

INSIGHTS: FOCUS ON COP22 AND CLIMATE CHANGE

Businesses join SA's green building boom

● Move helps to protect limited natural resources

Charlotte Mathews
Business Day

Big and small businesses in Johannesburg are switching to green buildings to help combat the negative effects of the city's rapid growth.

Greater Johannesburg added 1.8-million people to 8.65-million between 1996 and 2011, according to the South African Cities Network's State of South African Cities Report 2016. Johannesburg contributed about 14% of the country's total economic output in 2013.

Manfred Braune, chief technical officer of the Green Building Council of SA (GBCSA), which advises and rates green buildings, said green buildings protect limited natural resources and combat cities' potential for water and air pollution and ecosystem damage. Most of SA's electricity is generated from coal, so buildings need to become more energy efficient and use alternative resources.

Although potable water is precious, many buildings use it in air-conditioners. GBCSA encourages using recycled water or efficient methods of cooling and heat exchange.

Building materials are also important, Braune said. South African cities need to use more



Inside Standard Bank's 11-storey green building in Rosebank.

locally available materials. Apart from saving carbon emissions, this will support economic growth and arts and culture.

Standard Bank of SA, one of the country's "big four" banks, moved into an 11-storey green building in Rosebank, north of Joburg's CBD, three years ago.

SATISFACTION
The building is fronted by a public open space the size of a rugby field, where 422 indigenous trees were planted.

Nkosinathi Manzana, the bank's commercial head of real estate services, said staff surveys showed high satisfaction with the building.

One of the most significant lessons learnt was the importance of commissioning and maintenance to realise the full benefit of the installed energy efficient technologies. These technologies included thermal

efficiency through glazing and other construction materials, a central air-conditioning plant which delivers cooling and heating through the floors rather than diffusers in the ceiling and a IMW trigeneration plant.

Manzana said Standard Bank was designing and commissioning another 10 green buildings, both new and refurbishments. It was also replacing ageing technology in other buildings.

In addition to structural changes, the GBCSA ratings encourage companies to locate close to public transport, although the country has a long way to go in providing integrated public transport networks.

A smaller organisation that has put effort into rehabilitating an old building to make it "green" is the World Wildlife Fund for Nature South Africa (WWF-SA) which moved into new offices in Braamfontein,

close to Joburg's CBD, last year.

Operating costs were significantly lower than for a conventional building, particularly for power and water.

However, Stephen Wetmore, who leads Sustainable Business and Partnerships at WWF SA, said some practical lessons were learnt. One was that changing staff attitudes about commuting takes time.

The plan was to capitalise on the close proximity to great public transport by providing minimal car parking in the building with bicycles and pool cars instead of staff using their own cars. But WWF-SA found it had to lease bays for staff in a nearby parking garage.

If SA focused on creating sustainable new buildings, it would take 100 years to change the built environment, so it had to convert existing buildings to green designs, Wetmore said.

Solar fridges combat food wastage

David Thomas
African Business

For millions of Nigerians in rural Kaduna state, a trip to an outdoor food market provides cheap and ready access to the staples of a traditional diet. In a normal week, dozens of wicker baskets overflow with ripe tomatoes, an essential ingredient in the rich stews favoured by locals.

Yet over the summer, market-goers were dismayed by the spiralling costs of a fruit that has come to be seen as a national necessity. After a moth epidemic ravaged 80% of the region's tomato farms in May, forcing the price of a basket from \$1.20 to more than \$40, Kaduna's authorities declared a state of emergency.

Kaduna's "tomato emergency" is part of a national dip in food production that is concerning Nigeria's food security experts. Yet even in areas where food production remains strong, poor handling, storage and delivery methods mean much of Nigeria's food is



Solar powered Cold Hubs are used to keep food chilled.

farmers \$4bn every year.

Cold Hubs offers a simple solution. The firm installs walk-in refrigeration units near both farms and markets in a bid to preserve valuable crops in the crucial period before they reach consumers. Tomatoes which would have rotted near the vine are swiftly dispatched to a nearby unit, where farmers are charged around 50c per crate per day to cool the produce.

It's a pay-as-you-go model which allows farmers to dodge pricey storage agreements that tie them to excessive payments regardless of production.

Perhaps more convenient – in a country where 95-million have no access to electricity – is that the refrigeration hubs are solar powered. The power of the sun can be harvested to save, rather than spoil, produce. It's an affordable and eco-friendly model the company believes could be quickly rolled out across the continent.

spoiled before reaching those in need. To minimise post-harvest losses – which government says could be higher than 50% for some fruits and vegetables – businesses are beginning to develop new technologies to assist farmers. For one entrepreneur, the causes of post-harvest losses are obvious.

"Most of the spoilage starts on the farms because farmers don't receive visits from delivery trucks every day," says Nnaemeka Ikegwuonu, CEO of

Cold Hubs.

"Sometimes it takes three to four days for trucks to come to the farm. So these farmers keep the food in a shed or try to cover it, and by the time the truck comes in the food is already spoiled. The trucks take a long trip to the market, and spoilage accelerates."

In 2011, the UN World Food Programme estimated annual food losses in sub-Saharan Africa exceeded 30% of total crop production and cost

Biodiesel company eyes growth opportunities

Jeff Pao
Chief Reporter, EJ Insight

ASB Biodiesel, the largest used oil refiner in Hong Kong, converts used cooking oil or waste oil from vegetable and animal fat into biodiesel that can be blended with regular diesel and used in conventional engines, without modification.

The company claims to have a maximum annual production capacity of 100,000 tonnes of low-carbon transport fuel, enough to fuel every diesel engine on Hong Kong's roads with BIO (a 10% blend) and

offset 257,000 tonnes of greenhouse gas emissions.

The company now seeks to expand its production to the Pearl River Delta region in southern China. Due to its vast population and high ratio of used cooking oil per capita, "China has a lot of waste oil and has a big potential for us", said Roberto Vázquez, CEO of ASB Biodiesel. "By the end of 2017, we will utilise 80% of our capacity, which is enough for us to be profitable. We will start looking into opportunities in China next year." The company will seek a local partner such as

a state-owned oil company.

ASB Biodiesel was founded in Bahrain in 2007 and the factory, based in Tseung Kwan O, began operations in 2014. Vázquez said that it collects waste oil from restaurants in Hong Kong, Singapore and Guangdong province.

Hong Kong is a good source because it's a high-density city with strong law enforcement in the treatment of used oil. Any city in China with a population of at least 20-million and strong law enforcement in the treatment of waste oil can be considered for ASB's expansion

plans. ASB Biodiesel's final product is mainly sold to Europe and China. Only a small amount is sold in Hong Kong, since the city's levy on traditional diesel was lifted in 2009 and buyers pay a premium for biodiesel.

Vázquez hopes the Hong Kong government will launch a mandate programme that would require fuel suppliers to have their products blended with biodiesel. "The policy has to be at government level. It is the responsibility of citizens to bear the cost of greenhouse gas reduction," he said.

Second
SOLUTIONS
& Co by sparknews

TOWARD
SUSTAINABLE CITIES

Today, 20 leading business titles are spotlighting
50 business solutions to make
our cities sustainable.

#Cities4Climate | @SolutionsAndCo
solutionsandco.org

spark news
have an impact, share solutions

An amplifier
of positive innovations
and founder of Solutions&Co.
@sparknews

TOTAL

An energy leader
and founding partner
of Solutions&Co.
@total | za.total.com

THE B TEAM

A global group of business
leaders to catalyze
a better way
of doing business.
@thebteamhq

C40
CITIES

A network
of the world's megacities
committed to addressing
climate change.
@c40cities