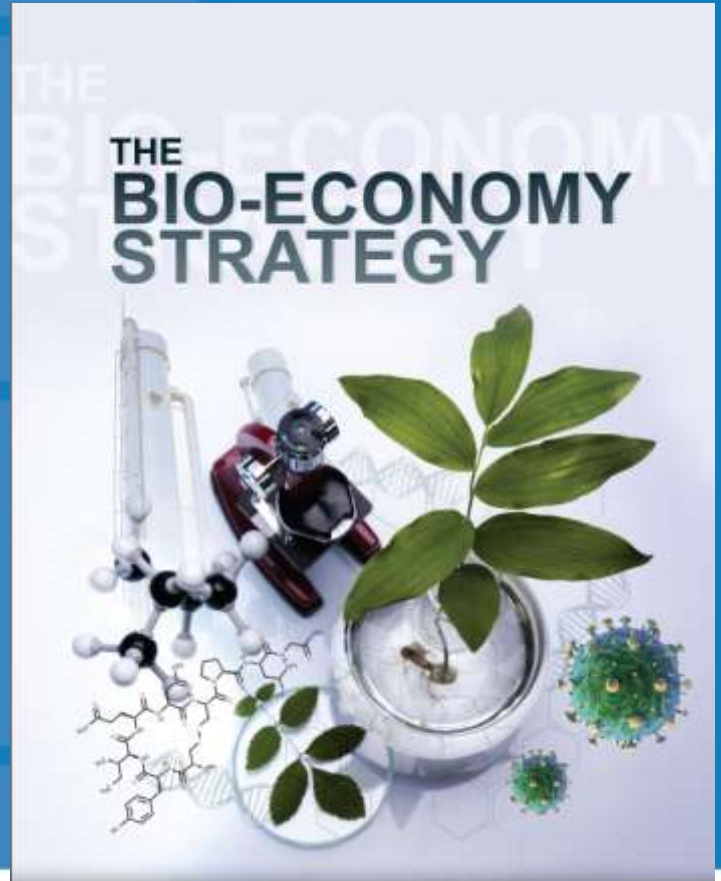


Bio-economy



science
& technology

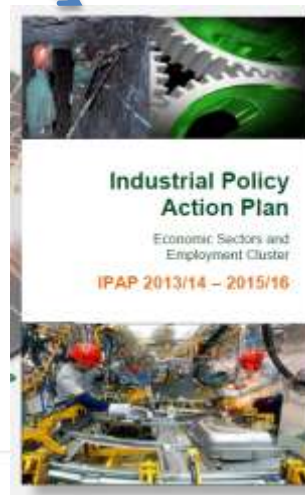
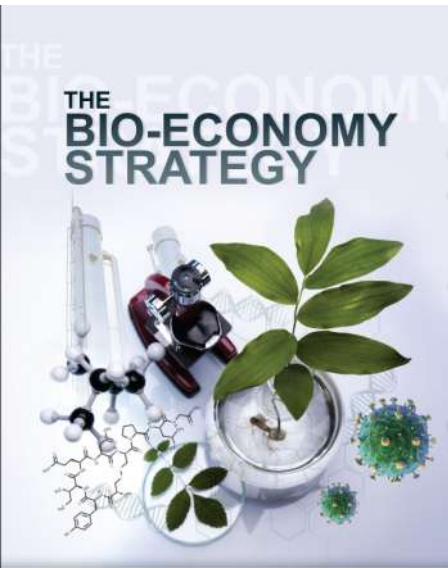
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



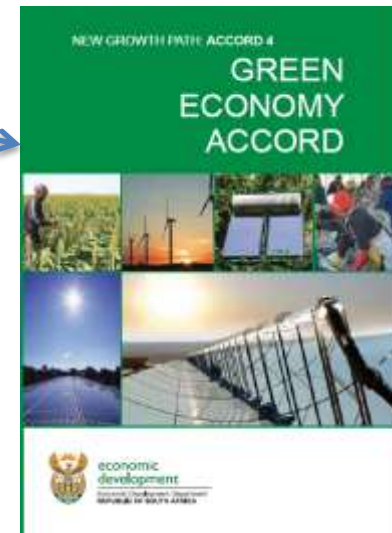
science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

Linked to other policies



THE NEW GROWTH PATH: THE FRAMEWORK



Agricultural sector

- Network of agro-innovation hubs
- Strategic projects
 - Crop/livestock improvement both for biotic and physical stresses associated with climate change (including indigenous crops)
 - Agroprocessing initiatives
 - An integrated food nutrition research programme
 - Animal vaccine capabilities
 - Energy-crop initiatives
 - Biocontrol and biofertilisers
 - Aquaculture
 - Soil conservation
 - Water resource management



Health

New or improved therapeutics and drug delivery systems

New vaccines and other biologicals

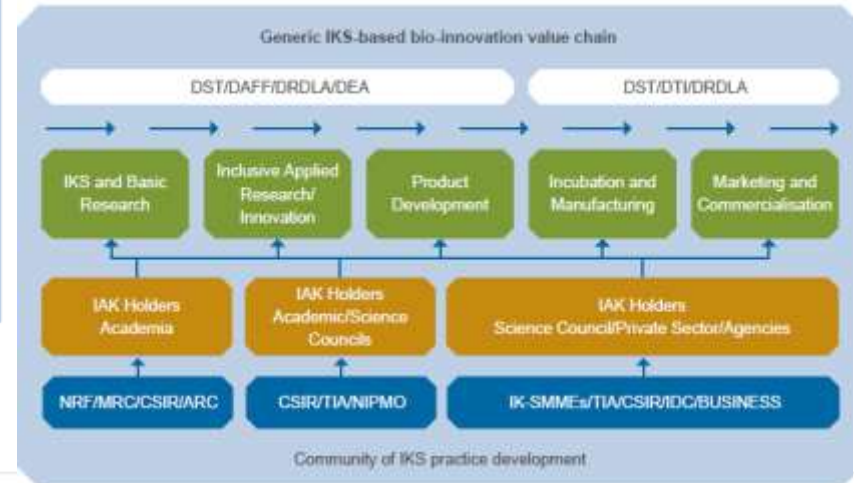
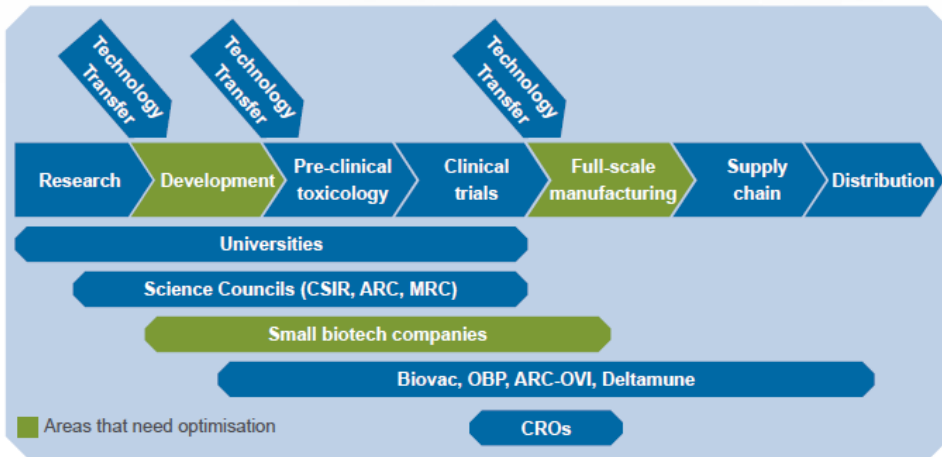
New or improved diagnostics

New medical devices

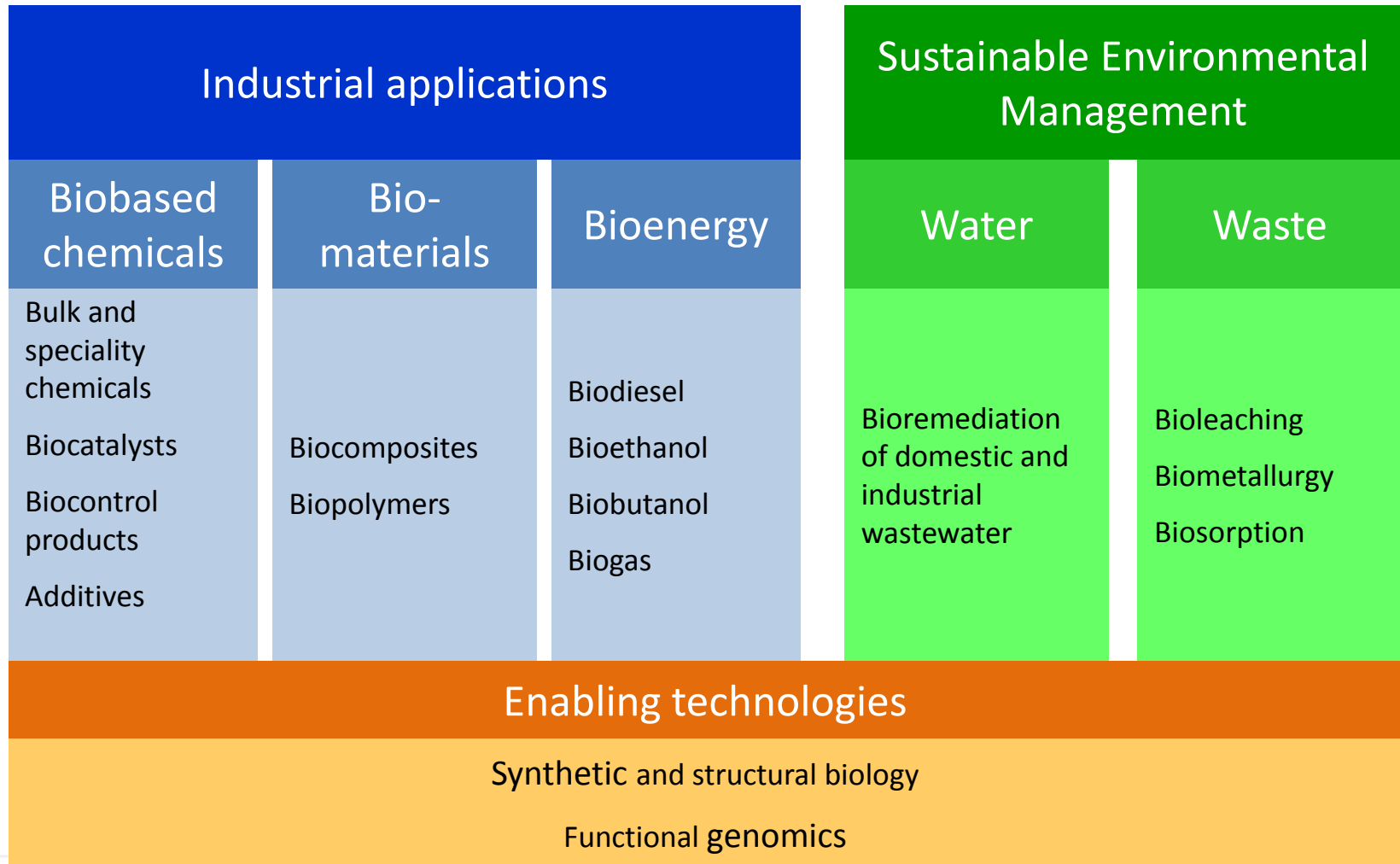
Human health behaviour

Environmental determinants of health

Translational Architecture
(ICTs, Knowledge Management, Modelling, Advanced Statistical Analysis)



Industrial and environmental sector



Broad Indicators: will be complemented by Sector indicators

	Critical factors of the strategy	Output indicators
Knowledge base and human resources	<ul style="list-style-type: none"> Strengthen basic research excellence. Promote industry-oriented research programmes. Facilitate knowledge flow between disciplines. Develop next-generation technologies. Develop human capital for the bio-economy. 	<ul style="list-style-type: none"> Number of publications and citations in high-impact journals per capita. Size of bio-innovation workforce as percentage of science and technology workforce. Number of research chairs, centres of excellence, technology platforms and multidisciplinary research and development programmes supported. Bio-economy research and development as a percentage of GERD.
Knowledge transmission and application	<ul style="list-style-type: none"> Technology development infrastructure to facilitate the translation of research and development outputs into products and services. Strategic development and innovation programmes Assimilation and adoption of bio-innovations for new industry applications. 	<ul style="list-style-type: none"> Number of patents granted. Number of collaborative product development partnerships. Availability of technology development and assimilation infrastructure. Number of technology-transfer transactions. Availability of incubation facilities of bio-innovation firms.
Market	<ul style="list-style-type: none"> Strengthen economic sectors (manufacturing, agriculture, health and environmental) exploiting bio-innovations. Through enabling legislation, facilitate introduction of new bioproducts. 	<ul style="list-style-type: none"> Number of regulatory approvals for health products. Revenues/sales of life science products, processes and services. Number of field trials with GMO crops.
Industry	<ul style="list-style-type: none"> Enable creation of bio-innovation firms. Strengthen local manufacturing capability of bioproducts. Attract foreign direct investment in bio-economy sectors. Alignment of fiscal policy instruments to encourage innovation. Encourage investment in research and development. Improve competitiveness of industry. Exploit regional potentials. 	<ul style="list-style-type: none"> Number of bio-innovation firms, including dedicated bio-innovation firms by sector. Venture capital invested in bio-innovation firms. Technology balance of payment of bio-innovation outputs. Number of joint ventures and strategic alliances between local bio-innovation firms and international partners. Multinational corporations in bio-economy sectors locating research and development facilities locally. Types of biotechnology used by firms.