

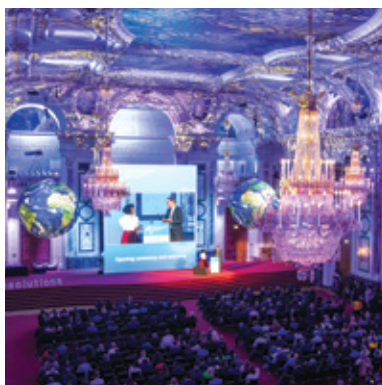
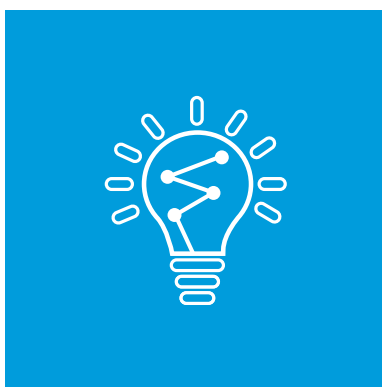


UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION
Progress by innovation



Flanders
State of the Art

SOUTH AFRICAN INDUSTRY ADAPTATION (SAIA) PROJECT



Supporting industries to:

- Transition to more **climate resilient operations**
- Avoid **negative impacts** on the environment and people
- Better prepare for **future climate change impacts**



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Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA



NCPC

INDUSTRIAL EFFICIENCY IN SOUTH AFRICA



technology innovation
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Strengthening the adaptation capacity of industry for a green and resilient economy

Climate change threatens the bottom-line of businesses and disrupts economies disproportionately in developing countries. In addition to curbing greenhouse gas emissions, increased efforts are also required to adapt to the impacts of climate change – and industry has a pivotal role to play in this, both as a service provider and beneficiary.

The Industry Adaptation Project in South Africa aims to assist industry in transitioning to more climate-resilient operations and better prepare for future climate change impacts, while avoiding negative impacts on the environment and people.

The project is implemented by the United Nations Industrial Development Organization (UNIDO), in collaboration with the National Cleaner Production Centre South Africa (NCPC-SA) and the Technology Innovation Agency (TIA). It is funded by the Government of Flanders.

The Challenge

South Africa is particularly affected by **climate change hazards** such as recurring and extensive heat waves and dry spells, rainfall increase and storm surges.

- The associated impacts of these extreme weather events have a bearing on **economic and social aspects** of the country's development.
- As the country embarks on a **just transition to a low-carbon, climate-resilient and environmentally sustainable economy**, a clear window of opportunity exists to accelerate the shift to a domestic green economy.

Adaptation to climate change helps to address environmental and health-related impacts, boosts development and is a prerequisite for a prosperous economy. It contributes to reducing strong negative impacts on the economy but also on inhabitants, especially on vulnerable communities.

Climate resilience in an industrial context is the capacity:



to absorb stresses imposed by climate change and maintain productive functions, and



to adapt, renew, re-organize, and develop desirable pathways and more sustainable practices that help industries better prepare for future climate change impacts.

The SAIA project in a nutshell

Overall objective

The project aims to accelerate the transition to a decarbonised industry, a green and inclusive economy and a vibrant job market in South Africa. It addresses the barriers to the adoption of climate technologies and creates an enabling environment for the private sector to capitalise on the opportunities to shift towards a green economy.

Project duration: Three years (2022 – 2024)

Project budget: €2.4 million

Focus

The SAIA project focuses on energy-and-water nexus projects in the agro-processing sector (medium and large enterprises, sector organizations, and selected Special Economic Zones and Industrial Parks).

Project components

The project consists of **three components**, led by UNIDO and its partners:

01

The **National Cleaner Production Centre South Africa (NCPC-SA)** is responsible for the component dealing with ***the application of renewable energy and energy and water use efficiency interventions in pilot enterprises***, drawing on the successful implementation of other joint projects with UNIDO, including the multi-award winning South African Industrial Energy Efficiency project and the Global Eco-Industrial Parks project. The impact and benefits of the interventions in the pilot enterprises will be widely showcased and shared to promote broader implementation and investment in such measures and technologies in industry.

02

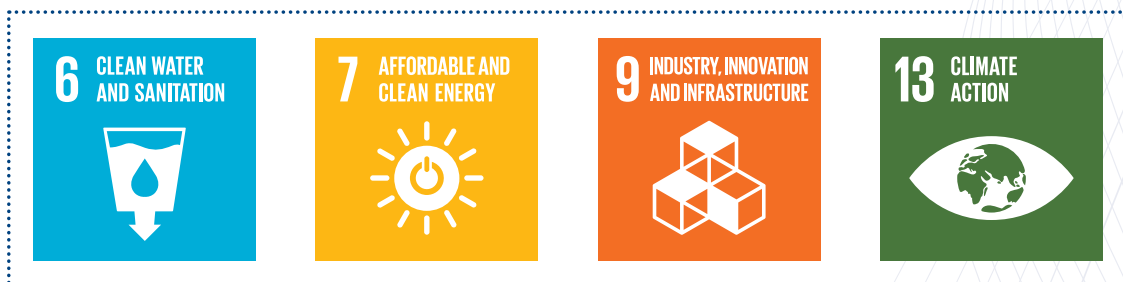
The **Technology Innovation Agency (TIA)** leads the component aimed at ***the acceleration of industrial innovation on climate adaptation***, building on the methodology of UNIDO's industry-leading Global Cleantech Innovation Programme (GCIP) for clean technology entrepreneurs and start-ups. TIA has been spearheading the implementation of the GCIP in South Africa since 2014.

03

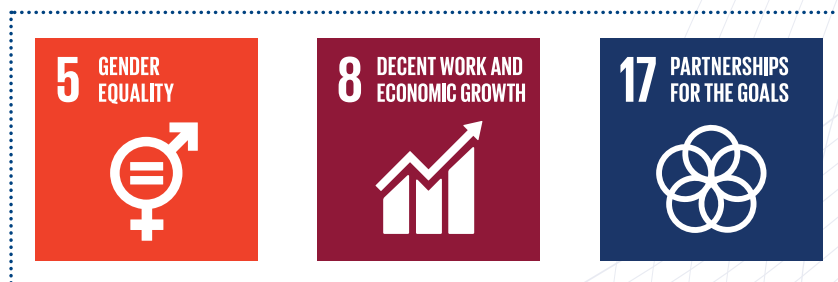
The third component, which is led by **UNIDO**, focuses on ***strategic partnerships with academia, industry and umbrella organizations*** to ensure that climate-resilient approaches are sustained and scaled up across the economy.

Contributing to SDGs

The SAIA project contributes directly to the following SDGs:



With indirect benefits to the following SDGs:





Some achievements to date

Launched by the Minister-President of Flanders, Mr. Jan Jambon, in April 2022, the project has already achieved a number of notable milestones.



“The project is the latest chapter in Flanders and South Africa’s rich history of cooperation dating back to the democratic transition in 1994. SAIA represents the beginning of a renewed and strengthened partnership with a focus on innovation, building on past experience linked to a future in which South Africa and Flanders institutions can exchange knowledge to the benefit of both our societies.”

– Minister-President of Flanders, Mr. Jan Jambon, April 2022



Component 1:

Two Calls for Applications were published to **identify industry partnerships** for support through grant co-financing, technical assistance, or a combination of the two.

The first project to receive grant support through SAIA is a high-impact demonstration project in the Eastern Cape, Project Imifino, comprising a partnership between a South African company, Taylormade Water Solutions (TMWS), AB InBev, and Flemish technology provider Waterleau Group NV, with Rhodes University as academic partner.

The project enhances the efficiency of water and energy use of a brewery through a circular economy approach, treating wastewater for reuse in the facility and producing fresh agricultural products for sale to local retail outlets and communities.





All Project Imifino images courtesy of AB InBev

The SAIA grant is supporting Project Imifino in procuring a containerised ultrafiltration (UF) solution by Flemish technology company Waterleau to address the UF plant bottleneck for water recovery experienced at the Ibhayi Brewery. The provision of Waterleau's advanced equipment is co-funded by Waterleau, Taylormade Water Solutions and AB InBev, and includes installation and capacity building. It will enable the wetland to produce in excess of 250 m³ per day of effluent suitable for direct onsite re-use by the Ibhayi Brewery.

Some highlights from the TMWS project



1 500 kg

Fresh produce grown weekly for local sale



8

Jobs created



2

Of the jobs filled by people with disabilities



1 + 1 + 2

PhD, MSc, and BSc students from Rhodes University could undertake applied research through the project

SAIA is assessing additional high-impact demonstration projects to be supported. Demonstration projects are selected through a transparent process following the Call for Applications based on technical, financial, environmental and social evaluation criteria.

Component 2:

An extensive **assessment of the innovation-for-adaptation ecosystem** to determine industry needs was undertaken in collaboration with TIA. The study provided insightful recommendations to fortify South Africa's adaptation capacity, and underscored the significance of tailored policy interventions, technological innovations, and public-private partnerships.

It confirmed the potential of the SAIA project to serve as a vital step towards propelling the country into a green and resilient future by harnessing the potential of the food-water-energy nexus and prioritizing adaptation in industry. This would assist in charting the course for a more sustainable, climate-resilient economy while fostering opportunities to create a green workforce.

As another key deliverable under this component, a number of qualifying **innovators with industry-focused adaptation solutions will receive customised acceleration support** to achieve market readiness. This activity builds on UNIDO's established Global Cleantech Innovation Programme.





Component 3:

The activities under Component 3 are divided into two main areas:



Activities towards **mainstreaming evidence-based approach to climate resilient services** through developing baseline studies (including a database of water and energy profiles of agro-processing industries in South Africa), a roadmap and the establishment of a public-private sector forum to drive the dialogue on climate resilience. This work is executed in partnership with the NCPC-SA.



Activities towards **strengthening existing and establishing new partnerships** through matchmaking and expert support. These activities are executed with support from the Flemish institution VITO, and included a study tour to Belgium to strengthen partnerships and knowledge sharing between Flemish and South African institutions.

Study tour to Belgium

Key stakeholders from the public and private sectors, academia and knowledge institutions in South Africa undertook a study tour to Belgium in November 2023, achieving the following objectives:

- Enhancing partnerships between industry and umbrella organizations, academia, and knowledge institutions between South Africa and Flanders, aimed at sustaining and scaling up climate-resilient approaches across the South African economy.
- Facilitation of dialogue and collaboration between the key private and public sector stakeholders aimed at increasing the climate resilience of the private sector and developing tools to empower and support key economic actors to improve their critical services (notably energy and water management) for increased resilience.



Knowledge sharing opportunities



Demonstration projects

- Industries and SMEs
- Project developers
- Technology/service providers



Innovation

- Local innovators
- Industrial accelerators
- Cleantech hubs



Research and networks

- Academia
- Knowledge institutions
- Umbrella organizations
- Public-private sector forum participation

Next steps

Building on the SAIA project, UNIDO and its partners are developing a project to support the provision of decentralised low-carbon energy in the South African industrial sector. Additionally, a scale-up project is also currently under development to enhance energy security and decarbonization in Industrial Parks and Special Economic Zones in South Africa, building on UNIDO's experience in the field of Eco-Industrial Parks.

“South Africa is especially vulnerable to climate change given its water and food insecurity, as well as the potential impacts for health, human settlements, infrastructure, and critical ecosystem services. The country has integrated its climate change strategies with its development framework in support of robust plans to eliminate poverty and eradicate inequality. A central strategic focus is on the sustainability of the environment, water resources, land management, agriculture, and health.”

– Climate Risk Country Profile, World Bank, 2021

Get in touch – get involved

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