Joburg

a world class African city

Marang

International Relations Newsletter

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Dear Readers,

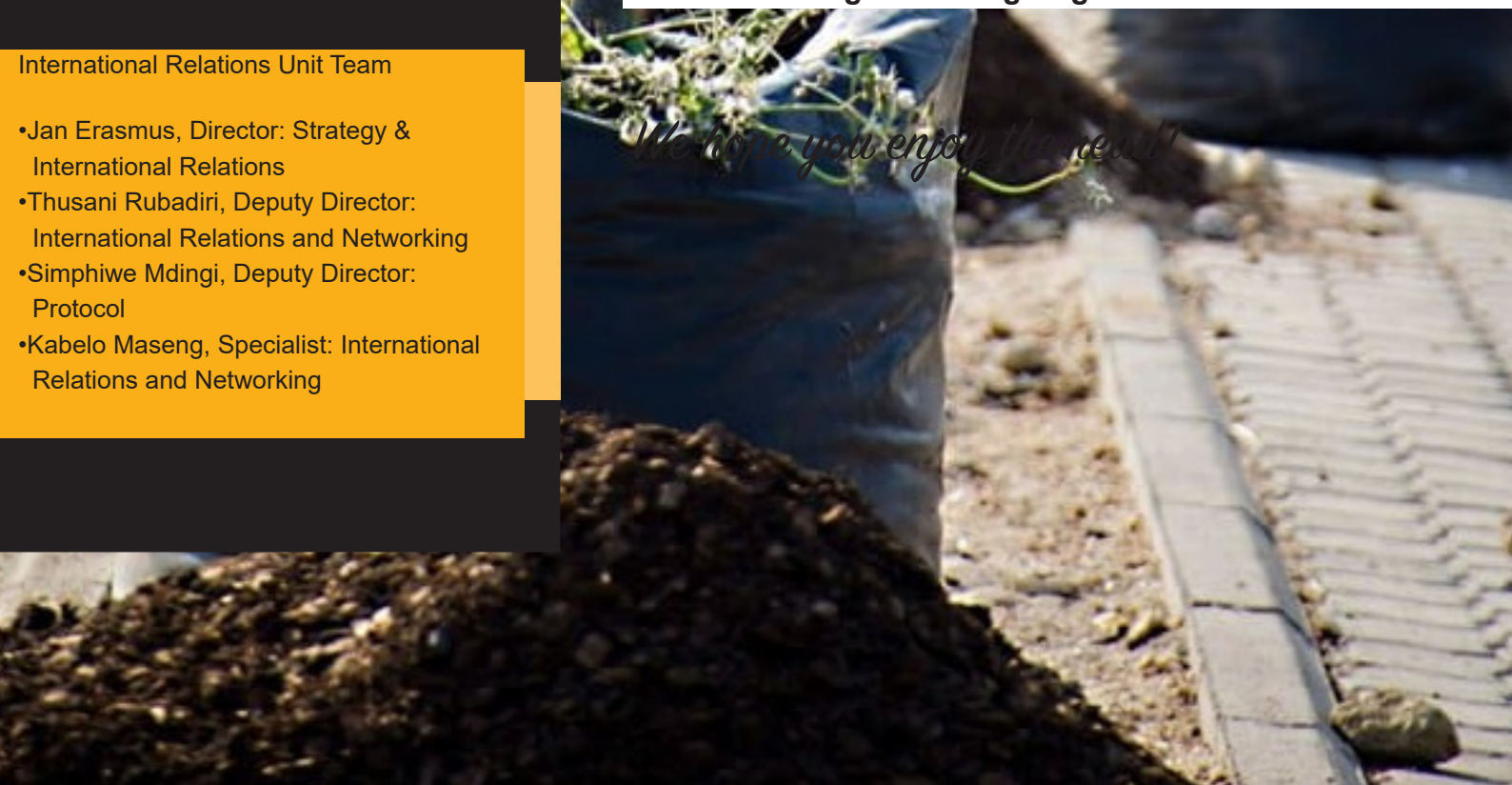
Just as the world is ramping up efforts to combat Covid-19, countries and cities across the globe are also seizing efforts to reimagine the world of work to keep both citizens and employees safe and productive.

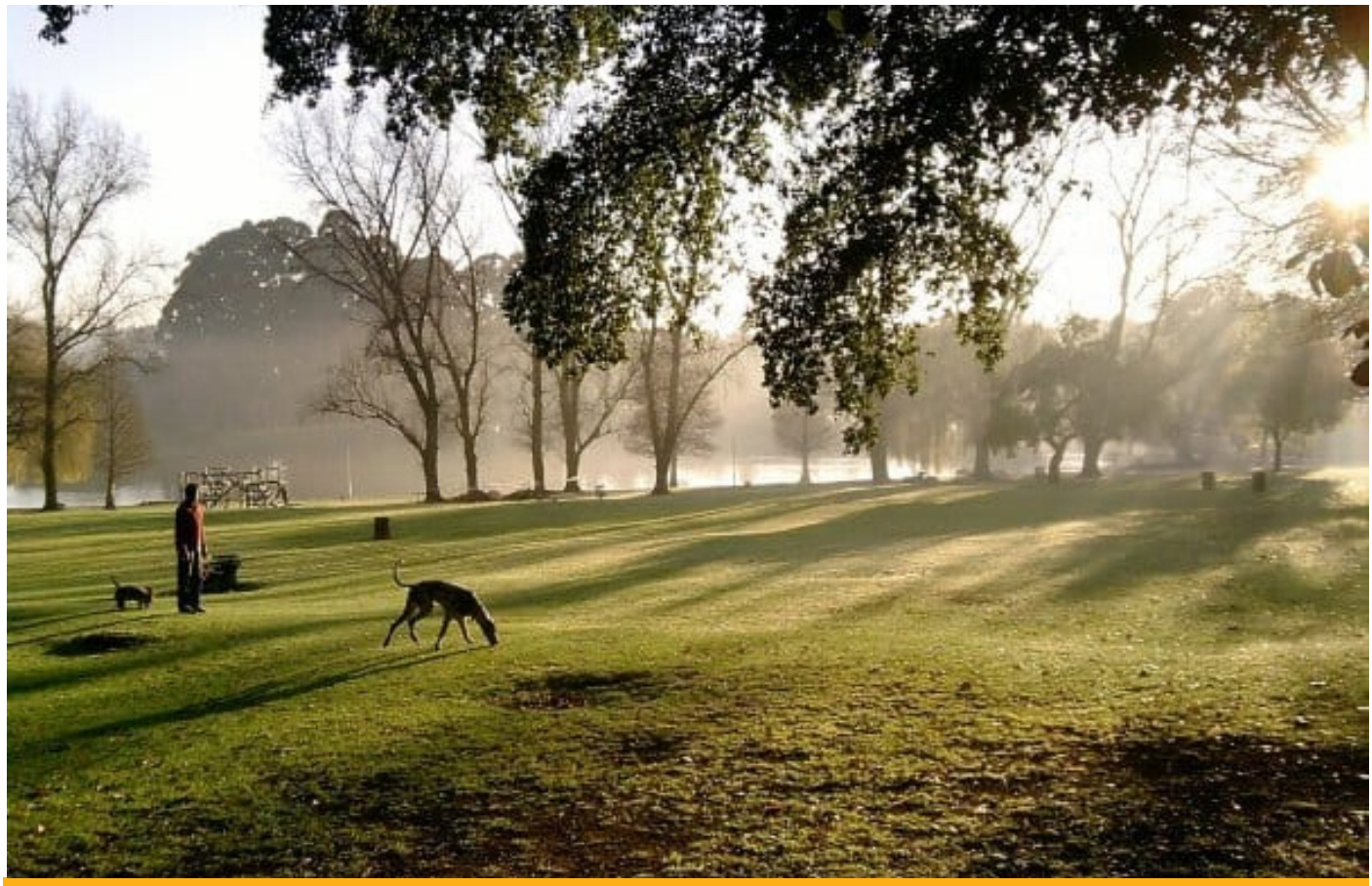
Johannesburg is cognisant of the fact that the environment matters to its citizens. The continuous lockdown has opened our eyes to the benefits of cleaner air, quieter streets and access to natural spaces. The City is using the lockdown to re-create a greener, better local economy that is ready for the future. This is demonstrated by the recent launch of the Johannesburg Climate Action Plan.

This 16th edition of Marang explores the concept of implementing a green agenda worldwide. The City of Joburg and other global stakeholders are doing what they can to help green the environment. However, creating an impact takes more than installing solar panels or swapping energy-efficient light bulbs. Now, more than ever before, the concept of a green Johannesburg, and green global cities must take priority. The economic and social shock of the Covid-19 pandemic will be felt in Johannesburg and globally for years to come. This calls for collective action by governments and citizens in fighting the Coronavirus.

The 16th edition also reflects on various environmental sustainability initiatives that are being rolled out in Johannesburg, as well as showcasing some international relations' lessons on sustainability.I hope you enjoy the read.

Kabelo Maseng and Lesego Ngobeni – Editorial board





Joburg charts path to net-zero carbon economy

response to growing concerns about climate change and the need to transition to sustainability, the City of Joburg's Development Planning Department has drafted a policy to guide the development of green buildings within the municipality. The Green Building Policy is part of the City's efforts to achieve low to net-zero carbon performance for all new buildings in Johannesburg by 2030 while producing a total net-zero performance compliance standard by 2050. Accelerating the transition of Johannesburg to a sustainable City is central to service delivery and growth and the health and well-being of local communities.

Although the City has continuously improved service delivery in key sectors, including energy, waste management, water and sanitation, and public transport, persistent challenges are exacerbated by rapid urbanisation and population growth in a municipality still plagued by the legacy of apartheid spatial development. This results in an inefficient City across sectors; increased greenhouse gas emissions and over-reliance on limited natural non-renewable resources and increased vulnerability to shocks. This not only severely limits the City's economic growth potential, but impacts the quality of life of all citizens. The poor remain the most vulnerable and the result is deepening poverty, which affects the majority of the City's residents.

The policy is part of a larger system of spatial and development management. To achieve deep efficiency and renewable resource systems will require precinct-level approaches. Technical advances and innovative system approaches are encouraged to emerge to tackle the dynamic technological, social and economic complexities. In addition, the green policy intends to help examiners, inspectors, designers, developers, owners, occupants and energy consultants who wish to submit a building application to the City.

What if we don't act now?

The urgency of reducing greenhouse gases and other environmental hazards, together with increasing non-renewable resource scarcity is driving the change to a more sustainable built environment. Buildings are estimated to contribute approximately 40% of carbon emissions in South Africa. There is a critical window of opportunity to address buildings and construction in the coming decade to avoid inefficient buildings.

In the case of Johannesburg, the building sector is set to grow and in fact, this growth is key to Johannesburg's transition into a spatially just and inclusive City and the emissions generated are expected to grow with it. The aim of this policy is to direct and focus this growth on a greener and more sustainable trajectory so that the growth of the City does not have to equate to an acceleration of climate change. Typically, buildings have a relatively long lifespan of 40 to 120 years and the building stock in cities is growing rapidly. Significant opportunities exist for decreasing emissions through reducing energy demand in buildings and generating power from renewable sources such as rooftop solar panels.

Any inefficient building built now, 'locks in' high energy use into the future because although retrofitting with efficient technologies such as efficient lighting can help reduce energy demand, the actual building's design can reduce the number of energy services required in the first place. Buildings are also consumers of services such as energy, water as well as producers of waste. They are essential to tackling service delivery challenges if developed in a manner that minimises resource consumption.

Policy approach

Realising low to net-zero carbon targets is challenging and requires major shifts in the built environment and the behaviour of users. The policy approach is to outline a pathway over time, to reach targets set out for the next thirty years, with a specific emphasis on critical changes to be made within the first decade. The approach emphasises the need for all building categories to firstly improve energy efficiencies through innovative design and technology and reduce energy use to meet the buildings' residual electricity consumption rate through the provision of renewable energy from 2030. Voluntary inclusion of renewable energy before 2030 is not precluded, but it is not mandatory.

Carbon emissions vary between different building categories. Each building category has its own energy intensity target and timeframe for the inclusion of renewable energy. Residential development is the biggest contributor to the City's carbon footprint and the annual increase in emissions, but its sub-categories are also the most costly in terms of financial feasibility. Consideration for the impact of the pathway and targets on feasibility and affordability is reflected in the threshold used.

It is important to note that the scope of this policy extends only to the design, construction and operational energy use of new developments. The consideration of embodied carbon currently falls outside the prescripts of this policy; however, the incorporation of local materials is highly encouraged. It is envisaged that future policy reviews will consider embodied carbon requirements. In addition to the pathway towards net zero carbon for all new buildings, development requirements are set out addressing energy, waste and water.

Applications

The Green Building Policy is applicable to all new buildings, including major refurbishments that require building plan approvals. Major refurbishments are defined as "construction that results in the fundamental remodelling or adaptation of existing elements of the building envelope, structure, and the renewal of key building services." Building plan submissions to Council must demonstrate that the proposed development will comply with mandatory standards outlined in the Green Building Policy.

Compliance with mandatory standards should be demonstrated through the submission of completed forms and any required supporting documentation. Complete and correct documentation must be provided; if not, the submission will not be assessed but will be returned for completion and resubmission. The City Council may amend submission requirements from time to time to support ongoing performance improvements in the built environment.

It is the responsibility of persons wishing to submit applications for building plan approvals to check that they are using the latest and current submission forms. Submissions of building plan applications must be made by a competent person, such as a built environment professional as defined by application requirements. Meeting mandatory requirements needs an integrated design approach; specifically with regards to integrating energy modelling into the design process and providing supporting documentation.

WHY DOES JOBURG NEED A CLIMATE ACTION

Climate change is one of the greatest threats facing the world in the 21st century. If not addressed, it will threaten the survival of entire nations and of life on Earth itself. Taking action to mitigate and adapt to climate change is therefore not optional, but an urgent necessity. The adoption of the Paris Agreement on Climate Change at the 2015 Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC), and its subsequent signing by nearly 200 countries, marks a historic turning point for climate action.

Under the Paris Agreement, countries have committed to limiting the average global temperature increase to below 2°C above pre-industrial levels, while pursuing efforts to keep the increase to below 1.5°C. The 2018 Intergovernmental Panel on Climate Change (IPCC) Special Report on the implications of a 1.5°C temperature increase reveals that human activities have already caused approximately 1°C of global warming above pre-industrial levels and that if warming continues at the present rate, the 1.5°C threshold will likely be reached between 2030 and 2052.

While effects of climate change are already being observed, at 1.5°C above pre-industrial levels, its impact on natural and human systems will be severe and long-lasting, if not irreversible. These impacts include loss of ecosystems, the melting of the Greenland ice sheet, sea-level rise and more frequent droughts and heatwaves, with devastating consequences for health, livelihoods, food security and economic growth.

Climate change already disproportionally affects poor and vulnerable populations. Climate action is therefore not only an environmental issue but also a social justice imperative, inextricably linked to challenges such as eradicating poverty and enhancing inclusivity. The UN's 17 interlinked Sustainable Development Goals (SDGs), adopted in 2015, provide a holistic framework and vision for the world to address these issues. The achievement of each of these goals is inextricably linked to climate action, which is mandated in SDG 13.

Cities are key players in efforts to achieve all 17 SDGs and C40 member cities, including Joburg, have committed to playing their part. Under C40's Deadline 2020 initiative, Joburg has made a public commitment to develop and implement an ambitious Climate Action Plan (CAP) founded on science-based targets aligned with the global goal of limiting the average temperature rise to 1.5°C.

In 2020, the Covid-19 pandemic devastated economies worldwide and exposed stark in-

equalities, as poorer communities were disproportionately affected by the virus itself and its social and economic consequences. The global economic contraction in 2020 has been estimated at over 3%.

According to the Finance Minister, Tito Mboweni, the South African economy contracted by over 7% in 2020, the most severe depression the country has faced in 90 years. Metropolitan municipalities across the country have reported significant drops in revenue collection, which has impacted their services and operations.

The South African government has responded by passing one of the largest Covid-19 recovery stimulus packages of the Global South, totalling R500 billion (nearly US$30 billion). As the country charts a path towards recovery, the City of Joburg, which has been one of the worst-hit cities in the world, has reaffirmed its commitment to pursue a sustainable and just recovery.

The implementation of the CAP will help the City forge a 'new normal' by addressing systemic risks and pursuing transformation over the long term while meeting the immediate needs for the creation of sustainable jobs, the improvement of service delivery and the alleviation of poverty and inequality. A Covid-recovery plan that aligns with the CAP is essential to ensure the benefits of both are maximised.

Benefits of Climate Action

The benefits of climate action extend far beyond reducing Greenhouse Gases and mitigating climate risks. The City is committed to ensuring that its climate action is pro-poor and inclusive and that the benefits derived are equitably distributed, including:

- Improved air quality
- Job creation and better-quality jobs
- Increased access to services
- Improved environmental quality
- Safer communities and
- Improved health and wellbeing

7 key reasons why the Joburg needs a Climate Action Plan:

1. To signal the City's commitment to addressing cli mate change as a social justice imperative, inextri cably linked to the challenge of eradicating poverty and enhancing inclusivity
2. To help the City understand and effectively respond to climate change impacts
3. To help the City transition to a low carbon, competitive and just economy
4. To help the City make a meaningful contribution towards national and global climate action targets under the Paris Agreement and SDGs
5. To position the City to attract international finance for a green economic recovery plan post the Covid-19 pandemic
6. To demonstrate leadership by acting as responsible global citizens through advocacy, international diplomacy and innovation and
7. To ensure that the benefits of climate action are equitably distributed.

CLIMATE RESILIENCE AT THE HEART OF JOBURG'S MITIGATION

The City of Joburg has launched a Climate Action Plan (CAP) in response to the Paris Agreement. The CAP is a timely response to the City's Growth and Development Strategy 2040 (GDS2040), which envisages a Joburg that is resilient, liveable and has a sustainable urban environment underpinned by smart infrastructure supportive of a low carbon economy.

The Paris Agreement, with its ambition to limit the increase in global average temperatures to 1.5°C, and the subsequently published Special Report of the Intergovernmental Panel on Climate Change (IPCC) on Global Warming of 1.5°C, propelled the City onto a more ambitious climate change course. This more ambitious course is presented in the Climate Action Plan (CAP), which sets the target of net-zero emissions by 2050.
The City takes its commitment to net-zero emissions and resilience seriously and intends to green its municipal infrastructure and create a sustainable urban environment in collaboration with all relevant stakeholders.
To enhance climate resilience and adapt to climate change impacts, the City will focus on improving water security, creating resilient human settlements, implementing flood and drought management strategies, developing resilient infrastructure and enhancing the health and wellbeing of communities. The CAP forecasts the need for R1.3 billion in capital investment for prioritised adaptation actions until 2050, as well as an annual operations budget amounting to approximately R650 million for the same period.
Some 60% of the required financing can be sourced from the City's existing operational budget and can be committed by applying a climate lens to critical service provision and resilience building.

The 2016 Greenhouse Gas Inventory estimated the City of Joburg's annual greenhouse gas (GHG) emissions at an equivalent of 20.9 million tons of carbon dioxide (MtCO2e). The largest contributor of emissions is stationary energy use by buildings and industry, which accounts for 54% of GHG emissions. The CAP forecasts a need for R10 billion in capital investment for prioritised mitigation actions until 2050, as well as an annual operations budget of approximately R25 billion for the same period.

To achieve the CAP's vision of a resilient, sustainable carbon-neutral Johannesburg, the municipality is committed to collaborating with all stakeholders including the youth, civil society, academia, research institutions, labour, business, the provincial and national governments as well as all residents of Johannesburg.

JOBURG'S YOUTH WANTS A SUSTAINABLE FUTURE

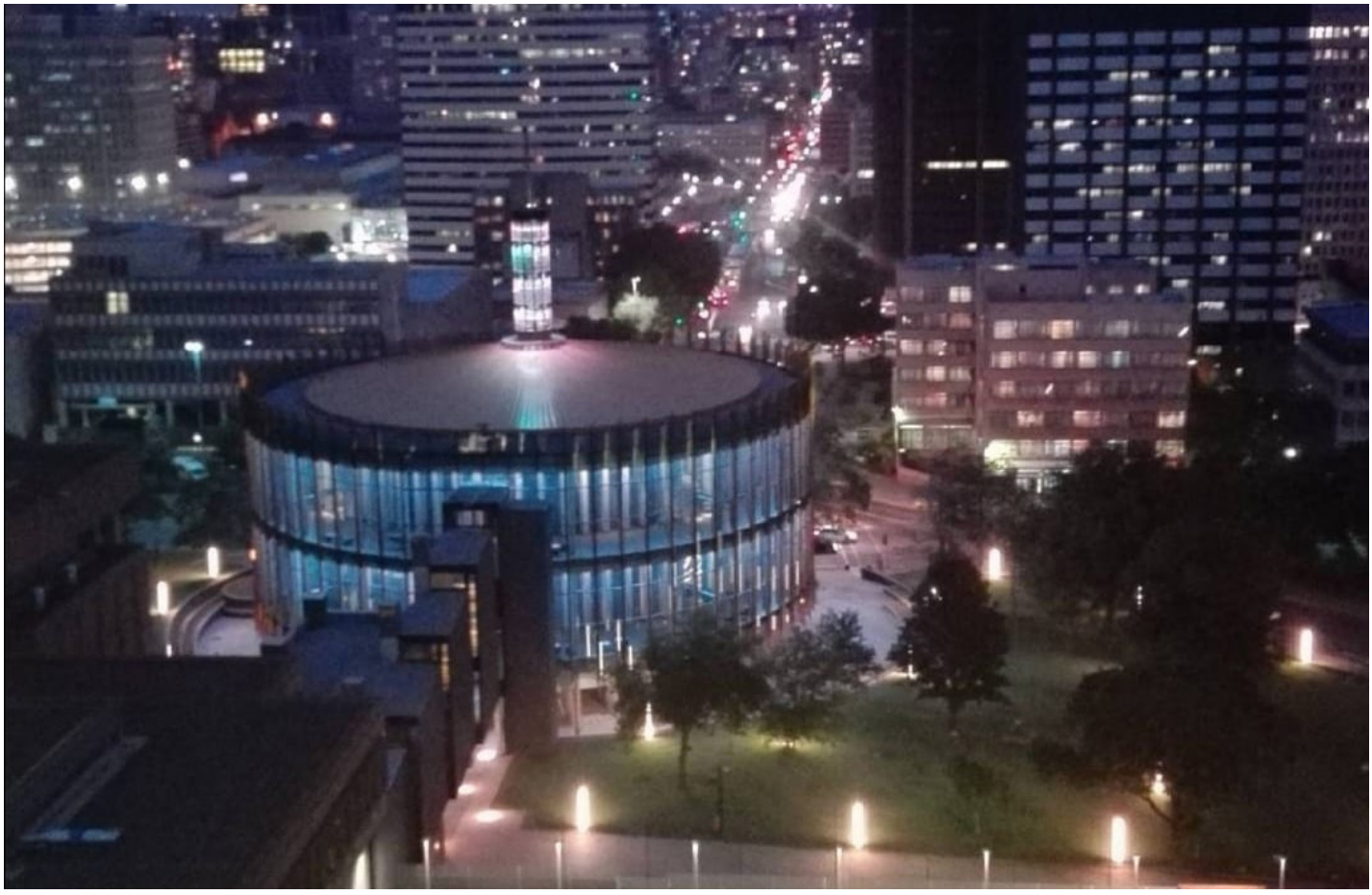
The South African Institute of International Affairs (SAIIA) supports the involvement of youngsters in the development of a Youth Climate Action Plan (JYCAP), tailor-made for young people. Students from institutions of higher learning have pledged to engage with the City of Joburg and the Global Change Institute to reimagine the future of the municipality, to be sustainable, innovative, decolonised, and safe and climate action-oriented. Amongst the key areas of concern stemming from various principles inspired by young people's living experiences are:

• Inter-sectionality – how young people envision societies that are inclusive and parallel to a collective success of communities and can also adopt integrated and sustainable approaches to ensure we tackle social and economic inequality

• Systematic change – Focuses on changing patterns that enable unsustainable waste and plastic usage

• A Just Transition – This will ensure the most vulnerable people in society do not pay the highest price in the transition to a more sustainable future

• Leadership and Advocacy – Ensures a collaboration of youth-led organisations and the City. This is to ensure the voices of young people are heard.



MAKHUBO JOINS C40 MAYORS' AGENDA FOR A GREEN AND JUST RECOVERY

The C40 Mayors Agenda for a Green and Just Recovery outlines bold steps to deliver an equitable and sustainable plan for recovery from the Covid-19 pandemic. Led by C40 Mayors from across the globe, the specific measures outlined in this agenda focus on creating green jobs, investing in crucial public services, protecting mass transit, supporting essential workers, and giving public spaces back to people and nature.

The Agenda was released by the C40 Global Mayors Covid-19 Recovery Task Force, established at the direction of C40 Chair and Mayor of Los Angeles, Eric Garcetti, and chaired by Mayor of Milan Giuseppe Sala. The Task Force is guided by a Statement of Principles, already endorsed by more than 40 City leaders from around the world.

C40 mayors have collectively identified key actions critical to achieving a vision for a green and just recovery and a future that works for everyone. C40 Mayors will lead in taking action for jobs and an inclusive economy by:

- Creating new, good green jobs, fast
- Supporting essential workers and
- Training and upskilling workers to enable a just transition to an inclusive economy.

C40 Mayors will continue to take the lead in acting for resilience and equity, providing fundamental public services that underpin a fair society and strong economy, and that are resilient to future shocks by:

- Delivering a safe and resilient post-Covid mass transit system and
- Providing fundamental public services for all such as clean water, food, sanitation and affordable, healthy housing.

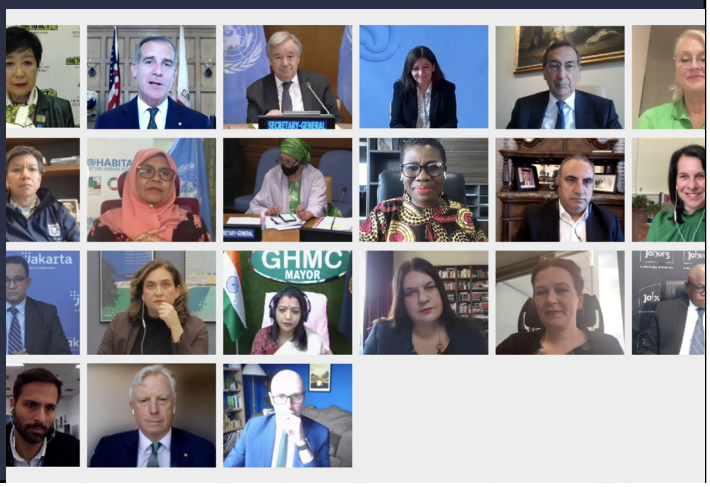
C40 Mayors will lead in taking action for health and well-being – giving public space back to people and nature, reclaiming streets and guaranteeing clean air to ensure liveable, local communities by:

- Creating '15 minute cities' where all residents of the municipality can meet most of their needs within a short walk or bicycle ride from their homes
- Giving streets back to people by permanently reallocating more road space to walking and cycling, investing in city-wide walking and cycling networks and green infrastructure and
- Prioritising 'nature-based solutions' such as parks, green roofs, green walls, blue infrastructure and permeable pavements to help reduce the risk of extreme heat, drought, and flooding, and improve liveability and physical and mental health.

C40 Mayors, alongside a global coalition of businesses, civil society organisations, climate activists and residents are already building a green and just recovery. Their agenda calls on national and regional governments, central banks and international financial institutions to join them by:

- Agreeing that the only stimulus should be green
- Committing to an equitable and inclusive recovery
- Protecting and championing mass transit
- Prioritising and investing in clean energy
- Investing in resilient cities as the engines of the recovery and
- Ending all public fossil fuel investments and subsidies.

A series of implementation guides aligning with these actions have been written for cities and can be found on the Knowledge Hub at Spotlight On: A Green and Just Recovery. SOURCE: C40.



CALL FOR GLOBAL INVESTMENT IN TRANSPORT INFRASTRUCTURE TO CREATE 4.6 MILLION JOBS

The City of Joburg has joined forces with transport workers' unions and Mayors from leading global cities, including Los Angeles, Milan and Jakarta to demand an urgent injection of stimulus funding into public transport services and infrastructure.

The funding is hoped to drive economic stimulus, create millions of jobs and tackle the climate crisis. As ridership has fallen during the Covid-19 pandemic, so has revenue. Public transport agencies across cities worldwide face a critical funding shortfall that threatens jobs and services.

The Executive Mayor of Joburg, Cllr Geoff Makhubo says the City is committed to partnering with stakeholders to ensure investment in the transport sector positions the municipality as a hub of inclusive socio-economic recovery. Cllr Makhubo says access to safe and affordable public transport must be leveraged to drive investment in a sustainable future.

Research published on 'The Future of Public Transport' confirms that green investment in global public transport systems will not only safeguard existing jobs, but will also create millions of decent, sustainable jobs and cut emissions from the transport sector in cities by over 50% in the next decade. At a time of global mass unemployment and economic hardship, protecting jobs and stimulating employment opportunities will benefit millions of people who rely on public transport the most - the key workers providing vital services during the pandemic, women, young people and marginalised communities.

The report finds that proper investment in public transport could:

- Create 4.6 million additional jobs by 2030 across 100 cities in the C40 network, and their supply chains, with multiplied economic impact as a result of greater public transport access
- Scale-up in cities around the world would mean tens of millions of new good green jobs
- Reduce air pollution from transport in some cities by up to 45%
- Cut emissions from urban transport by more than half by 2030, as required to meet the goals of the Paris Agreement and keep global temperatures to below 1.5°C
- Failing to support public transport infrastructure will make it impossible for cities to reduce transport emissions, and reach net-zero by 2050, given that transport accounts for about one third of all C40 cities' emissions
- Protect tens of millions of workers in lower income and service sector jobs who have been heroes during the pandemic and rely on public transport for their livelihoods, including hospital staff, retail workers and other sectors critical in delivering the Covid-19 recovery for cities around the globe.
- Connect city residents to work and education opportunities, leisure activities and each other, vital in creating vibrant, thriving, equitable communities and supporting recovery efforts from the pandemic.

The 'Future is Public Transport' initiative is co-organised by C40 Cities, a coalition of nearly 100 Mayors of the world's leading cities, and the International Transport Workers' Federation (ITF), who represent 20 million transport workers. The call for global investment is part of C40 Cities' global mobilisation of Mayors for a green and just recovery from Covid-19, and ITF's mission to secure decent jobs for transport workers and guarantee economic, environmental, racial and social justice for all.

The campaign is backed by strategic partners, including the International Association of Public Transport (UITP), who represent 1800 public transport companies, as well as the International Trade Union Confederation (ITUC), Public Services International (PSI), Greenpeace, United Cities and Local Governments (UCLG), WIEGO: Women in Informal Employment, 350.org and the Institute for Transportation and Development Policy.

C40 Chair and Los Angeles Mayor, Eric Garcetti says the road to recovery is paved with investments in transport infrastructure, because public transportation is more than just a way to move people around — it's a vehicle for opportunity, equity, and a better quality of life. Garcetti says the report solidifies what mayors already know. "Any recovery from Covid-19 must be green, just, fair, and driven by investments in public transportation that will help create jobs, reduce emissions, and lift up our most vulnerable residents."

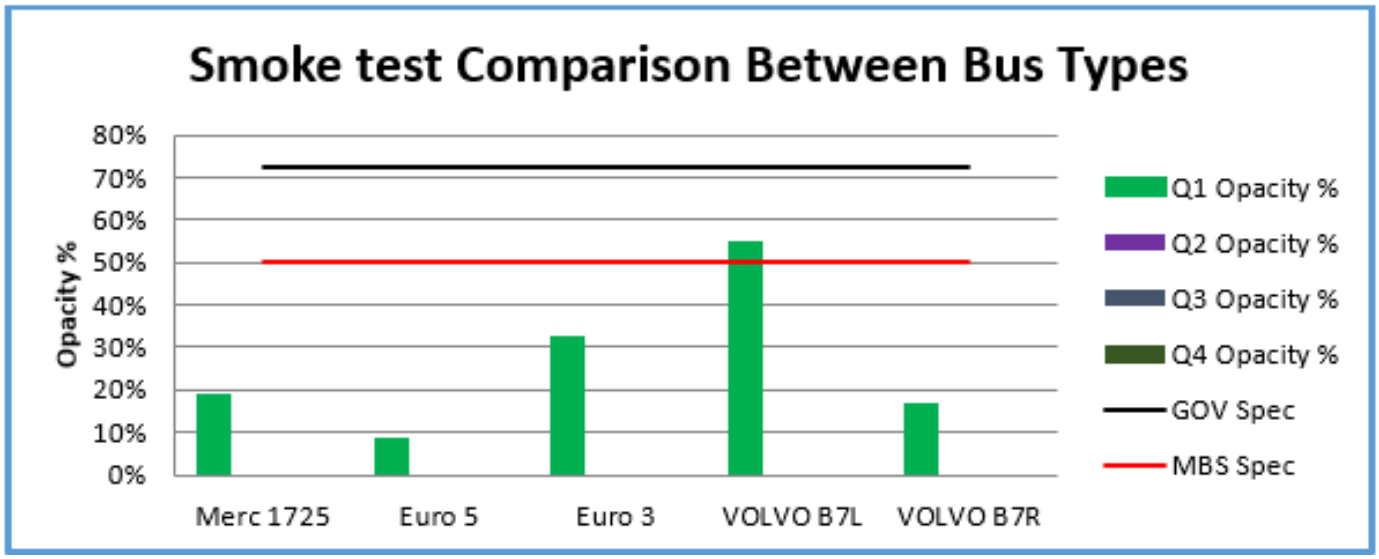
Source:C40

JOBURG TARGETS EMISSION REDUCTIONS IN TRANSPORT

Executive Mayor of the City of Joburg, Cllr Geoff Makhubo says the path towards zero carbon emissions is constrained by the lack of adequate funding that supports environmental sustainability and climate change adaptations. Cllr Makhubo says the City has plans to reduce emissions in the sectors of transport and energy, which are the biggest contributors of greenhouse gases.

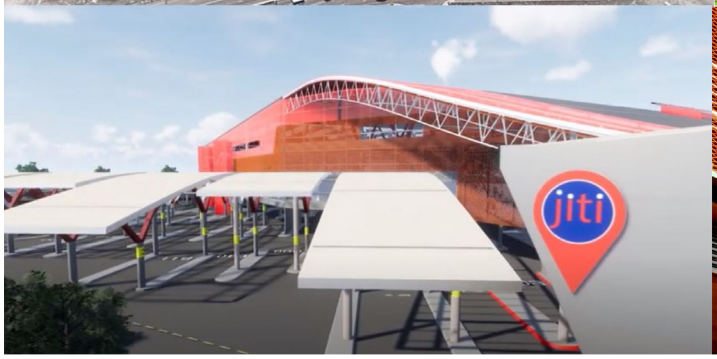
He says this gives Johannesburg the advantage to transform to a greener path that supports economic growth in the green sector, as well as to advance towards achieving 35% energy consumption from renewable sources by 2030; while ensuring all residents have access to clean and reliable energy by 2050. Despite Covid-19 straining the state's ability to support local municipalities in their endeavours to a zero-carbon path, Johannesburg has been able to remain sound when investing in infrastructure to be smart, innovative and supportive of a green economy.

Johannesburg Metrobus runs 148 Euro 5 buses



Metrobus is a pioneer in green transportation, following the City's vision to reduce the carbon footprint in Johannesburg. Metrobus is currently running over 140 buses with blue-Tec technology, with zero carbon monoxide. The fleet performs below 10 Hartridge units per bus, despite the government standard set at 72, 05. These buses subscribe to the European emission standard No 5, with an excellent dual-fuel technology of below 10% opacity. At Metrobus, we don't just drive buses, we drive the economy. For more information about the Johannesburg Metrobus Company, visit: www.mbus.joburg.org.za or call 011 403 4300.

Green innovations



Johannesburg International Transport Interchange (JITI)

Johannesburg's long-distance and cross border transport hub is one of the City's projects towards a greener future. Situated in the heart of the Inner-City, the facility will accommodate long-distance and cross-border taxis and buses, create a variety of economic opportunities through retail facilities, provide social amenities for Inner-City users and residents, and provide a high-quality commuter environment. JITI resonates with the City's vision to create resilient, sustainable and liveable urban areas and hosts the latest technology in green building design, which has been incorporated throughout the facility. Once completed, JITI will be the biggest and most commuter-friendly public transport facility for long-distance travellers on the African

Selby Rea Vaya depot

Another green project of the City is the Selby Rea Vaya Bus Rapid Transit (BRT) depot in the industrial node of the Inner City. Environmentally friendly features of the facility include lights controlled by sensors, a robust mild steel sheeting for the roof, cladding to help with climate control and a noise-wall barrier erected around the premises. The roof structure allows direct sunlight into the building to reduce the need for artificial lighting. Water is recycled for reuse inside the building and wash bay. The facility accommodates up to 270 buses and features an administration building, maintenance building, washing and refuelling bays and an Intelligent Transport System (ITS) control centre. The administration block features ablution facilities, a canteen, offices and staff as well as visitor parking.

Bophelong Clinic is located in the Soweto suburb of Doornkop, northwest of the sprawling township. The facility's eco-friendly design makes use of technological innovations such as solar panels to reduce operational costs and minimise the carbon footprint of the development, CCTV and Access control to ensure safety, as well as light-emitting diodes (LED) for energy-saving.

Transport

REA VAYA A TRAILBLAZER IN MODERN MASS TRANSIT

The City's journey to reduce carbon emissions and the demand for conventional fossil fuel vehicles began in 2015. This programme also prioritises the replacement of ageing and high-emission fleet with fuel-efficient hybrid vehicles and converting some of the vehicles to use biofuels and compressed natural gas.

The City of Joburg's Bus Rapid Transit (BRT) system dubbed Rea Vaya, improves the lives of students, commuters and all other residents by providing safe, affordable and reliable public transport.

The City's flagship mass transit system comprises dedicated lanes on major roads and a fleet of modern buses running on low-sulphur diesel, equipped with advanced pollution reduction technology.

Rea Vaya's Phase 1A route was launched in 2009 and features a trunk route that runs from Thokoza Park in Soweto to Ellis Park in Doornfontein, and several feeder routes linked to local stations. In 2013, Phase 1B was completed, extending the original route from Thokoza Park to Noordgesig Extension and from Auckland Park to the Library Gardens.

A new route, Phase 1C, is currently under construction. Once completed, Phase 1C will connect Phases 1A and 1B to Alexandra and Sandton via the Johannesburg CBD. It is planned for completion in 2021 and includes 13 new stations with four
Interchanges to facilitate the integration of various modes of public transport, including Gautrain, minibus taxis and connections with the City of Tshwane and the City of Ekurhuleni's BRT systems.

Source: www.reavaya.org.za

BUILDING A CLIMATE-RESILIENT JOHANNESBURG

We are facing an emergency of an urgency, severity and scope never experienced by humankind. So far, our response has not been anywhere close to adequate. But you already know that. You know it in your gut, in your bones. We are each part of the planet's living systems, knitted together with almost 7.7 billion human beings and 1.8 million known species. We can feel the connections between us. We can feel the brokenness and the closing window to heal it.

This earth, our home, is telling us that a better way of being must emerge, and fast. The science is clear.
According to the Intergovernmental Panel on Climate Change, we need to limit the rise in global temperature to 1.5°C by 2030. We are already experiencing the effects of climate change, with vulnerable communities experiencing the effects more severely. The time to act is now! Young people across the world have led a global movement to call for enhanced ambition and immediate climate action. This is in line with the Sustainable Development Goals and the realization of poverty eradication, environmental protection and wellbeing of all people.
As South Africa revises its Nationally Determined Contribution, and metropolitan municipalities develop their Climate Action Plans, we, the youth living in the City of Joburg, have compiled this Youth Climate Action Plan. Through this, we will emphasise the urgent need for climate action to build a climate-resilient Johannesburg in accordance with the Climate Justice Charter, the Bill of Rights, South Africa's National Development Plan, and the National Youth Policy.

This Youth Climate Action Plan is inspired by our lived experiences and our visions of the future. It is our generation, and the generations to come that will bear the brunt of the destructive effects of climate change. It is our generation, and the generations to come that will have to witness their descendants perish due to unbearable living conditions that will arise from climate change. We are the ones we have been waiting for. As the gatekeepers of tomorrow's world, it is up to us to preserve our tomorrow.

Take action now to preserve the environment for posterity

The City of Joburg has called on residents, lobby groups and businesses to protect the local environment. Member of the Mayoral Committee (MMC) for Environment and Infrastructure Services (EISD) Cllr Mpho Moerane says the time to place increased attention on the City's biodiversity is long overdue.

Cllr Moerane urges citizens, businesses and environmental groups to take action in protecting the environment. He says humans are part of the solution to help revive lost habitats and ecosystems.

"If we protect the water, air and open spaces around us, we can then decrease the impact of climate change," he says.

Cllr Moerane adds that his department (EISD) will play a central role in conserving the City's natural resources to ensure sustainable delivery of ecosystem benefits, to protect nature and ecosystem services, improve air quality, raise environmental awareness and improve the management of water and waste.

In pursuit of this objective, Councillor Moerane has announced a partnership with Joburg City Parks and Zoo to implement the Alien Invasive Species Management and Control project, which intends to manage
and control alien invasive species in the City's green lungs.

Ramallah mirrors Joburg on Climate resilience

Ramallah's strategy on climate resilience is designed to help the City and its residents withstand shocks and stresses to economic recovery post the Covid-19 pandemic.

These are the sentiments of Nadine Burbar, Ramallah's Deputy Chief Resilience Officer and Head of Local Economic Development. Burbar says Ramallah uses Wi-Fi and fibre optic infrastructure to provide essential services.

She says the daily occupational struggles is not the only threat facing Ramallah, the City is also confronted by environmental challenges yet continues to find ways to be resilient and improve the

lives of all residents through the Ramallah Resilience Strategy 2050.

Joburg's Head of International Relations, Jan Erasmus identified diverse challenges and opportunities between Joburg and Ramallah's strategies aimed at current and future developments.

One of Ramallah's 37 actions for resilience includes the development of comprehensive city-wide environmental resource strategies for Energy, Water and Waste:

The City of Ramallah maintains it will develop an integrated group of strategies to support efficient ways of meeting the demand for natural resources in the City and its surroundings. This will incorporate the expected effects of projected climate change, as well as forecast population and demographic changes. It will inform a programme of specific, related sub-actions across the areas of Energy, Water and Waste, incorporating a mixture of technological and behavioural interventions.

Local Efforts to Build Resilience – Supporting renewable energy

Energy security is of paramount importance. However, as the development of strategic infrastructure is restricted, more localised solutions must be found. Ramallah is working to reduce its energy demand through the rolling-out of low energy street lights, and installing electricity-generating photovoltaic (PV) cells on public buildings – including 15kw systems on the House of Expertise and Cultural Palace.

With new rules that allow excess electricity generated to be sold back to the grid, and the falling cost of solar panels, PV is becoming more viable and a more widespread rollout will be supported.

RAMALLAH IS VULNERABLE TO ACUTE SHOCKS AND CLIMATE CHANGE

Ramallah is at risk from many shocks – relatively short events with potentially catastrophic impacts – including earthquakes, severe weather and political and social instability. Ramallah sits within a seismically active area, with the Dead Sea Transform (the point at which the African and Asian tectonic plates meet) running along the line of the Israel/ Jordan border and the River Jordan.

Major earthquakes hit the region in 1927 and 1943, and seismologists have concluded that another major event is statistically overdue. Although Ramallah does not sit within the highest risk areas, building codes for the earthquake-resilient design came into effect in 2016. There is concern that a major earthquake would cause significant damage to buildings and loss of lives.

Given the elevation of Ramallah, the city is also subject to winter snowstorms and sudden heavy rain. These have been particularly disruptive in recent years, interrupting electricity supplies, closing roads, and disproportionately affecting vulnerable communities such as the elderly and sick. As snow melts, this can cause surface flooding and overwhelm drainage capacity.

Ramallah faces all these challenges in the context of increasing pressure from climate change. Research by the Global Change in the Hydrological Cycle (GLOWA) project found that Palestinian territories can expect an increase in the frequency and duration of extreme droughts, leading to reduced recharge of groundwater, along with increased salinity and pumping costs.

SOURCE: RAMALLAH RESILIENT STRATEGY

ICLEI Malmö Commitment and Strategic Vision 2021-2027

The recently adopted ICLEI Malmö Commitment and Strategic Vision for 2021 until 2027 aims to encourage sustainable urban development across the globe while advancing urgent action on climate, nature, land and health.

In an era where local, regional and national governments continue to respond to and recover from the Covid-19 pandemic, ICLEI's commitment forms part of a compendium of programmes, projects, initiatives, research, tools, methodologies, networks, partnerships, events, capacity building and advocacy work to be undertaken.

The compendium is a living list to which new activities are added each year and ongoing activities updated when necessary.

Five Pathways of ICLEI Malmö's Strategic Vision for Sustainable Development:

1.Low emission development: to achieve a net-zero - climate-neutral - future, with actionable and substan tive solutions that accelerate and drive integrated local climate and energy action, and a coherent invest ment portfolio

2. Nature-based development: to protect and restore humanity's broken relationship with nature and the planet, while respecting, treasuring and enhancing biodiversity and the integrity of ecosystems in and around our cities, which underpin our local economies and upon which we depend for the social integrity, well-being and resilience of our communities

3. Circular development: to d n and waste generation. In collaboration with citizens, businesses and the research community, we will promote the transition from a linear to a circular economy in an integrated way that supports new enterprises, creates dignified jobs, and inspires aspirational, quality lives for our citizens

4. Resilient development: to anticipate, prevent, absorb and recover from shocks and stresses, in particular those brought about by rapid environmental, technological, social and demographic change.

5. Equitable and people-centred development: to build liveable and inclusive urban communities, address the systemic cause of poverty and injustice, and effectively dismantle existing societal and environmental inequities while safeguarding natural support systems for human life and ensure the built environment improves, opportunity, equality, safety, justice and health.

More information on https://worldcongress.iclei.org/

Tokyo Metropolitan Government (TMG) developed the “Zero Emission Tokyo Strategy” intending to achieve net-zero CO2 emissions by 2050. Since then, the world has faced an unprecedented crisis due to the rapid spread of the coronavirus, and the climate crisis has worsened.

Actions taken leading up to 2030 will be extremely important in achieving the 2050 goal of net-zero CO2 emissions. To support the acceleration of TMG actions, a seminal decision has been taken to reduce carbon emissions in Tokyo by 50% by 2030 (compared to 2000 levels) and increase the use of electricity generated from renewable sources to approximately 50%.

To halve greenhouse gases, decarbonise society and realise the so-called “Carbon Half” by 2030 it is necessary to reconstruct and redesign socio-economic structures spanning all fields such as business, daily life and urban development. With the slogan ‘TIME TO ACT,’ TMG calls on all actors in Japan and abroad to accelerate effective actions against climate change and to promote cooperation and collaboration towards the universal goal of “decarbonisation”.

Outline

(compared to 2000 levels): 30% reduction □ 50% reduction*
• Energy Consumption in Tokyo (compared to 2000 levels): 38% reduction □ 50□ reduction*
• Percentage of power generated by renewable energy: approx. 30% □ approx. 50% *
• Phasing out of new gasoline-only passenger cars in Tokyo: □ 100□
• Phasing out of new gasoline-only motorcycles in Tokyo: □ 100□(by 2035)

*TMG will discuss these targets and initiatives in the Tokyo Metropolitan Environmental Council

2. Advocate “2030 Carbon-Half Style”
• To realise “Carbon Half” by 2030, it is necessary to shift to sustainability through a change in the entire social system, including lifestyle and business models.
• TMG advocates for “2030 Carbon-Half Style” to halve the carbon output through necessary societal changes and a vision of a better future.

3. Updating Policies TMG has updated roadmaps for 14 policies in 6 sectors outlined in the Zero Emission Tokyo Strategy, including 26 visions for social change, 36 approaches, and 94 efforts to be immediately accelerated and strengthened.

4.Formulation of Individual Plans

For high priority areas, TMG will formulate individual plans with detailed initiatives. These will be released with the main strategy.
• Tokyo Food Loss and Waste Reduction Plan
• Tokyo Climate Change Adaptation Policy
• TMG’s Zero Emission Action Plan

*The ‘Zero Emission Tokyo Strategy 2020 Update & Report’ is a whitepaper aiming to realise net-zero emissions in Tokyo. Download the Zero Emission Tokyo Strategy 2020 Update & Report here: https://tinyurl.com/3r-pryzhu

***SOURCE: TOKYO METROPOLITAN GOVERNMENT WEBSITE**

UCLG casts spotlight on culture shaping the future

Mayors and local leaders, academics, activists, civil society organisations, cultural networks and key stakeholders involved in the global debate on culture and development will gather in the City of Izmir in Turkey from 9 to 11 September 2021 for the UCLG Culture Summit.

The summit is designed to debate the place of cultural policies in sustainable development. The Covid-19 crisis has made evident the profound need for culture in cities and communities. People have turned to culture to reinforce their sense of belonging in communities and cities, inventing new forms of participation, recognising what brings people together and create meaning and solidarity.

The pandemic has also shown that cultural actors need better working conditions, which previously were precarious and difficult. Society will have to place cultural life at the centre of development. The cultural policies of cities and local governments will be more central than ever. This is why the title of the Summit is: Culture: Shaping the Future.

The Summit is a global event that contributes to the Pact for the Future of Humanity that UCLG launched in November 2020, to be approved in November 2022. The Summit is also framed by the 5th anniversary of the UN's New Urban Agenda (2021) and the future organisation of the UNESCO Conference "Mondiacult+40" (2022). Previous editions of the UCLG Culture Summit were organised in Bilbao (2015), Jeju (2017) and Buenos Aires (2019). Previous Summits witnessed the approval of the Culture 21 Actions toolkit and debates about advocacy campaign #culture-2030goal on the role of culture in the achievement of the SDGs.

Tunç Soyer, Mayor of Izmir, says Izmirians are honoured to host the UCLG Culture Summit. “The Summit will create possibilities to embrace culture in every corner of the city. We, the people of Izmir, will make the most of this opportunity to turn culture into a catalyst of trans-border collaboration among cities. Culture enables cities to be resilient by making life more meaningful and create solidarity,” Soyer explains.

Emilia Saiz, UCLG Secretary-General says that the pandemic has confirmed that culture needs to be consolidated as a dimension of sustainable development and as an antidote for the secondary effects of the crisis. “The Summit is the perfect opportunity to show the leadership of cities and local governments such issues,” Saiz says.

The Summit will devote sessions to issues such as:

Culture, Environment and Health in the Post-Covid-19 Era

Culture and the Climate Emergency

Cultural Rights and Communities

Cultural Policies and Gender

Creative Economy and Cultural Diversity

Cultural Heritage and Tourism as well as

Cultural diplomacy or Culture: obstacles and inequalities.

For more information visit http://uclg-culture-summit2021.org. #IzmirCultureSummit #UCLG-meets #UCLGculture #Culture21Actions #Listen2Cities

Source: UCLG Culture Committee:

BRAZILIAN FIRM TURNS TRASH INTO MUSICAL

Image: Boomera

What goes around, comes around. That famous saying about the way we treat others could equally apply to how we're treating the planet. The plastic waste seen littered on streets and clogging beaches is one of the more visible examples of human impact on the environment but it's now coming back to haunt us.

The World Health Organisation (WHO) has called for urgent research into the health impact of micro-plastics after particles were found in drinking water. A São Paulo-based recycling company that turns garbage into business – Boomera works with waste pickers in the city to find new uses for hard-to-recycle plastic products that normally end up in landfill sites.

Boomera is an amalgamation of 'boomerang' and 'woomera', two Australian Aboriginal artefacts – one that comes back when thrown and the other a spear that lands with precision. It is, quite literally, a revolutionary circular economy business that brings together industry, academia and environmental agents, while also involving research and development, product design and reverse logistics.

To date, it has found solutions for big companies including Procter & Gamble, Adidas and Nestlé. For Nescafé's Dolce Gusto, Boomera found a way to recycle pods to create a new type of plastic resin, which now makes up to 15% of the material in capsule packaging trays. If a product/packaging has no technical recycling solution, it is taken to Boomera's circular engineering lab at the Mauá Institute of Technology in São Paulo for testing to analyse different recycling routes.

"Once the technical recycling of the material is

solved, we develop the reverse logistics system that works best with the waste," says Brammer. In partnership with Dow, Boomera works with a network of waste picker cooperatives around Brazil to collect waste material, bringing work to those communities. In another project, schools collect waste cartons, which are recycled into musical instruments.
"We need to turn what would be garbage into an actual business," says Guilherme Brammer, a Brazilian materials engineer.

The world produces more than 400 million tons of plastic each year, muh of which is mismanaged after use – with only 14-18% being formally recycled and more than half ending up in landfills. Brammer was frustrated by the lack of adequate recycling mechanisms in São Paulo that in 2011 he set up Boomera, a company to find innovative solutions to give raw materials a new lease on life.

Mismanaged plastic waste
In 2010, Brazil produced an estimated 12 million tons of plastic – the fourth biggest producer in the world behind China, the US and Germany. At the same time, a study found 7.2% of the plastic waste in Latin America and the Caribbean was "mismanaged" – either being littered or disposed of inadequately, meaning it was more likely to wind up in the ocean.

"If it is difficult to ensure materials that still have market value return to the industry as raw material, what about waste without value?" says Brammer, a Schwab Social Innovator of the Year 2019. "It ends up in garbage dumps or even landfill, where it stays for years, having hardly ever been used."

WRITTEN BY KATE WHITING FORMATIVE CONTENT PUBLISHED ON THE WORLD ECONOMIC FORUM SENIOR WRITTER

SEVEN WAYS CITIES CAN TAKE CLIMATE ACTION

Cities only cover 2% of the world's surface, yet they consume 78% of the world's energy and produce more than 60% of greenhouse gas emissions. And with the UN estimating that 68% of the world's population will live in urban areas by 2050, we must change the way our cities function. The good news is that more than 10 000 cities have made commitments to reduce their carbon emissions by 2050. So, what are the steps our cities need to take to ensure they move towards a climate-neutral future?

1. Build Better (Or Retrofit)

Energy inefficient buildings make a big contribution to climate change; that is why it is important we make our buildings more carbon-efficient or – even better – zero-carbon altogether. While redesigning and retrofitting buildings isn't cheap, it results in large emission reductions, an important part of the mix of global climate action that needs to be taken to meet the Paris Agreement targets. The good news is that in 2019, spending on energy-efficient buildings increased for the first time in three years, according to one report.

2. Embrace Green Public Transport

The way we travel and commute in a city has a huge impact on carbon emissions, so cities around the world must introduce green public transport. For example, in Santiago, authorities made it more attractive for private bus operators to invest in electric buses by ensuring the buses are leased and run by the public transport authority, a public-private partnership model that has resulted in Santiago having the largest fleet of e-buses in the world outside of China. And even when public transport isn't green, it is still a better alternative than a private car. For example, travelling on the London Underground is responsible for about a sixth of the equivalent car journey emissions, according to UK government figures. Cities then should encourage public transport usage through subsidised tickets, or even free journeys.

3.**GO GREEN**
Green spaces aren't just good for the environment, they are good for our mental and physical health. Studies have shown that access to nature improves our wellbeing and ensures happier, healthier citizens. The focus need not just be on parks but on ensuring that public spaces are dotted with greenery such as planters, vertical gardens, and trees, pocket parks, greenways, community gardens and green roofs. Multi-sector collaboration is important so that stakeholders such as local authorities, businesses and residents are consulted. That way our green spaces will be suited to the diverse groups that make up our cities.

4. ENCOURAGE WALKING

In many cities, paths are narrow and blocked by all manner of obstructions from sandwich boards to random poles, while pedestrian crossings favour drivers over pedestrians. Walking is often seen as the most dangerous way to get from A to B. The World Health Organisation (WHO) estimates that 270 000 pedestrians are killed every year; so it is vital that cities make walking safer. Things are changing; for example, new pedestrian crossing technology such as puffin crossings, which detects slower pedestrians and ensures the pedestrian light stays greener longer, are more pedestrian-responsive and make walking through the city easier. Manchester has introduced extensive walking networks of safer, more protected paths where pedestrians have priority. These sorts of projects are important in cities where the majority of short journeys are done by car. Cities – particularly city centres – should focus on pedestrians rather than cars, through infrastructure changes, public health campaigns and the improvement of pedestrian safety.

5. ENCOURAGE CYCLING

Just as walking is often quite difficult in many of the world's cities, cycling too is often a dangerous activity, with city planners traditionally giving priority to cars. Yet the benefits of increased cycling are huge. A 2015 Intergovernmental Panel on Climate Change (IPCC) study showed that a 20 per cent increase in cycling worldwide would cut carbon dioxide emissions from urban passenger transport by nearly 11 per cent by 2050. Fortunately, many cities encourage cycling, with Copenhagen (see its Farum cycle superhighway for an example of great cycling infrastructure) and Amsterdam introducing dedicated cycling infrastructure, such as secure bike parking and cycle lanes. City bike schemes – both with traditional and e-bikes – have also been introduced worldwide with great success. And with bike-sharing schemes being introduced globally every year, more and more people are taking to two wheels.

6. ADAPT TO ELECTRIC
As people switch to electric vehicles, it is vital that cities do the same, primarily by building the infrastructure needed, both in the city centre and in suburbs. Cities can also introduce financial incentives to increase take-up and introduce reserved parking spaces for electric vehicles. It is only when we make electric vehicles more convenient than traditional petrol/diesel-powered vehicles that we will see exponential adoption and all the benefits to the environment.

7. **SMART WATER USE**
Water resources globally are under huge pressure and as cities expand, their water demand will increase. The Organisation for Economic Co-operation and Development (OECD) estimates that global water demand will increase by 55% by 2050. It is therefore hugely important that cities sustainably manage urban water supplies and improve and expand urban water infrastructure, by investing in 'smart water' solutions. Water can also be used as a cooling system for cities. For example in Hong Kong, one development uses a seawater-based district cooling system, achieving 35% more efficiency than a standard air-cooling system.

There are multiple ways cities can take climate action. If you are interested in what your city is doing, contact your local authorities or representatives; ask them what your city is doing to take climate action and suggest more changes that could be made.
SOURCE: UNFCCC

ALTERNATIVE WAYS CEMENT INDUSTRY CAN OFFSET CARBON FOOTPRINT

Although Cement is a major source of global carbon emissions, many in the industry are hoping technological innovations will usher in a greener future.

Builders have been using Cement-like materials for centuries, with contractors in Syria and Jordan using Cement-like binders to construct buildings and underground cisterns more than 8,000 years ago. Yet it wasn't until the early 19th century that an English bricklayer, Joseph Aspdin, patented a process where he roasted limestone and clay in an oven, then ground it into a powder to make 'artificial stone' – known as Portland Cement. This process is still how virtually all modern concrete is made today.

In 2018, Cement caused about 8 per cent of the world's CO2 emissions, according to think tank Chatham House. Cement is manufactured by heating ground limestone, clay and sand in a kiln to temperatures reaching 1 450ºC. This results in the production of Cement clinker, which is then finely ground to produce the powder we know as Cement. The fuels combusted to heat the kiln account for about 40 per cent of Cement manufacturing emissions. The remaining 60 per cent are "process emissions" – i.e. when limestone is superheated, it releases its carbon atoms and forms CO2 in the kiln.

Clinker can however be blended with alternative materials to reduce emissions. There are other ways the Cement industry can reduce emissions too, from improving the energy efficiency of Cement plants, replacing fossil fuels with renewables and ensuring CO2 emissions are captured and stored.

The Global Cement and Concrete Association (GCCA) is an industry body that represents Cement producers around the world and is at the forefront of reducing emissions in the sector. "Last year, 40 of the leading Cement and concrete companies represented by the GCCA announced a global climate ambition to drive down the carbon footprint of their operations and products to provide carbon-neutral concrete by 2050," says the GCCA's Cement Director, Claude Loréa.

Efforts to reduce CO2 emissions span several areas. "During Cement manufacturing, innovations will involve new ingredients, kiln technology, and new binders, reducing fossil fuel use at every stage. When using concrete, we need to look at ways of better utilising its thermal mass and re-carbonation properties, and also understand how to unlock its recycling potential," Loréa explains.

The industry's next goal is to scale up, working with stakeholders such as governments and the investment community to help transform the industry worldwide."

Several organisations are working on strategies to help 'de-carbonise Cement,' including the UN Environment Programme and the International Energy Agency. The Global Alliance for Buildings and Construction is a UNEP programme that works towards a "zero-emission, efficient and resilient buildings and construction sector". So far it has more than 150 members – including 30 countries across the world, aiming to make progress on reducing emissions from the construction industry and making buildings more efficient. And Cement firms are moving towards innovation too ¬¬– LafargeHolcim is partnering with a US firm, Solidia Technologies on the development of the latter's carbon-cured low-clinker concrete.

While the industry-wide change will take time ¬– and as concrete will continue to be used as the main building block of our towns, cities and infrastructure ¬– a sector producing three times the annual emissions of aviation must embrace a more sustainable future.

SOURCE: UNITED NATIONS CLIMATE CHANGE