



**WATER CONSERVATION AND DEMAND MANAGEMENT**

**FACT SHEET**

**March 2017**

**Sibanye’s Gold Division purchased 12,350MI of drinking water from water boards in 2016 at a cost of R141 million. As a result of various water conservation and water demand management initiatives, the volume of water purchased for consumption fell by more than 15% in 2016, year-on-year.**

Sibanye’s water conservation and water demand strategy consists of various components, including:

- Using alternative available underground water sources to replace purchased water
- Identifying and reducing water losses through improved metering and water balance management
- Reducing water wastage through optimisation strategies
- Optimising water quality management

An automated metering system was successfully rolled out at the Driefontein, Kloof and Cooke operations in June 2016 with more than 200 potable water meters now being monitored continuously. This system enables management to monitor water consumption and water distribution networks daily. It also assists in identifying and locating water leaks and excessive consumption, as well as providing functionality for automated reporting at required intervals, with alarms and notifications being given to highlight issues and automated billing reports being generated.

This automated system serves as the vital backbone of water conservation and water demand management. For example., the system identified potential water leaks in Sibanye’s Randfontein Estates distribution system. As a result, consumption at this specific metering point was reduced by more than 2.5MI a day during 2016, translating to a daily cost saving of more than R26,000.



The image below presents the flow rate in cubic metres per hour and daily consumption in kilolitres recorded at a check meter within the Randfontein Estates distribution network that indicated the existence of leaks. The graph clearly illustrates the difference in consumption before a leak was repaired on 15 June 2016 and after its repair.

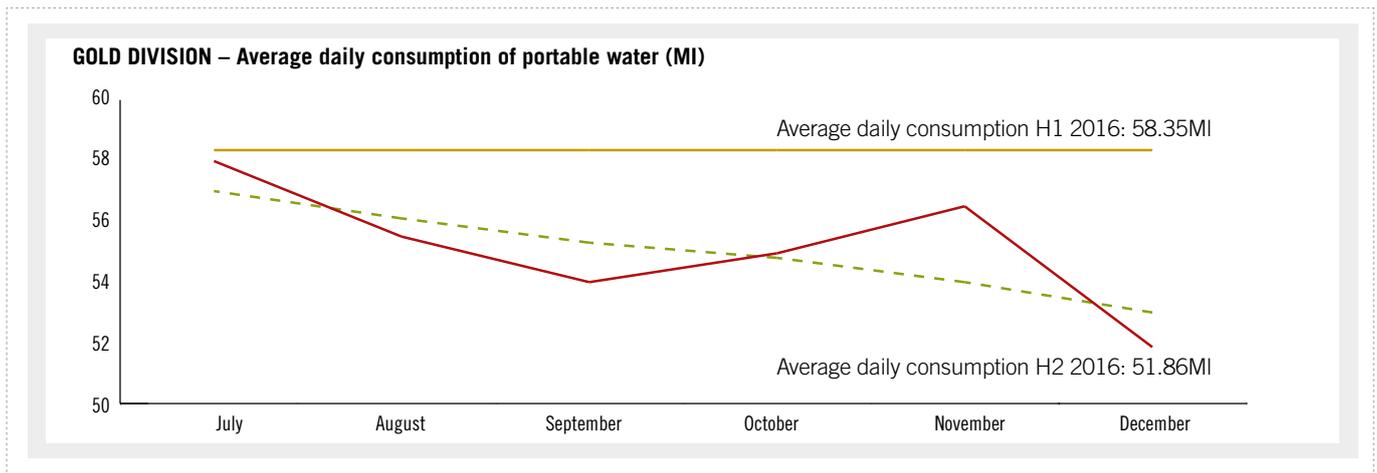
**Randfontein Estates Bongweni meter readings: before and after the leak was repaired**



By analysing flow and consumption patterns to identify leaks and water wastage throughout the distribution system, the Sibanye's water management team was able to take corrective action to reduce water consumption. The graph below depicts average monthly water consumption since July 2016 when the monitoring system became fully operational. The downward trend observed illustrates the system's effectiveness in managing water consumption by the operations. Average daily water consumption of 51.86MI in the second half of 2016 compares with a daily average of 58.35MI in the first half of the year, a decrease of almost 12%.

During August 2016, the Department of Water and Sanitation (DWS) issued regulations requiring all users to reduce the use of purchased water by 15%. The use of the automated metering system at operations in our Gold Division played a key role in optimally managing the savings target.

Although significant progress was made in reducing costs and Sibanye's water footprint, expansion of the automated metering system will assist with improved water conservation and water demand management.



**Sibanye is committed to complying with the requirements of and consumption targets set by the authorities and, given our accountability, we closely monitor and manage our impact on local and macro water systems. We respect the environment, communities and employees with whom we share the water and strive always to improve and ensure the safety and security of our water system.**