

Stresses / Shocks



Drought



Economic crisis



Poverty



Unemployment

Qualities of a resilient city



Robust city



Flexible city



Resourceful city

RESILIENT CAPE TOWN PILLARS

PILLAR 1:
People
Compassionate,
holistically healthy city

PILLAR 2:
Place & Space
Connected, climate
adaptive city

PILLAR 3:
Economy
Capable, job
creating city

PILLAR 4:
Disaster readiness
Collectively,
shock-ready city

PILLAR 5:
Governance
Collaborative,
forward-looking city

Innovations for Water Resilience Competition: Using systemic shocks to drive economic innovation, collaboration and climate adaptation in Cape Town, South Africa.



Purpose

This case study describes the [Innovations for Water Resilience Competition 2018](#), a project carried out through a three-year collaboration 'Collaboration on Innovation and Water Partnership' between (GreenCape) the [Friedrich Naumann Foundation for Freedom](#) (FNF) with support from the City of Cape Town (CoCT).

The Innovations for Water Resilience Competition sought to build resilience by creating beneficial synergies for water users, supporting stakeholders, and enabling solution providers by identifying their respective climate-related challenges and soliciting innovative solutions within the entrepreneurial landscape to address climate impact challenges

The case study discusses:

- The Cape Town drought crisis experienced, between 2015 and 2018;
- The rapid proliferation of water-related technologies and services in response to the drought;
- The importance of collaboration and collaborative techniques;
- How a system shock can be used to drive innovation;
- Mechanisms used to address issues of water scarcity;
- The hidden potential embedded in high-tech entrepreneurship.

It is written for:

- **Cities and regions** seeking to harness high-tech entrepreneurship towards developing **market-driven and decentralized smart-city responses to climate change** challenges, especially in the area of water and water infrastructure.
- **Cities and regions** focused on building **economic resilience through innovation, enterprise development and job creation**;
- **Businesses and entrepreneurs** looking to capitalise on climate-induced business opportunities, and;
- **Funders and other organisations** seeking to replicate similar programmes

This case study is part of a series highlighting how Cape Town is building resilience in order to: SURVIVE | ADAPT | THRIVE

Cape Town's Resilience Strategy is a commitment to ensure that the City thrives in the future regardless of what shocks and stresses it faces. Resilient Cape Town offers a roadmap for a 21st Century metropolis to enable the city to become more resilient to growing physical, social and economic challenges. It envisions Cape Town as a **compassionate, connected, and capable** city where Capetonians **collaborate** across households, communities and institutions, to build **collective** responses to the current and future social, environmental and economic challenges.





KEY INSIGHTS

- ✓ In order to build resilience to droughts and minimise economic impacts, cities should work with and collaborate across the public and private sectors.
- ✓ Climate shocks, whilst an immediate threat to a city, can also catalyse innovative solutions within the entrepreneurial landscape to address those climate challenges.
- ✓ Collaboration is a key part of the resilience journey for cities to generate holistic solutions to climate-related challenges.
- ✓ With a boom of innovation, it is important to find a systematic way to identify and prioritise the most promising businesses and entrepreneurs.

Background

Between 2015 and the end of the 2018 hydrological cycle, the main catchment region that supplies the CoCT with water was hit with an unprecedented drought. Even recorded rainfall experienced during 2019 has been below the mean annual average. Climate scientists are suggesting that in the future, drier conditions can be expected, coining this drought period 'The New Normal'¹.

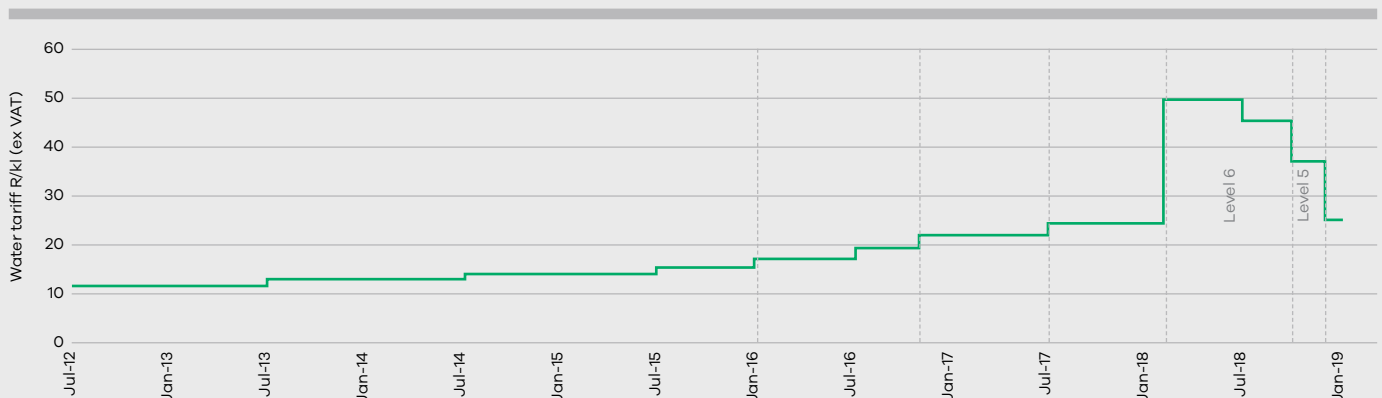
During the peak of the drought at the end of the 2017 rainfall season, there were serious concerns about the city's ability to survive the dry summer months of 2017/18 and the concept of 'Day Zero'² was introduced.

The drought has highlighted the complexity of water as a finite resource, and fast-tracked the need for sophisticated and innovative solutions, approaches, techniques, and technologies to manage water as a critical resource as Cape Town embarks on the resilience journey. Additionally, as water tariffs

increased through water restrictions (see figure 1 which shows the increasing severity of the restrictions and the associated tariffs for commercial and industrial users), so water scarcity has become an enabler for market opportunities. In 2017/18 in particular, this stimulated a dramatic increase of innovation in the water tech and services space.

The drought crisis and subsequent water tech innovation boom gave rise to the GreenCape-FNF partnership, which commenced in 2018 and has been ably supported by the CoCT. The partnership seeks to identify and support smart, sustainable solutions that are beneficial to society, the economy and the environment. The partnership recognises that economies are dependent on water availability and that a lack of water can lead to system collapse. It also recognised the need to support businesses and entrepreneurs threatened by water insecurity or operating within the water sector.

Figure 1: Industrial and commercial water tariffs in the City of Cape Town and their associated restriction level



¹ See, for example: <http://www.csag.uct.ac.za/2017/11/01/is-cape-towns-drought-the-new-normal-piotr-wolskis-article-for-groundup/>

² See: <https://www.theguardian.com/cities/2018/feb/03/day-zero-cape-town-turns-off-taps>

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What is resilience?

In human terms, resilience refers to *“the ability of an individual to recover from setbacks, adapt well to change and to keep going even when facing difficult circumstances”*.

Chronic stresses weaken the fabric of a city on a day-to-day or cyclical basis, for example, high unemployment, inadequate public transport systems, endemic violence, food insecurity and

substance abuse. **Acute shocks** are sudden sharp events that threaten a city, for example, drought, fires, floods, diseases outbreaks and infrastructure failure.

Building resilience to shocks and stresses matters because disruptions or disasters of any sort, whether regional or distinctly local in scope, short or long in time scale, can be costly to those they impact. They can result in the loss of livelihoods, they can severely impact citizens' mental

health, they can result in injuries and death, and they can drive apart communities.

A resilient Cape Town is a compassionate, connected, and capable city, where Capetonians collaborate across households, communities and institutions, to build collective responses to the current and future social, environmental and economic challenges.

PILLAR 2

Cape Town is a connected, climate adaptive city

VISION

Capetonians work together to create place-based responses to shocks and stresses.

GOAL 2.1

Grow partnerships that strengthen transportation systems and improve mobility

GOAL 2.2

Engage communities and the private sector to improve public spaces

GOAL 2.3

Build climate resilience

GOAL 2.4

Innovate for improved conditions, service delivery, and well-being in informal settlements

ACTION: 2.3.2

Enhance partnerships for improved water governance and holistic water resilience

DESIRED OUTCOME:

Strengthened relationships with large water users in the Western Cape Water Supply System (WCWSS) and ongoing collaboration and engagement with civil society, academic, and business partners in the urban water system for the purpose of collective ownership of roles and responsibilities in water governance.

PILLAR 3

Cape Town is a capable, job creating city

VISION

Capetonians turn the challenges of resource constraints and rapid technological change into new opportunities.

GOAL 3.1

Foster green economic growth

GOAL 3.2

Enable enterprise development in the informal economy

GOAL 3.3

Connect the workforce with a changing economy

GOAL 3.4

Collaborate with businesses to achieve a resilient local economy

ACTION: 3.4.1

Build a business commitment to resilience in the city

DESIRED OUTCOME:

Increased commitment by businesses to partner with the City government in building resilience both for their businesses and their employees so that they can collectively and rapidly respond to shocks and stresses.





Solution

The **Collaboration on Innovation and Water** is a 3-year project and dual partnership between FNF and GreenCape. The objective of the project is to harness the power of innovative high-tech entrepreneurship towards developing market-driven and decentralized smart-city responses to climate change challenges, especially in the area of water and water infrastructure.

The project seeks to create beneficial synergies for water users, support stakeholders, and solution providers through identifying their respective climate-related challenges and soliciting innovative solutions within the entrepreneurial landscape to address the climate impact challenges.

During the first year of the project, which coincided with the peak of the Western Cape drought crisis, GreenCape, FNF and the CoCT co-hosted the **Innovations for Water Resilience Competition**.³ The competition was seen as an ideal way to bring role-players from the water sector together, to enhance collaboration, and to

provide a platform for entrepreneurs and SMMEs to showcase their water innovations, with the aim of making a meaningful contribution to the water crisis and to contribute to Cape Town's resilience journey.

Additionally, the competition, a shark tank-style pitching contest, aimed to do the following:

- Provide entrepreneurs with an opportunity to showcase and share their innovative water technologies, products and solutions offering relevant and appropriate solutions to water shortages;
- Harness the hidden potential in high-tech products and solutions to water scarcity by providing innovators and entrepreneurs with the support required to accelerate their market-appropriate, climate-appropriate solutions;
- Convene support stakeholders (business development service providers, investors, government officials) together

with entrepreneurs (finalists and attendees), providing an opportunity to network with stakeholders that could further assist in addressing their entrepreneurial needs to make an impact on the water crisis;

- Assemble a high quality judging panel with representatives from FNF, the CoCT, GreenCape, the Western Cape Provincial Government and elsewhere to provide a diverse and in-depth evaluation of the showcase innovations;
- Provide entrepreneurs with individual feedback from the panel of judges after the competition regarding their competitive advantage, areas of improvement and suggestions for business growth, as a mechanism to improve their business case and enhance their growth for maximum impact on the water crisis;
- Filter out some of the most promising technological and service orientated innovations in the face of a boom in water tech and services.



³ See: <https://www.youtube.com/watch?v=dJKAf84yYIM&t=35s>



Impact

The Innovations for Water Resilience Competition was seen as a huge success and the model has since been replicated, albeit under a broader theme seeking to promote green economic growth. The impact of the competition was as follows:

- There were 47 entry applications received for the Innovations for Water Resilience Competition by local and internationally based water sector entrepreneurs;
- Seven (7) top water innovators (finalists) participated and were awarded with Certificates for Participation and recognition for setting an exceptional water-conscious standard;
- R20 000 worth of business development support awarded to the Competition winner, LiquidGold Africa
- Production of a [supporting SMMEs video](#)⁴ for the competition winner, [LiquidGold Africa](#);
- Production of 7 individual pitching videos of the finalists (sharing their water-efficient businesses and business ideas online and reaching a wider audience);
- Around 100 investors, government officials, water professionals and members of the media attended the competition with high profile dignitary attendance including the Minister of Economic Opportunities;
- A business development support workshop, facilitated by GreenCape and Sarebi, was hosted for the competition winner, LiquidGold Africa.

"We've seen a lot of water sector ideas mushrooming in the heat of the drought crisis, but what's important now is to land those ideas into proper business proposals and businesses where we can start to manufacture these goods and services in Cape Town and look to export that to the rest of the World. The Innovations for Water Resilience Competition has created the ideal platform to initiate this process."

**Lance Greyling, Director:
Enterprise and Investment, City of
Cape Town.**



⁴ See: https://www.youtube.com/watch?v=Ek2U_ynpX-E

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The Innovations for Water Resilience Competition helps to build economic and climate resilience in Cape Town, in three ways:

1. Using a systemic shock to solicit and filter innovation.

The drought-induced water tariff increases have catalysed a boom in water tech and services innovation. The competition has helped to identify many of these innovations and further highlighted the most promising innovations. These innovations have the potential to safeguard or even promote job creation and build resilience to water scarcity.

2. Promoting collaboration between government, NGOs and the private sector and enabling solution providers.

The competition facilitated collaboration between a diverse group of stakeholders, promoting holistic solutions to climate impact challenges. Additionally, it provided a platform for both those businesses requiring water efficiency and/or augmentation solutions and those solution providers to connect.

3. Creating beneficial synergies and providing tangible business support to the most promising emerging SMMEs and entrepreneurs.

The competition provided tangible business support to the finalists. Critical and constructive feedback was given to all the finalists with the winner being given an additional R20 000 worth of business support. All the finalists also received a video copy of the competition and their pitches and the finalists were connected with important stakeholders where appropriate.

Innovations for Water Resilience Competition



Event Date: 10 October 2018 – Cape Town

Enter to pitch your
water innovation and win!

Visit www.greencape.co.za

APPLICATIONS NOW OPEN

Applications will close on **extended deadline**: Wednesday, 19 September 2018



Freiheit Bewegung
FREIHEIT FÜR DIE FREIHEIT



For more information and support contact GreenCape's skills development desk: info@greencape.co.za or call (021) 811 0250. Additional resources on improving skills development are available from: www.greencape.co.za/content/focusarea/skills-development

