



# NCPC

NATIONAL CLEANER PRODUCTION CENTRE  
— SOUTH AFRICA —



## Industrial Water Efficiency Project

[www.ncpc.co.za](http://www.ncpc.co.za)



**the dti**

Department:  
Trade and Industry  
REPUBLIC OF SOUTH AFRICA

**CSIR**  
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# Water in South Africa



**Water stress:**  
**40-60%**



**Rainfall:**  
**500 mm**/annum



**Evaporation:**  
**1 700 mm**/annum



**Dams:** **320**



**Capacity:**  
**~32 412** million m<sup>3</sup>



**Water supply** already allocated: **98%**



**Expected shortfall** in water supply by 2025: **1.7%**

Rising demand and diminishing supplies of water require extra careful and conservative management of the country's most vital resource.

South Africa needs enough water as well as quality water. An abundance of water is worth little without having it in good enough quality for use in industrial processing, in addition to fulfilling its ultimate purpose as drinking water for a steadily growing south(ern) African population.

The **Industrial Water Efficiency Project** of the National Cleaner Production Centre South Africa (**NCPC-SA**) aims to contribute to the sustainable transformation of industrial water usage practices in South Africa:

- Reducing water consumption;
- Improving industrial water effluent quality;
- Easing pressure on already strained fresh water supplies; and
- Demonstrating economic and environmental benefits of water efficiency practices.



# Responding to the challenge

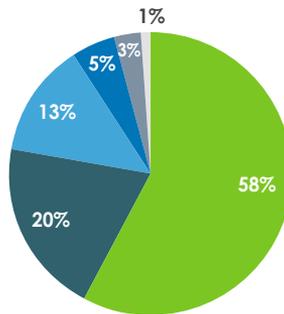
The **Industrial Water Efficiency Project** targets South African industry and manufacturing sectors, specifically those where the production processes affect water quality:

-  Clothing, textiles, leather and footwear;
-  Automotive and supplies;
-  Metal manufacturing;
-  Mining;
-  Agro-processing (food and beverages);
-  Plastics, pharmaceuticals, chemicals and cosmetics;
-  Pulp and paper; and
-  General manufacturing.

# Industrial Water Efficiency Project objectives

The project focuses on **six key components**. It will:

- 1 Facilitate an enabling **policy environment** for the implementation of water efficiency by industry;
- 2 Establish and promote industry adoption of national and international **standards** for water management;
- 3 Develop the **relevant skills** to support industrial water efficiency through training and equipping field experts;
- 4 Support industrial plants to **implement water efficiency** and act as demonstration sites to showcase benefits;
- 5 Deliver focused advocacy and **awareness campaigns** to promote the adoption of water efficiency by industry; and
- 6 **Monitor and evaluate** impact of the project.



**South Africa: Water use percentage per sector**

-  Agriculture
-  Industry
-  Water supply service
-  Commercial
-  Mining
-  Schedule 1 and Power Gen



# Industrial water efficiency benefits

Increased water efficiency will address key challenges relating to water from an economic, environmental and social perspective.

The following benefits are likely to occur:

 ECONOMIC	 ENVIRONMENTAL	 SOCIAL
Reduced water costs	Promote climate change mitigation and adaptation	Minimised contamination risk to surrounding communities
Reduced waste-water disposal costs	Divert discharge of polluted water to receiving water bodies	Improved management of stressed resource, making more water available to communities
Investment opportunities from incurred savings	Reduced use of stressed resources	
New local and international market opportunities	Reduced hazardous waste water generation	
Reduced liability or risk relating to effluent discharge compliance	Increased water efficiency	

Water **assessments** are the first step in gauging the extent and forms of water usage. It is the foundation from which viable and sustainable **strategies for improvement** can be identified and implemented.

**Measuring** is a crucial component of managing water usage and quality.



# About the NCPC-SA



**The National Cleaner Production Centre South Africa** (NCPC-SA) is hosted by the CSIR on behalf of the Department of Trade and Industry (**the dti**).

NCPC-SA drives the transition of South African industry towards a low carbon economy and helps industry to implement resource efficiency and cleaner production (RECP) methodologies – enabling companies to save through reduced energy, water and materials usage, and improved waste management.

## Solid track record

The Industrial Water Efficiency Project is based on the very successful Industrial Energy Efficiency Project, managed by the NCPC-SA since 2010. More than 350 industrial plants have participated in this project, effecting a combined saving of 2 200 GWh of energy (R 1.7 billion).

## Results to date

Since 2016, the NCPC-SA, through water-focused assessments, has saved the South African industry **63 600 kL** water. This is a financial saving of **R760 000** with a calculated pay-back period of **two months**.

The 2016 Internship Programme interventions realised a further reduction in water consumption of **75 010 kL**, equating to bottom-line savings of **R 1 462 706**, with a pay-back period of less than **four months**.





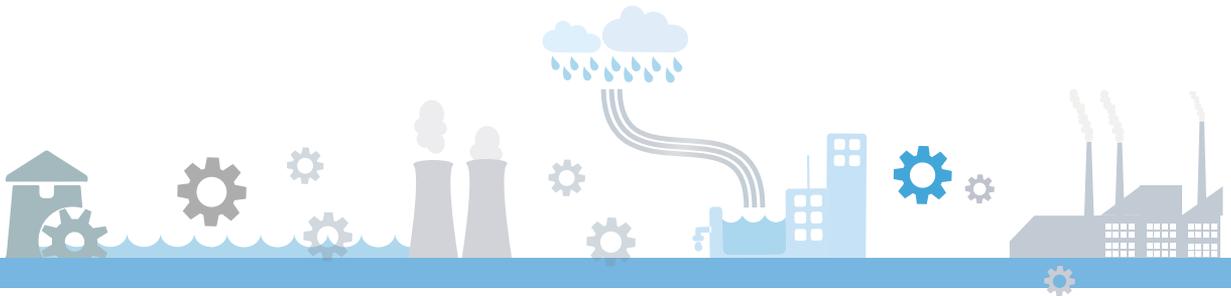
## National Cleaner Production Centre South Africa

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The Industrial Water Efficiency Project is implemented in partnership with:



**the dti**

Department:  
Trade and Industry  
REPUBLIC OF SOUTH AFRICA



**water & sanitation**

Department:  
Water and Sanitation  
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