



EMG's GUIDE TO THE CAPE TOWN DROUGHT

January 2018

Are you confused about Cape Town's drought or terrified at the prospect of running out of water? Perhaps, like us, you've been frantically reading all the articles desperately trying to make sense of the contradictory statements, looking for someone to blame (at least momentarily) but more importantly trying to find out what you can do so that there's still water to flush your toilet in 2018. Maybe you're living in Grahamstown or somewhere in Limpopo with the same fears but none of the news. And then perhaps you take a step back and wonder what will happen when it rains again and the dams fill up – who will pay for the expensive desalination plants? But will it rain again? Will the dams ever fill up?

These few pages are to help you through the chaos, to bring some order to the disorder. Up front we'd like to warn you that we too have our biases. We are looking at this 'disaster' through the lenses of equity, justice, ecological sustainability and climate change. We are not especially concerned to find ways to make money out of the drought or bring down one political party or another. Our view of capitalism is jaundiced – seeing it largely as a perpetuator of inequity, injustice, ecological destruction and climate change. Nevertheless we take questions of financing and distribution seriously. There is a strong correlation between running out of money and running out of water, at both household and city scales.

As you read this guide and the many other articles that are being written about how to respond to the drought, we suggest that you evaluate the proposed intervention or action against these principles:

- Does it make Cape Town (or another geographic region) less or more equal?
- Does it support an ecosystem approach to water? e.g. does it move away from the traditional approach of extract and throw-away towards a closed system where water is used closer to its source and where used water is recycled back into a living system. For example, can we view Cape Town as a catchment, rather than just a "water demand" centre?
- Does it burden the future with costs? i.e. who pays what and when
- Does it contribute to climate change through high fossil fuel consumption?

1. Are the Cape Town water restrictions fair?

As we move into summer, many suburban residents who are shifting buckets of grey water around their homes are asking: 'what about the tourists?' If we have to save, shouldn't they? This is a very pertinent question. Tom Eaton wrote an excellent article based on luxury hotels' answers to his question of whether, as a summer visitor, he'd be forced to limit his water use (Timeslive, 24 October 2017). The answer basically was no. What many Capetonians don't realise however is that over one hundred and forty thousand households have been living on 'drought'

restrictions of 87 litres per person per day since they had a Water Management Device installed (often forcibly). Installation of WMD's into poor people's homes began in 2007 (see EMG Fact Sheet on WMDs, available here: http://www.emg.org.za/images/downloads/water_cl_ch/FactSheetWMD.pdf), and they will continue to live on these restrictions long after the rain comes.

With the low dam levels, the once ignorant (suburbanites) have suddenly joined the oppressed classes and there is a new class of ignorant (tourists). What an excellent opportunity for empathy, outreach and education.

It also seems strange that businesses are to cut use by 45% across the board. This penalises those who were already efficient and will find it hard to cut more versus those who have been wasteful and will hardly feel the cut. It would be better to restrict an amount per industry, for example 87 litres per bed-night for hotels.

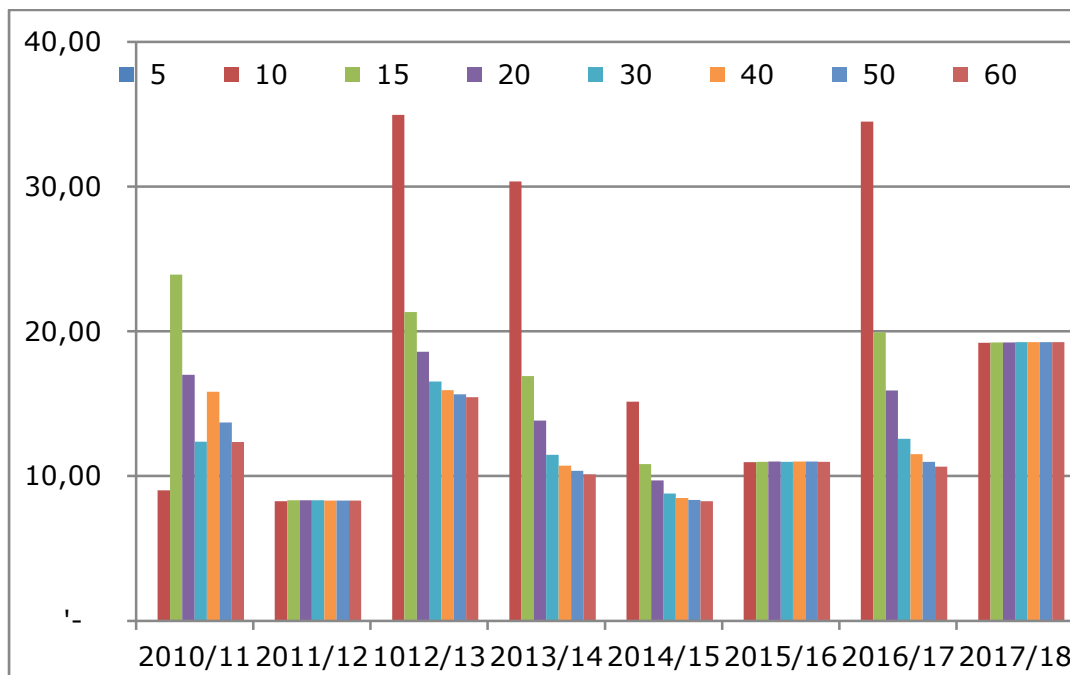
2. Is water too cheap? (interrogating tariffs)

Water tariffs are set annually by each municipality in South Africa to meet three key principles: i) a minimum amount of free or affordable water to everyone; ii) generating enough total revenue to cover the costs of providing water and iii) discouraging wasteful use. Sometimes these are in contradiction and often finance whizzes are left to make what are essentially political decisions. The Western Cape Water Caucus has been engaging with and challenging tariff curves in Cape Town for many years. A time of extreme water scarcity (such as now) throws into sharp relief all the hidden assumptions and problems within the existing financing model.

Water tariffs are both a way to generate revenue and a way to modify water use. If water is expensive you will use less than if it is cheap. The difficulty in South Africa is that what is expensive for most people is ridiculously cheap for others. It is very hard to price water correctly in a highly unequal society, especially where low volumes of water are used. If water becomes too expensive, a person might choose to use less than they need and end up getting sick and costing the state more through being hospitalised. Thus it is imperative that a minimum amount of water is provided free (or very cheaply). Until July 2017, every household in Cape Town received 6kl of water every month for free. This is known as Free Basic Water or FBW. In most other parts of the country FBW has always been targeted (i.e. only available to some people). However, very cheap water creates no financial incentive for people to save and can create a false impression that water is cheap and abundant. During a drought as severe as this one, it thus makes sense for water to be very expensive above a life-line amount, with severe penalties for exceeding any restrictions.

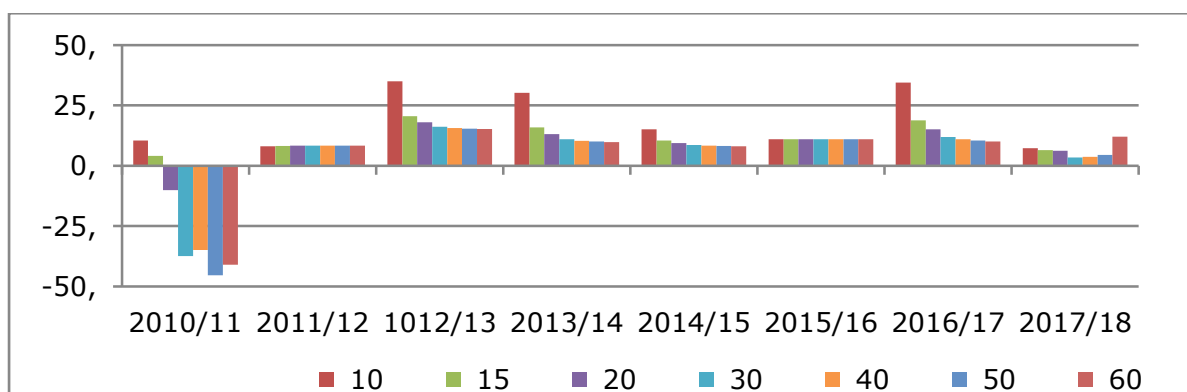
Cape Town's history of water tariff setting does not look good against this backdrop. Until 2017, Cape Town adopted 3 tariff curves every year (there are now 4). These are called 10%, 20% and 30% referring to the targeted percentage water demand below a 'business as usual' scenario. In years of abundant water, residents are charged against the 10% tariff curve. As water become scarcer, we move to the higher tariff curves which are 'steeper' and where higher volumes of water are more expensive.

Graph 1: 10% tariff curve: annual increase in percentage for using x kl of water per month



As this graph shows, there has been a ‘flattening of the tariff curve, with the highest price increase for those using 10kl of water per month, and who are not registered as ‘indigent’. Only twice in the past 8 years was a standard increase applied across all tariff tiers.

Graph 2: 30% tariff curve: annual increase in percentage for using x kl of water per month



In 2010/11, CCT ‘reset’ the 30% tariff curve for households using high volumes of water. Although there was not a drought at the time and so people weren’t charged according to this curve, it set the baseline for future pricing and meant that now during a drought, the price of water is far, far less for those using massive amounts of water than it would have been if the 2010/11 curve had increased all steps. A drought in 2016/17 would cost those using 60kl or more of water the same as it would have in 2009/10 (in nominal terms); whereas it would cost those using 10kl water 260% more. This makes no sense.

3. Luxury water use vs. food gardens and resilience

At times of extreme water scarcity, we're all asking the question: who – or what – needs water the most. We were struck by the City's belief that until recently, filling up swimming pools was more important than poor households getting water to grow food (or, for that matter any water above the 87kl they were restricted to). When water is abundant, golf-courses and decorative gardens can use ground or grey water with a sense of smugness that they're not using municipal water. But when the dams are empty, this grey- and ground-water is the next cheapest option to fill people's taps. In a place as water stressed as Cape Town, we should probably be thinking of banning swimming pools, golf courses and irrigated gardens forever, even if people are rich enough to pay vast sums of money for their water. This water is needed to diversify supply and build resilience.

When water is abundant, the logic of use as much as you can pay for is less awful than when water is scarce. With a limited amount of water to go round, pricing is not a fair or sensible mechanism for allocating water. If we can't use price, then who is to decide whether my need for a shower is less or more important than your need to grow spinach? What mechanisms should be put in place to determine this?

Common to climate change literature and adaptation strategies are 'food gardens'. People are encouraged to grow food to feed themselves and generate some income. However a drought perhaps caused, and certainly exacerbated, by climate change makes this close to impossible.

4. Creating more water and diversifying supply

So imagine that everyone in the city or town – residents, businesses, schools – embraces the restrictions and cuts back on their water use as much as they can while those who can afford to also harvest rainwater from their roofs, and it's still not enough. What then? The municipality needs to supply more water. Five major sources have been identified, which are detailed below. Each of these comes with particular challenges, environmental implications (good or bad) and will cost money. Some water can be generated and used locally, other systems will feed into the existing bulk supply. Currently costs for bulk supply augmentation will be passed onto water users through increases in the price of water. Costs for home or business-scale innovations will be borne by homes and businesses.

- **Desalination**

Small desalination plants can be put up relatively quickly but don't generate a lot of water (up to 10ML per day). Larger plants will take several years to establish. They are expensive to build and run. The price of water will go up. They are also energy intensive. Given South Africa's reliance on coal to generate electricity they will contribute to climate change, which is not something we want to do. Desalination is a last resort.

- **Waste-water reuse (aka 'water reclamation')**

This is the most obvious and cost effective source of 'new' water. Currently Cape Town's waste water treatment works discharge into rivers or directly into the sea. In May 2017 the City estimated that 10ML per day could be generated by Zandvliet WWTW at a cost of R120 million. In their

most recent presentation (Oct 2017) they list 6 WWTWs, each producing 10 ML per day. The technology used for water reclamation is the same as that for desalination but it is cheaper and less energy intensive because waste water is purer than sea water. Water re-use can also happen at smaller scales, and helps to 'close the loop' of the urban water cycle, reducing the need to bring new water in from outside the catchment.

- **Groundwater**

It is difficult to know with certainty how much available groundwater there is at any time, how it has been affected by the drought, or how much is currently being extracted by industry, agriculture and individuals. In Cape Town, the Atlantis, Silverstroom and Cape Flats Aquifers and other sources of groundwater are already being used as an alternative source of water, and it is clear that groundwater will play an important role in the drive to augment supply. According to the City's augmentation plans (below), it may be possible to get 90 ML/day from groundwater. But groundwater specialists say that target is unrealistic in the short term, and we need to proceed with caution. If groundwater is over-abstracted without being recharged by runoff, boreholes can run dry; and if coastal aquifers are over-abstracted, saltwater intrusion can occur. There are tens of thousands of boreholes on private properties throughout Cape Town already, and before digging more we should think about distribution and access from these boreholes (Kevin Winter, EMG seminar, 18 October 2017).

- **Rainwater**

Cape Town's average rainfall, within the 2000 km² area covered by the municipality, is three to four times as high as our annual demand (Kevin Winter, EMG seminar, 18 October 2017). If we were to transform our water infrastructure, and think of the City as our catchment, rather than bringing water in from neighboring catchments over the mountains, a lot of the current inefficiencies would be addressed. Many suburban households have invested in rainwater tanks, and are able to supplement their household use significantly using water harvested from their rooves and gutters - but there are implications for our water financing system when middle class households go 'off the grid' - see point number 6 below. Stormwater, which currently runs off of roads into drains and is channelled out to sea, is an enormously wasted resource. There are many innovative ideas and prototypes for retaining and harvesting storm water in urban areas; perhaps this drought can be an opportunity for implementing some of these designs.

- **Clearing aliens**

For some reason this option is not in the City's augmentation plan but it should be. Clearing aliens in the catchment above Wemmershoek dam would release 6% more run-off. If this is indicative of all the catchments supplying Cape Town's six dams, an additional 58 000 ML of water could be released annually – a volume of water equal to the size of Wemmershoek dam (News24, 11 October 2017). Clearing aliens will not only benefit water supply to humans, but will also contribute towards biodiversity and healthy rivers.

City of Cape Town water augmentation plans (Oct 2017)

Tranche	Technology	Sites	Supply (MI)	Solution Total (MI)	Tranche Total (MI)	Total (MI)
Immediate	Desalination	Hout Bay	4	82	92	504
		Granger Bay	8			
		Red Hill/ Dido Valley	2			
		Strandfontein	4			
		Monwabisi	4			
		Harmony Park	10			
	Cape Town Harbour	50				
	Water Reclamation	Zandvliet WWTW	10	10		
Tranche 1	Desalination	Cape Town Harbour (Barge)	50	50	110	
	Ground Water	Atlantis & Silverstroom Aquifers	25	50		
	Ground Water	Cape Flats Aquifer	25			
	Water Reclamation	Fisantekraal WWTW	10	10		
Tranche 2	Desalination	Universal Sites x 3	20	22	102	
		Maidens Cove	2			
	Ground Water	Cape Peninsula Aquifer	20	40		
		Hottentots-Holland Aquifer	20			
	Water Reclamation	Potsdam WWTW	10	40		
		Cape Flats WWTW	10			
		Bellville WWTW	10			
Macassar WWTW		10				
Extreme	Desalination	Gordons Bay Ship/Barge	150	200	200	
		Cape Town Harbour (Ship)	50			

5. What the City asks of its residents

In order to reduce water demand, the City has implemented progressively increased water restrictions over the past years and months, as outlined in the table below. The current target is 500 ML per day, but consumption has stayed around the 600ML/day mark, in spite of these restrictions and extensive awareness campaigns. Take note of some of the inequitable restrictions, for example at Level 3b restrictions, people were still allowed to top up their swimming pools, but indigent households with water management devices were not allowed to apply for more than 350l/household/day.

Restrictions implemented by City of Cape Town

Level	Date	Restriction	Target
Level 1	2005	<ul style="list-style-type: none"> • No irrigation 10:00-16:00 • Spray nozzles for hosepipes • No hosing down hard surfaces • No dampening of building sand 	10% savings
Level 2	2016 Jan 01	<ul style="list-style-type: none"> • Irrigation for 1 hour on Tue, Wed, Thur • No irrigation 9:00-16:00 	20% savings
Level 3	2016 Nov 01	<ul style="list-style-type: none"> • Buckets only • Pool covers 	30% savings
Level 3B	2017 Feb 01	<ul style="list-style-type: none"> • No private car washing • Manual topping up of swimming pools is allowed only if fitted with a pool cover. • No increase of the indigent water allocation over and above the free 350l/day will be granted 	30% savings
Level 4	2017 June 01	<ul style="list-style-type: none"> • No irrigation • No topping up of private pools 	
Level 4B	2017 July 01	<ul style="list-style-type: none"> • No topping up of public pools 	87 litres/ person/day
Level 5	2017 Sept 03	Fines: <ul style="list-style-type: none"> • Residential > 20kl/m • Commercial: 20% less than same month previous year 	87litres/ person/day
Level 6	2018 Jan 01	Fines Residential >10,5 kl/m Commercial: 45% less than same month pre-drought (2015) Agricultural users: 60% less than same month pre-drought (2015)	87 litres/ person/day

		Charged according to 2017/18 Level 4 tariffs	
Level 6b	2018 Feb 01	Aiming to get collective daily consumption down to 450 million liters No irrigation from boreholes and well points	50 litres/ person/ day
Critical Water Shortages Disaster Plan - Phase 1: Preservation restrictions and rationing	2017 October	Limited supply and advanced pressure management (supply to some areas will be manually shut off at various times, and pressure will be reduced). There will not be a complete shutdown of the water reticulation system, but some areas may experience water outages at times. No timetable possible.	87 litres/ person/day
Phase 2: Disaster restrictions (also called 'Day Zero')	Projected for 21 April 2018	This will be implemented when total available surface water requires intensive water rationing to last until next rainy season - aimed at maintaining life and critical services. Strategic commercial areas, high density areas e.g. informal settlements and critical services like hospitals will still receive water through municipal connections. Everyone else will have to collect drinking water from collection sites. SAPS and SANDF will be deployed.	25 litres per person per day, to be collected from distribution points
Phase 3: Full scale disaster implementation	NOT YET IMPLEMENTED	No more surface water. Drinking water from alternative sources available at distribution points. Critical services significantly reduced.	

Day Zero

On 18 January 2018, Cape Town mayor Patricia de Lille released a scathing statement announcing that Day Zero - the day on which most of Cape Town's water supply will be switched off - is now inevitable and is projected for the 21st of April 2018. In her statement, she heavily criticised the citizens of Cape Town for not saving enough water, saying that over 60% of residents were ignoring the 87 litres/person/day restrictions (read the full statement here:

[http://www.capetown.gov.za/Media-and-](http://www.capetown.gov.za/Media-and-news/Day%20Zero%20now%20likely%20to%20happen%20-%20new%20emergency%20measures)

[news/Day%20Zero%20now%20likely%20to%20happen%20-%20new%20emergency%20measures](http://www.capetown.gov.za/Media-and-news/Day%20Zero%20now%20likely%20to%20happen%20-%20new%20emergency%20measures)).

DAY ZERO 21 04 | 2018

THE DAY THE TAPS
WILL BE TURNED
OFF

Day Zero is based on the previous week's daily consumption average of 618 Ml/day. Only if all Capetonians reduce their daily use down to 87 litres or less, and the City implements the necessary projects, will we avoid Day Zero. To find out what you can do, visit www.capetown.gov.za/thinkwater

THE CITY

The City's progress on securing alternative water sources.



Cape Town Harbour (Desalination)	50%
Strandfontein (Desalination)	52%
Monwabisi (Desalination)	58%
V&A Waterfront (Desalination)	33%
Cape Flats (Ground Water)	53%
Atlantis (Ground Water)	60%
Zandvliet (Recycled)	41%

Behind Schedule - On Schedule - Ahead of Schedule

THE DAMS

Combined level of dams supplying the city. For more info click here.



WEEKLY TREND - 1% ▼

CAPETONIANS

Percentage of residents using 87l or less per day.



WEEKLY TREND - 15% ▼

TOGETHER, WE CAN
AVOID DAY ZERO

STATS AS AT WEEK 15 JANUARY 2018

OTHER CITY PROJECTS

Additional projects in advanced stage of planning that are ready to proceed if required.

Hout Bay (Desalination)	45%	Universal Sites (Desalination)	24%	Cape Town Harbour (Desalination Ship)	29%	Cape Peninsula (TMG Aquifer)	21%
Cape Town Harbour (Desalination Barge)	67%	Cape Flats (Reclamation)	8%	Helderberg (TGM Aquifer)	21%	Granger Bay (Desalination)	50%
Gordon's Bay Ship (Desalination Ship)	9%	Macasar (Reclamation)	15%	Red Hill/Dido Valley (Desalination)	44%	Harmony Park (Desalination)	58%

Screen shot taken from City of Cape Town water dashboard (<http://coct.co/water-dashboard>) on 23 January 2018.

Day Zero is the day on which Cape Town's storage dams drop to 13.5% of their capacity, at which point the City will turn off almost all taps in the City. Some areas will be prioritized to remain connected, most probably densely populated informal settlements (where people already collect water from standpipes and essentially live under 'day zero' conditions already!), and critical infrastructure. Exact details about the areas or infrastructure that will remain connected have not been released. The City say they will set up 200 distribution points, where Capetonians can collect their 25 litres per person per day, every day. Each distribution point could expect up to 20 000 people per day, and will need to be open 24 hours a day. The South African Police Service and SA National Defence Force will be involved in overseeing these distribution points.

Understandably, this announcement has sparked a flurry of anxiety, criticism and unanswered questions from citizens of Cape Town. The logistical nightmare of taking time out from work/school, negotiating traffic and queues to collect heavy containers of water for oneself and one's

family, under police and military guard, on a daily basis, is extremely daunting and difficult to comprehend. There are well founded fears that the City will not be able to manage this scenario properly, and that violence and anarchy may erupt.

In the darkness of this worrying time, there are a few small beacons of light. The ingenuity and resourcefulness of people trying to figure out how to go completely off the water grid is heartening, and hopefully some long terms adaptations will be developed and shared widely between communities. Rainwater harvesting is happening, even at very small scales to augment water supply. Many middle class people are exploring dry sanitation options, such as composting toilets, for the first time, which is something environmentalists have been calling for for a long time. Many neighbourhoods are organising through street-level whatsapp groups to assist each other with water collection should that become necessary. There are many people who because of age, illness or transport options will not be able to collect their own water.

What is needed most at this time is good leadership, clear and accurate communication of all new information as it becomes available, support for Capetonians suffering under the anxiety and stress of the situation, and all people to display their best, most generous humanity towards one another.

6. Going off the grid: middle-class households respond

Many people we talk to are taking their homes off the water (and electricity) grid – or at least using public services much less. They've put in multiple rainwater tanks and mini-purification systems. If they can't recycle their water to drinking water standards, they can at least get it clean enough for washing and toilet flushing. We hear that it is not only households, but also commercial enterprises and industries that are becoming less reliant on the grid. Brilliant! But this comes at a cost, which is the loss of their revenue to the public system.

Another nuance is the relationship between potable water and waste water. Some homes and businesses might be able to generate sufficient water through rainwater harvesting or a borehole, but rely on the municipality to treat their waste water. Currently waste-water is charged as a percentage of fresh-water coming in and so if you have no municipal water coming in, your sewage treatment is free!

For one or two households, this is not a big deal, but if it becomes a strategy (and there is every reason that it should) then we have to seriously rethink the financing of water. Because we do need a municipal water system. Many people live in homes too small to install waste-water tanks or reed beds. You need to be relatively wealthy to have the money upfront to buy all of this equipment. Having drinking quality water coming out of taps in every home is essential for human rights, public health and a decent living standard, as is a functioning sewerage system. Let us open for public debate this question of financing in a world where we are trying to use less not more.

7. Involving residents as though they matter

The Mayor frames the City's drought response within the language of 'resilience' by which she means that the City is responding appropriately to climate change. The City's water resilience task team which was assembled to develop a new water management approach for the City, consists of engineers, desalination specialists, hydrologists, and two communication posts - but no social development specialists, or facilitators, or community engagement officers. True resilience to climate change is inextricably linked to reducing inequality, reducing poverty and participatory democracy whereby all citizens have agency to improve their lives. Facilitating civil society engagement and robust public participation is challenging at the best of times, and requires a lot of careful trust and capacity building. But these participatory processes seem to go out the window at times of crisis, as the urgency of the situation leads to hasty, sometimes secretive, centralised decision making. In fact, at times like these, robust community engagement and participation is critical, so that everyone understands what is going on, so that diverse perspectives can be taken into consideration, and so that we can strengthen relationships across the different parts of our society.

8. Practical tips

Practical tips for cutting your water use are everywhere. Read them and learn. Talk to your friends and neighbours. Add a new water saving activity to your home every week.

Here are some tips compiled by the City of Cape Town:

Please immediately:

- Cut your water use to less than 87 litres per person, per day
- Use municipal drinking water only for essential washing, cooking and drinking purposes, and only use indoors
- Check and fix all leaks on your property
- Limit household usage to 10,5kl per month (as per Level 6 restrictions to be implemented from 1 January).

Save water in your home in the following ways:

- Only flush the toilet when necessary. Don't use it as a dustbin.
- Cut your showers to two minutes. A standard (non-water-saving) showerhead can use up to 16 litres of water per minute.
- Collect your shower, bath and basin water and re-use it to flush your toilet, water the garden and wash your car.
- Wait for a full load before running washing machines and dishwashers. The rinse water from some washing machines can be re-used for the next wash cycle.
- Use a cup instead of running taps in the bathroom or kitchen when brushing teeth, shaving, drinking, etc.
- Defrost foods in the fridge or naturally, rather than placing it under running water.

Save water in your place of work in the following ways:

- Do regular water audits to find out which areas of your business are using most of your water and to measure the effect of your water-saving measures.
- Remind your colleagues and staff to curb their water use both at the workplace and at home.

Make sure employees and colleagues understand why it is important to save water and what is expected from them.

Start a water saving project. Water conservation initiatives make excellent corporate social responsibility projects!

Install water efficient taps or fit existing taps with aerators – these can reduce water flow from 20-30 litres to 6-10 litres per minute.

Install water efficient showerheads and encourage short (two minute) showers.

Install new water-saving toilets.

Replace automatic flushing urinals – these are extremely wasteful. If they cannot be replaced immediately, turn off the water after hours and over weekends.

Ensure that toilet flush valves flush for no more than four seconds and urinals for no more than eight seconds.

Convert to water-wise landscaping. Use water-wise plant species, limit lawn areas and mulch flowerbeds to help retain moisture in the soil.

Don't hose forecourts and paved areas – sweep them instead.

Don't use drinking water to dampen building sand or other building material to prevent it from being blown away.

If your school, business or organisation has a pool, fit a pool cover to prevent water loss through evaporation.

For more information, tips and water use calculators, visit www.capetown.gov.za, or check out the hashtag #thinkwater.

9. Will it ever rain again?

Cape Town's rainfall pattern is predictable in the sense that we expect winters to be rainy and summers to be dry. But while this pattern always holds, the amount of rain we get in any particular year varies widely. Some years are wet (rainfall is above normal), some very wet, some are dry, some are very dry and others are neither wet nor dry. The Western Cape has recently experienced a few consecutive very dry years. Some analysts claim that statistically a drought this severe should not occur more than once in 1150 years (Wolski, 2017).

The good news is that the current drought will come to an end. Rainfall has always varied from year to year and will continue to do so. It will rain again! On the other hand, another dry year next year is possible. It would be statistically very rare (one-in-a-million year event perhaps?) but not impossible. Like tossing a coin, the outcome of a toss is not influenced by the outcome of prior tosses.

There is bad news too. Cape Town's supply dams will be so depleted by the end of 2017/18 summer that it could take 3 or 4 years of good rain before their levels are restored to something more comfortable, and severe water restrictions will have to remain in place. On top of that, Cape Town's population will probably continue to increase and there will be more and more demand for water.

Has climate change finally arrived? Climate change is not like a train arriving at the platform (a poor analogy considering Metrorail's performance). To be sure, climate models predict that the Western Cape will become drier over the next 50 to 100 years, but rainfall variability from year-to-year will remain. Some future years will be wet, some dry and some in-between. But the general

trend will be that wet years in the future will be not as wet as we have come to expect; and dry years will be drier. An “average” rainfall year in 2100 will be drier than today’s average. How rapidly and severe this trend will be is something that climate modelers are working hard at understanding.

All of this means that spending millions in a quick-fix panic – merely to get us through the next summer – will be a big mistake (a tour of the Garden Route’s rusting desalination plants should be made compulsory for all City Councillors). Spending millions on solutions that secure water supplies in the long-term, in the most cost-effective, least environmentally damaging way is something that should have been done long ago anyway.

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