's campaign to slay ignorance and rescue our livelihoods! Cheers!"

We agreed as one: "Viva Alan Viva! Lift the Zuma knee off the Western Cape's throat!"

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Please read this moving, first-person account on the current battle for human dignity in the Winelands: <http://www.the-buyer.net/opinion/bruce-jack-covid-19-devastating-impact-on-south-africa/>

Shock! Horror! Most coral islands are growing!

OKAY, despite the headline, the news that coral islands --hundreds of them in the Pacific and Indian Oceans – are growing, not shrinking as all the doomsayers have been predicting, is not a shock to those with a belief that Nature is much more powerful than puny humans.

But the headline is justified in that the news was indeed shocking on a number of counts.

The vehicle was Australia's ABC news channel, an outlet noted for its scrupulous following of the official line on climate change (caused by burning fossil fuels) with shrinking coral reefs front-and-centre as one of the prime examples of the awfulness, nay, sinfulness, of humans – especially those in the richer western nations.

That was one surprise inviting hyperbole. Not surprising was that ABC tried hard to soften the blow to the climate puritans by giving the item a severe warning to its viewers in its headline: "Coral islands are Growing Larger, Despite Climate Change".

That should knock the sceptics back into their naughty box.

No it will not. In fact it gives us hope that rational thinking and objective scientific observation may re-surface to challenge the increase

in magical thinking that we have witnessed in the last few decades.

Now for the evidence.

It comes from aerial imagery taken over decades of hundreds of coral islands in the Indian and Pacific Oceans. Scientists at the University of Auckland found atolls in the Marshall Islands and the Maldives archipelago have grown by as much as eight per cent in the last 60 years. Only 10 per cent have shrunk.

That growth happened at the same time as a slight increase in sea level.

Apparently, sediment from the reef was being swept up by wave action to increase the land area.

What the satellite images showed was checked on the ground. Where coral reefs



THE OTHER SIDE OF THE COIN



Keith Bryer

were healthy, enough sediment was being produced to cause islands to grow. The conclusion? Coral islands are dynamic. Coral islands are not in terminal decline.

And more importantly perhaps, the claim that the islands are sinking and therefore have a claim against nasty rich countries that have motorcars and power stations that burn petroleum products, is simply propaganda.

As the study clearly states: "The majority of islands in each of those nations has either got larger or stayed very similar in size".

And there is one particular atoll that blows the biggest hole in the climate change narrative. It is the Ailinglaplap Atoll. It is on the equator, the hottest part of the planet, yet it too is growing and its corals are doing fine and contributing to the process.

So how it is that climate change is not affecting it adversely but is doing terrible damage to the Great Barrier Reef, at about the same latitude?

The answer must not draw the obvious conclusion. One Australian Scientist last year lost his job at his university because he did.

Maybe this latest proof that we don't know what is happening with the climate, and why, will help him get his job back – if he still wants it.