

The facility assists industry from the laboratory scale to the industrial scale with an aim to revive ailing manufacturers, create new industry value chains and lead to new jobs through improved competitiveness.

We are **inviting** industry – both small and large companies - to partner with us and allow us to **assist** in optimising operations and increasing competitiveness.

**YOU ARE  
INVITED!**

## THE FACILITY

The BIDF is home to some of the country's finest **chemists** and **engineers**, involved in technology development. The facility offers **specialised** chemical fractionation equipment, advanced analytical facilities and pilot facilities for upscale demonstrations of new and existing technologies and products applicable to South African biomass sources.



## DST-CSIR BIOREFINERY INDUSTRY DEVELOPMENT FACILITY (BIDF)

RESEARCH AND INNOVATION TO BOOST  
INDUSTRY COMPETITIVENESS



## CONTACT

**Prof. Bruce Sithole**

CSIR Chief Scientist: Biorefinery Industry Development Facility  
CSIR Durban, 359 Mazisi Kunene Ave, Durban, 4001  
BSithole@csir.co.za | +27 31 242 2325



science  
& technology

Department:  
Science and Technology  
REPUBLIC OF SOUTH AFRICA

**CSIR**  
our future through science

## DST-CSIR BIOREFINERY INDUSTRY DEVELOPMENT FACILITY (BIDF)

## EXTRACTING GREATER VALUE FROM BIOMASS

**Aged** processing and manufacturing technologies are resulting in significant biomass resources going to **waste** in South Africa. The Department of Science and Technology (DST)-CSIR Biorefinery Industry Development Facility (BIDF) based in Durban, works with forestry, agro processing, and other biomass industries to **improve** manufacturing technologies and to **develop** and implement biorefinery technologies to create **additional** high value products from their waste.

## REVIVING OLD AND CREATING A NEW INDUSTRY: A FORESTRY EXAMPLE

Globally, the **increasing** use of digital communication technologies have led to a **decreasing** demand for paper, resulting in a **decline** in the paper industry with the subsequent **loss** in jobs.

Biorefinery integrates biomass conversion processes and equipment to produce energy, composites materials, and high value chemicals in addition to the traditional biomass product streams such as food, wood, paper, and pulp.



Currently the industry produces limited products and extracts less than 50% value from trees - a highly inefficient use of a natural resource. Creation of new value chains from the waste biomass will deliver industrial development opportunities and job creation.

## BENEFICIATION OF BIOMASS WASTE

Through biorefinery, the BIDs are progressing towards **developing** light weight composites, super absorbent materials, and cosmetic additives (e.g., keratin) from chicken feathers waste that can **create** new business opportunities for existing players and new Small, Medium and Micro Enterprises.

## OFFERING TO INDUSTRY

*The DST-CSIR BIDF has been established to **help** local industry improve its **competitiveness** by providing **access** to specialised analytical and pilot scale facilities and skills that enable the more efficient use of our biomass resources, overcome significant organic waste challenges, and develop new products for market.*

